

# THE INDUSTRIAL ARTS INDEX

TWENTY-FIRST ANNUAL VOLUME

1933

SUBJECT INDEX TO A SELECTED LIST OF ENGINEERING, TRADE  
AND BUSINESS PERIODICALS, BOOKS AND PAMPHLETS

EDITED BY

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NEW YORK  
THE H. W. WILSON COMPANY  
1934



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PRINTED IN U.S.A.

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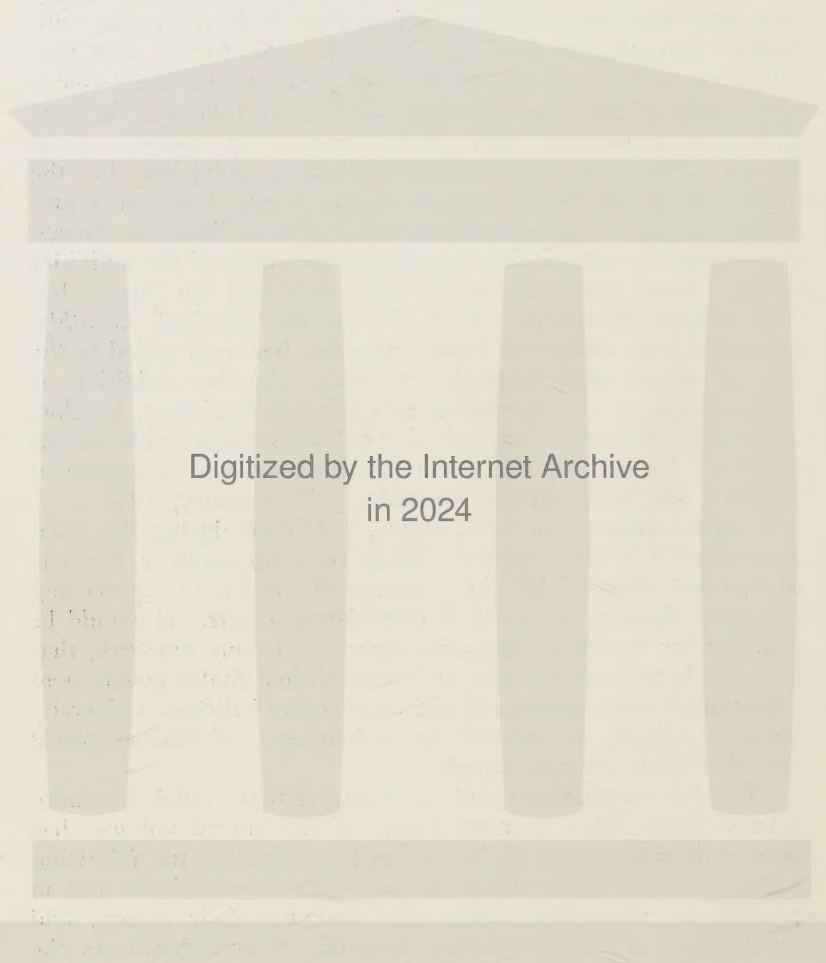
## PREFACE

The twenty-first annual volume of the *Industrial Arts Index* covers practically the same list of magazines and has been compiled by the same staff as the 1932 annual. *Advertising Arts* and *American Ceramic Society Bulletin* have become full-fledged journals and are both indexed. The former was previously a section of *Advertising and Selling*, and the latter a department of the *American Ceramic Society Journal*. The new periodical *Econostat*, now discontinued, was indexed from March 1933. *Industrial Standardization*, published by the American Standards Association, has for some time been represented in the *Index* by occasional articles. Since the American Standards Association has taken over some of the activities of the United States Bureau of Standards and the Bureau has discontinued the publication of *Commercial Standards Monthly*, this periodical, *Industrial Standardization*, has been added to the list of periodicals regularly indexed. Another addition is *Transactions of the Institution of Chemical Engineers*, London, an annual publication, the indexing of which began with volume, 9, 1931. Finally the *Bulletin of the International Management Institute* has been indexed beginning with January, 1933.

Subject entries for 2300 books, published during the year, are included in this volume. These have appeared in the lists of "Recent Book Titles" in a section of the *Index* preceding the main alphabet of which it later forms a part. It should be said for the benefit of new subscribers, and there are such, that included in this volume also are many United States government publications, state geological and engineering bulletins, university bulletins relating to business and technology, and bibliographical bulletins from various sources.

The list of technical and trade associations which has been printed every other year as a part of the annual volumes has been revised by Leona Kohn and will be found on the following pages. Many organizations are merging, new societies are in process of formation, others are changing their names, and many others are shyly reluctant to divulge their addresses or the names of secretaries. Painstaking effort in compiling the list has resulted in a directory, not perfect as planned, but, it is hoped, useful to subscribers.

M. E. P.



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# Technical Societies and Trade Associations

- Acoustical society of America**  
Sec. Wallace Waterfall, 919 N. Michigan Ave., Chicago
- Actuarial society of America**  
Sec. Joseph B. McLean, 393 Seventh Ave., New York
- Advertising affiliation**  
Sec. Donald A. Thomas, Buffalo, N.Y.
- Advertising federation of America**  
Gen. Mgr. Earle Pearson, 330 W. 42d St., New York
- Advertising specialty national association**  
Sec. Miss Marion Stout, 111 W. Washington St., Chicago
- Advertising typographers of America**  
Sec. Albert Abrahams, 461 8th Ave., New York
- Aerial league of America**  
Sec. Horace E. Knowles, 280 Madison Ave., New York
- Aeronautical chamber of commerce of America, Inc.**  
Exec. V.-P. Leighton W. Rogers, 22 E. 40th St., New York
- Agricultural publishers' association**  
Exec.-Sec. Victor F. Hayden, 5816 N. Artesian Ave., Chicago
- Air brake association**  
Sec. T. L. Burton, Room 2205, 150 Broadway, New York
- Allied railway supply association**  
Sec. F. W. Venton, Crane Co., 836 S. Michigan Blvd., Chicago
- Allied trades of the baking industry**  
Sec.-Treas. George P. Reuter, 595 Madison Ave., New York
- American academy of arts and sciences**  
Corr. Sec. Tenney L. Davis, 28 Newbury St., Boston
- American acceptance council**  
Sec. Robert H. Bean, 120 Broadway, New York
- American arbitration association**  
Sec. Miss A. Hatvany, 521 Fifth Ave., New York
- American association for hygiene and baths**  
Sec.-Treas. William J. Orchard, P.O. Box 84, Newark, N.J.
- American association for labor legislation**  
Sec. Dr. John B. Andrews, 131 E. 23d St., New York
- American association for social security**  
Exec.-Sec. Abraham Epstein, 22 E. 17th St., New York
- American association for the advancement of science**  
Perm. Sec. Henry B. Ward, Smithsonian Institution Bldg., Washington, D.C.
- American association of advertising agencies**  
Exec.-Sec. F. R. Gamble, 420 Lexington Ave., New York
- American association of cereal chemists**  
Sec. M. D. Mize, 836 Omaha Grain Exchange, Omaha, Neb.
- American association of engineers**  
Sec. Miss M. E. McIver, 8 S. Michigan Ave., Chicago
- American association of industrial physicians and surgeons**  
Sec. Volney S. Cheney, c/o Armour & Co., Union Stockyards, Chicago
- American association of museums**  
Dir. Laurence V. Coleman, Smithsonian Institution, Washington, D.C.
- American association of passenger traffic officers**  
Sec. W. C. Hope, 143 Liberty St., New York
- American association of personal finance companies**  
Sec. Edgar F. Fowler, 712 Tower Bldg., Washington, D.C.
- American association of petroleum geologists**  
Bus. Mgr. J. P. D. Hull, 505 Tulsa Bldg., Tulsa, Okla.
- American association of port authorities**  
Sec. Tiley S. McChesney, 2223 Short St., New Orleans
- American association of railroad superintendents**  
Sec. F. O. Whiteman, Union Station, St. Louis
- American association of railway advertising agents**  
Sec. E. A. Abbott, 85 W. Harrison St., Chicago
- American association of state highway officials**  
Exec.-Sec. W. C. Markham, 1222 National Press Bldg., Washington, D.C.
- American association of textile chemists and colorists**  
Sec. Harold C. Chapin, Lowell Textile Institute, Lowell, Mass.
- American association of university teachers of insurance**  
Sec.-Treas. Frank G. Dickinson, Univ. of Illinois, Urbana, Ill.
- American automobile association**  
Exec. V.-P. Ernest N. Smith, Pennsylvania Ave. at 17th St., N.W., Washington, D.C.
- American bakers association**  
Sec. Thomas F. Smith, 1135 Fullerton Ave., Chicago
- American bankers' association**  
Exec.-Mgr. F. N. Shepherd, 22 E. 40th St., New York
- American boiler manufacturers' association**  
Sec.-Treas. A. C. Baker, 709 Rockefeller Bldg., Cleveland
- American bottlers of carbonated beverages**  
Sec. Junior Owens, 726 Bond Bldg., Washington, D.C.
- American bureau of metal statistics**  
Dir. W. R. Ingalls, 33 Rector St., New York
- American bureau of welding**  
(Research department of American welding society)  
Sec. William Spraragen, 33 W. 39th St., New York
- American ceramic society**  
Sec. Ross C. Purdy, 2525 N. High St., Columbus, Ohio
- American chemical society**  
Sec. Charles L. Parsons, Mills Bldg., 1709 G St., N.W., Washington, D.C.
- American civic association**  
Sec. Miss Harlean James, 901-3 Union Trust Bldg., Washington, D.C.
- American community advertising association**  
Sec. Don E. Mowry, Sears, Roebuck & Co., Chicago



- American concrete institute**  
Sec. Harvey Whipple, 641 New Center Bldg., Detroit, Mich.
- American concrete pipe association**  
Sec. M. W. Loving, 33 W. Grand Ave., Chicago
- American construction council**  
Sec. Dwight L. Hoopingarner, 28 W. 44th St., New York
- American cotton manufacturers' association**  
Sec. W. M. McLaurine, 1206 First National Bank Bldg., Charlotte, N.C.
- American dairy science association**  
Sec. R. R. Graves, Bureau of Dairy Industry, Washington, D.C.
- American dental trade association**  
Mng. Dir. George A. Lilly, 1010 Vermont Ave., N.W., Washington, D.C.
- American drug manufacturers' association**  
Sec. Carson P. Frailey, 506 Albee Bldg., 1426 G St., N.W., Washington, D.C.
- American dry milk institute, inc.**  
Dir. Roud McCann, 221 North La Salle St., Chicago
- American economic association**  
Sec.-Treas. Frederick S. Diebler, Northwestern University, Evanston, Ill.
- American educational research association**  
(formerly Educational research association)  
Sec. W. A. Carr, 1201 16th St., Washington, D.C.
- American electric railway accountants' association**  
See American transit accountants' association
- American electric railway association**  
See American transit association
- American electroplaters' society**  
Sec. H. A. Gilbertson, 434 S. Wabash Ave., Chicago
- American engineering council**  
Exec.-Sec. Frederick M. Feiker, 744 Jackson Place, N.W., Washington, D.C.
- American face brick association**  
Sec. George S. Eaton, 205 W. Wacker Drive, Chicago
- American federation of arts**  
Sec. Miss Leila Mechlin, Barr Bldg., Farragut Square, Washington, D.C.
- American forestry association**  
Sec. Ovid M. Butler, 1713 K St., N.W., Washington, D.C.
- American foundrymen's association**  
Sec. C. E. Hoyt, 222 W. Adams St., Chicago
- American gas association**  
Mng. Dir. Alexander Forward, 420 Lexington Ave., New York
- American gear manufacturers' association**  
Sec. J. C. McQuiston, First Nat'l Bank Bldg., Wilkesburg, Pa.
- American geophysical union**  
Gen. Sec. John A. Fleming, 36th St. and Broad Branch Road, Washington, D.C.
- American granite association, inc.**  
221 Columbus Ave., Boston
- American hardware manufacturers' association**  
Sec. Charles F. Rockwell, 342 Madison Ave., New York
- American institute of accountants**  
Sec. John L. Carey, 135 Cedar St., New York
- American institute of actuaries**  
Sec. W. F. Poorman, Central Life Assurance Society, Des Moines, Iowa
- American institute of architects**  
Sec. Frank C. Baldwin, Octagon House, 1741 New York Ave., N.W., Washington, D.C.
- American institute of banking**  
Sec. Richard W. Hill, 22 E. 40th St., New York
- American institute of chemical engineers**  
Exec.-Sec. Frederic J. Le Maistre, 809 Bellevue Court Bldg., Philadelphia
- American institute of chemists**  
Sec. Howard S. Neiman, 233 Broadway, New York
- American institute of consulting engineers, inc.**  
Sec. Philip W. Henry, 75 West St., New York
- American institute of cooperation**  
Sec. Charles W. Holman, 1731 Eye St., N.W., Washington, D.C.
- American institute of electrical engineers**  
Sec. H. H. Henline, 33 W. 39th St., New York
- American institute of food distribution, inc.**  
Sec. Gordon C. Corbaley, 122 E. 42d St., New York
- American institute of laundering, inc.**  
Sec. Lloyd A. Peck, Drawer 1187, Joliet, Ill.
- American institute of marine underwriters**  
Sec.-Treas. John F. Purcell, Insurance Co. of North America, 1600 Arch St., Philadelphia
- American institute of mining and metallurgical engineers**  
Sec. A. B. Parsons, 29 W. 39th St., New York
- American institute of quantity surveyors**  
Pres. F. E. Dischner, 910 Empire Bldg., Detroit. Sec. F. Brofos, 13 N. 10th St., St. Louis
- American institute of refrigeration**  
Gen. Sec. J. F. Nickerson, 435 N. Waller Ave., Chicago
- American institute of steel construction, inc.**  
Official. T. H. Hendrix, 200 Madison Ave., New York
- American institute of weights and measures**  
Sec. William E. Bullock, 33 Rector St., New York
- American iron and steel institute**  
Sec. H. H. Cook, 350 Fifth Ave., New York
- American leather belting association**  
Sec. J. L. Nelson, 41 Park Row, New York
- American leather chemists' association**  
Sec. H. C. Reed, 143 W. 20th St., New York
- American machine and parts association**  
Pres. William J. Kelly, 221 N. LaSalle St., Chicago
- American machinery and tools institute**  
Sec. George R. Tuthill, 40 N. Wells St., Chicago
- American management association**  
Mng. Dir. John G. Goetz, 20 Vesey St., New York
- American manganese producers association**  
Sec. Harold A. Pumpelly, National Press Bldg., Washington, D.C.
- American manufacturers' export association**  
Gen. Mgr. Francis T. Cole, 330 W. 42d St., New York
- American manufacturers of toilet articles**  
See Associated manufacturers of toilet articles
- American marketing society**  
Sec. Frank Coutant, Suite 1000, 250 Park Ave., New York
- American mathematical society**  
Sec. R. G. D. Richardson, 501 W. 116th St., New York
- American medical association**  
Sec. Dr. Olin West, 535 N. Dearborn St., Chicago
- American merchant marine library association**  
Exec.-Sec. R. R. Massey, 67 Wall St., New York
- American meteorological society**  
Sec. Charles F. Brooks, Blue Hill Observatory, Milton, Mass.
- American microscopical society**  
Sec. James E. Ackert, 450 Ahnaip St., Manhattan, Kan.
- American mining congress**  
Sec. James F. Callbreath, Munsey Bldg., Washington, D.C.
- American national livestock association**  
Sec. F. E. Mollin, 515 Cooper Bldg., Denver, Col.



- American national retail jewelers association**  
Sec. Charles T. Evans, 10 S. Fourth Ave., Mt. Vernon, N.Y.
- American newspaper publishers association**  
Gen. Mgr. L. B. Palmer, 370 Lexington Ave., New York
- American oil burner association, inc.**  
Exec.-Sec. Harry Tapp, 342 Madison Ave., New York
- American oil chemists' society**  
Sec.-Treas. J. C. P. Helm, 705 Tchoupitoulas St., New Orleans, La.
- American optometric association, inc.**  
Sec. Dr. Ernest H. Kiekenapp, Glass Block, Faribault, Minn.
- American order of steam engineers**  
Sec. Harry Singley, 117 N. Cornwall Ave., Ventnor, N.J.
- American paint and varnish manufacturers' association**  
See National paint, varnish and lacquer association, inc.
- American paper and pulp association**  
Exec.-Sec. Charles W. Boyce, 122 E. 42d St., New York
- American petroleum equipment suppliers association**  
Sec. Byron Mitchell, 413 Esperson Bldg., Houston, Texas
- American petroleum institute**  
Sec. Lacey Walker, 250 Park Ave., New York
- American pharmaceutical association**  
Sec. E. F. Kelly, Constitution Ave. and 22d St., Washington, D.C.
- American pharmaceutical manufacturers association**  
Sec. C. W. Warner, 580 Fifth Ave., New York
- American photo engravers association**  
Sec. Louis Flader, 166 W. Van Buren St., Chicago
- American physical society**  
Sec. W. L. Severinghaus, Columbia University, New York
- American public health association**  
Sec. Dr. Kendall Emerson, 450 Seventh Ave., New York
- American pulp and paper mill superintendents association**  
Sec. Robert L. Eminger, 54 N. Main St., Miamisburg, Ohio
- American radio relay league**  
Sec. K. B. Warner, 38 La Salle Road, West Hartford, Conn.
- American radium society**  
Sec. Dr. E. H. Skinner, 1532 Professional Bldg., Kansas City, Mo.
- American railway association**  
Sec. H. J. Forster, 30 Vesey St., New York  
A complete list of the various divisions and sections of the American railway association, with convention dates and secretaries, is found in the first number of each month of the Railway Age
- American railway bridge and building association**  
Sec. C. A. Lichty, 319 N. Waller Ave., Chicago
- American railway development association**  
Sec.-Treas. J. A. Senter, Industrial Agent, Nashville, Chattanooga, & St. Louis Railway, Nashville, Tenn.
- American railway engineering association**  
Sec. E. H. Fritch, 59 E. Van Buren St., Chicago
- American railway tool foremen's association**  
Sec. G. G. Macina, 11402 Calumet Ave., Chicago
- American refractories institute**  
Sec. Dorothy A. Texter, 2202 Oliver Bldg., Pittsburgh, Pa.
- American road builders' association**  
Sec. Charles M. Upham, 938 National Press Bldg., Washington, D.C.
- American short line railroad association**  
Sec. R. E. Schindler, 401 Union Trust Bldg., Washington, D.C.
- American society for metals (formerly American society for steel treating)**  
Sec. W. H. Eisenman, 7016 Euclid Ave., Cleveland
- American society for municipal improvements**  
See American society of municipal engineers
- American society for steel treating**  
See American society for metals
- American society for testing materials**  
Sec.-Treas. C. L. Warwick, Atlantic Bldg., 260 S. Broad St., Philadelphia
- American society of agricultural engineers**  
Sec. Raymond Olney, St. Joseph, Mich.
- American society of bakery engineers**  
Sec. Victor E. Marx, 1541 Birchwood Ave., Chicago
- American society of certified public accountants**  
Sec. D. W. Springer, 1202 National Press Bldg., Washington, D.C.
- American society of civil engineers**  
Sec. George T. Seabury, 33 W. 39th St., New York
- American society of composers, authors and publishers**  
Sec. Joseph Young, Paramount Bldg., New York
- American society of heating and ventilating engineers**  
Sec. A. V. Hutchinson, 51 Madison Ave., New York
- American society of landscape architects**  
Exec.-Sec. Bradford Williams, 9 Park St., Boston
- American society of mechanical engineers**  
Sec. Calvin W. Rice, 29 W. 39th St., New York
- American society of municipal engineers (formerly American society for municipal improvements)**  
Sec. C. W. S. Sammelman, 4359 Lindell Blvd., St. Louis, Mo.
- American society of naval engineers**  
Sec. Commander H. B. Bird, Bureau of Engineering, Navy Dept., Washington, D.C.
- American society of newspaper editors**  
Sec. Alfred H. Kirchhofer, c/o Buffalo Evening News, Buffalo, N. Y.
- American society of refrigerating engineers**  
Sec. David L. Fiske, 37 W. 39th St., New York
- American society of sales executives**  
Sec. C. H. Rohrbach, 90 West St., New York
- American society of sanitary engineering**  
Sec. J. R. Walker, City Hall, Waterbury, Conn.
- American specification institute**  
Chmn. Frank A. Randall, 205 W. Wacker Drive, Chicago
- American spice trade association**  
Sec. N. W. Ericson, 82 Wall St., New York
- American standards association**  
Sec. P. G. Agnew, 29 W. 39th St., New York
- American statistical association**  
Sec. Willford I. King, Room 530, 236 Wooster St., New York
- American steel warehouse association (formerly American steel and heavy hardware association)**  
Sec. B. R. Sackett, 505 Arch St., Philadelphia
- American supply and machinery manufacturers' association**  
Sec. R. Kennedy Hanson, 604 American Bank Bldg., Pittsburgh
- American surgical trade association**  
Sec. Fred B. Hovey, 111 W. Washington St., Chicago
- American trade association executives**  
Sec.-Treas. E. P. Chalfant, Hotel Tuller, Detroit



- American transit accountants' association**  
(formerly American electric railway accountant's association)  
Sec.-Treas. Guy C. Hecker, 292 Madison Ave., New York
- American transit association** (formerly American electric railway association)  
Sec. Guy C. Hecker, 292 Madison Ave., New York
- American travel development association**  
Sec. Charles F. Hatfield, 507 Commercial Bldg., St. Louis, Mo.
- American vocational association**  
Sec. C. M. Miller, State Director of Vocational Education, Topeka, Kan.
- American warehousemen's association**  
Gen.-Sec. Wilson V. Little, 222 W. Adams St., Chicago
- American water works association**  
Sec. Beekman C. Little, 29 W. 39th St., New York
- American welding society**  
Sec. Miss M. M. Kelly, 33 W. 39th St., New York
- American wood preservers' association**  
Sec. Horace L. Dawson, 1104 Chandler Bldg., Washington, D.C.
- American zinc institute, inc.**  
Exec.-Sec. Julian D. Conover, 60 E. 42d St., New York
- Anthracite institute**  
Sec. E. W. Parker, Primos, Delaware Co., Pa.
- Army ordnance association**  
Sec. L. A. Codd, 805 Mills Bldg., Washington, D.C.
- Asbestos brake lining association**  
Sec. W. J. Parker, 7 E. 44th St., New York
- Asphalt institute**  
Mng. Dir. J. E. Pennybacker, 801 2d Ave., New York
- Associated business papers, inc.**  
Sec. H. J. Payne, 330 W. 42d St., New York
- Associated coffee industries of America**  
Sec. W. F. Williamson, 11 Water St., New York
- Associated cooperage industries of America**  
Sec. L. F. Horn, 411 Olive St., St. Louis, Mo.
- Associated general contractors of America**  
Mng. Dir. E. J. Harding, 222 Munsey Bldg., Washington, D.C.
- Associated manufacturers of toilet articles**  
(formerly American manufacturers of toilet articles)  
Sec. Charles S. Welch, 30 Rockefeller Plaza, New York
- Associated metal lath manufacturers**  
See Metal lath manufacturers association
- Associated stock exchanges**  
Sec. Clark C. Wickey, 535 Griswold St., Detroit
- Associated traffic clubs of America**  
Sec. F. A. Doebber, 917 Majestic Bldg., Indianapolis, Ind.
- Association of American geographers**  
Sec. Frank E. Williams, Wharton School, Univ. of Pennsylvania, Philadelphia
- Association of American soap and glycerine producers, inc.**  
Mgr. Roscoe C. Edlund, 386 Fourth Ave., New York
- Association of American steel manufacturers technical committees**  
Sec. J. O. Leech, 616 Investment Bldg., Pittsburgh
- Association of arts and industries**  
Sec. Norma K. Stahle, 230 E. Ohio St., Chicago
- Association of asphalt paving technologists**  
Sec. Charles A. Mullen, Room 57, 980 St. Antoine St., Montreal, Quebec
- Association of casualty and surety executives**  
Sec. F. Robertson Jones, 1 Park Ave., New York
- Association of collegiate schools of architecture**  
Sec. Sherley W. Morgan, McCormick Hall, Princeton, N. J.
- Association of consulting chemists and chemical engineers, inc.**  
Sec. Dr. Paul Mahler, 50 E. 41st St., New York
- Association of consulting management engineers, inc.**  
Exec. Sec. Nathaniel W. Barnes, 347 Madison Ave., New York
- Association of dairy, food and drug officials of the United States**  
Sec. W. C. Geagley, Department of Agriculture, Lansing, Mich.
- Association of Dominion land surveyors**  
Sec.-Treas. W. L. MacIlquham, 41 Grove Ave., Ottawa
- Association of Edison Illuminating companies**  
Sec. Preston S. Millar, East End Ave. & 80th St., New York
- Association of electragnists, International**  
See National electrical contractors association
- Association of governmental officials in industry of the United States and Canada**  
Sec.-Treas. Isador Lubin, Commissioner of U. S. Bureau of Labor Statistics, Washington, D. C.
- Association of iron and steel electrical engineers**  
Mng. Dir. John F. Kelly, 1010 Empire Bldg., Pittsburgh
- Association of life insurance presidents**  
Manager. Vincent P. Whitsitt, 165 Broadway, New York
- Association of manufacturers and converters of tissue** (formerly Tissue paper manufacturers association)  
Exec.-Sec. Mark H. Lund, 122 E. 42d St., New York
- Association of manufacturers of chilled car wheels**  
Sec. G. E. Doke, 332 S. Michigan Blvd., Chicago
- Association of manufacturers of wood working machinery**  
Mgr. Fred A. Collinge, 111 W. Washington St., Chicago
- Association of national advertisers, inc.**  
Mng. Dir. Paul B. West, 330 W. 42d St., New York
- Association of newsprint manufacturers of the United States**  
Sec. R. S. Kellogg, 342 Madison Ave., New York
- Association of official agricultural chemists**  
Sec.-Treas. Dr. W. W. Skinner, Box 290, Pennsylvania Ave. Station., Washington, D.C.
- Association of railway claim agents**  
Sec. H. D. Morris, District Claim Agent, Northern Pacific Ry., St. Paul, Minn.
- Association of railway electrical engineers**  
Sec. Joseph A. Andreucetti, Room 1519, 400 W. Madison St., Chicago
- Association of railway executives**  
Sec. Stanley J. Strong, Transportation Bldg., 17th & H Sts., N.W., Washington, D.C.
- Association of reserve city bankers**  
Sec. Joseph J. Schroeder, 162 W. Monroe St., Chicago
- Association of secretaries of chambers of foreign commerce in the United States**  
Sec.-Treas. J. W. Sanger, 151 E. 67th St., New York
- Association of state highway officials of the North Atlantic states**  
Sec. A. Lee Grover, State Highway Commission, Trenton, N. J.
- Atlantic deeper waterways association**  
Sec. William E. Bernard, 1405 Widener Bldg., Philadelphia



## Automotive associations

A list of automobile shows, foreign as well as American, and of conventions and meetings is published each week in Automotive Industries

## Automotive electric association

Mgr. Earl Turner, 1365 Ontario St., Cleveland, O.

## Bankers' association for foreign trade

Sec. F. B. Tedford, c/o First National Bank of Chicago, 38 S. Dearborn St., Chicago

## Better bedding alliance of America

Sec. S. J. Mills, 608 S. Dearborn St., Chicago

## Better business bureau of New York City, Inc.

Mgr. H. J. Kenner, 280 Broadway, New York

## Bicycle manufacturers association of America

Sec. W. G. Schack, Angola, N. Y.

## Binders board manufacturers association

Sec. C. L. Lloyd, 370 Lexington Ave., New York

## Book manufacturers institute, inc.

Administrator. O. H. Cheney, 100 E. 42d St., New York

## Boston society of civil engineers

Sec. Everett N. Hutchins, 715 Tremont Temple, Boston

## Brick manufacturers association of America (formerly Common brick manufacturers' association of America)

Sec. Ralph P. Stoddard, 2121 Guarantee Title Bldg., Cleveland

## Bridge and building supply men's association

Sec. S. A. Baber, 10418 St Clair Ave., Cleveland

## British iron and steel institute

See the Iron and steel institute

## Brookings institution

Includes Institute of economics, Institute for government research and Robert Brookings graduate school

Sec. C. O. Hardy, 722 Jackson Place, N. W., Washington, D. C.

## Building officials' conference of America

Sec. Wm. F. Hurd, Room 203, City Hall, Indianapolis, Ind.

## Bureau of applied economics, inc.

Sec. C. V. Maudlin, Mills Bldg., Washington, D. C.

## Bureau of personnel administration

Dir. Henry C. Metcalf, Graybar Bldg., 420 Lexington Ave., New York

## Bureau of railway economics

Dir. Julius H. Parmelee, 1024 Transportation Bldg., Washington, D. C.

## Burlap association (formerly Jute and gunnies importers association)

Sec. T. J. Hastings, 150 Washington St., New York

## Canadian forestry association

Mgr. Robson Black, 51 Sparks St., Ottawa, Ont.

## Canadian gas association

Sec.-Treas. George W. Allen, 21 Astley Ave., Toronto, Ont.

## Canadian good roads association

Sec.-Treas. George A. McNamee, 909 New Birks Bldg., Montreal, Que.

## Canadian institute of chemistry

Sec. L. E. Westman, 366 Adelaide St., West, Toronto, Ontario

## Canadian institute of mining and metallurgy

Sec. E. J. Carlyle, 923 Drummond Bldg., 511 St Catherine St., West, Montreal, Quebec

## Canadian manufacturers' association, inc.

Sec. J. T. Stirrett, 1404 Bank of Hamilton Bldg., 67 Yonge St., Toronto, Ontario

## Canadian national clay products association

Sec.-Treas. Gordon Keith, 146 King St., West, Toronto

## Canadian pharmaceutical association, inc.

Sec. R. B. J. Stanbury, 43 Victoria St., Toronto, Ont.

## Canadian pulp and paper association

Sec. A. E. Cadman, 3420 University Ave., Montreal, Quebec

## Canadian railway club

Sec. C. R. Crook, 2276 Wilson Ave., Montreal, Quebec

## Canadian transit association (formerly Canadian electric railway association)

Sec. Eustace Smith, jr., 35 Yonge St., Toronto, Ontario

## Canning machinery and supplies association

Sec. S. G. Gorsline, 553 W. Randolph St., Chicago

## Car department officers association

Sec. A. S. Sternberg, 7926 S. Morgan St., Chicago

## Carbon black export, inc.

Sec. Reid L. Carr, 500 Fifth Ave., New York

## Cast iron pipe research association

Sec. Thomas F. Wolfe, 122 S. Michigan Ave., Chicago

## Cast stone institute

Sec. L. A. Falco, 33 West Grand Ave., Chicago

## Casualty actuarial society

Sec. R. Fondiller, 90 John St., New York

## Cellulose plastics manufacturers' association (formerly Pyroxylin plastics manufacturers' association)

Sec. John E. Walker, 1001 15th St., N. W., Washington, D. C.

## Cement institute

Gen. Mgr. H. C. Lundborg, 11 E. 44th St., New York

## Chamber of commerce of the United States of America

Sec. D. A. Skinner, 1615 H St., N.W., Washington, D.C.

## Chemical alliance, inc.

Sec. W. N. Watson, 535 Fifth Ave., New York

## Chemical engineering equipment institute

Sec. D. H. Killeffer, 50 E. 41st St., New York

## Chemical foundation, inc.

Sec. Paul Smith, 654 Madison Ave., New York

## China society of America

Sec. Mrs. E. M. Dawson, 570 Lexington Ave., New York

## Chlorine institute, inc.

Sec. Robert T. Baldwin, 50 E. 41st St., New York

## Chromium platers guild of America

Exec.-Sec. Walter Plumacher, 123 William St., New York

## Citizens research institute of Canada

Sec. Horace L. Brittain, 137 Wellington St., West, Toronto, Ontario

## Canadian ceramic society

Sec.-Treas. Gordon Keith, 146 King St. West, Toronto 2.

## Canadian chemical association

Sec. G. C. Benson, 53 Regal Road, Toronto, Ont.

## Canadian construction association

Manager. J. Clark Reilly, 718 Ottawa Electric Bldg., Ottawa, Ontario

## Canadian deep waterways and power association

Pres. O. E. Fleming, Equity Chambers, 24 Chatham St., W., Windsor, Ontario

## Canadian electric railway association

See Canadian transit association

## Canadian electrical association, inc.

Sec. B. C. Fairchild, 409 Power Bldg., Montreal, Quebec

## Canadian engineering standards association

Sec. B. Stuart McKenzie, Room 3064, National Research Bldg., Ottawa, Ontario



**Civil service assembly of the United States and Canada**

Sec. Fred Telford, 923 E. 60th St., Chicago

**Clay products association**

Sec. George C. D. Lenth, 111 W. Washington St., Chicago

**Clock manufacturers' association of America**

Sec.-Treas. W. S. Hays, 644 Drexel Bldg., Philadelphia

**Coal mining institute of America**

Sec. G. W. Grove, 4800 Forbes St., Pittsburgh, Pa.

**Committee on the relation of electricity to agriculture**

Dir. E. A. White, 58 E. Washington St., Suite 1116, Chicago

**Common brick manufacturers' association of America**

See Brick manufacturers' association of America

**Compressed air society**

Sec. C. H. Rohrbach, 90 West St., New York

**Compressed gas manufacturers' association, inc.**

Sec. F. R. Fetherston, 110 W. 40th St., New York

**Concrete associations**

List of organizations, with names and addresses of secretaries, appears monthly in Concrete

**Concrete masonry association**

See National concrete masonry association

**Concrete reinforcing steel institute**

Sec. R. W. Johnson, 333 N. Michigan Ave., Chicago

**Conference board of physicians in industry**

Headquarters, 247 Park Ave., New York. Sec. F. L. Rector, 823 Case St., Evanston, Ill.

**Conference of state sanitary engineers**

Sec.-Treas. R. E. Tarbett, 19th and Constitution Ave., N.W., Washington, D.C.

**Cooperative league of the United States of America**

Pres. J. P. Warbasse, 167 W. 12th St., New York

**Copper and brass research association**

Mgr. William A. Willis, 25 Broadway, New York

**Copper export association**

Sec. C. W. Welch, 25 Broadway, New York

**Copper institute**

Sec. R. R. Eckert, 25 Broadway, New York

**Cotton-textile institute, inc.**

Sec. Paul B. Halstead, 320 Broadway, New York

**Cover paper manufacturers association**

Sec. E. H. Naylor, 95 State St., Springfield, Mass.

**Credit associations**

A directory of affiliated associations of the National association of credit men is published in Credit and Financial Management, January 1934, p. 42-3

**Dairy and ice cream machinery and supplies association, inc.**

Exec. Vice-Pres. Roberts Everett, 232 Madison Ave., New York

**Detroit bureau governmental research**

Sec. L. D. Upson, 936 First National Bank Bldg., Detroit

**Diesel engine manufacturers' association**

Sec.-Treas. M. J. Reed, 2 W. 45th St., New York

**Direct mail advertising association**

Sec. Miss M. L. Page, Hotel Pennsylvania, New York

**Domestic sugar producers' association**

Tower Bldg., Washington, D.C.

**Drug institute of America, inc.**

Mng. Dir. Wheeler Sammons, 919 N. Michigan Ave., Chicago. Sec. H. L. Groves, 330 W. 42d St., New York

**Druggists' research bureau**

Sec. E. L. Newcomb, 51 Maiden Lane, N.Y.

**Eastern railroad association**

Sec. E. N. Bessling, 614 F St., N.W., Washington, D.C.

**Edison electric institute (formerly National electric light association)**

V. P. & Man. Dir. Bernard F. Weadock, 420 Lexington Ave., New York

**Educational research association**

See American educational research association

**Electric association**

Mgr. Ralph S. Steffens, 20 N. Wacker Drive, Chicago

**Electric associations**

A complete directory of electrical associations with names and addresses of secretaries is published in the first issue of each volume of the Electrical World in January and July

**Electric steel founders' research group**

Disbanded June 30, 1933

**Electrical porcelain manufacturers association**

Sec. A. M. Ferry, Chandler Bldg., Washington, D.C.

**Electrochemical society, inc.**

Sec. Colin G. Fink, Columbia University, New York

**Employing bookbinders of America**

Exec.-Sec. A. G. Watson, 28 W. 44th St., New York

**Employing printers of America, inc.**

Sec. Jesse M. Vollmer, 53 W. Jackson Blvd., Chicago

**Engineering foundation, inc.**

Dir. Alfred D. Flinn, 29 W. 39th St., New York

**Engineering institute of Canada**

Sec. Richard John Durely, 2050 Mansfield St., Montreal, Quebec

**Engineers' club of Philadelphia**

Sec. Chas. E. Billin, 1317 Spruce St., Philadelphia

**Engineers' council for professional development**

Sec. C. E. Davies, 39 W. 39th St., New York

**Engineers' society of western Pennsylvania**

Sec. K. F. Treschow, William Penn Hotel, Pittsburgh

**Evaporated milk association**

Sec. Frank E. Rice, 203 N. Wabash Ave., Chicago

**Eyesight conservation council**

Dir. Proctor L. Dougherty, National Press Bldg., Washington, D.C.

**Federal wholesale druggists association, inc.**

Sec. R. E. Lee Williamson, 123 Market Place, Baltimore, Md.

**Federated societies on planning and parks**

Exec.-Sec. Miss Harlean James, 901 Union Trust Bldg., Washington, D.C.

**Federation of architects, engineers, chemists and technicians**

Sec. I. Ehrlich, 232 Seventh Ave., New York

**Federation of paint and varnish production clubs**

Sec. George B. Heckel, 200 S. 42d St., Philadelphia

**Feldspar association (formerly Feldspar grinders' institute, inc.)**

Sec. W. N. Guthrie, 19 W. 44th St., New York

**Financial advertisers' association**

Sec. Preston E. Reed, 231 S. LaSalle St., Chicago

## Flavoring extract manufacturers' association of U. S. A.

Sec. John S. Hall, First National Bank Bldg., Chicago

## Food industry associations

A list of coming meetings, with names and addresses of secretaries, is published in monthly numbers of Food Industries

## Food research institute

Sec. L. B. Tims, Stanford University, Calif.

## Foundry equipment manufacturers association

Exec.-Sec. J. R. Avey, 1213 W. Third St., Cleveland

## Franklin institute

Sec. Dr. Howard McClenahan, Logan Circle, Philadelphia

## Full-fashioned hosiery association, inc.

Sec. Charles Lehmuth, 1420 Walnut St., Philadelphia

## Gas associations

A list of the principal gas associations, with place and date of annual meeting and name and address of secretaries, is published in weekly numbers of Gas Age-Record as meetings are announced

## Gas-powered industrial truck association

Sec. John A. Cronin, 60 E. 42d St., New York

## Geological society of America

Sec. Charles P. Berkey, Columbia University, New York

## Glass container association of America

Business Mgr. C. R. Stevenson, 19 W. 44th St., New York

## Glycerine producers' association

Mgr. Roscoe C. Edlund, 386 Fourth Ave., New York

## Governmental research association

Sec. Robert M. Paige, 850 E. 58th St., Chicago

## Great Lakes protective association

Sec. George A. Marr, Rockefeller Bldg., Cleveland, O.

## Great Lakes-St Lawrence tidewater association

Sec. Chas. P. Craig, 1149-1151 Munsey Bldg., Washington, D.C.

## Grinding wheel manufacturers association of the United States and Canada

Sec. Frank R. Henry, N. Summit St. & Negley Pl., Dayton, O.

## Gummed industries association

Sec. D. A. Crocker, 122 E. 42d St., New York

## Gypsum association (formerly Gypsum institute)

Sec. H. J. Schweim, 211 West Wacker Drive, Chicago

## Heating and piping contractors' national association

See Heating, piping and air conditioning contractors national association

## Heating, piping and air conditioning contractors national association (formerly Heating and piping contractors' national association)

Sec. Joseph C. Flitts, 1250 Sixth Ave., New York

## Highway education board

Dir. of Extension, Stephen James, 1723 N. Street, N.W., Washington, D.C.

## Highway research board

See the National research council

## Hollow metal manufacturers' association

Sec. C. F. Burt, Terminal Tower Bldg., Cleveland, O.

## Housing study guild

Exec.-Sec. Allan A. Twichell, 400 Madison Ave., New York

## Hydraulic institute (formerly Hydraulic society)

Sec. C. H. Rohrbach, 90 West St., New York

## Ice associations

A list of trade organizations, with names and addresses of secretaries, is published in Refrigerating World, September 1933, p. 63

## Illuminating engineering society

Sec. D. W. Atwater, 29 W. 39th St., New York

## Independent and individually branded petroleum association

Sec. Russel S. Williams, 1801 Madison Ave., Indianapolis, Ind.

## Independent oil men of America

Disbanded September 1931

## Independent petroleum association

Sec. C. E. Buchner, 214 Thompson Bldg., Tulsa, Okla.

## Industrial safety equipment manufacturers' association of the United States of America

Chmn. J. T. Ryan, Mine Safety Appliances Co., 201 N. Braddock Av., Pittsburgh

## Inland daily press association

Sec. John L. Meyer, 12 E. Mifflin St., Madison, Wis.

## Institute for economic research (formerly Institute for research in land economics and public utilities)

Dir. Dr. Richard T. Ely, 333 E. Chicago Ave., Chicago

## Institute for government research of Brookings Institution

Dir. Arnold Bennett Hall, 722 Jackson Place, N.W., Washington, D.C.

## Institute for public service

Dir. William H. Allen, 53 Chambers St., New York

## Institute of American meat packers

Pres. W. W. Woods, 59 E. Van Buren St., Chicago

## Institute of book cloth and impregnated fabrics manufacturers

Sec. C. Stewart Comeaux, 103 Park Ave., New York

## Institute of carpet manufacturers of America, inc.

Sec. King Hoagland, Chrysler Bldg., New York

## Institute of chemical distributors

Sec. C. P. Hall, C. P. Hall Co., Akron, O.

## Institute of dyers and finishers

Sec.-Treas. Robert Salembier, Alexander Hamilton Hotel, Paterson, N.J.

## Institute of economics

Dir. Edwin G. Nourse, 722 Jackson Place, N.W., Washington, D.C.

## Institute of international finance

Dir. John T. Madden, 90 Trinity Place, New York

## Institute of leather cloth and lacquered fabrics manufacturers

Sec. C. Stewart Comeaux, 103 Park Ave., New York

## Institute of makers of explosives

Sec. C. Stewart Comeaux, 103 Park Ave., New York

## Institute of manufacturers of vitreous china plumbing fixtures

See Vitreous china plumbing fixture association

## Institute of marine engineers

85/88 The Minories, London, E.C. 3

## Institute of medicine manufacturers

Sec. William P. Jacobs, 551 Fifth Ave., New York

## Institute of paint and varnish research

Dir. Henry A. Gardner, 2201 New York Ave., N.W., Washington, D.C.

## Institute of radio engineers, inc.

Sec. Harold P. Westman, 33 W. 39th St., New York

## Institute of scrap iron and steel

Headquarters, 11 W. 42d St., New York. Sec. Walter Erman, 300 W. 87th St., Chicago



**Institute of the aeronautical sciences**

Sec. Lester D. Gardner, 5431 R. C. A. Bldg., New York

**Insurance advertising conference**

Sec.-Treas. A. H. Reddall, Equitable Life Assurance Society of the U. S., 393 Seventh Ave., New York

**Insurance organizations**

A complete list of insurance organizations of all kinds, national, state, and local, together with reports of the activities of the more important organizations, is published in the *Spectator* December 7, sec 2, 1933

**International acetylene association**

Sec. H. F. Reinhard, 30 E. 42d St., New York York

**International association of electrical inspectors**

Sec. Victor H. Tousley, 612 N. Michigan Ave., Chicago

**International association of electrotypers**

Sec. Neal Gross, 949 Leader Bldg., Cleveland

**International association of fire chiefs**

Sec. James J. Mulcahey, 24 W. 40th St., New York

**International association of ice cream manufacturers**

Exec.-Sec. Robert C. Hibben, 423 Telegraph Bldg., Harrisburg, Pa.

**International association of industrial accident boards and commissions**

Sec. Chas. E. Baldwin, U. S. Bureau of Labor Statistics, Washington, D.C.

**International association of milk dealers**

Exec.-Sec. R. E. Little, 228 N. La Salle St., Chicago

**International association of municipal electricians**

Sec. W. H. Harth, Columbia, S.C.

**International association of printing house craftsmen, inc.**

Sec. L. M. Augustine, 3117 White Ave., Hamiltion, Baltimore, Md.

**International association of public employment services**

Sec. B. C. Seiple, Room 8, City Hall, Cleveland

**International association of public works officials (formerly International association of street sanitation officials)**

Sec. A. M. Anderson, 100 N. La Salle St., Chicago

**International association of street sanitation officials**

See International association of public works officials

**International bureau of weights and measures**

Dir. C. E. Guillaume, Pavillon Breteuil, Sèvres, Seine-et-Oise, France

**International chamber of commerce**

General Sec. Pierre Vasseur, 38 Cours Albert Premier, Paris, France  
Manager, American Section, John P. Gregg, 1615 H St., N. W., Washington, D.C.

**International city managers' association**

Exec.-Dir. Clarence E. Ridley, 850 E. 58th St., Chicago

**International commission on illumination**

Gen.-Sec. J. S. Preston, National Physical Laboratory, Teddington, Eng.

Sec. U. S. National committee, G. H. Stickney, Nela Park, Cleveland, Ohio  
Meetings are held every three years

**International conference on large high tension electric systems**

Sec.-General. J. Tribot Laspière, 25 Boulevard Malesherbes, Paris, France

**International electrotechnical commission**

General Sec. C. le Maistre, 28 Victoria St., Westminster, London, S.W.

United States national committee. Sec. P. G. Agnew, 29 W. 39th St., New York

International body formed of 26 national electrotechnical committees

**International federation for housing and town planning**

Sec. H. Chapman, 25 Bedford Row, London, W.C. 1, England

**International federation of the national standardizing associations (formerly International standards association)**

Sec. A. Huber-Ruf, Rennweg 76, Basle, Switzerland

**International fixed calendar league**

Sec. M. N. Stiles, 343 State St., Rochester, N.Y.

**International management institute**

Dir. Major L. Urwick, 2, Boulevard du Théâtre, Geneva, Switzerland

**International organization of industrial employers**

Gen.-Sec. Jules Lecocq, 33 Rue Ducale, Brussels, Belgium

**International railroad master blacksmiths' association**

Sec.-Treas. William J. Mayer, 2347 Clark Ave., Detroit

**International railway congress**

Sec. P. Ghilain, 74 Rue du Progres, Brussels, Belgium

**International railway fuel association**

Sec. T. D. Smith, 1660 Old Colony Bldg., Chicago

**International railway general foremen's association**

Sec. William Hall, 1061 W. Wabasha St., Winona, Minn.

**International shipping conference**

Sec. H. M. Cleminson, 28 St Mary Axe., London, E.C. 3, England

**International society of master painters and decorators, inc.**

Sec. E. J. Bush, 125 N. Jefferson Ave., Peoria, Ill.

**International standards association**

See International federation of the national standardizing associations

**International trade composition association**

Sec. John J. Deviny, 1200 Tower Bldg., Washington, D.C.

**International typographical union**

Sec. Woodruff Randolph, 2820 N. Meridian St., Indianapolis, Ind.

**International union of chemistry**

Pres. Prof. Einar Biilmann, Copenhagen, Denmark

**International union of operating engineers**

Sec. F. A. Fitzgerald, 1003 K Street, N.W., Washington, D.C.

**International union of tramways, local railways and public motor transport**

Sec. A. de Backer, 18 Avenue de la Toison d'or, Brussels, Belgium

**Investment bankers' association of America**

Exec.-Vice Pres. Alden H. Little, 33 S. Clark St., Chicago

**Iron and steel institute**

Sec. G. C. Lloyd, 28 Victoria St., London, S.W. 1, England

**Jute and gunnies importers association**

See Burlap association

**Kraft paper association**

Sec. John R. Diggs, 369 Lexington Ave., New York

**Labor research association**

Exec.-Sec. Robert W. Dunn, 80 E. 11th St., New York

**Lacquer institute**

See National paint, varnish and lacquer association, inc.

**Lacquer manufacturers' association**  
Sec. John P. Hubbell, 420 Lexington Ave., New York

**Lake carriers' association**  
Sec.-Treas. George A. Marr, Rockefeller Bldg., Cleveland, O.

**Laundryowners national association of the United States and Canada**  
Sec. Albert Johnson, Drawer 1187, Joliet, Ill.

**Lead industries association**  
Sec. Felix E. Wormser, 420 Lexington Ave., New York

**Life advertisers association**  
Sec. Bart Leiper, Pilot Life Insurance Co., Greensboro, N.C.

**Life insurance sales research bureau**  
Mgr. John M. Holcombe, jr., 6 Myrtle St., Hartford, Conn.

**Life office management association**  
Sec. F. L. Rowland, Box 346, Fort Wayne, Ind.

**Linseed association of New York**  
Sec. T. J. Hastings, 150 Washington St., New York

**Lithographers co-operative association**  
Sec. Ed. B. Trickett, 303 Empire Bldg., Memphis, Tenn.

**Lithographers national association, inc.**  
Sec. Maurice Saunders, 104 Fifth Ave., New York

**Machinery and allied products institute**  
Pres. John W. O'Leary, 221 N. La Salle St., Chicago

**Mail advertising service association, international**  
Sec. Jeannette Robinson, 2 E. 23d St., New York

**Malleable iron research institute, inc.**  
Sec. Robert E. Belt, Union Trust Bldg., Cleveland

**Manufacturers aircraft association, inc.**  
Sec. Walter C. Davis, 300 Madison Ave., New York

**Manufacturing chemists' association of the United States**  
Sec. W. N. Watson, Woodward Bldg., Washington, D.C.

**Marine associations**  
A list of marine societies, giving names and addresses of presidents and secretaries, is published in monthly numbers of Marine Engineering

**Master boiler makers' association**  
Sec. Albert F. Stiglmeler, 29 Parkwood St., Albany, N.Y.

**Master electroplaters institute**  
Sec. James E. Nagle, 3835 Seiss Ave., Toledo, O.

**Mathematical association of America, inc.**  
Sec. W. D. Cairns, Peters Hall, Oberlin, Ohio

**Mechanical press builders' association**  
Sec. Curtis T. Ziegler, 227 Curtis Bldg., Detroit

**Merchants' association of New York**  
Sec. S. C. Mead, 233 Broadway, New York

**Metal cutting tool institute**  
Sec. Harry C. Hungerford, 410 Asylum St., Hartford, Conn.

**Metal lath manufacturers association (formerly Associated metal lath manufacturers)**  
Sec. Erwin M. Lurie, 208 S. La Salle St., Chicago

**Metal treating institute**  
Sec. Arthur H. Nuesse, Wesley Steel Treating Co., Milwaukee

**Metric association**  
Sec. Howard Richards, Cressona Road, Pottsville, Pa.

**Mine inspectors institute of America**  
Sec. C. A. McDowell, 915 Brookline Blvd., Pittsburgh

**Mineralogical society of America**  
Sec. Paul F. Kerr, Columbia University, New York

**Mining and metallurgical society of America**  
Sec. Percy E. Barbour, 76 Beaver St., New York

**Mirror manufacturers association**  
Sec. North Storms, 2217 Tribune Tower, Chicago

**Motor and equipment manufacturers' association**  
Gen. Mgr. A. H. Eichholz, 250 W. 57th St., New York

**Motor bus associations**  
A list of national, state, and Canadian associations with the names and addresses of presidents and secretaries is published in Bus Transportation, February 1933, p. 114

**Motor truck association of America, inc.**  
Mng.-Dir. T. D. Pratt, 1440 Broadway, New York

**Municipal administration service**  
See Public administration service

**National academy of sciences**  
Sec. Fred E. Wright, 2101 Constitution Ave., N.W., Washington, D.C.

**National advisory committee for aeronautics**  
Sec. John F. Victory, Navy Bldg., 17th and B Sts., N.W., Washington, D.C.

**National aeronautic association**  
Sec. Major Robert F. Garland, 1909 Massachusetts Ave., N.W., Washington, D.C.

**National American wholesale grocers association (formerly National wholesale grocers association of the United States)**  
Sec. M. L. Toulme, 99 Hudson St., New York

**National American wholesale lumber association, inc.**  
Sec. W. W. Schupner, 41 E. 42d St., New York

**National association for better housing**  
Sec. Henry A. Guthrie, 59 East Van Buren St., Chicago

**National association of broadcasters, inc.**  
Mng. Dir. Philip G. Loucks, 970 National Press Bldg., Washington, D.C.

**National association of builders' exchanges**  
629 Bond Bldg., Washington, D.C.

**National association of building owners and managers**  
Sec. Lewis B. Ermeling, 134 S. LaSalle St., Chicago

**National association of certified public accountants**  
1427 I St., N.W., Washington, D.C.

**National association of chemical specialty manufacturers**  
Sec. Dr. Foster Dee Snell, 305 Washington St., Brooklyn, N.Y.

**National association of commercial organization secretaries**  
Sec.-Treas. Glen B. Eastburn, Chamber of Commerce, Omaha, Neb.

**National association of cost accountants**  
Sec. Stuart C. McLeod, 1790 Broadway, New York

**National association of cotton manufacturers**  
Sec. Russell T. Fisher, 80 Federal St., Boston

**National association of credit men**  
Exec.-Mgr. Henry H. Heimann, 1 Park Ave., New York

**National association of dyers and cleaners of the United States and Canada**  
Mng. Dir. Walter H. Franks, Silver Spring, Md.

**National association of engine and boat manufacturers**  
Sec. Ira Hand, 420 Lexington Ave., New York

**National association of fan manufacturers**  
Dir. L. O. Monroe, General Motors Bldg., Detroit

**National association of farm equipment manufacturers**

Sec. H. J. Sameit, 608 S. Dearborn St., Chicago

**National association of finance companies**

Sec. C. C. Hanch, 360 N. Michigan Ave., Chicago

**National association of finishers of textile fabrics**

Sec. Alice C. Moore, 40 Worth St., New York

**National association of flat rolled steel manufacturers**

Dir. of Research, Stanley A. Knisely, 565 Frick Bldg. Annex, Pittsburgh

**National association of foremen**

Sec. Edward H. Tingley, 412 Refiners Bldg., Dayton, Ohio

**National association of furniture manufacturers, inc.**

Sec. A. P. Haake, 666 Lake Shore Drive, Chicago

**National association of gasoline retailers**

Sec. A. C. Mickelson, 205 W. Wacker Drive, Chicago

**National association of hosiery manufacturers**

Mng. Dir. Earl Constantine, 468 4th Ave., New York

**National association of ice industries**

Sec. Leslie C. Smith, 228 N. La Salle St., Chicago

**National association of insecticide and disinfectant manufacturers, inc.**

Sec. J. H. Wright, Chrysler Bldg., New York

**National association of letter carriers**

Sec. M. T. Finnan, American Federation of Labor Bldg., Washington, D.C.

**National association of lubricating grease manufacturers**

Sec. Guy Peters, 3330 Beekman St., Cincinnati, O.

**National association of manufacturers**

Sec. Noel Sargent, 11 W. 42d St., New York

**National association of manufacturers of pulp and paper machinery and equipment**

Acting Sec. John Cornell, The Paper Mill, 1440 Broadway, New York

**National association of marble dealers**

Sec. Victor Mosel, Rockefeller Bldg., Cleveland

**National association of marketing officials**

Sec. Sidney A. Edwards, State Dept. of Agriculture, State Office Bldg., Hartford, Conn.

**National association of master plumbers of the United States, inc.**

Sec. Jos. G. Hildebrand, 210 Shoreham Bldg., 15th and H. Sts., N.W., Washington, D.C.

**National association of motor bus operators**

Sec. John M. Meighan, 831 Tower Bldg., Washington, D.C.

**National association of music merchants**

Exec.-Sec. Delbert L. Loomis, 113 W. 57th St., New York

**National association of mutual insurance companies**

Sec. Harry P. Cooper, 2105 N. Meridian St., Indianapolis, Ind.

**National association of mutual savings banks**

Sec. John W. Sandstedt, 347 Madison Ave., New York

**National association of ornamental iron, bronze and wire manufacturers**

Exec.-Sec. O. J. Condon, 1772 Kessler Blvd., South Bend, Ind.

**National association of paint distributors**

See National wholesale paint association

**National association of power engineers, inc.**

Sec. Fred W. Raven, 1140 Lake St., Oak Park, Ill.

**National association of practical refrigerating engineers**

Sec. Emerson A. Brandt, 435 N. Waller Ave., Chicago

**National association of purchasing agents**

Sec. G. A. Renard, 11 Park Place, New York

**National association of railroad and utilities commissioners**

Sec. James B. Walker, 270 Madison Ave., New York

**National association of railroad tie producers**

See Railway tie association

**National association of real estate boards**

Sec. Herbert U. Nelson, 59 E. Van Buren St., Chicago

**National association of retail grocers**

Sec.-Mgr. C. H. Jannsen, 2388 University Ave., St. Paul, Minn.

**National association of securities commissioners**

Sec. W. T. Stockard, Com. of Securities, State of Missouri, Room 204, Capitol Bldg., Jefferson City, Mo.

**National association of sheet metal distributors**

Sec. George A. Fernley, 505 Arch St., Philadelphia

**National association of used machinery and equipment dealers**

Pres. M. D. Galbreath, 58 Water St., Pittsburgh, Pa.

**National association of waste material dealers, inc.**

Mng.-Dir. Charles M. Haskins, 1109 Times Bldg., New York

**National association of wooden box manufacturers**

Sec. Paul I. Grady, 111 W. Washington St., Chicago

**National association of wool manufacturers**

Sec. Walter Humphreys, 80 Federal St., Boston

**National association of woolen and worsted overseers**

Sec. James J. Burns, Washington, R. I.

**National association sheet metal contractors**

Sec. W. C. Markle, 429 Fourth Ave., Pittsburgh

**National automobile chamber of commerce**

Gen. Mgr. Alfred Reeves, 366 Madison Ave., New York

**National automobile dealers' association**

Sec. J. O. Munn, 1010 Pine St., St. Louis

**National automotive parts association**

Sec. Henry Lansdale, 705 Fox Theater Bldg., Detroit, Mich.

**National battery manufacturers association**

Sec. D. A. Graham, 7 E. 44th St., New York

**National better business bureau, inc.**

Gen. Mgr. E. L. Greene, Room 430, 405 Lexington Ave., New York

**National bituminous pavers industrial association**

2101 16th St., Washington, D. C.

**National board of boiler and pressure vessel inspectors**

Sec.-Treas. C. O. Myers, 1103-5 Brunson Bldg., Columbus, Ohio

**National board of fire underwriters**

Gen.-Mgr. W. E. Mallalieu, 85 John St., New York

**National bottled gas association**

Sec. F. R. Fetherston, 110 W. 40th St., New York

**National brick manufacturers' research foundation**

Sec. Douglas F. Stevens, 412 Adams Bldg., Danville, Ill.

**National building industries, inc.**

228 N. LaSalle St., Chicago

**National bureau of casualty and surety underwriters**

Gen. Mgr. Jas. A. Beha, 1 Park Ave., New York

**National bureau of economic research, inc.**

Sec. Charles A. Bliss, 51 Madison Ave., New York

**National bus traffic association**

Sec. W. L. Wimberly, 608 S. Dearborn St., Chicago



- National cannery association**  
Sec. Frank E. Gorrell, 1739 H St., N.W., Washington, D.C.
- National chain store association**  
Disbanded
- National cinder concrete products association**  
Sec.-Treas. Harry H. Longenecker, 1600 Arch St., Philadelphia
- National civic federation**  
Chairman, Ralph M. Easley, 570 Lexington Ave., New York
- National coal association**  
Exec.-Sec. C. B. Huntress, 803 Southern Bldg., Washington, D.C.
- National committee on calendar simplification for the United States**  
Disbanded
- National concrete burial vault association**  
Sec. J. H. Stuart, Bremen, Ohio
- National concrete masonry association (formerly Concrete masonry association)**  
Sec. Jack Franklin, 7071 Plankinton Bldg., Milwaukee, Wis.
- National confectioners' association**  
Sec. Olin M. Jacobs, 111 W. Washington St., Chicago
- National conference of business paper editors**  
Sec. H. J. Payne, 330 W. 42d St., New York
- National conference on city planning**  
Sec. Flavel Shurtleff, 130 E. 22d St., New York
- National conference on pharmaceutical research**  
Sec. John C. Krantz, jr., 307 W. Pratt St., Baltimore, Md.
- National conference on slum clearance**  
Sec. John H. Miller, 440 S. Dearborn St., Chicago
- National conference on state parks**  
Sec. Herbert Evison, 905 Union Trust Bldg., Washington, D.C.
- National conference on street and highway safety**  
Sec. A. W. Koehler, 1615 H St., N.W., Washington, D.C.
- National construction council of Canada**  
Sec. I. Markus, 74 King St. E., Toronto, Ontario
- National consumers' league**  
Sec. Lucy Randolph Mason, 156 Fifth Ave., New York
- National container association (formerly Container group of Paperboard industries association)**  
205 W. Wacker Drive, Chicago
- National convention of insurance commissioners**  
Sec. Jess G. Read, Capitol, Oklahoma City, Okla.
- National cottonseed products association, inc.**  
Sec. S. M. Harmon, 1913 Sterick Bldg., Memphis, Tenn.
- National council of American importers and traders, inc.**  
Sec. C. T. Riette, 45 E. 17th St., New York
- National council of American shipbuilders**  
Sec. C. C. Knerr, 11 Broadway, New York
- National council of business mail users**  
Sec. William Arnold, 160 Broadway, New York
- National crushed stone association, inc.**  
Sec. J. R. Boyd, Merchandise Bldg., 1735 14th St., N.W., Washington, D.C.
- National display installation association**  
Sec. Walter G. Vosler, Cincinnati Display Service Co., 519 Main St., Cincinnati
- National district heating association**  
Sec. D. L. Gaskill, 603 S. Broadway, Greenville, O.
- National drainage conservation and flood control congress**  
Sec. T. W. Vinson, Kentucky Hotel, Louisville, Ky.
- National editorial association**  
Sec. H. C. Hotaling, 1501 University Ave., St. Paul, Minn.
- National electric light association**  
See Edison electric institute
- National electrical contractors association (formerly Association of electragists, International)**  
Gen. Mgr. Laurence W. Davis, 420 Lexington Ave., New York
- National electrical credit association**  
Sec. Frederick A. Lind, 1008 Marquette Bldg., 140 S. Dearborn St., Chicago
- National electrical manufacturers' association**  
Mng. Dir. A. W. Berresford, 155 E. 44th St., New York
- National electrical wholesalers' association**  
Sec. E. Donald Tolles, 165 Broadway, New York
- National federation of builders' supply associations, inc.**  
Sec. Willis M. Staubus, 17 William St., Newark, N.J.
- National federation of implement dealers' associations**  
Sec. H. J. Hodge, Abilene, Kansas
- National federation of radio associations**  
Sec. H. G. Erstrom, 185 N. Wabash Ave., Chicago
- National federation of remedial loan associations**  
Chmn. Daniel S. Coffey, 320 Midland Bldg., St. Paul, Minn.
- National federation of textiles (formerly Silk association of America, inc.)**  
Sec. Irene L. Blunt, 468 Fourth Ave., New York
- National fertilizer association**  
Exec.-Sec. Charles J. Brand, 616 Investment Bldg., 15th and K Sts., N.W., Washington, D.C.
- National fire protection association**  
Sec. Franklin H. Wentworth, 60 Battery-march St., Boston
- National fire waste council**  
Sec. T. M. Cunneen, 1615 H St., N. W., Washington, D.C.
- National food distributors association**  
Sec. E. J. Martin, 110 N. Franklin St., Chicago
- National foreign trade council**  
Sec. Gardner L. Harding, India House, 1 Han-over Sq., New York
- National founders' association**  
Sec. J. M. Taylor, 29 S. LaSalle St., Chicago
- National gift and art association**  
Sec. W. S. Hays, 644 Drexel Bldg., Philadelphia
- National glass distributors association**  
Sec. North Storms, Tribune Tower, Chicago
- National gravure printers' association**  
Sec.-Treas. Martin J. Tiernan, Art Gravure Corp., 310 S. Racine Ave., Chicago
- National hardware association of the United States**  
Sec. George A. Fernley, 505 Arch St., Philadelphia
- National hardwood lumber association**  
Sec. L. S. Beale, 59 E. Van Buren St., Chicago
- National health council**  
Bus. Mgr. Thomas C. Edwards, 450 Seventh Ave., New York
- National highway users conference**  
Dir. Roy F. Britton, National Press Bldg., Washington, D.C.
- National housing association**  
Sec. Lawrence Veiller, 105 E. 22d St., New York
- National industrial advertisers association, inc.**  
Corr. Sec. M. R. Webster, 537 S. Dearborn St., Chicago
- National industrial conference board, inc.**  
Sec. James M. Robertson, 247 Park Ave., New York

- National industrial council**  
Sec. Michael J. Hickey, 11 West 42d St., New York
- National leather and shoe finders' association**  
Sec. George A. Knapp, 702 Commercial Bldg., St. Louis
- National lime association**  
Sec. W. V. Brumbaugh, 927 15th St., N.W., Washington, D.C.
- National lumber manufacturers' association**  
Sec. Wilson Compton, 1337 Connecticut Ave., Washington, D.C.
- National machine tool builders' association**  
Sec. Mrs. Frida F. Selbert, 1220 Guarantee Title Bldg., Cleveland
- National metal trades association**  
Sec. J. E. Nyhan, 122 S. Michigan Ave., Chicago
- National municipal league**  
Sec. Howard P. Jones, 309 E. 34th St., New York
- National occupational conference**  
Dir. Dr. Franklin J. Keller, 522 Fifth Ave., New York
- National office management association**  
Sec. R. P. Brecht, Wharton School, Univ. of Pennsylvania, Philadelphia
- National oil marketers association**  
Sec.-Treas. Paul E. Hadlick, National Press Bldg., Washington, D.C.
- National paint, oil and varnish association, inc.**  
See National paint, varnish and lacquer association, inc.
- National paint, varnish and lacquer association, inc. (formerly National paint, oil and varnish association, inc.)**  
Pres. Ernest T. Trigg, 2201 New York Ave., N.W., Washington, D.C.
- National paper trade association of the United States**  
Exec.-Sec. A. H. Chamberlain, 420 Lexington Ave., New York
- National paperboard association**  
Sec.-Treas. H. S. Adler, 608 S. Dearborn St., Chicago  
Eastern Div., 41 E. 42d St., New York
- National parks association**  
Dir. Lorne W. Barclay, 700 20th St., N.W., Washington, D.C.
- National paving brick association**  
Mng. Dir. G. F. Schlesinger, Suite 1245, National Press Bldg., Washington, D.C.
- National petroleum association**  
Gen. Counsel, Fayette B. Dow, Munsey Bldg., Washington, D.C.
- National piano manufacturers association of America**  
Sec. Harry Meixell, 45 West 45th St., New York
- National pipe and supplies association**  
Sec. R. Kennedy Hanson, 604 American Bank Bldg., Pittsburgh
- National printing equipment association, inc.**  
Sec. James E. Bennet, 38 Park Row, New York
- National publishers' association**  
Exec.-Sec. George C. Lucas, 232 Madison Ave., New York
- National rayon weavers association**  
Sec.-Treas. C. Whitney Dall, 40 Worth St., New York
- National ready mixed concrete association, inc.**  
Sec. V. P. Ahearn, 951 Munsey Bldg., Washington, D.C.
- National research council**  
Chmn. Isaiah Bowman, 2101 Constitution Ave., N.W., Washington, D.C.  
Dir. Highway research board, Roy W. Crum, 2101 Constitution Ave., Washington, D.C.
- National research council (of Canada)**  
Sec. S. P. Eagleson, Sussex St., Ottawa, Canada
- National restaurant association**  
Sec. Frank J. Wiffler, 666 Lake Shore Drive, Chicago
- National retail coal merchants association**  
Sec. Joseph E. O'Toole, 1001 15th St., N. W., Washington, D. C.
- National retail credit association**  
Sec. Guy H. Hulse, 1218 Olive St., St. Louis
- National retail dry goods association**  
Mng. Dir. Channing E. Sweitzer, 225 W. 34th St., New York
- National retail hardware association**  
Managing Dir. H. P. Sheets, 915 Meyer-Kiser Bldg., Indianapolis, Ind.
- National retail lumber dealers association**  
Sec.-Mgr. Adolph Pfund, 326 W. Madison St., Chicago
- National rivers and harbors congress**  
Sec. Fred D. Beneke, 708 Earle Bldg., Washington, D. C.
- National safety council**  
Managing Dir. W. H. Cameron, 20 N. Wacker Drive, Chicago
- National sand and gravel association, inc.**  
Sec. V. P. Ahearn, 951 Munsey Bldg., Washington, D. C.
- National scale men's association**  
Sec. C. L. Richard, 5800 W. 69th St., Chicago
- National screw machine products association**  
Sec. C. C. Heath, Brown-McLaren Manufacturing Co., 5853 W. Fort St., Detroit
- National screw thread commission**  
Abolished by executive order, August 10, 1933
- National silo research council**  
Sec. A. L. Haecker, 132 S. 13th St., Lincoln, Neb.
- National slag association**  
Sec. H. J. Love, 1449 Leader Bldg., Cleveland
- National slate association**  
Sec. W. S. Hays, 644 Drexel Bldg., Philadelphia
- National supply and machinery distributors' association**  
Sec.-Treas. George Fernley, 505 Arch St., Philadelphia
- National tax association**  
Sec. W. G. Query, State Official Bldg., Columbia, S.C.
- National tent and awning manufacturers association, inc.**  
Sec.-Treas. James E. McGregor, 417 S. Dearborn St., Chicago
- National terrazzo and mosaic association, inc.**  
Sec.-Treas. J. M. Fuhrman, 524 Brook St., Louisville, Ky.
- National vocational guidance association**  
Exec.-Sec. Fred C. Smith, Graduate School of Education, Harvard University, Cambridge, Mass.
- National wall paper wholesalers' association**  
Pres. Justin P. Allman, 1522 Chestnut St., Philadelphia
- National warm air heating and air conditioning association**  
Mng. Dir. Allen W. Williams, 50 W. Broad St., Columbus, O.
- National wholesale druggists' association**  
Exec. V. P. and Sec. E. L. Newcomb, 51 Maiden Lane, New York
- National wholesale grocers association of the United States**  
See National American wholesale grocers association
- National wholesale paint association (formerly National association of paint distributors)**  
Sec.-Treas. E. R. Drake, 2201 New York Ave., Washington, D. C.
- National wood fibre growers association**  
Sec. Russell A. Smith, Box 663, Fernandina, Fla.
- Natural gasoline association of America**  
Sec. Ray E. Miller, 819 Wright Bldg., Tulsa, Okla.



**New England council**  
Exec. V.-P. Dudley Harmon, 1032 Statler Bldg., Boston

**New England gas association**  
Sec. Clark Belden, 41 Mt. Vernon St., Boston

**New England institute of chemical distribution**  
Sec. Howard C. Gerlach, c/o John D. Lewis, inc., 68 Traverse St., Providence, R. I.

**New England road builders' association**  
Sec. Frederick Hoitt, 89 Broad St., Boston

**New England waterworks association**  
Sec. Frank J. Gifford, 715 Tremont Temple, Boston

**Newspaper advertising executives association**  
Sec. Hoyt Boylan, Richmond Palladium, Richmond, Ind.

**Nonferrous foundry association for industrial recovery**  
Sec. Sam Tour, 47 Fulton St., New York

**Non-ferrous ingot metal institute**  
Sec. R. D. T. Hollowell, Room 1502, 308 W. Washington St., Chicago

**North Central electric association**  
Sec. John Lapham, 803 Plymouth Bldg., Minneapolis, Minn.

**Northeastern retail lumbermen's association**  
Sec. Paul S. Collier, 604 Case Bldg., Rochester, N.Y.

**Northern hemlock and hardwood manufacturers association**  
Sec.-Mgr. O. T. Swan, E.R.A. Bldg., Oshkosh, Wis.

**Northwest electric light and power association**  
Sec. Berkeley Snow, 707 Spalding Bldg., Portland, Oregon

**Northwest scientific association**  
Sec. O. W. Freeman, State Normal School, Cheney, Wash.

**Oak flooring manufacturers' association of the United States**  
Sec. W. L. Claffey, 604 Dermon Bldg., Memphis

**Oil associations**  
A list of coming meetings is published in weekly numbers of National Petroleum News

**Oil heating institute**  
Exec.-Sec. Harry Tapp, 342 Madison Ave., New York

**Optical society of America**  
Sec. L. B. Tuckerman, Bureau of Standards, Washington, D.C.

**Outdoor advertising association of America, inc.**  
Sec. Don V. Daigneau, 165 W. Wacker Drive, Chicago

**Pacific coast gas association**  
Mng. Dir. Clifford Johnstone, 447 Sutter St., San Francisco

**Packaging machinery manufacturers institute**  
Exec. V.-P. W. J. Donald, 52 Wall St., New York

**Paleontological society**  
Sec. B. F. Howell, Princeton University, Princeton, N. J.

**Paper bag manufacturers institute**  
Sec. E. F. Melia, 369 Lexington Ave., New York

**Paper trade associations**  
Report of the annual meetings and lists of officers for the coming year of the various associations connected with the paper trade are to be found in Paper Trade Journal for February 16, 1933

**Paperboard industries association**  
See National paperboard association

**Periodical publishers institute**  
Sec. George C. Lucas, 232 Madison Ave., New York

**Permanent international association of navigation congresses**

Gen. Sec. J. Millemcam, 38 Rue de Louvain, Brussels, Belgium  
Sec. American section, Col. W. G. Barden, 2848 Munitions Bldg., Washington, D. C.

**Personnel research federation**  
Dir. Walter V. Bingham, 29 W. 39th St., New York

**Petroleum industry electrical association**  
Sec. H. E. Browne, P. O. Box 60, Independence, Kans.

**Pine institute of America, inc.**  
Sec. Carl F. Speh, 1521 Barnett National Bank Bldg., Jacksonville, Fla.

**Plumbers' associations**  
Announcements of coming meetings are published in monthly numbers of Domestic Engineering

**Plumbing and heating industries' bureau**  
35 E. Wacker Drive, Chicago

**Port of New York authority**  
Sec. L. J. Keefe, 111 Eighth Ave., New York  
A public body created by compact between the states of New York and New Jersey

**Portland cement association**  
Sec. Wm. M. Kinney, 33 W. Grand Ave., Chicago

**Proprietary association**  
Gen. Rep. E. F. Kemp, 425 Star Bldg., Washington, D. C.

**Public administration service (formerly Municipal administration service)**  
Dir. Charles S. Ascher, 850 E. 58th St., Chicago

**Public ownership league of America**  
Sec. C. D. Thompson, 127 N. Dearborn St., Chicago

**Public utilities advertising association**  
Sec. Eric W. Swift, Commonwealth Edison Co., Chicago

**Pulverized fuel equipment association**  
See American boiler manufacturers association

**Pyroxylin plastics manufacturers' association**  
See Cellulose plastics manufacturers' association

**Radio club of America**  
Sec. F. A. Klingenschmitt, 11 W. 42d St., New York

**Radio manufacturers' association, inc.**  
Sec. Bond Geddes, 1317 F St., N.W., Washington, D. C.

**Radio wholesalers association**  
Sec. H. G. Erstrom, 185 No. Wabash Ave., Chicago

**Rag content paper manufacturers**  
Sec. E. H. Naylor, 95 State St., Springfield, Mass.

**Rail steel bar association**  
Sec. H. P. Bigler, 33 N. La Salle St., Chicago

**Railway accounting officers association**  
Sec. E. R. Woodson, 1033 Transportation Bldg., Washington, D. C.

**Railway and locomotive historical society**  
Sec. Warren Jacobs, Baker Library, Harvard Business School, Soldiers' Field Station, Boston

**Railway associations**  
A list of important railway associations, with convention dates and secretaries, is to be found in the first number of each month of the Railway Age

A list of mechanical associations and railway clubs, giving names of secretaries, dates and places of meetings, is published in monthly numbers of Railway Mechanical Engineer

**Railway business association**  
Sec. P. Harvey Middleton, 38 S. Dearborn St., Chicago

**Railway supply manufacturers' association**

Sec.-Treas. J. D. Conway, 1941 Oliver Bldg., Pittsburgh, Pa.

**Railway tie association (formerly National association of railroad tie producers)**

Sec. Roy M. Edmonds, 1141 Syndicate Trust Bldg., St Louis

**Refrigerating machinery association**

Sec. Fred Nolde, 23 S. 52d St., Philadelphia

**Refrigeration associations**

A list of trade organizations, with names and addresses of secretaries, is published in Refrigerating World, September 1933, p. 63

**Regional plan association**

Sec. Lawrence M. Orton, 400 Madison Ave., New York

**Retail research association**

Assistant Sec. M. L. Brooks, 1440 Broadway, New York

**Roadmasters and maintenance of way association of America**

Sec. T. F. Donahoe, 428 Mansion St., No. 7, Pittsburgh, Pa.

**Robert Morris associates**

Sec.-Treas. Alexander Wall, P. O. Box 56, Lansdowne, Pa.

**Royal architectural institute of Canada**

Sec. Alcide Chausse, 1410 Stanley St., Montreal, Quebec

**Royal institute of British architects**

Sec. Ian Macalister, 9 Conduit St., London, W. 1., England

**Rubber manufacturers association, Inc.**

Sec. R. H. Goebel, 250 W. 57th St., New York

**Russian association of engineers, Inc.**

Sec. Ivan A. Swidlo, 23 E. 26th St., New York

**Salt distributors association of America, Inc.**

Sec. George S. Robertson, 514 Park Bank Bldg., Baltimore

**Sand-lime brick association**

Sec. Miss Ellen Knight, 321 N. Hamilton St., Saginaw, Mich.

**Science service, Inc.**

Sec. Watson Davis, 2110 Constitution Ave., N.W., Washington, D.C.

**Scientific apparatus makers of America**

Sec. John M. Roberts, 20 N. Wacker Drive, Chicago

**Security owners association**

Pres. Milton W. Harrison, 274 Madison Ave., New York

**Seismological society of America**

Sec. Dr. Perry Byerly, Bacon Hall, Univ. of California, Berkeley, Cal.

**Silk association of America, Inc.**

See National federation of textiles

**Social science research council**

Exec.-Dir. R. T. Crane, 230 Park Ave., New York

**Society for electrical development, inc.**

Liquidated

**Society for research on meteorites**

Sec.-Treas. H. H. Nininger, Colorado Museum of Natural History, Denver

**Society for the promotion of engineering education**

Sec. Dean F. L. Bishop, University of Pittsburgh, Pittsburgh, Pa.

**Society of American military engineers**

Sec. Col. W. P. Wooten, 803 Mills Bldg., Washington, D. C.

**Society of automotive engineers, inc.**

Sec. John A. C. Warner, 29 W. 39th St., New York

**Society of chemical industry**

Gen.-Sec. H. J. Pooley, 46 Finsbury Square, London, EC.2, England

Sec. (American Section) Foster D. Snell, 305 Washington St., Brooklyn, N. Y.

**Society of economic geologists**

Sec. Dr. D. H. McLaughlin, Rotch Bldg., Cambridge, Mass.

**Society of industrial engineers**

Sec. George C. Dent, 205 W. Wacker Drive, Chicago

**Society of motion picture engineers**

Editor-Mgr. Sylvan Harris, 33 W. 42d St., New York

**Society of motor manufacturers and traders, ltd.**

83 Pall Mall, London; S.W.1, England

**Society of naval architects and marine engineers**

Sec.-Treas. H. Gerrish Smith, 29 W. 39th St., New York

**Society of rheology**

Sec. A. Stuart Hunter, DuPont Rayon Co., Buffalo, N.Y.

**Society of terminal engineers**

Sec. Charles H. Newman, 114 Liberty St., New York

**Southern cypress manufacturers' association**

Sec. T. M. True, 723 Barnett National Bank Bldg., Jacksonville, Fla.

**Southern gas association**

Sec. S. L. Drum, 317 Baronne St., New Orleans

**Southern metal trades association**

Sec. W. E. Dunn, jr., Hurt Bldg., Atlanta, Ga.

**Southern newspaper publishers' association**

Mgr. Cranston Williams, News Bldg., Chattanooga, Tenn.

**Southern paint manufacturers association**

Sec. T. C. Huguley, Box 614, Atlanta, Ga.

**Southern pine association**

Sec. H. C. Berckes, 600 Interstate Bank Bldg., New Orleans, La.

**Southern supply and machinery distributors' association**

Sec.-Treas. Alvin M. Smith, 7th & Bainbridge Sts., Richmond, Va.

**Southern textile association**

Sec. D. H. Hill, Jr., 118½ W. 4th St., Charlotte, N. C.

**Southwest waterworks association**

Sec.-Treas. Lewis A. Quigley, City Water Works, Fort Worth, Texas

**Southwestern public service association**

Sec. E. N. Willis, 1801 N. Lamar St., Dallas, Texas

**Special libraries association**

Sec. Elizabeth Lois Clarke, 345 Hudson St., New York

**Special tool, die, and machine shop institute**

Managing Dir. Roy T. Wise, 7016 Euclid Ave., Cleveland

**Sporting arms and ammunition manufacturers' institute**

Sec. C. Stewart Comeaux, 103 Park Ave., New York

**Square and flat bag association**

Mgr. Hugh Wright, 205 E. 42d St., New York

**Stained glass association of America**

Sec. F. P. Oppliger, 2700 St. Vincent Ave., St Louis

**State officials**

Associations of state officials are listed at end of Monthly Check-List of State Publications (Library of Congress) as their proceedings or other publications are issued

**State sanitary engineers**

See Conference of state sanitary engineers

**Stationery, tablet and school paper manufacturers association**

Exec.-Sec. H. W. Selby, Suite 515, Vanderbilt Hotel, New York

**Steel founders' society of America**

Sec. Raymond L. Collier, 420 Lexington Ave., New York

## Structural clay tile association

Sec. Jos. J. Cermak, 205 W. Wacker Drive, Chicago

## Structural steel board of trade, inc.

Grand Central Terminal, New York

## Sulphonated oil manufacturers' association

Sec. H. B. Sweatt, 55 W. 42d St., New York

## Synthetic organic chemical manufacturers' association

Sec. C. A. Mace, Room 507, 260 W. Broadway, New York

## Tanners council of America

Sec. James L. Nelson, 41 Park Row, New York

## Tap and die institute

Now a division of Metal cutting tool institute

## Taylor society

Sec. Evelyn Brickley, 29 W. 39th St., New York

## Technical association of the pulp and paper industry

Sec. Ronald G. Macdonald, 122 E. 42d St., New York

## Textile associations

Textile calendar announcing dates and places of coming meetings is published in monthly numbers of Textile World

## Textile color card association of the United States, inc.

Managing Dir. Margaret H. Rorke, 200 Madison Ave., New York

## Textile exhibitors' association, inc.

Sec.-Treas. A. C. Rau, 329 Park Square Bldg., Boston

## Throwsters research institute, inc.

Sec. Dean Hill, 468 Fourth Ave., New York

## Tire and rim association, inc.

Sec. C. E. Bonnett, 1401 Guarantee Title Bldg., Cleveland, O.

## Tissue paper manufacturers association

See Association of manufacturers and converters of tissue

## Toy manufacturers of the U. S. of America

Sec. James L. Fri, 200 5th Ave., New York

## Trust associations

Directory of trust associations in the United States, 1933-34 (20p) is published by American bankers' association, Trust division, 22 E. 40th St., New York

## Underwear institute

Sec. Roy A. Cheney, Union Trust Bldg., Washington, D. C.

## Underwriters' laboratories

Sec. D. B. Anderson, 207 E. Ohio St., Chicago

## United medicine manufacturers of America

Sec. J. B. Van Dyke, 240 S. 44th St., Philadelphia

## United roofing contractors association

Sec. E. M. Pope, 58 W. Washington, St., Chicago

## United States building and loan league

Sec. Herman F. Cellarius, 22 E. 12th St., Cincinnati, O.

## United States good roads association, inc.

Dir. J. A. Rountree, 3200 Cliff Road, Birmingham, Ala.

## United States hemp brokers association

Sec. H. E. Higginbotham, 90 Wall St., New York

## United States institute for textile research, inc.

Sec. Charles H. Clark, 65 Franklin St., Boston

## United States pharmacopoeial convention

Sec. E. Fullerton Cook, 43d St. and Woodland Ave., Philadelphia

## United States tin research and development committee

Chairman. James E. Pope, Pope Trading Corp., 90 West St., New York

## United typhothetae of America

Sec. John J. Deviny, Tower Bldg., 14th and K Sts., N.W., Washington, D.C.

## Universal craftsmen council of engineers

Sec. Thomas H. Jones, 33 Linden Ave., Cherrydale, Va.

## Vitreous china plumbing fixture association (formerly Institute of manufacturers of vitreous china plumbing fixtures)

Sec. R. K. Hanson, 604 American Bank Bldg., Pittsburgh

## Wallpaper association of the United States

Disbanded July, 1933

## Washington academy of sciences

Corr.-Sec. Paul E. Howe, Bureau of Animal Industry, Washington, D.C.

## Waste paper institute

Sec. Charles M. Haskins, 1109 Times Bldg., New York

## Water works manufacturers association

Sec. J. A. Kienle, 250 Park Ave., New York

## West Coast lumbermen's association

Sec. W. B. Greeley, 364 Stuart Bldg., Seattle, Wash.

## Western glass and pottery association

Sec. Robert G. West, 1226 Richmond St., Pittsburgh

## Western ice manufacturers' association

Sec.-Treas. Charles K. Wood, 623 Shukert Bldg., Kansas City, Mo.

## Western petroleum refiners association

Sec. A. V. Bourque, 607 Cosden Bldg., Tulsa, Okla.

## Western pine association

Sec. S. V. Fullaway, jr., Yeon Bldg., Portland, Ore.

## Western railway club

Sec. C. L. Emerson, Room 822, 310 S. Michigan Ave., Chicago

## Western society of engineers

Sec. Edgar S. Nethercut, Room 1200, 205 W. Wacker Drive, Chicago

## Wholesale dry goods institute

Sec. Henry Matter, 40 Worth St., New York

## Wire association

Sec. Richard E. Brown, 17 E. 42d St., New York

## Wire machinery builders association

Sec. George D. Hartley, 335 Chandler St., Worcester, Mass.

## Wire screen cloth manufacturers' institute

Sec. George E. Watson, 74 Trinity Place, New York

## Wood chemical institute

Sec. J. A. McCormack, Olean, N.Y.

## Woolen hosiery institute of America

Sec. J. B. Glasner, Rockford Mitten and Hosiery Co., Rockford, Ill.

## World calendar association, inc.

Sec. Harriet A. Lillie, 485 Madison Ave., New York

## Writing paper manufacturers association

Sec. Emmet H. Naylor, 95 State St., Springfield, Mass.

## Wrought iron research association

Disbanded



## Bibliography

**American trade association executives**

List of members (as of May 1932) with mimeographed supplement (as of October 6, 1933). Office of the Secretary, Hotel Tuller, Detroit

**American year book, 1932.** N.Y., American yr. bk. corp.

A list of Cognate societies is added at the end of each division.

**Chamber of commerce of the state of New York**

Classified list of trades and allied associations and publications in the city of New York. 101 (typew) N.Y., Chamber of commerce, 65 Liberty St., June 1933

**Chamber of commerce of the United States**

Convention dates of trade associations, October 1933. 26p Chamber of commerce of the U.S., Washington, D.C. Published March 1 and October 1 of each year.

**Europa v. 1.** Europa publications limited, 6 Duke St, Adelphi, W.C. 2

Contains a list of international associations, revised March 1933

**Municipal index, 1933.** American city magazine corp., 470 4th Ave., N.Y. [Published annually]

National and state organizations serving municipalities and local civic groups

**National research council**

Handbook of scientific and technical societies and institutions of the United States and Canada. 2d ed 352p Wash., National research council, 1930 (Bulletin 76)

**Public administration clearing house**

Organizations in the field of public administration; a directory. October 1932. 203p 850 East 58th St., Chicago

**Public affairs information service**

Directory of publishers and organizations. (In Annual cumulated bulletin, 1933, p. 21-35) N.Y., Public Affairs Information Service

**Social work year book, 1933.** Russell Sage foundation, New York.

Directories of agencies. p. 569-652

**United States Bureau of standards**

Standardizing activities of technical societies and trade associations. (In Standards year-book, 1933, p. 172-230) (Miscellaneous pub. no. 139) U.S. Bureau of standards

**United States Dept. of commerce**

Commercial and industrial organizations of the United States. Rev. ed., September, 1931. 386p Washington, D.C. '31 (Domestic commerce series no. 5)

Trade associations. (In Market research sources, 1932 ed. p. 255-77) Washington, D.C. '32 (Domestic commerce ser. no. 55)

**United States Office of education**

Educational associations and boards and foundations. Educational directory, pt. IV, 1934. U.S. Office of education [Published annually]

**World almanac, 1934.** N.Y., World-Telegram.

Associations and societies in the United States, p. 417-30 [Published annually]

**World convention dates.** Published monthly by Hendrickson Publishing Company, Inc., 56th and Chestnut Streets, Philadelphia

See also lists published in the various trade periodicals. References to these will be found in the preceding list under the name of the industry, as Automobile, Concrete, Credit, Electric, Gas, Insurance, Marine, Motor bus, Oil, Paper, Plumbing, Railway, etc.

# List of Periodicals Indexed

- Adv & Sell**—Advertising and Selling. \$3; single numbers 15c. bi-w Advertising & Selling Pub. Co, Inc, 9 E 38th St, New York  
Design section, Advertising Arts, published as bi-monthly supplement until July, 1933 when it became a separate publication
- Adv Arts**—Advertising Arts. \$2; single numbers 50c. bi-m Advertising Arts, 9 E 38th St, New York  
Published as Design section of Advertising and Selling until July, 1933
- Aera**—Aera. \$2; single numbers 35c. m American Electric Railway Association, Johns-Manville Bldg, 292 Madison Av, New York  
Discontinued with November 1932 number
- Aero Digest**—Aero Digest. \$3; single numbers 35c. m Aeronautical Digest Pub. Corp, 515 Madison Av, New York  
Absorbed Aviation Engineering beginning July, 1933
- Air Commerce Bul**—Air Commerce Bulletin. m U. S. Department of Commerce, Aeronautics Branch, Washington, D.C.  
Occasional articles indexed  
Monthly beginning July 15, 1933
- Airway Age**. \$3; single numbers 35c. m Simmons-Boardman Pub. Co, 30 Church St, New York  
Merged with Aviation Engineering, Flushing, Long Island, November 1931
- Am Arch**—The American Architect. \$1.50; single numbers 50c. bi-m International Publications, Inc, 57th St, at 8th Av, New York  
Changed to bi-monthly beginning 1933
- Am Assn of Textile Chemists and Colorists** Proceedings. Published in American Dyestuff Reporter
- Am Bankers Assn J**—American Bankers Association Journal. \$3; single numbers 25c. m American Bankers Association, 22 E 40th St, New York
- Am Bld**—American Builder and Building Age. \$2; single numbers 25c. m American Builder Pub. Corp, 105 W Adams St, Chicago, Ill.
- Am Cer Soc Bul**—Bulletin of the American Ceramic Society. \$1.50; single numbers 25c. m American Ceramic Society, 2525 N High St, Columbus, Ohio
- Am Cer Soc J**—Journal of the American Ceramic Society. \$12; single numbers \$1. m American Ceramic Society, 2525 N High St, Columbus, Ohio  
In three separately paged sections; Journal, Ceramic Abstracts and Bulletin  
Beginning July, 1933, v 12, no 7, the Bulletin became a separate publication
- Am Chem Soc J**—Journal of the American Chemical Society. \$8.50. m Charles L. Parsons, sec, Mills Bldg, 1709 G St, N.W., Washington, D.C.
- Am Concrete Inst J**—Journal of the American Concrete Institute. \$7.50; single numbers \$1.50. bi-m (except Jl-Ag) American Concrete Institute, 7400 Second Blvd, Detroit, Mich.  
Began publication as v 1 (Proceedings, v 26) November, 1929
- Am Dyestuff Rep**—American Dyestuff Reporter. \$5. bi-w Howes Pub. Co, Inc, 440 4th Av, New York  
Includes Proceedings of American association of textile chemists and colorists
- Am Gas Assn**—American Gas Association. Annual conventions. Proceedings. annual American Gas Association, Inc, 420 Lexington Av, New York
- Am Gas Assn Mo**—American Gas Association Monthly. \$3. m American Gas Assn, 420 Lexington Av, New York
- Am Gas J**—American Gas Journal. \$2; single numbers 25c. m American Gas Journal, Inc, Dodge Bldg, 53 Park Pl, New York
- Am Inst Chem Eng Trans**—American Institute of Chemical Engineers. Transactions. annual American Institute of Chemical Engineers, For sale by D. Van Nostrand Co, 250 4th Av, New York
- Am Inst E E J**. See Elec Eng
- Am Inst of Mining and Metallurgical Engineers**. See Min & Met
- Am J Sci**—American Journal of Science. \$6; single numbers 50c. m American Journal of Science, New Haven, Conn.
- Am Mach**—American Machinist. \$3; single numbers 35c. bi-w McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York  
Changed to bi-weekly beginning July 6, 1932
- Am Pet Inst Proc**—American Petroleum Institute Proceedings. 250 Park Av, New York
- Am Soc C E Proc**—Proceedings of the American Society of Civil Engineers. \$8; single numbers \$1. m (except Je and Jl) American Society of Civil Engineers, 33 W 39th St, New York
- Am Soc Heat & V E J**. See Heating-Piping
- Am Soc M E J**. See Mech Eng
- Am Soc Steel Tr Trans**—Transactions of American Society for Steel Treating. \$5; single numbers \$1. m American Society for Steel Treating, 7016 Euclid Av, Cleveland, Ohio  
Name changed to Transactions of the American Society for Metals, January 1934
- Am Soc T M Proc**—American Society for Testing Materials. Proceedings. annual American Society for Testing Materials, 1315 Spruce St, Philadelphia
- Am Statis Assn J**—Journal of the American Statistical Association. \$6; single numbers \$1.50 q American Statistical Association, Columbia Univ, New York
- Am Water Works Assn J**—Journal of the American Water Works Association. \$7. m American Water Works Assn, 29 W 39th St, New York
- Angew Chemie**—Angewandte Chemie. RM 48; single numbers RM 1.20 w Verlag Chemie, G. m. b. H, Corneliusstr. 3, Berlin W 35, Germany
- Ann Am Acad**—Annals of the American Academy of Political and Social Science. \$5; single numbers \$2. bi-m American Academy of Political and Social Science, 3457 Walnut St, Philadelphia
- Annalist**—The Annalist. \$7; single numbers 20c. w New York Times Co, Times Square, New York
- Arch & Bldg**—Architecture and Building. \$3; single numbers 30c. m William T. Comstock Co, 28 Warren St, New York  
Publication temporarily suspended with March 1932 number
- Arch Forum**—Architectural Forum. \$7; single numbers \$1. m Rogers and Manson Corp, 220 E 42d St, New York
- Arch Rec**—Architectural Record. \$3; single numbers 50c. m F. W. Dodge Corp, 115 W 40th St, New York



- Architecture—Architecture.** \$6; single numbers 50c. m C. Scribner's Sons, 597 5th Av, New York
- Assn of Sp Lib & Inf Bur Proc—Association of Special Libraries and Information Bureaux** Proceedings. 5s. annual Association of Special Libraries and Information Bureaux, 16 Russell Square, London, W. C. 1
- Automobile Eng—The Automobile Engineer.** 37s 4d; Canadian subs 34s 1d; single numbers 2s 6d. m The Automobile Engineer, Dorset House, Stamford St, London, S.E. 1
- Automotive Ind—Automotive Industries.** \$1; single numbers 25c. w Chilton Co., Chestnut & 56th Sts, Philadelphia
- Aviation—Aviation.** \$3; single numbers 35c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York
- Aviation Eng—Aviation Engineering.** \$2; single numbers 25c. m Bryan Davis Pub. Co, Inc, 19 E 47th St, New York  
Merged with Aero Digest, July 1933
- Bankers M—Bankers Magazine.** \$5; single numbers 50c. m Bankers Publishing Co, 135 Madison Av, New York
- Bankers Mo—Bankers Monthly.** \$5; single numbers 50c. m Bankers Monthly, 270 Madison Av, New York  
Combined with Bankers Service Bulletin and name changed to Rand McNally Bankers Monthly, January, 1933
- Barron's—Barron's.** \$10; single numbers 25c. w Barron's Pub. Co, 44 Broad St, New York
- Bell System Tech J—Bell System Technical Journal.** \$1.50; single numbers 50c. q American Telephone and Telegraph Co, 195 Broadway, New York
- Blast F & Steel Pl—Blast Furnace and Steel Plant.** \$2; single numbers 25c. m Steel Publications, Inc, Thaw Bldg, 108 Smithfield St, Pittsburgh, Pa.
- Boston Soc C E J—Journal of the Boston Society of Civil Engineers.** \$4; single numbers 50c. m (except JI and Ag) Boston Society of Civil Engineers, 715 Tremont Temple, Boston
- Bradstreet's—Bradstreet's Weekly.** \$5; single numbers 15c. w Bradstreet Co, 148 Lafayette St, New York  
Merged with Dun's Review, March 4, 1933
- Brass W—Brass World—Plating—Polishing—Finishing.** \$1; single numbers 10c. m Brass World Publishing Co, Inc, 1 Platt St, New York  
Name changed to Platers' Guide, January, 1933
- Brick & Clay Rec—Brick and Clay Record.** \$5; single numbers 50c. m Industrial Publications, Inc, 59 E Van Buren St, Chicago  
Changed from bi-weekly to monthly with November 1931 number
- Burroughs Clearing House—Burroughs Clearing House.** m Burroughs Adding Machine Co, Second Blvd. and Burroughs Av, Detroit; Mich.
- Bus Transportation—Bus Transportation.** \$2; single numbers 25c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York
- Business Week—Business Week.** \$5; single numbers 20c. w McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York
- Can Chem & Met—Canadian Chemistry and Metallurgy.** \$3; single numbers 40c. m Westman Publications, Ltd, 366 Adelaide St, West, Toronto, Ont. 2
- Can Eng—The Canadian Engineer.** \$3; single numbers 10c; \$4; single numbers 15c in U.S. w Monetary Times Printing Co. of Canada, Ltd, 341 Church St, Toronto, Ont. 2
- Can Min J—Canadian Mining Journal.** \$5. m National Business Publications, Ltd, Garden-vale, Que.  
Changed from weekly to monthly with June 1931 number
- Chase Econ Bul—Chase Economic Bulletin.** irr Chase National Bank, New York
- Chem Age (Lond)—The Chemical Age.** 26s; single numbers 6d. w Benn Brothers, Ltd, Bouverie House, 154 Fleet St, London, E.C. 4
- Chem & Met Eng—Chemical and Metallurgical Engineering.** \$3; single numbers 35c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York
- Chem Ind—Chemical Industries.** \$2; single numbers 25c. m Chemical Markets, Inc, 25 Spruce St, New York  
Formerly Chemical Markets
- Chem Markets—Chemical Markets.** \$2; single numbers 25c. m Chemical Markets, Inc, 25 Spruce St, New York  
Name changed to Chemical Industries, October, 1933
- Chem R—Chemical Reviews.** \$9. (\$7 to members of American Chemical Society) bi-m Williams & Wilkins Co, Baltimore, Md.  
Changed from quarterly to bi-monthly with the February, 1931 number
- Chem Soc J—Journal of the Chemical Society.** £3 4s. m S. E. Carr, The Chemical Society, Burlington House, Piccadilly, London, W. 1
- Chemicals—Chemicals.** \$5; single numbers 25c. bi-w Tuttle Publications, Inc, 114 E 32d St, New York  
A Dyestuffs edition and a Technical edition are issued monthly. Yearly subscription \$3 each  
Published bi-weekly beginning May 30, 1932
- Chemische Fabrik—Die Chemische Fabrik.** RM 30; single numbers RM 1.20 w Verlag Chemie, G.m.b.H. Corneliusstr. 3, Berlin W 35, Germany
- Chemistry and Industry.** See Soc Chem Ind J
- Chimie & Ind—Chimie & Industrie.** 500 fr; single numbers 40.50 fr. m Société de Chimie Industrielle, 49, Rue des Mathurins, Paris, France
- Civil Eng—Civil Engineering.** \$5; single numbers 50c. m American Society of Civil Engineers, 33 W 39th St, New York  
Indexed from v 1, no 1, October, 1930
- Coal Age—Coal Age.** \$3; single numbers 35c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York
- Comm & Fin—Commerce and Finance.** \$5; single numbers 15c. w Theodore H. Price Publishing Corp, 95 Broad St, New York
- Comp Air M—Compressed Air Magazine.** \$3; single numbers 35c. m Compressed Air Magazine, Phillipsburg, New Jersey
- Concrete—Concrete.** \$3; mill ed. \$4; single numbers 50c. m Concrete Pub. Co, Daily News Plaza, 400 W Madison St, Chicago
- Credit & Fin Management—Credit and Financial Management.** \$3; single numbers 25c. m National Association of Credit Men, 1 Park Av, New York
- Dom Eng—Domestic Engineering.** \$2; single numbers 25c. m Domestic Engineering Co, 1900 Prairie Av, Chicago  
Changed to monthly beginning June, 1932
- Dun & Bradstreet—Dun & Bradstreet Monthly Review.** \$5; single numbers 50c. m Dun & Bradstreet, Inc, 290 Broadway, New York
- Dun's Int R—Dun's International Review.** \$4; single numbers 35c. m R. G. Dun & Co, 290 Broadway, New York  
Publication temporarily suspended June, 1931
- Dun's R—Dun's Review.** \$5; single numbers 15c. w R. G. Dun & Co, 290 Broadway, New York  
Absorbed Bradstreet's Weekly, March 4, 1933 with title Dun & Bradstreet Monthly Review
- East Underw—Eastern Underwriter.** \$3; single numbers 25c. w Eastern Underwriter Co, 94 Fulton St, New York

- Econ Geol**—Economic Geology. \$5; single numbers 75c. s-q Economic Geology Pub. Co. Prince and Lemon Sts, Lancaster, Pa.
- Economist**—Economist. £2 18s; colonies £3 1s; single numbers 1s 1d. w Economist Newspaper, Ltd, 8, Bouverie St, Fleet St, London, E.C. 4
- Econostat**—The Econostat. \$10. w The Econostat, Inc, 192 Lexington Ave, New York  
Indexing began March 25, 1933, with v 1, no 1. Discontinued publication, December 16, 1933
- Edison Elec Inst Bul**—Edison Electric Institute Bulletin. \$2. m Edison Electric Institute Bulletin, 420 Lexington Ave, New York  
Began publication April, 1933 as successor to N E L A Bulletin
- Elec Eng**—Electrical Engineering. \$10; single numbers \$1. m American Institute of Electrical Engineers, 33 W 39th St, New York
- Elec J**—The Electric Journal. \$2; single numbers 25c. m The Electric Journal, 530 Fernand St, Pittsburgh, Pa.
- Elec R (Lond)**—Electrical Review. £2 1s 6d; Canadian subs £1 12s 6d; single numbers 6d. w Electrical Review, Dorset House, Stamford St, London, S.E. 1
- Elec Ry J**—Electric Railway Journal. \$3; single numbers 35c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York  
Name changed to Transit Journal, January 1932
- Elec Traction**—Electric Traction and Bus Journal. \$1; single numbers 25c. m Kenfield-Davis Pub. Co, 431 S Dearborn St, Chicago
- Elec W**—Electrical World. \$5; single numbers 25c. w McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York
- Elec West**—Electrical West. \$2; single numbers 25c. m McGraw-Hill Co. of California, 883 Mission St, San Francisco, Calif.
- Electrician**—Electrician. 30s; single numbers 6d. w Benn Bros, Ltd, Bouverie House, 154 Fleet St, London, E.C. 4
- Electrochem Soc Trans**—The Electrochemical Society. Transactions. The Electrochemical Society, Columbia University, New York  
Formerly American Electrochemical Society Preprints are indexed
- Eng & Contr**—Engineering and Contracting. \$2; single numbers 25c. m Gillette Pub. Co, Daily News Bldg, Chicago  
Merged with Roads and Streets, January, 1933
- Eng & Min J**—Engineering and Mining Journal. \$3; single numbers 50c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York  
Changed to monthly with January, 1932 number
- Eng Educ**. See J Eng Educ
- Eng N**—Engineering News-Record. \$5; single numbers 25c. w McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York
- Eng Soc W Pa**—Proceedings of the Engineers' Society of Western Pennsylvania. \$5; single numbers 50c. m (except Ag and S) Engineers' Society of Western Pennsylvania, William Penn Hotel, Pittsburgh, Pa.  
Temporarily discontinued with the January 1933 issue.
- Engineer**—Engineer. Thick paper ed £3 7s 6d; Canadian subs £3 3s; thin paper ed £3 3s; Canadian subs £2 18s 6d; single numbers 1s. w Engineer, 28, Essex St, Strand, London, W.C. 2
- Engineering**—Engineering. Thick paper ed £3 7s 6d; Canadian subs £3 3s; thin paper ed £3 3s; Canadian subs £2 18s 6d; single numbers 1s. w Engineering, Ltd, 35 and 36, Bedford St, Strand, London, W.C. 2
- Engineers & Eng**—Engineers and Engineering. \$2; single numbers 35c. m Engineers and Engineering, 1317 Spruce St, Philadelphia, Pa.  
Suspended publication March, 1932
- Exp Wireless**. See Wireless Engineer
- Explosives Eng**—The Explosives Engineer. \$1; single numbers 15c. m Explosives Engineer, 1034 Delaware Trust Bldg, Wilmington, Delaware
- Factory & Ind Management**—Factory and Industrial Management. \$3; single numbers 35c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York  
Absorbed Maintenance Engineering, March, 1933  
Name changed to Factory Management and Maintenance
- Factory Management**—Factory Management and Maintenance. \$3; single numbers 35c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York
- Fed Res Bul**—Federal Reserve Bulletin. \$2; single numbers 20c (to non-members). m Federal Reserve Board, Washington, D.C.
- Food Ind**—Food Industries. \$2; single numbers 25c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York
- Forbes**—Forbes. \$5; single numbers 25c. s-m B. C. Forbes Publishing Co, 120 Fifth Ave, New York
- Fortune**—Fortune. \$10; single numbers \$1. m Time, Inc, 135 E 42d St, New York
- Foundry**—Foundry. \$2; single numbers 25c. m Penton Pub. Co, Penton Bldg, Cleveland, O.  
Changed to monthly with April, 1932 number
- Gas Age**—Gas Age-Record. \$3; single numbers 25c. w Robbins Pub. Co, Inc, 9 E 38th St, New York
- Gas J (Lond)**—Gas Journal. 35s; single numbers 1s. \$8.50 in U. S. w Walter King, Ltd, 11 Bolt Court, Fleet St, London, E.C. 4. American agent, Robert O. Luqueer, Woolworth Bldg., New York
- Gen Elec R**—General Electric Review. \$3; single numbers 30c. m General Electric Co, Schenectady, N.Y.
- Génie Civil**—Le Génie Civil. 240 fr; single numbers 3 fr. w Génie Civil, 5 rue Jules-Lefebvre, Paris (9<sup>e</sup>), France
- Geol Soc Bul**—Bulletin of the Geological Society of America. \$10. bi-m Geological Society of America, Charles P. Berkey, sec, 419 W 117th St, New York
- Glass Ind**—Glass Industry. \$2; single numbers 25c. m Glass Industry Pub. Co, Inc, 102 Maiden Lane, New York
- Good Roads**. See Roads & Sts
- Guaranty Survey**—The Guaranty Survey. m Guaranty Trust Company of New York
- Harvard Business R**—Harvard Business Review. \$5; single numbers \$1.25. q McGraw-Hill Book Co, Inc, 330 W 42d St, New York
- Heat & Ven**—Heating and Ventilating. \$2; single numbers 30c. m Industrial Press, 148 Lafayette St, New York
- Heating-Piping**—Heating-Piping and Air Conditioning. \$2; single numbers 25c. m Keeney Pub. Co, 1900 Prairie Av, Chicago  
Includes American Society of Heating and Ventilating Engineers Journal section
- Ill U Eng Exp Sta Bul**—Illinois University Engineering Experiment Station. Bulletin. irr Univ. of Ill, Urbana
- Ill U Eng Exp Sta Circ**—Illinois University Engineering Experiment Station. Circular. irr Univ. of Ill, Urbana
- Illum Eng Soc Trans**—Transactions of the Illuminating Engineering Society. \$7.50; single numbers \$1. m (except Ag and O) Illuminating Engineering Society, 29 W 39th St, New York
- Illum Engr**—Illuminating Engineer. 10s 6d; single numbers 9d. m Illuminating Engineer, 32 Victoria St, London, S.W. 1



- Jnd & Eng Chem**—Industrial and Engineering Chemistry. \$7.50; single numbers 75c. m American Chemical Society, Charles L. Parsons, sec, Mills Bldg, 1709 G St, N.W., Washington, D.C.
- Jnd & Eng Chem Anal ed**—Industrial and Engineering Chemistry Analytical Edition. \$1.50; single numbers 50c. bi-m American Chemical Society, Charles L. Parsons, sec, Mills Bldg, 1709 G St, N.W., Washington, D.C.  
Changed to bi-monthly January, 1933
- Jnd & Eng Chem News ed**—Industrial and Engineering Chemistry News Edition. \$1.50; single numbers 10c. s-m American Chemical Society, Charles L. Parsons, sec, Mills Bldg, 1709 G St, N.W., Washington, D.C.
- Jnd Stand**—Industrial Standardization. \$4; single numbers 35c. m American Standards Association, 29 W 39th St, New York
- Index**—Index. m New York Trust Company, 100 Broadway, New York
- India Rubber W**—India Rubber World. \$3; single numbers 35c. m Bill Brothers Publishing Corporation, 420 Lexington Av, New York
- Inland Ptr**—Inland Printer. \$4; single numbers 40c. m Inland Printer Co, 205 West Wacker Drive, Chicago
- Ins Field (Fire ed)**—Insurance Field (Fire and Casualty Edition). \$5; single numbers 25c. w Insurance Field Co, Inc, 405 S 4th St, (P. O. Box 1164) Louisville, Ky.
- Ins Field (Life ed)**—Insurance Field (Life Edition). \$3; single numbers 15c. w Insurance Field Co, Inc, 405 S 4th St, (P. O. Box 1164) Louisville, Ky.
- Inst Chem Eng Trans**—Transactions of the Institution of Chemical Engineers, annual Institution of Chemical Engineers, Abbey House, Westminster, London, S.W. 1  
Indexing began with volume 9, 1931
- Inst E E J**—Journal of the Institution of Electrical Engineers. single numbers 10s 6d. m E. & F. N. Spon, Ltd, 57 Haymarket, London, S.W.; Spon & Chamberlain, 120 Liberty St, New York
- Inst Mech Eng Proc**—Institution of Mechanical Engineers. Proceedings. irr Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W. 1
- Inst Pet Tech J**—Journal of the Institution of Petroleum Technologists and Record of Transactions. single numbers 7s 6d. m Institution of Petroleum Technologists, Aldine House, Bedford St, Strand, London, W.C. 2
- Inst Radio Eng Proc**—Proceedings of the Institute of Radio Engineers. \$10; single numbers \$1. m Institute of Radio Engineers, Inc, 33 W 39th St, New York
- Int Labour R**—International Labour Review. \$6; single numbers 60c. m World Peace Foundation, 40 Mt Vernon St, Boston
- Int Management Inst Bul**—Bulletin of the International Management Institute. 10 Sw. fr. m International Management Institute, 2, Boulevard du Théâtre, Geneva  
Indexing began January, 1933, with v 7, no 1
- Inv Banking**—Investment Banking. irr Investment Bankers Association of America, 33 S Clark St, Chicago  
Published monthly April to November 1931.  
Published irregularly beginning November 25, 1931
- Iron Age**—Iron Age. \$6; single numbers 25c. w Iron Age Pub. Co, 239 W 39th St, New York
- Iron & Steel Inst J**—Journal of the Iron and Steel Institute. s-annual Iron and Steel Institute, 28, Victoria St, London, S.W. 1
- J Account**—Journal of Accountancy. \$4; single numbers 35c. m American Institute Pub. Co, Inc, 135 Cedar St, New York
- J Chem Educ**—Journal of Chemical Education. \$3; single numbers 50c. m Journal of Chemical Education, 20th and Northampton Sts, Easton, Pa.
- J Eng Educ**—Journal of Engineering Education. \$3; single numbers 50c. m except (Jl and Ag) Society for the Promotion of Engineering Education, F. L. Bishop, Sec, University of Pittsburgh, Pittsburgh, Pa.
- J Fr Inst**—Journal of the Franklin Institute. \$6; single numbers 60c. m Franklin Institute, 15 S 7th St, Philadelphia
- J Ind & Eng Chem**—See Ind & Eng Chem
- J Ind Hygiene**—The Journal of Industrial Hygiene. \$5; single numbers \$1 bi-m Williams & Wilkins Co, Baltimore, Md.  
Changed to bi-monthly January, 1933
- J Land & Pub Util Econ**—Journal of Land and Public Utility Economics. \$5; single numbers \$1.25 q Institute for Economic Research, 337 E. Chicago Av, Chicago
- J of Business**—Journal of Business of the University of Chicago. \$4; single numbers \$1.25. q University of Chicago Press, 5750 Ellis Av, Chicago
- J Phys Chem**—The Journal of Physical Chemistry. \$10; single numbers \$1.50 m (except Jl, Ag, S) Williams & Wilkins Co, Mt Royal & Guilford Aves, Baltimore
- Lib J**—Library Journal. \$5; single numbers 25c. s-m (m during Jl and Ag) R. R. Bowker Co, 62 W 45th St, New York  
Articles of interest to special libraries are indexed
- Locomotive**—Locomotive. 50c; single numbers gratis; recent bound volumes \$1. q Hartford Steam Boiler Inspection & Insurance Co, 56 Prospect St, Hartford, Conn.
- Mach**—Machinery. \$3; single numbers 35c. m Industrial Press, 140 Lafayette St, New York
- Mag of Wall St**—Magazine of Wall Street. \$7.50; single numbers 35c. bi-w Ticker Pub. Co, Inc, 90 Broad St, New York
- Maintenance Eng**—Maintenance Engineering. \$2; single numbers 25c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York  
Merged with Factory and Industrial Management with title Factory Management and Maintenance, March, 1933
- Management Methods**—Management Methods. \$3; single numbers 35c. m Management Publications, Inc, 330 W 42d St, New York  
Formerly System; name again changed to System and Management Methods beginning July, 1933
- Management R**—Management Review. \$5; single numbers 50c. m American Management Association, 20 Vesey St, New York  
Formerly American Management Review
- Manuf Rec**—Manufacturers Record. \$2; single numbers 25c. m Manufacturers Record Publishing Co, Manufacturers Record Building, Commerce & Water Sts, Baltimore, Md.  
Changed to monthly beginning August 1932
- Marine Eng**—Marine Engineering and Shipping Age. \$3; single numbers 35c. m Simmons-Boardman Pub. Co, 30 Church St, New York
- Marine R**—Marine Review. \$3; single numbers 35c. m Penton Pub. Co, Penton Bldg, Cleveland, O.
- Mech Eng**—Mechanical Engineering, the Journal of the American Society of Mechanical Engineers. \$5; single numbers 60c. m American Society of Mechanical Engineers, 29 W 39th St, New York
- Mech Handling**—Mechanical Handling and Works Equipment. 12s; single numbers 10d. m Louis Cassier Co, Ltd, 22, Henrietta St, Covent Garden, London, W.C. 2
- Melliand**—Melliand Textile Monthly. \$3; single numbers 50c; cloth ed \$20 per year. m Textile Manufacturers Monthly, Inc, 305 Washington St, Brooklyn, N. Y.  
Name changed to Rayon & Melliand Textile Monthly, December, 1933



- Metal Ind**—Metal Industry. \$2; single numbers 20c. m Metal Industry Pub. Co, Inc, 116 John St, New York
- Metal Prog**—Metal Progress. \$5; single numbers 50c. m American Society for Steel Treating, 7016 Euclid Av, Cleveland, O.  
Began publication September, 1930
- Min & Met**—Mining and Metallurgy. \$3; single numbers 50c. m American Institute of Mining and Metallurgical Engineers, Inc, 29 W 39th St, New York
- Min Cong J**—Mining Congress Journal. \$3; single numbers 30c. m American Mining Congress, Munsey Bldg, Washington, D.C.
- Mo U Sch Mines & Met Bul**—Bulletin of the University of Missouri. School of Mines and Metallurgy. irr Univ. of Mo, Rolla
- Mo U Sch Mines & Met Bul tech ser**—Bulletin of the University of Missouri, School of Mines and Metallurgy. Technical Series. irr Univ. of Mo, Rolla
- Monthly Labor R**—Monthly Labor Review. \$2; single numbers 20c. m Superintendent of Documents, Washington, D.C.  
Free to labor departments and bureaus and other offices connected with the administration of labor laws
- N E L A Bul**—National Electric Light Association Bulletin. \$3; single numbers 25c. m National Electric Light Assn, 420 Lexington Av, New York  
Replaced by the Edison Electric Institute Bulletin April, 1933
- N E Water Works Assn J**—Journal of the New England Water Works Association. \$4; single numbers \$1.25. q New England Water Works Association, 714 Tremont Temple, Boston
- Nat City Bank**—National City Bank of New York. m 55 Wall St, New York
- Nat Pet N**—National Petroleum News. \$3.50; single numbers 10c. w National Petroleum Pub. Co, 1213 W 3d St, Cleveland, O.
- Nat Research Council Bul**—National Research Council Bulletin. irr National Research Council, Publication office, Washington, D.C.  
Individual numbers variously priced. Price-list sent on request
- Nat Safety N**—National Safety News. \$4; single numbers 40c. m National Safety Council, Inc, 20 N Wacker Drive, Chicago
- Nat Underw**—National Underwriter. \$4; single numbers 20c. w National Underwriter Co, 175 W Jackson Blvd, Chicago
- Nat Underw (Life ed)**—National Underwriter Life Insurance Edition. \$3; single numbers 15c. w National Underwriter Co, 175 W Jackson Blvd, Chicago
- Nation's Business**—Nation's Business. \$3; single numbers 25c. m Chamber of Commerce of the United States, 1615 H St, N.W., Washington, D.C.
- N Y Pub Lib Bul**—New York Public Library. Bulletin. \$1; single numbers 10c. m New York Public Library, 476 Fifth Av, New York  
Bibliographies of interest to special libraries are indexed
- New England Water Works Assn**. See **N E Water Works Assn J**
- Oil & Gas J**—Oil and Gas Journal. \$6; single numbers 15c. w Petroleum Pub. Co, 114-116 W 2d St, Tulsa, Oklahoma
- Oil Paint & Drug Rep**—Oil, Paint and Drug Reporter. \$5; single numbers 15c. w Oil, Paint and Drug Reporter, Inc, 12 Gold St, New York
- Opt Soc Am J**—Journal of the Optical Society of America. \$6; single numbers 60c. m American Institute of Physics, Inc, 11 E 38th St, New York
- Paper Tr J**—Paper Trade Journal. \$4; single numbers 10c. w Lockwood Trade Journal Co, Inc, 15 W 47th St, New York
- Pet Age**—Petroleum Age. \$2; single numbers 25c. m Petroleum Age Pub. Co, 500 N Dearborn St, Chicago
- Phys R**—The Physical Review. Second Series. \$15; single numbers 75c. s-m American Institute of Physics, Inc, 11 E 38th St, New York
- Plastic Prod**—Plastic Products. \$2; single numbers 25c. m Plastic Publications, Inc, 25 Spruce St, New York
- Plastics**—Plastics & Molded Products. \$2; single numbers 25c. m Plastic Publications, Inc, 25 Spruce St, New York  
Name changed to Plastic Products, March, 1933
- Platers' Guide**—Platers' Guide. \$1. m Brass World Publishing Co, Inc, 1 Platt St, New York  
Formerly Brass World
- Power**—Power. \$3; single numbers 35c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York  
Changed to monthly beginning July, 1932  
Extra convention number published in Mid-December
- Power Pl Eng**—Power Plant Engineering. \$2; single numbers 25c. m Technical Pub. Co, 53 West Jackson Blvd, Chicago  
Changed to monthly beginning September, 1932
- Prof Eng**—Professional Engineer. \$1.50; single numbers 20c. q American Association of Engineers, 8 South Michigan Av, Chicago  
Changed from bi-monthly to quarterly with April, 1933
- Ptd Salesmanship**—Printed Salesmanship. \$3.33; single numbers 25c. m Dartnell Corp, 4660 Ravenswood Av, Chicago  
Instead of an August number two numbers are published in September
- Ptr Ink**—Printers' Ink. \$3; single numbers 10c. w Printers' Ink Pub. Co, Inc, 185 Madison Av, New York
- Ptr Ink Mo**—Printers' Ink Monthly. \$2; single numbers 25c. m Printers' Ink Pub. Co, Inc, 185 Madison Av, New York
- Pub Health Rep**—Public Health Reports. \$2; single numbers 5c. w Superintendent of Documents, Washington, D.C.
- Pub Roads**—Public Roads. \$1; single numbers 10c. m Superintendent of Documents, Washington, D.C.
- Pub Serv M**—Public Service Magazine. \$3; single numbers 25c. m Harvey J. Gonden, 35 East Wacker Drive, Chicago
- Pub Serv Management**—Public Service Management. \$3; single numbers 25c. m H. J. Gonden, 35 East Wacker Drive, Chicago  
Name changed to Public Service Magazine, March, 1933
- Pub Util**—Public Utilities Fortnightly. \$15; single numbers 75c. bi-w Public Utilities Reports, Inc, Munsey Bldg, Washington, D.C.
- Pub Works**—Public Works. \$3; single numbers 35c. m Public Works Journal Corp, 310 E 45th St, New York
- Pulp & Pa of Can**—Pulp and Paper of Canada. \$5; single numbers 50c. m National Business Publications, Ltd, Gardenvale, Que.  
Changed to monthly March 1932
- R Sci Instr**—Review of Scientific Instruments with Physics News and Views. \$2; single numbers 50c. m American Institute of Physics, 11 E 38th St, New York  
Sent to subscribers of other periodicals of the American Institute of Physics without additional charge
- Radio N**—Radio News. \$2.50; single numbers 25c. m Teck Publications, Inc, 222 W 39th St, New York
- Radio Serv Bul**—Radio Service Bulletin. s-m Federal radio commission, Washington, D.C. (mimeograph)  
Indexing discontinued January 1933, because of change in form and contents

- Rand McNally Bankers Mo**—Rand McNally Bankers Monthly. \$5; single numbers 50c. m Rand McNally & Co, 536 South Clark St, Chicago
- Rayon & Melland**—Rayon & Melland Textile Monthly. \$3; single numbers 25c. m Rayon Pub. Corp, 303 Fifth Av, New York
- Ref Shelf**—The Reference Shelf. Irr The H. W. Wilson Co, 953 University Av, New York
- Refrig Eng**—Refrigerating Engineering. \$5; single numbers 50c. m American Society of Refrigerating Engineers, 37 W 39th St, New York
- Refrig W**—Refrigerating World. \$2; single numbers 20c. m Ice Trade Journal Co, 330 W 42d St, New York
- Roads & Sts**—Roads and Streets. \$2; single numbers 25c. m Gillette Pub. Co, 400 W Madison St, Chicago  
Absorbed Engineering and Contracting, January, 1933
- Rock Prod**—Rock Products. \$2; single numbers 25c. m Trade Press Pub. Corp, 330 South Wells St, Chicago  
Changed to monthly beginning January, 1933
- Roy Aeronautical Soc J**—Journal of the Royal Aeronautical Society. £2 4s 6d; single numbers 3s 9d. m Royal Aeronautical Society, 7, Albemarle St, Piccadilly, London, W. 1
- Rs Mod Phys**—Reviews of Modern Physics. \$4; single numbers \$1.20. q American Institute of Physics, Inc, 11 E 38th St, New York
- Rubber Age**—Rubber Age. \$2; single numbers 25c. m Palmerton Pub. Co, Inc, 250 W 57th St, New York  
Changed to monthly beginning February, 1933
- Ry Age**—Railway Age. \$6; single numbers 25c. w Simmons-Boardman Pub. Co, 30 Church St, New York
- Ry Mech Eng**—Railway Mechanical Engineer. \$3; single numbers 35c. m Simmons-Boardman Pub. Co, 30 Church St, New York
- S A E J**—S.A.E. Journal. \$10; single numbers \$1. m Society of Automotive Engineers, Inc, 29 W 39th St, New York
- Safety Eng**—Safety Engineering. \$3; single numbers 25c. m Safety Magazine Publishing Corp, 45 John St, New York
- Sales Management**—Sales Management. \$4; single numbers 20c. s-m Sales Management, Inc, 420 Lexington Av, New York  
Published semi-monthly beginning May 1, 1932 except in April and October when it is published three times a month
- Sci Am**—Scientific American. \$4; single numbers 35c. m Munn & Co, Inc, 24 W 40th St, New York
- Science**—Science. \$6; single numbers 15c. w Science Press, Grand Central Terminal, New York
- Sheet Metal Worker**—Sheet Metal Worker. \$3; single numbers 25c. m Edwin A. Scott Pub. Co, Inc, 45 W 45th St, New York  
Changed to monthly beginning June, 1932
- Sibley J**—Sibley Journal of Engineering. \$2; single numbers. 15c. m (except JI-S) Sibley Journal of Engineering, Inc, Ithaca, N.Y.
- Soc Chem Ind J**—Journal of the Society of Chemical Industry. £4 4s; single numbers 1s 10d. w Society of Chemical Industry, Central House, 46 Finsbury Sq, London, E.C. 2  
In three separately pagged sections; Chemistry and Industry, Transactions and British Chemical Abstracts
- Soc Dyers & Col J**—Journal of the Society of Dyers and Colourists. 60s; single numbers 6s. m Society of Dyers and Colourists, Ocean Chambers, 32-34 Piccadilly, Bradford, Yorkshire, England
- Soc Ing Civils Bul**—Mémoires et Compte Rendu des Travaux de la Société des Ingénieurs Civils de France. Bulletin. 200 fr. bi-m Hotel de La Société, 19, rue Blanche, 19 (9°), Paris, France
- Special Lib**—Special Libraries. \$5; single numbers 50c. m (Mr-O) bi-m (Ja-F and N-D) Special Libraries Association, 345 Hudson St, New York
- Spectator**—Spectator. \$2. w Spectator Co, 243 W 39th St, New York
- Stahl & Eisen**—Stahl und Eisen. RM 50; single numbers RM 1.50 w Verlag Stahleisen, m.b.H. Düsseldorf, Germany, American agent, Paul F. Hermann Co, 1706-11 Keenan Bldg, Pittsburgh, Pa.
- Steel**—Steel. \$4; single numbers 25c. w Penton Pub. Co, Penton Bldg, Cleveland, O  
Formerly Iron Trade Review
- Stevens Ind**—Stevens Indicator. \$5; single numbers 50c. m (except JI and Ag) Stevens Institute of Technology, Hoboken, N.J.
- Survey of Cur Business**—Survey of Current Business. \$1.50; monthly 10c; weekly 5c; annual 40c. Superintendent of Documents, Washington, D.C.  
Advance leaflets are distributed every week to subscribers in the United States. The leaflets are usually mailed on Thursdays and give such information as has been received during the preceding week.
- System**—System and Business Management. \$3; single numbers 35c. m Management Publications, Inc, 330 W 42d St, New York
- System and Management Methods**—System and Management Methods. \$3; single numbers 35c. m Management Publications, Inc, 330 W 42d St, New York  
System became Management Methods with January, 1932 number; name changed to System and Management Methods, July, 1933; changed to System and Business Management, October, 1933
- Taylor Soc Bul**—Bulletin of the Taylor Society. \$3. bi-m Taylor Society, Inc, 29 W 39th St, New York
- Textile Col**—Textile Colorist. \$5. m Textile Colorist, Inc, 233 Broadway, New York
- Textile Inst J**—Journal of the Textile Institute. 48s; single numbers 4s. m Textile Institute, 16 St Mary's Parsonage, Manchester 3, England
- Textile World**—Textile World. \$3; single numbers 35c. m McGraw-Hill Pub. Co, Inc, Bragdon, Lord & Nagle Division, 330 W 42d St, New York  
Changed to monthly beginning June, 1932  
Extra annual review number published in February
- Transit J**—Transit Journal. \$3; single numbers 35c. m McGraw-Hill Pub. Co, Inc, 330 W 42d St, New York  
Extra convention number published in October  
Formerly Electric Railway Journal
- Trust Companies**—Trust Companies. \$5; single numbers 60c. m Trust Companies Pub. Assn, 2 Rector St, New York
- U S Agric**—Publications. U.S. Dept. of Agriculture, Division of Publications, Washington, D.C.  
Selected contributions from the Bureau of Chemistry, Forest Service and Public Roads Bureau and other publications on technical subjects are indexed
- U S Bur For & Dom Com Domestic Commerce** \* Ser—U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.
- U S Bur For & Dom Com misc ser**—United States. Bureau of Foreign and Domestic Commerce. Miscellaneous series. U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.
- U S Bur For & Dom Com Trade Information** \* Bul—U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.



- U S Bur For & Dom Com Trade Promotion**  
 \* Ser—U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.
- U S Bur Labor Statistics Bul**—United States. Bureau of Labor Statistics. Bulletin. Distributed free of charge. U.S. Bureau of Labor Statistics, Washington, D.C.
- U S Bur Mines Bul**—United States. Bureau of Mines. Bulletin. U.S. Bureau of Mines, Washington, D.C.
- U S Bur Mines Circ**—United States. Bureau of Mines. Miners' Circular. U.S. Bureau of Mines, Washington, D.C.
- U S Bur Mines Information Circ**—United States. Bureau of Mines. Information Circular. U.S. Bureau of Mines, Washington, D.C.
- U S Bur Mines Rep of Invest**—United States. Bureau of Mines. Reports of Investigations. U.S. Bureau of Mines, Washington, D.C.
- U S Bur Mines Tech Pa**—United States. Bureau of Mines. Technical Paper. U.S. Bureau of Mines, Washington, D.C.
- U S Bur Stand Circ**—United States. Bureau of Standards. Circular. U.S. Bureau of Standards, Washington, D.C.
- U S Bur Stand J Research**—Bureau of Standards Journal of Research. \$2.50. m Superintendent of Documents, Washington, D.C.
- U S Geol S Bul**—United States Geological Survey. Bulletin. U.S. Geological Survey, Washington, D.C.
- U S Geol S Professional Pa**—United States Geological Survey. Professional Paper. U.S. Geological Survey, Washington, D.C.
- U S Nat Advisory Com for Aeronautics**—United States National Advisory Committee for Aeronautics, Washington, D.C. Annual report
- U S Women's Bur Bul**—United States. Women's Bureau. Bulletin. U.S. Women's Bureau, Washington, D.C.
- VDI. See Zeit Ver Deutsch Ing**
- W Soc E J**—Journal of the Western Society of Engineers. \$3; single numbers 75c. bi-m Western Society of Engineers, 205 W Wacker Drive, Chicago
- Water Works & Sewerage**—Water Works & Sewerage. \$2; single numbers 25c. m Gillette Pub. Co, Daily News Bldg, Chicago
- Weekly Underw**—Weekly Underwriter. \$5; single numbers 25c. w Underwriter Printing and Publishing Co, 80 Maiden Lane, New York
- Western Soc of Eng J. See W Soc E J**
- Wireless Eng**—Wireless Engineer and Experimental Wireless. 32s; single numbers 2s 8d. m Iliffe & Sons, Ltd, Dorset House, Stamford St. London, S.E. 1  
 Formerly Experimental Wireless and The Wireless Engineer
- Wis U Bul Eng Exp Sta S**—Bulletin of the University of Wisconsin, Engineering Experiment Station Series. irr Univ. of Wis, Madison
- Zeit Angew Chem**—Zeitschrift für Angewandte Chemie. RM 48; single numbers RM 1.20 w Verlag Chemie, G. m. b. H, Corneliusstr. 3, Berlin W 10, Germany  
 Name changed to Angewandte Chemie with January 2, 1932 number
- Zeit Ver Deutsch Ing**—VDI. Zeitschrift des Vereines Deutscher Ingenieure. RM 52; single numbers RM 1.75 w VDI-Verlag G. m. b. H, NW 7, Dorotheenstr. 40, Berlin, Germany

\* The free distribution of nearly all of the publications of the Bureau of Foreign and Domestic Commerce is confined to the American Consular Service, educational institutions, libraries, trade journals, newspapers, commercial organizations, such as chambers of commerce or manufacturers' associations, traffic managers of American railroads and government offices. Others may purchase them from the Superintendent of Documents, Government Printing Office, Washington, D.C.

† United States Bureau of Mines Publications for sale by Superintendent of Documents, Government Printing Office, Washington, D.C. Reports of Investigations and Information Circulars distributed by Bureau.

‡ The official (free) distribution of publications of the Bureau is limited to government offices, public libraries, educational institutions, scientific societies, and cooperating experts. Others may purchase them from the Superintendent of Documents, Government Printing Office, Washington, D.C.



## Abbreviations of Publishers' Names Used in Book Titles

- A.I.M.E. American Institute of Mining and Metallurgical Engineers, 29 W 39th St, N.Y.
- Am. Acad. of Pol. and Soc. Sci. American Academy of Political and Social Science, 3457 Walnut St, Philadelphia
- Appleton-Century. D. Appleton-Century Co, Inc, 35 W 32d St, N.Y.
- Baird. H. C. Baird & Co, 2 W 45th St, N.Y.
- Blakiston. P. Blakiston's Son & Co, 1012 Walnut St, Philadelphia
- Bobbs. Bobbs-Merrill Co, 724 N Meridian St, Indianapolis; 185 Madison Av, N.Y.
- Brentano's, 5th Av & 27th St, N.Y.
- Callaghan. Callaghan & Co, 401 E Ohio St, Chicago
- Carnegie Endowment. Carnegie Endowment for International Peace, 700 Jackson Pl, NW, Washington, D.C.
- Century Co. See Appleton-Century
- Chemical Catalog Co, Inc, 330 W 42d St, N.Y.
- Chemical Pub. Co, 300 N 3d St, Easton, Pa.
- Columbia univ. press, 2960 Broadway, N.Y.
- Crowell. T. Y. Crowell Company, 387-393 4th Av, N.Y.
- Day. John Day Co, Inc, 336 4th Av, N.Y.
- Dodd. Dodd, Mead & Co, 449 4th Av, N.Y.
- Doubleday. Doubleday, Doran & Co, Garden City, N.Y.
- Drake. Frederick J. Drake & Co, 179 N Michigan Av, Chicago
- Dutton. E. P. Dutton & Co, 286-302 4th Av, N.Y.
- Ginn. Ginn & Co, (Educational text-bks.) 15 Ashburton Place, Boston, 2; 2301-2311 Prairie Av, Chicago; 70 5th Av, N.Y.
- Gregg. Gregg Publishing Company, 270 Madison Av, N.Y.; 2500 Prairie Av, Chicago
- Harcourt. Harcourt, Brace & Co, 333 Madison Av, N.Y.
- Harper. Harper & Brothers, 49 E 33d St, N.Y.
- Harvard Univ. Press, Randall Hall, Cambridge, Mass.
- Heath. D. C. Heath & Co, 285 Columbus Av, Boston; 180 Varick St, N.Y.; 1815 Prairie Av, Chicago
- Henley. Norman W. Henley Pub. Co, Putnam Bldg, 2 W 45th St, N.Y.
- Holt. Henry Holt & Co, 1 Park Av, N.Y.; 2626 Prairie Av, Chicago
- Houghton. Houghton, Mifflin Co, 2 Park St, Boston; 386 4th Av, N.Y.; 2500 Prairie Av, Chicago; 612 Howard St, San Francisco
- Knopf. Alfred A. Knopf, 730 5th Av, N.Y.
- Lippincott. J. B. Lippincott Co, 227-231 East Washington Sq, Philadelphia
- Little. Little, Brown & Co, 34 Beacon St, Boston
- Liveright. Horace Liveright, Inc, Bond Bldg, 29 W 47th St, N.Y.
- Longmans. Longmans, Green & Co, 55 5th Av, Cor. 12th St, N.Y.
- McGraw-Hill. McGraw-Hill Bk. Co, Inc, 330 W 42d St, N.Y.
- Macmillan. The Macmillan Co, 60 5th Av, N.Y.
- Manual Arts Press, 237 N Monroe St, Peoria, Ill.
- Nat. Bur. Econ. Research. National Bureau of Economic Research, Inc, 51 Madison Av, N.Y.
- National Research Council, 2101 Constitution Av, N.W. Washington, D.C.
- Oxford. Oxford University Press (Clarendon Press) (American branch), 114 5th Av, N.Y.
- Penton Pub. Co, 1213 W 3d St, Cleveland, O; 220 Broadway, N.Y.
- Pitman. Sir Isaac Pitman & Sons, 2-6 W 45th St, N.Y.
- Prentice-Hall, Inc, 70 5th Av, N.Y.
- Putnam. G. P. Putnam's Sons, Putnam Bldg, 2-6 W 45th St, N.Y.
- Revell. Fleming H. Revell & Co, 158 5th Av, N.Y.; 851 N Wabash Av, Chicago
- Ronald Press. Ronald Press Co, 15 E 26th St, N.Y.
- Routledge. Routledge, G. & Sons, Ltd, Broadway House, 68-74 Carter Lane, London, E.C. 4
- Scientific Bk. Corp, 15 E 26th St, N.Y.
- Scribner. Charles Scribner's Sons, 597 5th Av, N.Y.; 320 E 21st St, Chicago
- Simmons-Boardman. Simmons-Boardman Publishing Company, 30 Church St, N.Y.
- Special Lib. Assn. Special Libraries Association, 345 Hudson St, N.Y.
- Spon. E. & F. N. Spon, Ltd, 57 Haymarket, London, S.W. 1; Spon & Chamberlain, 120-122 Liberty St, N.Y.
- Stokes. F. A. Stokes Co, 443-449 4th Av, N.Y.
- Supt. of Doc. Superintendent of Documents, Government Printing Office, Washington, D.C.
- Teachers College, Columbia University, 525 W 120th St, N.Y.
- Univ. of Chicago Press, 5750 Ellis Av, Chicago
- Van Nostrand. D. Van Nostrand Co, 250 4th Av, N.Y.
- Viking Press, Inc, 18 E 48th St, N.Y.
- West. West Pub. Co, 50 W 3d St, St Paul, Minn.
- Wiley. John Wiley & Sons, Inc, 440 4th Av, N.Y.
- Williams & Wilkins. The Williams & Wilkins Co, Mt Royal & Guilford Aves, Baltimore
- Wilson. H.W. H. W. Wilson Co, 950-972 University Av, N.Y.
- Workers Educ. Bur. Workers Educational Bureau of America, 1440 Broadway, N.Y.
- World Peace Foundation, 40 Mt Vernon St, Boston (9); American Agents for the Publications of the International Labor Office, and the League of Nations
- Yale Univ. Press, 143 Elm St, New Haven, Conn; 386 4th Av, N.Y.

## Key to General Abbreviations

†	continued on later pages of the issue	Ja	January
abr	abridged	Je	June
Ag	August	Jl	July
Ap	April	Mr	March
arch	architect	My	May
bibliog	bibliography	n s	new series
comp	compiled or compiler	N	November
cond	condensed	no	number
cont	continued	O	October
D	December	p	page
diag	diagram	por	portrait
ed	edited or edition or editor	pseud	pseudonym
F	February	rev	revised
il	illustrations	S	September
inc	incorporated	sup	supplement
		tr	translated or trans- lation or translator
		v	volume

Sample title: Investment trusts under the microscope. C. Williams. Mag of Wall St 51:26-8+  
O 29 '32

Explanation: An article with the title given above will be found in Magazine of Wall Street,  
volume 51, pages 26 to 28 (continued on later pages of the issue) the October  
29, 1932 number.





# Industrial Arts Index

A Cumulative Index to Engineering, Trade and Business Periodicals

1933

- ABBOTT, Etheldred**  
Some of our members and what they do. Special Lib 24:128-9 J1 '33
- ABBOTT, Albert**  
Presentation of the Textile Institute medal. por Textile Inst J 23:P250-1 N '32
- ABBOTT, Charles F.** 1876-1933  
Sketch. por Steel 93:16+ O 30 '33
- ABBOTT, Lawrence Fraser, 1859-1933**  
Sketch. Weekly Underw 128:305 F 11 '33; por East Underw 34:6 F 10 '33
- ABBOTT laboratories**  
Sales punch without ethical offense for drug products. L. B. Colby. il Sales Management 32:472-3+ My 1 '33  
Storage up, costs down. A. Van Vlissingen, jr. il Factory Management 91:269-70 J1 '33  
Why January 1933 was the best January we ever had; Abbott laboratories. J. F. Stiles, jr. il Management Methods 62:111-13+ Mr '33
- ABBREVIATIONS**  
Abbreviations for scientific and engineering terms. 6p American standards assn, 29 W. 39th st, New York '32; Same. Am Mach 77:17-18 Ja 4 '33
- ABEL, John A.**  
Award of the Philip A. Conné medal. Science 76:620-1 D 30 '32
- ABERRATION**  
Method of measuring axial chromatic aberration in an objective lens. W. Herriott. il Opt Soc Am J 23:123-8 Ap '33
- ABIETIC acid**  
Resin studies; a study and extension of the Liebermann color reaction for abietic acid. W. A. La Lande, jr. Am Chem Soc J 55:1536-40 Ap '33  
Synthesis of alkylphenanthrenes; 7-methyl-1-ethyl- and 1-ethyl-7-isopropyl-phenanthrenes; constitution of abietic and  $\alpha$ -pimaric acids. R. D. Haworth. Chem Soc J p2717-20 N '32
- ABILITY**  
Adult abilities in extension classes. H. Sorenson. 100p Univ. of Minnesota press, Minneapolis '33  
Selling your ability. T. S. Knowlson. 297p \$3 Putnam '33  
*See also*  
Efficiency  
Executive ability  
Success
- ABILITY tests**  
Classification of vocational tests of dexterity. A. E. W. Long and T. H. Pear. 71p Great Britain. Industrial health research board, London '32  
Experimental study of certain forms of manual dexterity. J. N. Langdon. 64p Great Britain. Industrial health research board, London '32  
Future of employment tests; abstract. M. Pond. Management R 22:15 Ja '33  
Individual occupational abilities. J. G. Darley, D. G. Paterson and I. E. Peterson. Science 75:sup10 O 6 '33
- Institute for health and efficiency built by Dr Ludwig Roselius. il Sci Am 148:176 Mr '33  
Intelligence; its manifestations and measurement. P. L. Boynton. 466p \$2.50 Appleton '33  
Intelligence of the prospective immigrant. Pub Health Rep 48:1115 S 8 '33  
Manual of selected occupational tests for use in public employment offices. H. J. Green and others. 31p Univ of Minnesota press, Minneapolis '33  
Measuring our capabilities; work of Human engineering laboratories at Stevens institute of technology, Hoboken, N.J. and at Boston, Mass. C. W. Squier. Mech Eng 55:603-7 O '33  
Rating tests shown at business show. il Management Methods 61:612-13 N '32  
Salesmen's psychological tests. R. S. Schultz. Adv & Sell 21:28 O 26 '33  
Scientific selection and training of workers in industry and commerce. M. M. Leake and T. Smith. 104p Pitman '32  
Tests that might be given to detect the gifted student. J. P. Nafe. J Eng Educ 23:634-6 Ap '33  
Tetrahedron test of power to visualize. W. J. McCauley. J Eng Educ 23:624-7 Ap '33  
Consult Education Index for additional material
- Bibliography**  
Bibliography of mental tests and rating scales. G. H. Hildreth. 242p Psychological corporation, New York '33
- ABRASION**  
Abrasion-resistant castings. W. C. Hartmann. Iron Age 132:20-1 J1 20 '33  
Wear of metal in Muller tires in the clay industry; chrome-molybdenum alloy steel casting reveals longer performance qualities. J. Mayer. Brick & Clay Rec 81:168 N '32  
What metals to use in anthracite-breaker chutes. W. L. Keene and D. F. McFarland. il diag Coal Age 38:335-6+ O '33  
*See also*  
Alloys, Hard-facing
- ABRASIVES**  
Abrasive materials in 1931. P. Hatmaker and A. E. Davis. bibliog U S Bur Mines Mineral Resources of U S 1931, pt2:111-30 '32  
Abrasives and grinding wheels have kept pace with modern trends. Mach 39:261-3 D '32  
Better abrasives available. R. E. Miller. Iron Age 131:53-4 Ja 5 '33  
Canadian electric furnace industry. A. Stansfield. Electrochem Soc Trans 63 (preprint 18):171-4 My '33  
Coated abrasives made by new process. Iron Age 132:30 O 5 '33  
Efficiency of abrasives in the working of glass. J. Wolf. Glass Ind 13:189-92 D '32  
Electrocoated abrasive papers. Ry Mech Eng 107:370 O '33  
Electrocoated abrasives. il diag Ind & Eng Chem News ed 11:262 S 10 '33  
History of abrasives and the evolution of grinding. T. Wareing. Textile Inst J 24:P59-61 Ap '33

**ABRASIVES—Continued**

- New machine cleans billets rapidly and at low cost; airless wheelabrator. *il Steel* 93:32 S 4 '33; *Iron Age* 132:21 Ag 10 '33
- Sand and metallic abrasive blasting as an industrial health hazard. J. J. Bloomfield and L. Greenburg. *bibliog il J Ind Hygiene* 15: 184-204 J1 '33
- Sly pneumatic abrasive separator removes refuse and fines from abrasive. *il Foundry* 61:56 Ag '33
- There is no sand in sandpaper; electro-coating process. *il diag Sci Am* 149:216-17 N '33
- Wheelabrator abrasive cleaning device. *il Am Mach* 77:544 Ag 16 '33
- See also*  
Polishing  
Sandpaper

**Statistics**

- Abrasive materials industry, 1932. *Plastic Prod* 9:186 J1 '33

**ABSENTEEISM (labor)**

- Factory methods bring attendance at Nellis mine under control of management. E. H. Shriver. *il Coal Age* 38:297-8 S '33

**ABSORPTION**

- Absorption of barium hydroxide, sodium hydroxide and water by cellulose, from aqueous barium hydroxide and from mixed solutions. S. M. Neale and W. A. Stringfellow. *Textile Inst J* 24:T30-4 Ja '33
- Absorption of carbon dioxide in sodium carbonate-bicarbonate solutions. C. R. Harte, jr, E. M. Baker and H. H. Purcell. *flow sheet Ind & Eng Chem* 25:528-31, 1128-32 My, O '33
- Absorption of sulfur dioxide in water. F. W. Adams. *Ind & Eng Chem* 25:424-8 Ap '33
- Adsorption and absorption developments. *il Chem & Met Eng* 40:259 My '33
- Diagrams and tables for designing absorption refrigerating machines. F. Merkel and F. Bosnjakovic. *Refrig Eng* 25:156-8 Mr '33
- Equilibrium conditions in continuous recycle system. R. B. Smith. *Ind & Eng Chem* 25: 692-3 Je '33
- Initial absorption rates of carbon dioxide by water and by dilute sodium carbonate solutions. H. S. Davis. *diag Ind & Eng Chem* 25:1023-5 S '33
- Measurement of the absorption and retention of gases and vapours by solids. B. Moore. *diag Soc Chem Ind J* 52:76T-8T Mr 24 '33
- Physical chemistry of flotation; the relationship between contact angle and the constitution of the collector. E. E. Wark and I. W. Wark. *J Phys Chem* 37:805-19 Je '33
- Rate of absorption of gases by liquids. R. C. Brimley. *Soc Chem Ind J (Chem & Ind)* 52: 472 Je 2 '33
- Refinery and natural gasoline technology; oil circulation, plate requirements, in an absorption process. G. A. Burrell and N. C. Turner. *Nat Pet N* 25:24+ S 27 '33
- Solvent recovery. W. L. Brogan. *Chem Markets* 32:226 Mr '33
- Theoretical aspects of benzole recovery from coal gas. C. M. Wearing. *Gas J (Lond)* 201:752-4 Mr 22 '33
- Über einen apparat zur messung der flüssigkeitsaufnahme von quellbaren und porösen stoffen und zur charakterisierung der benetzbarkeit. O. Enslin. *diag Chemische Fabrik* 6:147-8 Mr 29 '33
- Vapor pressure of low-boiling paraffin hydrocarbons in absorber oil. G. L. Matheson and L. W. T. Cummings. *diag Ind & Eng Chem* 25:723-5 J1 '33; Same cond. *Oil & Gas J* 31:35 Ap 27 '33
- See also*  
Adsorption
- ABSORPTION apparatus**  
Absorption refrigeration with solid absorbents. R. M. Buffington. *il diags Refrig Eng* 26:137-42+ S '33
- Apparatus for determining the absorption of carbon dioxide by leaves under natural conditions. A. J. Heinicke and M. B. Hoffman. *diag Science* 77:55-8 Ja 13 '33

- Contribution à la théorie des tours d'absorption. W. Hennel. *diag Chimie & Ind* 29: 786-8, 1042-4 Ap-My '33
- Determination of carbon dioxide in continuous gas streams. W. M. Martin and J. R. Green. *bibliog diags Ind & Eng Chem Anal* ed 5: 114-18 Mr 15 '33
- Measurement of the absorption and retention of gases and vapours by solids. B. Moore. *diag Soc Chem Ind J* 52:76T-8T Mr 24 '33
- Precise automatic apparatus for continuous determination of carbon dioxide in air. M. D. Thomas. *bibliog il diags Ind & Eng Chem Anal* ed 5:193-8 My 15 '33
- Über die beseitigung von schwebestoffen aus strömenden gasen. H. Remy. *Angew Chemie* 46:610-13 S 23 '33
- Use of naphtha towers was first step in development of absorption unit. *diag Oil & Gas J* 32:36 N 2 '33

**ABSORPTION of rays**

- Absorption and dispersion of celluloid between 300A and 1000A. H. M. O'Bryan. *diag Opt Soc Am J* 22:739-43 D '32
- Absorption of NaCl, KCl and KI in the far ultraviolet. A. Smith. *diags Phys R* 44: 520-3 O 1 '33
- Character of the absorption of some amines in the near infra-red. U. Liddel and O. R. Wulf. *Am Chem Soc J* 55:3574-83 S '33
- Decay of luminescence and light absorption in phosphorescent materials. D. H. Kabakjian. *Phys R* 44:618-24 O 15 '33
- Equivalent absorption coefficient for diffused resonance radiation. M. W. Zeman-sky. *Phys R* 42:843-7 D 15 '32
- Light penetration in the waters of southern Alaska. C. L. Utterback. *Opt Soc Am J* 23: 339-41 O '33
- Light penetration in the waters of the San Juan Archipelago. C. L. Utterback and J. W. Boyle. *diag map Opt Soc Am J* 23: 333-8 O '33
- Measurement of X-ray absorption coefficients by the use of the FP-54 photron. L. M. Heil and J. E. Edwards. *diags Phys R* 43: 1-4 Ja 1 '33
- Probability and the exponential laws of physics. M. C. Holmes. *J Fr Inst* 215:281-5 Mr '33

*See also*

- Spectrum—Absorp-      Ultra-violet rays  
tion spectra              X rays—Absorption
- ABSORPTION spectra.** *See* Spectrum—Absorp-tion spectra
- ABSORPTION towers.** *See* Absorption ap-paratus
- ABSTRACTS**  
Efficiency with economy in chemical abstract-ing. J. C. Philipp. *Assn of Sp Lib & Inf Bur Proc* 1933:74-7
- Scientific and technical abstracting; a report on the ASLIB enquiry. A. A. Eldridge. *Assn of Sp Lib & Inf Bur Proc* 1932:83-9; Dis-cussion. 89-90
- Technical news bulletin and the house journal of the Metropolitan-Vickers electrical company. B. M. Dent. *Assn of Sp Lib & Inf Bur Proc* 1933:56-8
- ACACIA mutual life association**  
Nets notable gains. *Weekly Underw* 128:452 Mr 4 '33
- ACADEMIC assistance council**  
British academic assistance council. *Science* 77:620-1, 629 Je 30 '33
- ACADEMY of natural sciences of Philadelphia**  
Review of the 1932 activities. *Science* 77:512-14 My 26 '33
- ACANTHINE**  
Zur konstitution des oxyacanthins; abstract. F. v. Bruchhausen. *Angew Chemie* 46:400 Je 24 '33
- ACCELERATORS.** *See* Vulcanization—Accele-rators
- ACCELEROGRAPH**  
Destructive earthquake motions measured for first time; accelerograph records at three stations in southern California. N. H. Heck and F. Neumann. *Eng N* 110:804-7 Je 22 '33



**ACCELEROGRAPH—Continued**

Strong-motion records of Long Beach earthquake. N. H. Heck. Eng N 110:442-3 Ap 6 '33

**ACCELEROMETER**

Riding comfort analysis. H. M. Jacklin and G. J. Liddell. il diags Purdue Univ Eng Exp Sta. Research Bul 44:1-144 [bibliog p83-101] '33; Abstract. Automotive Ind 68:758-62 Je 24 '33

**ACCEPTANCES**

Acceptances and commercial paper. Published in monthly numbers of Federal reserve bulletin

Warehouse receipts securing bankers' acceptances; opinion of the Federal reserve board. Fed Res Bul 19:188-9 Mr '33

**ACCEPTANCES, Trade**

Bank as holder in due course of trade acceptance; suit. Bankers M 125:506-8 N '32 For wider use of trade acceptances. W. L. Gray. Barron's 13:16 Mr 13 '33

Trade acceptances disapproved for use in the textile industry. Credit & Fin Management 35:30 Ja '33

What of the trade acceptance? W. S. Cousins. Burroughs Clearing House 17:6-7+ Ja '33

**ACCESSORY products.** See Products, Accessory**ACCIDENT insurance.** See Insurance, Accident**ACCIDENT law**

Accident litigation and the automobile compensation plan. P. H. French. Ann Am Acad 167:201-20 My '33

**ACCIDENTS**

Histories of life and death in compensation work. G. V. Fuller. Safety Eng 65:18-20 Ja '33

Relationship of industrial safety to safety outside the plant. S. M. Shallcross. Safety Eng 65:98 Mr '33

Stranger than fiction; the vagaries of accidents. H. Barsantee. il Nat Safety N 27:18-20 F '33

*See also*

Automobile accidents

Aviation—Accidents

Dust explosions

Electricity, Accidents

from

Explosions

Fires

Insurance, Accident

Railroads—Accidents

Safety devices and

measures

Safety movement

**Reports**

Driver must provide accurate information in case of accident. Foundry 61:49 Mr '33

**Statistics**

Accident barometer; a monthly review of significant changes. Published in monthly numbers of National safety news

Accident frequency shows big increase. J. E. Ahern. Weekly Underw 128:658+ Ap 1 '33; Same. Safety Eng 65:172 My '33

Accident statistics of the National safety council for 1932. Monthly Labor R 37:297-300 Ag '33

Accidental deaths drop in 1932. Nat Safety N 27:11-12+ Mr '33; Abstracts. Ins Field (Fire ed) 62:13 F 2 '33; Spectator 130:35 F 2 '33; East Underw 34:38 F 17 '33

Causes of accidents 1932; tabulation. Safety Eng 66:21-2, 60, 116 J1-Ag, O '33

Facts about accidents in 1932. Nat Safety N 28:13-15+ J1 '33

Fatal accidents in Kansas, 1932. Monthly Labor R 37:301-2 Ag '33

**ACCIDENTS, Industrial**

Accidental injury rates in the public utilities industries. 29p National safety council inc, 20 N. Wacker drive, Chicago '33 [published also for food, machinery and other industries]

Accidents in factories and workshops. Chem Age (Lond) 29:164-5 Ag 19 '33

Accidents in the shipping industry reduced by careful supervision. R. R. Howard. il Marine R 63:15-16 O '33

Conservation an essential in industrial recovery. H. W. Heinrich. Safety Eng 64:251-2+ D '32

Each accident has its lesson. R. H. Ferguson. Nat Safety N 27:52+ F '33

Horseplay prone. A. S. McArthur. il Nat Safety N 28:23-4 J1 '33

Is poor health blamed for too much? abstracts. H. H. Kessler. Nat Safety N 27:23-4+ Je '33; Safety Eng 65:178-9 My '33

It isn't so funny to the victim. R. H. Ferguson. Nat Safety N 27:38+ Mr '33

It might have been prevented. R. H. Ferguson. Nat Safety N 27:32+ Ap '33

Light that doesn't fail. P. R. Holmes. Nat Safety N 27:11 Ja '33; Excerpts. Safety Eng 64:180 O '32

Proceedings of the nineteenth annual meeting of the International association of industrial accident boards and commissions held at Columbus, Ohio, September 26-29, 1932. U S Bur Labor Statistics Bul 577:1-242 '33

Safety work's effect on industrial accidents. G. V. Fuller. East Underw 34:42 O 27 '33

VI<sup>e</sup> Congrès technique de l'Association des industriels de France contre les accidents du travail (Paris, 28-30 mai 1933). il Génie Civil 102:592-4 Je 24 '33

Static electricity in nature and industry. P. G. Guest. diags U S Bur Mines Bul 365:1-98 [bibliog p90-8] '33

Those minor and near injuries. W. J. Brennan. il Nat Safety N 27:11-12+ Je '33

*See also*

Boiler explosions

Building accidents

Falls

Infection

Mine accidents

also subdivision Accidents under special

subjects, e.g.

Chemical plants

Coal mines and min-

ing

Coke plants

Safety devices and measures

Workmen's compensation

Petroleum industry

and trade

Petroleum refineries

**Cost**

Balancing the accident budget. A. C. Carruthers. Safety Eng 65:9-10 Ja '33

Construction neglects safety and pays for it. Eng N 109:646 D 1 '32

Cost of indifference. F. I. Rowe. Nat Safety N 27:21-2+ Mr '33

Relation between accidents and cost of building construction. Monthly Labor R 35:1339-40 D '32

**Reports**

Report of I.A.I.A.B.C. committee on forms. U S Bur Labor Statistics Bul 577:49-60, 112 '33

Uncover all the causes; North Carolina industrial commission. E. G. Padgett. il Nat Safety N 27:11-12+ Ap '33

We can't advance without records. J. L. Vandegrift. Nat Safety N 28:9-10+ Ag '33

**Statistics**

Accident experience in the construction industry during 1931. J. C. Forester. Eng & Contr 71:271 D '32

Accident experience in the iron and steel industry to the end of 1931. Monthly Labor R 36:520-34 Mr '33; Correction. 36:1071 My '33

Accident experience in the iron and steel industry to the end of 1932. Monthly Labor R 37:566-81 S '33

Accidental injury rates in the refrigeration industry in 1932. Refrig W 68:18-20 My '33

Accidental injury rates in the rubber industry, 1931. India Rubber W 87:34 D '32

Accidents in manufacturing industries, 1926 to 1931. Monthly Labor R 36:780-5 Ap '33; Excerpts. Safety Eng 65:160 My '33

Fatalities in New York industries; their cause and prevention. Safety Eng 65:133-4+, 169-70, 206+ Ap-Je '33

Gas employee accidents for the year 1931—United States and Canada; tabulation. Am Gas Assn Proc 1932:71-84

Industrial accidents. Published in Monthly labor review

**ACCIDENTS, Industrial**—Statistics—*Continued*  
 Industrial accidents in Germany. F. Ritzmann. Monthly Labor R 36:1257-8 Je '33  
 Industrial injuries in Maine, 1931. Monthly Labor R 35:1340-1 D '32  
 Industrial injuries to women in 1928 and 1929 compared with injuries to men. M. Correll. U S Women's Bur Bul 102:1-33 '33  
 Is schedule rating of workmen's compensation risks worth while? D. S. Beyer. Weekly Underw 129:485, 512-14 S 16 '33  
 Lower accident tolls in the chemical industry; 1932 report. Chem Markets 32:504-6 Je '33;  
 Abstract. Chem Age (Lond) 28:532 Je 10 '33  
 National safety council lists safest plants. Iron Age 132:26 JI 20 '33  
 National safety council, 20 North Wacker Drive, Chicago, publishes statistics for various industries  
 Occupational fatalities decline to new low figure in 1932. Safety Eng 65:102 Mr '33  
 Ohio's accident experience for 1931. Safety Eng 64:209 N '32  
 Prevention of accidents in industry. Chem Age (Lond) 28:356 Ap 22 '33  
 Report of Industrial commission of South Dakota for year ended June 30, 1932. Monthly Labor R 36:123-4 Ja '33

#### ACCOMMODATION coefficients

Test of the classical momentum transfer theory of accommodation coefficients of ions at cathodes. K. T. Compton and E. S. Lamar. Phys R 44:338-44 S 1 '33

#### ACCOUNTANTS

Accountant as a help to the business man. I. B. McGladrey. Credit & Fin Management 35:32+ Ag '33  
 Accounting as a field for colored men. I. M. Martin. J Account 55:112-16 F '33  
 Charles Lamb as accountant and man of letters. C. J. Hasson. J Account 56:283-90 O '33  
 In these times. L. U. Crawford. J Account 55:108-11 F '33  
 Increasing the accountant's usefulness in the public utility industry. V. Thiemann. Edison Elec Inst Bul 1:171-3 S '33  
 Increasing the usefulness of the accountant in the public utility industry. L. N. Rowley jr. Edison Elec Inst Bul 1:209-11 O '33

See also

Accounting  
 Accounting ethics

#### ACCOUNTANTS, Public

C.P.A. certification—what does it mean on the customer's statement? P. S. Suffern. Bankers M 127:147-52 Ag '33  
 Competitive bidding. J Account 55:168-9 Mr '33  
 Compulsion! a brief for compulsory accounting services. R. Atkins. Credit & Fin Management 35:14+ Mr '33  
 Cooperation: the credit man and the C.P.A. G. D. Fish. Credit & Fin Management 35: 15+ Mr '33  
 Profitable employment of idle time. N. L. McLaren. J Account 54:433-47 D '32  
 Supplementing the payroll audit. J. C. B. Woods. East Underw 34:33 Je 16 '33  
 Why engage public accountants? J Account 56:163-6 S '33

See also

Accounting  
 Auditing

#### Examinations

Merits of oral examinations. J Account 55: 1-3 Ja '33

#### Fees

Bargain hunters abroad in the land. J Account 55:3-8 Ja '33

#### Law

Auditor's duty to disclose irregularity; Canadian Woodmen v. Hooper, et al. J Account 55:51-2 Ja '33

Compulsory audits by public accountants. A. J. Watson. J Account 56:250-60 O '33

Damage suits against accountants. H. D. Greeley. J Account 56:55-6 JI '33

Interpreting the Securities act. J Account 56: 241-7 O '33

Responsibility in limited audits. H. D. Greeley. ed. J Account 55:134-5; 56:222-5 F, S '33

#### ACCOUNTING

Accountant as a help to the business man. I. B. McGladrey. Credit & Fin Management 35:32+ Ag '33  
 Accounting theory and practice. R. B. Kester. 3d rev ed \$4.50 Ronald press '33  
 Applied scientific management; periodic financial reports and their uses. K. Hathaway. Taylor Soc Bul 18:37-40 Ap '33  
 Control book provides compact and simple accounting record; Coward shoe, inc. Management Methods 62:122-3 Mr '33  
 Current assets and liabilities. A. Herrick. J Account 56:330-49 N '33  
 Eliminating an operation; returned goods record. Abbott laboratories. il System and Management Methods 62:306-7 JI '33  
 Financial examinations. F. W. Thornton. 282p American institute pub. co, inc, New York '33  
 How to chart the course of a business. F. J. Batchelder. il System 62:447-9+ O '33  
 Incomplete records, the preparation and audit of accounts. K. A. Coles. 149p Gee & co. ltd, London '33  
 Intermediate accounting. J. B. Taylor and H. C. Miller. v 1 409p \$3 McGraw-Hill '33  
 Modern accounting systems. W. D. Gordon and J. Lockwood. 2d ed 481p \$4 Wiley '33  
 Obsolescence. H. W. Ralph. Nat Pet N 24: 29-30+ D 28 '32; 25:27-8+ Ja 4; 27-8+ Ja 11 '33  
 Posting account eliminated; Golden rule company. il Management Methods 62:264-5 Je '33  
 Prepaid expense and current assets. M. M. Strain. Credit & Fin Management 34:14-15+ O '32; Discussion. 34:32-3 D '32  
 Profits vs. plant capacity. C. E. Knoeppel. Chem Markets 31:499-502 D '32  
 Public accounting procedure, a working manual on audits, systems, and income taxes. L. McGinley. 169p Gregg '33  
 Secretarial accounting. A. H. Rosenkamppff and W. C. Wallace. 303p Prentice-Hall, inc. '33  
 Some advantages of uniform accounting systems for trades; abstract. Management R 22:303 O '33  
 Some aspects in accounting for manufacturers employing contractors. J. D. Kahn. J Account 56:17-30 JI '33  
 Speeds order writing. il Management Methods 61:662 D '32  
 Standard financial ratios, today's guide posts of business. W. M. Halbrooks. Management Methods 61:564-5+, 670-4+ O, D '32  
 Trial balance; abstract. H. Chirlian. Management R 22:109 Ap '33  
 Worthwhile collection reports; Graybar electric company. il System and Management Methods 62:308-9 JI '33  
 Wrinkles; compiled by the 1931-32 A.G.A. committee on mechanical office equipment. il Am Gas Assn Proc 1932:315-73; Discussion. 374-9

See also

Accountants  
 Accountants, Public  
 Accounting departments

Accounts receivable

Assets

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Billing

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Factories

Gas, Natural

Paper mills



**ACCOUNTING—Continued**

Petroleum industry Sales costs  
and trade Trust companies  
Railroads Waterworks

**Bibliography**

Current literature. Published in monthly numbers of *Journal of accountancy*

**Dictionaries**

Pitman's dictionary of book-keeping. R. J. Porters. 3d ed 810p Pitman '32

**History**

Accounting evolution to 1900. A. C. Littleton. 368p [bibliog p23-4] \$5 American institute pub. co, inc, New York '33  
Social origins of modern accountancy. A. C. Littleton. J Account 56:261-70 O '33

**Laws and regulations**

Election of auditors. J Account 56:82-5 Ag '33  
Legal notes. H. D. Greeley, ed. J Account 55:50-2 Ja '33 [cont monthly thru September]  
Legal regulation of accounting. F. S. Fisher, jr. J Account 55:9-29 Ja '33

**Mechanical aids**

Distribution and photo strip accounting. J. M. Kramarsik. *Il Am Gas Assn Proc* 1932:306-13; Discussion. 314-15  
Improved car accounting and statistics at lower costs; Boston & Maine applies punch card equipment. G. F. Glacy. *Ry Age* 94: 548-52 Ap 15 '33  
Mechanical office equipment; A.G.A. committee report. *Il Am Gas Assn Proc* 1932:201-63; Discussion. 263-4  
Mechanization in gas offices. C. R. Curtis. *Gas J (Lond)* 202:807-9 Je 14 '33  
Mechanised accountancy, being a review of the latest methods of mechanical book-keeping together with a survey of the machines used. C. R. Curtis. 143p Lippincott '32

Order routine that reduced costs and errors; Jewel food stores. C. B. Allyn. *Il Management Methods* 62:258-60+ Je '33

Rental office system in a 300 million works employing accounting machinery; Ramsgate corporation gas and water department. F. G. Sale. *Gas J (Lond)* 200:623-7; Discussion. 627 N 30 '32

Speed in customer billing; use of billing machines by Toledo Edison company. *Elec W* 101:169-70 F 4 '33

Unified machine posting makes inter-branch depositing possible. J. K. Novins. *Il Rand McNally Bankers Mo* 50:156-7 Mr '33

Unit plan of posting for banks. W. M. Ingersoll. *Il Bankers M* 126:396-401 Ap '33

**See also**

Bookkeeping machines  
Peg-boards

**Study and teaching**

American institute of accountants' examination in accounting theory and practice, November 17-18, 1932. J Account 55:53-68, 137-47, 218-29, 301-9, 371-4 Ja-My '33

American institute of accountants' examination in accounting theory and practice, May 11-12, 1933. J Account 56:58-67, 135-47, 226-35, 294-307 Jl-O '33

Professional accountancy training in collegiate schools of business. M. Isaacs. 152p [bibliog p95-8] Columbia univ. press '33

Unofficial answers to the examination questions of the American institute of accountants, May 1927, to November, 1931. H. A. Finney, H. P. Baumann and S. Gordon. 423p American institute pub. co, inc, New York '32

**Germany**

Accountancy in Germany. J Account 56:8-16 Jl '33

Business economics and changes in German business conditions. E. Schmalenbach. *Harvard Business R* 11:490-7 Jl '33

Position of auditing and accounting in Germany. O. Hintner. *Harvard Business R* 11: 196-204 Ja '33

**Russia**

Accounting in U.S.S.R. V. A. Diakonoff. J Account 55:291-7 Ap '33

Industry and accounting in the U.S.S.R. V. A. Diakonoff. *Harvard Business R* 11: 205-16 Ja '33

**ACCOUNTING departments**

First aid to the executive. W. L. Batt. *Chem Markets* 32:36-8 Ja '33

Setting up a time budget. F. F. Cue. *System* 62:451-2 O '33

**ACCOUNTING ethics**

Auditor's investments. J Account 55:324-6 My '33

Bargain hunters abroad in the land. J Account 55:3-8 Ja '33

Engineer's view of investment banking reforms. G. M. Dexter. *Mech Eng* 55:275-8 My '33

Ethical problems of modern accountancy. 152p Ronald press '33

Niceties of professional conduct. J Account 54:403-4 D '32

**ACCOUNTING libraries**

Accounting texts for public libraries. J Account 55:405-6 Je '33

ACCOUNTS, Collection of. See Collecting of accounts

**ACCOUNTS receivable**

Receivables good security if—the records are protected from fire damage. D. Girard. *Il Bankers Mo* 50:94-5+ F '33

**ACENAPHTHENE thiazines**

Synthesis of acenaphthene-*peri*-metathiazines and of some dyes derived therefrom. M. T. Bogert and R. B. Conklin. *Am Chem Soc J* 55:1705-10 Ap '33

**ACETAL**

Structure of reactants and the extent of acetal formation. N. Minné and H. Adkins. *Am Chem Soc J* 55:299-309 Ja '33

**ACETALDEHYDE**

Early history of acetaldehyde and formaldehyde. F. Walker. *J Chem Educ* 10:546-51 S '33

Effect of acetaldehyde on the conductivities of electrolytes in ethyl alcohol. D. N. Clark and others. *Chem Soc J* p658-60 Je '33

Photolysis of the aliphatic aldehydes; acetaldehyde. P. A. Leighton and F. E. Blacet. *Am Chem Soc J* 55:1766-74 My '33

Thermal reaction between acetaldehyde vapor and oxygen. R. N. Pease. *Am Chem Soc J* 55:2753-61 Jl '33

**ACETALDEHYDE dinitrophenylhydrazones**

Optical crystallography of acetaldehyde 2, 4-dinitrophenylhydrazone. W. M. D. Bryant. *Am Chem Soc J* 55:3201-7 Ag '33

**ACETALS**

Formation of cyclic acetals from aldehydes or ketones and alkylene oxides. M. T. Bogert and R. O. Roblin, jr. *bibliog Am Chem Soc J* 55:3741-5 S '33

Researches in cyclic acetals; formation of cyclic acetals of 4,5-dihydroxy-2,6-octadiene. C. P. Burt, D. R. Corcoran and I. V. Koerber. *Am Chem Soc J* 55:2068-70 My '33

**ACETAMIDE**

Acetamide as a solvent. O. F. Stafford. *Am Chem Soc J* 55:3987-8 O '33

Aldehyde-amide condensation; reactions between aldehydes and acetamide. W. A. Noyes and D. B. Forman. *Am Chem Soc J* 55:3493-4 Ag '33

ACETATE of lime. See Calcium acetate

**ACETATES**

Determination of the acetyl content of carbohydrate acetates. H. L. Parsons. *bibliog diag Textile Inst J* 24:T167-73 Ap '33

Further studies on acetic acid-acetate solutions. A. W. Davidson and W. Chappell. *Am Chem Soc J* 55:3531-7 S '33

**ACETATES—Continued**

Preparation of acetate and phosphate buffer solutions of known PH and ionic strength. A. A. Green. bibliog Am Chem Soc J 55: 2331-6 Je '33

See also

Cellulose acetate

Vinyl acetate

**ACETIC acid**

Activity coefficients of salts in anhydrous acetic acid solutions from solubility measurements. A. W. Scholl, A. W. Hutchison and G. C. Chandlee. Am Chem Soc J 55: 3081-8 Ag '33

Activity of each component in aqueous solutions of sulfuric acid and acetic acid. F. H. MacDougall and D. R. Blumer. Am Chem Soc J 55:2236-49 Je '33

Analytical determination and conductance of sulfuric acid in anhydrous acetic acid. W. C. Eichelberger and V. K. La Mer. Am Chem Soc J 55:3635-8 S '33

Determination of dissociation constants of monobasic acids. D. J. G. Ives. Chem Soc J p731-7 Je '33

Dissociation constant of acetic acid from 0 to 60° centigrade. H. S. Harned and R. W. Ehlers. Am Chem Soc J 55:652-6 F '33

Dissociation constants of organic acids; acetic acid. G. H. Jeffery and A. I. Vogel. Chem Soc J p2829-38 D '32

Electrical conductivities of mixtures of sulfuric acid, acetic acid and water. N. F. Hall and H. H. Voge. bibliog Am Chem Soc J 55:239-46 Ja '33

Electrolytic reduction of ketones in glacial acetic acid. S. Swann, jr. Electrochem Soc Trans 64 (preprint 21):245-52 S '33

Further studies on acetic acid-acetate solutions. A. W. Davidson and W. Chappell. Am Chem Soc J 55:3531-7 S '33

Japanese output synthetic acetic acid checks imports. Chemicals 38:9 Ja 23 '33

Lead-mercurous acetate voltaic cell with acetic acid as the solvent. G. Tarbutton and W. C. Vosburgh. Am Chem Soc J 55:618-24 F '33

Liquid-vapor composition curves of acetic acid and water at subatmospheric pressures. D. B. Keyes. Ind & Eng Chem 25:569 My '33

Measurement of oxidation-reduction potentials in glacial acetic acid solutions. J. B. Conant and B. F. Chow. Am Chem Soc J 55:3745-51 S '33

Potential of free radicals of the triphenylmethyl type in glacial acetic acid solutions. J. B. Conant and B. F. Chow. Am Chem Soc J 55:3752-8 S '33

Preparation and properties of anhydrous acetic acid. W. C. Eichelberger and V. K. La Mer. Am Chem Soc J 55:3633-4 S '33

Semicarbazone formation, and the incomplete dissociation of a salt of the ammonium type. P. D. Bartlett. Am Chem Soc J 55:741-9 F '33

Solubility of nitrates in anhydrous acetic acid. A. W. Davidson and H. A. Geer. Am Chem Soc J 55:642-9 F '33

Study of acetic acid-acetate buffers in potassium chloride and sodium chloride solutions using the quinhydrone electrode. E. F. Chase. Am Chem Soc J 55:3072-5 Ag '33

System lead acetate-acetic acid. A. W. Davidson and W. Chappell. Am Chem Soc J 55:4524-5 N '33

System lead acetate, acetic acid, water. G. Tarbutton and W. C. Vosburgh. Am Chem Soc J 54:4537-44 D '32

Tyrosine-*N*-acetic acid: introducing a new general method for preparing symmetrical and asymmetrical imino dibasic acids. D. A. Hahn and A. Litzinger. Am Chem Soc J 54: 4663-7 D '32

**Analysis**

Bestimmung der essigsäure. M. Mugdan and J. Wimmer. Angew Chemie 46:117-18 F 18 '33

Determination of formic, acetic, and propionic acids in a mixture. O. L. Osburn, H. G. Wood and C. L. Werkman. bibliog Ind & Eng Chem Anal ed 5:247-50 Jl 15 '33

Determination of the acetyl content of carbohydrate acetates. H. L. Parsons. bibliog diag Textile Inst J 24:T167-73 Ap '33

**Manufacture**

Cooperative research in chemical engineering. D. B. Keyes. Chem & Met Eng 40: 403-4 Ag '33

**ACETIC anhydride**

Case of ketonic activity of acetic anhydride, and the condensation of salicylaldehyde with benzoylacetone. R. J. W. Le Fèvre and J. Pearson. Chem Soc J p1197-1200 S '33

**ACETIN**

Lipases of wheat. B. Sullivan and M. A. Howe. Am Chem Soc J 55:320-4 Ja '33

**ACETOACETIC acid**

Acetoacetic ester condensation; the condensation of higher esters. R. R. Briesche and S. M. McElvain. Am Chem Soc J 55:1697-1700 Ap '33

Study of the cyclization of a series of  $\omega,\omega'$ -dicarboxyalkylmethylamines through the acetoacetic ester condensation. E. A. Prill and S. M. McElvain. Am Chem Soc J 55:1233-41 Mr '33

Velocity of bromination of acetoacetic ethyl ester. K. J. Pedersen. J Phys Chem 37:761-64 Je '33

**ACETOMESITYLENE**

Action of bromine on acetomesitylene; polyhalo derivatives of 3,5-dibromoacetomesitylene. C. H. Fisher. Am Chem Soc J 55: 4241-5 O '33

Polyhalo derivatives of acetomesitylene; the bromination of 3,5-dichloroacetomesitylene. C. H. Fisher. Am Chem Soc J 55:4594-7 N '33

**ACETONE**

Affinity constant of aniline in acetone-water mixtures. A. N. Campbell and E. M. Brown. Electrochem Soc Trans 63 (preprint 28):291-5 My '33

Analysis of mineral lubricating oils by fractionation with acetone. M. Nottage. Inst Pet Tech J 18:943-52 N '32

Butyl alcohol patent upheld by high court. Oil Paint & Drug Rep 123:16 Mr 13 '33

Coating wire with cellulose acetate. W. S. Magill. II diag Nat Safety N 27:25-6 Je '33

Condensations of isatin with acetone by the Knoevenagel method. F. Braude and H. G. Lindwall. Am Chem Soc J 55:325-7 Ja '33

Explosive properties of acetone-air mixtures. G. W. Jones, E. S. Harris and W. E. Miller. II diags U S Eur Mines Tech Pa 544:1-26 [bibliog p25-6] '33

Fractionation column in preparation of acetone. G. R. Robertson. J Chem Educ 10:704-5 N '33

Hydrolysis of acetonesemicarbazone. J. E. W. Rhodes. diag Chem Soc J p204-8 F '33

Photolysis of gaseous acetone and the influence of water. G. H. Damon and F. Daniels. bibliog diag Am Chem Soc J 55: 2363-75 Je '33

Protection of equipment containing explosive acetone-air mixtures by the use of diaphragms. G. W. Jones, E. S. Harris and B. B. Beattie. diags U S Bur Mines Tech Pa 553:1-24 '33

Reaction between aliphatic orthoformates and acetone. H. W. Post. Am Chem Soc J 55: 4176-7 O '33

Reaction of a free radical, triphenylmethyl, with ethers, esters and acetone. A. A. Morton and L. V. Peakes, jr. Am Chem Soc J 55:2449-51 Je '33

Solvent dewaxing of oils with benzol and acetone. F. X. Govers and G. R. Bryant. flow diag II Am Pet Inst Proc 14M(3):7-15 My '33; Abstract. Nat Pet N 25:38 My 17 '33

Sorption of organic vapors by glyptal resins. C. H. Winning and J. W. Williams. diag J Phys Chem 36:2915-35 D '32

Über die beeinflussung der brechung von flüssigkeitsgemischen durch geringe säuremengen. T. Tomonari. Angew Chemie 46: 269-71 My 13 '33



## ACETONE—Continued

## Analysis

Alleged specific test for acetone. R. J. W. LeFevre and J. Pearson. *Soc Chem Ind J* 51:433T-4T D 30 '32

## ACETONITRILE

Mobilities of gaseous ions in  $\text{CH}_3\text{NO}_2\text{-H}_2$  and  $\text{CH}_3\text{CN-H}_2$  mixtures. E. A. Higley and C. C. Thorsen. *J Fr Inst* 215:69-80 Ja '33

Relative acid strengths in acetonitrile. M. Kilpatrick, Jr. and M. L. Kilpatrick. *bibliog Chem R* 13:131-7 Ag '33

Studies in dielectric polarisation; benzene solutions of *n*-propyl mercaptan, *n*-butyl mercaptan, thiophenol, and acetonitrile. E. C. E. Hunter and J. R. Partington. *diag Chem Soc J* p2312-19 D '32

## ACETOPHENONE

Anthoxanthins;  $\omega$ -hydroxyphloracetophenone and certain derivatives; synthesis of galangin under milder conditions than those used heretofore. J. J. Chavan and R. Robinson. *Chem Soc J* p368-70 Ap '33

Catalytic oxidation of ethylbenzene in the liquid phase with manganese dioxide. C. E. Senseman and J. J. Stubbs. *Ind & Eng Chem* 25:1286-7 N '33

Condensation of acetophenone with isatin by the Knoevenagel method. H. G. Lindwall and J. S. MacLennan. *Am Chem Soc J* 54:4739-44 D '32

Constitutional factors controlling prototropic changes in carbonyl compounds; the prototropy of nuclear-substituted acetophenones. W. S. Nathan and H. B. Watson. *Chem Soc J* p217-20 Mr '33

Researches on pyrimidines; the reaction of phenylacetaldehyde and acetophenone with urea. K. Folkers and T. B. Johnson. *Am Chem Soc J* 55:3361-8 Ag '33

Synthetical experiments in the chromone group; derivatives of *o*-hydroxy-, 2:5-dihydroxy-, and 2:4:5-trihydroxyacetophenone. T. C. Chadha and K. Venkataraman. *Chem Soc J* p1073-6 Ag '33

## ACETOXYNITRILES

Preparation of substituted vanillic acids. L. C. Raiford and D. J. Potter. *Am Chem Soc J* 55:1682-5 Ap '33

## ACETYL aldoximes

Isomerism of the oximes; the constitution of the acetyl derivatives of  $\alpha$ - and  $\beta$ -aldoximes. O. L. Erady and H. J. Grayson. *Chem Soc J* p1037-8 Ag '33

Reactions of aldoxime derivatives with bases; the reactions of certain acetyl- $\beta$ -aldoximes with alkali. C. R. Hauser and C. T. Sullivan. *Am Chem Soc J* 55:4611-13 N '33

## ACETYL bromide

Studies in the reactivity of aromatic hydroxyl groups. H. L. Bassett and A. O'Leary. *Chem Soc J* p2945-6 D '32

## ACETYL chloride

Studies on acid iodides; the cleavage of alliphatic ethers by acid iodides. E. L. Gustus and P. G. Stevens. *Am Chem Soc J* 55:378-86 Ja '33

## ACETYL compounds

Hydroxy and bromo esters derived from the hydrogenation of certain omega-acetyl esters. E. J. Lease and S. M. McElvain. *Am Chem Soc J* 55:806-8 F '33

## ACETYL iodide

Studies on acid iodides; the cleavage of alliphatic ethers by acid iodides. E. L. Gustus and P. G. Stevens. *Am Chem Soc J* 55:378-86 Ja '33

## ACETYLMALIC anhydride

Rotatory dispersion of organic compounds; cyclic derivatives of tartaric and malic acids. B. Jones. *Chem Soc J* p788-96 Jl '33

## ACETYLPHENANTHRENE

Studies in the phenanthrene series; 9-acetylphenanthrene; reduction products of 2-, 3- and 9-acetylphenanthrenes. E. Mosettig and J. van de Kamp. *Am Chem Soc J* 55:3442-8 Ag '33

Studies in the phenanthrene series;  $\omega$ -aminoacetylphenanthrenes and aminomethylphenanthrylcarbinols. E. Mosettig and J. van de Kamp. *Am Chem Soc J* 55:3448-53 Ag '33

## ACETYLPIRIDINE

Piperidine derivatives; local anesthetics derived from reduction products of beta-acetylpyridine. F. M. Strong and S. M. McElvain. *Am Chem Soc J* 55:816-22 F '33

## ACETYLSALICYLIC acid

Study of the reactions between citric and acetylsalicylic acids. A. J. Dietzler and R. E. Nelson. *Am Chem Soc J* 55:1605-8 Ap '33

## ACETYLATION

Acetylation of galactose oxime. V. Deulofeu and others. *Am Chem Soc J* 55:3488-93 Ag '33

Viscosity of cellulose acetate solutions. T. E. Ellison. *Soc Chem Ind J (Chem & Ind)* 52:134-6 F 17 '33

## ACETYLENE

Acetylene carbon black. C. Kaufmann. *il Can Chem & Met* 17:93-5 My '33; Same, *Chem Markets* 33:217-20 S '33

Acetylene polymers and their derivatives;  $\alpha$ -alkyl- $\beta$ -vinylacetylenes. R. A. Jacobson and W. H. Carothers. *Am Chem Soc J* 55:1622-4 Ap '33

Acetylene polymers and their derivatives; dichloro-2,3-butadiene-1,3 and trichloro-1,2,3-butadiene-1,3. G. J. Berchet and W. H. Carothers. *Am Chem Soc J* 55:2004-8 My '33

Acetylene polymers and their derivatives; halogen-4-butadienes-1,2; the mechanism of 1,4-addition and of  $\alpha,\gamma$ -rearrangement. W. H. Carothers and G. J. Berchet. *Am Chem Soc J* 55:2807-13 Jl '33

Acetylene polymers and their derivatives; mercury derivatives of vinylacetylene. W. H. Carothers, R. A. Jacobson and G. J. Berchet. *Am Chem Soc J* 55:4665-7 N '33

Acetylene polymers and their derivatives; 1-alkyl-2-chloro-1,3-butadienes and their polymers. R. A. Jacobson and W. H. Carothers. *Am Chem Soc J* 55:1624-7 Ap '33

Acetylene polymers and their derivatives; 1-halogen-2-vinylacetylenes. R. A. Jacobson and W. H. Carothers. *Am Chem Soc J* 55:4667-9 N '33

Acetylene polymers and their derivatives; sodium vinylacetylide and vinylethynylcarbinols. W. H. Carothers and R. A. Jacobson. *Am Chem Soc J* 55:1097-1101 Mr '33

Acetylene polymers and their derivatives; the action of chlorine on divinylacetylene. D. D. Coffman and W. H. Carothers. *Am Chem Soc J* 55:2040-7 My '33

Acetylene polymers and their derivatives; the addition of thio-*p*-cresol to divinylacetylene. W. H. Carothers. *Am Chem Soc J* 55:2008-12 My '33

Acetylene polymers and their derivatives; the chlorination of the hydrochlorides of vinylacetylene. W. H. Carothers and G. J. Berchet. *Am Chem Soc J* 55:1628-31 Ap '33

Acetylene polymers and their derivatives; the dihydrochloride of divinylacetylene. D. D. Coffman, J. A. Nieuwland and W. H. Carothers. *Am Chem Soc J* 55:2048-51 My '33

Acetylene polymers and their derivatives; the polymerization of bromoprene. W. H. Carothers, J. E. Kirby and A. M. Collins. *il Am Chem Soc J* 55:789-95 F '33

Acetylene polymers and their derivatives; the preparation of orthoprenes by the action of Grignard reagents on chloro-4-butadiene-1,2. W. H. Carothers and G. J. Berchet. *Am Chem Soc J* 55:2313-17 Jl '33

Acetylene polymers and their derivatives; vinylethynylmagnesium bromide and some of its reactions. W. H. Carothers and G. J. Berchet. *Am Chem Soc J* 55:1094-6 Mr '33

Canada's most important synthetic organic chemical industry; Shawinigan chemicals, Ltd. A. F. G. Cadenhead. *il Chem & Met Eng* 40:184-8 Ap '33

Chart of products derived from acetylene. A. Lowy. *Ind & Eng Chem News* ed 11:156 My 20 '33

Direct iodination of monosubstituted acetylenes. T. H. Vaughn and J. A. Nieuwland. *bibliog Am Chem Soc J* 55:2150-3 My '33

**ACETYLENE—Continued**

- Efficiency of carbon dioxide as a radiochemical catalyst; acetylene polymerization and water synthesis. C. Rosenblum. bibliog J Phys Chem 37:53-8 Ja '33
- Infrared absorption bands of acetylene. G. B. B. M. Sutherland. Phys R 43:883-6 Je 1 '33
- Lighthouses; automatic control of electric supply, using acetylene gas as standby. J. O. Hinds. diag Electrician 110:704-5 Je 2 '33
- Mono and disubstituted organo-mercury derivatives of acetylene. R. J. Spahr, R. R. Vogt and J. A. Nieuwland. Am Chem Soc J 55:3728-31 S '33
- Production of organic compounds from coke oven gas. J. W. Osterrieth and G. De-champs. Gas J (Lond) 201:203-4; Discussion. 205-6 Ja 25 '33
- Synthesis of acetylene by pyrolysis of methane. H. H. Storch and F. L. Golden. bibliog il Ind & Eng Chem 25:768-71 JI '33
- Synthetic drying oils; their manufacture from acetylene. L. Light. Plastic Prod 9:279 S '33
- Thermodynamic functions of hydrocarbon gases from spectroscopic data. L. S. Kassel. Am Chem Soc J 55:1351-63 Ap '33

**Analysis**

- Microanalysis of gases; carbon monoxide, ethylene, and acetylene. F. E. Blacet, G. D. MacDonald and P. A. Leighton. bibliog il diags Ind & Eng Chem Anal ed 5:272-4 JI 15 '33

**ACID handling**

- Explosive hazards at acid storage. Weekly Underw 127:1061-3 D 3 '32
- Removing acid from carboys. Nat Safety N 28:43 O '33

**ACID number**

- Nature and constitution of shellac; determination of acid number. H. Weinberger and W. H. Gardner. bibliog Ind & Eng Chem Anal ed 5:267-70 JI 15 '33

**ACID-resisting materials**

- Acid-proofing for new and old containers. A. A. Weinhardt. il Chem Markets 33:143-4 Ag '33
- Acid resistant cements for brick, metal, earthenware, stoneware, fused silica; tabulation. Chem & Met Eng 39:652 D '32
- Acid-resisting pumps. C. H. S. Tupholme. diags Chem Markets 33:40-2 JI '33
- Beständigkeit des hartgummis gegen aggressive flüssigkeiten. St Reiner. Chemische Fabrik 6:375-6 S 6 '33
- Effect of sodium aluminate on consistency and acid resistance of some acid-resistant enamels. G. H. McIntyre and others. il Am Cer Soc J 16:315-18 JI '33
- Hochsäurefestes email in der chemischen technik. L. Stuckert. Chemische Fabrik 6:245-8 Je 7 '33; Abstracts (Acid-resisting enamels). Chem Markets 33:238-9 S '33; Chem & Met Eng 40:482 S '33
- Line of acid resisting steel sink. il Dom Eng 141:109-10 Je '33
- Peculiarity of sheet-iron acid resisting cover coat enamels. H. E. Ebright and J. E. Hansen. il Am Cer Soc J 16:433-6 S '33
- Steel tanks are lined with non-absorbent acid-resistant vitreous blocks; Porox. il Iron Age 132:25 Ag 24 '33; Steel 93:29 JI 31 '33
- Use of ebonite in chemical works. Chem Age (Lond) 28:266 Mr 25 '33
- Useful range of acid-resisting materials. il Chem Age (Lond) 27:433 N 5 '32

**See also**

- |                     |                  |
|---------------------|------------------|
| Acid handling       | Glass lining     |
| Bakelite            | Haveg            |
| Chemical plants—    | Rubber lining    |
| Equipment           | Steel, Stainless |
| Corrosion and anti- | Stoneware        |
| corrosives          |                  |

**ACID tanks**

- Concrete tanks lined with asphalted tile found suitable for pickling. il Steel 93:29 S 25 '33

- New bricks for pickling tanks. il Blast F & Steel Pl 21:430-1 Ag '33

**ACIDIMETRY**

- Electric taster; Electrynx. il Sci Am 148:164 Mr '33
- Rapid preparation of anhydrous  $\text{Na}_2\text{CO}_3$  for use in acidimetry. G. F. Smith and V. R. Hardy. J Chem Educ 10:507-8 Ag '33

**ACIDITY**

- Determination of equivalent acidity and basicity of fertilizers. W. H. Pierre. Ind & Eng Chem Anal ed 5:229-34. JI 15 '33
- Indicator studies of acids and bases in benzene. V. K. La Mer and H. C. Downes. bibliog diag Am Chem Soc J 55:1840-64 My '33
- March of acidity in wheat germ during storage. R. C. Sherwood and others. Ind & Eng Chem 25:437-40 Ap '33

**ACIDITY of the stomach. See Stomach—Acidity****ACIDOSIS**

- Evidence that acidosis is not caused by acids; abstract. Y. Henderson and L. A. Greenberg. Science 77:496 My 19 '33

**ACIDS**

- Rate of solution of marble in dilute acids. C. V. King and Cheng Ling Liu. bibliog Am Chem Soc J 55:1928-40 My '33
- Relative acid strengths in acetonitrile. M. Kilpatrick, jr. and M. L. Kilpatrick. bibliog Chem R 13:131-7 Ag '33
- Salting-out and salting-in of weak acids; the activity coefficients of the molecules of ortho, meta and para chlorobenzoic acids in aqueous salt solutions. A. Osol and M. Kilpatrick. Am Chem Soc J 55:4430-40 N '33
- Salting-out and salting-in of weak acids; the activity coefficients of the molecules of ortho, meta and para-hydroxybenzoic acids in aqueous salt solutions. A. Osol and M. Kilpatrick. Am Chem Soc J 55:4440-4 N '33

**See also****Acid handling**

- also names of acids, e.g. Acetic acid; Hydrochloric acid; Nitric acid; Phosphoric acid; Sulfuric acid

**Analysis**

- Determination of acids in wool, with particular reference to dyed goods. S. R. Trotman and G. N. Gee. diags Soc Dyers & Col J 48:321-5 D '32; Same. Am Dyestuff Rep 22:303-4+ My 8 '33
- Indicator studies of acids and bases in benzene. V. K. La Mer and H. C. Downes. bibliog diag Am Chem Soc J 55:1840-64 My '33
- Indicator studies of acids and bases in benzene. V. K. La Mer and H. C. Downes. bibliog Chem R 13:47-60 Ag '33
- Interferences of metal ions in the detection of acids. L. J. Curtman and S. M. Edmonds. J Chem Educ 10:567-70 S '33
- Method of analysis of mixtures of Schaeffer and F acids; effect of these acids in depressing the phenol-water critical solution temperature. D. G. Kerr. Soc Chem Ind J 52:336T-ST O 13 '33

- Some factors which affect the determination of acidity in wool. S. R. Trotman and G. N. Gee. Soc Dyers & Col J 49:132-4 My '33

**Statistics**

- Output in 1931. Oil Paint & Drug Rep 122:22 N 21; 24 D 5 '32; Same. Chem & Met Eng 40:45 Ja '33

**ACIDS, Fatty**

- Analysis and composition of fatty material produced by the decomposition of herring in sea water; theory of origin of petroleum in sedimentary deposits. R. C. Wells and E. T. Erickson. Am Chem Soc J 55:338-41 Ja '33
- Carbohydrate-fatty acid linkings in corn alpha amylose. T. C. Taylor and R. T. Sherman. Am Chem Soc J 55:258-64 Ja '33
- Certain general features common to most fruit-coat fats. T. P. Hilditch. bibliog Soc Chem Ind J 52:169T-71T Je 16 '33



**ACIDS, Fatty—Continued**

- Composition of commercial palm oils; some characteristic differences between the component acids of oils from Liberia or the Ivory coast and those of native or plantation palm oils from other localities. H. K. Dean and T. P. Hilditch. *Soc Chem Ind J* 52:165T-9T Je 16 '33
- Constitution of fatty substances; abstract. R. Vidal. *Soc Dyers & Col J* 49:26 Ja '33
- Distribution coefficients of some monocarboxylic acids and esters between immiscible solvents. H. J. Henriques. *Am Chem Soc J* 55:3284-8 Ag '33
- Fatty acid and glyceride structure of the seed fat of *myristica malabarica*. G. Collin. *Soc Chem Ind J* 52:100T Ap 7 '33
- Gluconeogenesis from fat; abstract. J. R. Murlin. *Science* 77:456 My 12 '33
- Lycopodiummoleic acid. J. L. Riebsomer and J. R. Johnson. *Am Chem Soc J* 55:3352-7 Ag '33
- Spreading of liquids on solid surfaces; the anomalous behavior of fatty oils and fatty acids with experiments leading to a tentative explanation. R. Bulkley and G. H. S. Snyder. *il Am Chem Soc J* 55:194-208 Ja '33
- Study of some Indian seed fats; mowha (*bassia latifolia*) and tamal (*garcinia morella*) fats. D. R. Dhingra, G. L. Seth and P. C. Speers. *Bibliog Soc Chem Ind J* 52:116T-18T Ap 28 '33
- Synthesis of phenolic long chain fatty acids. J. B. Niederl and C. Liotta. *Am Chem Soc J* 55:3025-6 Jl '33
- X-ray studies of fatty acids. F. B. Slagle and E. Ott. *Am Chem Soc J* 55:4396-403 N '33
- X-ray studies of fatty acids and of mixtures of fatty acids. E. Ott and F. B. Slagle. *J Phys Chem* 37:257-8 F '33
- X-ray studies of mixtures of fatty acids. F. B. Slagle and E. Ott. *il Am Chem Soc J* 55:4404-18 N '33
- X-ray studies of very complex mixtures of long chain compounds. E. Ott and D. A. Wilson. *Science* 78:16-17 Jl 7 '33

*See also*

Acetic acid  
Oleic acid  
Stearic acid

**Analysis**

- Analysis of oils and fatty acid mixtures by use of the thiocyanate number and other values. W. H. Hoback. *Oil Paint & Drug Rep* 123:25+ Je 12; 124:38, 44 [bibliog p44] Jl 17 '33
- Die bestimmung kleiner fettsäuremengen auf konduktometrischem wege nach einer visuellen methode. G. Jander and K. F. Weiten-dorf. *diags Angew Chemie* 45:705-7 N 5 '32

**ACIDS, Organic**

- Acidity of organic acids in methyl and ethyl alcohols. W. L. Bright and H. T. Briscoe. *bibliog J Phys Chem* 37:787-96 Je '33
- Branched chain aliphatic acids; isomeric, isopalmitic and isostearic acids. C. R. Fordyce and J. R. Johnson. *Am Chem Soc J* 55:3368-72 Ag '33
- Carbon syntheses with malonic and related acids. A. Michael and J. Ross. *Am Chem Soc J* 55:3684-95 S '33
- Dissociation constants of acids. *Soc Chem Ind J* (Chem & Ind) 52:273, 330 Mr 24, Ap 14 '33
- Dissociation constants of organic acids; acetic acid. G. H. Jeffery and A. I. Vogel. *Chem Soc J* p2829-38 D '32
- Investigations of the olefinic acids. parts VII-XI. R. P. Linstead and others. *Chem Soc J* p557-86 Je '33
- New method for the preparation of the free acids and the abnormal lactones of the monobasic sugar acids. J. M. Brackenbury and F. W. Upson. *Am Chem Soc J* 55:2512-14 Je '33
- Photostationary states of some geometrically isomeric acids. A. R. Olson and F. L. Hudson. *diag Am Chem Soc J* 55:1410-24 Ap '33
- Physicochemical studies of complex acids; tantic acid; reactions of alkali niobate and tantalate solutions with organic acids. H. T. S. Britton and R. A. Robinson. *Chem Soc J* p419-24 Ap '33

Production from glucose of mycophenolic acid and four new phenolic acids by penicillium brevicompactum Dierckx and allies; abstract. P. W. Clutterbuck and others. *Soc Chem Ind J* (Chem & Ind) 51:979-80 N 25 '32

Steam vs. ether in separation of acids from bacteriological media. J. B. McNair. *bibliog diag Ind & Eng Chem Anal ed* 5:62-5 Ja 15 '33

Structure of the acids obtained by the oxidation of triisobutylene. J. B. Conant and G. W. Wheland. *Am Chem Soc J* 55:2499-504 Je '33

*See also*

Acids, Fatty  
Amino acids

**Analysis**

New procedure for the Duclaux method. J. B. McNair. *Am Chem Soc J* 55:1470-4 Ap '33

**ACOUSTICS, Architectural**

- Engineering acoustics; reverberant sound. *Electrician* 110:42-3 Ja 13 '33
- Introduction to acoustics of buildings. E. G. Richardson. 63p Edward Arnold and co, London '33
- Neglected sense. C. B. Ryder. *bibliog Architecture* 66:319-24 D '32
- Radio and acoustics. I. J. Saxl. *il diags Radio* N 14:711-13+; 15:79-81+ Je, Ag '33
- Recent developments in applied acoustics. P. E. Sabine. *W Soc E J* 37:314-22 D '32

*See also*

Sound absorbent materials  
Soundproofing

**ACRIDINE**

Mechanism of corrosion of iron in sodium chloride solution; effect upon the potential of the iron of adding organic substances to the brine. E. G. R. Ardagh, R. M. B. Roome and H. W. Owens. *bibliog diags Ind & Eng Chem* 25:1116-21 O '33

**ACRIDONES**

Reactivity of groups in substituted acridones; replacement of nitro-groups by piperidyl and piperazyl. H. B. Nisbet and A. B. Goodlet. *Chem Soc J* p2772-3 N '32

**ACTINIUM**

- Actinouranium and the geologic time scale. F. Western and A. E. Ruark. *Phys R* 43: 205-7 F 1 '33
- Half-life of actinouranium and the problem of geologic time. F. Western and A. E. Ruark. *Phys R* 44:675-81 O 15 '33

**ACTINIUM series.** See Radioactive substances

**ACTINOMETRY**

Actinometry with uranyl oxalate at  $\lambda\lambda$  278, 253 and 208m $\mu$ , including a comparison of periodically intermittent and continuous radiation. F. P. Brackett, jr. and G. S. Forbes. *bibliog Am Chem Soc J* 55:4459-66 N '33

**ACTIVATED carbon.** See Carbon, Activated

**ACTIVATION**

- Activation of molecular oxygen by electron impact. G. Glockler and J. L. Wilson. *il diag Am Chem Soc J* 54:4544-58 D '32
- Energy of activation. V. K. La Mer. *Am Chem Soc J* 55:1739-41 Ap '33
- Nature of active nitrogen. J. Okubo and H. Hamada. *Phys R* 42:795-9 D 15 '32
- Relation between the cyanide activation of papain and its inactivation by heavy metal salts; abstract. D. R. P. Murray. *Soc Chem Ind J* (Chem & Ind) 51:979 N 25 '32
- Study of the catalytic properties of bright platinum and iridium deposits in the activation of hydrogen. L. P. Hammett and A. E. Lorch. *diag Am Chem Soc J* 55:70-80 Ja '33

**ACTIVATION, Heat of**

Decomposition of dimethyl ether on the surface of platinum. E. W. R. Steacie and H. A. Reeve. *J Phys Chem* 36:3074-84 D '32

**ACTIVITY coefficients**

Activity coefficient of potassium chloride in aqueous solutions at 0° from electromotive force and freezing point data. R. P. Smith. *Am Chem Soc J* 55:3279-82 Ag '33

**ACTIVITY coefficients—Continued**

- Activity coefficient of thallic chloride in protein systems. G. C. H. Stone and C. F. Fairley. *J Phys Chem* 37:935-49 [bibliog p949] O '33
- Activity coefficients of hydrochloric acid in aqueous solutions containing either sodium dithionate or perchloric acid. P. G. Murdoch and R. C. Barton. *Am Chem Soc J* 55:4074-9 O '33
- Activity coefficients of hydrochloric acid in aqueous solutions containing either sodium or potassium perchlorate. S. J. Bates and J. W. Urmston. *Am Chem Soc J* 55:4068-73 O '33
- Activity coefficients of hydrochloric acid in uni-univalent chloride solutions at constant total molality. J. E. Hawkins. *Am Chem Soc J* 54:4480-7 D '32
- Activity coefficients of hydroxyl ion in solutions of calcium hydroxide at 30° C. E. P. Flint and L. S. Wells. *U S Bur Stand J Research* 11:163-71 Ag '33
- Activity coefficients of potassium chloride; an application of the extended Debye-Hückel theory to interpretation of freezing point measurements. H. M. Spencer. *Am Chem Soc J* 54:4490-7 D '32
- Activity coefficients of salts in anhydrous acetic acid solutions from solubility measurements. A. W. Scholl, A. W. Hutchison and G. C. Chandlee. *Am Chem Soc J* 55:3081-8 Ag '33
- Activity coefficients of the nitrobenzoic acids. P. H. Sykes and P. W. Robertson. *Am Chem Soc J* 55:2621-5 JI '33
- Activity of each component in aqueous solutions of sulfuric acid and acetic acid. F. H. MacDougall and D. R. Blumer. *Am Chem Soc J* 55:2236-49 Je '33
- Complete calculation of activity coefficients from freezing point data. T. F. Young. *bibliog Chem R* 13:103-10 Ag '33
- Debye-Hückel ion size parameter in terms of individual ionic radii; the activity coefficient of lead chloride in solutions of cadmium nitrate. H. D. Crockford and H. C. Thomas. *Am Chem Soc J* 55:568-74 F '33
- Dissociation of water in lithium chloride solutions. H. S. Harned and H. R. Copson. *Am Chem Soc J* 55:2206-15 Je '33
- Dissociation of water in strontium chloride solutions at 25°. J. E. Vance. *Am Chem Soc J* 55:2729-33 JI '33
- Equilibrium constants in terms of activities derived from cryoscopic data; the dissociation of pyridine *o*-chlorophenoxide in benzene. H. M. Glass and W. M. Madgin. *Chem Soc J* p193-8 F '33
- Ionization constant of water and the dissociation of water in potassium chloride solutions from electromotive forces of cells without liquid junction. H. S. Harned and W. J. Hamer. *bibliog Am Chem Soc J* 55:2194-206 Je '33
- Primary salt effects in reactions in which the substrate is neutral. N. N. T. Samaras. *bibliog J Phys Chem* 37:437-41 Ap '33
- Salting-out and salting-in of weak acids; the activity coefficients of the molecules of ortho, meta and para chlorobenzoic acids in aqueous salt solutions. A. Osol and M. Kilpatrick. *Am Chem Soc J* 55:4430-40 N '33
- Salting-out and salting-in of weak acids; the activity coefficients of the molecules of ortho, meta and para-hydroxybenzoic acids in aqueous salt solutions. A. Osol and M. Kilpatrick. *Am Chem Soc J* 55:4440-4 N '33
- Vapor pressures and activity coefficients of aqueous solutions of perchloric acid at 25°. J. N. Pearce and A. F. Nelson. *Am Chem Soc J* 55:3075-81 Ag '33
- ACTUARIAL society of America**  
Annual meeting, New York, May 11-12. *Spectator* 130:17+ My 18 '33
- Joint meeting with American institute of actuaries, Chicago, Oct. 18-20. *Nat Underw (Life ed)* 37:1+ O 27 '33; *Spectator* 131:12-13+ O 26 '33
- ACYL group**  
Action of nitric acid on the 1-acyl-2:3-diphenylindoles. R. C. G. Fennell and S. G. P. Plant. *Chem Soc J* p2872-6 D '32
- Method for the identification of the acyl group in certain esters. C. F. Koelsch and D. Tenenbaum. *Am Chem Soc J* 55:3049-50 JI '33
- ADAMS, Charles E.**  
Portrait. *Fortune* 8:25 JI '33
- ADAMS, George Irving, 1870-1932**  
Memorial. E. F. Burchard. *por Geol Soc Bul* 44:288-301 (bibliog p293-301) Ap '33
- ADAMS express company**  
1932 report. *Barron's* 13:19 Ja 16 '33
- ADDITION compounds**  
Absorption spectra of a series of organic molecular compounds. W. H. Hunter and E. H. Northey. *diag J Phys Chem* 37:875-87 O '33
- Action of nitric acid on the 1-acyl-2:3-diphenylindoles. R. C. G. Fennell and S. G. P. Plant. *Chem Soc J* p2872-6 D '32
- Addition compounds of phenylboric acid with bases. D. L. Yabroff and G. E. K. Branch. *Am Chem Soc J* 55:1663-5 Ap '33
- Addition of 8-hydroxyquinoline by thorium and uranium 8-hydroxyquinolates. F. J. Frere. *Am Chem Soc J* 55:4362-5 N '33
- Addition of free radicals to certain dienes, pyrrole and maleic anhydride. J. B. Conant and B. F. Chow. *Am Chem Soc J* 55:3475-9 Ag '33
- Addition reactions of the indole nucleus. S. G. P. Plant and M. L. Tomlinson. *Chem Soc J* p955-60 Ag '33
- Addition reactions of unsaturated alpha-ketonic acids. M. Reimer and H. H. Kammerling. *Am Chem Soc J* 55:4643-8 N '33
- Addition reactions of vinyl phenyl ketone; methyl malonate. C. F. H. Allen and H. W. J. Cressman. *Am Chem Soc J* 55:2953-60 JI '33
- Course of addition of sodium enol alkylmalonic esters to phenyl isothiocyanate. J. Ross. *Am Chem Soc J* 55:3672-7 S '33
- Investigations of the olefinic acids, parts VII-XI. R. P. Linstead and others. *Chem Soc J* p557-86 Je '33
- Mechanism of bimolecular reactions in solution; the addition of methyl iodide to pyridine in several solvents. H. W. Thompson and E. E. Blandon. *Chem Soc J* p1237-40 S '33
- Modes of addition to conjugated unsaturated systems; the hydrogenation of ethyl muconate and sorbic and  $\beta$ -vinylacrylic acids in the presence of platinum. C. K. Ingold and L. D. Shah. *Chem Soc J* p885-90 JI '33
- Peroxide effect in the addition of reagents to unsaturated compounds. M. S. Kharasch, F. R. Mayo and M. C. McNab. *diag Am Chem Soc J* 55:2468-96, 2521-33 Je '33
- Reversible addition of aromatic compounds to conjugated systems. R. C. Fuson, A. P. Kozacki and J. T. Eaton. *Am Chem Soc J* 55:3799-803 S '33
- Studies of conjugated systems; the addition of bromine, hydrogen bromide and hypobromous acid to 1-bromobutadiene. I. E. Muskat and L. B. Grimsley. *bibliog Am Chem Soc J* 55:2140-5 My '33
- ADDRESSOGRAPH-multigraph corporation**  
Production control system employs Addressograph equipment. C. H. Getz. *il Iron Age* 131:502-5+ Mr 30 '33
- ADHESION**  
Adhesion of electrodeposited coatings to steel. A. W. Hotherhall. *il diags Electrochem Soc Trans* 64 (preprint 8):83-97 S '33
- Adhesion tension. F. E. Bartell and C. E. Whitney. *diag J Phys Chem* 36:3115-26 D '32
- Adhesion tension; pressure of displacement method. F. E. Bartell and H. J. Osterhof. *bibliog il diag J Phys Chem* 37:543-52 My '33
- Application of the Gibbs adsorption theorem to solid-liquid interfaces. F. E. Bartell, F. L. Miller and E. G. Almy. *Am Chem Soc J* 55:466-71 F '33
- Zur quantitativen ermittlung der haftfestigkeit von anstrichen. E. K. O. Schmidt. *bibliog il diags Angew Chemie* 46:525-9 Ag 12 '33



**ADHESIVES**

Alkyd resins as bonding materials. A. G. Hovey. *bibliog Ind & Eng Chem* 25:613-15 Je '33

See also

Cements                      Glue  
Gelatin                      Mortar

**ADIPIC acid**

Derivatives of  $\alpha\alpha'$ -diketo adipic acid. G. A. R. Kon and B. L. Nandi. *Chem Soc J* p2958-9 D '32

**ADJUSTMENT bureaus.** See Credit associations—Adjustment bureaus**ADMINISTRATION, Public**

A.I.M.E. stabilization forum; present trends in American government. H. M. Bates. *Oil & Gas J* 32:11-14 S 21 '33

By appointment; NIRA, RFC, AAA, CCC, HOLC, TVA, FERA, FCT, PWA. *Am Bankers Assn J* 26:28, 44-6 Ag '33

Fifth International congress of administrative sciences. *Int Management Inst Bul* 7:118-20 Ag '33

Getting behind the recovery program. C. H. McCall. *Credit & Fin Management* 35:6-9+ S '33

International management institute bulletin, special number: public administration. *Int Management Inst Bul* 7:79-97 Je '33

Keeping up with the Joneses; the present system of political units a factor in excessive public expenditures. M. H. Hunter. *Barron's* 13:3-4 F 20 '33

Politics, administration, and the new deal. L. Gulick. *Ann Am Acad* 169:55-66 S '33

Public administration; its significance to research workers. R. Rankin. *Special Lib* 24:144-5 Ag '33

Trends in public administration. L. D. White. 365p \$4 McGraw-Hill '33

University research in public administration. I. M. Ely. *Special Lib* 24:141-3 Ag '33

See also

Civil service                      United States—Executive departments

National recovery administration

**Bibliography**

Bibliography of public administration. S. Greer. v 1 90p Institute of public administration, Columbia univ, New York '33

Bibliography on scientific management in public administration. *Int Management Inst Bul* 7:95-7 Je '33

**Societies**

Organizations in the field of public administration; a directory. 203p [bibliog p202-3] Public administration clearing house, 850 E. 58th st, Chicago '32

**ADMIRALTY brass.** See Brass**ADOBE**

Spanish architecture of the Southwest; some details of woodwork and adobe construction. *Architecture* 68:289-92 N '33

**ADRENALINE**

Synthesis of 3:4-dihydroxyphenyl-N-methylalanine and a study of its oxidation with relation to its possible function as a precursor of adrenaline. R. D. H. Heard and H. S. Raper. *Soc Chem Ind J (Chem & Ind)* 51:1075-6 D 30 '32

**ADSORPTION**

Adsorbent properties and the specific surface of lead sulfate. I. M. Kolthoff and C. Rosenblum. *Am Chem Soc J* 55:2656-64 JI '33

Adsorption and absorption developments. II *Chem & Met Eng* 40:259 My '33

Adsorption experiments with vitamins B(B<sub>1</sub>) and G(B<sub>2</sub>). H. C. Sherman and N. Halliday. *Am Chem Soc J* 55:332-5 Ja '33

Adsorption of alcohol by fibrous materials. R. T. Mease. *Ind & Eng Chem Anal ed* 5:317 S 15 '33

Adsorption of electrolytes by ash-free charcoal; a brief survey of the present status of the subject. E. J. Miller. *bibliog J Phys Chem* 36:2967-80 D '32

Adsorption of gases on palladium oxide. P. V. McKinney. *Am Chem Soc J* 55:3626-32 S '33

Adsorption of hydrogen by silica gel at elevated temperatures. L. H. Reyerson. *Am Chem Soc J* 55:3105-8 Ag '33

Adsorption of nitrogen by iron synthetic ammonia catalysts. P. H. Emmett and S. Brunauer. *Am Chem Soc J* 55:1738-9 Ap '33

Adsorption of oxalic acid by alumina. P. H. Dewey. *J Phys Chem* 36:3187-8 D '32

Adsorption of Ponceau 4R (new coccone) and methylene blue by lead sulfate and the influence of adsorbed Ponceau on the speed of kinetic exchange. I. M. Kolthoff and C. Rosenblum. *Am Chem Soc J* 55:2664-72 JI '33

Adsorption of simple amino-acids by purified charcoals; abstract. H. J. Phelps and R. B. Vallender. *Soc Chem Ind J (Chem & Ind)* 52:270 Mr 24 '33

Adsorption of thorium B and thorium C from solution. J. F. King and A. Romer. *bibliog J Phys Chem* 37:663-73 Je '33

Adsorption of thorium B by thallium halide crystals in the presence of various ions. J. F. King and P. R. Pine. *diag J Phys Chem* 37:851-74 O '33

Adsorption von cäsiumatomen auf wolfram; abstract. I. Langmuir. *Angew Chemie* 46:131 F 25 '33

Die adsorption von platinmetallen durch A-kohle. H. Wölbli. *Angew Chemie* 45:720-1 N 12 '32

Application of the Gibbs adsorption theorem to solid-liquid interfaces. F. E. Bartell, F. L. Miller and E. G. Almy. *Am Chem Soc J* 55:466-71 F '33

Capillary activity and adsorption of soaps. J. Mikumo. *Soc Chem Ind J* 52:65T-8T Mr 10 '33

Carbon adsorption process of solvent recovery. H. Griffiths. *il Chem Age (Lond)* 28:481-2 My 27 '33

Clarifying action of fuller's earth. M. E. Fogle and H. L. Olin. *bibliog il Ind & Eng Chem* 25:1069-73 O '33

Contribution to the study of the hydrogen-oxygen reaction; the adsorption of hydrogen on pyrex and quartz. A. T. Williamson. *Am Chem Soc J* 55:1437-41 Ap '33

Derivation of Langmuir's adsorption isotherm. P. G. Bird. *J Chem Educ* 10:237 Ap '33

Detection of adsorbed gas films on heated filaments. G. Van Praagh. *Chem Soc J* p798-800 JI '33

Discontinuities in the sorption process. L. J. Burrage. *J Phys Chem* 37:41-5 Ja '33

Effect of ammonia on the positive ion emissivity of iron, nickel and platinum. A. K. Brewer. *Am Chem Soc J* 54:4588-97 D '32

Evaporation of atoms, ions and electrons from caesium films on tungsten. J. B. Taylor and I. Langmuir. *diags Phys R* 44:423-58 S 15 '33

Experimental evidence for activated adsorption of hydrogen by charcoal. R. Burstein, A. Frumkin and N. Fedotow. *Am Chem Soc J* 55:3052-3 JI '33

Improved method for the determination of isotherms by the retentivity technique. L. J. Burrage. *J Phys Chem* 37:33-9 Ja '33

Influence of adsorbed ions on the dissolution of colloidal aluminum hydroxide in hydrochloric acid. H. V. Tartar, C. C. Bryan and H. Shinn. *bibliog Am Chem Soc J* 55:2266-72 Je '33

Influence of combined oxygen on the adsorption of vapors by porous solids. L. J. Burrage. *bibliog J Phys Chem* 37:505-10, 735-44 Ap, Je '33

Measurement of the rate of adsorption at constant pressure. P. V. McKinney. *bibliog diag J Phys Chem* 37:381-7 Mr '33

Nature of adsorbed films of caesium on tungsten; the space charge sheath and the image force. I. Langmuir. *bibliog Phys R* 43:224-51 F 15 '33

Nature of the sorption of water by charcoal. J. W. McBain, J. L. Porter and R. F. Sessions. *bibliog diag Am Chem Soc J* 55:2294-304 Je '33

New method for obtaining data for the sorption of vapors by solids. J. L. Porter. *bibliog diag J Phys Chem* 37:361-6 Mr '33



**ADSORPTION—Continued**

Physical chemistry of flotation; the nature of the adsorption of the soluble collectors. A. B. Cox and I. W. Wark. bibliog J Phys Chem 37:797-803 Je '33

Properties of active charcoal reactivated in oxygen at 400°. I. M. Kolthoff. Am Chem Soc J 54:4473-80 D '32

Retention of glycerol and glycols by cellophane and cotton cellulose. R. S. Shutt and E. Mack, jr. bibliog Ind & Eng Chem 25:687-92 Je '33

Silica gel in solvent recovery. Il Chem Age (Lond) 28:480 My 27 '33

Sorption of organic vapors by glyptal resins. C. H. Winning and J. W. Williams. diag J Phys Chem 36:2915-35 D '32

Sorption of organic vapors by resinous and cellulosic materials. C. H. Winning and J. W. Williams. Am Chem Soc J 55:3560-9 S '33

Sorption of oxygen by nickel catalysts. W. W. Russell and L. G. Ghering. diag Am Chem Soc J 55:4468-74 N '33

Sorption of sodium hydroxide on cellulose and wood. R. Richardson and O. Maass. J Phys Chem 36:3064-73 D '32

Sorption of vapors on wood and cellulose. N. H. Grace and O. Maass. diag J Phys Chem 36:3046-63 D '32

Sorption of water vapor by glass. E. P. Barrett and A. W. Gauger. diag J Phys Chem 37:47-51 Ja '33

Sorption von gasen, dämpfen und nebeln. H. Remy. Angew Chemie 46:101-4 F 11 '33

Studies in chemisorption on charcoal; the acid constituent of charcoal. A. King. Chem Soc J p842-6 Jl '33

Studies in coprecipitation; the coprecipitation of alkali ions with calcium oxalate and the adsorbent properties of the latter. I. M. Kolthoff and E. B. Sandell. bibliog J Phys Chem 37:443-58 Ap '33

Study of some vitamin B adsorbates. V. Birkner. bibliog Pub Health Rep 48:7-16 Ja 6 '33

Surface chemistry. I. Langmuir. Chem R 13: 147-91 [bibliog p189-91] O '33

Theoretical aspects of benzole recovery from coal gas. C. M. Wearing. Gas J (Lond) 201: 750-2 Mr 22 '33

Thermionic and adsorption characteristics of thorium on tungsten. W. H. Brattain and J. A. Becker. diag Phys R 43:428-50 Mr 15 '33

Wetting agents in textile processing; adsorption of wetting agents by wool. H. A. Neville, C. A. Jeanson and A. L. Smith. Am Dyestuff Rep 22:565-6 S 25 '33

Wetting agents in textile processing; influence of wetting agents upon the adsorption of acid and basic dyes by wool. H. A. Neville and C. A. Jeanson. Am Dyestuff Rep 22:618+ O 9 '33

See also

Absorption  
Carbon, Activated

**ADSORPTION, Heat of**

Heat of sorption of water vapor by massive gold. E. P. Barrett. Am Chem Soc J 55: 4006-9 O '33

Thermal effects produced by the exposure of massive gold to saturated water vapor. F. Barry and E. P. Barrett. diag Am Chem Soc J 55:3088-98 Ag '33

**ADULT education. See Education of adults****ADVERTISED brands. See Advertising, National****ADVERTISEMENTS**

Basic theme need never be discarded; copy, layouts and illustrations should be changed. B. L. Dunn. Il Ptr Ink Mo 26:25-6+ Je '33

Copy goes here. T. Cumings. Il Ptr Ink Mo 27:28 S '33

Edgeworth bunches its shots; full pages combine several copy angles and have coupons for both men and women. Il Ptr Ink 162:6 Ja 26 '33

False faces. H. A. Batten. Il Ptr Ink Mo 25: 22-3 D '32

Four advertisements I like. D. Francisco and others. Il Ptr Ink Mo 25:52-3 D '32; 26:34-5 Ja; 38-9 F; 28-9 Mr; 38-9 Ap; 38-9 My; 20-1 Je; 27:24-5 Ag; 22-3 S; 26-7 O; 24-5 N '33  
How detachable copy helps meet changing conditions; Great-West life assurance company of Winnipeg, Manitoba, builds new advertisements out of used materials. Il Ptr Ink 164:78-81 S 21 '33

How premiums are being offered by advertisers today. Il Ptr Ink Mo 27:66-8+ O '33  
Idea; every advertisement doesn't need a picture. J. Katz. Adv Arts p34 N '33

1932 oil burner advertising discards old ideas and strips for action. D. M. Frank. Il Ptd Salesmanship 60:201-3+ N '32

Reader-style or conventional. Il Ptr Ink 164: 74-5 S 28 '33

Scattered quarter-pages sell full-page announcement; Nash new-model advertising. Il Ptr Ink 165:24 N 9 '33

Six ads that pulled big; six ads that didn't; and why; Bonwit Teller. G. Bijur. Il Ptr Ink Mo 26:24-5 F '33

This advertisement has 100 pages; Winton engine corporation of Cleveland. Ptr Ink 162: 72 Mr 2 '33

Thor junks "beautiful but dumb" promotion; cuts cost; improves results. Sales Management 33:157 Ag 15 '33

See also

Advertising  
Advertising—Dealer helps  
Blotters  
Broadside (advertisements)

Catalogs  
Package inserts  
Posters  
Sales letters

**Books and booklets**

Book that batters prejudice; Better vision institute's character book. A. Bradbury. Il Ptr Ink 163:55-6 Ap 27 '33

Book that paid for itself the first month; Tropical paint and oil company of Cleveland. Il Ptd Salesmanship 61:289 Jl '33

Booklet that developed a new industry; Ocean leather corporation instructs shark fishermen. L. R. Moresi. Il Ptr Ink Mo 27:42+ S '33

Cutting out frills to meet today's selling needs; straightforward mail announcement substituted for more spectacular type of advertising; Kuppenheimer & co. M. M. Lebensburger. Ptr Ink 164:96-7 S 28 '33

Depression as advertising theme of steamship campaign. Il Ptr Ink 163:51-2 Ap 27 '33

Enthusiasm in dealers, how DeSoto generates it. B. C. Foy. Il Ptr Ink 162:3-4+ Ja 19 '33

Foremost artists illustrate character types for optical book; the Better vision institute. Il Ptd Salesmanship 61:228-35 Je '33

Get the eye with folds and cutting. Z. Reeves. Il diags Inland Ptr 91:27-30 Je '33

Giving sales value to a trip through the plant; modern photographic art is used in a striking booklet by an insurance company. Il Ptr Ink 161:47-8 D 22 '32

How the Crane company's campaign stimulated plant rehabilitation; new mailing list, new booklets, and salesmen follow up. R. G. Creston. Il Ptd Salesmanship 62:33-5+ S '33

How Union Pacific catalogs the merchandise it has to sell. H. B. Northcott. Il Ptd Salesmanship 61:102-3 Ap '33

Read it yourself; is your booklet, Mr. Manufacturer, in tune with the changing times? A. Bradbury. Ptr Ink 164:77-8+ S 7 '33

Three letters brought returns of 59 per cent; National educators finance company, Oklahoma City. J. E. Wolf. Il Ptd Salesmanship 60:214-15+ N '32

Triple-duty book; supplying sales helps to two distinct types of dealers; Bausch & Lomb optical company. Il Ptr Ink 162:77-9 Ja 12 '33

When form follows function; the United States gypsum company's printing. P. T. Haagen. Il Ptd Salesmanship 60:370-2+ Ja '33

See also

Catalogs

## ADVERTISEMENTS—Continued

## Calendars

Calendar is basis of paper merchandising plan. il Sales Management 32:608+ Je 15 '33

## Christmas cards

Christmas cards should not have order blanks attached. Ptr Ink 161:76 D 1 '32

## Cook books and recipes

Advertising recipe books. Ptr Ink 165:53+ O 19 '33

Cook book that book stores sell; General Food's new promotion piece. A. R. Hahn. il Ptd Salesmanship 60:285-8+ D '32

General Foods does a cook book which becomes a best seller. Sales Management 31:497 D 1 '32

Ten thousand consumers join Hills Brothers sales force. Sales Management 31:486 D 1 '32

## Copy

See Advertising copy

## Coupons

Asks consumers for a vote of confidence—and gets it; coupon enables Wamsutta mills to answer low-price cries of dealers. Ptr Ink 161:10+ D 1 '32

Bread and butter plan book multiplies coupons 19 times; Royal typewriter company. L. M. Hughes. il Sales Management 33:206+ S 1 '33

Consumer ballots determine copy theme for Van Dyck. L. M. Hughes. il Sales Management 33:153+ Ag 15 '33

Coupon booklet offer brings 5,000 replies; Folmer Graflex corporation customers build advertising piece with their own photographs. il Ptr Ink Mo 26:46 My '33

Coupon returns falling off? try these plans. W. B. Edwards. il Ptr Ink Mo 26:47-8 F '33

Coupons; the other side. L. Chapman. Ptr Ink 162:56 Mr 2 '33

14 things we have learned about couponing. W. A. Dolan. Sales Management 33:364+ O 10 '33

Has advertising gone coupon-crazy? E. T. Gundlach. Adv & Sell 20:13-14+ Mr 30 '33

I sent a hundred coupons and this is what I discovered. T. L. Wheeler, Jr. Ptd Salesmanship 60:204-6+ N '32; Discussion. 60:385-6, 470-1+; 61:50 Ja-Mr '33

It's easy to give away goods; advertising agent finds requests for coupons and samples not so desirable. G. L. Kinter. Ptr Ink 162:25-7 F 9 '33

It's not position of coupon but pull of copy that counts. Ptr Ink 163:28 Ap 20 '33

Mail-order hat sale plan trebles Knox over-the-counter business. il Sales Management 33:220 S 1 '33

Needed: return to sound, sane advertising expenditures. E. T. Gundlach. Ptr Ink 163:25-6 Ap 27 '33

19,851 coupons in 16 days pulled by this advertisement; Masonite corp. J. P. Gillies. il Ptr Ink 162:10+ Ja 12 '33

Post office and coupons. Ptr Ink 163:68 Ap 27 '33

Toothpaste and lipstick. il Ptr Ink 162:16 Mr 9 '33

When the customers vote their preferences; silk strings for tennis rackets. R. Saladino. il Ptr Ink 163:72-5 Je 8 '33

## Design

Hires plans year-round advertising. il Ptr Ink 164:72-3 Ag 3 '33

How to keep the reader's eyes from wandering. H. M. Andrews. il Ptr Ink 164:72-3+ Ag 31 '33

Small space. F. C. Hess. il Adv & Sell 21:sup[Adv Arts] 11-15 My '33

See also

Advertisements—  
Layout

## Headlines

Is financial advertising only 54% effective? analysis of headlines. M. A. Lemkuhl. Bankers M 125:541-3 N '32

Lines that live. T. H. Thompson. il Adv & Sell 21:30+ Ag 31 '33

## Identification

Importance of recognition value in advertising; Rogers Peet company. R. M. Ferns. il Ptr Ink 165:72-3+ N 9 '33

Lesson from the Campbell kids; one form of basic identification which carries over from campaign to campaign. A. Kemble. Ptr Ink 162:49-51 Ja 26 '33

## Illustrations

See Advertisements, Pictorial

## Inserts

Ritter makes its house organ do double duty as a magazine insert. G. E. Mitchell. il [8p insert] Ptd Salesmanship 61:340-3 Ag '33

## Layout

Advertising layout design. \$1 Mahlon A. Cline, 645 Summer av, Newark, N.J. '33

Coupon returns falling off? try these plans. W. B. Edwards. il Ptr Ink Mo 26:47-8+ F '33

Double duty illustrations. E. S. Green, Jr. il Ptr Ink 162:48-9 F 9 '33

For variety—a newspaper-style layout. H. L. Bird. Ptd Salesmanship 60:387 Ja '33

Layout and commercial art. C. C. Knights. 388p Butterworth & co, ltd, London '32

Layout needs breathing space. H. M. Andrews. Ptr Ink 161:78+ D 15 '32

Leading the prospect by the eye. F. H. Young. Ptr Ink Mo 27:42-4 N '33

Tests that uncover layout weaknesses. F. H. Young. il Ptr Ink Mo 26:36-8 Ja '33

This layout shrinks long copy. M. K. Powers. il Ptr Ink Mo 26:35-6 Mr '33

## Measurement

See also

Milline

## Position

Left-hand page better, Columbia study shows. Ptr Ink 162:59 Ja 26 '33

Up front; a space buyer explains why he prefers forward position. A. C. Smith. Ptr Ink 161:27-8 D 29 '32

Why "front of the book?" R. K. Leavitt. Adv & Sell 20:17-18 Mr 2 '33

## Puzzles

Example of timely advertising; use of jig-saw puzzle. il Sheet Metal Worker 24:71+ Mr '33

Jig-saw puzzle campaign adds 60 coke customers; Providence gas company, Providence, R.I. Gas Age 71:550 My 27 '33

## Rating

Can you pick the winner? Published in monthly numbers of Printers' Ink monthly

Gould scoring factor method tests copy effectiveness. J. J. McCarthy. Adv & Sell 21:19+ O 12 '33

If advertising sells, it's good, rules or no rules. W. Raymond. Ptr Ink 164:73+ Ag 17 '33

We tried to pick the winner. il Ptr Ink Mo 26:26 F '33

## Repetition

Quaker Oats returns Hopkins copy to the firing line. il Ptr Ink 164:20+ Ag 31 '33

## Signatures

See also

Sales letters—Signatures

## Testing

Appeal inventory and copy tests bring multiplied sales; Packer manufacturing co. E. A. Olds, Jr. il Ptr Ink 163:3-4+ Je 29 '33

Copy testing is becoming more accurate. Ptr Ink 165:68 O 19 '33

Copy tests not a substitute for sound knowledge. D. E. Robinson. Ptr Ink 163:3-4+ Je 15 '33

Gould scoring factor method tests copy effectiveness. J. J. McCarthy. Adv & Sell 21:19+ O 12 '33



**ADVERTISEMENTS—Testing—Continued**

- How leading advertisers pre-test ad copy. Sales Management 33:370+ O 10 '33
- How to check the factors that control advertising response. W. T. Laing. Ptr Ink Mo 27:15-16+ O '33
- How to get satisfactory results from copy testing. W. T. Laing. Ptr Ink 164:3-4+ J1 20 '33
- New method of testing advertising effectiveness. H. C. Link. Harvard Business R 11: 165-77 Ja '33; Correction. 11:528 J1 '33
- 1933 trends in tested advertising. J. Caples. il Ptd Salesmanship 62:17-19+ S '33
- Some limitations of copy testing. J. D. Tarcher. Ptr Ink Mo 26:43-4 F '33
- Test copy-testing methods, is A.N.A. recommendation. K. R. Dyke. Ptr Ink 164:24-5 J1 27 '33
- Test develops proved copy themes. Adv & Sell 20:38-9 Mr 16 '33
- 330,000 read this copy. R. M. MacLennan. il Rand McNally Bankers Mo 50:273 Je '33
- This business of testing; some simple fundamentals by which the consumer tests your advertising. N. Black. il Adv & Sell 20:16+ N 24 '32
- What makes good copy? Rit learns in series of tests. L. B. Colby. il Sales Management 32:206-7 Mr 1 '33

*See also*

- Advertisements, Pictorial—Testing      Advertising campaigns—Testing

**Typography**

- Are the old types coming back? G. P. Farrar. il Ptr Ink Mo 26:38+ Je '33
- Astonishing pell-mell of modern typography. F. C. Singleton. il Adv & Sell 21:26+ J1 20 '33
- Blue Eagle tracks in type. Ptr Ink 165:37 N 2 '33
- Giving small-space advertisements better readability. W. Perry. il Ptr Ink 161:41-2 D 29 '32
- New Blue Ribbon malt campaign features radio tie-in; newspaper cartoon series and script. il Ptr Ink 162:10+ Mr 23 '33
- New patterns in persuasive print. F. T. Singleton. il Adv Arts p17-20 N '33
- Script. C. Coiner. il Adv & Sell 20:sup [Adv Arts] 20-1 Mr '33
- Typographic clock turns backwards. R. Craufurd. il Adv Arts p33 S '33
- Typographic scoreboard. Published in monthly numbers of Inland Printer
- When emphasis is no emphasis. H. A. Casey. Ptr Ink 161:5-6 D 29 '32
- Where have modern typography and type design taken us? pls Ptd Salesmanship 61: 279-88 J1 '33

*See also*

- Advertisements, Small space

**ADVERTISEMENTS, Classified**

- Barter in the classified. Adv & Sell 20:52 Ja 19 '33

**Want ads**

- Most interesting advertising job I ever did. J. H. Hawley. Ptr Ink 162:35-6 F 23 '33

**ADVERTISEMENTS, Humorous**

- Advertising helps for dealers feature John Held drawings. il Nat Pet N 25:47 Ap 26 '33
- Alice-in-Wonderland copy. A. H. Little. il Ptr Ink Mo 27:23-4 O '33
- Funny posters help dealers sell tennis strings. il Ptr Ink 164:68-9 J1 13 '33
- Humor in the sales contest; radio company appeals to the national sport of France. il Ptr Ink 164:56 J1 13 '33
- Humor vs. straight facts. B. A. Grimes. Ptr Ink 164:64-5 Ag 3 '33
- Importance of recognition value in advertising; Rogers Peet company. R. M. Ferns. il Ptr Ink 165:72-3+ N 9 '33
- Pontiac spring birds are back—with a family. il Ptr Ink Mo 26:37 Je '33
- Rube Goldberg harnesses science for a maker of insoles. il Ptr Ink 164:32-3 J1 20 '33

- Say it with a smile; Triangle restaurants small-space campaign. il Ptr Ink 163:74 Ap 20 '33

- Specific, but readable; Red Cross products division of Johnson & Johnson. il Ptr Ink 162:83 Mr 30 '33

- Sunny Jim finds his Minny. il Ptr Ink 162:13 Mr 2 '33

- Two per cent returns from a five-year-old list; Dow chemical company's humorous appeal to highway officials. il Ptr Ink 162:73-4 Ja 19 '33

*See also*

- Advertisements, Pictorial—Cartoons      Advertisements, Pictorial—Comic strip

**ADVERTISEMENTS, Pictorial**

- Ad that set a fashion; Camel cigarette hat. il Adv & Sell 20:19-20+ Ja 19 '33
- Art for sales' sake. Adv Arts p24 J1 '33
- As a printer advertises; Lakeside press brochures. il Adv & Sell 21:sup [Adv Arts] 26-7 My '33
- Before the prospect reads the advertisement—his interest must be attracted; multiple display. H. K. McCann. il Ptr Ink Mo 27: 13-14+ Ag '33
- Double duty illustrations. E. S. Green, jr. il Ptr Ink 162:48-9 F 9 '33
- Dubonnet uses motion technique in newspaper copy. il Ptr Ink 164:11 Ag 10 '33
- Functions of illustration in advertising. il Ptr Ink 164:24-5 J1 20 '33
- Going to the factory for the copy theme; business-paper campaign aimed at two markets; Surpass leather company. il Ptr Ink 162:61-2 Ja 5 '33
- How to keep the reader's eyes from wandering. H. M. Andrews. il Ptr Ink 164:72-3+ Ag 31 '33
- Is there a trend toward color and rotogravure? Sales Management 33:158, 160 Ag 15 '33
- New patterns in persuasive print. F. T. Singleton. il Adv Arts p17-20 N '33
- Planning effective illustrations for smaller advertisements. W. Perry. il Ptr Ink 161:64-6 D 22 '32
- Post card series opens \$2,000,000 campaign for announcement of new Shell product. il Ptd Salesmanship 61:170-1 My '33
- Pretty girl advertisements sell brake lining; Multibestos company. R. J. Gray. il Ptr Ink 164:41+ Ag 17 '33
- Questionnaire; art, modernism, photography. Adv & Sell 21:sup [Adv Arts] 9-10 My '33
- Return to craftsmanship. T. Erwin. il Adv Arts p9-16 S '33
- Simplicity in German advertising. G. Aymar; W. D. Teague. il Ptr Ink Mo 27:18-21 O '33

- Specific pictures that spotlight sales points to dealers. D. Gridley. il Ptr Ink 162:56-8 F 16 '33

- Story of cotton picturized. Adv & Sell 20:40 F 16 '33

- That new prune trade-mark. il Ptr Ink 164: 64 S 14 '33

- Use of illustrations in modern life insurance advertising. T. H. Yull. il Weekly Underw 128:36-41 sec 2 My 13 '33

- Window displays that tie in with advertising. il Ptd Salesmanship 61:156-7 My '33

*See also*

- Advertising, Mail—Color in advertising  
Folder covers      Posters  
Advertising characters      Show cards

**Cartoons**

- Cannon cartoons remove taboo on practical gifts. il Adv & Sell 20:46 D 22 '32

- Colgate-Palmolive twins. il Ptr Ink 164:17 S 14 '33

- A king goes to work; cartoon character iterates reasons why in new campaign on Red Crown gasoline. il Ptr Ink 164:11-12 Ag 31 '33

- Lèse majesté; Red Crown puts the king to work. il Adv & Sell 21:22 S 28 '33

- New Blue Ribbon malt campaign features radio tie-in; newspaper cartoon series and script. il Ptr Ink 162:10+ Mr 23 '33

## ADVERTISEMENT, Pictorial—Continued

## Comic strip

And now the dog goes institutional. *il* *Ptr Ink* 165:50 N 9 '33  
 Funny paper advts. *Fortune* 7:98, 101 Ap '33

## Dog pictures

Let's go to the dogs; advertising man's best friend. A. Dow. *il* *Ptr Ink* Mo 26:28-9 Ja '33  
 Towser can make advertisements more interesting. T. Cummings. *il* *Ptr Ink* 164:46-6 JI 20 '33

## Drawings

Black and white. *Adv Arts* p25-9 S '33  
 Book that batters prejudice; Better vision institute's character book. A. Bradbury. *il* *Ptr Ink* 163:55-6 Ap 27 '33  
 Endpaper shown through courtesy of the Italian line; drawing by Victor Beals. *Adv Arts* p18A N '33  
 English custom clothes; drawings by George Howe. *Ptd Salesmanship* 61:100-1 Ap '33  
 Foremost artists illustrate character types for optical book; the Better vision institute. *il* *Ptd Salesmanship* 61:228-35 Je '33  
 Glamour; drawings by Robert L. Leonard. *Adv Arts* p25-9 JI '33  
 House of the future; drawing by Alexey Brodovitch for the New Jersey zinc company. *Adv Arts* p20A JI '33  
 Humorous drawings of great Dr. Seuss feature covers of *Telechron* house organ. W. K. Opdyke. *il* *Ptd Salesmanship* 61:84-5 Ap '33  
 Illustration for the American writing paper company; drawing by Kirk Wilkinson. *Adv Arts* p24A N '33

## Exhibitions

Eleventh annual of advertising art. 133p \$6 Book service co, 15 E. 40th st, New York '32  
 1932 art directors' show. C. T. Coiner. *il* *Adv & Sell* 21:sup[*Adv Arts*] 17-23 My '33  
 12th annual art directors show. E. F. Molyneux. *il* *Ptr Ink* Mo 26:20-3 My '33  
 Winners in art directors show. *Ptr Ink* 163:72 Ap 13 '33

## Hands

Hands across the advertising sea. *il* *Ptd Salesmanship* 60:208-9 N '32

## Maps

Direct color photography applied to a map. *il* *Adv Arts* p22A-22D S '33

## Paintings

Colorful paintings build exposition attendance; Dairy & ice cream & machinery supplies association. *il* *Ptr Ink* Mo 25:42 D '32  
 Master of Indian portraiture; Hernando Villa. A. Leinard. *il* *Ptd Salesmanship* 60:222-5+ N '32

## Photographs

As a life insurance company related its story in pictures. *Ptd Salesmanship* 60:292-3 D '32

Baby parade. *Adv Arts* p21-3 JI '33

Basic theme need never be discarded; copy, layouts and illustrations should be changed. B. L. Dunn. *il* *Ptr Ink* Mo 26:25-6+ Je '33

Camera studies in medical history; Davis and Geck, inc. makers of surgical sutures and germicides. *Ptd Salesmanship* 60:364-5+ Ja '33

Candid camera; photographs by Remie Lohse. *Adv Arts* p30-1 S '33

Contemporary photography. P. T. Haagen. *il* *Ptd Salesmanship* 62:44-7+ S '33

Convention news of paper, type, printing and exhibits. *il* *Ptd Salesmanship* 60:218-21, 265-6+ N '32

Conviction by the camera. C. T. Coiner. *il* *Ptr Ink* Mo 27:61+ JI '33

Coupon booklet offer brings 5,000 replies; Folmer Graflex corporation customers build advertising piece with their own photographs. *il* *Ptr Ink* Mo 26:46 My '33

Genuine foreign atmosphere; DeSoto sends crew to Europe to obtain authentic advertising illustrations. *il* *Ptr Ink* 162:41-2 F 16 '33

Giving sales value to a trip through the plant; modern photographic art is used in a striking booklet by an insurance company. *il* *Ptr Ink* 161:47-8 D 22 '32

Hands across the advertising sea. *il* *Ptd Salesmanship* 60:208-9 N '32

Key to impressive photographs—tone contrast. *il* *Ptr Ink* Mo 27:28-31+ O '33

Ladies of the camera. A. R. Barkley. *Ptd Salesmanship* 61:34-5 Mr '33

Mobiloil movies. *il* *Ptr Ink* 163:20 My 25 '33  
 No fussy photography here. *il* *Ptr Ink* 162:52 Mr 9 '33

Photographs as catalog illustrations. A. Barkley. *il* *Ptd Salesmanship* 61:78-9 Ap '33

Photography forsakes idealism. L. Tracy. *il* *Ptr Ink* Mo 26:35+ Ap '33

Printed piece is no better than the materials that go into it; Hughes & Muller, custom tailors; photograph. *Ptd Salesmanship* 61:32 Mr '33

Salesmanship in wood; Society brand suits of Tyburn Twist fabric. *il* *Ptr Ink* 162:62 Mr 16 '33

Still life; life-like dolls were photographed for R. H. Macy & company. *Adv Arts* p15 S '33

## Portraits

Models; John Robert Powers agency. *Fortune* 7:10+ Ja '33

## Technique

Blended pictures. *il* *Ptr Ink* 164:25-6 Ag 24 '33  
 Die-cut mailing pieces win attention. *il* *Ptr Ink* Mo 25:20 D '32

Folder that turned salesmen's accounts from loss into profit; American nurses corporation. R. F. Irvin. *pl* *Ptd Salesmanship* 61:244 Je '33

New "shape ahoy" in printing; Munsing underwear. *il* *Ptd Salesmanship* 61:28-9 Mr '33

Photoplasticgrams. *il* *Adv & Sell* 20:sup [*Adv Arts*] 26-7 Mr '33

Some die-cut mailing pieces that have proved their effectiveness. H. D. Read. *il* *Ptd Salesmanship* 62:133-5+ O '33

## Testing

In an advertiser's art gallery; some odds and ends on picture testing. W. H. Morgan. *Adv & Sell* 20:21+ N 24 '32

## ADVERTISEMENT, Small space

Don't be fooled by low cost of small space inquiries. *Ptr Ink* 162:32 Mr 23 '33

Giving small-space advertisements better readability. W. Perry. *il* *Ptr Ink* 161:41-2 D 29 '32

Hires plans year-round advertising. *il* *Ptr Ink* 164:72-3 Ag 3 '33

How to make the most out of small space; India tea campaign. L. Beling. *il* *Ptr Ink* 163:45-8 My 11 '33

Made-to-order "for rent" copy. *Ptr Ink* 162:42 F 16 '33

Planning effective illustrations for smaller advertisements. W. Perry. *il* *Ptr Ink* 161:64-6 D 22 '32

Reader-style or conventional. *il* *Ptr Ink* 164:74-5 S 28 '33

Say it with a smile; Triangle restaurants small-space campaign. *il* *Ptr Ink* 163:74 Ap 20 '33

Small advertisements need lots of breathing space. *il* *Ptr Ink* 163:61-2 Ap 20 '33

Small space. F. C. Hess. *il* *Adv & Sell* 21:sup[*Adv Arts*] 11-15 My '33

Small space better than none. M. K. Powers. *Ptr Ink* 163:3-4+ Ap 6 '33

Strange facts in small space. *il* *Ptr Ink* 164:64 S 28 '33

Tailored advertising; Reliance property management, inc. W. Baker. *il* *Ptr Ink* 162:62-4 F 9 '33

## ADVERTISERS

Asks special code for advertised trade-marked goods. A. Wineburgh. *Ptr Ink* 164:55-6 JI 6 '33



## ADVERTISING

- Advertiser and the new deal. *Econostat* 1:7 Je 10 '33
- Advertiser looks at the weather. S. Peabody. *Ptr Ink* 165:3-4, 92-4+ O 26 '33; Excerpts. *Adv & Sell* 21:22+ O 26 '33
- Advertising and the Recovery act. R. Dickinson. *Ptr Ink* 164:17-20 JI 20 '33
- Advertising and the Recovery act. C. B. Larrabee. *Ptr Ink* Mo 27:19+ Ag '33
- Advertising and the Recovery act; symposium. *Adv & Sell* 21:17-18+ JI 6 '33
- Advertising as defense against price slashing. T. Merrell. *Ptr Ink* 162:52 Ja 26 '33
- Advertising as we see it. *Ptr Ink* 163:49-50 Ap 13 '33
- Advertising at the Fair; moving picture "Golden years of progress." il *Ptr Ink* 163:10+ Je 29 '33
- Advertising displaces ballyhoo in NRA program. C. B. Larrabee. *Ptr Ink* 165:3-4+ O 12 '33
- Advertising message must succeed at four points. C. E. Persons. *Ptr Ink* Mo 26:31-2 Je '33
- Advertising procedure. O. Kleppner. rev ed 582p \$5 Prentice-Hall '33
- Advertising sees it through. il *Adv & Sell* 20:20 N 24 '32
- Advertising success story, 1933; Black, Starr & Frost-Gorham. E. E. Calkins. il *Adv & Sell* 21:30 JI 6 '33
- Advertising today is a patriotic duty. J. Chase. *Automotive Ind* 69:63 JI 15 '33
- Advertising's part in national recovery. C. A. Bethge. *Ptd Salesmanship* 62:15-16 S '33
- Association of national advertisers 23d annual convention, Atlantic City. *Sales Management* 31:472-4+ D 1 '32
- Can we blame the depression for the decline in advertising returns? R. W. Johnson. *Ptd Salesmanship* 61:305-6+ JI '33
- Code for advertising? prospects for extensive reorganization under Recovery act are remote. *Adv & Sell* 21:32 JI 6 '33
- Consumer acceptance. *Ptr Ink* 162:35-6 Ja 26 '33
- Creating a craze with advertising. F. D. Gonda. il *Ptr Ink* Mo 27:48 JI '33
- Customers are made—not born, and advertising must make them, efficiently and systematically. K. M. Goode. il *Adv & Sell* 21:13-14 Ag 17 '33
- Cyrus H. K. Curtis; advertiser and publisher. R. Dickinson. *Ptr Ink* 163:24-6 Je 15 '33
- Dynamiting the gasoline. N. A. Hawkins. *Adv & Sell* 20:24 Mr 16 '33
- For future historians; advertising and the bank holidays. il *Adv & Sell* 20:15-16+ Mr 16 '33
- Four major jobs for advertising under Industrial recovery; fairer competition, justification for price increases, winning new customers, gaining acceptance for new products. K. E. Costikyan. *Ptr Ink* 164:41-3 Ag 31 '33
- Four-year plan—marked down from five; a not-too-serious proposal for reviving interest of executives in advertising. R. K. Leavitt. *Ptr Ink* Mo 26:27-8 F '33
- Has advertising failed? F. J. Wonders. *Forbes* 31:38 Je 15 '33
- Has advertising learned anything from the depression? A. Kudner. *Adv & Sell* 21:16+ Je 22 '33
- He makes America sit up and buy; George Washington Hill. G. H. Allen. il *Forbes* 31:12-14 Ja 1 '33
- How about using advertising? R. Dickinson. *Ptr Ink* 162:3-4+ F 9 '33
- How far have our advertising standards been lowered? R. W. Johnson. il *Ptd Salesmanship* 62:131-2+ O '33
- In time of peace, prepare for war. R. E. Ramsay. il *Ptd Salesmanship* 61:146-8+ My '33
- Industrial recovery bill a boon to honest advertising. C. B. Larrabee. *Ptr Ink* 163:3-4, 81-3 Je 22 '33
- Inferiorities in this advertising business: a digest. T. Cummings. *Ptr Ink* 163:3-4+ Je 8 '33
- Ingenious advertisers, these; ways of using their heads when bank holiday broke. *Ptr Ink* 162:25-8+ Mr 16 '33
- Introduction to advertising. W. E. Trimble. 253p [bibliog p253-4] Pitman '32
- It takes men to sell goods! advertising can help put heart back into business. K. M. Goode. *Adv & Sell* 20:13-14 Mr 16 '33
- Johnson asks advertisers to help in recovery program; A.F.A. convention. *Ptr Ink* 163:33-6 Je 29 '33
- Manual of modern advertising. K. Goode. 497p Greenberg, New York '32
- Modern advertising in its effect upon public taste. (In Winning debates, orations and speeches of the Pi Kappa Delta. v4) G. W. Finley, comp. p231-56 Noble and Noble, New York '32
- Must we learn advertising all over again? C. A. Bates. il *Adv & Sell* 21:21+ Je 8 '33
- Needed; closer working plan in advertising as a whole. J. Benson. *Ptr Ink* 164:88-9, 92-3 JI 6 '33
- New consumer leisure is real advertising opportunity. G. F. McClelland. *Ptr Ink* 164:27-8 S 21 '33
- New deal for advertising. W. H. Rankin. *Ptr Ink* 164:82-3 JI 6 '33
- New deal means advertising should come into its own. M. Muir. *Ptr Ink* 164:40 Ag 10 '33
- New trends in advertising. *Forbes* 30:7-8 D 1 '32
- No doctor of plan or bachelor of copy wanted here. W. D. Murphy. *Ptr Ink* 162:33-4 F 23 '33
- No progress yet on special code for advertising. C. B. Larrabee. *Ptr Ink* 164:60-1, 64-5 JI 6 '33
- Nothing improves advertising like adversity. K. M. Goode. *Bradstreet's* 61:210+ Ja 28 '33
- Now is the time to advertise! *Ptd Salesmanship* 61:11-12 Mr '33
- Outline of advertising. G. B. Hotchkiss. 509p Macmillan '33
- Plague of curves. P. T. Cherington. il *Adv & Sell* 20:16-17+ Mr 2 '33
- Practical advertising. H. F. King. 387p \$2.50 Appleton '33
- President's slant on the 1933 advertising job. H. E. Blood. *Sales Management* 32:557-8+ Je 1 '33
- Qualities of enduring advertising. T. F. MacManus. il *Adv & Sell* 21:16+ My 11 '33
- Recent trends in advertising. *Index* 13:59-64 Mr '33
- Recovery via advertising. M. L. Wilson. *Adv & Sell* 21:15 Ag 3 '33
- Renewal of faith in advertising. R. Tinsman. *Adv & Sell* 20:21+ Ja 19 '33
- Seek bed rock advertising cost with profit to all; discussion at A.N.A. convention. *Ptr Ink* 161:74-6 N 24 '32
- Seven preliminaries to advertising. K. Groesbeck. *Adv & Sell* 20:13-14+ Ap 13 '33
- Short talks on advertising. *Comm & Fin* 22:498, 518, 539, 558, 602, 631, 658, 669, 691, 708, 731, 794, 872, 911, 953 Je 7-JI 5, 19-Ag 23, S 13, O 4, 18, N 1 '33
- Six essentials of direct-result advertising. V. O. Schwab. *Adv & Sell* 21:26+ My 11 '33
- Sweep the cobwebs out of advertising's attic. *Ptr Ink* Mo 25:17-18 D '32
- Teaches retailers value of planned advertising; Selby shoe company. *Ptr Ink* Mo 26:18+ Je '33
- Technical advertising. H. S. H. Ellis. *Soc Chem Ind J (Chem & Ind)* 61:sup S4+ N 18 '32
- Through 1933 with an advertising program still broader; Gerber products company. D. Gerber. il *Ptr Ink* 164:50-2+ Ag 24 '33
- Time to attack waiting markets. G. H. Thornley. *Adv & Sell* 21:17 Je 8 '33
- Truth in advertising; some thoughts inspired by Don Knowlton's article in the Atlantic monthly. *Bankers M* 126:511-14 My '33
- 12 objectives for our 1933 advertising; abstract. H. E. Van Petten. *Management R* 21:375 D '32

**ADVERTISING—Continued**

What about this modern movement: is it revolution or evolution? influence on advertising. P. T. Haagen. *il Ptd Salesmanship* 61:36-9 Mr '33

What next to advertise? E. E. Calkins. *Adv & Sell* 20:13-15+ D 22 '32

What will be the effect of the depression on advertising? R. W. Johnson. *il Ptd Salesmanship* 61:175-6+ My '33

Why don't they let our Nell be a good girl? Again advertising is done wrong by the theater. *Ptr Ink* 162:40 Ja 26 '33

Why sales promotion is essential as a selling aid. C. H. Lang. *Ptr Ink* 162:72-3+ Mr 23 '33

Your product is good news; advertise it! NRA letter. H. S. Johnson. *Ptr Ink* 165:10-11 O 5 '33

**See also**

Advertisements  
Advertising agencies  
and other headings  
beginning *Advertis-*  
*ing*

Airplanes in advertising

Bank advertising

Business

Catalogs

Color in advertising

Community advertising

Containers

Electric signs

House organs

Merchandizing

also subdivision *Advertising under special subjects, e.g.*

Automobile industry

and trade

Chain stores

Department stores

Gas industry

Money raising campaigns

Moving pictures in advertising

Municipal advertising

Posters

Premiums (merchandizing)

Printing trade—Advertising service

Radio advertising

Sales letters

Show windows

Skywriting

Slogans

also subdivision *Advertising under special subjects, e.g.*

Mail order business

Printing trade

Railroads

Retail trade

**Accounting**

Advertising jokers in NRA codes undermine spirit of act. A. Wineburgh. *Ptr Ink* 164:8-10 Ag 10 '33; Discussion (Why advertising should not be part of cost of product). 164:18-20 S 14 '33

Marketing cost does not belong in minimum price. A. T. Falk. *Ptr Ink* 165:63-6 O 12 '33

Why advertising is not a part of the processing cost. R. P. Harper. *Ptr Ink* 164:68-70 Ag 31 '33

Why marketing cost should be part of production. L. D. H. Weld. *Ptr Ink* 165:63-5 O 19 '33

**Architects, Appeal to**

Establishing a price policy with open-letter copy; Herman Nelson corporation combats the chiseler. R. W. Nelson. *Ptr Ink* 165:35-6 O 12 '33

67 per cent return from a double post card; a 5200 mailing to architects. E. Lunn. *il Ptd Salesmanship* 60:317-18 D '32

When form follows function; the United States gypsum company's printing. P. T. Haagen. *il Ptd Salesmanship* 60:370-2+ Ja '33

**Bibliography**

Books for the advertising man; list of 1930 books on advertising, marketing, and related subjects. 20p Advertising federation of America, 330 W. 42d st, New York '31

Books for the advertising man; list of 1931 books on advertising, marketing, and related subjects. 13p Advertising federation of America, 330 W. 42d st, New York '31

Six-year index to Printed Salesmanship articles, October, 1927-August, 1933. *Ptd Salesmanship* 61:350-76 Ag '33

Two-foot shelf on advertising; our readers select eighteen books. *il Ptr Ink* 165:12-13 N 9 '33

What are the fifteen best books on advertising? *Ptr Ink* 164:86-8, 90 S 28; 165:80-1, 84 O 5; 77, 80-2 N 2 '33

**Boys, Appeal to**

Boy market is depression proof, this advertiser finds; Daisy air rifles. C. S. Hough. *il Ptr Ink* 164:41+ Ag 10 '33

**Bridge players, Appeal to**

There's money in the bridge market. *Ptr Ink* 161:76-7 D 15 '32

**Children, Appeal to**

Advertising to the child to reach the parent. *il Ptr Ink* 165:70-2 O 12 '33

Impressing the junior market. *il Ptr Ink Mo* 26:49-50 Je '33

Parkway baking company builds sales through children's clubs. *il Sales Management* 33:190-1 Ag 15 '33

Post Toasties puts cutout toys on its package. *il Ptr Ink* 163:68 My 11 '33

**Continuity**

Business as usual? *Ptr Ink* 162:3-5 Mr 9 '33; Discussion. 162:70 Mr 23 '33

Can't afford to advertise? F. J. Frank. *Adv & Sell* 20:20 Ja 5 '33

Don't judge your advertising by this month's results; Metropolitan marches on. J. E. D. Benedict. *il Ptr Ink* 163:17-20 Ap 27 '33

Hires plans year-round advertising. *il Ptr Ink* 164:72-3 Ag 3 '33

Piedmonts; the story of a once popular brand of cigarettes whose advertising was stopped. *il Ptr Ink* 162:52-3 F 9 '33

Why Carter schedule wasn't cut. H. H. Hoyt. *Ptr Ink* 162:36 Mr 16 '33

You're advertising to a parade—not a mass meeting; Lincoln electric company. A. F. Davis. *il Ptr Ink Mo* 26:33-4 Mr '33

**See also**

Advertising appropriations

**Contractors, Appeal to**

Establishing a price policy with open-letter copy; Herman Nelson corporation combats the chiseler. R. W. Nelson. *Ptr Ink* 165:35-6 O 12 '33

**Cooperation**

New form of joint advertising; poster reproductions distributed to owners of Lionel model railroads. *Ptr Ink Mo* 26:33 F '33

**See also**

Advertising, Cooperative

**Copy**

See Advertising copy

**Cost**

Find ratio of direct selling costs to sales lower; advertising rises. *Sales Management* 32:562+ Je 1 '33

Short talks on advertising; the cost of advertising. *Comm & Fin* 22:539 Je 21 '33

**See also**

Advertising, Mail—Cost

**Dealer cooperation**

Advertising portfolio plus; how General Foods helps its salesmen and dealers. E. T. Sajo. *il Ptr Ink Mo* 26:16-17 Je '33

Auto dealer's assessment for advertising. H. A. Haring. *il Adv & Sell* 21:19+ My 11 '33

Complete plan for promoting advertising to dealers; Kelvinator corporation. V. C. Woodcox. *Ptr Ink* 164:68-70 Jl 20 '33

Co-operation with utilities in two cities based on mutual confidence. *il Dom Eng* 141:48-9+ Ja '33

Dealers to help formulate 1934 campaign; Florence stove company. *Ptr Ink* 165:28-9 O 26 '33

50-50 newspaper advertising doubles Palm Beach '33 sales. *il Sales Management* 33:174 Ag 15 '33

Ford dealers carry the flag; in a variety of campaigns of their own, they wage an open war with the enemy. *il Ptr Ink* 164:35-8 Ag 24 '33

Ford dealers help Henry. *il Adv & Sell* 21:32 Ag 31 '33



**ADVERTISING**—Dealer cooperation—*Continued*  
Give us advertising, dealers ask. *Ptr Ink* 165:78 O 5 '33

How Squibb weeks doubled business for 3,000 dealers. C. Eddy. *il Sales Management* 32:151-3+ F 15 '33

How to get more sales out of fewer accounts. L. Stephenson. *Ptr Ink* 163:32-4 My 4 '33  
These letters build dealer support and co-operation; Wolverine shoe & tanning corp. D. Gridley. *Ptr Ink* 162:54-6 Ja 5 '33

#### Dealer helps

Anthracite battling to regain lost markets takes the dealer into partnership. I. A. Given. *Coal Age* 38:82-4, 121-2 Mr-Apr '33  
Business-getting helps for shop owners. *il Sheet Metal Worker* 24:38-40 F '33  
Charges for dealer helps. *Ptr Ink* 165:40-1 O 5 '33

Complete plan for promoting advertising to dealers; Kelvinator corporation. V. C. Woodcox. *Ptr Ink* 164:68-70 Jl 20 '33  
Creating advertisements that dealers will use. J. H. Miller. *Ptr Ink* 161:52 D 29 '32

Dealer builds his own advertising with a tool-kit; new Hart Schaffner & Marx plan. *Ptr Ink* 161:80 D 8 '32

Dealers like specific authentic newsy sales helps; Upson company. W. Raymond. *il Ptr Ink* 162:40-1 F 9 '33

Depression reveals 83 per cent of market is neglected; American Radiator merchandises Arcola to old homes. B. A. Grimes. *Ptr Ink* 165:33-5 O 5 '33

Flexible point-of-sale material is best liked by dealers. *il Adv & Sell* 163:27-8 Je 15 '33

How to make certain that sales helps are used; American chain company. J. Anspacher. *Ptr Ink* 161:34-6 D 8 '32

If dealer helps are right, dealers will use them; Hygrade Sylvania corporation. *il Sales Management* 31:480-1+ D 1 '32

Majestic's master dealer plan of selective selling. E. Butt. *il Ptd Salesmanship* 60:233-6+ N '32

Messenger boys were the postmen in this direct-mail campaign; L. C. Smith & Corona typewriters, inc. T. Swanson. *il Ptd Salesmanship* 60:380-1+ Ja '33

New model opens new markets; Copeland refrigerators. W. D. McElhinny. *il Ptr Ink* 162:26-8 Mr 23 '33

Pabco's mutual dealer help plan improves merchandising attack. *Sales Management* 33:420 O 20 '33

Point-of-sale advertising in 1933. *il Ptr Ink* Mo 26:51-8+ Je; 27:36-8 Jl '33

Psychology in a tool kit; dealer helps in unit package find favor with Thor dealers. *Ptr Ink* 164:36 Ag 10 '33

Radio, signs, and mail help dealers sell oil; Bartles-Shepard oil co. E. L. Barringer. *Nat Pet N* 25:92-3 Mr 15 '33

Sales letters that dealers like to use. B. F. Berfield. *Ptr Ink* 161:60-2 D 1 '32

Show retailers why and how to use dealer helps. *il Ptr Ink* 163:70-1 Je 8 '33

Something for nothing often is worth it; dealers pay for sales literature of L. C. Smith & Corona typewriters. *Ptr Ink* 161:73-4 D 29 '32

These blotters leave nothing to dealer's imagination. E. Peterson. *Ptr Ink* 161:77-8 N 17 '32

These letters dig up forgotten sales; Comfort coal-lumber co. gets cooperation of manufacturers. H. Blauvelt. *Ptr Ink* Mo 26:83-4 Ja '33

This plan builds repeat sales for the dealer; International silver company certified coupon plan. *il Ptr Ink* 165:10-11 O 26 '33

This two-way contest reached both dealer and consumer; Coleman stoves. D. Gridley. *Ptr Ink* 165:43+ O 12 '33

Thor junks "beautiful but dumb" promotion; cuts cost; improves results. *il Sales Management* 33:157 Ag 15 '33

Triple-duty book; supplying sales helps to two distinct types of dealers; Bausch & Lomb optical company. *il Ptr Ink* 162:77-9 Ja 12 '33

20,000 direct-mail sets sold in gold rush campaign; Serval sales, inc. W. P. Jones. *il Ptd Salesmanship* 61:13-15 Mr '33

We imprint millions of free pieces for our dealers; Scholl company. A. A. Starin. *il Ptd Salesmanship* 61:302-3 Jl '33

See also

Show cards

#### Dealers, Appeal to

Booklets help revive failing faith of implement dealers; Massey-Harris company. *Ptr Ink* 162:44-5 Ja 5 '33

Campaign concentrates on dealer; Kelly-Springfield tires. *il Ptr Ink* 163:48 My 11 '33  
Chrysler's force, 75,000 strong, watch Plymouth set the pace. *Sales Management* 31:440 N 15 '32

Coty invades beauty shops; hair lotion is introduced through business papers and direct mail, with general advertising to come later. *il Ptr Ink* 161:25-6 D 15 '32

Customer writes prospect in this letter campaign; Nunn, Bush & Weldon series to shoe retailers. *Ptr Ink* 163:47-9+ My 4 '33

Cutting out frills to meet today's selling needs; straightforward mail announcement substituted for more spectacular type of advertising; Kuppenheimer & co. M. M. Lebensburger. *Ptr Ink* 164:96-7 S 28 '33

Dramatizing the salesman's call; Agfa Ansco corporation. A. Bradbury. *il Ptr Ink* 163:72-3 My 18 '33

Enthusiasm in dealers, how DeSoto generates it. B. C. Foy. *il Ptr Ink* 162:3-4+ Ja 19 '33

Famous letter series of 25 years ago; for Hart, Schaffner & Marx. *il Ptd Salesmanship* 60:433 F '33

4,000 dealers from scratch in 90 days; Grunow refrigerator. D. Wanamaker. *il Ptd Salesmanship* 62:27-9+ S '33

Going to the factory for the copy theme; business-paper campaign aimed at two markets; Surpass leather company. *il Ptr Ink* 162:61-2 Ja 5 '33

How a quality story meets cut-price competition; to consumers and trade, Telechron tells good, hard facts. W. K. Opdyke. *il Ptr Ink* 164:17-20 Jl 6 '33

How 17,000 small accounts were made profitable; direct mail to supplement calls by salesmen. L. Stephenson. *Ptr Ink* 163:25-7 Ap 13 '33

How the broadside helps sell advertising to dealers. E. Biggs. *il Ptr Ink* 163:63-6 My 11 '33

How this advertiser finds and controls dealers; Century engineering corporation. E. J. Latner. *Ptr Ink* 162:17-20 Ja 26 '33

Little attention-getters make effective sales letters. D. Gridley. *Ptr Ink* 162:70-2 Mr 2 '33

More sales punch in letters to dealers. D. Gridley. *il Ptr Ink* 163:33-6 Ap 6 '33

New design opens new outlets; direct mail and business-paper campaigns for new gas range. *il Ptr Ink* 163:51-2 Ap 6 '33

News flavor in business-paper advertising copy. D. Gridley. *il Ptr Ink* 162:59-61 F 23 '33

19,000 orders from dealers, sight unseen, price unknown; Plymouth new model. A. M. Howe. *il Ptr Ink* 161:28-9+ N 17 '32

Shout—if you want the dealer's ear. *il Ptr Ink* Mo 25:29 D '32

Show the dealer how to meet price-cutters; old man specific lends a hand in a business-paper campaign by Cluett-Peabody & company. *Ptr Ink* Mo 26:23 F '33

Specific, but readable; Red Cross products division of Johnson & Johnson. *il Ptr Ink* 162:83 Mr 30 '33

Specific pictures that spotlight sales points to dealers. D. Gridley. *il Ptr Ink* 162:56-8 F 16 '33

Step down campaign that steps up the unit of sale; ABC washers. G. E. Mitchell. *il Ptd Salesmanship* 62:101-2+ O '33

This direct mail strengthened by color, art, ample copy; Coleman lamp and stove company. A. W. Boyer. *il Ptr Ink* 164:69-72 S 14 '33

**ADVERTISING—Dealers, Appeal to—Continued**  
25 objectives in dealer copy and how advertisers have attained them. *il* *Ptr Ink Mo* 27:34-6+ O '33

Using direct mail to keep dealers in line; Gem did not want sales of new blade to lessen interest in single-edge product. B. A. Grimes. *il* *Ptr Ink* 161:64-5 N 17 '32

Wayne adds 100 dealers in three bad months—and helps them sell. *Sales Management* 32: 451 Ap 20 '33

What is the secret of a good dealer letter? Nebraska cement company. A. R. Hahn. *Sales Management* 32:110 F 1 '33

When the customers vote their preferences; silk strings for tennis rackets. F. Saladino. *il* *Ptr Ink* 163:72-5 Je 8 '33

When writing dealers about new price rises. D. Gridley. *Ptr Ink* 164:82-3+ S 21 '33

#### Dentists, Appeal to

Professional acceptance hurdle is easy to jump. *Ptr Ink* 161:32 N 24 '32

Ritter makes its house organ do double duty as a magazine insert. G. E. Mitchell. *il* [8p insert] *Ptd Salesmanship* 61:340-3 Ag '33

#### Directories

Changes in agencies and new advertising accounts, personnel, etc. Published in bi-weekly numbers of *Advertising and selling*

#### Discontinuance

See *Advertising—Continuity*

#### Drama

"The Sellout"; advertising play. J. Lewis. *Ptr Ink* 164:84-5 S 14 '33

#### Economic aspects

Advertising; a factor of supreme social importance. R. Babson. *Ptr Ink* 164:92-4 S 14 '33

Advertising and the new economics. R. Dickinson. *Ptr Ink* 164:3-4+ J1 6 '33

Advertising as a stabilizing force in business. A. T. Falk. 12p Advertising federation of America, 330 W. 42d st, New York '31

Advertising has become farmer's new hired man. D. Francisco. *Ptr Ink* 164:3-4+ Ag 3 '33

Advertising jokers in NRA codes undermine spirit of act. A. Wineburgh. *Ptr Ink* 164:8-10 Ag 10 '33; Discussion (Why advertising should not be part of cost of product). 164: 18-20 S 14 '33

Advertising—the accelerator of civilization. A. T. Falk. 12p Advertising federation of America, 330 W. 42d st, New York '31

Badke and Mills win prizes in March letter contest on high cost of advertising. *Ptd Salesmanship* 61:161-3 My '33

Coolidge on advertising. *Adv & Sell* 20:24 Ja 19 '33

Does advertising pay its own bill? A. T. Falk. 11p Advertising federation of America, 330 W. 42d st, New York '31

In defence of salesmanship. *Economist* 116: 514-15 Mr 11 '33

Letter to a farmer; advertising is an economic necessity for agriculture. *Ptr Ink* 165: 17-18, 20-1 N 9 '33

Management looks ahead. R. Dickinson. *Ptr Ink* 163:3-5+ Ap 20 '33

There's a merchandising lesson in salt. *il* *Ptr Ink* 162:65-6 F 16 '33

Who pays for advertising? *Comm & Fin* 22:708, 731 Ag 16-23 '33

#### Family of products

Editorial methods basis of this advertising program; Heinz goes to magazines and newspapers. *il* *Ptr Ink* 164:44-6 S 7 '33

Family of products featured by Standard Oil. *il* *Ptr Ink* 162:70-1 F 16 '33

Giving the secondary product a place in the advertising; butter, cream and cheese are effectively presented in milk campaign. *il* *Ptr Ink* 161:72-3 D 1 '32

Hitching a related product to a faster seller; Westinghouse is tying its electric ironer to its washer. N. L. Myers. *il* *Ptr Ink* 163:44-6 Je 8 '33

How Mennen advertises two competing products. *il* *Ptr Ink* 162:69 Mr 16 '33

#### Farmers, Appeal to

Farm market moves to town; but advertising must knock on the farmer's door. H. A. Haring. *Adv & Sell* 21:16-17+ O 26 '33

Fitting advertising to the farm market. M. L. Henderson. *map Adv & Sell* 21:28+ S 28 '33

How radio selling increased Henry Field's sales 500 per cent in 7 years. J. L. Scott. *il* *Ptd Salesmanship* 60:311-13+ D '32

Kroger talks to farmers. *Ptr Ink* 165:94 O 5 '33

More horses on farm, advertising opens new markets for collar pads. C. F. Mains. *Ptr Ink* 163:6+ My 18 '33

Pulling sales out of hard-hit farm territory; N. V. potash export my. inc. A. S. Noble. *il* *Sales Management* 32:554-5+ Je 1 '33

#### Highway officials, Appeal to

Two per cent returns from a five-year-old list; Dow chemical company's humorous appeal to highway officials. *il* *Ptr Ink* 162: 73-4 Ja 19 '33

#### History

Nineteen thirty-two; the advertising procession as viewed from the sidelines. *Adv & Sell* 20:16+ D 22 '32

#### Industries, Appeal to

Advertising in overalls, or 1933 aids to steel sales. L. S. Hamaker. *Steel* 32:13-14 Mr 6 '33

Art of advertising; selecting journals. W. L. Hill. *Soc Chem Ind J (Chem & Ind)* 51:sup S12-13 N 18 '32

Chasing the chiseler; Goodrich policy advertising. A. Bradbury. *il* *Ptr Ink* 162:3-4 Mr 16 '33

Finding a central theme for the entire industrial line; Bucyrus-Erie company. A. Andrews. *Ptr Ink* 164:79-80 J1 6 '33

Going to the factory for the copy theme; business-paper campaign aimed at two markets; Surpass leather company. *il* *Ptr Ink* 162:61-2 Ja 5 '33

How the Crane company's campaign stimulated plant rehabilitation; new mailing list, new booklets, and salesmen follow up. R. G. Creviston. *il* *Ptd Salesmanship* 62:33-5+ S '33

How to use inquiries to find industrial prospects. L. E. Perry. *Ptr Ink* 164:65-6+ Ag 17 '33

Industrial advertiser opens new markets with new products; Babcock & Wilcox insulating firebrick. J. E. Brinckerhoff. *il* *Ptr Ink Mo* 27:45-6 J1 '33

Industrial advertising leads the way out. A. H. Little. *Ptr Ink* 164:3-4+ J1 27 '33

Industrial copy is trending toward the specific. *Ptr Ink* 162:28 Mr 2 '33

Industrial selling must be founded on facts. C. R. Long. *Adv & Sell* 20:17-18+ Mr 16 '33

Long letters without headlines pull best, this study shows; summary made by International Nickel. *Ptr Ink* 162:33-5 Mr 23 '33

New products main theme of industrial advertising. C. M. Taylor. *Ptr Ink* 164:8-10 Ag 3 '33

Notes on the use of imagination in industrial advertising; Jones & Laughlin steel corporation. G. C. Congdon. *il* *Ptr Ink* 163:8-10+ Je 15 '33

Pegasus in a collar; fantasy and drama, harnessed to industrial advertising. E. Biggs. *Ptr Ink* 163:17-20 Je 22 '33

Performance—a fifteen-year industrial copy theme; SKF industries, inc. R. C. Byler. *il* *Ptr Ink Mo* 26:37+ Ap '33

Pretty girl advertisements sell brake lining; Multibestos company. R. J. Gray. *il* *Ptr Ink* 164:41+ Ag 17 '33

Sales letters that get action from industrial buyers; Lincoln electric company. A. F. Davis. *Ptr Ink Mo* 27:21+ S '33



**ADVERTISING—Industries, Appeal to—Cont.**

This company advertises its competitors' products; U. S. industrial alcohol co. L. S. Gillette. il Ptr Ink 164:59-62 S 28 '33  
 Three-thousand dollar sales—these days—to executives; Republic flow meters co. H. W. Stoetzel. Ptr Ink 165:96-7+ O 19 '33  
 Yes, even against odds, steady effort wins; American cable co. J. O. Lashar. il Ptr Ink 163:64-6 My 18 '33  
 You're advertising to a parade—not a mass meeting; Lincoln electric company. A. F. Davis. il Ptr Ink Mo 26:33-4 Mr '33

**Inquiries**

After ten years. il Ptr Ink 163:52 My 4 '33  
 Coupon returns falling off? try these plans. W. B. Edwards. il Ptr Ink Mo 26:47-8 F '33  
 Don't judge your advertising by this month's results; Metropolitan marches on. J. E. D. Benedict. il Ptr Ink 163:17-20 Ap 27 '33  
 Fallacy of the inquiry. Ptr Ink Mo 25:28+ D '32  
 How a space buyer uses experience. B. Duffy. Ptr Ink Mo 27:23-4 Jl '33  
 How 123 advertisers are handling inquiries. P. H. Erbes, jr. Ptr Ink 164:14-16 Jl 13 '33  
 How to use inquiries to find industrial prospects. L. E. Perry. Ptr Ink 164:65-6+ Ag 17 '33  
 I sent a hundred coupons and this is what I discovered. T. L. Wheeler, jr. Ptd Salesmanship 60:204-6+ N '32; Discussion. 60:385-6, 470-1+; 61:50 Ja-Mr '33  
 19,851 coupons in 16 days pulled by this advertisement; Masonite company. J. P. Gillies. il Ptr Ink 162:10+ Ja 12 '33  
 Using consumer inquiries to open new territories. Ptr Ink 162:69+ F 2 '33  
 When the prospect asks for details he gets them. Ptr Ink 161:48 D 15 '32

**Jobber cooperation**

Wholesaler now producer's most powerful ally. D. Gridley. Ptr Ink 164:51-4 Ag 31 '33

**Jobbers, Appeal to**

New product, new plan jump sales of entire line; jobber co-operation gets results for Hoffman specialty company. G. Hutchinson. il Ptr Ink 162:40-3 Ja 19 '33  
 This company's policies became the keystone of a code; Pet milk company. J. A. Latzer. il Ptr Ink 164:17-20 Ag 3 '33

**Laws and regulations**

Administration bill penalizes ambiguity and inference in ads. Ptr Ink 163:10-12 Je 8 '33  
 Advertisers will be heard before U. S. censorship is imposed. Ptr Ink 163:32 Ap 13 '33  
 Advertising and the new food and drugs bill. R. G. Tugwell. Oil Paint & Drug Rep 124:15-16 S 18 '33; Discussion. F. A. Blair. 124:15+ O 9 '33  
 Advertising or Prof. Tugwell? W. S. Groom. Ptd Salesmanship 62:110-12 O '33; Excerpt. Ptr Ink 165:88 O 19 '33  
 Advertising or Tugwell; a bitter battle develops over the Professor's bill. il Business Week p 13-14 O 28 '33  
 Advertising reform movement gains momentum. Adv & Sell 20:28+ Ap 27 '33  
 Ambiguity, inference, innuendo, advertising's new crimes. Ptr Ink 163:12-13 My 18 '33  
 Beat the Tugwell bill! G. A. Nichols. Ptr Ink 165:6, 10-11+ N 2 '33  
 Beer advertising. Ptr Ink 162:67-9 F 16 '33  
 Beer as an advertising source. R. Dickinson. il Ptr Ink 162:16-19 Mr 23 '33  
 Better business bureaus seek Capper bill passage. Ptr Ink 164:86-7 Ag 24 '33  
 Capper advertising bill draws strong support. Ptr Ink 164:58 Ag 17 '33  
 Capper bill and advertising of medicines and cosmetics. Ptr Ink 164:33, 36-7 Ag 3 '33  
 Capper bill insures against rule by bureaucrats. L. H. Bristol. Ptr Ink 163:40-1+ My 25 '33  
 Capper bill seen as powerful aid to honest advertising. T. M. Overley. Ptr Ink 164:89 Ag 17 '33

Capper's bill; discussion. Ptr Ink 163:17-21 My 18; 44-6 My 25; 17-20 Je 1; 32-3 Je 8; 58-9 Je 15; 61, 64-5 Je 22; 55-6 Je 29 '33  
 Case against the Tugwell bill. il Adv & Sell 22:13-14+ N 9 '33  
 Case for the Tugwell bill. il Adv & Sell 21:13-14+ O 26 '33  
 Danger in advertising rulings based on censorship. C. L. Young. Ptr Ink 163:39 Je 29 '33  
 Defense of opinion, ambiguity in advertising law. D. F. Cavers. Ptr Ink 164:43, 46-7+ Ag 24 '33  
 Drug law revision called hazardous. W. P. Jacobs. Oil Paint & Drug Rep 124:15 O 23 '33  
 Federal control bill; an interview with Walter Campbell. Adv & Sell 21:18-19 My 25 '33  
 Fighting the ban on beer ads. il Adv & Sell 20:34 F 16 '33  
 Fine the dishonest advertiser or lock him up! Senator Capper advises. Ptr Ink 163:60-1 Je 22 '33  
 Foods, drugs, teeth; new statute drafted to replace food and drug act. Business Week p12 My 24 '33  
 Inland Daily publishers endorse Capper advertising bill. Ptr Ink 163:76-7 My 25 '33  
 John D. Jr., expert in liquor advertising. F. Anderson. il Adv & Sell 22:26+ N 9 '33  
 Liquor advertising will be illegal in dry states. A. M. Howe. il Ptr Ink 165:17-20 O 19 '33  
 Model statute is new weapon against NRA violators. Ptr Ink 164:10 S 7 '33  
 More beer news. Ptr Ink 162:52-3 F 2 '33  
 Newspaper's position under the Securities act. P. S. Hanna. il Adv & Sell 21:21 S 28 '33  
 Package medicine industry launches campaign against drug law revision. Oil Paint & Drug Rep 124:17-18 O 16 '33  
 Printers' Ink statute is introduced as federal advertising law. Ptr Ink 163:3-4+ My 11 '33  
 Securities-act rule for class A-1 advertising. Ptr Ink 165:76-7+ O 19 '33  
 S.N.P.A. wants South solid for advertising law. Ptr Ink 163:32 Je 29 '33  
 Stamps, flags, Uncle Sam, money and the advertiser. B. L. Bailey. Ptr Ink 161:63-6 D 8 '32  
 State bureaucracy. R. A. Ridgway. Ptr Ink 164:26 Jl 20 '33  
 To police food ads; new bill to compel truth in advertising food, drugs, and cosmetics. Business Week p8 Ap 26 '33  
 Truthful advertising is essential to business recovery. A. Capper. Ptr Ink 163:52-5 Je 29 '33  
 U.S. law regulating advertising is under way. Ptr Ink 163:10-12+ My 4 '33  
 Using the Blue Eagle. Ptr Ink 164:49 Ag 24 '33  
 What state laws say about liquor advertising. A. M. Howe. Ptr Ink 165:37, 40-1 O 26; 41, 44-5, 48 N 2 '33  
 Why a club is needed to curb dishonest advertiser. P. K. Wrigley. Ptr Ink 163:56+ Je 15 '33

**See also**

Advertising, Fraudulent

**Localization**

How advertising meshes with the new selective selling; analysis by territory, buying power and other factors. K. Groesbeck. Ptr Ink 161:3-4+ D 22 '32  
 How local touches make copy pull harder. R. Giles. il Adv & Sell 20:24+ Mr 2 '33  
 600 newspapers introduce Skelly's tailor made gas. J. R. Bailey. il Sales Management 32:106-7 F 1 '33

**Men, Appeal to**

Men and lipsticks. il Ptr Ink 161:13 D 29 '32

**Physicians, Appeal to**

Camera studies in medical history; Davis and Geck, inc. makers of surgical sutures and germicides. Ptd Salesmanship 60:364-5+ Ja '33

**ADVERTISING—Physicians, Appeal to—Cont.**  
Developing a new product in a competitive market; Bosco. W. C. Scull. il Ptr Ink 163: 10-12 Je 22 '33

Do doctors preserve advertising literature? abstract. H. C. Phibbs. Oil Paint & Drug Rep 123:39 My 22 '33

Increases advertising when patents expire; Winthrop chemical company gets doctors to prescribe Luminal. il Ptr Ink Mo 27:21-2 J1 '33

Professional acceptance hurdle is easy to jump. Ptr Ink 161:32 N 24 '32

Sales punch without ethical offense for drug products; Abbott laboratories. L. B. Colby. il Sales Management 32:472-3+ My 1 '33

#### Planning

Fitting advertising to the farm market. M. L. Henderson. map Adv & Sell 21:28+ S 28 '33

How to plan that next campaign; a formula for stretching the advertising dollar. F. R. Gilpatrick. Ptr Ink 164:39-40 S 28 '33

#### Prize contests

Are contests new? General Baking gets seven papers to run publicity. Sales Management 32:443 Ap 20 '33

Blotter contest pulls fifteen per cent replies. C. V. Putnam. il Ptr Ink 162:33-4+ Ja 5 '33

Bringing prize contests within post office laws. W. I. Orchard. Ptr Ink 163:69+ My 1 '33

Chips and Gold Dust photographs. Ptr Ink 164:50 S 21 '33

Colorado public service promotes gas ranges on jig-saw puzzle page. Gas Age 71:366 Ap 8 '33

Contest "hounds" puzzle advertisers. Forbes 31:31 My 1 '33

Contest that failed. Ptr Ink 161:20 D 1 '32

Five hundred readers helped name our new house organ; General indemnity corporation. G. W. Lee. il Ptd Salesmanship 61:180-2 My '33

Force in \$10,000 contest jingles its way back toward popularity. Sales Management 32: 526 My 15 '33

Grocer gets a prize, too; Washburn-Crosby company. Ptr Ink 162:64 Mr 9 '33

Handling a million contest entries. il Management Methods 61:661-2 D '32

How a trade-in prize contest increased Majestic sales 15 per cent; nation-wide search for oldest radio. R. Erlandson. il Ptd Salesmanship 60:382-4 Ja '33

How to find a consumer contest idea; twenty basic plans and their variations which have been used by advertisers. Ptr Ink Mo 26:56+ F; 46+ Mr '33

How Westinghouse backs up its broadcasts at dealers' stores. F. R. Kohnstamm. il Adv & Sell 21:42-3 O 26 '33

Losers stand to win in this contest; Kelvinator corp. V. C. Woodcox. Ptr Ink 165: 44-5 O 19 '33

Mystery advertising. il Ptr Ink 165:72 O 5 '33

Newspapers sponsor contest of General baking company. Ptr Ink 162:84 Ja 19 '33

No bread lines in this market! the one depression-proof field. P. Salisbury. Sales Management 32:209+ Mr 1 '33

Plans uninterrupted; Ward baking company. Ptr Ink 162:20 Mr 16 '33

Public to name product; Campana's original skin invigorator. Ptr Ink 165:50 O 26 '33

66-year-old product fights it out with a new-comer; new game threatened Parcheesi's popularity. E. Peterson. il Ptr Ink 165:33-4+ O 19 '33

This contest sells the salesman; Standard of Indiana's "servisman" contest. il Ptr Ink 163:10+ Ap 27 '33

This sampling campaign works at point of sale; An-Tabs and Thymoline. L. Aue. il Ptr Ink 165:60-1 N 9 '33

This two-way contest reached both dealer and consumer; Coleman stoves. D. Gridley. Ptr Ink 165:43+ O 12 '33

250,000 entrants in this contest and only 40 prizes; Carnation company. S. D. Roberts. Ptr Ink 161:60-1 N 17 '32

Winners announced for letter contest on gas house heatings. Gas Age 70:586 N 26 '32

#### Psychology

Copy—the dominating factor in successful advertising. H. C. Link. Ptr Ink 162:76-7 Ja 26 '33

Finds four-fifths of ads usually fail to click. il Sales Management 32:105+ F 1 '33

Get your man before he eats. Ptr Ink 161:55 D 22 '32

How to link the prospect's desire to possess with our desire to sell. T. Thrift. il Ptd Salesmanship 61:16-19+ Mr '33

Me and mine. J. D. Adams. il Adv & Sell 20: 28 Ap 13 '33

Memory test for psychologists is Link critic recommendation. G. R. Buckpitt. Sales Management 32:220+ Mr 1 '33

Psychology offers new approach to marketing problems. S. W. Stevens. il Ptr Ink Mo 27:52+ O '33

What the consumer wants he should have. O. L. Wiese. Ptr Ink Mo 27:52+ J1 '33

Where psychology fits into today's marketing plans. L. H. Chalkley. Ptr Ink 164:108-10 S 14 '33

See also

Advertising research

#### Rates

Don't milline the publisher. J. A. Coveney. Adv & Sell 20:24+ N 24 '32; Reply. B. Jefferson. 20:15 D 22 '32

How magazine advertising rates are established. L. W. Maxwell. Ptr Ink 163:57-8, 60-2 Je 8 '33

Newspaper advertising rates as a salesman sees them. J. A. Coveney. Ptr Ink 161:53-4 N 24 '32

Newspaper rates not high, says Standard Oil executive. Ptr Ink 165:57-8 O 26 '33

Problem of rate-making. J. A. Coveney. Sales Management 31:473-4+ D 1 '32

What inflation may do to advertising rates. A. Cobb, jr. Adv & Sell 21:24 My 25 '33

Why cash discount is valuable to advertising. F. R. Gamble. Ptr Ink 164:12 J1 20 '33

Why not abolish the cash discount? J. H. Eydelor. Ptr Ink 163:32-3 Je 22 '33

#### Returns

Advertising helps amusement park report a profit. Rye, N. Y. Ptr Ink 161:57 N 17 '32

See also

Advertising—Inquiries

Advertising, Mail—Returns

#### Schedules

Advertising looks up. il Ptr Ink 162:10+ Mr 16 '33

Benefits when others cut down their advertising; Bab-O campaign. L. J. Gumpert. Ptr Ink 162:37 Mr 16 '33

Geared to the calendar; Spud seasonal advertising copy. E. J. Helke. il Ptr Ink 162: 5 Mr 16 '33

How to make and use a heat intensity map. L. P. Fisher. Ptr Ink 164:67-8 Ag 24 '33

Snowfall sets this schedule; Weed tire chain. Ptr Ink 161:26 D 15 '32

Spring advertising and fall buying. L. M. Rudolph. Ptr Ink Mo 27:49-50 O '33

#### Schools, Appeal to

How to make the most out of small space; India tea campaign. L. Beling. il Ptr Ink 162:45-8 My 11 '33

Reaching the child through the teacher. L. P. Fisher. il Ptr Ink Mo 27:34-5+ Ag '33

#### Statistics

Advertising opti-pessimism index; outdoor and window display up, magazine down for early 1933. Sales Management 31:523 D 15 '32

Advertising trend; monthly linage. Published in Advertising & selling

Four-year record of January advertising. Ptr Ink 162:94-5 Ja 12 '33 [cont monthly]

Magazine advertising gains in third quarter; newspaper linage falls after September spurt. Bradstreet's 60:1734+ D 31 '32



**ADVERTISING—Statistics—Continued**

Magazine advertising, monthly lineage, 1912-1933. Survey of Cur Business 13:20 O '33  
 Newspaper advertising and magazine advertising, monthly, 1919-1932. Bradstreet's 61:211-12 Ja 28 '33  
 Newspaper lineage record reflects depression. Bradstreet's 61:280 F 4 '33  
 Reports 1931 publication census. Ptr Ink 161:43 D 29 '32  
 Spring advertising and fall buying. L. M. Rudolph. Ptr Ink Mo 27:49-50 O '33  
 357 advertisers spent \$121,195,000 in newspapers last year. Ptr Ink 163:29 Je 8 '33

*See also*

Advertising, National Advertising appropriations—Statistics

**Stockholders, Appeal to**

General Foods finds stockholders an increasingly potent market. Sales Management 32:178 F 15 '33  
 General Foods turns stockholders into working customers. C. M. Chester. Ptr Ink 161:3-4+ D 8 '32  
 New-model campaign explained to stockholders. il Ptr Ink 165:40 N 2 '33

**Study and teaching**

Carbona's new product venture as Dartmouth sees it. Ptr Ink 162:63-5 F 2 '33  
 Shell teaches salesmen to write advertising. B. A. Grimes. il Ptr Ink 164:42-3, 46-7 S 21 '33  
 Survey of collegiate instruction in marketing and advertising, 1929-30. 62p Advertising federation of America, 330 W. 42d st, New York '31  
 You're telling me! criticism of textbooks on advertising. T. H. Thompson. Ptr Ink 164:3-4+ J1 13 '33; Reply (Don't shoot the professor!) G. B. Hotchkiss. 164:69-70 Ag 24 '33

**Tables, calculations, etc.***See also*

Milline

**Testing**

*See* Advertisements—Testing; Advertising campaigns—Testing; Advertising mediums—Testing

**Trade associations, Appeal to**

Stimulates a whole industry by advertising to one man; wool-processing firm appeals to its own association. A. Eavenson. Ptr Ink 165:17-20 O 5 '33

**Waste**

Cutting out waste in technical advertising. A. H. Angus. Soc Chem Ind J (Chem & Ind) 51:sup S2+ N 18 '32

**Women, Appeal to**

Another woman scans advertising. G. Paris. Ptr Ink 165:85 N 9 '33  
 Appealing to the feminine buyer. A. Freeburg. Am Gas J 138:19-21 Ja '33  
 But beer makes you fat! S. H. Birchall. Adv & Sell 21:21 My 25 '33  
 Cherchez la femme! E. C. Hill. il Ptr Ink 162:26-8 Ja 26 '33  
 Hail the male! N. Naghten. il Adv & Sell 20:20 F 2 '33  
 Hosiery ads miss the mark; women object to emphasis on beauty instead of service. R. C. Cook. il Adv & Sell 21:20+ J1 20 '33  
 Tests women apply when they buy things. L. Crosby. il Ptr Ink Mo 26:13-15+ My '33  
 This national advertising causes women to buy today; retail flavor and elastic program. Julius Kayser & co. G. S. Walton. il Ptr Ink 162:3-6 F 23 '33  
 To the ladies. G. Toogood. Ptr Ink 161:27 D 15 '32  
 Trend towards realism in magazine making. M. Cole. il Adv & Sell 21:20-1+ Ag 31 '33  
 Two letters that appeal to women. D. H. Colcord. il Ptd Salesmanship 60:454+ F '33  
 Woman consumer scans advertising. Ptr Ink 165:107-8+ O 12 '33

**Young people, Appeal to**

Advertising to seven million young skeptics. A. Bradbury. il Ptr Ink 162:17-20 F 2 '33  
 Talking to the 6,000,000 rulers; the generation which is coming into power appreciates sincerity and unselfishness. R. F. Allen. Ptr Ink 165:12-13 O 26 '33  
 30 million young, eager prospects for advertisers. Ptr Ink 162:16 F 16 '33

**Finland**

How they sell in Helsingfors. il Ptr Ink 164:45 J1 27 '33

**Germany**

Hitler party to censor advertising. Adv & Sell 21:40 S 28 '33  
 Nazis place dictator over all advertising. Ptr Ink 164:32 S 21 '33  
 Simplicity in German advertising. G. Aymar; W. D. Teague. il Ptr Ink Mo 27:18-21 O '33

**Great Britain**

How Americans sell refrigeration in Great Britain. il Ptr Ink 163:32-4 Je 1 '33

**New Zealand**

Haere mai! Texaco; a New Zealand advertising theme. V. H. Freeth. il Ptr Ink 164:78+ Ag 31 '33

**ADVERTISING, Association**

Another national campaign for cranberries. il Ptr Ink 165:28 O 5 '33  
 Associations should not forget advertising. C. B. Larrabee. Ptr Ink 164:27-8 Ag 10 '33  
 California rivalry launches \$1,950,000 citrus promotion. Sales Management 31:490 D 1 '32  
 Colorful paintings build exposition attendance; Dairy & ice cream & machinery supplies association. il Ptr Ink Mo 25:42 D '32  
 Copper and brass theme of \$100,000 campaign. il Ptr Ink 162:27-8 F 16 '33  
 How one association meets the cheapened quality problem; Electric cord manufacturers. Ptr Ink 162:80-1 F 9 '33  
 How to make the most out of small space; India tea campaign. L. Beling. il Ptr Ink 163:45-8 My 11 '33  
 Million dollar pineapple drive. Ptr Ink 161:6 D 1 '32  
 More advertising, more sales, and higher prices; California walnut growers association. G. E. Mitchell. il Ptd Salesmanship 60:362-3+ Ja '33  
 News angle adds strength to this advertising copy; National board of fire underwriters. il Ptr Ink 164:26-7 S 28 '33  
 Newspaper drive starts to move cranberry crop—profitably. il Sales Management 33:309 O 1 '33  
 Pineapple advertising. Ptr Ink 162:52 Mr 23 '33  
 Prunes. il Ptr Ink 162:38-40 F 23 '33  
 Sane marketing can turn farm surpluses into profits; a lesson from the California fruit growers exchange and California walnut growers association. C. C. Teague. Ptr Ink 161:36-7+ D 15 '32  
 Save the surface; N.P.O. & V.A. report. Oil Paint & Drug Rep Extra ed 122:28-9 N 29 '32  
 Some fundamentals of association advertising procedure. F. J. Ross. 50p Fuller & Smith & Ross, inc, New York '33  
 Taxes as an advertising theme. il Ptr Ink 161:37 D 22 '32  
 Tenderized prunes. il Ptr Ink 163:56 My 11 '33  
 These advertising leaders fight bootleg merchandise. il Ptr Ink 163:10-12 My 11 '33  
 These blotters leave nothing to dealer's imagination. E. Peterson. Ptr Ink 161:77-8 N 17 '32  
 \$217,000,000 premium industry starts "buy now" campaign. il Sales Management 33:322 O 1 '33  
 Warring dairymen turn to advertising. il Ptr Ink 164:63-4 Ag 17 '33  
 Why oil association will enlarge its advertising program; Pennsylvania grade crude oil association. T. O. Grisell. il Ptr Ink 162:32-3+ Mr 30 '33

ADVERTISING, Association—*Continued*

## Finance

Raising association advertising funds. *Ptr Ink* 163:53-4 Ap 27 '33

## ADVERTISING, Cooperative

Advertising of books goes national. *Adv & Sell* 20:30 Mr 16 '33

Bobbin makers advertise against cheap foreign goods. *Ptr Ink* 162:54 Mr 23 '33

Co-operative bank advertising. L. D. Meredith. *Bankers M* 127:355-61 O '33

Co-operative campaign for books. *il Ptr Ink* 162:45 F 23 '33

Dangers in combination advertising. *Ptr Ink* 161:88-9 N 17 '32

Depression as advertising theme of steamship campaign. *il Ptr Ink* 163:51-2 Ap 27 '33

52,000 farmers market milk under one brand. *il Ptr Ink* 161:80+ N 17 '32

5,000,000 angel food cakes. *Ptr Ink* 164:20 S 21 '33

Four companies unite to sell more gas in Pittsburgh. F. H. Stone. *il Gas Age* 72:451-2 N 11 '33

Group advertising favored by local building interests. *il Am Bld* 55:70-1 Ap '33

Hidden business is dug out by co-operative effort; how five electrical contractors in town of 30,000 got customers. *il Ptr Ink* 161:47-8 D 29 '32

Not-so-mad hatters. *il Ptr Ink* 165:32 O 12 '33

Publishers and agents move against substitution. L. L. Shenfield. *il Ptr Ink* 163:76-7 My 11 '33

Railroads jointly advertise Fair. *Ptr Ink* 164:77 J1 20 '33

Shippers urge that European trip at bargain rates. *il Adv & Sell* 20:15 Ap 27 '33

## See also

Advertising, Association

## Manufacturers and dealers

New basis for cooperative advertising. *Adv & Sell* 20:26 Mr 30 '33

Twin mats for dealer advertising; 50-50 co-operative plan for Argonne rug. *il Ptr Ink* 164:76-7 S 28 '33

## ADVERTISING, Direct

## See also

Advertising, Messenger delivery      Blotters  
Catalogs

ADVERTISING, Direct mail. See Advertising, Mail

## ADVERTISING, Educational

Advertising helps stabilize farm land values; Midwest farm committee. *il Ptr Ink* 161:55-6 N 17 '32

Advertising that defines banking principles. D. Knowlton. *il Burroughs Clearing House* 17:18-20+ S '33

Attacking consumer lethargy. L. Olwell. *Adv & Sell* 21:44 Ag 17 '33

Bloomington's advertises the NRA. *Ptr Ink* 165:10+ O 19 '33

Bloomington's and Mr Hearst argue about the NRA. *Ptr Ink* 165:46 N 9 '33

Bonus vs. bonus. *Ptr Ink* 161:30 D 15 '32

Booklet that developed a new industry; Ocean leather corporation instructs shark fishermen. L. R. Moresi. *il Ptr Ink Mo* 27:42+ S '33

Brewers fight racketeers. *Ptr Ink* 164:74 S 21 '33

Cook County doctors to use paid advertising. *Ptr Ink* 165:21 O 26 '33

Establishing a price policy with open-letter copy; Herman Nelson corporation combats the chiseler. R. W. Nelson. *Ptr Ink* 165:35-6 O 12 '33

Four major jobs for advertising under industrial recovery; fairer competition, justification for price increases, winning new customers, gaining acceptance for new products. K. R. Costikyan. *Ptr Ink* 164:41-3 Ag 31 '33

How one association meets the cheapened quality problem; Electric cord manufacturers. *Ptr Ink* 162:80-1 F 9 '33

Illinois banks have told the public about banking. P. E. Zimmermann. *Am Bankers Assn J* 25:38+ F '33

Intermediary advertising. *Ptr Ink* 164:64-5 Ag 31 '33

News angle adds strength to this advertising copy; National board of fire underwriters. *il Ptr Ink* 164:26-7 S 28 '33

Not-so-mad hatters. *il Ptr Ink* 165:32 O 12 '33

Oil company ads help allay fear during banking holiday. *Nat Pet N* 25:28 Mr 15 '33

Pay taxes urges this campaign. *il Ptr Ink* 161:75 D 29 '32

Public relations, keynote of financial advertisers. *Ptr Ink* 164:44 S 14 '33

Publishers and agents move against substitution. L. L. Shenfield. *il Ptr Ink* 163:76-7 My 11 '33

Taxes as an advertising theme. *il Ptr Ink* 161:36 D 22 '32

This company advertises its competitors' products; U. S. industrial alcohol co. L. S. Gillette. *il Ptr Ink* 164:59-62 S 28 '33

This company's policies became the keystone of a code; Pet milk company. J. A. Latzer. *il Ptr Ink* 164:17-20 Ag 3 '33

Three dolls lift this trade campaign out of the rut; New Jersey zinc company talks to the painter. *il Ptr Ink Mo* 26:24+ Ja '33

Truck owners use advertising to win an argument; defeat a railroad sponsored bill at the polls. R. J. Staehli. *Ptr Ink* 161:86+ D 8 '32

Turn free advertising into cash by using tactful diplomacy; public health advertising. A. J. Fehrenbach. *Inland Ptr* 91:27 Ap '33

We told the whole truth and harmful rumors were stopped. H. Jackson. *Rand McNally Bankers Mo* 50:288-9 Je '33

Weasel words are missing in this bank advertising; Florida National in campaign directed to legislators. A. Bradbury. *il Ptr Ink* 163:68-9 Je 22 '33

## See also

Advertising, Association      Government advertising  
Advertising, Institutional

## ADVERTISING, Fraudulent

Bulbs from Holland; fictitious nature of the Hollandia's world-famed flower bulbs advertisement. F. P. McWhorter. *Science* 77:21 Ja 6 '33

## See also

Advertising—  
Laws and regulations

Advertising ethics

ADVERTISING, Government. See Government advertising

## ADVERTISING, Indirect

Bell-wether merchandising; Viscose company used Fifth avenue as starting point to get national acceptance. J. A. Spooner. *il Ptr Ink Mo* 26:19+ Je '33

Even sausage casings can have consumer acceptance; Visking advertising directed to meat dealers' trade. *il Ptr Ink* 163:75-6+ Ap 20 '33

How a motor company sells its products by helping its customers sell theirs; U. S. vertical pump motor. T. T. McCarthy. *il Ptd Salesmanship* 61:168-9 My '33

Intermediary advertising. *Ptr Ink* 164:64-5 Ag 31 '33

Selling to customers' customers when markets decline; Lovell ties business papers, consumer magazines and direct mail into indirect advertising campaign. E. C. Doll. *Ptr Ink* 163:25-7 Ap 20 '33

Stimulates a whole industry by advertising to one man; wool-processing firm appeals to its own association. A. Eavenson. *Ptr Ink* 165:17-20 O 5 '33

Three dolls lift this trade campaign out of the rut; New Jersey zinc company talks to the painter. *il Ptr Ink Mo* 26:24+ Ja '33

## See also

Advertising, Educational



**ADVERTISING, Institutional**

Advertises NRA report of President Roosevelt; Curtiss candy company. *il* *Ptr Ink* 165:58 O 19 '33

All advertising is institutional; copy that cries cheap, brands a company as being low grade. *Ptr Ink* 162:62 Ja 26 '33

And now the dog goes institutional. *il* *Ptr Ink* 165:50 N 9 '33

Are you using the institutional theme in your window displays? S. Bratesman. *il* *Am Gas J* 138:29-30 My '33

Other frogs, too; Glens Falls insurance company. *il* *Ptr Ink* 165:106 O 12 '33

Picturing an intangible; Monsanto chemical works, St. Louis. *il* *Ptr Ink* 162:28 F 23 '33

Urge to be different in bank advertising. C. D. Murphy. *Am Bankers Assn J* 25:26+ Ja '33

Uses advertising to answer Better business bureau charges. *Ptr Ink* 162:51 F 16 '33

**ADVERTISING, Mail**

Building industry is fast learning how to sell; Johns-Manville's advertising program to dealers and homeowners exploiting a million dollars to lend. K. R. Dyke. *Ptr Ink* 163:25-8 Ap 6 '33

Consumers worry about their problems—not yours. B. F. Berfield. *il* *Ptr Ink* 162:60-1 F 2 '33

Direct mail under NRA; sixteenth annual sales and advertising conference. *Ptr Ink* 165:25-7 O 5 '33

Fitting letters into their proper place in the direct-mail campaign. C. A. Bates. *Ptd Salesmanship* 60:442-3+ F '33

Florists are preparing for Easter now and here is the perfect tie-up. *il* *Inland Ptr* 90:37-9 Ja '33

How a motor company sells its products by helping its customers sell theirs; U. S. vertical pump motor. T. T. McCarthy. *il* *Ptd Salesmanship* 61:168-9 My '33

How direct mail de luxe sold paint jobs for trucks; Canadian industries, Ltd. W. R. Atwood. *il* *Ptr Ink Mo* 27:24-5+ S '33

How does an advertising agent view direct mail? H. J. Kroeger; S. E. Peacock. *Ptd Salesmanship* 61:40-2+ Mr '33

How Frigidaire builds business with direct mail; 12,000,000 pieces have been used this year to reach salesmen, owners and prospects. F. R. Pierce. *Ptr Ink* 165:48-9, 52-3 O 5 '33

How new services are sold by the world's largest bank. F. M. Totton. *il* *Rand McNally Bankers Mo* 50:534-6+ O '33

Increases advertising when patents expire; Winthrop chemical company gets doctors to prescribe Luminal. *il* *Ptr Ink Mo* 27:21-2 J1 '33

Making direct mail pay. H. Sonneborn, jr. *East Underw* 34:61 pt 2 S 22 '33

Massachusetts Mutual launches unusual direct mail campaign. *East Underw* 34:8 Ap 14 '33

New design opens new outlets; direct mail and business-paper campaigns for new gas range. *il* *Ptr Ink* 163:51-2 Ap 6 '33

New product, new plan jump sales of entire line; jobber co-operation gets results for Hoffman specialty company. G. Hutchinson. *il* *Ptr Ink* 162:40-3 Ja 19 '33

New technique in using direct mail to supplement salesmen. *Sales Management* 33:382-3 O 10 '33

Paper demonstrator. *il* *Paper Tr J* 97:21 Ag 17 '33

Passing printing parade. *il* *Ptd Salesmanship* 60:319-23 D '32

Personalized foldettes sell insurance; Continental casualty company. C. B. Trost. *il* *Ptd Salesmanship* 60:230-2+ N '32

Printed piece is no better than the materials that go into it. *pl* *Ptd Salesmanship* 61:32 Mr '33

Printers in Topeka use direct mail to promote sales to merchants. *il* *Inland Ptr* 91:54 J1 '33

So busy filling NRA orders that he couldn't adopt NRA code; Ever Ready label corporation. L. H. Lewis. *il* *Ptd Salesmanship* 62:58-9 S '33

Some die-cut mailing pieces that have proved their effectiveness. H. D. Read. *il* *Ptd Salesmanship* 62:133-5+ O '33

Step down campaign that steps up the unit of sale; ABC washers. G. E. Mitchell. *il* *Ptd Salesmanship* 62:101-2+ O '33

Ten ways to cash in on the upturn with direct mail. C. McPherson. *il* *Ptd Salesmanship* 61:205-7+ Je '33

Ten ways to use direct mail. *System* 62:502-3 N '33

This direct mail is geared to the salesman's work; General Electric campaign. *Ptr Ink* 163:40-2 Je 1 '33

To sell successfully by mail—know well the three P's. B. Bigelow. *il* *System and Management Methods* 62:300-1+ J1 '33

Tricky direct mail that didn't do the trick; Ozite rug cushions. R. A. Phelps. *il* *Ptr Ink Mo* 26:23-4 Ap '33

20,000 direct-mail sets sold in gold rush campaign; Servel sales, inc. W. P. Jones. *il* *Ptd Salesmanship* 61:13-15 Mr '33

Ugly duckling turned into a swan; Pontiac direct-mail piece that became a magazine advertisement. A. D. Luse. *il* *Ptd Salesmanship* 62:38-40 S '33

Using direct mail to keep dealers in line; Gem did not want sales of new blade to lessen interest in single-edge product. B. A. Grimes. *il* *Ptr Ink* 161:64-5 N 17 '32

We imprint millions of free pieces for our dealers; Scholl company. A. A. Starin. *il* *Ptd Salesmanship* 61:302-3 J1 '33

When the prospect asks for details he gets them. *Ptr Ink* 161:48 D 15 '32

**See also**

Advertisements—	Catalogs
Books and booklets	Direct mail advertising association
Advertisements—	Follow-up systems
Christmas cards	House organs
Advertising—Stock-	Letterheads
holders, Appeal to	Mail order business
Broadsides (advertisements)	Mailing lists
	Sales letters

**Cost**

Meets new postal rates with fewer but better pieces. A. L. Davis. *il* *Ptr Ink Mo* 26:32-3 Ja '33

**Folder covers**

More power to the stuffer; using 24-sheet technique for small folders. *il* *Ptr Ink Mo* 26:31 F '33

**Folders**

Dealers like specific authentic newsy sales helps; Upson company. W. Raymond. *il* *Ptr Ink* 162:40-1 F 9 '33

Folder that turned salesmen's accounts from loss into profit; American nurses corporation. R. F. Irvin. *pl* *Ptd Salesmanship* 61:244 Je '33

For variety—a newspaper-style layout. H. L. Bird. *Ptd Salesmanship* 60:387 Ja '33

Get the eye with folds and cutting. Z. Reeves. *il* *Inland Ptr* 91:27-30 Je '33

How Maytag follows the buyer after the sale. *Ptr Ink* 161:43 N 24 '32

New "shape ahoy" in printing; Munsing underwear. *il* *Ptd Salesmanship* 61:28-9 Mr '33

This direct mail strengthened by color, art, ample copy; Coleman lamp and stove company. A. W. Boyer. *il* *Ptr Ink* 164:69-72 S 14 '33

**Inquiries**

Try reworking that dormant list of inquiries; mailings to 18,723 old prospects bring 511 replies at \$1.30 each; Monel metal sinks. E. Peterson. *Ptr Ink Mo* 26:48+ Ja '33

**Messenger delivery**

See Advertising, Messenger delivery

**Postage**

What may and may not be done with third-class mail. E. B. Weiss. *Ptr Ink Mo* 25:54+ D '32

## ADVERTISING, Mail—Continued

## Postal cards

- George Brown, salesman extraordinary; conducts his own direct-mail campaign. *il* *P*tr *I*nk *M*o 27:27 *J*l '33
- Personal contact between employees and customers; automobile dealer who sells service work. *A. R. Barkley. il* *P*td *S*alesmanship 60:243 *N* '32
- Post card series opens \$2,000,000 campaign for announcement of new Shell product. *il* *P*td *S*alesmanship 61:170-1 *M*y '33
- Timely stratagems to cut costs or increase returns; Frank E. Davis fish company, Gloucester, Mass. *S*ales *M*anagement 33:380 *O* 10 '33
- Why we stopped using government cards. *P*td *S*alesmanship 61:290-1 *J*l '33

## Printing

- Die-cut mailing pieces win attention. *il* *P*tr *I*nk *M*o 25:20 *D* '32

## Records

- Checking returns from the sales promotion plan. *P*td *S*alesmanship 61:344-5 *A*g '33

## Return cards

- 67 per cent return from a double post card; a 5200 mailing to architects. *E. Lunn. il* *P*td *S*alesmanship 60:317-18 *D* '32
- Your laundryman will gladly assure you of a clean profit on this smart folder. *il* *I*nlnd *P*tr 90:30-2 *D* '32

## Returns

- Blotter contest pulls fifteen per cent replies. *C. V. Putnam. il* *P*tr *I*nk 162:33-4+ *J*a 5 '33
- Direct mail results. *il* *P*tr *I*nk *M*o 27:48-50+ *N* '33
- \$440 campaign pulls \$24,591 in orders; Jackson fireplace equipment. *H. S. Stollnitz, jr. il* *S*ales *M*anagement 32:515-16+ *M*y 15 '33
- 4,000 dealers from scratch in 90 days; Grunow refrigerator. *D. Wanamaker. il* *P*td *S*alesmanship 62:27-9+ *S* '33
- Letters succeed when fine art failed; Haag washing machines. *G. E. Mitchell. il* *P*td *S*alesmanship 61:22-4 *M*r '33
- Long letters without headlines pull best, this study shows; summary made by International Nickel. *P*tr *I*nk 162:33-5 *M*r 23 '33
- Printing sells printing at less cost. *C. N. Tunnell. il* *I*nlnd *P*tr 91:31-2 *J*e '33
- These simple mailing pieces sell, and pull inquiries; Savogran remover and bleacher. *P*tr *I*nk 163:80-1 *M*y 25 '33
- Three letters brought returns of 59 per cent; National educators finance company, Oklahoma City. *J. E. Wolf. il* *P*td *S*alesmanship 60:214-15+ *N* '32
- Two per cent returns from a five-year-old list; Dow chemical company's humorous appeal to highway officials. *il* *P*tr *I*nk 162:73-4 *J*a 19 '33
- Unexpected enclosures that dramatize the sales points stressed in the letters; how W. F. McLaughlin and company introduces Manor house coffee to grocers and housewives. *A. Barkley. il* *P*td *S*alesmanship 60:428-9 *F* '33
- Winning the ex-customers of a defunct rival; Whittall chenille. *il* *P*tr *I*nk *M*o 25:25+ *D* '32

## Schedules

- Making salesmen and direct mail lockstep; Guardian life insurance company. *il* *P*tr *I*nk *M*o 26:36+ *F* '33
- Meets new postal rates with fewer but better pieces. *A. L. Davis. il* *P*tr *I*nk *M*o 26:32-3 *J*a '33

## Testing

- How we test and check direct mail and newspaper advertising; Postal life & casualty company, Kansas City, Mo. *M. B. Salisbury. Sales Management 33:405-6 O 20 '33*
- Revealed by direct-mail tests. *J. M. Mosely. il* *A*dv & *S*ell 21:44 *J*e 8 '33
- Some tips on mail testing. *Sales Management 33:383 O 10 '33*

\$10,000 test as preliminary to direct-mail program; Household finance corporation. *M. Harlan. P*tr *I*nk 162:62+ *M*r 9 '33

## ADVERTISING, Messenger delivery

- How leading firms use mass plan advertising. *Sales Management 33:368-9 O 10 '33*
- Messenger boys were the postmen in this direct-mail campaign; L.C. Smith & Corona typewriters, inc. *T. Swanson. il* *P*td *S*alesmanship 60:380-1+ *J*a '33
- Messenger services used; centralized facilities prove economical. *il* *M*anagement *M*ethods 62:219 *M*y '33
- Sears and Ward join to deliver catalogs by hand. *P*tr *I*nk 162:45 *F* 9 '33

## ADVERTISING, Municipal. See Municipal advertising

## ADVERTISING, National

- About this new bird: Is it an eagle or a hawk? *S. Norvell. Sales Management 33:162, 164+ A*g 15 '33
- Advertisers' opportunity. *R. Dickinson. P*tr *I*nk 163:25-8 *M*y 11 '33
- Advertising and hard times; a challenge to business. *H. A. Batten. P*tr *I*nk 161:3-4+ *N* 17 '32; *E*xcerpts. *A*dv & *S*ell 20:19+ *N* 24 '32
- Advertising and the new economics. *R. Dickinson. P*tr *I*nk 164:3-4+ *J*l 6 '33
- Advertising experience I found most interesting; Robert Burns and Owl cigars; F. J. Ross. *P*tr *I*nk 163:33+ *A*p 13 '33
- Asks special code for advertised trade-marked goods. *A. Wineburgh. P*tr *I*nk 164:55-6 *J*l 6 '33
- Attack the prospect on all sides; coordinating national and industrial advertising. *S. L. Meulendyke. P*tr *I*nk 161:48 *N* 17 '32
- Brands save store's prestige during price promotion; a retail buyer tells why advertised lines of men's underwear are best for his department. *C. H. Reinhard. P*tr *I*nk 164:56-7 *A*g 3 '33
- Colgate shake-up interesting to other big advertisers. *Business Week p22 M*y 3 '33
- Department stores reveal most popular loss leaders. *R. C. Hollander. P*tr *I*nk 162:65-7 *F* 23 '33
- Discovering and recognizing the real market; Tubize Chatillon corporation. *R. Dickinson. il* *P*tr *I*nk 161:25-7 *D* 22 '32
- Kraft plants hum to meet demand as Miracle Whip goes national. *il* *S*ales *M*anagement 33:172 *A*g 15 '33
- Place of branded merchandise in the retailers' new deal. *R. E. Tilles. Adv & Sell 21:34 S* 28 '33
- Renaissance of advertised brands; low-end merchandise on the way out under the codes. *R. Dickinson. P*tr *I*nk 165:3-5, 96, 98-9 *O* 5 '33
- Right now, the private brand is a poor bet. *P*tr *I*nk 161:36-7 *D* 29 '32
- Rising commodity prices should aid advertised brands. *P*tr *I*nk 163:70-1 *J*e 15 '33
- Ten answers to substitute brands. *H. Deutsch. il* *N*ation's *B*usiness 21:37-40 *J*a '33
- This national advertising causes women to buy today; retail flavor and elastic program. *Julius Kayser & co. G. S. Walton. il* *P*tr *I*nk 162:3-6 *F* 25 '33
- 3,123 pantries vote for nationally advertised brands. *P*tr *I*nk 163:62-3 *J*e 15 '33
- We're paying it, Mr Kraus; tribute due the "nationals" who carried on. *J. M. Kraus. P*tr *I*nk 162:60 *M*r 16 '33
- What can national advertisers do about profitless selling? *M. M. Zimmerman. Adv & Sell 20:17-18+ A*p 27 '33
- What the voluntary chains think of the manufacturer. *P*tr *I*nk 163:64+ *A*p 6 '33
- Why this chain's operators prefer advertised brands; Piggly Wiggly corporation. *P*tr *I*nk 164:91-3 *S* 28 '33

## See also

- Advertising appropriations      Advertising campaigns  
Private brands

## Local allotments

- Determining allotments for spot advertising. *L. P. Fisher. Adv & Sell 20:45 M*r 30 '33



**ADVERTISING, National—Continued****Local tie-up**

Cashing national advertising through strong local tie-up; Pepperell manufacturing co. il Sales Management 33:366 O 10 '33

**Statistics**

Advertising trend; monthly lineage. Published in Advertising & selling

Rural prospects; advertising analysis shows concentration of appropriations on the thickly populated areas. Business Week p13 Mr 29 '33

What 150 leading magazine advertisers spent in 1932. Adv & Sell 20:26+ Ja 19 '33

**ADVERTISING, Outdoor**

Outdoor association adopts agency recognition code; other convention features. Ptr Ink 165:65-6+ N 9 '33

Outdoor industry submits code. Ptr Ink 164:88-9 S 14 '33

**See also**

Posters

Traffic audit bureau

**ADVERTISING, Radio. See Radio advertising****ADVERTISING, Soliciting of**

Experience in buying space helps in selling it. R. W. Wadman. Ptr Ink 163:67 My 4 '33

Poor space buyers make poor space sellers. Ptr Ink Mo 26:81 Mr '33

Sell the advertising idea! F. J. Frank. Ptr Ink 162:12 F 23 '33

Seven rules for space salesmen. il Adv & Sell 21:18-19+ Je 8 '33

Shopping for an agency. Adv & Sell 20:24 Ap 13 '33

Space selling has kept up with the times. K. J. McArdle. Ptr Ink 163:32-3 Ap 20 '33

Space selling hasn't kept up with the times; too many salesmen don't know enough about the products of their prospects. Ptr Ink 162:40-1 Mr 30 '33

Turn free advertising into cash by using tactful diplomacy; public health advertising. A. J. Fehrenbach. Inland Ptr 91:27 Ap '33

What a space buyer wants to know about business papers. E. G. Jacobi. Ptr Ink 163:74-6 My 4 '33

Why the space buyer should know individual media. H. E. Hendrick. Ptr Ink 164:12-13 Ag 3 '33

**See also**

Audit bureau of circulations

**ADVERTISING, Telegraph**

RCA lures in 1,600,000 prospects by free voice test invitation. Sales Management 31:433 N 15 '32

**ADVERTISING, Trade union**

Another union goes fifty-fifty on firm's advertising cost; Panama pants and overalls. Ptr Ink 165:54 O 5 '33

**ADVERTISING affiliation**

Annual convention, 30th, Niagara Falls, Ont. Ptr Ink 163:51-2 My 25 '33

**ADVERTISING agencies**

Advertising agencies stand test of lean years. Ptr Ink 163:64 Ap 27 '33

Advertising agencies stand test of most crucial year. Ptr Ink 163:33-6 My 18 '33

Advertising agency. T. H. Thompson. Ptr Ink 163:3-4+ My 4 '33

Advertising agency business—code of fair competition. Adv & Sell 21:25, 44+ Ag 31 '33

Advertising—small agencies draft code. Ptr Ink 165:84-5 O 19 '33

Advertising small agency group and Four A's agree on code. Ptr Ink 165:32 O 26 '33

Agency reborn. R. Frothingham. Adv & Sell 20:26+ D 22 '32

Agency summer schedules. Adv & Sell 21:32 Je 22 '33

Butcher shops and advertising agencies. Ptr Ink 161:10+ D 22 '32

Five-day week in advertising. Ptr Ink 165:107 O 19 '33

Four A's works on advance payment dates. Ptr Ink 165:64 N 9 '33

I fought speculative plans, but now— —. Ptr Ink Mo 25:44+ D '32

Is the advertising agency a three-ring circus? C. A. Bates. il Ptd Salesmanship 60:377-8+ Ja '33

Management takes a square look at agency practice. L. H. Bristol. Adv & Sell 20:13-15+ N 24 '32; Discussion. J. Benson. 20:24+ D 8 '32

Outdoor association adopts agency recognition code; other convention features. Ptr Ink 165:65-6+ N 9 '33

Problems of the agency when the product isn't right. A. C. Lescarbours. il Adv & Sell 21:18+ O 12 '33

Profit first—for the client. Ptr Ink 162:72-3 F 23 '33

Question of ethics. Ptr Ink 162:70 Mr 16 '33 Shopping for an agency. Adv & Sell 20:24 Ap 13 '33

Space is king! S. R. Hall. il Ptd Salesmanship 60:244-7+ N '32

Sustained business recovery through adequate market counsel. C. D. Murphy. il Rand McNally Bankers Mo 50:274-6+ Je '33

These advertising agents are on boards of directors. Ptr Ink 162:41-2 F 23 '33

Variety tells all; advertising agencies listed and radio methods analyzed. Ptr Ink 164:90-1 Ag 24 '33

We tried to place a \$2,000,000 advertising account; by an advertising manager. Ptr Ink Mo 25:35-6 D '32

Withdrawing from the ring, I hang up my gloves! S. R. Hall. il Ptd Salesmanship 60:324-7 D '32

**See also**

Advertising, Soliciting of

**Commissions**

Advertising agency compensation in relation to the total cost of advertising. J. W. Young. 186p Univ. of Chicago press '33

Advertising analyzes agents. Business Week p7 My 24 '33

A.N.A. analyzes Young report. Ptr Ink 163:53-4+ Je 22 '33; Adv & Sell 21:15+ Je 22 '33

A.N.A. questions Young report. Ptr Ink 163:35 Je 15 '33

ANA rejects Young report; starts own compensation study. Sales Management 32:623 Je 15 '33

This advertiser sees flaws in agency commission. L. H. Bristol. Ptr Ink 161:37-40 N 24 '32; Abstract. Sales Management 31:476+ D 1 '32

Variable agency commission scale might be the answer. W. L. Rech. Ptr Ink 161:24-5 N 17 '32

What the A.N.A. really thinks of Young report. S. Peabody. Ptr Ink 164:45-6 JI 13 '33

Young finds advertisers satisfied with what agencies do and get. Sales Management 32:568+ Je 1 '33

Young plan; O.K. on advertising agency compensation leaves the A.N.A. still asking questions. Business Week p12 JI 1 '33

Young report favors present agency commission. Ptr Ink 163:3-5+ My 18 '33

Young report on agency compensation. Adv & Sell 21:15-16+ My 25 '33

**Law**

When the agency defaults. Ptr Ink 163:62 My 4 '33

**Management**

Agent is not stealing when he gives old metal to charity; advertisers' zines and electrotypes. E. T. Gundlach. Ptr Ink 162:61 Ja 12 '33

**Service**

Advertising agency service; how it is helping technical sales. J. B. Ward. Soc Chem Ind J (Chem & Ind) 51:supS13-14 N 18 '32

Agency man speaks out about the agency's job. A. E. Mudkins. Ptr Ink 162:33-5 Ja 12 '33

Future of advertising agency service. C. R. Palmer and others. Ptr Ink Mo 25:31 N; 24 D '32; 26:30 Ja; 54 F; 37 Mr; 44 Ap '33

How shall the advertising job be divided between advertiser and agency? B. R. Canfield. Ptd Salesmanship 60:304-7 D '32

**ADVERTISING agencies—Service—Continued**  
 \$150,000 worth of space buying. R. F. Owsley. Adv & Sell 20:24+ F 2 '33  
 Why advertising agency service can't be standardized. J. W. Young. Ptr Ink Mo 26:34 Je '33

#### ADVERTISING allowances

Advertising allowance takes the rap. E. E. Weiss. Adv & Sell 21:13-14+ O 12 '33  
 Advertising allowances. L. S. Lyon. 125p Brookings institution, Washington, D.C. '32  
 Prizes for May letter problem. Ptd Salesmanship 61:298-9 J1 '33

#### ADVERTISING and bankers

Advertisers are better risks than borrowers with dormant inventories. C. D. Murphy. il Bankers Mo 49:731-2+ D '32  
 Sustained business recovery through adequate market counsel. C. D. Murphy. il Rand McNally Bankers Mo 50:274-6+ Je '33

See also

Bank advertising

#### ADVERTISING and employees

How this advertiser keeps sales ahead of boom days; Scott paper company. T. E. McCabe. il Ptr Ink 162:3-6 Mr 23 '33

#### ADVERTISING and sales, Coordination of

Co-ordination of sales and advertising? T. Currens. Oil Paint & Drug Rep 123:39 My 22 '33

Gear advertising to sales. W. Best. Ptr Ink Mo 26:44 Ap '33

Sales and advertising must go hand in hand. Ptr Ink 163:40 Ap 20 '33

That master mind complex of the advertising manager. P. Boucheron. Ptr Ink 161:44-6 D 15 '32

#### ADVERTISING and salesmen

As the advertising manager said to the sales manager; Woodbury company and Jergens company. H. J. Emptage and R. V. Beucus. il Ptr Ink 161:25-8 D 1 '32

Broadcasts to salesmen; in advance of renewal of "March of Time" broadcasts, which Remington Rand, inc. is sponsoring. Ptr Ink 165:36 O 19 '33

Getting salesmen and advertising to team up. Ptr Ink Mo 26:42+ Mr '33

In defense of salesmen; Timken automatic company. E. V. Walsh. Adv & Sell 21:26+ J1 6 '33

Making salesmen and direct mail lockstep; Guardian life insurance company. il Ptr Ink Mo 26:36+ F '33

New technique in using direct mail to supplement salesmen. Sales Management 33:382-3 O 10 '33

Remington Rand's preview sells sales force on "March of Time." il Sales Management 33:417 O 20 '33

Selling advertising to the sales force. Ptr Ink 162:25 Ja 26 '33

Shell teaches salesmen to write advertising. E. A. Grimes. il Ptr Ink 164:42-3, 46-7 S 21 '33

Six men debate: Should a manufacturer concentrate on personal selling or advertising? Adv & Sell 21:16+ J1 20 '33

Stunts to sell advertising to the salesmen. Ptr Ink 164:37-8 S 28 '33

This code educates salesmen in company's advertising; twelve major propositions, subscribed to by Shell representatives. Ptr Ink 164:27-8 S 7 '33

This direct mail is geared to the salesman's work; General Electric campaign. Ptr Ink 163:40-2 Je 1 '33

What salesmen may contribute to the advertising. Ptr Ink 165:24 N 2 '33

Why our house organ is loose-leaf in form; Reeves pulley co. Speed gab, J. M. Jewell. il Ptd Salesmanship 60:366-8 Ja '33

#### ADVERTISING appropriations

Analysis of 285 national advertising budgets, 1932-1933; abstract. Management R 22:315 O '33

Anheuser-Busch adds a million. Ptr Ink 162:12 Ja 26 '33

Barren markets are dropped as advertising budget is cut; Armco overcomes shrinking appropriation. W. McFee. Ptr Ink 163:47-9 Je 29 '33

Brewer's advertising appropriation. Ptr Ink 162:28 Mr 30 '33

Business marshals men and media; heavy sales drives on. Sales Management 33:202-3 S 1 '33

Buttoning up the advertising plan. Ptd Salesmanship 61:334-5 Ag '33

Coca-cola adds a million. Ptr Ink 161:12 N 24 '32

Determining allotments for spot advertising. L. P. Fisher. Adv & Sell 20:45 Mr 30 '33  
 How brewers are fixing their advertising appropriations. Ptr Ink 164:51+ S 21 '33

Needed: return to sound, sane advertising expenditures. E. T. Gundlach. Ptr Ink 163:25-6 Ap 27 '33

New products and the advertising appropriation. C. B. Larrabee. il Ptr Ink 162:3-4+ Mr 30 '33

Old-time appropriation methods are on the wane. Ptr Ink 164:51-2 Ag 3 '33

Paris Garter plans fifty per cent increase in advertising budget; Kellogg and Goodrich active. Sales Management 32:72 Ja 15 '33

Sales hopes—not sales records—govern 1933 advertising budgets. Sales Management 33:112 Ag 1 '33

Twenty leading companies act to harness public confidence. Sales Management 32:322-3 Ap 1 '33

280 accounts invest \$84,122,745 in magazine advertising in 1932. Ptr Ink 162:56-8 Ja 26 '33

What 150 leading magazine advertisers spent in 1932. Adv & Sell 20:26+ Ja 19 '33

When is advertising adequate? Paris garters. J. M. Kraus. Adv & Sell 20:16 F 2 '33

#### ADVERTISING art. See Advertisements, Pictorial

#### ADVERTISING artists

Artist comes down to earth. N. Pousette-Dart. il Ptr Ink Mo 25:37-8 D '32

Engravers and artists form new entente. Ptd Salesmanship 61:25 Mr '33

#### ADVERTISING as a profession

Customers are made—not born, and advertising must make them, efficiently and systematically. K. M. Goode. il Adv & Sell 21:13-14 Ag 17 '33

I want my boy to be a writer of advertisements. W. E. McFee. Ptr Ink 164:74-5 Ag 3 '33

My ups and downs in advertising; conclusion. S. R. Hall. Ptd Salesmanship 60:324-7 D '32

See also

Advertising agencies	Advertising ethics
Advertising artists	Advertising managers
Advertising copy	Advertising men
writers	

#### ADVERTISING campaigns

Advertising gas heat after changeover in St Louis. R. D. Lewis. il Gas Age 71:379-80+ Ap 15 '33

Advertising helps stabilize farm land values; Midwest farm committee. il Ptr Ink 161:55-6 N 17 '32

Building industry is fast learning how to sell; Johns-Manville's advertising program to dealers and homeowners exploiting a million dollars to lend. K. R. Dyke. Ptr Ink 163:25-8 Ap 6 '33

Campbell Soup starts biggest advertising program. Ptr Ink 164:6 S 21 '33

Canada Dry looks beyond the prohibition horizon. il Ptr Ink 163:68 My 4 '33

Coordinated retail advertising; Marshall Field & company direct-mail, radio, space and store display. J. N. Krohne. il Ptd Salesmanship 62:128-30+ O '33

Elements of continuity in department store campaigns: concentration in one newspaper; one style of border, type face, layout, illustration, and copy. E. R. Richer. il Ptd Salesmanship 61:300-1 J1 '33

5,000,000 bottles in eight weeks is Vicks goal; new antiseptic backed by \$1,200,000 campaign. il Ptr Ink 162:10+ Ja 26 '33



**ADVERTISING campaigns—Continued**

Ford dealers carry the flag; in a variety of campaigns of their own, they wage an open war with the enemy. *il Ptr Ink* 164:35-8 Ag 24 '33

Frigidaire's \$2,000,000 campaign. H. W. Newell. *Ptr Ink* 162:56+ Mr 23 '33

From barber shop to drug store; how advertising has helped Fitch's shampoo. W. C. Lamb. *il Ptr Ink* 163:5-6 Je 1 '33

From scratch to 200,000,000 yards in four years; Cluett, Peabody is advertising and selling its Sanforized process to the industry and consumers. J. C. Turrell. *il Ptr Ink* 162:17-20 Mr 30 '33

Gear your advertising to the sales program; suggested allotment for utility advertising funds. G. L. Jackson. *il Elec W* 102:54-6 Jl 8 '33

How G.E. fights competition of cheap merchandise. A. M. Howe. *il Ptr Ink* 161:53-6 D 29 '32

How to plan that next campaign; a formula for stretching the advertising dollar. F. R. Gilpatrick. *Ptr Ink* 164:39-40 S 28 '33

Kraft plants hum to meet demand as Miracle Whip goes national. *il Sales Management* 33:172 Ag 15 '33

Kraft's largest campaign; new product, processes and packages to be featured in newspapers and magazines. *il Ptr Ink* 162:54 F 9 '33

Most interesting advertising job I ever did; Underwood campaign. J. D. Tarcher. *il Ptr Ink* 162:57-9 Mr 16 '33

New pen campaign is keyed to dealer demonstrations; Wahl program. *il Ptr Ink* 164:76-7 S 14 '33

New soap enters advertising ranks; Kirk program. *il Ptr Ink* 163:32 My 18 '33

Permite merchandises package reconditioning. *Adv & Sell* 20:36 Mr 2 '33

Post card series opens \$2,000,000 campaign for announcement of new Shell product. *il Ptd Salesmanship* 61:170-1 My '33

Sales punch without ethical offense for drug products; Abbott laboratories. L. B. Colby. *il Sales Management* 32:472-3+ My 1 '33

Selling to customers' customers when markets decline; Lovell ties business papers, consumer magazines and direct mail into indirect advertising campaign. E. C. Doll. *Ptr Ink* 163:25-7 Ap 20 '33

Shell stakes \$2,000,000 on a new product. *il Ptr Ink* 163:5-6 Ap 6 '33

Sinclair's largest campaign. *Ptr Ink* 164:75 S 21 '33

600 newspapers introduce Skelly's tailor made gas. J. R. Bailey. *il Sales Management* 32:106-7 F 1 '33

That new Camel campaign. *il Ptr Ink* 162:10+ Ja 19 '33

Three million road demonstrations in two months. E. H. Shanks. *il Ptd Salesmanship* 61:143-5 My '33

Winning the ex-customers of a defunct rival; Whittall chenille. *il Ptr Ink Mo* 25:25+ D '32

See also

Buy now campaigns

**Radio tie-in**

New Blue Ribbon malt campaign features radio tie-in; newspaper cartoon series and script. *il Ptr Ink* 162:10+ Mr 23 '33

**Special weeks**

Cotton week improves with age and sells goods. *Textile World* 83:907 My '33

How Squibb weeks doubled business for 3,000 dealers. C. Eddy. *il Sales Management* 32:151-3+ F 15 '33

Life insurance week is actively observed. *Ins Field (Life ed)* 62:5-6+ Ap 21 '33; *Nat Underw (Life ed)* 37:1+ Ap 21 '33; *Weekly Underw* 128:774 Ap 22 '33

Objectives of financial independence week in which all life underwriters will assist. *Weekly Underw* 128:677+ Ap 8 '33

Trade prepares for national cotton week. *Comm & Fin* 22:423+ My 10 '33

Week of financial independence will be confidence boost. *East Underw* 34:1+ Ap 7 '33

**Testing**

Copy testing simplified; cross-file device spotlights the strong and the weak features of a given campaign. W. T. Laing. *Ptr Ink* 164:17-20 Ag 24 '33

Developing a new product in a competitive market; Bosco. W. C. Scull. *il Ptr Ink* 163:10-12 Je 22 '33

National distribution for new Kraft salad dressing. *Ptr Ink* 164:6 Jl 27 '33

Psychology offers new approach to marketing problems. S. W. Stevens. *il Ptr Ink Mo* 27:52+ O '33

Retail sales up 306 per cent, Parker expands campaign. *Ptr Ink* 164:48 Ag 24 '33

\$10,000 test as preliminary to direct-mail program; Household finance corporation. M. Harlan. *Ptr Ink* 162:62+ Mr 9 '33

Tested copy in Frigidaire largest mid-year campaign. *Ptr Ink* 164:29-30 Jl 13 '33

**ADVERTISING cards**

Signing 'em up; the how and why of building up sign and lettering business. 165p Trade-ways, inc, New York '33

What is modern and distinctive in car card and poster advertising? P. T. Haagen. *il Ptd Salesmanship* 61:152-5+ My '33

**ADVERTISING characters**

Dutch boy boosts Schnapps in Australia. *il Ptr Ink* 164:40-1 S 7 '33

A king goes to work; cartoon character iterates reasons why in new campaign on Red Crown gasoline. *il Ptr Ink* 164:11-12 Ag 31 '33

Lesson from the Campbell kids; one form of basic identification which carries over from campaign to campaign. A. Kemble. *Ptr Ink* 162:49-51 Ja 26 '33

Let's go to the dogs; advertising man's best friend. A. Dow. *il Ptr Ink Mo* 26:28-9 Ja '33

Making the advertising character do something; Union laundry makes Ann Prescott handle all claims. *il Ptr Ink* 161:68+ D 22 '32

Mickey Mouse—salesman. B. Crowell. *il Sales Management* 33:64-5+ Jl 15 '33

Mickey Mouse takes hand in sales. *Forbes* 32:22 O 1 '33

Money mouse. *il Fortune* 8:14+ O '33

Sunny Jim finds his Minny. *il Ptr Ink* 162:13 Mr 2 '33

Sunny Jim is back. *il Ptr Ink* 162:75 Mr 30 '33

That big bad wolf. *il Ptr Ink* 165:45 O 26 '33

Trials of a trade character. *il Ptr Ink* 163:40-1 Ap 13 '33

X marks the spot to get fine beer. P. Fennelly. *Ptr Ink* 164:98+ S 21 '33

**ADVERTISING clubs**

New Chicago club set-up. *Ptr Ink* 163:41 Je 22 '33

What an association can do to sustain interest in a depression year. *Ptd Salesmanship* 61:307+ Jl '33

**ADVERTISING contests. See Advertising—Prize contests****ADVERTISING copy**

Advertising and public vocabulary. *Ptr Ink* 162:61 F 9 '33

And now concerning copy. Published in bi-weekly numbers of Advertising and selling And now concerning copy: 1932 leaders. *Adv & Sell* 20:22+ D 22 '32

Appeal inventory and copy tests bring multiplied sales; Packer manufacturing co. E. A. Olds, jr. *il Ptr Ink* 163:3-4+ Je 29 '33

Bless the bromide for its brevity; Mr Donovan's substitutes for "Ask your grocer" are too long. D. Lamb. *Ptr Ink* 161:60-1 D 29 '32

Breaks every advertising law. E. H. Morrissey. *Ptr Ink* 164:75 Ag 3 '33

Consumers worry about their problems—not yours. B. F. Berfeld. *il Ptr Ink* 162:60-1 F 2 '33

Copy appeals for milk. *Ptr Ink* 165:35+ N 2 '33

Copy barbs that hook the prospect's interest. M. K. Powers. *il Ptr Ink Mo* 27:25-6 Jl '33

**ADVERTISING copy—Continued**

Copy—the dominating factor in successful advertising. H. C. Link. *Ptr Ink* 162:76-7 Ja 26 '33

Deadly bromides that make the advertising fall flat. H. M. Donovan. *Ptr Ink* 161:40-1 D 8 '32

Dialog that sounds real because it is real; Taylor instrument companies. E. E. Way. *il Ptr Ink* 164:27-8 Ag 24 '33

Effective advertising appeals. *Am Gas J* 137: 30-1 D '32; 138:31-2+ Ja; 35-7 F; 28-9 Mr; 43-4 Ap; 27-8+ My; 39-40 Je; 32-4 Ag '33

False faces. H. A. Batten. *il Ptr Ink Mo* 25: 22-3 D '32

Finds four-fifths of ads usually fail to click. *il Sales Management* 32:105+ F 1 '33

For trying out loud. T. H. Thompson. *il Ptr Ink Mo* 26:25+ Ap '33

Hard times—hard-tack copy. W. B. Ruthrauff. *Ptr Ink Mo* 26:30 Ja '33

How detachable copy helps meet changing conditions; Great-West life assurance company of Winnipeg, Manitoba, builds new advertisements out of used materials. *il Ptr Ink* 164:78-81 S 21 '33

How local touches make copy pull harder. R. Giles. *il Adv & Sell* 20:24+ Mr 2 '33

If advertising sells, it's good, rules or no rules. W. Raymond. *Ptr Ink* 164:73+ Ag 17 '33

If the egg-talk sounded tall, consider talk of men! A. H. Little. *Ptr Ink* 164:61-4 S 7 '33

Industrial copy is trending toward the specific. *Ptr Ink* 162:28 Mr 2 '33

Is copy important in the window display? S. Bratesman. *il Am Gas J* 138:28-9 Ap '33

Keying merchandising strategy to 1933 conditions; a study of advertising successes. D. Francisco. *Ptr Ink* 163:3-4+ Ap 13; 51-4 Ap 20 '33

Lines that live. T. H. Thompson. *il Adv & Sell* 21:30+ Ag 31 '33

Mail-order copy that sells overalls, seeds and prunes. J. L. Scott. *il Ptd Salesmanship* 60: 226-9+ N '32

Mania for copy tricks. R. Frothingham. *il Adv & Sell* 20:26+ D 8 '32

Me and mine. J. D. Adams. *il Adv & Sell* 20: 28 Ap 13 '33

Memory test for psychologists is Link critic recommendation. G. R. Buckpitt. *Sales Management* 32:220+ Mr 1 '33

Modest copy proves its power. *Adv & Sell* 21:28 Jl 6 '33

News flavor in business-paper advertising copy. D. Gridley. *il Ptr Ink* 162:59-61 F 23 '33

1933 trends in tested advertising. J. Caples. *il Ptd Salesmanship* 62:17-19+ S '33

Normal business; Julius Kayser & co. used letter and special newspaper advertisement to assure trade and public. L. Mayer. *il Ptr Ink* 162:19-20 Mr 16 '33

Proverbs as copy-patterns. M. K. Powers. *Ptr Ink* 164:24-6 Ag 17 '33

Quaker Oats returns Hopkins copy to the firing line. *il Ptr Ink* 164:20+ Ag 31 '33

Sensible advertising. T. F. Driscoll. *Ptr Ink* 164:3-5 S 21 '33

Six essentials of direct-result advertising. V. O. Schwab. *Adv & Sell* 21:26+ My 11 '33

Sound selling policy is often a forgotten asset as advertising theme. D. W. Northup. *Ptr Ink* 163:41-2 My 4 '33

These are times for sincerity. F. Fletcher. *Adv & Sell* 20:18 Mr 16 '33

This copy solves the small space problem; Simon and Schuster column. J. Lewis. *Ptr Ink* 165:84+ N 2 '33

This national advertising causes women to buy today; retail flavor and elastic program. Julius Kayser & co. G. S. Walton. *il Ptr Ink* 162:3-6 F 23 '33

25 objectives in dealer copy and how advertisers have attained them. *Ptr Ink Mo* 27:34-6+ O '33

Utter nadir of repartee, but this consumer likes it. B. W. Lewis. *Ptr Ink* 165:12-13 N 2 '33

What is phony? T. H. Thompson. *Ptr Ink* 164:3-4+ Ag 31 '33

What salesmen may contribute to the advertising. *Ptr Ink* 165:24 N 2 '33

When products burst into speech. A. H. Little. *il Ptr Ink* 164:62-4 Jl 20 '33

Why friendly copy is best; Hudson motor car company. M. Wiseman. *il Ptr Ink* 164: 33-6 S 14 '33

Wither's copy angle; old poet enunciated an advertising principle. R. Dickinson. *il Ptr Ink* 163:47-50 My 18 '33

Woman consumer scans advertising. *Ptr Ink* 165:107-8+ O 12 '33

**See also**

Advertisements—	Advertisements,
Headlines	Humorous
Advertisements—	Advertising ethics
Testing	Sales letters

**Competitive copy**

Competitive copy not needed here; Bayuk built capacity cigar production without knocking other forms of smoking. A. J. Newman. *il Ptr Ink* 163:24-6 Je 29 '33

Convascence—and custard pies; competitive advertising. P. Hollister. *Adv & Sell* 21:15 Jl 6 '33

Elephants, camels—and cars. *Ptr Ink* 164: 80 S 14 '33

Highlights of the Ford-against-the-field fight. *il Adv & Sell* 21:48+ S 14 '33

If advertisers must fight; why don't they protect themselves against looking ridiculous? *Ptr Ink* 164:40-1 Jl 6 '33

More back-fence advertising; Plymouth and Chevrolet dealers in Columbus. *Ptr Ink* 165:28 O 12 '33

Round four; Chevrolet lands a blow on Ford in the three-cornered automobile fight. *Ptr Ink* 164:11-12 S 7 '33

So he bought a horse. *Ptr Ink* 164:10+ S 21 '33

Steel is enough says Ford; touches off new auto fight. *Sales Management* 33:161 Ag 15 '33

When competitive advertising need not be destructive; some principles, with special reference to tire industry. J. Benson. *Ptr Ink* 161:53-5 D 15 '32

Word war; mayonnaise and salad dressing, steel and steel-wood motor bodies are arguing in public. *Business Week* p20-1 Ag 26 '33

**Credibility**

Disarm advertising. R. Giles. *Adv & Sell* 21: 16-17+ Je 8 '33

Gimbels tells all. A. Bradbury. *il Ptr Ink* 163:76-7 Je 8 '33

Oh yeah copy and why it is treacherous stuff. M. K. Powers. *Ptr Ink* 162:17-19 Ja 5 '33

Truth; Gimbel's brand. *Business Week* p14 Je 10 '33

**Credit appeal**

Faith with action; Lehn & Fink met banking emergency by special offer. E. Plaut. *il Ptr Ink* 162:17-18 Mr 16 '33

**Demonstrations and tests**

New pen campaign is keyed to dealer demonstrations; Wahl program. *il Ptr Ink* 164: 76-7 S 14 '33

Putting drama into the copy. D. Masson. *il Ptr Ink* 161:68-70 N 24 '32

Quality evidence; Los Angeles milk company suggests simple test of advertised claims. *il Ptr Ink* 162:36 Mr 23 '33

When customers pooh-pooh your big sales point; Chase brass & copper company got 12,000 plumbers to convince themselves. D. Masson. *il Ptr Ink Mo* 26:41+ Ja '33

**Dramatic quality**

Notes on the use of imagination in industrial advertising; Jones & Laughlin steel corporation. G. C. Congdon. *il Ptr Ink* 163:8-10+ Je 15 '33

Pegasus in a collar; fantasy and drama, harnessed to industrial advertising. E. Biggs. *Ptr Ink* 163:17-20 Je 22 '33

Salesmanship in wood; Society brand suits of Tyburn Twist fabric. *il Ptr Ink* 162:62 Mr 16 '33



**ADVERTISING copy**—Dramatic quality—*Cont.*  
Six ads that pulled big; six ads that didn't,  
and why; Bonwit Teller. G. Bijur. il Ptr  
Ink Mo 26:24-5 F '33  
Stage the technical copy! W. E. McFee. Ptr  
Ink 162:3-4+ F 2 '33

#### Fashion appeal

Discovering and recognizing the real market;  
Tubize Chatillon corporation. R. Dickinson.  
il Ptr Ink 161:25-7 D 22 '32

#### Fear appeal

Safe refrigerators; Grunow advertising. Busi-  
ness Week p14 My 10 '33

#### Happiness appeal

Happiness theme dominates life insurance  
advertising. W. A. Law. il Ptr Ink 164:  
24-6 Ag 10 '33

#### Health appeal

Brewers advertise health benefits of beer. il  
Ptr Ink 163:72-3 Je 22 '33  
Dutch boy boosts Schnapps in Australia. il  
Ptr Ink 164:40-1 S 7 '33  
Giving the secondary product a place in the  
advertising; butter, cream and cheese are  
effectively presented in milk campaign. il  
Ptr Ink 161:72-3 D 1 '32  
Railroad calls on Dr Nature to sell vacation  
trips. il Ptr Ink 164:61 J1 13 '33

#### Historical appeal

Haere mai! Texaco; a New Zealand advertis-  
ing theme. V. H. Freeth. il Ptr Ink 164:78+  
Ag 31 '33

#### Human interest appeal

Kroger personalizes copy. il Adv & Sell 21:40  
Ag 31 '33  
Most interesting advertising job I ever did;  
Edgeworth advertisement from 1914. F. R.  
Feland. Ptr Ink 162:45-6 Mr 30 '33

#### Humor

See Advertisements, Humorous

#### Language

But does your copy pass the English test? G.  
W. Freeman. Adv & Sell 20:22-3 Ja 5 '33  
Quick, Amos, the dictionary! A. Bradbury.  
Ptr Ink Mo 27:37-8 Ag '33

#### Length

Name publicity. il Ptr Ink 162:51-2 Mr 2  
'33  
This layout shrinks long copy. M. K. Powers.  
il Ptr Ink Mo 26:35-6 Mr '33  
When copy is too long. Ptr Ink 163:84-5 Je  
22 '33

#### Negative appeal

Advertising tragedy; overworking of advertis-  
ing diseases. P. H. Erbes, jr. Ptr Ink 163:  
40-1 Je 22 '33  
At last, a friend who told. il Ptr Ink 161:16 D  
29 '32  
Shun M. S.! warns P. & G. il Ptr Ink 164:  
12 Ag 10 '33

#### News interest

Come back, Judge Crater. il Ptr Ink 164:26 S  
7 '33  
Copy can be sales-making news to the read-  
ing public; Maranville tire story. W. T.  
Laing. Ptr Ink 164:52-4 S 28 '33  
News angle adds strength to this advertis-  
ing copy; National board of fire under-  
writers. il Ptr Ink 164:26-7 S 28 '33

#### Patriotic appeal

Buy American—with a reason why; Hygrade  
sylvania. il Ptr Ink 161:41-2 D 1 '32

#### Pleasure appeal

Tea for sale; Chase & Sanborn tea that  
sways the senses. il Fortune 8:34-8 Ag '33

#### Price appeal

Colgate-Palmolive twins. il Ptr Ink 164:17 S  
14 '33  
Current trends in gas company advertising.  
il Am Gas J 139:20-2 S '33

Depression as advertising theme of steamship  
campaign. il Ptr Ink 163:51-2 Ap 27 '33  
5,000,000 bottles in eight weeks is Vicks goal;  
new antiseptic backed by \$1,200,000 cam-  
paign. il Ptr Ink 162:10+ Ja 26 '33  
Gold Dust tests economy appeal; new double-  
size package. il Ptr Ink 162:6 Mr 16 '33  
Uses deductive epigram; Habanello cigar. il  
Ptr Ink 164:78 J1 6 '33  
When writing dealers about new price rises.  
D. Gridley. Ptr Ink 164:82-3+ S 21 '33  
Why Douglas shoe has gone back to 1876  
prices. il Ptr Ink 163:36-7 Ap 20 '33

#### Price justification

Four major jobs for advertising under In-  
dustrial recovery; fairer competition, jus-  
tification for price increases, winning new  
customers, gaining acceptance for new  
products. K. R. Costikyan. Ptr Ink 164:41-3  
Ag 31 '33

#### Price quoting

Gillette blade price cut. il Ptr Ink 164:85  
Ag 31 '33  
How to advertise a price-rise; a bald an-  
nouncement may suffice—but reasons-why  
will pave the way for future sales. il Ptr  
Ink 164:33-5 Ag 10 '33  
Lesson of \$5 hats; Stetson company. G. V.  
MacKinnon. il Ptr Ink 161:17-20 D 15 '32

#### See also

Radio advertising—  
Price quoting

#### Pseudo-science

Science says. F. T. Kimball. Adv & Sell 20:  
24+ Ja 5 '33

#### Quality appeal

Adapting a quality theme to a price market;  
Admiration cigars. E. J. Regensburg. il Ptr  
Ink 163:44-6 Ap 20 '33  
Asks consumers for a vote of confidence—and  
gets it; coupon enables Wamsutta mills to  
answer low-price cries of dealers. Ptr Ink  
161:10+ D 1 '32  
Bargains, NRA style. il Ptr Ink 165:10 O 12  
'33  
Bell-wether merchandising; Viscose company  
used Fifth avenue as starting point to get  
national acceptance. J. A. Spooner. il Ptr  
Ink Mo 26:19+ Je '33  
Bobbins makers advertise against cheap for-  
eign goods. Ptr Ink 162:54 Mr 23 '33  
Central idea in an advertising campaign;  
quality campaign sponsored by Marshall  
Field and company. il Ptd Salesmanship  
61:336-9+ Ag '33  
Chasing the chiseler; Goodrich policy adver-  
tising. A. Bradbury. il Ptr Ink 162:3-4 Mr 16  
'33  
How a quality story meets cut-price competi-  
tion; to consumers and trade, Telechron  
tells good, hard facts. W. K. Opdyke. il  
Ptr Ink 164:17-20 J1 6 '33  
How G.E. fights competition of cheap mer-  
chandise. A. M. Howe. il Ptr Ink 161:53-6  
D 29 '32

Importance of recognition value in adver-  
tising; Rogers Peet company. R. M.  
Ferns. il Ptr Ink 165:72-3+ N 9 '33

Is quality advertising on its way back? J.  
L. Scott. il Ptd Salesmanship 61:273-5 J1 '33  
Six optical jobbers join hands in fight for  
quality. S. E. Rosenbacher. il Ptd Sales-  
manship 61:149-51 My '33

Step down campaign that steps up the unit  
of sale; ABC washers. G. E. Mitchell. il  
Ptd Salesmanship 62:101-2+ O '33

Time is ripe for trading up, believes Clinton  
Carpet. il Ptr Ink 162:51-2 Mr 23 '33

Why oil association will enlarge its advertis-  
ing program; Pennsylvania grade crude oil  
association. T. O. Grisell. il Ptr Ink 162:  
32-3+ Mr 30 '33

#### Reason appeal

Attractive advertising, yes; but why not in-  
formative, too? C. B. Larrabee. il Ptr Ink  
163:32-4 Ap 27 '33

**ADVERTISING copy—Reason appeal—Cont.**

Back to reason—why copy; American stove company. il Ptr Ink 162:77-8 Mr 30 '33

Emotionalism takes "why" from reason—why copy. W. E. McFee. Ptr Ink 161:44-5 N 24 '32

Getting down to fundamentals; Luden's, inc. went back to the product itself. R. Dickinson. il Ptr Ink 162:25-7 Ja 12 '33

How to advertise a price-rise; a bald announcement may suffice—but reasons—why will pave the way for future sales. il Ptr Ink 164:33-5 Ag 10 '33

Humor vs. straight facts. B. A. Grimes. Ptr Ink 164:64-5 Ag 3 '33

Reasons—why—plus. il Ptr Ink Mo 27:17 Ag '33

Yes, even against odds, steady effort wins; American cable co. J. O. Lashar. il Ptr Ink 163:64-6 My 18 '33

**Recipes**

See Advertisements—Cook books and recipes

**Revision**

Fine art of blue-penciling. M. K. Powers. Ptr Ink 165:73, 76 O 5 '33

Wanted; capable copy readers. J. B. Gray. Ptr Ink Mo 26:30-1 Mr '33

**Rimes**

Pegasus at the post. P. H. Erbes, jr. Ptr Ink 164:53-5 S 14 '33

Sunny Jim brings back jingles. il Ptr Ink 163:74 My 11 '33

**Scientific research**

Science says. F. T. Kimball. Adv & Sell 20:24+ Ja 5 '33

**Social appeal**

Makes NRA work for orders. il Ptr Ink 165:60 O 26 '33

**Specialization**

Bull's-eye advertising; advertisers are learning the value of aiming their messages directly at the audiences for which the various media are edited. C. B. Larrabee. il Ptr Ink Mo 27:13-14+ O '33

Fitting the advertising message to the medium. M. K. Powers. Ptr Ink 164:17-19 J1 27 '33

How advertising meshes with the new selective selling; analysis by territory, buying power and other factors. K. Groesbeck. Ptr Ink 161:3-4+ D 22 '32

Making the copy fit the market, hotel advertisements to West Pointers. il Ptr Ink 161:45 D 8 '32

Tailored advertising; Reliance property management, inc. W. Baker. il Ptr Ink 162:62-4 F 9 '33

**Sports stories**

Shaving cream features cool moments in sport. il Ptr Ink 162:32 F 2 '33

**Teaser copy**

Most interesting advertising job I ever did. J. K. Fraser. Ptr Ink 162:10+ F 2 '33

New copy theme for new gas. il Ptr Ink 164:44 J1 6 '33

Post card series opens \$2,000,000 campaign for announcement of new Shell product. il Ptd Salesmanship 61:170-1 My '33

Shell stakes \$2,000,000 on a new product. il Ptr Ink 163:5-6 Ap 6 '33

**Testimonials**

Consumer ballots determine copy theme for Van Dyck. L. M. Hughes. il Sales Management 33:153+ Ag 15 '33

Customers write advertising that sells our bank's services. W. H. Neal. il Bankers Mo 49:747 D '32

Dismisses testimonial complaints against Standard brands, inc. Ptr Ink 163:63 Ap 6 '33

How can testimonial letters be used in catalogs? A. D. Luse. il Ptd Salesmanship 61:178-9 My '33

How to dictate letters that prove their case. B. Bigelow. il System and Management Methods 62:344-6+ Ag '33

Let somebody else do the talking sometimes! W. H. Snead. il Ptd Salesmanship 62:106-8 O '33

New Camel campaign. il Ptr Ink 163:42 Je 29 '33

Old Dutch shows appreciation. il Ptr Ink 162:33 Mr 9 '33

Old-time fighters come back—to boost Omega oil. Ptr Ink 164:48 S 14 '33

Testimonials with the quality touch; Pierce-Arrow motor car company. il Ptr Ink 162:28 Ja 12 '33

This testimonial campaign is self-perpetuating; Pequot mills. il Ptr Ink 165:98-9 O 12 '33

Vienna medical faculty on yeast testimonials. Science 77:sup9 Ja 13 '33; Same. Sci Am 148:230-1 Ap '33

**Testing**

See Advertisements—Testing

**Themes**

Basic theme need never be discarded; copy, layouts and illustrations should be changed. B. L. Dunn. il Ptr Ink Mo 26:25-6+ Je '33

Finding a central theme for the entire industrial line; Bucyrus-Erie company. A. Andrews. Ptr Ink 164:79-80 J1 6 '33

Smokers set advertising theme of new 5-cent cigar; Van Dyck program; advertising follows distribution. A. M. Howe. il Ptr Ink 162:6+ Mr 9 '33

**Thrift appeal**

Delco features air diet. Ptr Ink 164:16 Ag 3 '33

G.E. floods the country with leaky faucets. N. W. Townsend. il Ptr Ink Mo 27:15-6 N '33

Savings dramatized; Koppers Philadelphia coke advertising. il Ptr Ink 162:47-8 F 23 '33

**Use appeal**

Hosiery ads miss the mark; women object to emphasis on beauty instead of service.

R. C. Cook. il Adv & Sell 21:20+ J1 20 '33

Performance—a fifteen-year industrial copy theme; SKF industries, inc. R. C. Byler. il Ptr Ink Mo 26:37+ Ap '33

This company advertises its competitors' products; U. S. industrial alcohol co. L. S. Gillette. il Ptr Ink 164:59-62 S 28 '33

**ADVERTISING copy writers**

Ad men win by-lines at last. J. J. McCarthy. Adv & Sell 21:16+ Ag 3 '33

I want my boy to be a writer of advertisements. W. E. McFee. Ptr Ink 164:74-5 Ag 3 '33

Matador; Tom Ryan. Adv & Sell 20:22-3+ Ap 13 '33

True uses of J. K. Fraser. H. Powel. Adv & Sell 20:22-3+ Mr 30 '33

When I go back to work; thirty-eight solemn resolutions by a jobless copy man. Ptr Ink 164:10+ S 28 '33

**ADVERTISING cut-outs**

Huge auto cut-out order is printed in five colors at one impression. C. B. Davis. il Inland Ptr 90:36 Ja '33

Post Toasties puts cutout toys on its package. il Ptr Ink 163:68 My 11 '33

**ADVERTISING departments**

As the advertising manager said to the sales manager; Woodbury company and Jergens company. H. J. Emptage and R. V. Beucus. il Ptr Ink 161:25-8 D 1 '32

How shall the advertising job be divided between advertiser and agency? B. R. Canfield. Ptd Salesmanship 60:304-7 D '32

Keeping track of advertising material; a system for filing cuts and artwork. il Ptr Ink 163:47-8 Je 1 '33

Routine of the advertising department. R. H. W. Cox. 193p \$3 (10s 6d) Pitman '33

347 branch managers join this advertising department; Beneficial management corporation. R. L. Stratford. Ptr Ink 162:40-1+ Ja 12 '33

**See also**

Advertising managers



## ADVERTISING departments—Continued

## Records

How time budgeting and a simple operation code aids executives. B. Bigelow. Management Methods 62:169+ Ap '33

## ADVERTISING ethics

Advertisers, agencies and publishers unite to enforce ethics. Sales Management 32:184 F 15 '33

Advertisers defy their critics; challenge statements in "100,000,000 guinea pigs." Forbes 31:12-13 F 15 '33

Advertising agency NRA code would enforce honesty in advertising. Ptr Ink 164:25-8 Ag 31 '33

Advertising and hard times: a challenge to business. H. A. Batten. Ptr Ink 161:3-4+ N 17 '32; Excerpts. Adv & Sell 20:19+ N 24 '32

A.F.A. commends advertising code to government. Ptr Ink 164:25-6 J1 6 '33

Advertising's responsibility in the restoration of quality standards. P. H. Nystrom. il Adv & Sell 21:24+ Ag 17 '33

Advertising's review committee to function this way. Ptr Ink 163:68-9 Ap 20 '33

Associated manufacturers of toilet articles will censor advertising. Oil Paint & Drug Rep 123:14 Mr 27 '33

Camels and magicians are still at it; "it's fun to be fooled" campaign. il Ptr Ink 163:10-12 Ap 6 '33

Can we blame the depression for the decline in advertising returns? R. W. Johnson. Ptd Salesmanship 61:305-6+ J1 '33

Canada Dry. Ptr Ink 164:10 Ag 31 '33

Committee completed to review questionable advertising. Ptr Ink 162:77-8 F 9 '33

Convalescence—and custard pies; competitive advertising. P. Hollister. Adv & Sell 21:15 J1 6 '33

Copy is a noun. M. Goddman. Ptr Ink 165:32 N 9 '33

False advertising, demonstrators under attack; toilet goods manufacturers to call trade practice conference. Ptr Ink 163:80-1 My 11 '33

How far have our advertising standards been lowered? R. W. Johnson. il Ptd Salesmanship 62:131-2+ O '33

How honest is advertising? Comm & Fin 22:794 S 13 '33

How NRA can mean new deal for advertising copy. M. K. Powers. Ptr Ink 164:10+ S 14 '33

If advertisers must fight; why don't they protect themselves against looking ridiculous? Ptr Ink 164:40-1 J1 6 '33

Is this cartoon worth \$100,000? 125 West Coast newspapers warned by advertising agency. il Refrig W 68:10-12+ Ja '33

Lacquer oxidation claims. Oil Paint & Drug Rep 123:14 My 29 '33

Magicians make noisy protest at Camel campaign. il Ptr Ink 162:27-8 F 2 '33

Mr Batten's blast brings call for advertising housecleaning. L. Kelley. Ptr Ink 161:63-4 D 1 '32

Newspaper executives take stand for honest advertising. Ptr Ink 164:69 J1 6 '33

Review committee ready to work. Ptr Ink 164:36 J1 20 '33

Submits standard advertising clause for codes. Ptr Ink 165:45 O 5 '33

Truth in advertising. D. Knowlton. Econostat 1:16-17 Ap 1 '33

Truth in advertising; John Irving Romer's part in it. H. S. Houston. Ptr Ink 164:10 Ag 24 '33

Truthful advertising is essential to business recovery. A. Capper. Ptr Ink 163:52-5 Je 29 '33

What the codes say about advertising and selling practices. Adv & Sell 21:32 O 12 '33

When competitive advertising need not be destructive; some principles, with special reference to tire industry. J. Benson. Ptr Ink 161:53-5 D 15 '32

When emphasis is no emphasis. H. A. Casey. Ptr Ink 161:5-6 D 29 '32

## See also

Advertising—Laws and regulations

Advertising, Fraudulent

## ADVERTISING federation of America

Annual convention, Grand Rapids, Mich. June 26-29. Ptr Ink 163:33-6 Je 29; 164:25-6 J1 6 '33

Annual convention, Grand Rapids, Mich. June 26-29; abstracts. Adv & Sell 21:16 J1 6 '33

## ADVERTISING managers.

Gallery: Raph Starr Butler. R. K. Leavitt. Adv & Sell 21:22+ J1 6 '33

How time budgeting and a simple operation code aids executives. B. Bigelow. Management Methods 62:169+ Ap '33

That master mind complex of the advertising manager. P. Boucheron. Ptr Ink 161:44-6 D 15 '32

## ADVERTISING mediums

Advertiser looks at the weather. S. Peabody. Ptr Ink 165:3-4, 92-4 O 26 '33; Excerpts. Adv & Sell 21:22+ O 26 '33

Advertising weighs the liquor question; publishers' liquor policies. Adv & Sell 21:18-19 O 26 '33

A.N.A. letter on circulation. Ptr Ink 162:37 Mr 9 '33

ANA urges advertisers to demand publishers audit circulations. Sales Management 32:262 Mr 15 '33

Bread and butter plan book multiplies coupons 19 times; Royal typewriter company. L. M. Hughes. il Sales Management 33:206+ S 1 '33

Bull's-eye advertising; advertisers are learning the value of aiming their messages directly at the audiences for which the various media are edited. C. B. Larrabee. il Ptr Ink Mo 27:13-14+ O '33

Fallacy of the inquiry. Ptr Ink Mo 25:28+ D '32

Forced circulation an ancient evil; P. I. editorial written twenty-two years ago. Ptr Ink 163:70-1 Ap 13 '33

Four A's letter on circulation. Ptr Ink 162:78 Mr 23 '33

Four A's works on advance payment dates. Ptr Ink 165:64 N 9 '33

How a space buyer uses experience. B. Duffy. Ptr Ink Mo 27:23-4 J1 '33

Liquor advertising hits some snags; with list of some newspapers refusing liquor advertisements. Adv & Sell 22:18+ N 9 '33

Media used in 1932 and 1933; statistics. Sales Management 33:112 Ag 1 '33

\$150,000 worth of space buying. R. F. Owsley. Adv & Sell 20:24+ F 2 '33

Radio fan newspaper that promotes an advertiser's program; Associated oil company merchandises its advertising thru Associated Spotlight. S. T. Moore. il Ptd Salesmanship 61:165-7 My '33

Revised standard order blank adopted. Ptr Ink 164:46 J1 27 '33

Several million dollars worth of space buying. R. F. Owsley. Adv & Sell 20:24+ F 16 '33

Who will and won't accept liquor ads? list of magazines, farm papers and newspapers. Ptr Ink Mo 27:19, 34, 37 N '33

Why the space buyer should know individual media. H. E. Hendrick. Ptr Ink 164:12-13 Ag 3 '33

## See also

Advertising—Rates  
Advertising, Soliciting  
of  
Advertising, Telegraph  
Audit bureau of circulations

Blotters  
Electric signs  
Milline  
Moving pictures in advertising  
Radio advertising

## Farm papers

Farm paper summary for December; commercial advertising lineage. Ptr Ink 162:114 Ja 19 '33 [cont monthly]

## Menus

Advertising on railroad menus. Adv & Sell 163:26 Je 15 '33

## ADVERTISING mediums—Continued

## Motor trucks

Mobile P. A. systems. Z. Bouck. *il* Radio N 14:748-9 Je '33

## Newspapers

Are contests news? General Baking gets seven papers to run publicity. *Sales Management* 32:443 Ap 20 '33

F.T.C. finds newspapers carry bulk of chain advertising. *Adv & Sell* 21:36 O 26 '33

Four-color newspaper advertising hinges on care given printing. V. W. Challenger. *Inland Ptr* 91:26 Ap '33

Good newspaper promotion as a space buyer sees it. *Ptr Ink* 164:47-8 Jl 13 '33

Is there a trend toward color and rotogravure? tabulation of papers, groups, circulation, costs. *Sales Management* 33:158-60 Ag 15 '33

Linage in newspaper promotion. *Ptr Ink* 164:26-7 Jl 6 '33

Market and newspaper statistics—108 cities. 255p American assn. of advertising agencies, New York '33 [photolithographed]

Needed: closer working plan in advertising as a whole. J. Benson. *Ptr Ink* 164:88-9, 92-3 Jl 6 '33

New Four A newspaper study. *Ptr Ink* 164:13 Ag 31 '33

Newspaper executives take stand for honest advertising. *Ptr Ink* 164:69+ Jl 6 '33

One pound of radio vs. four feet of printing ink—a bibliography. V. M. Ratner. *Adv & Sell* 21:54-5+ Ag 17 '33

See profit in offset photo sections; small-city publishers may imitate gravure picture feature of metropolitan newspapers. D. H. De Michaels. *Inland Ptr* 91:22 Ap '33

357 advertisers spent \$121,195,000 in newspapers last year. *Ptr Ink* 163:29 Je 8 '33

Weighing one pound of radio against four feet of printing ink. K. Groesbeck. *il Adv & Sell* 21:19+ Jl 20 '33

## See also

Advertisements, Classified—Advertising—Rates  
Advertisements, Pictorial—Comic strip  
Newspapers—Advertising service

## Periodicals

Editorial methods basis of this advertising program; Heinz goes to magazines and newspapers. *il Ptr Ink* 164:44-6 S 7 '33

Four magazines show the way; Collier's weekly, Saturday evening post, McClure's and Everybody's. R. Frothingham. *Adv & Sell* 20:26 N 24 '32

How magazine advertising rates are established. L. W. Maxwell. *Ptr Ink* 163:57-8, 60-2 Je 8 '33

Magazine circulation study. *Ptr Ink* 165:86 N 9 '33

One pound of radio vs. four feet of printing ink—a bibliography. V. M. Ratner. *Adv & Sell* 21:54-5+ Ag 17 '33

Ritter makes its house organ do double duty as a magazine insert. G. E. Mitchell. *il [8p insert] Ptd Salesmanship* 61:340-3 Ag '33

Space buying during a depression; recent methods of building circulation. A. Cobb, jr. *Adv & Sell* 20:16 Ap 27 '33

Trend towards realism in magazine making. M. Cole. *il Adv & Sell* 21:20-1+ Ag 31 '33

280 accounts invest \$84,122,745 in magazine advertising in 1932. *Ptr Ink* 162:56-8 Ja 26 '33

Weighing one pound of radio against four feet of printing ink. K. Groesbeck. *il Adv & Sell* 21:19+ Jl 20 '33

## Rating

One pound of radio vs. four feet of printing ink—a bibliography. V. M. Ratner. *Adv & Sell* 21:54-5+ Ag 17 '33

Weighing one pound of radio against four feet of printing ink. K. Groesbeck. *il Adv & Sell* 21:19+ Jl 20 '33

## Street cars

Advertising as it is done abroad; signs on street cars. *il Elec Traction* 29:8-9 Ja '33

## Testing

Here's new method of measuring media markets; use of product among publication readers is established at the same time brand familiarity is determined. R. Blumberg. *Ptr Ink* 165:24-6 O 26 '33

How we test and check direct mail and newspaper advertising; Postal life & casualty company, Kansas City, Mo. M. B. Salisbury. *Sales Management* 33:405-6 O 20 '33

Wherein isolation research can convey wrong idea. E. H. Gault. *Ptr Ink* 164:27-8 Jl 20 '33

## Trade journals

Advertising to business under the new deal. D. Taylor. *Ptr Ink* 165:67-9 O 26 '33

Art of advertising; selecting journals. W. L. Hill. *Soc Chem Ind J (Chem & Ind)* 51:sup S12-13 N 18 '32

Attack the prospect on all sides; co-ordinating national and industrial advertising. S. L. Meulendyke. *Ptr Ink* 161:48 N 17 '32

Bacon's publicity manual. 88p \$3 R. H. Bacon & co, Chicago '33

Precision space buying is goal of industrial advertisers. *Ptr Ink* 163:40-1 Je 29 '33

What a space buyer wants to know about business papers. E. G. Jacobi. *Ptr Ink* 163:74-6 My 4 '33

## See also

Advertising—Industries, Appeal to

## ADVERTISING men

Mr Emmett started something; record of nineteen years challenged by many. *Ptr Ink* 162:56-8 F 23 '33

Mr Mitchell now has the palm; 20 years on one account. B. S. Laitin. *Ptr Ink* 162:79 Ja 12 '33

Mr Presbrey and Shredded Wheat. *Ptr Ink* 162:43 Ja 19 '33

Most interesting advertising job I ever did. J. K. Fraser and others. *Ptr Ink* 162:10+ F 2; 15 F 9; 33-5 F 16; 35-6 F 23; 10+ Mr 9; 57-9 Mr 16; 41-2 Mr 23; 45-6 Mr 30 '33

Served one account 27 years. J. O. Powers. *Ptr Ink* 162:59 Ja 26 '33

30 years with one account. O. F. Cooper. *Ptr Ink* 162:56 F 2 '33

Waiting out the depression. *il Adv & Sell* 20:26 Mr 16 '33

## See also

Advertising copy writers

Advertising managers

ADVERTISING models. See Models, Advertising

## ADVERTISING novelties

Introduce new product with games; Denver powerine company. *Pet Age* 27:41 Ja '33

Nine forms of paper premiums that are finding popular approval. G. E. Mitchell. *il Ptd Salesmanship* 62:54-7+ S '33

Operable advertising: what it is, and how it works; Mills novelty company. W. A. Kitredge. *il Ptd Salesmanship* 61:172-4+ My '33

Shall we give them gadgets. A. W. Barnes. *Adv & Sell* 20:21+ Ja 5 '33

Tricky direct mail that didn't do the trick; Ozite rug cushions. R. A. Phelps. *il Ptr Ink* Mo 26:23-4 Ap '33

## See also

Blotters

## ADVERTISING policies

Advertising as a fair weapon in competitive selling; applications to the dairy industry. D. Francisco. *Ptr Ink* 161:51-4+ D 1 '32

Advertising in overalls; Republic steel corporation. L. S. Hamaker. *il Ptr Ink* Mo 26:28-9+ My '33

Barren markets are dropped as advertising budget is cut; Armco overcomes shrinking appropriation. W. McFee. *Ptr Ink* 163:47-9 Je 29 '33

Concentrates on productive markets; B. T. Babbitt, inc. L. J. Gumpert. *il Ptr Ink* Mo 26:19+ My '33

Cutting out waste in technical advertising. A. H. Angus. *Soc Chem Ind J (Chem & Ind)* 51:sup S2+ N 18 '32



**ADVERTISING policies—Continued**

- Elements of continuity in department store campaigns: concentration in one newspaper; one style of border, type face, layout, illustration, and copy. E. R. Richer. *il Ptd Salesmanship* 61:300-1 *Jl* '33
- Five points that jumped sales of new line 400 per cent; Outdoor Girl products. M. Picker. *il Ptd Ink* 161:17-19 *N* '32
- Give MacDonald a chance; not presidential interference, but help. R. Dickinson. *Ptd Ink* 163:17-20 *Ap* 6 '33
- How this advertiser keeps sales ahead of boom days; Scott paper company. T. B. McCabe. *il Ptd Ink* 162:3-6 *Mr* 23 '33
- Increasing profits through better management of advertising. *Sales Management* 33:364+ *O* 10 '33
- Major executives have most voice in advertising budgets and media. *Sales Management* 31:525 *D* 15 '32
- New leadership; presidents must jump into the advertising job. R. Dickinson. *il Ptd Ink* 162:49-52 *Mr* 16 '33
- Recovery program of twenty-five advertisers. *Ptd Salesmanship* 62:116-19+ *O* '33
- Successful sampling requires select lists; Campana Italian balm. L. Anson. *il Ptd Salesmanship* 60:237-9+ *N* '32
- Uses consumer market as an industrial demonstrator; International Nickel continues sampling idea with increased advertising of new monel metal tanks and heaters. R. Dickinson. *il Ptd Ink* 163:62-5 *Je* 29 '33
- Wherever MacDonald sits; the big chief is looking into advertising costs. R. Dickinson. *Ptd Ink* 162:3-4+ *Mr* 2 '33
- Why advertising is responsibility of company's head. C. R. Gardiner. *Ptd Ink* 162:80 *Mr* 23 '33

*See also*

Advertising appropriations

**ADVERTISING portfolios**

- Advertising portfolio plus; how General Foods helps its salesmen and dealers. E. T. Sajous. *il Ptd Ink* *Mo* 26:16-17 *Je* '33

**ADVERTISING rates. See Advertising—Rates****ADVERTISING research**

- ANA seeks sales-advertising ratio of 2,000 firms in budget study. *Sales Management* 32:441 *Ap* 20 '33
- Copy tests of pulling power are not enough. W. F. Wright. *Ptd Ink* 165:92-3+ *N* 2 '33
- Copy—the dominating factor in successful advertising. H. C. Link. *Ptd Ink* 162:76-7 *Ja* 26 '33
- Finds four-fifths of ads usually fail to click. *il Sales Management* 32:105+ *F* 1 '33
- Here's new method of measuring media markets; use of product among publication readers is established at the same time brand familiarity is determined. R. Blumberg. *Ptd Ink* 165:24-6 *O* 26 '33
- New method of testing advertising effectiveness. H. C. Link. *Harvard Business R* 11:165-77 *Ja* '33; Correction. 11:528 *Jl* '33
- Psychology offers new approach to marketing problems. S. W. Stevens. *il Ptd Ink* *Mo* 27:52+ *O* '33
- \$10,000 test as preliminary to direct-mail program; Household finance corporation. M. Harlan. *Ptd Ink* 162:62+ *Mr* 9 '33
- Wherein isolation research can convey wrong idea. E. H. Gault. *Ptd Ink* 164:27-8 *Jl* 20 '33
- World-wide consumer study tells Bauer & Black how to aim copy. *Sales Management* 32:483 *My* 1 '33

*See also*

Advertising—Psychology

**ADVERTISING review committee**

- Advertising's review committee to function this way. *Ptd Ink* 163:68-9 *Ap* 20 '33

**ADVERTISING themes. See Advertising copy—Themes****AERATORS**

- Simple aquarium aerator. E. C. Driver. *diag Science* 77:565-6 *Je* 9 '33

**AERIAL** photography. *See* Photography, Aerial

**AERIAL** ropeways. *See* Cableways

**AERIAL** surveying. *See* Surveying, Aerial

**AERO** insurance underwriters

- Formed by five company groups. *East Underw* 33:22 *N* 18 '32; *Nat Underw* 36:4 *N* 17 '32

**AEROARCTIC**. *See* International society for the exploration of the Arctic regions by means of aircraft

**AERODROMES**. *See* Hangars

**AERODYNAMIC** research

- National physical laboratory; aerodynamics department. *diags Engineering* 136:209-11, 379 *S* 1, *O* 6 '33

**AERODYNAMICS**

- Aerodynamic aspects of air conditioning. S. M. Anderson. *il diags Refrig Eng* 26:181-4+ *O* '33

- Aerodynamic characteristics of automobile models. R. H. Heald. *bibliog diags pl U S Bur Stand J Research* 11:285-91 *Ag* '33; *Abstract. Science* 78:sup8 *N* 3 '33

- Aerodynamics of an arrow. G. J. Higgins. *J Fr Inst* 216:91-101 *Jl* '33

- Bumps due to gusts. A. Klemin. *Aviation Eng* 8:21-2 *Ap* '33

- Characteristics of Clark Y airfoils of small aspect ratios. C. H. Zimmerman. *bibliog diags U S Nat Advisory Com for Aeronautics* 1932:581-90 '33

- Cloud formation and its effect upon gliding. G. T. Walker. *il diags Roy Aeronautical Soc J* 37:657-76; *Discussion*. 676-80 *Ag* '33

- Computation of longitudinal stability. M. M. Munk. *diag Aero Digest* 23:38-9 *O* '33

- Development of our knowledge of the laws of fluid mechanics. W. F. Durand. *Science* 78:343-51 *O* 20 '33

- Effect of multiple fixed slots and a trailing-edge flap on the lift and drag of a Clark Y airfoil. F. E. Weick and J. A. Shortall. *diags U S Nat Advisory Com for Aeronautics* 1932:531-6 '33

- Extracts from the aeronautical and miscellaneous note-book (ca. 1799-1826) of Sir George Cayley. *il diags Roy Aeronautical Soc J* 37:547-68 *Je* '33

- Force measurements on a 1/40-scale model of the U.S. airship Akron. H. B. Freeman. *bibliog il diags U S Nat Advisory Com for Aeronautics* 1932:591-606 '33

- Lift and drag characteristics and gliding performance of an autogiro as determined in flight. J. B. Wheatley. *il U S Nat Advisory Com for Aeronautics* 1932:621-8 '33

- Measurements of flow in the boundary layer of a 1/40-scale model of the U.S. airship Akron. H. B. Freeman. *bibliog il U S Nat Advisory Com for Aeronautics* 1932:567-79 '33

- Mechanics of flight. A. C. Kermode. 207p 8s 6d Pitman '32

- Pressure distribution tests on a series of Clark Y biplane cellules with special reference to stability. R. W. Noyes. *bibliog il diag U S Nat Advisory Com for Aeronautics* 1932:315-41 '33

- Reynolds number. R. Fleming. *Civil Eng* 3:393-4 *Jl* '33

- Simple approach to the wing flutter problem. B. Lockspeiser. *Roy Aeronautical Soc J* 37:783-92 *S* '33

- Skin friction of various surfaces. S. D. Gehman and G. D. Mallory. *bibliog il diag J Fr Inst* 216:339-50 *S* '33

- Die strömung um flügelprofile und deren anwendung bei strömungsmaschinen. F. Seewald. *Zeit Ver Deutsch Ing* 77:573-80 [bibliog p580] *My* 27 '33

- Theory of wind-tunnel wall interference. T. Theodorsen. *U S Nat Advisory Com for Aeronautics* 1932:219-27 '33

- Use of models in research and design. R. M. Wood. *Roy Aeronautical Soc J* 36:975-82 *N* '32

- Variation of rate of climb with altitude. W. S. Diehl. *Aviation Eng* 8:10+ *F* '33

- What is the maximum lift coefficient? Von Kármán. *diags Aviation Eng* 8:19 *Ja* '33

**AERODYNAMICS—Continued**

Wind-tunnel tests of a Clark Y wing with a narrow auxiliary airfoil in different positions. F. E. Weick and M. J. Bamber. *bibliog diags U S Nat Advisory Com for Aeronautics* 1932:537-48 '33

Wing tip vortices observed in flight. G. Gardner. *il Aviation Eng* 7:7+ D '32

*See also*

**Aeronautics**                      Airplane stability and  
**Air flow**                              stabilizers  
**Air resistance**                      Wind tunnels

**AERONAUTIC engineering**

Aeronautical symbols. U S Nat Advisory Com for Aeronautics 1932:745-6 '33

Aeronautics; condensed from the 1932 progress report of the A.S.M.E. aeronautics division. *il Mech Eng* 54:848-9 D '32

Aircrew design. D. L. H. Williams. *il diags Roy Aeronautical Soc J* 37:479-95; Discussion. 495-508 Je '33

L'Association technique maritime et aéronautique XXXVII<sup>e</sup> session (Paris, 29 mai-1<sup>er</sup> juin 1933). *Génie Civil* 102:564-7 Je 17 '33

Energy analysis. *Sci Am* 149:80-1 Ag '33

Future aspects of the soaring plane. A. C. Loedding. *il Aero Digest* 21:49-50 D '32

Interpretation of data of model basin tests on aircraft floats. H. C. Richardson. *Aero Digest* 23:46-7 Ag '33

Les journées techniques internationales de l'aéronautique (Paris, 28 novembre-2 décembre 1932). P. Naquet. *Génie Civil* 101:651-4 D 31 '32

Restrictions hinder progress. W. B. Stout. *Aero Digest* 22:25+ Mr '33

Some notes on the design of aeroplane control surfaces and control systems. W. F. Dowsett. *Roy Aeronautical Soc J* 36:963-74 N '32

*See also*

**Aeronautic research**              Airships  
**Aeronautics**                          Airways  
**Aircraft**                                Aviation  
**Airplane engines**                  Flying boats  
**Airplanes**                              Seaplanes  
**Airports**

**Tables, calculations, etc.**

Application of Berry functions to the determination of initial stress. W. E. Dumbrell. *Roy Aeronautical Soc J* 37:381-2 Ap '33

Calculation of the motion of an airship under certain conditions. D. H. Williams and A. R. Collar. *bibliog Roy Aeronautical Soc J* 37:35-75 Ja '33

Effect of change of weight on airplane performance. T. M. Finnie. *Aviation Eng* 8:11-12 Ap '33

General formulas and charts for the calculation of airplane performance. W. B. Oswald. U S Nat Advisory Com for Aeronautics 1932:163-210 [bibliog p192, charts p193-210] '33

Measurement of the differential and total thrust and torque of six full-scale adjustable-pitch propellers. G. W. Stickle. *bibliog il diag U S Nat Advisory Com for Aeronautics* 1932:437-56 '33

Method for computing leading-edge loads. R. V. Rhode and H. A. Pearson. *il U S Nat Advisory Com for Aeronautics* 1932:249-58 '33

Moment distribution method for solving continuous frameworks. E. F. Bruhn. *Aviation Eng* 8:5-8+ Mr '33

Notes on take-off calculations. M. Watter. *Aero Digest* 22:18-19+ My; 18+ Je '33

Tail wheel design considerations. A. F. Haiduck. *diags Aero Digest* 23:42-3 N '33

*See also*

**Airplane engines—Design**  
**Airplanes—Design**

**AERONAUTIC instruments**

Aircraft speed instruments. K. H. Beij. *il diags U S Nat Advisory Com for Aeronautics* 1932:381-435 [bibliog p432-4] '33

Avoiding instrument vibration. *il Sci Am* 149:180 O '33

Compass checking device developed at school. *Aero Digest* 23:52 Ag '33

Developments in the electrical industry during 1932; aviation. J. Liston. *il Gen Elec R* 36:15-17 Ja '33

Distance flier takes a chance. R. M. Cleveland. *il Sci Am* 149:202-3 N '33

Improving airspeed accuracy by pitot tube location. G. Tate, jr. *Aviation* 32:339 N '33

Macneil fog-eye for navigation. W. G. Barcus. *il Aviation Eng* 8:19-20 My '33

New aircraft-sextant for use with visible horizon. L. Becker. *diags Roy Aeronautical Soc J* 37:703-7 Ag '33

New transport instrument board. *il Aviation* 31:491 D '32

Sperry automatic airplane pilot. *il diag Aero Digest* 22:45 Je '33

Temperature coefficient of the moduli of metals and alloys used as elastic elements. G. H. Keulegan and M. R. Houseman. *il diags U S Bur Stand J Research* 10:289-320 Mr '33

*See also*

**Direction finding apparatus**      Radio beacons  
**Radio apparatus on aircraft**                      Radio compass

**Testing**

Commercial flight tests improved by new equipment and methods. A. L. MacClain and D. S. Hersey. *il S A E J* 32:245-55; Discussion. 255 Jl '33

**AERONAUTIC research**

Aeronautical research committee report for the year 1931-32; summary. *Engineering* 135:76 Ja 20 '33

Aeronautical research; summary of committee report, 1932-33. *Engineer* 156:214-16 S 1 '33; Excerpt (Engines). *Mech Eng* 55:694 N '33

Langley Field conference. A. Klemm. *Mech Eng* 55:421 Jl '33

Langley Field conference; National advisory committee for aeronautics. A. Klemm. *il diag Aviation Eng* 8:14-16+ My '33

National advisory committee for aeronautics 8th annual engineering conference. *il Aviation* 32:182-4 Je '33

New methods of research in aeronautics. H. E. Wimperis. *il diags Roy Aeronautical Soc J* 36:991-1011 D '32

Relation of aeronautical research to general engineering; abstract. A. Ferrier. *Mech Eng* 55:376 Je '33

Simple approach to the wing flutter problem. B. Lockspeiser. *Roy Aeronautical Soc J* 37:783-92 S '33

Summary of progress in aeronautical research. U S Nat Advisory Com for Aeronautics 1932:53-61 '33

Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. F. E. Weick and others. *bibliog U S Nat Advisory Com for Aeronautics* 1932:357-80, 457-503, 719-34 '33

*See also*

**Institute of aeronautical sciences**

**AERONAUTIC schools**

Boeing school of aeronautics. *il Aero Digest* 21:32-4 D '32

Curtiss-Wright school of aeronautics, Valley Stream. A. I. Lodwick. *il Aero Digest* 22:34-5 Je '33

Dallas aviation school. C. E. Harman. *il Aero Digest* 23:42-3 Ag '33

L'Ecole nationale supérieure de l'aéronautique, à Paris. R. Lemaire. *il plan map Génie Civil* 102:245-9, pl 2 Mr 18 '33

News of the schools. Published in monthly numbers of *Aero digest*

Training at the Ryan school of aeronautics. E. D. Prudden. *il Aero Digest* 23:18-19 S '33

**AERONAUTICS**

Chronology of some of the important aeronautical events of 1932. *Aero Digest* 21:22-3 D '32

Scientific American and its intimate connection with the progress of aviation. *il Sci Am* 149:166-7 O '33



**AERONAUTICS—Continued**

Skycraft, A. Post. new ed 276p, 18p \$1.50 Oxford '33

*See also*

Aerodynamics  
Aeronautics, Commercial  
Air express service  
Air lines  
Air mail service  
Air travel  
Aircraft  
Airfoils  
Airplane carriers  
Airplane engines  
Airplane propellers  
Airplane stability and stabilizers  
Airplanes  
Airports  
Airships  
Airways  
Autogiros  
Aviation  
Balloons  
Flying boats  
Gliders  
Photography, Aerial  
Radio aids to aviation  
Seaplanes  
Surveying, Aerial

**Bibliography**

Abstracts and notices from the scientific and technical press. Roy Aeronautical Soc J 37:76-110, 445-76, 793-825 Ja, My, S '33  
Digest of technical articles from foreign publications. E. Gardner. il Aero Digest 21:43-4 D '32 [cont monthly]  
Royal aeronautical society additions to library, 1932. Roy Aeronautical Soc J 36:1039-49 D '32  
Technical publications of National advisory committee for aeronautics. U S Nat Advisory Com for Aeronautics 1932:37-52 '33

**Directories**

International air guide. 2d ed 2v Imprimerie Crété, Paris '32

**History**

Echo of the 1868 exhibition. W. O. Manning. Roy Aeronautical Soc J 37:283-90 Mr '33  
Extracts from the aeronautical and miscellaneous note-book (ca. 1799-1826) of Sir George Cayley. il diags Roy Aeronautical Soc J 37:547-68 Je '33  
Flying. J. E. Fechet. 138p Williams & Wilkins '33  
Heroes of the air. C. Fraser. rev ed 648p Crowell '32  
History of aviation. E. M. Brower. special ed 267p Emil Forslund printing co, Chicago '32  
Minute epics of flight. L. Winter and G. Degener. 160p \$1 Grosset and Dunlap, New York '33

**Laws and regulations**

Aircraft and the law. H. L. Brown. 359p \$3 Robert O. Ballou, 2 W. 13th st, New York '33  
Airworthiness requirements for aircraft components and accessories; effective March 1, 1933. 13p U.S. Dept. of commerce, Aeronautics branch, Washington '32  
Law of the air (the Tagore law lectures of 1931). A. D. McNair. 249p Butterworth & co, London '32  
Pending conflict between state and federal regulation; the radio, air, motor, and pipeline services. A. H. Ulm. Pub Util 12:524-9 O 26 '33  
Progress of aviation law. G. W. Lupton, jr. Aviation 31:463-5; 32:43-5 D '32, F '33

**Patents**

Abstracts of patent specifications. W. O. Manning. Roy Aeronautical Soc J 37:900-8, 956-62 O-N '33  
Recent aeronautical patents. Published in monthly numbers of Aero digest

**Periodicals***Bibliography*

Aeronautical periodicals received currently by the Division of aeronautics of the Library of Congress January 1, 1933. Air Law Review v 4, no 1:111-13 '33; Reprinted by Library of Congress

**Societies**

Proceedings of the Institute of the aeronautical sciences, held at Columbia university, New York, January 26, 1933. 85p \$1 Institute of the aeronautical sciences, New York '33

**Study and teaching***See also*

Aeronautic schools  
Aviators—Training

**Yearbooks**

Aircraft year book for 1933; compiled, written and edited by Aeronautical chamber of commerce of America, inc. v 15 506p \$6 Van Nostrand '33

**China**

Dragon in flight; civil and military aviation in China. il Aviation 32:114-15 Ap '33

**Great Britain**

Our aviation editor's impressions of an English visit. il Sci Am 147:356-8 D '32

**Maine**

As goes Maine. L. E. Fletcher. Aero Digest 21:58+ D '32

**United States**

America sets the pace in civil aviation. H. Bingham. il Bradstreet's 61:220-1+ Ja 28 '33  
American legion aeronautics commission to aid aviation. Aero Digest 23:24-5 Jl '33  
Aviation in the federal budget. Aviation 32:15-16 Ja '33  
Federal airways system. C. M. Young. map Aero Digest 22:20-1+ Mr '33  
Message to President Franklin D. Roosevelt, members of his cabinet and to members of the 73rd Congress. F. A. Tichenor. Aero Digest 22:22 Mr '33  
1932 passes into history. il Aviation 32:1-5 Ja '33

**AERONAUTICS, Commercial**

Air industry gets speedier planes, lower costs and more traffic. P. G. Johnson. il S A E J 33:sup18-22 S '33  
Air transport developments abroad. Engineering 136:198 Ag 25 '33  
Case for the transport autogiro. W. L. LePage. il diags Aviation 32:335-8 N '33  
Logical development of airships for fast ocean transportation. K. Arnstein. il Metal Prog 22:38-42 D '32

*See also*

Air express service  
Air lines  
Air mail service  
Airplane industry and trade  
Airplanes in engineering  
Airplanes in mining  
Airways  
Photography, Aerial

**Statistics**

America takes the lead in world air transport. Aviation 32:84-5 Mr '33  
Progress of civil aeronautics in the United States, 1926-1932; tabulation. Air Commerce Bul 4:530-3 My 1 '33  
Résumé of commercial information; regular air transport companies in Europe; fleets in operation as at 31st December, 1932; tabulation. Roy Aeronautical Soc J 37:435-44 My '33

**Terminology**

Air transportation occupational terms, definitions, and classification by Bureau of labor statistics. U S Bur Labor Statistics Bul 575:34-41 '33

**China**

Pan-American in Asia. map Sci Am 149:30 Jl '33

**Great Britain**

Air transport manual. 184p 3s 6d Temple press ltd, 5-15 Rosebery av, London, E.C.1. '33

**United States**

Adequate national defense depends upon federal financing of civil aeronautics. J. E. Fechet. Aero Digest 22:24 Mr '33  
Air era. il Am Bankers Assn J 26:80-2+ N '33  
Air transport gains favor. maps Aviation 32:68-75 Mr '33  
Air transport growth. T. B. Doe. il Manuf Rec 102:16-18 Mr '33

**AERONAUTICS, Commercial—United States**  
—Continued

- Air transport; increasing volume of traffic. Index 13:152-3, 156-8 S '33  
 Estimate of the situation for 1933. E. P. Warner. Aviation 32:12-14 Ja '33  
 Financial policies in the aviation industry. P. A. Dodd. 234p [bibliog p231-4] Univ. of Pennsylvania, Philadelphia '33  
 Mergers in aviation. Sci Am 149:31-2 Jl '33  
 Withdraw the air line subsidies! Ry Age 93: 854 D 3 '32

*See also*

- Air lines—United States  
 Airplane industry and trade—United States  
 United States—Commerce, Department of—Aeronautics branch

**AERONAUTICS, Military**

- Attack aviation. J. E. Fechet. il Aero Digest 22:16-17 Je '33  
 Flying in formation. il Sci Am 148:289 My '33  
 Long-range gunnery and high-altitude bombing; a comparison of ballistic merit. L. Thompson. J Fr Inst 215:119-32 F '33  
 Observation aviation. J. E. Fechet. il Aero Digest 22:19-21 Ja '33  
 Pursuit versus bombardment. J. E. Fechet. Aero Digest 23:25 Ag '33

*See also*

- Airplanes, Military  
 Airships, Military  
 Guns, Anti-aircraft

**France**

- Equipment of air forces. J. J. Ide. il Aviation 32:101-5, 174-6 Ap, Je '33

**Great Britain**

- Equipment of air forces; Great Britain. O. Stewart. il Aviation 31:472-5; 32:46-50 D '32, F '33

**Italy**

- Equipment of air forces. S. Scaroni. il Aviation 32:313-17, 340-3 O-N '33

**Japan**

- Equipment of air forces. il Aviation 32:203-7 Jl '33  
 Japanese military airplanes. H. Takamatsu. il Aero Digest 21:48-9 D '32; 22:36-7 My '33

**Russia**

- Equipment of air forces; the Union of Soviet Socialist Republics. A. A. Adams. il Aviation 32:236-40 Ag '33

**United States**

- Army and navy carry on. Aviation 32:82-3 Mr '33  
 Barksdale field, Louisiana. il Manuf Rec 102:19 Ap '33

**AEROPLANES. See Airplanes****AEROSOL (term)**

- Dusts, smokes, mists and fogs. W. E. Gibbs. Soc Chem Ind J (Chem & Ind) 51:1042-3 D 16 '32

**AETNA insurance company**

- McCain succeeds Ives as Aetna president. East Underw 34:24+ S 15 '33; Nat Underw 37: 3+ S 14 '33  
 Report. East Underw 34:24 F 3 '33

**AETNA life insurance company**

- Aetna Life to divert casualty business. East Underw 34:40 S 29 '33; Nat Underw 37:31+ S 28 '33; Nat Underw (Life ed) 37:1+ S 29 '33; Spectator 131:17+ S 28 '33  
 Annual statements. Weekly Underw 128:266 F 4 '33; Ins Field (Fire ed) 62:23 F 2 '33

**AFFILIATED better business bureaus**

- Better business bureaus to affiliate with Advertising federation. Ptr Ink 164:90-1 S 21 '33

**AFRICA**

- L'Afrique d'aujourd'hui et de demain: repeuplement, organisation minière, transports, formules en présence. C. Berthelot. bibliog il maps Chimie & Ind 30:470-82 Ag '33

*See also* International conference for the protection of the fauna and flora of Africa

**Commerce**

- British Central African trade. Engineering 135: 584 My 26 '33

**Industries and resources**

- Africa; a source of raw materials for Europe. Index 13:107-11, 114 Je '33

**AFRICA, East**

- Engineers and East African prospects. J. G. B. Sams. Engineer 156:106-7 Ag 4 '33

**AFRICA, North**

- Trade with North Africa; Algerian esparto grass—Tunisian phosphates. Chem Age (Lond) 28:559 Je 17 '33

**AFRICA, South. See South Africa****AFTERGLOW. See Electric discharges****AGAR**

- Study of gels by physical methods. E. Hattschek. il diags J Phys Chem 36:2994-3009 D '32

**AGATES**

- Agates. J. W. Howard. bibliog il J Chem Educ 10:67-70 F '33

**AGE**

- Age distribution of gainful workers in the United States, 1920 and 1930. Monthly Labor R 36:1057-8 My '33  
 Are engineers through at forty? A. Richards. Civil Eng 3:104-5 F '33  
 Fall of the birth rate and its effects on social policy. L. Hersch. Int Labour R 28:153-67 Ag '33  
 Industrial pensions. R. W. Stone. J of Business 6:240-6 Jl '33  
 New York report on age as related to unemployment. Monthly Labor R 37:25-9 Jl '33  
 Older worker in industry: a study of New York state manufacturing industries. S. Barkin. 467p New York (state). Commission on old age security, Albany, N.Y. '33  
 Population changes and consumption; a forecast for our industrial future. L. I. Dublin. Taylor Soc Bul 17:162-4 O '32; Same. Ptr Ink Mo 25:61-2 D '32

*See also*

- Old age  
 Pensions, Industrial

**Bibliography**

- Age factor in employment. J. H. Shera. Bulletin of Bibliography 14:100-1 My; 128-9 S '31; 154-6 Ja; 175-7 My; 193-5 S '32

**AGE of minerals. See Minerals—Age****AGENCIES, Advertising. See Advertising agencies****AGENCIES, Employment. See Employment agencies****AGENCY (law)**

- Cases on the law of agency. R. T. Steffen. 836p \$5.50 West '33  
 Law of agency. R. Powell. 189p Pitman '33  
 Powers of attorney. H. M. Cohen. 3d ed 116p W. Heffer & sons ltd, Cambridge, Eng. '32  
 Questions and answers with problems and illustrative matter on the law of agency. J. M. Henderson. 103p Callaghan and co, Chicago '32

**AGGLUTINATION**

- Studies on the agglutination test for coals. L. Crussard and M. Gauzelin. Gas J (Lond) 202:275 My 3 '33

**AGGREGATES**

- Aggregate industries frame joint code. Rock Prod 36:28-9 Jl '33  
 Aggregate plants of movable type. E. Shaw. il Rock Prod 36:17-19 Ap '33  
 How to build bituminous plant-mix surface of graded aggregate type. V. J. Brown and C. N. Connor. Roads & Sts 76:115-16 Mr '33  
 Mining methods and costs at plant C, Eliot, Calif. of the Pacific coast aggregates (inc.). E. B. Kendall. diags map U S Bur Mines Information Circ 6705:1-11 '33  
 Missouri aggregate producers find a way to save established plants; three-cornered agreement between state highway department, the railways and the producers. Rock Prod 35:46-51 D 31 '32



**AGGREGATES—Continued**

Nonmetallic industries in 1932. A. T. Goldbeck. *Min & Met* 14:52 Ja '33

Production of aggregates from river gravels in the plains region. J. H. Ruckman. *il diag maps Rock Prod* 35:20-3 Ap 23; 13-19 Je 4; 22-5 Jl 16; 17-20 D 10 '32

Relation of geological formations to road material surveys. D. G. Runner. *bibliog il diags Roads & Sts* 76:301-3 Ag '33

Stabilization of the aggregates industry. J. R. Thoenen. *Rock Prod* 36:20-2 Je '33

See also

Concrete—Aggregate      Gravel  
gate                              Sand

**Specifications**

Light-weight aggregate specification proposed by A. S. T. M. *Concrete* 41:13-14 S '33

**Statistics**

Production statistics on aggregates. *Rock Prod* 36:45 Ap '33

**Transportation**

How railroads and commercial aggregate producers cooperate in Kansas. J. H. Ruckman. *map Rock Prod* 36:28-9 Mr '33

**AGING of metals.** See *Metals—Aging*

**AGING of rubber.** See *Rubber—Aging*

**AGITATION**

Mechanical device to agitate analytical solutions by swirling. A. F. Scott and E. F. Reid, Jr. *diags Ind & Eng Chem Anal ed* 5: 92 Mr 15 '33

Performance of agitators in liquid-solid chemical systems. A. W. Hixson and G. A. Wilkens. *bibliog il diags Ind & Eng Chem* 25:1196-1203 N '33

Studies in agitation; sand concentration as function of sand size and agitator speed. A. M. White and S. D. Sumerford. *Ind & Eng Chem* 25:1025-7 S '33

**AGITATORS**

Agitator power consumption. *Power Pl Eng* 37:173-4 Ap '33

Performance of agitators in liquid-solid chemical systems. A. W. Hixson and G. A. Wilkens. *bibliog il diags Ind & Eng Chem* 25:1196-1203 N '33

Studies in agitation; sand concentration as function of sand size and agitator speed. A. M. White and S. D. Sumerford. *Ind & Eng Chem* 25:1025-7 S '33

**AGRICULTURAL adjustment administration.** See *Agricultural laws and legislation—United States*

**AGRICULTURAL chemistry**

Agricultural chemist helps industry. H. G. Knight. *Bradstreet's* 61:226+ Ja 28 '33

Chemistry and agriculture. A. Lauder. *Soc Chem Ind J (Chem & Ind)* 52:771-7, 792-7 S 29-O 6 '33; Excerpt (*Recent progress in fertilisers*). *Chem Age (Lond)* 29:350 O 14 '33

Manual of agricultural chemistry. H. Ingle. 5th ed rev & enl 445p 15s E. Benn Ltd, London '33

See also

Fertilizers                      United States—  
Soils                              Chemistry and soils,  
                                        Bureau of

**AGRICULTURAL colonization****Canada**

Relief of unemployment through land colonization in Canada. *Monthly Labor R* 36:1041-50 My '33

**Germany**

Ingenieur und siedlung. *Zeit Ver Deutsch Ing* 77:1095-6 O 7 '33

Land settlement in Germany in 1932. *Monthly Labor R* 37:834-6 O '33

**New Zealand**

Small land holdings for unemployed in New Zealand. *Monthly Labor R* 37:840-1 O '33

**Palestine**

Jewish colonization in Palestine. J. Elazari-Volcani. *Ann Am Acad* 164:84-94 N '32

**AGRICULTURAL cooperative credit associations**

Agricultural credit corporations affiliated with cotton cooperative marketing associations. W. H. Rowe. *U S Agric Tech Bul* 322:1-64 '32

Farmers' credit unions in Nebraska; table. *Monthly Labor R* 36:1235-6 Je '33

Statistics of farmers' selling and buying associations, United States, 1863-1931. 91p U. S. Federal farm board, Washington '32

**AGRICULTURAL credit**

Agricultural credit. A. J. Boyazoglu. 267p [bibliog p257-60] P. S. King & son, ltd, London '32

Farm credit; a worm's eye view of the government's new organization, its set-up and plans. G. E. Anderson. *Barron's* 13:3, 7 S 11 '33

Farm relief for Ole Swanson; a case study. *Business Week* p24-5 O 14 '33

Future of government banking. J. Hanna. *Am Bankers Assn J* 25:11-13+ Je '33

How one bank gets all loans and still keeps liquid; organization of an Agricultural credit corporation. A. G. Berger. *Rand McNally Bankers Mo* 50:593+ N '33

Minnesota in the farm business; Minnesota rural credit bureau. *Pub Serv Management* 54:10 Ja '33

New credit for agriculture; regional agricultural credit corporations. N. J. Wall. *Burroughs Clearing House* 17:16-17+ Ja '33

Plenty of credit for the farmer; how the Canadian banking system meets agriculture's requirements. J. E. Boyle. *Barron's* 13:18 S 18 '33

Progress of the farm credit administration. A. Crawford. *il Burroughs Clearing House* 18:9-11+ N '33

Provision of credit for farmers under 1933 act. *Monthly Labor R* 37:842-3 O '33

Reducing farm debts; Wallace and Morgenthau dictators of the farmer's destiny. *Business Week* p7-8 Ap 5 '33

Shifting billions in farm loans. H. Morgenthau, Jr. *il Nation's Business* 21:46+ N '33

Some farm financial problems. E. D. Woodruff. *Bankers M* 127:259-63 S '33

\$2,000,000,000 credit for U.S. farmers. *Comm & Fin* 22:309 Ap 5 '33

When the farmer and banker collaborated a doubtful note was paid. J. M. Dowell. *Bankers Mo* 49:722+ D '32

See also

Land banks  
Mortgages, Farm

**Bibliography**

Measures taken in foreign countries to relieve agricultural indebtedness. A. M. Hannay, M. Coult and L. Crans, comps. (*Agricultural economics bibliography no 42*) 57p U. S. Dept. Agric, Bur. of agricultural economics '33 (typew)

State measures for the relief of agricultural indebtedness in the United States, 1932 and 1933. L. O. Bercaw, M. T. Olcott and M. F. Carpenter, comps. (*Agricultural economics bibliography no 45*) 64p U. S. Dept. Agric, Bur. of agricultural economics '33 (typew)

**AGRICULTURAL education**

Effectiveness of vocational education in agriculture. *Monthly Labor R* 37:99-100 Jl '33

**AGRICULTURAL engineering**

Agricultural mechanics. R. H. Smith. 357p \$3 Lippincott '33

Farm structures. E. R. Jones. 197p Edward Richard Jones, College of agriculture, Madison, Wis. '33

See also

Agricultural machinery  
Drainage

Electricity on the farm  
Irrigation  
Reclamation of land

**AGRICULTURAL experiment stations**

Electro-farming; electrical applications at the Rothamsted experimental station. *Electrician* 110:835 Je 23 '33

Some thoughts on the agricultural experiment station. C. G. Williams. *Science* 77:155-8 F 10 '33

**AGRICULTURAL laboratories**

Equipment for laboratory fumigations with hydrocyanic acid with controlled temperature and humidity. H. L. Cupples. *diags Ind & Eng Chem Anal ed* 5:36-8 Ja 15 '33

**AGRICULTURAL laws and legislation****Germany**

Germany's AAA. *Business Week* p22 S 30 '33

**Great Britain**

Farmers' glory? *Economist* 116:625-6 Mr 25 '33

Rustic economics. *Economist* 116:1231-2 Je 10 '33

**United States**

AAA codes. *Business Week* p16-17 Jl 29 '33

AAA deploys. *Business Week* p22-3 Ag 26 '33

A.A.A. is organized to rehabilitate agriculture. *Food Ind* 5:414-15 O '33

AAA scoreboard. *Business Week* p18-19 N 4 '33

AAA; trying to boost farm income faster than prices, the Agricultural adjustment administration has gone slow on codes. *Business Week* p6 S 30 '33

Agricultural relief act; text. *Fed Res Bul* 19:306-18 My '33

American farm relief bill. *Economist* 116:677-8 Ap 1 '33

Calling hogs under AGAD; ultimate benefit of modest experiment in doubt. J. S. Lawrence. *Econostat* 1:8-10 S 2 '33

Codes for farm products. *Business Week* p9-10 Jl 1 '33

Complex job of farm relief; why the administration of the new bill moves slowly. *Nation's Business* 21:52+ Jl '33

Developing organization and procedure under Farm relief act. *Food Ind* 5:255 Jl '33

Farm adjustment begins. F. D. Farrell. *il Am Bankers Assn J* 26:14-15+ Ag '33

Farm emergency passing, as dollars increase in farmer's pocket. E. R. Eastman. *il Ptr Ink Mo* 27:28+ N '33

Farm relief; agricultural emergency act adopted by the Senate. *Business Week* p22+ My 10 '33

Farm relief in action. *Business Week* p18 Jl 22 '33

Farm troubles; adjustment programs are not clicking. *Business Week* p16+ S 16 '33

Farmers at the crossroads; crop loan and relief buying are tending to fix farm prices despite rejection of the 5 governors' schemes. *Business Week* p8-10 N 11 '33

Industry agreements are likely to be the first result of applying farm relief. *Food Ind* 5:202-4 Je '33

Nothing quiet on farm front. *il Business Week* p20-1 S 2 '33

What business may expect from the new farm relief law. *il Adv & Sell* 21:13-14+ My 25 '33

**AGRICULTURAL literature**

Books and the farmer. E. J. Russell. *Assn of Sp Lib & Inf Bur Proc* 1933:78-92

**AGRICULTURAL machinery**

Farm problems and the machine. H. G. Davis. *il Sci Am* 149:222-3 N '33

Farms consume 20 billion horsepower hours a year. G. A. Krieger. *Oil & Gas J* 31:23 Mr 23 '33

Die motorisierung kleinbäuerlicher betriebe. K. Gallwitz. *il Zeit Ver Deutsch Ing* 77:519-24 My 20 '33

Power and machinery in agriculture. W. M. Hurst and L. M. Church. *diags maps U S Agric Misc Pub* 157:1-39 '33

Progress and limitations of farm mechanization in the United States. *Monthly Labor R* 36:511-18 Mr '33

Technik in der landwirtschaft. K. Vormfelde. *il diags Zeit Ver Deutsch Ing* 77:513-18 My 20 '33

**See also**

Harvesting machinery  
Tractors

**Exhibitions**

Agricultural machinery; electrical features of the Paris exhibition. R. B. Matthews. *il diags Electrician* 110:217-18 F 17 '33

Le XII<sup>e</sup> salon de la machine agricole (Paris, 24-29 janvier 1933). G. Coupan. *il diags Génie Civil* 102:228-31, 252-6, 273-6 Mr 11-25 '33

Electro-farming; some recent German developments and appliances. R. B. Matthews. *il Electrician* 110:823-4 Je 23 '33

German national agricultural show. R. B. Matthews. *il diags Engineering* 135:670-1 Je 23 '33

Royal agricultural show at Derby. *il Engineering* 135:698-701, 706; 136:6-9, 14, 34-6, 40 Je 30-Jl 14 '33; *Engineer* 156:8-10, 28-31, 33, 66-7 Jl 7-21 '33

Royal Lancashire show; some of the principal electrical exhibits. *il Elec R (Lond)* 113:188 Ag 11 '33

Smithfield club show. Islington. Dec. 5-12. *il Engineering* 134:708-9 D 16 '32

**AGRICULTURAL machinery industry**

Agricultural engineering abroad. *Engineer* 155:121 F 3 '33

International Harvester. *il Fortune* 8:21-33, 112-21+ Ag '33

Selling the farmer. *Business Week* p11-12 F 15 '33

**Advertising**

Better returns from fewer letters; International harvester company. H. McJohnston. *Ptr Ink* 162:80-1 Ja 19 '33

Booklets help revive failing faith of implement dealers; Massey-Harris company. *Ptr Ink* 162:44-5 Ja 5 '33

**Great Britain**

Engineering outlook; agricultural machinery. *Engineering* 135:361-2 Mr 31 '33

**United States**

Farm equipment sales moving upward slowly. *Dun & Bradstreet* 41:15-17 O '33

Farm implement trade has shrunk steadily. C. E. Wright. *Iron Age* 131:sup46+ Ja 5 '33

Farm relief measures awaited to revive equipment sales. *Dun & Bradstreet* 41:43-5 Ap '33

Outlook for the farm-equipment industry. *Barron's* 13:18 Ja 2 '33

**AGRICULTURAL mortgage corporation**

Ordinary general meeting, 4th, London. *Economist* 116:986-7 My 6 '33

**AGRICULTURAL research**

Agriculture and science. H. A. Wallace. *J Fr Inst* 216:137-45 Ag '33

I.C.I. agricultural research station, at Jealott's Hill. *Soc Chem Ind J (Chem & Ind)* 51:940-1 N 11 '32

Value of scientific research to agriculture. H. A. Wallace. *Science* 77:475-80 My 19 '33

When cabbage has the yellows; work of United States Department of agriculture, Division of horticultural crops and diseases. T. S. Harding. *il Sci Am* 148:135-7 Mr '33

**See also**

Agricultural experiment stations

United States—  
Chemistry and soils.  
Bureau of

**AGRICULTURE**

World agriculture; an international survey 314p Oxford '32

World resources and industries. E. W. Zimmerman. 842p [bibliog p810-24] \$5 Harper '33

**See also**

Agricultural machinery  
Cotton  
Dairy products  
Dairying  
Drainage

Electricity on the farm  
Electrohorticulture  
Farm buildings  
Farm labor  
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 Flax  
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 Fumigation  
 Insurance, Agricultural  
 Irrigation  
 Live stock  
 Reclamation of land  
 Rubber plants and  
 planting  
 Soil analysis  
 Soils  
 Sugar  
 Wheat

## Bibliography

Agricultural index; seventeenth annual cumulation, 1932. 705p Wilson, H. W. '33  
 General index to Experiment station record, volumes 51 to 60, 1924-1929. M. C. Gundlach. 677p pa 60c Supt. of doc. '32  
 Group and chain farming in the United States, January 1930-March 1933, with some references to group farming in foreign countries. E. M. Colvin, comp. (Agricultural economics bibliography no46) 28p U. S. Dept. Agric, Bur. of agricultural economics '33 (typew)  
 List of publications of the United States Department of agriculture from January, 1926, to December, 1930. M. G. Hunt, comp. U S Agric Misc Pub 153:1-46 '32

## Economic aspects

Agricultural systems of middle Europe; a symposium. O. S. Morgan, ed. 405p Macmillan '33  
 Agriculture: illustrating limitations of free enterprise as a remedy for present unemployment. M. Ezekiel. Am Statist Assn J 28:182-9 Mr '33  
 American agricultural policy. P. C. Campbell. 304p P. S. King & son, ltd, London '33  
 Appeasing the farmer. Business Week p7 O 28 '33  
 Are the farmers leading this country out of the depression? F. L. Lough. il Am Bankers Assn J 25:19-20+ D '32  
 Disastrous consequences to American agriculture of devaluing the dollar. O. J. Wheatley. Annalist 41:627+ My 5 '33  
 Drop in farm income. A. P. Chew. Barron's 12:16 D 12 '32  
 Farm buying power. Business Week p18 S 9 '33  
 Farm consumption vs. factory production. J. M. Weiss and C. R. Downs. Chem Markets 32:406-9 My '33  
 Farm income, 1919-1932. Bradstreet's 60:1582, 1585-6 D 3 '32  
 Farm outlook. Guaranty Survey 13:7-10 S '33  
 Farm problems and the machine. H. G. Davis. il Sci Am 149:222-3 N '33  
 Farm rebellion. il Business Week p3-4 F 8 '33  
 Farmer is doomed. L. M. Hacker. 31p pa 25c Day '33  
 Farmer sees a way out. B. Finney. Iron Age 132:24-5+ S 7 '33  
 Farmers themselves can solve agriculture's present dilemma. C. S. Burton. il Mag of Wall St 51:199-201+ D 10 '32  
 Has the farmer won a Pyrrhic victory? the mortgage indebtedness stays on the books in spite of the foreclosure moratorium. W. P. Black. Barron's 13:18 F 6 '33  
 I found no revolution in Iowa. P. McCrea. il Nation's Business 21:13-16+ Ap '33  
 Important financial steps taken overnight. Weekly Underw 128:305+ F 11 '33  
 Influence of agricultural prospects on chemical industry. C. J. Brand. Chem & Met Eng 40:18-22 Ja '33  
 Is the farmer ready to buy? M. L. Henderson. il Adv & Sell 21:19+ Ag 31 '33  
 Meeting the farm crisis. J. H. Kolb. 24p American library assn, Chicago '33  
 Social economics of agriculture. W. Gee. 696p Macmillan '32  
 Some farm financial problems. E. D. Woodruff. Bankers M 127:259-63 S '33  
 Stake of American agriculture in the World economic conference. W. W. Case. Annalist 41:725 My 26 '33

Three farm roads; editorial. Business Week p32 F 15 '33

Why and how distribution costs must be cut. M. Ezekiel. il Adv & Sell 21:23+ S 28 '33

Why the farmers need help. W. Parker. Pub Serv M 54:157-8 My '33

World agriculture and the depression. V. P. Timoshenko. diags Michigan U Bur Business Research Business Studies v 5, no 5:1-123 '33

See also  
 Agricultural credit  
 Agriculture—  
 United States—  
 Farm relief  
 Farm labor  
 Farm management  
 Farm market

Farm produce  
 Farmers' strike  
 Grain trade  
 Land tenure  
 Marketing, Cooperative

## Bibliography

Domestic allotment plans for the relief of agriculture. L. O. Bercaw, comp. (Agricultural economics bibliography no41) 48p U. S. Dept. Agric, Bur. of agricultural economics '33 (typew)  
 List of state official serial publications containing material on agricultural economics. E. M. Colvin, comp. (Agricultural economics bibliography no. 38) 222p U. S. Dept. Agric, Bur. of agricultural economics '32 (typew)  
 Part-time farming. E. M. Colvin, comp. (Agricultural economics bibliography no43) 20p U. S. Dept. Agric, Bur. of agricultural economics '33 (typew)

## Statistics

Discussion of the accuracy of agricultural census enumeration in the Northeast. I. G. Davis. Am Statist Assn J 28:272-85 S '33

## Australasia

Australasian pastoral companies. Economist 115:1089-90 D 10 '32

## Austria

Results of the Austrian agricultural census of 1930. Int Labour R 27:242-5 F '33

## California

Menace of the municipal plant to the farmer. L. O. Whitsell. Pub Util 12:439-46 O 12 '33

## Connecticut

Discussion of the accuracy of agricultural census enumeration in the Northeast. I. G. Davis. Am Statist Assn J 28:272-85 S '33

## Georgia

Georgia banker-farmer cooperation. W. S. Elliott. Manuf Rec 102:42 My '33

## Germany

Die motorisierung kleinbäuerlicher betriebe. K. Gallwitz. il Zeit Ver Deutsch Ing 77:519-24 My 20 '33

Rationalisation of the work of farm women in Germany. Int Labour R 26:707-9 N '32

## Great Britain

All King George's farmers; Empire farmers' cooperative, ltd. Business Week p20-1 N 30 '32

Possible trend of scientific industry. A. Fleck. Soc Chem Ind J (Chem & Ind) 52:57-9 Ja 20 '33

## Greece

Greece; a guide to official statistics of agriculture, population, and food supply. A. M. Hannay, comp. (Agricultural economics bibliography no. 39) 142p U. S. Dept. Agric, Bur. of agricultural economics '32

## Lithuania

Development of the bacon industry in Lithuania. Economist 115:1102 D 10 '32

## Mexico

Agricultural reorganization in Mexico. Science 78:206-7 S 8 '33

## AGRICULTURE—Continued

## New Zealand

Agricultural labour in New Zealand. H. Belshaw. *Int Labour R* 28:26-45 J1 '33

## Palestine

Palestine agriculture. F. Adams. *Ann Am Acad* 164:72-83 N '32

## Russia

From peasant to collective farmer. N. Buchwald and R. Bishop. 101p 75c International publishers, New York '33  
Soviet agriculture. *Economist* 116:627-8 Mr 25 '33

## Sweden

Labour question in Swedish agriculture. *Int Labour R* 27:789-801 Je '33

## United States

Code for agriculture. W. H. Harris. *Comm & Fin* 22:651 J1 26 '33  
History of agriculture in the southern United States to 1860. L. C. Gray and E. K. Thompson. 2v [bibliog p943-1016] Carnegie institution of Washington, Washington '33

*See also*

Cotton—United States

*Farm relief*

Agricultural readjustment. H. Bowker. *Chem Markets* 32:333-4 Ap '33  
Agricultural situation. *Nat City Bank* p103-6 J1 '33  
Agriculture's new deal. C. S. Burton. *il Mag of Wall St* 52:370-2+ Ag 5 '33  
Allotment plan a draft on all incomes. T. F. Woodlock. *Barron's* 13:11 Ja 16 '33  
Allotment plan for farm relief arouses opposition from manufacturers. *Textile World* 83:40-1 Ja '33  
Allotment plan riddled with bullets of logic. *Textile World* 83:208 F 14 '33  
Bigger taxes for smaller crops. *Business Week* p8-9 Je 24 '33  
Bounty; Roosevelt's panacea for the farmer's ills. *Fortune* 7:42-5, 116-19 F '33; Discussion. G. F. Swift. 7:133 Mr '33  
Congress does nothing to help; criticism of domestic allotment plan. *Pub Serv Management* 54:43-4 F '33  
Country banker's stake in federal farm legislation. A. C. Gill. *il Am Bankers Assn J* 25: 22-3+ My '33  
Domestic allotment. *Index* 13:37-44 F '33  
Domestic allotment plan a fallacious remedy. R. M. Harriss. *Comm & Fin* 22:67 Ja 11 '33  
Domestic allotment=sales tax; prospects of farm relief legislation in the present session become dubious. *Business Week* p18-19 D 28 '32  
Emancipating the farmer; editorial. *Bradstreet's* 60:1638-9 D 10 '32  
Farm acreage leasing plan. D. L. James. *Nation's Business* 21:44 Ap '33  
Farm bill; supporters loyal to President but lukewarm on measure. P. Wooton. *Textile World* 83:725 Ap '33  
Farm board for the allotment plan. W. H. Grimes. *Barron's* 12:18 D 19 '32  
Farm consumption vs. factory production. J. M. Weiss and C. R. Downs. *Chem Markets* 32:406-9 My '33; Discussion. H. B. Faber. 33:24 J1 '33  
Farm dictator, too? new men formulate new plans. *Business Week* p13 Mr 22 '33  
Farm dole; editorial. *Business Week* p32 Mr 29 '33  
Farm mortgages. G. E. Anderson. *il Am Bankers Assn J* 25:22-3+ F '33  
Farm mortgages; the farm debt problem will be sitting on the doorstep of Congress alongside the war debts. *Business Week* p14-15 N 30 '32  
Farm parity plan. *Guaranty Survey* 12:4-6 Ja '33  
Farm rebellion. *il Business Week* p3-4 F 8 '33

Farm rehearsal; the Congressional effort to restore the farmer's pre-war purchasing power hasn't a chance in this session. *Business Week* p9 Ja 11 '33

Farm relief—a study in futility. J. S. Lawrence. *Econostat* 1:8-10 O 28 '33

Farm relief and the domestic allotment plan. M. L. Wilson. 59p pa 25c Univ. of Minnesota press, Minneapolis '33

Farm relief; George bill to permit readjustment of farm mortgages; another bill would subsidize domestic production. *il Business Week* p13-14 Ja 18 '33

Farm relief plan of allotment type would encourage bootlegging. P. Wooton. *Textile World* 83:78 Ja '33

Farm relief; some form of emergency legislation is likely to be forced through the short session. *Business Week* p15-16 D 21 '32

Farm reliever, George Nelson Peek. *Business Week* p18 My 24 '33

Farmer's call for relief—can the equivalent of a tariff benefit be paid by the consumer? J. K. Riffel. *Mag of Wall St* 51:589 Mr 18 '33

Farmers themselves can solve agriculture's present dilemma. C. S. Burton. *il Mag of Wall St* 51:199-201+ D 10 '32

Fiction of 1909-1914 farm price parity—cost of the untrod path. W. W. Case. *Annalist* 41:523-4 Ap 14 '33

Flow of funds through Washington. map *Am Bankers Assn J* 26:30-1+ O '33

How relieve agriculture? R. M. Harriss. *Comm & Fin* 21:1436-7 D 14 '32

Idle acres; administration's pack of agricultural relief tricks. *Business Week* p8-9 Mr 29 '33

Live and let live. C. Benedict. *Mag of Wall St* 51:313 Ja 7 '33

Meeting the farm crisis. J. H. Kolb. 24p pa 25c American library assn, Chicago '33

New castle for the farmer; the farm-relief bill may actually hamper the agricultural industry and adversely hit our export trade. S. Axley. *Barron's* 13:3+ Ap 10 '33

New deal for agriculture? news and views of extant farm relief proposals. *Comm & Fin* 21:1473-4 D 28 '32

New farm-relief bill recognizes law of supply and demand, but is silent on inflated mortgages. W. P. Black. *Barron's* 13:5+ Mr 20 '33

Parity plan of farm relief. J. S. Lawrence. *Bradstreet's* 61:48-51 Ja 14 '33

Prosperity by allotment in 1933; pending legislation offers practical way out for raw material producers including the farmer. T. M. Knappen. *Mag of Wall St* 51:256-7+ D 24 '32

Regulation of Reuben; pending Jones bill. H. C. Spurr. *Pub Util* 11:338-42 Mr 16 '33

Relief for farmers—aspirin for Congress; the domestic allotment plan. H. A. Wallace. *Ptr Ink Mo* 26:48+ Ap '33

Suggestions for farm relief. C. T. Revere. *Comm & Fin* 22:119 Ja 25 '33

Voluntary allotment. E. S. Mead and B. Ostrolenk. 147p \$1.50 University of Pennsylvania press, Philadelphia '33

Voluntary domestic allotment plan. (In University debaters' annual, 1932-1933). E. M. Phelps, ed. p161-207 [bibliog p198-207] Wilson, H. W. '33

Voluntary domestic allotment plan proposed. W. H. Grimes. *Barron's* 12:16 D 12 '32

What the voluntary domestic allotment plan may mean to the food industries. L. V. Burton. *Food Ind* 5:25-7 Ja '33

*See also*

Agricultural credit  
Agricultural laws and  
legislation—United  
States

## AGRICULTURE, Cooperative

Economic study of the organization, finance, and operations of farmers' business cooperatives in Vermont. H. C. Grinnell. *Vermont Agric Exp Sta Bul* 346:1-103 '32

*See also*

Agricultural coopera- Agriculture—Russia  
tive credit associa- Marketing, Coopera-  
tions tive



**AILERONS**

- Compound floating ailerons. N. J. Medvedeff. diag Aviation Eng 8:9-10 Mr '33
- Design of slotted ailerons. S. H. Evans. diags Aviation 31:469-71 D '32
- Servo control system. diags Aviation Eng 8:20 Ap '33
- Wind-tunnel research comparing lateral control devices, particularly at high angles of attack; floating tip ailerons on rectangular wings. F. E. Weick and T. A. Harris. bibliog diags U S Nat Advisory Com for Aeronautics 1932:481-503 '33
- Wind-tunnel research comparing lateral control devices, particularly at high angles of attack; ordinary ailerons on rectangular wings. F. E. Weick and C. J. Wenzinger. bibliog U S Nat Advisory Com for Aeronautics 1932:357-80 '33
- Wind-tunnel research comparing lateral control devices, particularly at high angles of attack; ordinary ailerons rigged up 10° when neutral. F. E. Weick and C. J. Wenzinger. bibliog U S Nat Advisory Com for Aeronautics 1932:471-80 '33
- Wind-tunnel research comparing lateral control devices, particularly at high angles of attack; slotted ailerons and Frise ailerons. F. E. Weick and R. W. Noyes. U S Nat Advisory Com for Aeronautics 1932:457-70 '33
- Wind-tunnel research comparing lateral control devices, particularly at high angles of attack; spoilers and ailerons on rectangular wings. F. E. Weick and J. A. Shortall. bibliog U S Nat Advisory Com for Aeronautics 1932:719-34 '33

**AIR**

- Calorimetric determination of the intrinsic energy of gases as a function of the pressure; data on oxygen and its mixtures with carbon dioxide to 40 atmospheres at 28° C. F. D. Rossini and M. Frandsen. diags U S Bur Stand J Research 9:733-47 D '32
- Chart for determining air density. H. C. Oatley. Power 77:40 Ja '33
- Les gaz rares de l'air et leurs applications récentes. G. Claude. Génie Civil 102:494-6 My 27 '33
- Mixtures of air and saturated water vapor. C. A. Bulkeley. table Refrig Eng 25:27-8 Ja '33
- Non-existence of ion mobility spectrum in air. R. N. Varney. diag Phys R 42:547-55 N 15 '32

*See also*

- |                   |                     |
|-------------------|---------------------|
| Aerodynamics      | Compressed air      |
| Aeronautics       | Dust                |
| Air conditioning  | Heating             |
| Air flow          | Humidity            |
| Air pollution     | Meteorology         |
| Atmosphere        | Oil, Insulating—Air |
| Atmosphere, Upper | content             |
| Atmospheric elec- | Oxygen              |
| tricity           | Ozone               |
| Atmospheric tem-  | Ventilation         |
| perature          |                     |

**Analysis**

- Alternating current precipitators for sanitary air analysis. P. Drinker, W. G. Hazard and T. Ishikawa. bibliog diags J Ind Hygiene 14:364-70 D '32
- Colorimetric determination of amyl alcohol vapors and amyl acetate vapors in air; abstract. I. M. Koreman. J Ind Hygiene 15: sup33-9 My '33
- Determination of hydrocyanic acid in air and in air-carbon dioxide mixtures. H. L. Cupples. il diag Ind & Eng Chem Anal ed 5: 50-2 Ja 15 '33
- Precise automatic apparatus for continuous determination of carbon dioxide in air. M. D. Thomas. bibliog il diags Ind & Eng Chem Anal ed 5:193-8 My 15 '33
- Presence of lead dust and fumes in the air of streets, automobile repair shops, and industrial establishments of large cities. J. J. Bloomfield and H. S. Isbell. bibliog J Ind Hygiene 15:144-9 My '33

Relation between volume of respiration chamber and concentration of carbon dioxide in end sample and in composite sample of air. M. Kleiber. Ind & Eng Chem Anal ed 5:98-100 Mr 15 '33

*See also*

- Dust
- AIR, Compressed. See Compressed air
- AIR, Liquid. See Liquid air
- AIR brake hose
- Mounting air and signal hose. il Ry Mech Eng 107:264 Jl '33
- AIR brakes
- A.R.A. mechanical division committee report on brakes and brake equipment. diags Ry Mech Eng 107:239-41 Jl '33
- Influence of the AB brake on freight-train operation. L. K. Silcox. diag Ry Age 95: 424-8 S 23 '33
- New air brake equipment for freight train cars. il diags Ry Mech Eng 107:75-80 Mr '33; Same abr. Ry Age 94:98-103 Ja 28 '33
- Research in the railroad braking art. S. W. Dudley. il Ry Age 95:22-3 Jl 1 '33
- Welded piping on freight and passenger cars. diags Ry Mech Eng 106:462-3 N '32

**Repair**

- Katy air-brake repairs centralized. W. E. Vergan. il Ry Mech Eng 107:171-4 My '33
- Maintenance and repairs to air brakes; abstract. L. M. Carlton. Ry Mech Eng 107:23-4 Ja '33
- Reclaiming retainers with broken lugs. A. Skinner. il diag Ry Mech Eng 107:261-2 Jl '33

**Testing**

- Passenger-car air-brake instruction rack. il Ry Mech Eng 107:26 Ja '33
- Report of road tests of AB freight brake. H. A. Johnson. Ry Mech Eng 107:345-50 O '33

**AIR brakes, Motor truck**

- Otto Sander brake booster operated by gases of combustion. diag Automotive Ind 68:111 Ja 28 '33

**AIR brush**

- How your greeting cards get their borders. il Comp Air M 38:4105 Ap '33

**AIR chambers**

- Windkessel an kolbenpumpen. A. Closterhalfen. diags Zeit Ver Deutsch Ing 77:1143-6 O 21 '33

**AIR cleaners**

- Centrifugal air cleaners serve railway equipment. M. J. Baldwin. diag Elec Eng 51:869-70 D '32
- Protect motors with air cleaner. il Elec Traction 29:243 Ag '33
- Spencer centripetal cleaner removes dust from air. il Transit J 77:286 S '33
- Why and how compressed air should be cleaned. il diag Power 77:530-2 O '33

*See also*

Air filters

**AIR compressors**

- Air-compressor test-bed equipment; abstract. S. Gaymour. Mech Eng 55:308 My '33
- Auto-compresseur à pistons libres, système Pescara. diags Génie Civil 102:91-2 Ja 28 '33
- Abstract (Pescara auto-compressor). Mech Eng 55:308-9 My '33
- B.E.N. patents automatic compressor unit. il Engineer 156:364 O 13 '33
- Booster compressor conquers a low temperature problem. C. W. Selheimer, jr. Chem & Met Eng 40:543 O '33
- Clean the air and save the machine. il Power 77:454-6 S '33
- Compressed air in a water-softening plant; water station at Clinton, Ia. R. E. Coughlan. il plan Comp Air M 38:4243-4 O '33
- Description et essais en usine d'un extracteur d'air, système Rateau devant être utilisé dans les appareils Claude-Boucherot. C. Monteil. diags Soc Ing Civils Bul 85:961-90, pl 210 Jl '32; Abstract. Génie Civil 101: 556-8 D 3 '32
- Efficient air compressing. L. Eaton. il Eng & Min J 134:245-7 Je '33

**AIR compressors—Continued**

Fire-fighting at its best. L. A. Luther. *il* Comp Air M 38:4150-1 Je '33

Free-piston engine compressor. J. G. Coutant. *diag* Power 76:237 N '32; Same. *Mech Eng* 55:43 Ja '33; Abstract. *Locomotive* 39:146-7 Ja '33

Ingersoll-Rand air and gas compressor. *il* Blast F & Steel Pl 21:490 S '33

Kolbenkompressor mit unmittelbarem antrieb durch synchronmotor. H. v. Seizam and B. Lang. *il* Zeit Ver Deutsch Ing 77: 980-2 S 9 '33

Lacy-Hulbert single-cylinder compressor. *il* *diags* Engineer 156:249 S 15 '33

Mercer sleeve valve compressor. *diag* Eng & Min J 134:214-15 My '33

Moisture and its effect in air-compressor cylinders. C. J. Mason. *Power* 77:313-14 Je '33

Prize compressor of 1893 still runs steadily. *il* Comp Air M 38:4170 J1 '33

Regelung von turbokompressoren mit dem strahlrohrregler. K. Blasig. *il* *diags* Stahl & Eisen 53:375-9 Ap 13 '33

7000 kW-turbokompressor für 80 000 m<sup>3</sup>/h saugleistung. W. Grun. *diags* Zeit Ver Deutsch Ing 77:691-2 Je 24 '33

Some comments on compressors and vacuum pumps. *il* Chem Age (Lond) 29:373-4 O 21 '33

Uncongenial neighbors; problem in an air-lift pumping plant. E. Sterrett. *diag* Comp Air M 38:4043 Ja '33

Watch the meter. *Bus Transportation* 12:249 Je '33

Water jacket on compressor exhaust furnishes hot water. *il* Elec West 70:129 Ap '33

Why and how compressed air should be cleaned. *il* *diag* Power 77:530-2 O '33

Worthington compressor unit. *il* Power Pl Eng 37:273 Je '33

*See also*

Compressed air

**Lubrication**

Bosch type AROB force-feed lubricators for air compressors. *il* *diag* Ry Mech Eng 106: 456-7 N '32

**Repair**

Air-compressor repairs on the Burlington. *il* Ry Mech Eng 107:65-7 F '33

Reversing valve-bushing press. *diags* Ry Mech Eng 107:67-8 F '33

**Testing**

Gas engine vis-à-vis air compressor tests. *il* plan Engineer 155:556, 557 Je 2 '33

**AIR compressors, Portable**

Armstrong portable compressor. *il* *diags* Engineer 156:300-1 S 29 '33

Atlas Diesel company's portable compressor. *il* Eng & Min J 134:397 S '33

Broom and Wade portable railway air-compressor set. *il* Engineering 136:129 Ag 4 '33

Broom and Wade railway tie tamping outfit. *il* Engineer 155:357-8 Ap 7 '33

Ingersoll-Rand new portable compressor shows great economies. *il* Comp Air M 38: 4108 Ap '33

Lead wool co.'s portable air compressor. *il* Engineer 155:75 Ja 20 '33; Engineering 135:367 Mr 31 '33

Reavell and co. compact portable compressor. *il* *diags* Engineer 154:598-9 D 9 '32

Sullivan 505-ft. portable compressor. *il* Roads & Sts 76:173 Ap '33

**AIR conditioning**

Aerodynamic aspects of air conditioning. S. M. Anderson. *il* *diags* Refrig Eng 26:181-4+ O '33

Air conditioning. W. H. Carrier. *il* Manuf Rec 101:26-7 D '32

Air conditioning. J. A. Moyer and R. U. Flittz. 375p \$4 McGraw-Hill '33

Air conditioning a civic auditorium; exhibition hall and community center in Grand Rapids. B. A. Parks. *il* *diags* Heat & Ven 30:12-18 Mr '33

Air conditioning a residence with district steam. W. H. Rudisill. *il* Heat & Ven 29: 39-41 D '32

Air conditioning a small office building; Ditzler color company. J. J. Murray. *il* *diags* plan Heat & Ven 30:28-30 J1 '33

Air conditioning and sound insulation of the N.B.C. Chicago studios. V. J. Gilcher. *il* Heat & Ven 30:16-19 N '33

Air conditioning and ventilating a 31-story office building; Metropolitan life insurance company, New York. E. C. Parker. *il* *diags* Heat & Ven 30:14-19 Ag '33

Air conditioning at Fair attracts attention of builders. *il* *diag* plans Am Bld 55:24-5+ Ag '33

Air conditioning at the Chicago fair. *il* Heating-Piping 5:558-60 N '33

Air conditioning broadens field in offices, stores and restaurants. *il* Power 77:30-1 Ja '33

Air conditioning equipment for residences and limited spaces. *Am Arch* 143:89-94 My '33

Air-conditioning equipment industry. G. E. Barber. *Harvard Business R* 11:349-58 Ap '33

Air conditioning for comfort. S. R. Lewis. 244p Engineering publications, inc, Chicago '32

Air conditioning for comfort. E. S. Riley. Elec West 70:242 Je '33

Air conditioning for comfort and health, past—present—future. E. Harrington. *il* J Fr Inst 215:655-96 Je '33; Excerpts. *Gen Elec R* 36:166-76 Ap '33

Air conditioning; general types of equipment and their fields of use. P. R. Randall. *il* Power 76:279-81 D '32

Air conditioning—home and industry. W. R. Zuhlke. *Am Gas Assn Proc* 1932:433-6

Air conditioning in a modern home, *il* plans Sheet Metal Worker 23:527-30 D '32

Air conditioning in model house at Century of progress. *il* plan Sheet Metal Worker 24: 149-50 My '33

Air conditioning is saving industry \$15,000,000 yearly. W. H. Carrier. *il* Heating-Piping 4:786-91 D '32

Air conditioning of private homes. D. W. McLenegan. Elec Eng 52:366-71 Je '33; Same. Elec W 101:644-7 My 20 '33; Same

abr. *Gen Elec R* 36:319-25 J1 '33

Air-conditioning requirements; abstracts of four papers presented at the Northeastern district meeting of A.I.E.E. Ry Age 94:869 Je 17 '33

Air conditioning requires precise engineering. R. E. Hellmund. *il* Refrig W 68:17-20 O '33

Air conditioning theory; classroom methods of presentation. J. A. Goff. *Refriger Eng* 25: 14-17+ Ja '33

Air conditioning; what it is and how it works. C. D. Graham. *il* *diags* Sci Am 149: 62-4 Ag '33

Air-conditioning with relation to comfort, health, and efficiency. E. R. Hayhurst. bibliog J Ind Hygiene 15:98-115 Mr '33; Abstract. Heat & Ven 30:42 My '33

Aire-Flo, individual pipe system for heating a large building; Talmage mortuary at Roswell, N. M. *il* plans Sheet Metal Worker 23:512-15+ D '32

Another fine home air conditioned; details of gas-fired installation in a \$20,000 residence. *il* plan Sheet Metal Worker 24:13-14 Ja '33

Application of calcium chloride brine to air conditioning. G. T. Condon. *diag* Heat & Ven 30:11-13 Ag '33

Automotive air conditioning. *diag* Business Week p 12, 13 Ag 26 '33

Boiler provides heat energy for this air conditioning job. W. W. Hughes. *il* plans Dom Eng 141:63-7 F '33

Builder's views on air conditioning. G. L. Service. *il* Sheet Metal Worker 24:220+ J1 '33

Building conference volume predicts growth of gas heat; abstract. Heat & Ven 30:44-5 Ap '33

Chicago's hottest day brought air conditioning to the Tribune tower. *Arch Forum* 59: 143 Ag '33

Climate in the United States. O. W. Armspach. Refrig Eng 24:273-6+ N '32; Same. Heat & Ven 29:26-9 D '32



AIR conditioning—*Continued*

- Comfort, health and refrigeration. I. C. Baker. *il Refrig Eng* 25:308-9 Je '33
- Comfort temperatures in air conditioning. M. Tomlinson. *Dom Eng* 141:83-5 Ja '33
- Corporation's offices; Johns-Manville. *il plans Arch Forum* 59:247-9, 262 O '33
- Data on hotel air conditioning. H. H. Pease. *Refrig Eng* 26:155 S '33
- Developments in air conditioning; A.G.A. subcommittee report. flow sheets diags *Am Gas Assn Proc* 1932:518-32
- Doctor selects air conditioning for his attractive residence; Henry M. Stein, Baltimore. *il plans Sheet Metal Worker* 23:518-20+ D '32
- Economics of man-made weather. W. H. Carrier. *il Sci Am* 148:199-202 Ap '33
- Experimental house, Merion, Pa. H. D. Eberlein. *il diags plans Arch Forum* 58:480-4 Je '33
- Fair weather; air conditioning and the olfactory sense as they relate to interior design. C. B. Ryder. *bibliog Architecture* 67:31-6 Ja '33
- Filtered air relieves hay fever. W. H. Welker, B. Z. Rappaport and T. Nelson. *il Heating-Piping* 5:348-50 Jl '33
- First completely air conditioned theater in Spokane. R. H. Beck. *il Heat & Ven* 30:31-3 Ja '33
- First steps in air conditioning. A. J. Mellich. 85p E. A. Scott pub. co, inc, New York '33
- Gas used for cooling and heating model home. *il Dom Eng* 142:66-7 O '33
- General Electric air conditioning for Pennsylvania diner. T. F. Perkinson and F. L. Sahlmann. *il diags Ry Age* 95:402-4 S 16 '33
- Hay fever halted by conditioned air; abstracts. L. N. Gay. *Sheet Metal Worker* 24:150 My '33; *Refrig Eng* 26:52 Jl '33
- Heating and air conditioning a New England mansion. C. E. Center. *il plans Heat & Ven* 30:40-3 Ja '33
- Heating and air conditioning in country houses. *il diags Arch Forum* 58:235-40 Mr '33
- Here manufactured weather attracts new tenants; Philadelphia saving fund society building. *il System* 62:492-3 N '33
- Home of controlled climate features gas throughout. *il Gas Age* 72:257+ S 16 '33; Same. *Am Gas Assn Mo* 15:458-9 N '33
- How to sell air conditioning. L. W. Rowell. *Sheet Metal Worker* 24:154-6 My '33
- Human comfort. *Dom Eng* 141:61 My '33
- Die klimaanlage. W. Koeniger. *bibliog il diags map Zeit Ver Deutsch Ing* 77:989-97 S 16 '33
- Method for selecting outside weather conditions for air conditioning design. H. W. Skinner. *Heat & Ven* 29:23-5 D '32
- Modern trend in air conditioning. J. C. Miles. *Sheet Metal Worker* 24:250 Ag '33
- Modernizes and profits with air conditioning; D. H. Holmes co, New Orleans. J. M. Todd. *il Heating-Piping* 5:8-11 Ja '33
- Modernizes heating plant with air conditioning. W. Mellor. *il plan Dom Eng* 141:73-5 Ja '33
- Money in the air. *il Elec West* 71:5-6, 8-10+ Jl '33
- New little giant air conditioning applies for a big job in business. *il System* 62:438-9+ O '33
- New National archives building conditioned to protect records. *il Heating-Piping* 5:305 Je '33
- New opportunities for furnacemen. J. L. Elwood. *Sheet Metal Worker* 24:332 O '33 (to be cont)
- Opportunities in air conditioning for the oil burner dealer. V. S. Day. *il Dom Eng* 140:89-91+ D '32
- Plumbing job is influenced by air conditioning. L. Cutler. *il plans Dom Eng* 140:32-6+ D '32
- Progress in automatic heating and air conditioning. W. E. Stark. *Gas Age* 72:187-92 Ag 26 '33
- Proper air conditions preserve museum pieces; heating and air conditioning of the addition to the Worcester art museum. C. E. Center. *il diag Heat & Ven* 30:21-5 N '33
- Radio City air conditioning includes some steam-jet refrigeration. A. Merle. *il diags Power* 77:449-52 S '33
- Radio City; air conditioning systems in the Radio City and Roxy theaters; illustrations. *Heat & Ven* 30:41 F '33
- Radio City to have world's largest air conditioning system. *Refrig W* 67:36 D '32
- Radio City's British Empire building completely air conditioned. A. Merle. *il diags Heating-Piping* 5:239-41+ My '33
- Refrigeration accelerated by air conditioning. *Power* 77:31 Ja '33
- Refrigeration and air conditioning points in common. D. E. Perham. *W Soc E J* 38:97-102 Ap '33
- Selects good prospects for air conditioning; interview with C. A. Doeringer of Van Zandt and Doeringer, plumbing and heating contractor-dealers, Plainfield, N. J. *il Dom Eng* 141:55-7 Ap '33
- 17-year-old office building meets competition by air conditioning; Heard building, Phoenix, Arizona. R. E. Phillips. *il Heating-Piping* 5:250-1+ My '33
- Several systems used for distributing conditioned air in Dime savings bank building, Brooklyn, New York. R. E. Cherne. *il plan Heating-Piping* 5:505-9 O '33
- Steam jet refrigeration and air conditioning. R. M. McQuitty and R. M. Mullen. *diag Power Pl Eng* 37:395-6 S '33
- Temperature regulation in air cooling and conditioning. R. C. Davis. *Refrig Eng* 25:149+ Mr '33
- Thermo-gravity system of air-conditioning developed by American car & foundry co. *il diag Ry Mech Eng* 106:449-50 N '32
- Tomorrow's house centers about automatic heat and air conditioning. *il Dom Eng* 142:60-1 S '33
- Uncle Sam's prized papers to be air conditioned; National archives building. *Refrig W* 68:21-2 F '33
- Unit conditioners heat, cool and filter air in General Electric building, New York. *il Heat & Ven* 30:19-21 S '33
- Unit-type air-conditioning system modernizes this large department store; Neiman-Marcus company, Dallas. A. W. Moulder. *il plans Heating-Piping* 5:137-41+ Mr '33
- Valuable papers preserved; National archives building. *Management Methods* 62:168 Ap '33
- Variation in air conditions; in its relation to comfort and health. C. S. Leopold. *bibliog Refrig Eng* 26:15-16 Jl '33
- What is air conditioning? G. A. Voorhees. *Sheet Metal Worker* 24:11-12, 89-90 Ja, Mr '33
- What will be the future development of heating and air conditioning? W. H. Carrier. *Heating-Piping* 5:16-17 Ja '33; Same. *Dom Eng* 141:72+ F '33
- Where do we go with air conditioning? L. C. Harvey. *Gas Age* 72:391-2 O 21 '33
- Will air conditioning attract more passengers? *il Ry Age* 95:144-6 Jl 22 '33
- Windows—and their relation to air conditioning problems. W. W. Shaver. *diags Refrig Eng* 26:133-6 S '33

## See also

Air filters	Heating
Car cooling	Humidity
Cooling	Ozone
Exhaust systems	Smoke prevention
Factories—Heating	Theaters—Cooling
and ventilation	Ventilation

## Cost

- Air conditioning costs analyzed; office building of the San Joaquin light & power corp. at Fresno, Calif. G. E. Zehart. *Elec West* 70:119-21 Ap '33; Abstract. *Heat & Ven* 30:45-6 Je '33
- Reduces air-conditioning costs with compressor-equipped plant storing refrigerating effect. C. S. Leopold. *il Heating-Piping* 5:296-7+ Je '33

## AIR conditioning—Continued

## Estimates

Estimating air-conditioning fittings and duct work. Sheet Metal Worker 24:3-5 Ja '33  
 Estimating annual power and water costs for air conditioning. E. P. Wells. Heat & Ven 30:39-40 F '33

## Tables, calculations, etc.

Air conditioning in homes. B. J. George. N E L A Bul 19:723-7 D '32  
 Consolidated air conditioning chart. S. R. Dows. Elec West 70:99-100 Mr '33  
 Summarize cooling data now; air conditioning installation in the Barnum hotel, Bridgeport, Conn. A. Merle. il plan Dom Eng 142:72+ O '33  
 Well and surface water temperatures in the United States; reference data sheets. maps Heat & Ven 30:26a-26b N '33

## AIR conditioning, Industrial

Air conditioning for Hoover Dam concrete tests. diag Power 77:69 F '33; Same cond. Heating-Piping 5:104-5 F '33  
 Air-conditioning in the drug-manufacturing industry; Eli Lilly and company, Indianapolis, W. A. Hanley. il Ind & Eng Chem 25:9-12 Ja '33  
 Air conditioning in the fur industry. C. B. Harris. diag Heat & Ven 30:14 O '33  
 Air conditioning in the modern brewery. L. L. Simmons. il Heating-Piping 5:245-6 My '33  
 Air conditioning is saving industry \$15,000,000 yearly. W. H. Carrier. Heating-Piping 4:785-6 D '32  
 Air conditioning reduces losses in bakery products. W. W. Reece. il Food Ind 5:209-11 Je '33  
 Air conditioning saves six years in making world's largest mirror; conditioning system for telescope-mirror shop. M. M. Lawler. il diags Heating-Piping 5:547-51 N '33  
 Atmospheric control in the textile industry. R. H. Brown. il Am Soc T M Proc 32 pt 2:733-42 '32  
 Commercial and industrial air conditioning; report of committee, Northwest electric light and power association. Elec West 70:239-42 Je '33  
 Cooling water for air conditioning or industrial process uses with steam jet refrigeration. W. L. Fleisher. il diag Heating-Piping 5:77-81, 147-8+ F-Mr '33  
 Description of a controlled temperature and humidity room for textile testing at the University college, Nottingham. C. H. Edwards. diags Textile Inst J 23:T274-8 N '32  
 Electric heat for humidity control in sugar storage warehouse. D. T. Waby. il Elec W 102:409-10 S 23 '33  
 Entnebelung von gewerberäumen. A. Lichte. Zeit Ver Deutsch Ing 77:1089-95 O 7 '33  
 For it's always fair weather and smooth sailing in the plant that deals with hygroscopic materials—if it is air conditioned; Bristol-Myers plant. L. K. Urquhart. il Factory Management 91:189-90 My '33  
 Gas furnaces condition air to prevent rust on sheet stocks. il Steel 93:28 Ag 14 '33  
 Humidity control prevents a.c. brush disintegration. E. F. Bracken. Elec W 102:410-11 S 23 '33  
 Industry finds air conditioning indispensable. T. Mitchell. il Refrig Eng 25:328-9 Je '33  
 Management does something about the weather; Henry Clay and Bock & co. cigar factory. L. K. Urquhart. il Factory Management 91:76-8 Mr '33  
 Many economies made by using air conditioning in ripening fruits. J. J. Murray. il diag Heating-Piping 5:352-3 JI '33  
 Modernized humidification will aid textile mills in maintaining profits. G. Fuller. Heating-Piping 5:394-6 Ag '33  
 Movie-makers teach a lesson in product improvement by air conditioning. L. H. Polderman. il Heating-Piping 5:292-3+ Je '33  
 Silk conditioning; Belmont hosiery borrows machine from shoe industry. il Textile World 83:1270 JI '33

Unit heaters answer many a process problem. L. J. Zorn. il Heating-Piping 5:258 My '33  
 What's ahead for air conditioning in chemical industries? S. B. Lincoln. Chem & Met Eng 40:28 Ja '33

## AIR conditioning equipment

Air conditioning and the central stations. A. D. McLay. il Refrig Eng 25:129-30; Discussion. 130-2 Mr '33  
 Air conditioning; emphasis is on business installations and the individual room weather-makers. il Business Week p18 My 3 '33  
 Air conditioning equipment needs corrosion study; abstract. R. M. Palmer. Chem & Met Eng 40:151. Mr '33  
 Air-conditioning for railway passenger cars. H. K. Williams. il diags Ind & Eng Chem 25:13-18 Ja '33  
 Air conditioning; Frigidaire enters the railroad market with a lightweight unit. il Business Week p6 D 28 '32  
 Air conditioning, 100,000-ton steel market, a recovery aid. il Steel 92:13-14+ My 15 '33  
 Air-conditioning trailers build dealer distribution; Trane company. N. Downey. il Ptr Ink 163:53-9 Je 29 '33  
 Air conditioning without a central system. Business Week p9 Ap 12 '33  
 Air humidifier and filter. il Sci Am 148:59 Ja '33  
 American radiator and standard sanitary corporation new refrigeration equipment; the Decalorator. il diag Am Gas J 138:42 Je '33  
 Capacitor motors for air conditioning equipment. F. W. Jessop. diags Heat & Ven 30:32 Je '33  
 Developments in the electrical industry during 1932; air conditioning. J. Liston. il Gen Elec R 36:35-6 Ja '33  
 Frigidaire enters air-conditioning field. il diags Ry Age 93:877-9 D 10 '32; Samd. Ry Mech Eng 107:14-16 Ja '33; Excerpts. Refrig W 68:31-2 Ja '33  
 How efficient are the filters and air washers you use? Sheet Metal Worker 24:255-6 Ag '33  
 Many developments in air conditioning. Heating-Piping 5:43-50 Ja '33  
 Present situation in air conditioning equipment; self-contained room coolers. il plans Heat & Ven 30:9-16 JI '33  
 Record air-conditioning plants. Eng N 110:412 Mr 30 '33  
 Reversed refrigerating cycle used in new De La Vergne air conditioner. il diag Heat & Ven 30:57 Je '33; Iron Age 131:987 Je 22 '33; Arch Rec 74:sup26 N '33  
 Room cooler design; requirements for self-contained units and a description of a new machine. C. R. Neeson. il diags Refrig Eng 26:233-5; Discussion. 235-8 N '33  
 Scott-Newcomb air conditioning plant. il Pet Age 27:32 Ap '33  
 Several systems used for distributing conditioned air in Dime savings bank building, Brooklyn, New York. R. E. Cherne. il plan Heating-Piping 5:505-9 O '33  
 Trouble inspection report. O. W. Thomas. diags Dom Eng 141:76-7 Ja '33  
 What should this fitting cost? diags Sheet Metal Worker 24:45-6, 85-6 F-Mr '33  
 Year's new equipment. il Heat & Ven 30:27-30 Ja '33

## See also

## Humidifiers

## Control

Control for a steam-jet air-conditioning unit. R. R. Houser. plan Heating-Piping 5:399-401 Ag '33; Same. Am Gas J 139:37-8 S '33

## AIR conditioning industries

Air-conditioning equipment industry. G. E. Barber. Harvard Business R 11:349-58 Ap '33  
 Air conditioning industry finds summer is the best time to sell a year-round idea. il Business Week p12 JI 29 '33  
 Hang up record of one sale a day! il Dom Eng 140:86+ D '32  
 Investment possibilities of air conditioning. H. W. Doyle. Forbes 30:13-14+ D 1 '32



**AIR conditioning industries—Continued**

New big business: air conditioning's strides. C. Hoskins. *il Forbes* 31:13-15+ *Je* 15 '33  
 New market sought by air conditioning; Campbell metal window corporation. *Forbes* 32:15 N 1 '33

**Advertising**

Cash in on comfort cooling. E. Tufft. *Refrig W* 68:13-14 *F* '33  
 Three selling plans for dealers; American blower co. instructs its retailers. *Ptr Ink* 164:61+ *Jl* 27 '33

**AIR conditions**

Atmospheric action as a factor in fatigue of metals. H. J. Gough and D. G. Sopwith. *il diags Engineering* 134:694-6 D 9 '32; *Discussion*. 134:409-10 O 7 '32

Fair weather; air conditioning and the olfactory sense as they relate to interior design. C. B. Ryder. *bibliog Architecture* 67:31-6 *Ja* '33

Indices of air change and air distribution. F. C. Houghten and J. L. Blackshaw. *il diag Heating-Piping* 5:324-30 *Je* '33

Influence of atmospheric ionization upon the human organism. A. D. Brandt. *bibliog J Ind Hygiene* 15:354-61 S '33

Influence of respiration and transpiration on ionic content of air of occupied rooms. C. P. Yaglou, L. C. Benjamin and A. Brandt. *bibliog diag J Ind Hygiene* 15:8-17 *Ja* '33

Physiologic changes during exposure to ionized air. C. P. Yaglou, A. D. Brandt and L. C. Benjamin. *bibliog Heating-Piping* 5:423-30 *Ag* '33; Same cond. *J Ind Hygiene* 15:341-53 S '33

Reducing the performance of a solid-injection Diesel engine to standard conditions. H. A. Everett. *Automotive Ind* 69:303-4 S 9 '33

**See also**

Air—Analysis	Atmospheric tem-
Air conditioning	perature
Air pollution	Dust
	Humidity

**AIR ejectors**

Production of a vacuum in an air tank by means of a steam jet. F. R. B. Watson. *il diags Inst Mech Eng Proc* 124:231-65 '33; Same. *Engineering* 135:230-2, 233, 262-5 *F* 24-Mr 3 '33; Same cond. *Engineer* 155:192-4 *F* 24 '33; *Discussion*. *Inst Mech Eng Proc* 124:266-300 '33; *Engineer* 155:198 *F* 24 '33; *Engineering* 135:255-7 *Mr* 3 '33

**AIR engines**

Pneumatic travelling crane. *il diags Engineer* 155:384 *Ap* 14 '33

**AIR express service**

Air express and bad weather; Air express corporation. *il Sci Am* 148:168-9 *Mr* '33  
 Air express; coast-to-coast service in 18 hours. *il Business Week* p10 D 21 '32

Air express encounters a sales problem of its own. R. M. Combs, jr. *il Ptd Salesmanship* 60:290-1+ D '32

Air express; its service to bankers and merchants. J. H. Butler. *il Bankers M* 126:549-53 *Je* '33

Co-ordinated air-rail express brings fast service to entire country; Railway express agency. *il map Ry Age* 94:477-9 *Ap* 1 '33

Status of air freight. G. S. Lee. *il Dun & Bradstreet* 41:2-3 S '33

**Rates**

Air express cut. *Business Week* p10 D 7 '32

**AIR filters**

Air cleaning. R. E. Chase. *Elec West* 70:244-5 *Je* '33

Air conditioning—cleaning the air. *il diags Heat & Ven* 30:13-19 *Je* '33

Air conditioning; reference list of air filters. *Heat & Ven* 30:17-21 O '33

Air conditioning—selecting the cooling equipment. G. B. Helmrich. *Heat & Ven* 30:24-5 *Jl* '33

Clean the air and save the machine. *il Power* 77:454-6 S '33

Coda de luxe window ventilator equipped with filters. *il Sheet Metal Worker* 24:277 *Ag* '33

Design of dustop air filter. D. C. Simpson. *il Ind & Eng Chem News* ed 11:303-4 O 20 '33

Dust recovery and fume elimination; Dracco fabric filter system. *il Chem Age (Lond)* 28:429-30 *My* 13 '33

Filtered air furnace systems. F. L. Myers. *Sheet Metal Worker* 24:81-2, 109-10+ *Mr*-*Ap* '33

Filtered air relieves hay fever. W. H. Welker, B. Z. Rappaport and T. Nelson. *il Heating-Piping* 5:348-50 *Jl* '33

Fundamental principles in the design of dry air filters. O. Wechsberg. *il diag Heating-Piping* 5:217-20 *Ap* '33

How efficient are the filters and air washers you use? *Sheet Metal Worker* 24:255-6 *Ag* '33  
 Modern methods of air filtration. *il Chem Age (Lond)* 28:96-7 *F* 4 '33

Recherches sur la purification de l'air; appareil purificateur. G. Menier. *Génie Civil* 102:357 *Ap* 15 '33

Servicing the air filters for 140 unit ventilators; Cincinnati & suburban Bell telephone company building. W. H. Junker. *il diags plan Heating-Piping* 5:302-3+ *Je* '33

Trouble inspection report. *diags Dom Eng* 141:58+ *Ap* '33

Vacuum cleaning the air our customers breathe; abstracts. H. B. Yost. *il Gas Age* 71:538+ *My* 27 '33; *Am Gas J* 138:11-12 *My* '33

Visco self-cleaning rotating air-filter. *diags Mech Handling* 20:115-16 *Ap* '33

**Testing**

Air filters tested in gravity heating. F. B. Rowley. *il Sheet Metal Worker* 23:471-2 N '32; *Excerpts*. *Heat & Ven* 30:43-4 *F* '33

Testing and rating of air cleaning devices used for general ventilation work. S. R. Lewis. *bibliog diags Heating-Piping* 5:275-9 *My* '33

**AIR flow**

Air-compressor test-bed equipment; abstract. S. Gaymour. *Mech Eng* 55:308 *My* '33

Druckverlust im glatten geraden Kreisrohr. H. Richter. *diags Zeit Ver Deutsch Ing* 76:1269-74 D 24 '32

Elbows and angles. O. W. Kothe. *diags tables Sheet Metal Worker* 24:242-4+, 285-7, 294, 321-3+ *Ag*-O '33

Experimental investigation of the principles of the air injector. A. Bailey and S. A. Wood. *Engineering* 136:177 *Ag* 18 '33

Fan, blower and suction pipe systems. J. W. Romig. *Glass Ind* 14:41-3+ *Ap* '33

Flow of simple fluids through porous materials. G. H. Fancher and J. A. Lewis. *bibliog il diags Ind & Eng Chem* 25:1139-47 O '33

Future aspects of the soaring plane. A. C. Loedding. *il Aero Digest* 21:49-50 D '32

Importance of velocity characteristics in the design of local exhaust hoods. J. M. Dallavalle. *diags J Ind Hygiene* 15:18-26 *Ja* '33

Improving open-hearth furnace design. W. C. Buell, jr. *Steel* 92:34, 37-8 *My* 29 '33

Measurement of air flow. E. Ower. 2d ed 243p 15s Chapman & Hall, Ltd, London '33

Measurement of the flow of air through registers and grilles. L. E. Davies. *il diags Heating-Piping* 5:486-95 S '33; *Abstract: Heat & Ven* 30:41 S '33

Metering air by psychrometry. D. B. Knight. *Refrig Eng* 25:198+ *Ap* '33

Nomographs for the calculation of air and gas velocity. A. Alison. *Chem & Met Eng* 39:623-4 N '32

Pipe areas and velocities. *diag Sheet Metal Worker* 24:152-3 *My* '33

Pressure losses due to bends and area changes in mine airways. G. E. McElroy. *diags U S Bur Mines Information Circ* 6663:1-34 '32

Pulsation of air flow from fans and its effect on test procedure; abstract. H. F. Hagen. *Heat & Ven* 30:46-7 *Ja* '33

Smoke for testing air currents. J. E. Hyler. *diags Factory Management* 91:108-9 *Mr* '33

Velocities and heating duct sizes. B. F. McLouth. *Sheet Metal Worker* 23:473-4 N '32

**See also**

Aerodynamics  
 Anemometers

Compressed air  
 Gas flow

**AIR hose**

Shop devices for reclaiming air hose. *il Ry Mech Eng* 107:368-9 O '33

**AIR lifts**

Air required by air-lift pumps. *F. Bates. Civil Eng* 3:626-7 N '33

Concrete caissons sunk by air-lift pumping; landing jetty at Le Verdon, France. *diags map Eng N* 111:249-50 Ag 31 '33

Uncongenial neighbors; problem in an air-lift pumping plant. *E. Sterrett. diag Comp Air M* 38:4043 Ja '33

**AIR lines**

Air merger; General-North American deal is in line with trend to integrate manufacture and operation. *Business Week* p19-20 F 8 '33

Airlines over the pole. *V. Stefansson. map Sci Am* 148:288-9 My '33

Skyways that link the Americas. *V. E. Chenea. il Sci Am* 147:342-4 D '32

World aviation. *M. Wronsky. map Aviation Eng* 8:19-20 Ap '33

*See also*

Aeronautics, Commercial	Air mail service
Air express service	Air travel
	Airports
	Airways

**Advertising**

Art in air travel sales; illustrations of European air line posters. *Aviation* 32:112-13 Ap '33

Trade character does an overtime advertising job; Imperial Airways bird. *il Ptr Ink Mo* 27:17+ J1 '33

**Costs**

Economic aspects of transport-airplane design; cost data. *R. S. Damon, G. A. Page, Jr. and K. Perkins. S A E J* 31:475-84 D '32

Fleet birds of a feather. *il Fortune* 7:23-7, 39+ My '33

Transcontinental air transportation. *R. W. Robbins. Aviation Eng* 8:20-1 Ja '33

**Employees**

Air transport code sets fair wages and hours. *Ry Age* 95:269-70 Ag 19 '33

Wages and hours of labor in air transportation, 1931. *U S Bur Labor Statistics Bul* 575:1-41 '33

**Finance**

Aviation enters a new phase; four companies with growing power and sponsorship dominate field. *H. Richmond, Jr. il Mag of Wall St* 52:521-2+ S 16 '33

Economic aspects of transport-airplane design; cost data. *R. S. Damon, G. A. Page, Jr. and K. Perkins. S A E J* 31:475-84 D '32

The "if" in aviation; government policy will determine profit prospects for aircraft stocks. *H. Mingos. il Mag of Wall St* 52:66-7+ My 13 '33

**Management**

Air transport problems. *J. Frye. Automotive Ind* 69:254 Ag 26 '33

Amsterdam-Batavia weekly service. *A. Plesman. il maps Roy Aeronautical Soc J* 37:601-29; Discussion. 629-40 J1 '33

Lessons of 50,000,000 miles of flying; United air lines. *R. Johnson. il Sci Am* 149:114-16 S '33

Maintenance on the Royal Dutch air lines. *il Aviation* 32:109-11 Ap '33

Operating wrinkles on United air lines. *Aviation Eng* 8:22 F '33

Overcoming obstacles to safe flying. *A. A. Priestler. il Nat Safety N* 27:13-14+ Mr '33

Safety on the tropical airways; Pan American airways system. *il map Nat Safety N* 28:27-9+ O '33

Service improvements. *P. G. Johnson. Automotive Ind* 69:254 Ag 26 '33

**Schedules**

Schedule making. *O. E. Kirchner. Aviation* 32:346-8 N '33

**Shops**

Thunder bird's nest; observations at Pan American airway's Brownsville base. *S. P. Johnston. il Aviation* 32:40-2 F '33

*See also*

Airplane service stations

**Statistics**

Air lines show increases in passenger and express traffic, decrease in air mail, 1932. *Air Commerce Bul* 4:419-23 Mr 1 '33

Air records; steady increase in aircraft use accompanies steady shrinkage in aircraft production. *map Business Week* p18 Mr 8 '33

Air service; transport by airplane will earn \$38 millions gross in 1933. *Business Week* p8 Ja 4 '33

Air transport. *maps Aviation* 32:68-75, 381 Mr, D '33

American-operated airlines carry 235,139 passengers in first 6 months of 1933. *Air Commerce Bul* 6:69-76 S '33

Résumé of commercial information; regular air transport companies in Europe; fleets in operation as at 31st December, 1932; tabulation. *Roy Aeronautical Soc J* 37:435-44 My '33

Résumé of commercial information, special issue; statistics of French air lines and London-to-Paris service; tabulations. *Roy Aeronautical Soc J* 37:708-22 Ag '33

Scheduled air transport operations statistics for the calendar year 1932. *Air Commerce Bul* 4:473-6 Ap 1 '33

Scheduled transport operations of American air lines, 1927-1932. *Automotive Ind* 68:225 F 25 '33

**Transoceanic lines**

Possible airlines across the Atlantic, map *diag Sci Am* 149:174 O '33

Transoceanic airship service; Graf Zeppelin. *W. Lambrecht. il Sci Am* 149:20-2 J1 '33

**France**

Résumé of commercial information, special issue; statistics of French air lines and London-to-Paris service; tabulations. *Roy Aeronautical Soc J* 37:708-22 Ag '33

**Netherlands**

Amsterdam-Batavia weekly service. *A. Plesman. il maps Roy Aeronautical Soc J* 37:601-29; Discussion. 629-40 J1 '33

Maintenance on the Royal Dutch air lines. *il Aviation* 32:109-11 Ap '33

**United States**

Air transport coding. *Aviation* 32:311-12 O '33

Air transport gains favor. *maps Aviation* 32:68-75 Mr '33

Air transport; increasing volume of traffic. *Index* 13:152-3, 156-8 S '33

Airway map of the United States. *Aero Digest* 23:28-9 S '33

Code for the air transport industry. *Aviation* 32:290-1 S '33

Cord corporation; an account of its aeronautical activities. *il map Aero Digest* 23:24-7 N '33

Fleet birds of a feather. *il map Fortune* 7:22-39, 106-11 My '33

More air passengers look like prosperity, but the menace of reduced mail pay scares the industry. *Business Week* p26 N 11 '33

Planning air mergers; General motors corp. aiming at consolidation of national transport lines and manufacturing units. *Barron's* 13:6 Ja 30 '33

Subsidized air lines. *il Ry Age* 93:822-3 D 3 '32

United States air transport routes, schedules, etc. Published in monthly numbers of *Air commerce bulletin*

**AIR mail service**

Air mail; Congress proposes to pay air lines for what they carry. *Business Week* p18 Ap 5 '33



**AIR mail service—Continued**

- Air mails of British Africa, 1925-1932. N. C. Baldwin, comp. 68p Francis J. Field, Ltd, Sutton Coldfield, England '33
- Air transport developments abroad. Engineering 136:198 Ag 25 '33
- Air transport gains favor. maps Aviation 32: 68-75 Mr '33
- Air-transport stops interest losses. H. Cray. maps Rand McNally Bankers Mo 50:527-9 O '33
- Estimate of the situation for 1933. E. P. Warner. Aviation 32:13 Ja '33
- Investigations, legislative proposals, and the air mail. E. P. Warner. Aviation 32:177-9 Je '33
- New deal in the air, too; Congress decides to kill all air mail appropriations. Business Week p12 F 15 '33
- Present air mail situation. R. W. Robbins. Aero Digest 22:23+ Mr '33
- Progress of banking by air. W. A. Patterson. il Burroughs Clearing House 17:17+ D '32
- Reduced air-mail payments. Barron's 13:6 S 18 '33
- Subsidized air lines. il Ry Age 93:822-3 D 3 '32

**Statistics**

- Mail carried in 1932; tabulation. Aviation 32:75 Mr '33

**AIR navigation. See Aviation****AIR pilots. See Aviators****AIR pipes**

- Air conditioning a broadcasting studio; ductwork N.B.C. studios in tower of Radio City; illustrations. Heat & Ven 30:30 Mr '33
- Air conditioning the broadcast plant. V. J. Gilcher. il diags Heat & Ven 30:33-5 O '33
- Design of compressed air piping for buildings. T. R. Davis. il Heat & Ven 30:33-5 Je '33
- Elbows and angles. O. W. Kothe. diags tables Sheet Metal Worker 24:242-4+, 285-7, 294, 321-3+ Ag-O '33
- Estimating ductwork; weights of rectangular galvanized steel ducts per foot; reference data sheet. Heat & Ven 30:50a-50b Ja; 34a-34b F; 30a-30b Mr; 42a-42b Ap; 42a-42b My '33
- Fan, blower and suction pipe systems. J. W. Romig. Glass Ind 14:41-3+ Ag '33
- Pipe areas and velocities. diag Sheet Metal Worker 24:152-3 My '33
- Some pitfalls in supervision; ductwork. W. F. Bartels. Architecture 68:169-70 S '33

**AIR pollution**

- Application to the Battersea power station of researches into the elimination of noxious constituents from flue gases and the treatment of resulting effluents. S. L. Pearce and others. plans Engineer 156:32-4 Jl 14 '33; Abstracts. Electrician 111:85 Jl 21 '33; Chem Age (Lond) 29:49 Jl 15 '33; Elec R (Lond) 113:50 Jl 14 '33; Power 77:490-1 S '33; Discussion. Electrician 111:85-6 Jl 21 '33; Elec R (Lond) 113:84 Jl 21 '33
- Atmospheric pollution in 1931-32. J. B. C. Ker-shaw. Engineer 155:172-3 F 17 '33
- Chemical works and atmospheric pollution. Engineering 136:42 Jl 14 '33
- Coke plant held not a nuisance. Gas Age 71:18 Ja 7 '33
- Effects of smoke and fumes on buildings; abstracts. F. Baines. Electrician 111:91 Jl 21 '33; Gas J (Lond) 203:142-3 Jl 19 '33
- Engineering principles of industrial hygiene. A. Zimmerman. il diags W Soc E J 38:77-96 Ap '33; Same cond. Chem Markets 33:43-7, 136-40 Jl-Ag '33
- Gas man looks at the smoke nuisance. H. Obermeyer. il Gas Age 72:238+ S 9 '33
- General orders on dusts, fumes, vapors and gases; Industrial commission of Wisconsin; abstract. J Ind Hygiene 15:sup 18-19 Mr '33
- Investigation of atmospheric pollution; abstracts of report. Chem Age (Lond) 28:354 Ap 22 '33; Elec R (Lond) 112:525 Ap 14 '33
- Investigations on the emission of dust and grit from power-station chimneys in Holland. A. J. ter Linden. il diags Engineering 136:279-82, 353-5 S 15, 29 '33

- Occurrence of lead, copper, zinc, and arsenic compounds in atmospheric dusts, and the sources of these impurities. J. T. Dunn and H. C. L. Bloxam. Soc Chem Ind J 52:189T-92T Je 30 '33
- Odd occurrence following a tropical storm; discoloring of paint after hurricane in Puerto Rico. D. H. Cook and C. Cintrón. Science 76:541 D 9 '32
- Presence of lead dust and fumes in the air of streets, automobile repair shops, and industrial establishments of large cities. J. J. Bloomfield and H. S. Isbell. bibliog J Ind Hygiene 15:144-9 My '33
- Removal of solid sulphur compounds from combustion gases; abstract. D. Brownlie. Mech Eng 55:700 N '33
- Le rôle de l'acide fluorhydrique dans la nocivité du brouillard de la Meuse en 1930. J. Mage and G. Batta. Chimie & Ind 30:787-8 O '33
- Sulfur dioxide in air of industrial community. C. E. Betz, J. H. Holden and J. O. Handy. Ind & Eng Chem 25:774-6 Jl '33
- Sulfur dioxide in Pittsburgh air. C. Schade. bibliog J Ind Hygiene 15:150-3 My '33
- Verem deutscher chemiker in Würzburg; raengruppe für luitschutz. Angew Chemie 46:432-6 Je 24 '33

**See also**

- Dust  
Flue dust  
Flue gas
- Smoke prevention  
Ventilation

**AIR preheaters**

- Einbau von thermoelementen in winderhitzer-kuppeln. A. Killing. diag Stahl & Eisen 53:608 Je 8 '33
- Energy paradox explained; locations for fan in connection with air-heater. A. Edwards. diags Power 77:513 O '33
- Ljungstrom new heater surface. il Power Pl Eng 37:492-3 N '33
- Pre-heated air for boilers. R. Livingstone. Elec R (Lond) 112:558 Ap 21 '33
- Vergleich von ein- und mehrzonenwinderhitzern. F. Kofler and J. W. Gilles. diags Stahl & Eisen 53:393-7 Ap 20 '33

**AIR preheating**

- Generating steam from blast-furnace gas. A. F. Webber. Blast F & Steel Pl 20:898-900 D '32
- New clinker coolers save kiln fuel and improve grindability. il diags Concrete (mill sec) 41:35-40 Mr '33
- Preheating the cupola blast. F. K. Vial. diag Foundry 61:14-15+ My '33
- Principles of recuperation applied to industrial gas furnaces. E. A. Luscombe. bibliog il diags Am Gas J 137:9-12+ D '32
- Underfeed combustion with preheated air; abstract. P. Nicholls and M. G. Eilers. Power 77:343 Jl '33
- Utilization of heat from clinker for preheating secondary air. R. R. Coghlan. Concrete (mill sec) 41:27-30 My '33

**AIR pumps****See also**

- Air ejectors  
Air lifts

**AIR purification**

- Die regeneration der atemluft in gasschutzgeräten durch alkaliperoxyde. A. Hloch. Angew Chemie 46:45-7 Ja 14 '33

**See also**

- Air cleaners  
Air conditioning  
Air filters
- Dust removal  
Ventilation

**AIR receivers**

- Heads of air tanks fail with disastrous effect. Locomotive 39:168-9 Ap '33

**AIR reduction company, inc.**

- Air reduction; the company whose stock everybody bought, whose business nobody understood. il Fortune 8:24-9, 108+ Jl '33
- Recovery lifts Air Reduction's net. Econostat 1:12, 23 Ag 19 '33
- Report for 1932. Barron's 13:15 Ja 30 '33
- Speculative audit; factors affecting common-stock values. Barron's 13:15 Mr 20 '33

**AIR resistance**

Is 50 miles per gallon possible with correct streamlining? W. E. Lay. *il diags S A E J* 32:144-56, 177-86 Ap-May '33; Discussion. 33: 261-7 Ag '33

Side winds abate performance gains hoped for from streamlining. R. H. Heald. *il S A E J* 33:sup18-21 N '33

**AIR rifles****Advertising**

Boy market is depression proof, this advertiser finds; Daisy air rifles. C. S. Hough. *il Ptr Ink* 164:41+ Ag 10 '33

**AIR rights**

Development of air rights entails difficult substructure work; more than 200 column footings placed at the Pennsylvania station, New York, for post office extension, *il plan Ry Age* 95:342-5 S 2 '33

Trespass. Bradstreet's 60:1563 N 26 '32

**AIR sampling**

Dust counting and air sampling apparatus for field surveys. R. C. Stratton, J. B. Ficklen and W. A. Hough. *il diag Heat & Ven* 30:36-8 Ag '33

**AIR separators**

Measurement of particle size with an accurate air analyzer; the fineness and particle size distribution of Portland cement. P. S. Roller. *il diags Am Soc T M Proc* 32 pt 2:607-25 '32; Excerpts. Concrete (mill sec) 40:42-4 S '32; Abstract. Rock Prod 35: 29 O 8 '32; Discussion. *Am Soc T M Proc* 32 pt 2:626-8 '32

Refining of Pacific northwest kaolins by air flotation. H. Wilson and J. A. Cunliffe. *il Am Cer Soc J* 16:154-62 Mr '33

Sly pneumatic abrasive separator removes refuse and fines from abrasive. *il Foundry* 61:56 Ag '33

**AIR speed indicators**

Aircraft speed instruments. K. H. Beij. *il diags U S Nat Advisory Com for Aeronautics* 1932:381-435 [bibliog p432-4] '33

**AIR travel**

Coast-to-coast; with portfolio of aerial photographs. *Fortune* 7:30-8 My '33

Fifty million miles of flying. H. Crary. *il Nat Safety N* 27:15-16+ Je '33

Flying in comfort. R. M. Cleveland. *il diag Sci Am* 149:68-9 Ag '33

Future air travel costs to be much lower. E. L. Vidal. *Nat Pet N* 25:16 S 27 '33

Promoting South American air travel with figures. *Aviation* 31:491 D '32

Selling flying to the public. *il Sci Am* 148:103-4 F '33

Work of the Air travel bureau. M. D. Warshaw. *Aviation Eng* 8:18-19 My '33

**See also**

Air lines  
Airways  
Aviation

**AIRCRAFT**

Story of aircraft. C. Fraser. 510p \$2.50 Crowell '33

**See also**

Airplanes  
Airships  
Autogiros  
Balloons  
Flying boats  
Gliders

Radio apparatus on  
aircraft  
Seaplanes  
Television apparatus  
on aircraft

**Materials**

Materials of aircraft construction. F. T. Hill. 363p \$4.50 Pitman '33

**Patents**

Recent aeronautical patents. Published in monthly numbers of *Aero digest*

**AIRCRAFT engines**

Begriffsbestimmungen für flugmotoren unter besonderer berücksichtigung der höhenmotoren. H. Oestrich. *Zeit Ver Deutsch Ing* 77:1073-5 S 30 '33

Developments in high-powered aircraft engines. G. D. Angle. *il Aero Digest* 23:41-4 O; 46-7 N '33

Steam power plant for aircraft. A. Collina. *diags Aviation Eng* 7:10-11 D '32

**See also**

Airplane engines

**AIRCRAFT industry**

Aircraft industry and chemical engineering. H. T. Tizard. *Chem Age (Lond)* 27:430 N 5 '32

**See also**

Airplane industry and trade

**AIRFOILS**

Boosting airfoil lift; a comparison of devices tested by the N.A.C.A. on the Clark Y wing. R. M. Mock. *Aviation* 32:161, 227 My, J1 '33

Characteristics of Clark Y airfoils of small aspect ratios. C. H. Zimmerman. *bibliog diags U S Nat Advisory Com for Aeronautics* 1932:581-90 '33

Fly fast—land slow. R. M. Cleveland. *il Sci Am* 148:320-1 Je '33

Ice prevention on aircraft by means of engine exhaust heat and a technical study of heat transmission from a Clark Y airfoil. T. Theodorsen and W. C. Clay. *bibliog il diags U S Nat Advisory Com for Aeronautics* 1932:91-112 '33

Paddle wheel airfoil system. A. Klemin. *diags Aviation Eng* 8:5-8+ F '33; Abstract. *Mech Eng* 55:376-7 Je '33

Paddle wheel or feathering airfoil aircraft. *il diag Sci Am* 148:335-6 Je '33

Theory of wing sections of arbitrary shape. T. Theodorsen. *U S Nat Advisory Com for Aeronautics* 1932:229-39 '33

Wind-tunnel tests of a Clark Y wing with a narrow auxiliary airfoil in different positions. F. E. Weick and M. J. Bamber. *bibliog diags U S Nat Advisory Com for Aeronautics* 1932:537-48 '33

**See also**

Airplane propellers  
Airplane wings  
Airplanes—Elevators

**AIRPLANE brakes. See Brakes, Airplane****AIRPLANE carriers**

Launch of the Ranger. *il Marine Eng* 38:145-6 Ap '33; *Marine R* 63:8 Ap '33

Mothership for south Atlantic flyers; Luft Hansa's floating fueling station. *Aviation* 32:161 My '33

**AIRPLANE dope**

Aviation dope rooms. *Weekly Underw* 128: 876-7 My 6 '33

Dope room fires. *Aviation* 31:478 D '32

**AIRPLANE engines**

Aeronautics in 1932. *il diags Engineer* 155:2-4, 16, supp 1 Ja 6 '33

American engines. *il Aviation* 32:156-60 My '33

America's aeronautical industry. *Aviation* 32: 264-5 S '33

Bristol Phoenix, British engine with compression ignition. *il Aviation* 32:254 Ag '33

Daimler-Benz enters Diesel aircraft engine field with 12-cyl. Vee model. *il Automotive Ind* 68:81 Ja 21 '33

Developments in high-powered aircraft engines. G. D. Angle. *il Aero Digest* 23:41-4 O; 46-7 N '33

Fiat 2800 h.p. A.S.6 aero engine. *il diag Aero Digest* 22:46 My '33

Increased ratings for Wright. *Aviation Eng* 8: 17 Ja '33

Jumo two-stroke Diesel for aircraft develops 540 h.p. *il Automotive Ind* 69:280 S 2 '33

Junkers L5 G is more powerful. *Automotive Ind* 69:372 S 23 '33

Junkers sees trend to Diesels in airplanes. *Automotive Ind* 68:708 Je 10 '33

Neuere reihenflugmotoren mit kleiner leistung. W. Kamm. *il Zeit Ver Deutsch Ing* 77:593-5 Je 3 '33

Pegasus makes the highest jump. *Aviation* 31:489 D '32

Pratt & Whitney 700 h.p. Hornet series T1C engine. *il Aero Digest* 22:49 Ja '33; *Automotive Ind* 67:808 D 24 '32; *Aviation* 32:25-6 Ja '33; *Aviation Eng* 8:16 Ja '33



**AIRPLANE engines—Continued**

- Pratt & Whitney's development of two-row radial engines. *il Aero Digest* 22:52-4 Ap '33; *Automotive Ind* 68:434-5+ Ap 8 '33; *Aviation* 32:129-30 Ap '33; *Aviation Eng* 8:17-18+ Ap '33
- Relation of aeronautical research to general engineering; abstract. A. Ferrier. *Mech Eng* 55:376 Je '33
- Rolls-Royce Condor aircraft engine converted to Diesel type. *Automotive Ind* 68:144 F 4 '33
- Superaviation. *diags Sci Am* 148:232-3 Ap '33
- Two-cycle aircraft engine. C. F. Caunter. *il Automobile Eng* 23:15-17 Ja '33
- Wright Cyclone F lowest in weight. *Automotive Ind* 68:346 Mr 18 '33
- Wright Cyclone R-1820-F. 700 h.p. engine. *Automobile Eng* 23:30 Ja '33
- Wright two-row radial engine. *il Aero Digest* 22:42-3 Ja '33; *Aviation* 32:61 F '33
- Wright Whirlwind R-1510. *Aviation Eng* 8:15-16 F '33

**Bearings**

- Tin-free leaded bearing bronze. H. K. Herschman and J. L. Basil. *il U S Bur Stand J Research* 10:591-608 My '33

**Cooling**

- Aircraft engine cooling problem; abstract. H. Caminez. *Automotive Ind* 69:14-15 Jl 1 '33
- Engine-cooling research. R. M. Wood. *diags Roy Aeronautical Soc J* 37:733-44 S '33; *Excerpts. Engineer* 155:272 Mr 17 '33; *Discussion. Roy Aeronautical Soc J* 37:744-55 S '33
- Experiments on air-cooling. *Aviation Eng* 7:15 D '32
- Indirect air cooling problems not solved but solvable. J. H. Geisse. *Automotive Ind* 68:277-8 Mr 4 '33; *Abstract. Mech Eng* 55:311-12 My '33

**Cowlings**

- Effect on airplane performance of the factors that must be considered in applying low-drag cowlings to radial engines. W. H. McAvoy, O. W. Schey and A. W. Young. *bibliog il U S Nat Advisory Com for Aeronautics* 1932:259-75 '33
- Tests of nacelle-propeller combinations in various positions with reference to wings; thick wing—N.A.C.A. cowled nacelle—tractor propeller. D. H. Wood. *bibliog il diags tables U S Nat Advisory Com for Aeronautics* 1932:277-304 '33
- Tests of nacelle-propeller combinations in various positions with reference to wings; thick wing—various radial-engine cowlings—tractor propeller. D. H. Wood. *bibliog il diags U S Nat Advisory Com for Aeronautics* 1932:653-92 '33

**Design**

- Continental 215-h.p. aircraft engine. *il diags Automobile Eng* 22:569-70 D '32
- Deeble double-action inverted engine. *il Aero Digest* 21:51 D '32
- High-output poppet-valve cylinders; abstracts. F. L. Prescott. *Automotive Ind* 69:339 S 16 '33; *Aviation* 32:323 O '33
- Paris aviation show reveals developments in reduction gears and superchargers. W. F. Bradley. *il Automotive Ind* 67:734-6 D 10 '32
- Pobjoy model R, 80-h.p. radial air-cooled aero engine. *il diags Engineering* 134:594-5. 598 N 18 '32; *Abstract. Mech Eng* 55:185-6 Mr '33
- Pobjoy R type aircraft engine. *il diags Automobile Eng* 23:64-6 F '33
- Possible future development of air-cooled aero engines; abstracts. A. H. R. Fedden. *Automotive Ind* 69:334-7 S 16 '33; *Aviation* 32:321-3 O '33; *S A E J* 30:sup28 O '33
- Radial engines, their power and frontal area; a simple and accurate method of estimating overall diameter. E. S. Taylor. *il Aviation* 32:201-2 Jl '33
- Scavenging by large valve-overlap increases power and economy. O. W. Schey. *diags S A E J* 32:210-16 Je '33
- Shank proportions of aircraft engine connecting rods. G. D. Angle. *diags Aviation Eng* 8:5-8+ Ap '33

La XIII<sup>e</sup> Exposition internationale de l'aéronautique (Paris, 18 novembre-4 décembre 1932). R. J. de Marolles. *il diags Génie Civil* 101:605-10 D 17 '32

**Efficiency**

- Mechanical efficiency of aircraft engines. K. Lohner. *Aviation Eng* 8:18 Ja '33

**Equipment**

- Elimination of fire hazard due to back fires. T. Theodorsen and I. M. Freeman. *bibliog il diags U S Nat Advisory Com for Aeronautics* 1932:211-17 '33

**Exhaust**

- Ice prevention on aircraft by means of engine exhaust heat and a technical study of heat transmission from a Clark Y airfoil. T. Theodorsen and W. C. Clay. *bibliog il diags U S Nat Advisory Com for Aeronautics* 1932:91-112 '33

**Exhibitions**

- Paris aviation show reveals developments in reduction gears and superchargers. W. F. Bradley. *il Automotive Ind* 67:734-6 D 10 '32

**Fuel**

- Aviation has real need for chemical developments. E. P. Warner. *Chem & Met Eng* 40:27-8 Ja '33
- Co-operative research on motor fuels between the petroleum and automobile industries. H. L. Horning. *Oil & Gas J* 31:16 Ap 27 '33
- Les irrégularités d'alimentation des carburateurs provoquées par le vapor lock. A. Grebel. *Génie Civil* 102:16-18 Ja 7 '33
- N.A.C.A. reports on engine performance experiments with hydrogenated safety fuel. O. W. Schey and A. W. Young. *Automotive Ind* 69:460 O 14 '33
- Natural gasoline has prominent part in new research work covering fuels. H. K. Cummings. *Oil & Gas J* 32:30 Ag 10 '33
- Procedure to be used in knock testing aviation fuels. *Nat Pet N* 25:24+ N 8 '33

**Fuel feeding**

- Combustion in a high-speed compression-ignition engine. A. M. Rothrock. *il diags U S Nat Advisory Com for Aeronautics* 1932:63-77 [bibliog p77] '33
- Effect of nozzle design and operating conditions on the atomization and distribution of fuel sprays. D. W. Lee. *bibliog il diags U S Nat Advisory Com for Aeronautics* 1932:505-21 '33
- Effect of orifice length-diameter ratio on fuel sprays for compression-ignition engines. A. G. Galalles. *il diags U S Nat Advisory Com for Aeronautics* 1932:79-90 [bibliog p90] '33
- Experiments on the distribution of fuel in fuel sprays. D. W. Lee. *bibliog il diags U S Nat Advisory Com for Aeronautics* 1932:703-17 '33
- Fuel vaporization and its effect on combustion in a high-speed compression-ignition engine. A. M. Rothrock and C. D. Waldron. *bibliog il diags U S Nat Advisory Com for Aeronautics* 1932:629-51 '33
- Mechanism of atomization accompanying solid injection. R. A. Castleman, jr. *il U S Nat Advisory Com for Aeronautics* 1932:735-44 [bibliog p744] '33
- N.A.C.A. apparatus for studying the formation and combustion of fuel sprays and the results from preliminary tests. A. M. Rothrock. *il diags U S Nat Advisory Com for Aeronautics* 1932:549-65 [bibliog p565] '33
- Pressure piping effects on fuel injection. C. W. Lawson. *il diags Roy Aeronautical Soc J* 37:694-702 Ag '33
- Rates of fuel discharge as affected by the design of fuel-injection systems for internal-combustion engines. A. G. Galalles and E. T. Marsh. *bibliog diags U S Nat Advisory Com for Aeronautics* 1932:607-19 '33
- Some characteristics of sprays obtained from pintle-type injection nozzles. E. T. Marsh and C. D. Waldron. *diags Automobile Ind* 69:420 O 7 '33

## AIRPLANE engines—Continued

## Ignition

Breeze ignition synchronizer. diag Aviation Eng 8:26 Ja '33

## Manufacture

Inspection gauges used on radial engine crankcases. A. G. Lloyd. diags Aviation Eng 8:12-13 Ja '33

Inspection; routine employed by the Bristol aeroplane co. il Automobile Eng 23:169-70 My '33

Manufacture and use of light alloys. W. C. Devereux. il Roy Aeronautical Soc J 37: 145-66; Discussion. 166-7 F '33

Micromatic develops hone for blind end cylinders. il diag Automotive Ind 69:490 O 21 '33

## Mufflers

Mufflers for airplane engines. J Fr Inst 215: 196-8 F '33

Report of tests on reduction of airplane noise by use of mufflers. diags Air Commerce Bul 4:277-90 D 15 '32

## Performance

Altitude performance of aircraft engines equipped with gear-driven superchargers; abstract. R. F. Gagg and E. V. Farrar. Automotive Ind 69:312 S 9 '33; Excerpt. S A E J 33:sup29 O '33

## Repair

Engine overhaul divorced from engine manufacture; United airports of Connecticut, inc. engine servicing shops at Hartford. il plan Aviation 32:185-6 Je '33

## Specifications

American airplane engines specifications; tabulation. Automotive Ind 68:260-1 F 25 '33

American engine specifications; tabulation. Aviation 32:32 Ja '33

## Starting and idling

Economies of engine operation; warm-up and idling time; proper use of tail winds. O. E. Kirchner. Aviation 32:305-7 O '33

## Starting devices

Auxiliary starting power. il Aviation 32:170 My '33

## Superchargers

Altitude performance of aircraft engines equipped with gear-driven superchargers; abstract. R. F. Gagg and E. V. Farrar. Automotive Ind 69:312 S 9 '33; Excerpt. S A E J 33:sup29 O '33

Correlation of propeller and engine power with supercharging. F. W. Caldwell and F. M. Thomas. S A E J 32:124-37 Ap '33

Experiments with a supercharged single-cylinder high-speed petrol engine. G. F. Mucklow. diags Inst Mech Eng Proc 123:373-442 '32; Abstracts. Engineer 154:644 D 23 '32; Engineering 134:762 D 30 '32; Mech Eng 55:122-4 F '33; Discussion. Inst Mech Eng Proc 123:442-78 '32; Engineer 154:645 D 23 '32; Engineering 134:744 D 23 '32

Scavenging by large valve-overlap increases power and economy. O. W. Schey. diags S A E J 32:210-16 Je '33

Supercharging doubles power of race-winning airplane motor. il Automotive Ind 69:7 JI 1 '33

## Testing

Bending moments in the master rod of a radial aircraft engine. C. F. Taylor. diags S A E J 31:488-92 D '32

British test supercharged Diesels for air service. Automotive Ind 69:96 JI 22 '33

Commercial flight tests improved by new equipment and methods. A. L. MacClain and D. S. Hersey. il S A E J 32:245-55; Discussion. 255 JI '33

Effect of humidity on engine power at altitude. D. B. Brooks and E. A. Garlock. U S Nat. Advisory Com for Aeronautics 1932: 523-9 '33

Effect of increased carburetor pressure on engine performance at several compression ratios. O. W. Schey and V. G. Rollin. bibliog il diag U S Nat. Advisory Com for Aeronautics 1932:113-22 '33

Effect of nozzle design and operating conditions on the atomization and distribution of fuel sprays. D. W. Lee. bibliog il diags U S Nat. Advisory Com for Aeronautics 1932:505-21 '33

Electrical dynamometer; new all-electric apparatus for testing aero engines. il Electrician 111:512-13 O 27 '33

Experiments with a supercharged single-cylinder high-speed petrol engine. G. F. Mucklow. diags Inst Mech Eng Proc 123:373-442 '32; Abstracts. Engineer 154:644 D 23 '32; Engineering 134:762 D 30 '32; Mech Eng 55:122-4 F '33; Discussion. Inst Mech Eng Proc 123:442-78 '32; Engineer 154:645 D 23 '32; Engineering 134:744 D 23 '32

Farral-Birmingham dynamometer for testing. il Aviation Eng 8:26 F '33; Automotive Ind 68:214 F 18 '33

400-hour endurance test of the Wright Whirlwind R-760E-1. H. C. Hill. il Aero Digest 23:50-1 S '33

Fuel vaporization and its effect on combustion in a high-speed compression-ignition engine. A. M. Rothrock and C. D. Waldron. bibliog il diags U S Nat. Advisory Com for Aeronautics 1932:629-51 '33

Indicators as a means of improving aircraft-engine performance. F. L. Prescott. il diags S A E J 31:361-70 S '32; Discussion. 32:41-4 Ja '33

New data on the bending moments in the master connecting-rod. C. F. Taylor. S A E J 32:sup26-7 Je '33; Same. Automotive Eng 23:332 S '33; Correction. S A E J 32:sup23 JI '33

New high-speed engine indicator. E. S. Taylor and C. S. Draper. il diags Mech Eng 55:169-71 Mr '33

Scavenging by large valve-overlap increases power and economy. O. W. Schey. diags S A E J 32:210-16 Je '33

Valve control mechanism speeds experimentation. diags Automotive Ind 69:101 JI 22 '33

## Valves

Hydraulic operation of aircraft engine valves. W. Stieber. diag Aviation Eng 7:14-15 D '32

Monel metal; its use for aero engine valve seats. il Automobile Eng 23:44 F '33

## AIRPLANE engines, Steam

Besler steam power plant for aircraft. A. F. Bonnalie. il Aero Digest 22:40-1 My '33

Besler system of steam power for aircraft; abstract. Mech Eng 55:630 O '33

Steam driven airplane engine; Besler engine. il diag Sci Am 149:124-5 S '33

Steam power plant for aircraft. A. Collina. diags Aviation Eng 7:10-11 D '32

Steam takes to the air. il Aviation 32:196 Je '33

## AIRPLANE factories

Airplane plants from the air; illustrations. Aviation 31:466 D '32

## See also

Airplane engines—  
Manufacture      Airplanes—Manufacture

## Management

Inspection; routine employed by the Bristol aeroplane co. il Automobile Eng 23:169-70 My '33

This system synchronized Boeing production; abstract. M. E. Bridston. Management R 22:311-12 O '33

## AIRPLANE industry and trade

America's aeronautical industry. il maps Aviation 32:257-66 S '33

Growing wings on the business man. J. W. Rockefeller, jr. Aviation 31:467-8 D '32

Search for an ideal. D. Huntington. il Aviation 32:308-10, 349-50 O-N '33

## Advertising

You can sell it . . . but how? C. J. Cutajar. Aero Digest 23:21-2, 24+ O '33



**AIRPLANE industry and trade—Continued****Finance**

Aviation enters a new phase; four companies with growing power and sponsorship dominate field. H. Richmond, jr. *il Mag of Wall St* 52:521-2+ S 16 '33

**Private planes**

See Airplanes—Private ownership

**Securities**

Aeronautical securities gain ground. *Aviation* 32:89 Mr '33  
The "if" in aviation; government policy will determine profit prospects for aircraft stocks. H. Mings. *il Mag of Wall St* 52:66-7+ My 13 '33  
Report of I.B.A. aviation securities special committee. D. Schmitz. *Inv Banking* 3:133-6 D 2 '32

**Statistics**

Aircraft exports, 1930-1932. *Automotive Ind* 68:226 F 25 '33  
United States production and sales of airplanes, 1932. *Automotive Ind* 68:222 F 25 '33  
What the factories are doing. *Aviation* 32:76-81 Mr '33

**Used airplanes**

Vanishing used airplane. E. L. Erickson. *il Aero Digest* 23:23 Jl '33

**Great Britain**

Aeronautics in 1932. *il diags Engineer* 155:2-4, 16, supp 1 Ja 6 '33

**United States**

Air merger; General-North American deal is in line with trend to integrate manufacture and operation. *Business Week* p19-20 F 8 '33  
Aircraft marketing. C. J. Cutajar. *il Aero Digest* 23:16-17+ Jl; 22-4+ Ag; 20-2+ S; 21-2, 24+ O; 19-20 N; 16+ D '33  
American aeronautical accessories, materials, and supplies. *il Aviation* 32:267-88 S '33  
American airplanes at home and abroad. *il diags Aviation* 32:133-60 My '33  
Code for the aircraft manufacturing industry. *Aviation* 32:289-90 S '33  
Cord corporation; an account of its aeronautical activities. *il map Aero Digest* 23:22-30 N '33  
Estimate of the situation for 1933. E. P. Warner. *Aviation* 32:14 Ja '33  
Exports of aeronautics products. L. W. Rogers. *Aero Digest* 22:18+ Ap '33  
Foreign trade in 1932. *Aviation* 32:86 Mr '33  
What the factories are doing. *Aviation* 32:76-81 Mr '33

**AIRPLANE mechanics**

Vocational training for aviation mechanics; suggestions relative to the organization and operation of training courses. rev 1932 *il charts U S Federal Board for Vocational Education Bul* 142:1-286 [bibliog p269-75] '32

**AIRPLANE propellers**

Aircscrew design. D. L. H. Williams. *il diags Roy Aeronautical Soc J* 37:479-95; Discussion. 495-508 Je '33  
Controllable pitch propellers in transport service. C. H. Chatfield. *il Aviation* 32:180-1 Je '33  
Correlation of propeller and engine power with supercharging. F. W. Caldwell and F. M. Thomas. *S A E J* 32:124-37 Ap '33  
Effect of controllable pitch on airplane performance. *diags Aviation Eng* 8:14-15+ Mr '33  
Measurement of the differential and total thrust and torque of six full-scale adjustable-pitch propellers. G. W. Stickler. *bibliog il diags U S Nat Advisory Com for Aeronautics* 1932:437-56 '33  
Method of exciting resonant vibrations in mechanical systems. L. B. Tuckerman, H. L. Dryden and H. B. Brooks. *U S Bur Stand J Research* 10:659-60 My '33  
New Hamilton standard controllable-pitch propeller. *il diags Aero Digest* 22:53-5 Mr '33; *Aviation* 32:97-8 Mr '33

Smith controllable-pitch propeller. E. B. Schaefer. *il diags Aviation Eng* 7:16-17 D '32

**Manufacture**

Manufacture and magnetic testing of hollow steel propellers. H. Foley. *il Automotive Ind* 69:329 S 16 '33; *Abstract. S A E J* 33:sup31 O '33

**Testing**

Farrel-Birmingham dynamometer for testing. *il Aviation Eng* 8:26 F '33; *Automotive Ind* 68:214 F 18 '33  
Magnetic testing of steel propellers. *il Sci Am* 149:229 N '33  
Tests of nacelle-propeller combinations in various positions with reference to wings. D. H. Wood. *bibliog il diags tables U S Nat Advisory Com for Aeronautics* 1932:277-304, 653-92 '33

**AIRPLANE races**

Chicago air race results. *Aero Digest* 23:19 Ag; 17 O '33  
Grand National air racing circuit. C. Caldwell. *il Aero Digest* 22:19+ F '33  
Hiram Bingham's N.A.A. C. Caldwell. *Aero Digest* 22:19+ Je; 23:14+ Jl '33  
Power for performance at the National air races. F. R. Collbohm and W. B. Oswald. *il Aviation* 32:229-31 Ag '33  
Preparations at Chicago municipal airport. W. A. Royce. *il plan Aero Digest* 23:20-1 Jl '33  
Results of the National air races, Los Angeles. *il Aero Digest* 23:20-1+ Ag '33  
Without benefit of clergy. C. Caldwell. *Aero Digest* 23:18-19+ Ag '33

**AIRPLANE service stations**

Engine overhaul divorced from engine manufacture; United airports of Connecticut, inc. engine servicing shops at Hartford. *il plan Aviation* 32:185-6 Je '33  
Transport servicing for private flyers. S. P. Johnston. *il Aviation* 31:476-8 D '32  
West coast servicing unit; Pacific airmotive corporation, ltd. *il Aviation* 32:241-2 Ag '33

**See also**

Air lines—Shops  
Gasoline hose

**AIRPLANE shops****See also**

Air lines—Shops  
Airplane service stations

**Fires and fire protection**

Dope room fires. *Aviation* 31:478 D '32

**AIRPLANE stability and stabilizers**

Airplanes that fly themselves; Sperry Robot pilot. *il diags Aviation* 32:213-15 Jl '33  
Bumps due to gusts. A. Klemin. *Aviation Eng* 8:21-2 Ap '33  
Computation of longitudinal stability. M. M. Munk. *diags Aero Digest* 23:38-9 O '33  
Effect of gap between stabilizer and elevator. *Aviation Eng* 8:18 F '33  
Nature of the torsional stability of a monocoque fuselage. K. Sezawa. *il Roy Aeronautical Soc J* 37:411-22 My '33  
Pressure distribution tests on a series of Clark Y biplane cellules with special reference to stability. R. W. Noyes. *bibliog il diags U S Nat Advisory Com for Aeronautics* 1932:315-41 '33  
Proportioning tail surfaces for heavily loaded airplanes. A. Klemin. *diags Aero Digest* 23:36-7 Jl '33

**AIRPLANE tires. See Tires, Airplane****AIRPLANE wings**

Arup, flying wing. *il Aero Digest* 23:48 Jl '33; *Sci Am* 149:176 O '33  
General wing section theory. M. M. Munk. *Aero Digest* 21:42 D '32  
High lifting power for airplane wings; operation of the Zap flap. A. A. Gassner. *S A E J* 33:267 Ag '33

**AIRPLANE wings—Continued**

- Ice prevention on aircraft by means of engine exhaust heat and a technical study of heat transmission from a Clark Y airfoil. T. Theodorsen and W. C. Clay. bibliog il diags U S Nat Advisory Com for Aeronautics 1932:91-112 '33
- Lateral control in birds and airplanes; abstract. R. R. Graham. diags Mech Eng 55:440-1 Jl '33
- Method for computing leading-edge loads. R. V. Rhode and H. A. Pearson. il U S Nat Advisory Com for Aeronautics 1932:249-58 '33
- Paddle wheel airfoil system. A. Klemin. diags Aviation Eng 8:5-8+ F '33; Abstract. Mech Eng 55:376-7 Je '33
- Paddle wheel or feathering airfoil aircraft. il diags Sci Am 148:335-6 Je '33
- Pressure distribution tests on a series of Clark Y biplane cellules with special reference to stability. R. W. Noyes. bibliog il diags U S Nat Advisory Com for Aeronautics 1932:315-41 '33
- Simple approach to the wing flutter problem. B. Lockspeiser. Roy Aeronautical Soc J 37:783-92 S '33
- Simple flap; abstract. E. Gruschwitz and O. Schrenk. Aviation Eng 7:13-14 D '32
- Die strömung um flügelprofile und deren anwendung bei strömungsmaschinen. F. Seewald. Zeit Ver Deutsch Ing 77:573-80 [bibliog p580] Mr 27 '33
- Tests of nacelle-propeller combinations in various positions with reference to wings. D. H. Wood. bibliog il diags tables U S Nat Advisory Com for Aeronautics 1932:277-304, 653-92 '33
- Theory of wing sections of arbitrary shape. T. Theodorsen. U S Nat Advisory Com for Aeronautics 1932:229-39 '33
- Wind-tunnel research comparing lateral control devices, particularly at high angles of attack; floating tip ailerons on rectangular wings. F. E. Weick and T. A. Harris. bibliog diags U S Nat Advisory Com for Aeronautics 1932:481-503 '33
- Wind-tunnel research comparing lateral control devices, particularly at high angles of attack; ordinary ailerons on rectangular wings. F. E. Weick and C. J. Wenzinger. bibliog U S Nat Advisory Com for Aeronautics 1932:357-80 '33
- Wind-tunnel research comparing lateral control devices, particularly at high angles of attack; ordinary ailerons rigged up 10° when neutral. F. E. Weick and C. J. Wenzinger. bibliog U S Nat Advisory Com for Aeronautics 1932:471-80 '33
- Wind-tunnel research comparing lateral control devices, particularly at high angles of attack; slotted ailerons and Frise ailerons. F. E. Weick and R. W. Noyes. U S Nat Advisory Com for Aeronautics 1932:457-70 '33
- Wind-tunnel research comparing lateral control devices, particularly at high angles of attack; spoilers and ailerons on rectangular wings. F. E. Weick and J. A. Shortal. bibliog U S Nat Advisory Com for Aeronautics 1932:719-34 '33
- Wing tip vortices observed in flight. G. Gardner. il Aviation Eng 7:7+ D '32
- Zap flap. A. A. Gassner. diags Aviation Eng 8:12-13+ Mr '33

See also

Ailerons  
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**Testing**

- Application of photoelasticity to the study of indeterminate truss-stresses. D. L. Pellett. il diags S A E J 31:469-74 D '32
- Characteristics of a Clark Y wing model equipped with several forms of low-drag fixed slots. F. E. Weick and C. J. Wenzinger. U S Nat Advisory Com for Aeronautics 1932:155-61 '33
- Characteristics of Clark Y airfoils of small aspect ratios. C. H. Zimmerman. bibliog diags U S Nat Advisory Com for Aeronautics 1932:581-90 '33

- Effect of multiple fixed slots and a trailing-edge flap on the lift and drag of a Clark Y airfoil. F. E. Weick and J. A. Shortal. diags U S Nat Advisory Com for Aeronautics 1932:531-6 '33
- Wind-tunnel tests of a Clark Y wing with narrow auxiliary airfoil in different positions. F. E. Weick and M. J. Bamber. bibliog diags U S Nat Advisory Com for Aeronautics 1932:537-48 '33

**AIRPLANES**

- Aeronautics in 1932. il diags Engineer 155:2-4, 16, supp 1 Ja 6 '33
- Airplane development corporation model V-1 transport. il diags Aero Digest 22:46-8 Ap '33
- Alexander Flyabout. il Aviation Eng 7:12 D '32
- American airplanes at home and abroad. il diags Aviation 32:133-55 My '33
- America's aeronautical industry. il maps Aviation 32:257-66 S '33
- L'Avion Couzinet 70, dit Arc-en-Ciel, et son voyage de Marseille (Istres) à Buenos-Ayres. R. J. de Marolles. il diags Génie Civil 102:114-16 F 4 '33
- Beechcraft model 17-R. il diags Aero Digest 21:52-3 D '32
- Blackburn 10-passenger general purpose biplane. il Aero Digest 22:57 Ap '33
- Boeing transport. il diags Aero Digest 22:50-1 Ap '33; Aviation Eng 8:15-16 Ap '33
- Boeing's new model 247 transport. il diags Aviation 32:124-6 Ap '33
- Breda 32, Italian passenger aeroplane. il Engineering 136:205 Ag 25 '33
- Clark GA-43. diags Aviation Eng 8:12-13 My '33
- La concurrence entre le dirigeable et l'avion. M. Verneuil. Génie Civil 101:526-8 N 26 '32
- Curtiss-Wright Condor transport. il diags Aviation 32:53-9 F '33; Aero Digest 22:42-3 F '33; Aviation Eng 8:11-12 F '33
- Dewoitine D-332 transport. il diags Aviation 32:358-9 N '33
- Douglas airliner for transcontinental service. il diags Aviation 32:331-2 O '33
- Douglas DC-1 airliner. D. W. Douglas. il diags Aero Digest 23:45-7 O '33
- Evolution of Boeing mail and passenger planes. R. M. Rummel. il Aero Digest 23:48-9 S '33
- Fleet birds of a feather. il Fortune 7:23-7, 39+ My '33
- Flugzeugbaustoff- und flugeigenschaftenforschung. diags Zeit Ver Deutsch Ing 77:129 F 4 '33
- Fokker transports. il Aero Digest 22:43 F '33; Aviation 32:59 F '33
- General Aviation's Clark GA-43 transport. il diags Aviation 32:59-61 F '33; Aero Digest 22:44-6 F '33
- German super-airliner. il Sci Am 147:360 D '32
- Gipsy-powered Fairchild 22. il Aero Digest 23:53 Ag '33
- Glycol cooling and retractable radiator feature new German transport plane; Heinkel plane. il Automotive Ind 68:554 My 6 '33
- Hammond biplane. il Aero Digest 22:49 Ap '33
- Heinkel He70, German high-speed transport. il diags Aviation 32:126-7 Ap '33
- Heinkel He64 from the 1932 Rundflug. il Aviation 31:489 D '32
- High-speed passenger transport. il Sci Am 148:41 Ja '33
- Italy's record holder. il Aviation 32:195-6 Je '33
- Lessons of 50,000,000 miles of flying; United air lines. R. Johnson. il Sci Am 149:114-16 S '33
- Lockheed's Electra. il diags Aviation 32:194-5 Je '33; Aviation Eng 8:11 My '33; Aero Digest 22:43 Je '33
- Meteor, General Western monoplane. il diags Aero Digest 21:45 D '32
- Modern air transport. T. B. Doe. il Aero Digest 22:34-5 My '33
- Northrop monoplane. Aviation Eng 8:14-15 F '33
- Our aviation editor's impressions of an English visit. il Sci Am 147:356-8 D '32
- Potez 50 plane that set a new altitude record. Automotive Ind 69:575 N 11 '33
- Sky Chief goes commercial; the Delta by Northrop. diags Aviation 32:98 Mr '33



**AIRPLANES—Continued**

Stinson model SR Reliant. il diags Aero Digest 22:43 My '33; Automotive Ind 68:647 My 27 '33

Two Junkers transport planes. il Aviation 32: 253 Ag '33

Two special-purpose designs by Northrop. il Aviation 32:25 Ja '33

United air lines transport plane built for safety. R. E. Johnson. il Nat Safety N 28: 41-2+ O '33

Vance flying wing. D. A. Martin. il diag Aero Digest 22:50 Ja '33

W. B. Kinner's new Security Airster. il diags Aero Digest 23:40 Jl '33

**See also**

Aeronautics

Aeronautics, Com-

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Airplane propellers

Airplane wings

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Hangars

Photography, Aerial

Seaplanes

Surveying, Aerial

**Climbing efficiency**

Variation of rate of climb with altitude. W. S. Diehl. Aviation Eng 8:10+ F '33

**Control**

Aircraft control wheels. J. F. Hardecker. il Aviation Eng 8:23+ F '33

Airplanes that fly themselves; Sperry Robot pilot. il diag Aviation 32:213-15 Jl '33

Bumps due to gusts. A. Klemm. Aviation Eng 8:21-2 Ap '33

De Beeson automatic control. il Aero Digest 23:44 Jl '33

Distance flier takes a chance. R. M. Cleveland. il Sci Am 149:202-3 N '33

Hydraulic throttle control. diag Aviation 31: 479 D '32

Servo control system. diags Aviation Eng 8:20 Ap '33

Some notes on the design of aeroplane control surfaces and control systems. W. F. Dowsett. Roy Aeronautical Soc J 36:963-74 N '32

Sperry automatic airplane pilot. il diag Aero Digest 22:45 Je '33

Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. F. E. Weick and others. bibliog U S Nat Advisory Com for Aeronautics 1932:357-80, 457-503, 719-34 '33

**See also**

Airplane stability and

stabilizers

Airplanes—Landing

**Cost of operation**

Economies of engine operation; warm-up and idling time; proper use of tail winds. O. E. Kirchner. Aviation 32:305-7 O '33

**Design**

Airplane vibrations and flutter controllable by design. J. A. Roché. il diags S A E J 33:305-12 S '33

Airplanes point way for motor car; abstract. W. B. Stout. S A E J 32:86 Mr '33

Aircscrew design. D. L. H. Williams. il diags Roy Aeronautical Soc J 37:479-95; Discussion. 495-508 Je '33

Arup, flying wing. il Aero Digest 23:48 Jl '33; Sci Am 149:176 O '33

L'avion tubulaire Stipa-Caproni. il Génie Civil 103:91 Jl 22 '33

Balanced elevators. B. Eskin and N. P. Davydow. diags Aviation Eng 8:8-9 Ja '33

Combined stresses. E. U. Fairbanks. Aviation Eng 7:5-6+ D '32

Compound floating ailerons. N. J. Medvedeff. diag Aviation Eng 8:9-10 Mr '33

Departure from the conventional; four-passenger Beech biplane. il Aviation 31:488-9 D '32

Design of slotted ailerons. S. H. Evans. diags Aviation 31:469-71 D '32

Determining the effective value of Young's modulus. R. R. Wiese. diags Aero Digest 23:40-2 S '33

Distribution of moments in landing gears. A. S. Niles. Aviation Eng 8:5-7 My '33

Economic aspects of transport-airplane design; cost data. R. S. Damon, G. A. Page, jr and K. Perkins. S A E J 31:475-84 D '32; Abstract. Aviation 31:406-7 O '32

Effect of area and aspect ratio on the yawing moments of rudders at large angles of pitch on three fuselages. H. L. Dryden and B. H. Monish. diags U S Nat Advisory Com for Aeronautics 1932:693-702 '33

Effect of controllable pitch on airplane performance. diags Aviation Eng 8:14-15+ Mr '33

Effect on airplane performance of the factors that must be considered in applying low-drag cowling to radial engines. W. H. McAvoy, O. W. Schey and A. W. Young. bibliog il U S Nat Advisory Com for Aeronautics 1932:259-75 '33

Engineering developments of the Curtiss-Wright Condors. il Aero Digest 23:54-5 Ag '33

Europe's aircraft industries show their wares; thirteenth Paris aeronautical exposition. E. P. Warner. il Aviation 32:6-10 Ja '33

Flying in comfort. R. M. Cleveland. il diag Sci Am 149:68-9 Ag '33

Flying Venturi. diags Sci Am 148:232 Ap '33

Frank Hawks' Northrop Gamma. il diag Aero Digest 22:40-1 Ja '33

General wing section theory. M. M. Munk. Aero Digest 21:42 D '32

Influence of racing types on commercial aircraft design. Z. D. Granville. il diags Aero Digest 23:38-9 Jl '33

Lateral control in birds and airplanes; abstract. R. R. Graham. diags Mech Eng 55: 440-1 Jl '33

Longren biplane; a study in simplified structure. il Aviation 32:26 Ja '33; Aviation Eng 8:12-14 F '33

Metal monocoque construction. R. G. Miller. diags Aviation Eng 8:10-11+ Ja '33

Method for computing leading-edge loads. R. V. Rhode and H. A. Pearson. il U S Nat Advisory Com for Aeronautics 1932:249-58 '33

Moment distribution method for solving continuous frameworks. E. F. Bruhn. Aviation Eng 8:5-8+ Mr '33

Paddle wheel airfoil system. A. Klemm. diags Aviation Eng 8:5-8+ F '33; Abstract. Mech Eng 55:376-7 Je '33

Paddle wheel or feathering airfoil aircraft. il diag Sci Am 148:335-6 Je '33

Power for performance at the National air races. F. R. Collbohm and W. B. Oswald. il Aviation 32:229-31 Ag '33

Problems in fast air-transport design. H. L. Hibbard. il Mech Eng 55:611-17 O '33

Proportioning tail surfaces for heavily loaded airplanes. A. Klemm. diag Aero Digest 23: 36-7 Jl '33

Rationalization of structural requirements. diags Air Commerce Bul 5:35-54 Ag '33

Rationalizing stress analysis; a new system for the Department of commerce. R. M. Mock. Aviation 32:319-20 O '33

Representative single-engined and tri-motored commercial monoplanes displayed at the Paris aero show; diagrams. Aero Digest 22: 46 Ja '33

Rohrbach aircraft has paddle wings. Automotive Ind 68:84 Ja 21 '33

Search for an ideal. D. Huntington. il Aviation 32:308-10, 349-50 O-N '33

Sidewheel aviation; Platt sidewheeler. diag Aviation 32:96-7 Mr '33

Sky Chief; refined design. il Sci Am 148:234 Ap '33

Some notes on the design of aeroplane control surfaces and control systems. W. F. Dowsett. Roy Aeronautical Soc J 36:963-74 N '32

Some recent types of French airplanes exhibited at the thirteenth annual Paris aero show; diagrams. Aero Digest 22:47 Ja '33

Stipa tubular airplane; abstract. A. Silvestri. il Mech Eng 55:631-2 O '33

Streamline tubing sections. diag Aviation 32: 317 O '33

**AIRPLANES—Design—Continued**

- Stresses in metal covering under the action of a uniformly distributed load. J. J. Koudry. *Aviation Eng* 8:13+ Ap '33
- Theory of wing sections of arbitrary shape. T. Theodorsen. *U S Nat Advisory Com for Aeronautics* 1932:229-39 '33
- La XIII<sup>e</sup> exposition internationale de l'aéronautique (Paris, 18 novembre-4 décembre 1932). R. J. de Marolles. *il diags Génie Civil* 101:541-9, 576-83, pl 4 D 3-10 '32
- Truth about high-altitude flight. W. H. Evers. *diags Sci Am* 148:222-3+ Ap '33
- Use of models in research and design. R. M. Wood. *Roy Aeronautical Soc J* 36:975-82 N '32
- V-1 transport; Vultee's design. *il diag Aviation* 32:128-9 Ap '33
- Value of weight saving in aircraft design. R. G. Miller. *Aviation Eng* 8:12+ Ap '33
- Zap flap. A. A. Gassner. *diags Aviation Eng* 8:12-13+ Mr '33

**See also**

Airplane propellers  
Airplane wings

**Elevators**

- Balanced elevators. B. Eskin and N. P. Davydow. *diags Aviation Eng* 8:8-9 Ja '33
- Effect of gap between stabilizer and elevator. *Aviation Eng* 8:18 F '33

**Equipment**

- American aeronautical accessories, materials, and supplies. *il Aviation* 32:267-88 S '33
- Condor incorporates servicing short-cuts. *il Aviation* 32:132 Ap '33

**See also**

Aeronautic instruments	Brakes, Airplane
Airplane engines	Radio apparatus on aircraft
Airplane propellers	Tires, Airplane
Airplane wings	

**Exhibitions**

- Aircraft exhibition in Paris. *Engineer* 154:541 N 25 '32
- Europe's aircraft industries show their wares; thirteenth Paris aeronautical exposition. E. P. Warner. *il Aviation* 32:6-10 Ja '33
- Highlights at Paris. *il diags Aviation Eng* 8:5-6 Ja '33
- La XIII<sup>e</sup> exposition internationale de l'aéronautique (Paris, 18 novembre-4 décembre 1932). R. J. de Marolles. *il diags Génie Civil* 101:541-9, 576-83, 605-10, pl 4 D 3-17 '32

**Fires and fire protection**

- Elimination of fire hazard due to back fires. T. Theodorsen and I. M. Freeman. *bibliog il diag U S Nat Advisory Com for Aeronautics* 1932:211-17 '33
- Fireproof cabin is procured for planes; tests are made in London. *East Underw* 34:37 O 20 '33
- N.A.C.A. reports on engine performance experiments with hydrogenated safety fuel. O. W. Schey and A. W. Young. *Automotive Ind* 69:460 O 14 '33
- Reducing aircraft fire hazards; Protectoseal. *il Sci Am* 149:124 S '33

**Fuel**

**See Airplane engines—Fuel**

**Fuel tanks**

- Construction of aircraft fuel tanks. J. F. Hardecker and E. Searles. *il Aviation Eng* 8:9-10+ Ap '33
- Report on the development of crash-resistant fuel tanks for aircraft. *il Air Commerce Bul* 4:333-40 Ja '33; *Abstract. Automotive Ind* 68:737 Je 17 '33

**Fuselage**

- Metal monocoque construction. R. G. Miller. *diags Aviation Eng* 8:10-11+ Ja '33
- Nature of the torsional stability of a monocoque fuselage. K. Sezawa. *il Roy Aeronautical Soc J* 37:411-22 My '33

**Heating and ventilation**

- Airplane ventilation system. *Aero Digest* 22:44 Ap '33
- Heating and ventilating airplanes. W. E. Berchtold. *il diags Heating-Piping* 5:402-4 Ag '33
- Heating and ventilating airplanes without noise. P. Golding. *il Heat & Ven* 30:37-8 My '33
- Heating and ventilation aloft. *Sci Am* 148:43-4 Ja '33
- Problem of airplane ventilation. W. L. Nye. *diags Aero Digest* 23:48-9 N '33

**Home building**

- Factory in the home. *il Aviation* 32:38-9 F '33

**Ice protection**

- Ice prevention on aircraft by means of engine exhaust heat and a technical study of heat transmission from a Clark Y airfoil. T. Theodorsen and W. C. Clay. *bibliog il diags U S Nat Advisory Com for Aeronautics* 1932:91-112 '33
- Oiled curtain to break ice. *diag Sci Am* 149:228 N '33

**Insignia**

- Labels; distinguishing markings on American airlines; illustrations. *Aviation* 32:11 Ja '33

**Landing**

- Blind landing of aircraft. *J Fr Inst* 215:742-4 Je '33
- Down the landing beam; fog landing system demonstrated at Newark airport by the Department of commerce. S. P. Johnston. *il plan Aviation* 32:162-3 My '33
- Drop and flight tests on NY-2 landing gears including measurements of vertical velocities at landing. W. C. Peck and A. P. Beard. *bibliog il diags U S Nat Advisory Com for Aeronautics* 1932:141-53 '33
- Effect of airplane impact on airport surfaces. C. N. Connor. *Aviation Eng* 7:18-21 D '32
- Faults in landings. *Sci Am* 149:226-7 N '33
- Fly fast—land slow. R. M. Cleveland. *il Sci Am* 148:320-1 Je '33
- Normal and forced landings. *Air Commerce Bul* 4:366-9 F 1 '33
- Preliminary investigation of modifications to conventional airplanes to give nonstalling and short-landing characteristics. F. E. Weick. *il U S Nat Advisory Com for Aeronautics* 1932:343-56 '33
- Radio system for blind landing of aircraft to be given service tests. *diags Air Commerce Bul* 4:441-7 Mr 15 '33; *Abstract. J Fr Inst* 215:599-601 My '33
- Radio system for fog landings. W. Selikoff. *il diags Aviation Eng* 8:23+ Ap '33
- Simplified system for landing blind. H. C. Stark. *il Aero Digest* 22:33 My '33
- System of radio aids for fog landings. H. H. Blee. *il diag Aero Digest* 22:27-9+ Mr; 17+ Ap '33

**Landing gear**

- Combined stresses. E. U. Fairbanks. *Aviation Eng* 7:5-6+ D '32
- Distribution of moments in landing gears. A. S. Niles. *Aviation Eng* 8:5-7 My '33
- Drop and flight tests on NY-2 landing gears including measurements of vertical velocities at landing. W. C. Peck and A. P. Beard. *bibliog il diags U S Nat Advisory Com for Aeronautics* 1932:141-53 '33
- Retractable landing gears. R. M. Mock. *il diags Aviation* 32:33-7 F '33; *Discussion. 32:130-1 Ap '33*

**See also**

Airplanes—Wheels

**Lighting**

- Position lights show improved performance. *diags Air Commerce Bul* 4:450-6 Mr 15 '33

**Manufacture**

- Aircraft finishing. M. R. Whitmore. *il Ind & Eng Chem* 25:19-23 Ja '33
- All-metal planes for coast-to-coast transport. R. E. Johnson. *il Metal Prog* 24:41-3 Jl '33



## AIRPLANES—Manufacture—Continued

Anodic process prevents corrosion; Boeing airplane co. R. Johnson. *il Elec West* 70:158 My '33

Castings speed transport planes. R. E. Johnson. *il Foundry* 61:21 Ag '33

Compressed air helps build speedy new airplanes. *il Comp Air M* 38:4163-4 JI '33

Electric welding in aircraft construction. J. F. Lincoln. *il Aviation Eng* 8:25-6 Ja '33

Französischer flugzeugbau. K. Wittmann. *il diags Zeit Ver Deutsch lng* 77:882-5 Ag 12 '33

Welding in the construction of naval aircraft; abstract. E. W. Cloxton. *Automotive Ind* 67:669+ N 26 '32

Welding quality control in aircraft manufacture. P. N. Jansen and T. H. Speller. *il diags Am Mach* 77:651-5 O 11 '33

*See also*

Airplane engines—  
Manufacture  
Airplane factories

## Materials

All-metal planes for coast-to-coast transport. R. E. Johnson. *il Metal Prog* 24:41-3 JI '33

Alloy steel supplies strength in 60 speediest all-metal transports. *il Steel* 93:23-5 JI 10 '33

Aviation has real need for chemical developments. E. P. Warner. *Chem & Met Eng* 40:27-8 Ja '33

Construction of aircraft fuel tanks. J. F. Hardecker and E. Searles. *il Aviation Eng* 8:9-10+ Ap '33

Duralumin applied to aircraft construction. W. H. Lewis. *il Roy Aeronautical Soc J* 37:681-93 Ag '33

Manufacture and use of light alloys. W. C. Devereux. *il Roy Aeronautical Soc J* 37:145-66; Discussion. 166-7 F '33

Materials of aircraft construction. F. T. Hill. 363p \$4.50 Pitman '33

Monel metal; its use for aero engine valve seats. *il Automobile Eng* 23:44 F '33

Non-ferrous metals in the aircraft industry. F. A. Westbrook. *Metal Ind* 30:463-5 D '32

Properties and strength of materials. J. D. Haddon. 177p Pitman '33

Stainless steel in aircraft; abstract. F. Flader. *Automotive Ind* 69:15 JI 1 '33

Stresses in metal covering under the action of a uniformly distributed load. J. J. Koudry. *Aviation Eng* 8:13+ Ap '33

## Model testing

Delicate instruments tame wild airplanes; work of Dr A. L. Klein at the California Institute of technology. A. R. Boone. *il Sci Am* 148:12-13 Ja '33

Interpretation of data of model basin tests on aircraft floats. H. C. Richardson. *Aero Digest* 23:46-7 Ag '33

## Models

Complete model aircraft manual. E. T. Hamilton. 578p \$3.50 Harcourt '33

Record-breaking compressed-air model. *il diags Aero Digest* 21:73-4 D '32

Use of models in research and design. R. M. Wood. *Roy Aeronautical Soc J* 36:975-82 N '32

## Noise

Decibel. S. J. Zand. *il Aviation Eng* 8:19-22 F '33

Noise. A. H. Davis. *diags Roy Aeronautical Soc J* 35:676-99 Ag '31; Abstract. *Aviation* 32:50 F '33

Quiet within the airplane. S. J. Zand. *Aviation* 32:106-8 Ap '33

Quieter airplanes. *Automotive Ind* 68:174 F 11 '33

Reduction of aircraft noise. R. S. Capon. *Engineering* 136:475-7, 503-4 O 27-N 3 '33; Abstract. *Engineer* 156:255 S 15 '33; Discussion. *Engineering* 136:312-13 S 15 '33; *Engineer* 156:255 S 15 '33

Resonance and propeller noises. R. P. Holland, jr. *Sci Am* 149:82 Ag '33

Silencing aircraft. A. H. Davis. *Engineer* 156:316-17 S 29 '33

*See also*

Airplane engines—  
Mufflers

## Performance

Controllable pitch propellers in transport service. C. H. Chatfield. *il Aviation* 32:180-1 Je '33

Effect of change of weight on airplane performance. T. M. Finnie. *Aviation Eng* 8:11-12 Ap '33

Effect on airplane performance of the factors that must be considered in applying low-drag cowlings to radial engines. W. H. McAvoy, O. W. Schey and A. W. Young. *bibliog il diags U S Nat Advisory Com for Aeronautics* 1932:259-75 '33

General formulas and charts for the calculation of airplane performance. W. B. Oswald. *U S Nat Advisory Com for Aeronautics* 1932:163-210 [bibliog p192, charts p193-210] '33

## Private ownership

Aircraft marketing. C. J. Cutajar. *il Aero Digest* 23:16-17+ JI; 22-4+ Ag; 20-2+ S; 21-2, 24+ O; 19-20 N; 16+ D '33

Growing wings on the business man. J. W. Rockefeller, jr. *Aviation* 31:467-8 D '32

## Repair

Thunder bird's nest; observations at Pan American airway's Brownsville base. S. P. Johnston. *il Aviation* 32:40-2 F '33

## Rudders

Effect of area and aspect ratio on the yawing moments of rudders at large angles of pitch on three fuselages. H. L. Dryden and B. H. Monish. *diags U S Nat Advisory Com for Aeronautics* 1932:693-702 '33

Some full-scale experiments with servo rudders; abstract. J. E. Serby. *Mech Eng* 55:630 O '33

## Safety devices and measures

Aviation using colors for safety. *Safety Eng* 66:58 Ag '33

Importance of safety in aviation. M. Caquot. *S A E J* 33:sup35 O '33

Preliminary investigation of modifications to conventional airplanes to give nonstalling and short-landing characteristics. F. E. Weick. *il U S Nat Advisory Com for Aeronautics* 1932:343-56 '33

## Seats

Parachute chair for transport planes. *il Sci Am* 149:30-1 JI '33

Switlik parachute chair for transport planes. W. Selikoff. *il Aviation Eng* 8:30 Mr '33

## Shock absorbers

Shock absorbing instrument panel. *il Aviation Eng* 8:27 F '33

## Specifications

American airplane specifications; tabulation. *Aviation* 32:28-31 Ja '33

American airplanes specifications; tabulation. *Automotive Ind* 68:256-9 F 25 '33

## Speed

Airplane flight testing for maximum speed. F. M. Thomas and H. W. Fairchild. *S A E J* 32:78-86 Mr '33

Correlation of propeller and engine power with supercharging. F. W. Caldwell and F. M. Thomas. *S A E J* 32:124-37 Ap '33

Development of military aircraft from racing types. J. E. Fechet. *diag Aero Digest* 23:15+ JI '33

Fly fast—land slow. R. M. Cleveland. *il Sci Am* 148:320-1 Je '33

Schedule making. O. E. Kirchner. *Aviation* 32:346-8 N '33

## Spinning

Simplified presentation of the subject of the spinning of airplanes; abstract. H. B. Irving. *Mech Eng* 55:630-1 O '33

Tunnel for spin study. *il Sci Am* 149:227-8 N '33

## Tail surface

Effect of area and aspect ratio on the yawing moments of rudders at large angles of pitch on three fuselages. H. L. Dryden and B. H. Monish. *diags U S Nat Advisory Com for Aeronautics* 1932:693-702 '33

**AIRPLANES—Tail surface—Continued**

Proportioning tail surfaces for heavily loaded airplanes. A. Klemin. *diag Aero Digest* 23: 36-7 J1 '33

**Take-off**

Notes on take-off calculations. M. Watter. *Aero Digest* 22:18-19+ My; 18+ Je '33

**Testing**

Airplane flight testing for maximum speed. F. M. Thomas and H. W. Fairchild. *S A E J* 32:78-86 Mr '33

Commercial flight tests improved by new equipment and methods. A. L. MacClain and D. S. Hersey. *il S A E J* 32:245-55; Discussion. 255 J1 '33

Preliminary investigation of modifications to conventional airplanes to give nonstalling and short-landing characteristics. F. E. Weick. *il U S Nat Advisory Com for Aeronautics* 1932:343-56 '33

Testing airplanes without human risk. *il Comp Air M* 38:4129 My '33

Tests of nacelle-propeller combinations in various positions with reference to wings. D. H. Wood. *bibliog il diags tables U S Nat Advisory Com for Aeronautics* 1932:277-304, 653-92 '33

**See also**

Airplanes—Model testing

**Vibration**

Airplane vibrations and flutter controllable by design. J. A. Roché. *il diags S A E J* 33:305-12 S '33

**Weight**

Effect of change of weight on airplane performance. T. M. Finnie. *Aviation Eng* 8: 11-12 Ap '33

Value of weight saving in aircraft design. R. G. Miller. *Aviation Eng* 8:12+ Ap '33

**Wheels**

Aeroplane covers and wheels. F. Fellowes. *diags Roy Aeronautical Soc J* 37:177-98; Discussion. 195-203 F '33

Airplane wheel drag. B. V. Korvin-Kroukovsky. *Aero Digest* 23:40 O '33

General tire & rubber co.'s streamline airplane wheel. *il Aviation Eng* 8:30 Ja '33

Tail wheel design considerations. A. F. Haiduck. *diags Aero Digest* 23:42-3 N '33

**AIRPLANES, Amphibian**

American airplane specifications; tabulation. *Aviation* 32:29, 30-1 Ja '33

Novel amphibian designed by Major Seversky. *il Sci Am* 149:227 N '33

Several of the new flying boats, twin float seaplanes and amphibians seen at the Paris aero show; diagrams. *Aero Digest* 22:44 Ja '33

Seversky SEV-3 high speed amphibion. *il diags Aero Digest* 23:46-7 J1 '33; *Aviation* 32:224-5 J1 '33

**See also**

Seaplanes

**AIRPLANES, Freight**

Flying heavy freight into the Peruvian Andes. B. Rosette. *il Comp Air M* 38:4230-2 O '33

**See also**

Airplanes in mining

**AIRPLANES, Industrial****See also**

Airplanes in engineering

Airplanes in mining

**AIRPLANES, Light**

British Comper Mouse. *il diags Aviation* 32:358 N '33

Heinkel sportplane. *diags Aviation Eng* 8:16-17 Ja '33; *Aero Digest* 22:51 F '33

Stearman model 80. *il Aero Digest* 22:36 Je '33

Stearman sport model 80. *il Aviation* 32:194 Je '33

**AIRPLANES, Military**

Bombardment aviation. J. E. Fechet. *il Aero Digest* 23:18-19 O '33

Curtiss Hawk fighter. *il diags Aero Digest* 23:50-4 N '33

Development of military aircraft from racing types. J. E. Fechet. *diag Aero Digest* 23: 15+ J1 '33

Equipment of air forces; France. J. J. Ide. *il Aviation* 32:101-5, 174-5 Ap, Je '33

Equipment of air forces; Great Britain. O. Stewart. *il Aviation* 31:472-5; 32:46-50 D '32, F '33

Equipment of air forces; Italy. S. Scaroni. *il Aviation* 32:313-17, 340-3 O-N '33

Equipment of air forces; Japan. *il Aviation* 32:203-7 J1 '33

Equipment of air forces; the Union of Soviet Socialist Republics. A. A. Adams. *il Aviation* 32:236-40 Ag '33

Japanese military airplanes. H. Takamatsu. *il Aero Digest* 21:48-9 D '32; 22:36-7 My '33

Navy torpedo and bombing planes. J. E. Fechet. *il diags Aero Digest* 22:14-15 My '33

Observation and scouting planes of the United States navy. J. E. Fechet. *il Aero Digest* 21:18-19 D '32

Typical military and commercial land planes at the Paris aero show; diagrams. *Aero Digest* 22:45 Ja '33

U. S. army pursuit aviation. J. E. Fechet. *il diags Aero Digest* 22:12-15 Ap '33

U. S. navy fighting airplanes. J. E. Fechet. *il Aero Digest* 22:16-17 F '33

Visitors from Italy; illustrations. *Aviation* 32: 235 Ag '33

Vought model V-80; Corsair fighter. *il diags Aero Digest* 23:43 J1 '33; *Aviation* 32:225-6 J1 '33

**AIRPLANES in advertising**

Sky advertising. *il Sci Am* 148:105 F '33

**AIRPLANES in agriculture**

Seeding California's rice fields by air. *il Aviation* 32:199 Je '33

**AIRPLANES in engineering**

Ice bombing. F. Wiley. *Sci Am* 148:169-70 Mr '33

**See also**

Surveying, Aerial

**AIRPLANES in forestry****See also**

Forest fire patrol, Aerial

**AIRPLANES in mining**

Air transport of mine equipment, supplies, and personnel; Bulolo gold dredging, ltd, New Guinea. A. Dresel. *il Eng & Min J* 134:201-2 My '33

Airplane as an aid to mineral exploration and the operation of aircraft in sub-zero temperatures. W. J. McDonough. *Aviation Eng* 8:21-3 Mr '33

Bulolo gold-dredging enterprise. F. W. Griffin. *il Min & Met* 13:523+ D '32

Flying heavy freight into the Peruvian Andes. B. Rosette. *il Comp Air M* 38:4230-2 O '33

**AIRPLANES in newspaper service**

Newspapers need 10,000 planes in next decade. J. V. Piersol. *S A E J* 32:164 Ap '33

**AIRPLANES in research**

Airplane cosmic-ray intensity measurements. L. M. Mott-Smith and L. G. Howell. *Phys R* 44:4-11 J1 '33

**AIRPLANES in the petroleum industry**

Aircraft in relation to petroleum technology; use for survey and transport. H. Hemming. *bibliog il maps Inst Pet Tech J* 19:73-97 F '33; Same. *Roy Aeronautical Soc J* 37:864-86 O '33; Discussion. *Inst Pet Tech J* 19:97-116 F '33; Same. *Roy Aeronautical Soc J* 37:886-99 O '33

**AIRPORT buildings**

Controlling cost by thoughtful planning; Spokane's municipal airport depot. L. V. Ross. *il Elec West* 70:130-1 Ap '33

Planning of public buildings; with views and plans. *Arch Forum* 59:208-13 S '33



**AIRPORTS**

Airport development. N. Norman. il diags plans Roy Aeronautical Soc J 37:1-26 Ja '33; Same cond. Aviation Eng 7:37-8 Jl; 20-3 N '32; Discussion. Roy Aeronautical Soc J 37: 26-34 Ja '33  
Barksdale field, Louisiana. il Manuf Rec 102:19 Ap '33  
How concrete improved airports in 1932. E. K. Smith. il Concrete 41:12 Ja '33  
Report of Committee on airport traffic control. 49p U S Dept. of commerce, Aeronautics branch, Washington '33  
Wayne County (Michigan) airport. il Aero Digest 22:35 Ap '33

*See also*

Airplane service sta- Hangars  
tions Seaplane bases  
Airways

**Buildings**

*See* Airport buildings

**Design**

Plans of new Le Bourget airport. E. K. Harvey. il Aviation Eng 8:17-18 My '33

**Equipment**

Airport radio transmitter. E. M. Knott. il Aviation Eng 7:22-3 D '32  
Down the landing beam; fog landing system demonstrated at Newark airport by the Department of commerce. S. P. Johnston. il plan Aviation 32:162-3 My '33  
Heston air port clock. il Engineer 155:151 F 10 '33  
Heston air port clock. T. R. Robinson. il Elec R (Lond) 112:554 Ap 21 '33  
Runway marking by radio. Aero Digest 22: 52 Mr '33  
Sonic marker beacon. il Aero Digest 22:45 Ap '33; Sci Am 149:32 Jl '33  
System of radio aids for fog landings. H. H. Blee. il diag Aero Digest 22:27-9+ Mr; 17+ Ap '33  
Traffic control at the Alleghany County airport, Pittsburgh. il Aviation Eng 8:24 Mr '33  
Wireless equipment of the Manchester air port. il Engineering 136:222, 228-9 S 1 '33

*See also*

Beacons

**Layout**

Functional chart for airports. Arch Forum 59:209 S '33

**Lighting**

Aerodrome lighting; equipment in use at leading continental airports. T. Ångström. Electrician 110:644 My 19 '33  
British guide to the lighting of airdromes. Aviation Eng 7:21+ D '32  
Identification tag for the airport; distinctive indication of airport boundaries—periodic change of brilliancy of lights. W. P. Simpson. diags Gen Elec R 36:326-7 Jl '33  
Portable floodlight for aerodromes. il diag Engineering 135:661 Je 16 '33  
Simplified system for landing blind. H. C. Stark. il Aero Digest 22:33 My '33  
Three-point landing in the aviation market. R. W. Cost. il map N E L A Bul 19:728-32 D '32  
Traffic control at the Alleghany County airport, Pittsburgh. il Aviation Eng 8:24 Mr '33

**Statistics**

Twelve hundred airports and 20,000 miles of airways. map Aviation 32:87-8 Mr '33

**Surfaces**

Asphalt airport runways, New Orleans; contract let. Eng N 110:793 Je 15 '33  
Asphalt for runways and loading ramps. C. W. Short, Jr. Aero Digest 22:27 F '33  
Effect of airplane impact on airport surfaces. C. N. Connor. Aviation Eng 7:18-21 D '32

**AIRPORTS, Floating**

Seadrome corporation asks NRA for millions to bridge Atlantic. il map Iron Age 132:41 O 19 '33

**AIRPORTS, Municipal**

Preparations at Los Angeles municipal airport. A. E. Cuthbert. il Aero Digest 23:19 Jl '33

**AIRSCREWS. See** Airplane propellers**AIRSHIP fabrics****Testing**

Skin friction of various surfaces. S. D. Gehman and G. D. Mallory. bibliog il diag J Fr Inst 216:339-50 S '33

**AIRSHIPS**

Airships for commercial purposes; abstracts. J. C. Hunsaker. Automotive Ind 69:253-4 Ag 26 '33; S A E J 33:sup30-1 O '33

Calculation of the motion of an airship under certain conditions. D. H. Williams and A. R. Collar. bibliog Roy Aeronautical Soc J 37:35-75 Ja '33

La concurrence entre le dirigeable et l'avion. M. Verneuil. Génie Civil 101:526-8 N 26 '32

Goodyear airship Pilgrim installed among aeronautical exhibits in Smithsonian institute. il Rubber Age 32:336 F '33

Skin friction of various surfaces. S. D. Gehman and G. D. Mallory. bibliog il diag J Fr Inst 216:339-50 S '33

*See also*

Aeronautics  
Aviation

**Design**

Application of practical hydrodynamics to airship design. R. H. Upson and W. A. Klikoff. bibliog U S Nat Advisory Com for Aeronautics 1932:123-40 '33

**Electric equipment**

Lightest equipment for new airship Macon. il Elec J 30:13 Ja '33

**Mooring masts**

Meet mooring mast requirements with alloy steel and welding. A. E. Gibson. il Steel 92:21-3+ Ap 10 '33

Rivets have high tensile strength without excessive hardness; cromansil steels. A. E. Gibson. il diags Steel 93:27-9+ O 2 '33

**AIRSHIPS, Military**

Army lighter-than-air. P. B. Smith. il Aviation Eng 8:11+ Mr '33

**AIRSHIPS, Rigid**

Airship development abroad; Germany and America. R. S. Booth. Roy Aeronautical Soc J 37:366-72; Discussion. 373-80 Ap '33

Army lighter-than-air; T.C.13. il Sci Am 149: 176 O '33

Finishing the Macon. il Sci Am 148:334 Je '33  
Logical development of airships for fast ocean transportation. K. Arnstein. il Metal Prog 22:33-42 D '32

New features of the Macon. Aviation Eng 8:24+ Ap '33

Transoceanic airship service; Graf Zeppelin. W. Lambrecht. il Sci Am 149:20-2 Jl '33

Up ship! C. Caldwell. Aero Digest 22:13+ My '33

Zeppelin's new airliner. W. Lambrecht. il Aviation 32:344-5 N '33

**Failures**

Wind vortex wrecked airship Akron. T. von Kármán. Sci Am 149:125 S '33

**Model testing**

Force measurements on a 1/40-scale model of the U.S. airship Akron. H. B. Freeman. bibliog il diags U S Nat Advisory Com for Aeronautics 1932:591-606 '33

Measurements of flow in the boundary layer of a 1/40-scale model of the U.S. airship Akron. H. B. Freeman. bibliog il U S Nat Advisory Com for Aeronautics 1932:567-79 '33

**AIRWAYS**

Skyways that link the Americas. V. E. Chenea. il Sci Am 147:342-4 D '32

AIRWAYS—*Continued*

Trans-Atlantic air lanes, R. Q. Williams. map  
Aviation 32:208-10 J1 '33

*See also*

Air lines  
Airports

## Lighting

Airway beacons with double beam. *il Sci Am*  
147:373-4 D '32

Photo cells control illumination of airways.  
*Sci Am* 147:360 D '32

## Maps

Maps for air navigation, H. H. Blee. maps  
Aero Digest 22:15-16+ Ja '33

## United States

Airway engineering in the federal government.  
*il Eng N* 110:309-11 Mr 9 '33

Airway map of the United States. *Aero*  
Digest 23:28-9 S '33

Airway maps of the United States showing  
airways equipped with Federal aids to air  
navigation, air mail routes, scheduled air  
passenger routes, and scheduled air express  
routes. *Air Commerce Bul* 5:12-15 J1 '33

Establishing a federal airway. *il Sci Am* 148:  
42 Ja '33

Federal airways system. C. M. Young. map  
Aero Digest 22:20-1+ Mr '33

Map. *Fortune* 7:28-9 My '33

Twelve hundred airports and 20,000 miles of  
airways. map *Aviation* 32:87-8 Mr '33

## AISHTON, Richard Henry, 1860-

Aishton and Gormley head A.R.A. *por Ry Age*  
94:451 Mr 25 '33

## AKUAMMICINE

Alkaloids of picalima klaineana, Pierre. T.  
A. Henry. *Chem Soc J* p2759-68 N '32

## AKUAMINE

Alkaloids of picalima klaineana, Pierre. T.  
A. Henry. *Chem Soc J* p2759-68 N '32

## ALABAMA

## Industries and resources

Basic industries of Alabama prepared for up-  
turn. L. W. Friedman. *Manuf Rec* 102:21  
Ja '33

## ALASKA

*See also*

Geology—Alaska

## ALBANY, New York

## Bridges

Albany-Rensselaer vertical-lift bridge. S.  
Hardesty. *il diags Civil Eng* 3:249-53 My  
'33

## ALBRIGHT, Horace M.

United States potash co. gets Albright as its  
general manager. *por Oil Paint & Drug Rep*  
124:18 J1 17 '33

## ALBUMIN

Alleged transformation of serum albumin into  
serum globulins. S. B. Hooker and W. C.  
Boyd. *Science* 76:517 D 2 '32

## ALCHEMY

Alchimie in Spanien. J. Ruska. *Angew Chemie*  
46:337-40 Je 10 '33

Alchemy and alchemists. J. Read. *Soc Chem*  
*Ind J (Chem & Ind)* 51:1030-1 D 16 '32

Lure and romance of alchemy. C. J. S.  
Thompson. 248p G. G. Harrap & co, ltd,  
London '32

Romance of alchemy; abstract. A. Vachon.  
*Soc Chem Ind J (Chem & Ind)* 52:38 Ja 13  
'33

## ALCOHOL

Acidity of organic acids in methyl and ethyl  
alcohols. W. L. Bright and H. T. Briscoe.  
bibliog *J Phys Chem* 37:787-96 Je '33

Adsorption of alcohol by fibrous materials.  
R. T. Mease. *Ind & Eng Chem Anal ed* 5:  
317 S 15 '33

Analytical uses of ethanol. G. W. Ferner and  
M. G. Mellon. *J Chem Educ* 10:243-5 [bibliog  
p245] Ap '33

Bestimmung der alkoholergiebigkeit von  
getreidearten und polarimetrische stärke-  
bestimmung; abstract. M. Rüdiger. *Angew*  
*Chemie* 46:483 J1 15 '33

Catalytic partial oxidation of ethyl alcohol  
in the vapor phase; use of a liquid salt  
bath for temperature control. D. B. Keyes  
and W. L. Faith. *ill U Eng Exp Sta Bul*  
252:1-12 '32

Change in the transformation temperature of  
copper sulfate at 56°C. with the solvent  
medium. H. J. Abrahams and W. W. Lu-  
casse. *J Phys Chem* 37:521-4 Ap '33

Conductivity of tetramethylammonium salts  
in methyl and ethyl alcohol. T. H. Mead,  
O. L. Hughes and H. Hartley. *Chem Soc J*  
p1207-14 S '33

Critical solution temperatures of mixtures  
of gasoline, ethyl alcohol, and water. O. C.  
Bridgeman and D. Querefeld. *diag U S Bur*  
*Stand J Research* 10:693-704 My '33; *Ex-*  
*cerpt. Automotive Ind* 69:207 Ag 19 '33

Dielectric constants: ethanol-diethyl ether and  
urea-water solutions between 0 and 50°.  
J. Wyman, jr. *Am Chem Soc J* 55:4116-21  
O '33

Effect of acetaldehyde on the conductivities  
of electrolytes in ethyl alcohol. D. N. Clark  
and others. *Chem Soc J* p658-60 Je '33

Effect of gasoline volatility on the miscibility  
with ethyl alcohol. O. C. Bridgeman and  
D. W. Querefeld. *U S Bur Stand J Research*  
10:841-50 Je '33

Interaction of ethyl alcohol and oxygen pho-  
tosensitized by hydrogen peroxide; a contri-  
bution to the Haber-Willstätter mechanism  
of enzyme reactions. H. S. Taylor and A.  
J. Gould. bibliog *J Phys Chem* 37:367-74  
Mr '33

Kinetics of reactions in solution; the inter-  
action of potassium hydroxide and the alkyl  
halides in ethyl alcohol. G. H. Grant and  
C. N. Hinshelwood. *Chem Soc J* p258-61 Mr  
'33

Mechanism of reduction by sodium amalgam  
and alcohol; the reduction of aromatic ke-  
tones to hydrols. W. E. Bachmann. *Am*  
*Chem Soc J* 55:770-4 F '33

Method for a more complete examination of  
binary liquid mixtures. W. A. Wright. *diag*  
*J Phys Chem* 37:233-43 F '33

Preparation of aldehyde-free ethyl alcohol. A.  
W. Stout and H. A. Schuette. *diag Ind &*  
*Eng Chem Anal ed* 5:100-1 Mr 15 '33

Purification and ultraviolet transmission of  
ethyl alcohol. L. Harris. *Am Chem Soc*  
*J* 55:1940-2 My '33

Relative extractability of vitamins B and G  
by plain and acidified alcohol. H. K. Stiebe-  
ling and I. L. Alleman. *Am Chem Soc J* 55:  
1477-80 Ap '33

Relative strength of benzoic and salicylic  
acids in alcohol-water solutions. J. O. Hal-  
ford. *Am Chem Soc J* 55:2272-8 Je '33

Solubility of ethyl alcohol in gasoline. O. C.  
Bridgeman and D. Querefeld. *diag Ind & Eng*  
*Chem* 25:523-5 My '33

Solubility of thiourea in water, methanol, and  
ethanol. L. Shnidman. bibliog *J Phys Chem*  
37:693-700 Je '33

System ethyl alcohol-*n*-heptane at 30°C. J. B.  
Ferguson, M. Freed and A. C. Morris. *J*  
*Phys Chem* 37:87-91 Ja '33

Über die explosionsfähigkeit gesättigter al-  
koholdampf-luft-gemische. K. Fricke. *diags*  
*Angew Chemie* 46:87-90 F 4 '33

Uses of alcohol as an essential chemical in  
the arts, sciences, and industries. (Indus-  
trial alcohol bureau) 49p pa 10c Supt. of  
doc. '32

Zur kenntnis der dampf-flüssigkeitsgleich-  
gewichte von äthylalkohol-wassergemischen.  
bei temperaturen von 120 bis 180°. T. Klein-  
ert. *diag Angew Chemie* 46:18-19 Ja 7 '33

*See also*

Alcohols  
Fermentation

Liquor traffic  
Prohibition

## Analysis

Beiträge zur alkoholbestimmung im blut  
nach Widmark. H. Kaiser and E. Wetzel.  
bibliog *Angew Chemie* 46:622-5 S 30 '33



**ALCOHOL—Analysis—Continued**

Determination of alcohol and extract in wine by means of the density and refractive index. W. Newton and F. L. Munro. *Can Chem & Met* 17:119-20 Je '33

Determination of ethyl alcohol in gasoline-alcohol mixtures using a Zeiss immersion refractometer. F. S. Mortimer and E. H. Giese. *Ind & Eng Chem Anal* ed 5:356 S 15 '33

**Dehydration**

Der azeotropismus und seine anwendung für ein neues verfahren zur entwässerung des äthylalkohols. R. Fritzweiler and K. R. Dietrich. *diags Angew Chemie* 45:605-11; 46:241-3 S 24 '32, Ap 29 '33

Déshydratation de l'alcool par absorbant et vapeur récupérée. G. Du Bois. *diags Chimie & Ind* 30:535-6 S '33

**History**

Alcohol through the ages. E. F. Armstrong. *Soc Chem Ind J (Chem & Ind)* 51:1060-1; 52:251-7, 279-85 D 23 '32, Mr 24-31 '33

**Laws and regulations**

Alcohol and narcotics control change sought. *Oil Paint & Drug Rep* 123:15, 34; Editorial comment. 13 Ap 10 '33

Alcohol control will go to Revenue bureau. *Oil Paint & Drug Rep* 123:16 Je 19 '33

Industrial alcohol after repeal. *Ind & Eng Chem News* ed 11:309-10 N 10 '33

Industrial alcohol is unaffected by repeal. *Oil Paint & Drug Rep* 124:17+ N 13 '33

**See also**

Liquor laws  
Prohibition

**Manufacture**

Corn alcohol plant costs. *Oil Paint & Drug Rep* 123:16, 30A Ap 17 '33

Economical absolute alcohol production. P. Pusch. *Chem Ind* 33:333-4 O '33

Neuere verfahren zur alkoholverherstellung. K. W. Geisler. *diag Zeit Ver Deutsch Ing* 77:126-8, 353 F 4, Ap 1 '33

1,600,000,000 gallons of alcohol. W. Haynes. *Chem Markets* 32:307-9 Ap '33

Power alcohol from molasses; production suggested in India. *Chem Age (Lond)* 28:269 Mr 25 '33

Production of industrial alcohol from grain by Amylo process. W. L. Owen. *Ind & Eng Chem* 25:87-9 Ja '33; Same cond. *Chem Age (Lond)* 28:118-19 F 11 '33; Discussion. M. Neubauer. *Ind & Eng Chem* 25:712 Je '33

Production of organic compounds from coke oven gas. J. W. Osterrieth and G. Dechamps. *Gas J (Lond)* 201:202-5; Discussion. 205-6 Ja 25 '33

St John's bread as raw material for industrial alcohol. M. Neubauer. *Ind & Eng Chem News* ed 11:140 My 10 '33

Solvent products, ltd. *il Soc Chem Ind J (Chem & Ind)* 52:98-100 F 3 '33

South African chemical business. *Soc Chem Ind J (Chem & Ind)* 52:540 Je 30 '33

Sugar and alcohol from cellulose; a comparison of the Bergius and Scholler processes. *Chem Age (Lond)* 28:521-2 Je 10 '33

Sugar and alcohol from wood. A. Hurter. *diag Can Chem & Met* 17:48-9+ Mr '33; Same. *Paper Tr J* 96:20-2 Mr 16 '33; Excerpt. *Chem Markets* 32:410-11 My '33

**Physiological effect**

Alcohol and inheritance. F. M. Durham and H. M. Woods. 63p Great Britain medical research council, London '32

Biological effects of alcohol. 30p Manual arts high school, Los Angeles '32

**ALCOHOL, Denatured**

Denatured alcohol as a carbon solvent. *Bus Transportation* 12:142 Mr '33

Products manufactured with specially denatured alcohol, year ended June 30, 1932. *Chem & Met Eng* 40:46 Ja '33

**ALCOHOL as fuel**

Agricultural alcohol in American motor fuels. G. G. Brown. *bibliog Am Pet Inst Proc* 14M(2):4-14 My '33; Same abr. *Oil Paint & Drug Rep* 123:43 Je 12; 124:33+ JI 17; 28D JI 24; 36+ JI 31 '33; Abstract. *Nat Pet N* 25:32 My 24 '33; Discussion. H. Arnstein. *Oil Paint & Drug Rep* 123:16 Je 19 '33

Aid of government needed in making alcohol from grain. J. W. Shipley. *Oil & Gas J* 32:28 O 12 '33

Alcogas; proposals to blend alcohol from farm products with gasoline. *Business Week* p9 F 8 '33

Alcohol as auto fuel. *Sci Am* 148:118-19 F '33

Alcohol as motor fuel. *J Fr Inst* 215:476-7 Ap '33

Alcohol fuels in U.S. *Oil Paint & Drug Rep* 123:26+ Ja 30 '33; Discussion. H. Arnstein. 123:14 F 20 '33

Alcohol-gasoline blends as motor fuels. O. C. Bridgeman. *Ind & Eng Chem News* ed 11:139-40 My 10 '33

Alcohol-gasoline blends would cause enormous economic losses. G. Egloff. *Nat Pet N* 25:30-2+ Ap 26 '33; Excerpts. *Oil & Gas J* 31:75 Ap 27 '33

Alcohol-gasoline fuels knock ratings tested. *Oil Paint & Drug Rep* 123:21-2 Mr 6 '33

Alcohol-gasoline mixtures as motor fuels. *il Mech Eng* 55:285-6 My '33

Alcohol in internal combustion fuels. *Oil Paint & Drug Rep* 123:15, 20+ Mr 6 '33

Alcohol in motor fuel. *Oil Paint & Drug Rep* 123:17 Mr 13; 15 Mr 20; 15 Mr 27; 16+ Ap 3; 15+ Ap 10; 16, 30A-30C Ap 17; 14+ Ap 24; 17+ My 1; 17 My 8; 28+ My 15 '33

Alcohol mixing bills would make motorists pay for corn price rise. J. Geschelin. *Automotive Ind* 68:404-6+ Ap 1 '33

Alcohol motor fuel. *Pet Age* 27:20-1 JI '33

Alcohol motor fuel movement. *Oil Paint & Drug Rep* 123:15 F 20 '33; *Nat Pet N* 25:14-15 F 15; 11-12 Mr 1 '33; *Pet Age* 27:18-20 F '33

Alcohol motor fuels draw nearer. *Forbes* 31:5-6 Ap 15 '33

Alcohol-petrol mixtures. *Automobile Eng* 23:233 JI '33

Alcoholized fuels would cost our customers a half billion. J. Geschelin. *Automotive Ind* 68:644-7 My 27 '33

Alcoholized gasoline for farm relief. R. S. McBride. *Food Ind* 5:169 My '33

Alky blending and the farm market for oil products. *il Pet Age* 27:22-3 My '33

Alky-gas is proposed as amendment to the general revenue bill. A. E. Heiss. *Nat Pet N* 25:11-12+ My 3 '33

Alkygas stations; Illinois tries out the alcohol-gasoline mixture. *Business Week* p11 Mr 29 '33

Alky-gasoline blending proposals dead until next January. *Nat Pet N* 25:13 My 31 '33

Benzol makes possible alky-gas Cities Service sells abroad. *Nat Pet N* 25:23-4 My 17 '33

Bureau of standards issues alky-gas test report. *Nat Pet N* 25:34 N 8 '33

Bureau of standards men conduct tests on alky-gas blends. *Nat Pet N* 25:30 Je 14 '33

Les conditions actuelles de l'emploi de l'alcool comme carburant. *Génie Civil* 102:281-2 Mr 25 '33

C.F.R. makes report on alcohol-blend fuels. *S A E J* 32:sup29 JI '33; Same. *Oil & Gas J* 32:33 JI 6 '33

Corn alcohol plant costs; fourth progress report by Iowa state college. *Oil Paint & Drug Rep* 123:16, 30A Ap 17 '33

Facts about alcohol in motor fuel. D. H. Killeffer. *Ind & Eng Chem News* ed 11:117-19 Ap 20 '33

Farm-brewed fuel; farmers would make motorists pay for farm relief. *Business Week* p14+ Mr 15 '33

Gasoline and alcohol. G. McIntyre. *Can Chem & Met* 17:184-7 S '33

German tests of power alcohol. R. Fritzweiler and K. R. Dietrich. *Chem Ind* 33:307-9 O '33

German views on alcoholic gasolines. C. O. Ostwald. *Automotive Ind* 68:549 My 6 '33

## ALCOHOL as fuel--Continued

- Getting alcohol into gasoline to help farm receipts. Chemicals 33:3 My 15 '33
- Legislation forcing alcohol blends would create bad precedent. Nat Pet N 25:19-20 Ag 9 '33
- Legislation proposed to compel use of alcohol in motor fuel. Chem & Met Eng 40:156 Mr '33
- Looks like alcohol. J. B. Rathbun. Pet Age 27:20-1 Ap '33
- Make part of motor fuel from grain is proposed as farm relief. Nat Pet N 25:15 Ja 18 '33
- Manufacture and sale problems of gasoline-alcohol motor fuels. G. G. Brown. Oil & Gas J 31:27+ Mr 9 '33
- Many fallacies to arguments advanced in favor of laws requiring gasoline-alcohol blends. R. C. Conine. Oil & Gas J 31:12+ F 23 '33
- Mixing alcohol and gasoline. Nation's Business 21:44-5 My '33
- Motor fuels; use in foreign countries of substitutes for petroleum products. table index 13:8-9. 12-15 Ja '33; Same, without table. Oil Paint & Drug Rep 123:15+ Ja 30 '33; Excerpt (table). Automotive Ind 68:406 Ap 1 '33
- New investigation condemns proposed fuel blends of alcohol and gasoline. Oil & Gas J 32:31+ Ag 10 '33
- 1,600,000,000 gallons of alcohol. W. Haynes. Chem Markets 32:307-9 Ap '33
- Opposition to alcohol blends grows as higher federal tax bill is introduced in Congress. Oil & Gas J 31:9+ My 4 '33
- Permanent farm relief through use of alcohol blends for motor fuel; report by the Motor fuel alcohol committee. Oil Paint & Drug Rep 123:17+ My 8; 48A-48B My 22 '33
- Plan to blend alcohol and gasoline in United States is held infeasible. Oil & Gas J 31:28+ Ja 26 '33
- Power alcohol; abstract. Mech Eng 55:378-9 Je '33
- Program of substituting alcohol for gasoline as motor fuel appears to be short-sighted. W. T. Ziegenhain. Oil & Gas J 31:10+ Mr 2 '33
- Road tests prove that alcohol blend is uneconomical compared to gasoline. Oil & Gas J 32:27 Jl 13 '33
- Sale of alcohol-gasoline blends spreads in Illinois. Nat Pet N 25:16 Mr 22 '33
- Scientists report on alcohol gasoline motor fuel. Nat Pet N 25:19 Jl 12 '33
- Secretary of agriculture favors the use of alcohol blended motor fuel. C. E. Kern. Oil & Gas J 31:15 My 11 '33
- 73 radio stations to broadcast alcohol-gas plan address. Nat Pet N 25:9+ F 1 '33
- Some economic aspects of a program for the manufacture of fuel alcohol from corn; fifth progress report by Iowa state college. Oil Paint & Drug Rep 123:40+ Ap 24 '33
- Standard oil company (New Jersey) attacks alcohol blending scheme as impracticable. A. E. Mockler. Oil & Gas J 31:15+ My 11 '33
- Unfairness of alky-gas proposal seen in report to Senate. Nat Pet N 25:13-14 My 10 '33
- Use of agricultural products in the manufacture of chemicals to be blended with motor fuels. Oil Paint & Drug Rep 123:17+ Mr 13; 15+ Mr 20; 15+ Mr 27 '33; Same. Oil & Gas J 31:10-11+ Mr 16; 16+ Mr 30 '33
- Use of alcohol from farm products in motor fuel. 55p U. S. Bur. of agricultural economics, Washington '33
- Use of grain alcohol in motor fuel involves many difficulties. Nat Pet N 25:25 Ja 25 '33
- Will gasoline, alcohol mix? J. B. Rathbun. Pet Age 27:22-3 Ja '33

## Bibliography

- Power alcohol; a partial list of references. D. W. Graf, comp. 29p U. S. Dept. of agriculture, Bur. of agricultural engineering, Washington '33

## ALCOHOL Industry

- Base of reality behind liquor stock speculation. P. Dobbs. il Mag of Wall St 52:476-7+ S 2 '33
- Enthusiasm for alcohol shares overdone? Barron's 13:9 Jl 24 '33
- Wall Street cheers repeal. Business Week p20-1 Jl 22 '33

## Statistics

- Alcohol output in 1932 fiscal year decreased. Oil Paint & Drug Rep 122:52 D 26 '32
- Consuming trend toward specially denatured alcohol. Chem & Met Eng 40:46-7 Ja '33

- ALCOHOL products manufacturers' association Rubbing alcohol makers organize an association. Oil Paint & Drug Rep 123:38 Ja 2 '33

## ALCOHOLS

- Action of aromatic alcohols on aromatic compounds in the presence of aluminum chloride; condensation of phenylpropylcarbinol and  $\alpha$ -chlorobutylbenzene with phenol. R. C. Huston and H. W. Strickler. Am Chem Soc J 55:4317-18 O '33
- Aliphatic alcohols and their derivatives; an important group of solvents. Chem Age (Lond) 28:486 My 27 '33; Same. Plastic Prod 9:281 S '33
- n*-Aliphatic long-chain alcohols. J. W. C. Phillips and S. A. Mumford. Chem Soc J p235-6 Mr '33
- Aliphatic tertiary alcohols and chlorides containing the normal amyl group and the related olefins and their ozonolysis. F. C. Whitmore and F. E. Williams. Am Chem Soc J 55:406-11 Ja '33
- Alkamine esters of aliphatic acids; novocaine analogs. H. C. Brill and T. A. Bulow. Am Chem Soc J 55:2059-61 My '33
- Catalytic hydrogenation of esters to alcohols. H. Adkins, B. Wojcik and L. W. Covert. Am Chem Soc J 55:1669-76 Ap '33
- Dehydration of tertiary alcohols containing a neopentyl system; methylisopropyl-*tert*-butylcarbinol, methyl-di-*tert*-butylcarbinol, and methylethylneopentylcarbinol. F. C. Whitmore and K. C. Laughlin. Am Chem Soc J 55:3732-8 S '33
- Dehydration of 2,2-dimethylhexanol-1 and related tertiary alcohols. F. C. Whitmore and J. M. Church. Am Chem Soc J 55:1119-24 Mr '33
- Electrostriction produced by salts in some aliphatic alcohols. W. C. Vosburgh, L. C. Connell and J. A. V. Butler. Chem Soc J p933-42 Ag '33
- Fatty alcohol sulphates; their properties and applications. Textile World 83:933 My '33
- Free energy of the normal aliphatic alcohols in aqueous solution. J. A. V. Butler, D. W. Thomson and W. H. MacLennan. Chem Soc J p674-86 Je '33
- Fusion curves for the systems ammonia-propyl alcohols and ammonia-butyl alcohols. H. P. Cady and E. A. Jones. bibliog diags J Phys Chem 37:303-20 Mr '33
- Heats of wetting of cellulose acetate by aliphatic alcohols and aromatic hydrocarbons. S. E. Sheppard and P. T. Newsome. bibliog J Phys Chem 37:389-95 Mr '33
- Hydrogenolysis of alcohols to hydrocarbons. B. Wojcik and H. Adkins. Am Chem Soc J 55:1293-4 Mr '33
- Influence of poles and polar linkings on the course pursued by elimination reactions; elimination of saturated primary alcohols by thermal decomposition of sulphonium hydroxides. C. K. Ingold and K. I. Kuriyan. Chem Soc J p991-3 Ag '33
- Isomeric 9:10-dihydroxyoctadecyl alcohols produced by oxidation of *cis*- and *trans*- $\Delta^9$ : $^{10}$ -octadecenyl (oleyl and elaidyl) alcohols. G. Collin and T. P. Hilditch. Chem Soc J p246-8 Mr '33
- Isomorphism and alternation in the melting points of the normal alcohols, acetates, bromides, acids and ethyl esters from C<sub>10</sub> to C<sub>18</sub>. J. D. Meyer and E. E. Reid. Am Chem Soc J 55:1574-84 Ap '33
- Phase rule study of mixed derivatives of alcohols. W. E. Caldwell and K. R. MacLean. Am Chem Soc J 55:3458-60 Ag '33



**ALCOHOLS—Continued**

- Preparation of aldehydes and ketones by dehydrogenation of alcohols over copper-chromium oxide. H. Adkins and others. *diag Am Chem Soc J* 55:2992-4 J1 '33
- Production of higher alcohols, aldehydes, and ketones. G. T. Morgan and D. V. N. Hardy. *Soc Chem Ind J (Chem & Ind)* 52:518-19 Je 23 '33
- Recent developments in the application of the fat alcohol sulfates. S. Lenher. *Am Dyestuff Rep* 22:663-7; Discussion. 667 N 6 '33
- Review of the solvents industry in 1932. *Chem Age (Lond)* 27:626-7 D 31 '32
- Selenium dioxide, a new oxidising agent; its reaction with some alcohols and esters. S. Astin, A. C. C. Newman and H. L. Riley. *Chem Soc J* p391-4 Ap '33
- Some alkamine esters of cinnamic acid and derivatives; novocaine analogs. H. C. Brill and C. F. Cook. *Am Chem Soc J* 55:2062-4 My '33
- Some aspects of the Tschugaeff reaction for dehydrating alcohols. F. C. Whitmore and C. T. Simpson. *Am Chem Soc J* 55:3809-12 S '33
- Structure of reactants and the extent of acetal formation. N. Minné and H. Adkins. *Am Chem Soc J* 55:299-309 Ja '33
- Sulphonated alcohol products. S. Lenher. *il Am Dyestuff Rep* 22:13-16; Discussion. 16-18 Ja 2 '33
- Sulphonated fatty alcohols. S. Lenher. *Am Dyestuff Rep* 21:693-5 D 5 '32; Excerpts. *Chem Markets* 32:127-8 F '33; Discussion. *Am Dyestuff Rep* 21:695-6; 22:21-4 D 5 '32, Ja 2 '33
- Sulfonated higher alcohols; new detergents. D. H. Killeffer. *Ind & Eng Chem* 25:138-40 F '33
- Tautomeric forms of substituted allyl alcohols. H. W. J. Hills, J. Kenyon and H. Phillips. *Soc Chem Ind J (Chem & Ind)* 52:660 Ag 11 '33
- Tertiary aliphatic alcohols and chlorides containing normal butyl groups. F. C. Whitmore and H. M. Woodburn. *Am Chem Soc J* 55:361-5 Ja '33
- Tertiary aliphatic alcohols containing an adjacent tertiary hydrogen, the related chlorides and dehydration products. F. C. Whitmore and W. L. Evers. *Am Chem Soc J* 55:812-16 F '33

**See also**

Alcohol	Methanol
Amyl alcohol	Propyl alcohol
Butyl alcohol	

**Analysis**

- Use of Agulhon's reagent in the analysis of solvents. E. C. Craven. *Soc Chem Ind J* 52:239T-42T Ag 11 '33

**ALCOHOLYSIS**

- Catalytic effect of caustic alkali on the alcoholysis and hydrolysis of fats. G. K. Rowe. *Soc Chem Ind J* 52:49T-52T F 24 '33

**ALDEHYDES**

- Aldehyde-amide condensation; reactions between aldehydes and acetamide. W. A. Noyes and D. B. Forman. *Am Chem Soc J* 55:3493-4 Ag '33
- Aldehyde oxidation of tolueneearsonic acids. H. M. Parmelee and C. S. Hamilton. *Am Chem Soc J* 55:1463-9 Ap '33
- Condensation of aldehydes with ketones and some of the products derived from the ketols. L. P. Kyrides. *Am Chem Soc J* 55:3431-5 Ag '33
- Condensation of 2-butanone with normal aliphatic aldehydes. S. G. Powell, H. C. Murray and M. M. Baldwin. *Am Chem Soc J* 55:1153-4 Mr '33
- Formation of sugars in mixtures of tartaric acid and aldehydes in tropical sunlight. V. Gore. *J Phys Chem* 37:745-9 Je '33
- Interaction of ketene with aromatic aldehydes and its bearing on the Perkin reaction. C. D. Hurd and C. L. Thomas. *biolog Am Chem Soc J* 55:275-83 Ja '33
- Photolysis of the aliphatic aldehydes; acetaldehyde. P. A. Leighton and F. E. Blacet. *Am Chem Soc J* 55:1766-74 My '33

- Preparation of aldehyde-free ethyl alcohol. A. W. Stout and H. A. Schuette. *diag Ind & Eng Chem Anal ed* 5:100-1 Mr 15 '33
- Preparation of aldehydes and ketones by dehydrogenation of alcohols over copper-chromium oxide. H. Adkins and others. *diag Am Chem Soc J* 55:2992-4 J1 '33
- Preparation of amines by catalytic hydrogenation of derivatives of aldehydes and ketones. C. F. Winans and H. Adkins. *biolog Am Chem Soc J* 55:2051-8 My '33
- Production of higher alcohols, aldehydes, and ketones. G. T. Morgan and D. V. N. Hardy. *Soc Chem Ind J (Chem & Ind)* 52:518-19 Je 23 '33
- Reaction between 2-picoline and aromatic aldehydes. B. D. Shaw and E. A. Wagstaff. *Chem Soc J* p77-9 Ja '33
- Structure of reactants and the extent of acetal formation. N. Minné and H. Adkins. *Am Chem Soc J* 55:299-309 Ja '33
- Studies in the phenanthrene series; hydroxy aldehydes and hydroxy ketones. E. Mosettig and A. Burger. *Am Chem Soc J* 55:2981-9 J1 '33
- Studies in the phenanthrene series; phenanthrene-2-, 3- and 9-aldehydes. E. Mosettig and J. van de Kamp. *Am Chem Soc J* 55:2995-9 J1 '33
- Studies on hydrogen cyanide; Gattermann's hydrogen cyanide aldehyde synthesis. L. E. Hinkel, E. E. Ayling and W. H. Morgan. *Chem Soc J* p2793-8 N '32

**See also**

Acetaldehyde	Formaldehyde
Benzaldehyde	Furfural

**Analysis**

- Quantitative determination of formaldehyde and benzaldehyde and their bisulfite addition products. L. H. Donnelly. *Ind & Eng Chem Anal ed* 5:91-2 Mr 15 '33

**ALDOXIMES**

- Configurations of the aldoximes, from measurements of electric dipole moment. T. W. J. Taylor and L. E. Sutton. *Chem Soc J* p63-5 Ja '33
- Isomerism of the oximes; the constitution of the acetyl derivatives of  $\alpha$ - and  $\beta$ -aldoximes. O. L. Brady and H. J. Grayson. *Chem Soc J* p1037-8 Ag '33
- Reactions of aldoxime derivatives with bases; the reactions of certain acetyl- $\beta$ -aldoximes with alkali. C. R. Hauser and C. T. Sullivan. *Am Chem Soc J* 55:4611-13 N '33

**ALDRICH, Truman Heminway, 1848-1932**

- Memorial. J. Gardner. *por Geol Soc Bul* 44:301-7 [bibliog p304-7] Ap '33

**ALDRICH, Winthrop Williams, 1885-**

- Chase bank's new chief. *por Business Week* p13-14 Ja 4 '33

- Introducing the new head of our biggest bank. B. C. Forbes. *por Forbes* 31:11-12 Ja 15 '33

**ALDRIDGE, Walter Hull**

- Sketch. *por Explosives Eng* 2:36-7 F '33

**ALEMITE**

- New alemite fitting allows higher pressure. *il Automotive Ind* 69:132-3 J1 29 '33

**ALEXANDERS discount company, limited**

- Ordinary general meeting, 65th, London. *Economist* 116:145-6 Ja 21 '33

**ALFALFA**

- Alfalfa yellows. L. F. Graber and V. G. Sprague. *Science* 78:385-6 O 27 '33

**ALFRED university****New York state college of ceramics**

- Alfred's new college. *il Glass Ind* 14:79, 81-2 J1 '33

**ALGAE**

- Dyeing and finishing troubles caused by mold fungi or mildew. R. Cowan. *Am Dyestuff Rep* 21:690-2 D 5 '32

- Fresh-water algae of the United States. G. M. Smith. 716p [bibliog p645-88] McGraw-Hill '33

**ALGEBRA**

- Advanced algebra. E. I. Edgerton and P. A. Carpenter. rev ed 449p Allyn and Bacon, Boston '33

**ALGEBRA—Continued**

- College algebra. R. W. Brink. 445p \$2.25 Century co. '33  
Introductory college algebra. H. L. Rietz and A. R. Crathorne. rev ed 305p, 23p \$1.76 Holt '33  
Modern higher algebra. W. Wells and W. W. Hart. 410p Heath '33

**ALGERIA****Antiquities**

- Pleistocene Mazouna stage in western Algeria containing artifacts. R. V. V. Anderson. il map Geol Soc Bul 43:847-74, pl 22-3 S '32

**ALINEMENT of machinery**

- Optical method of lining-up locomotive frames. il diags Engineering 136:139-41, pl 6 Ag 11 '33  
Optics in locomotive repair. F. Loewen. il diag Am Mach 77:453-6 Jl 19 '33  
Repairing and alining Diesel engine shafts. J. J. McDougall. il diags Power Pl Eng 37:141-2 Mr '33

**ALIZARIN**

- Alumina lakes. W. D. Bancroft and E. C. Farnham. J Phys Chem 36:3127-37 D '32  
Dyeing wool with alizarine. P. S. Chetti. Textile Col 54:808-12 D '32

**ALKALI halides***See also*

Alkali metal halides

**ALKALI metal amides**

- Chemistry of the alkali amides. F. W. Bergstrom and W. C. Fernelius. Chem R 12: 43-179 [bibliog p80-3, 167-79] F '33

**ALKALI metal carbonates**

- Die einwirkung von quarz und alkalischilicaten auf alkalicarbonat; abstract. C. Kröger. Angew Chemie 46:388-9 Je 24 '33

**ALKALI metal chlorides**

- Activity coefficients of hydrochloric acid in uni-univalent chloride solutions at constant total molality. J. E. Hawkins. Am Chem Soc J 54:4480-7 D '32

- Transport numbers in mixed aqueous solutions of alkali chlorides. P. Van Rysselberghe and L. Nutting. Am Chem Soc J 55:990-1001 Mr '33

*See also*

Potassium chloride  
Salt

**ALKALI metal compounds**

- Co-ordination compounds of oximes; compounds of 4-isonitroso-1-phenyl-3-methyl-5-pyrazolone with the alkali metals, nickel, and thallium. O. L. Brady and M. D. Porter. Chem Soc J p840-2 Jl '33

**ALKALI metal cyanates****Analysis**

- Die konduktometrische titration von ammon-salzen, zinksalzen und cyanaten nach der visuellen methode. O. Pfundt. Angew Chemie 46:218-19 Ap 15 '33

**ALKALI metal halides**

- Absorption of NaCl, KCl and KI in the far ultraviolet. A. Smith. diags Phys R 44:520-3 O 1 '33

- Freezing points of aqueous solutions; potassium, sodium and lithium chlorides and bromides. G. Scatchard and S. S. Prentiss. Am Chem Soc J 55:4355-62 N '33

- Reflection of metallic atoms from alkali halide crystals. R. R. Hancox. diags Phys R 42: 864-81 D 15 '32

**ALKALI metal iodides**

- Solid polyiodides of the alkali metals. N. S. Grace. bibliog J Phys Chem 37:347-60 Mr '33

**ALKALI metal oxides**

- Absorption spectra of cobaltous compounds; the alkali oxide-boric oxide glasses. W. R. Brode. Am Chem Soc J 55:939-47 Mr '33

**ALKALI metals**

- Fortschritte 1930-1932 auf dem gebiete der freien alkalimetalle. H. Alterthum and R. Rompe. bibliog Angew Chemie 46:303-11, 545-51 Je 3, Ag 26 '33

- Long-wave arc spectra of alkalis and alkaline earths. W. F. Meggers. pl U S Bur Stand J Research 10:669-84 My '33

- New optical properties of the alkali metals; abstract. R. W. Wood. Science 77:459 My 12 '33

- Photolysis of solutions of alkali metals in liquid ammonia. R. A. Ogg, jr, P. A. Leighton and F. W. Bergstrom. bibliog diags Am Chem Soc J 55:1754-66 My '33

- Remarkable optical properties of the alkali metals. R. W. Wood. il diags Phys R 44: 353-60 S 1 '33; Discussion. E. L. Hill. R Sci Instr 4:525-6 O '33

- Standing light waves; repetition of an experiment by Wiener, using a photoelectric probe surface. H. E. Ives and T. C. Fry. diag Opt Soc Am J 23:73-83 Mr '33

*See also*

Cesium Potassium  
Lithium Sodium

**ALKALI oxalates**

- Studies in coprecipitation; the coprecipitation of alkali ions with calcium oxalate and the adsorbent properties of the latter. L. M. Kolthoff and E. B. Sandell. bibliog J Phys Chem 37:443-58 Ap '33

**ALKALIES**

- Action of aqueous alkali on starches, amyloses and modified starches. T. C. Taylor and G. M. Salzmann. bibliog Am Chem Soc J 55:264-75 Ja '33

*See also*

Alkali metals Potash  
Ammonia Sodium hydroxide

**ALKALINE earth metals**

- Long-wave arc spectra of alkalis and alkaline earths. W. F. Meggers. pl U S Bur Stand J Research 10:669-84 My '33

*See also*

Barium Magnesium  
Calcium Strontium

**ALKALINE earth tungstates**

- Luminescence of alkaline earth tungstates containing lead. F. E. Swindells. Opt Soc Am J 23:129-32 Ap '33

**ALKALOIDS**

- Absorption and fluorescence spectra of the acid sulfates of quinine and ten of its derivatives in water and aqueous sulfuric acid solution. L. J. Heidt and G. S. Forbes. Am Chem Soc J 55:2701-9 Jl '33

- Alkaloids of anagris foetida and their relation to the lupin alkaloids. H. R. Ing. Chem Soc J p504-10 My '33

- Alkaloids of picralima klaineana, Pierre. T. A. Henry. Chem Soc J p2759-68 N '32

- Chemistry of the opium alkaloids. L. F. Small. 375p U.S. public health service, Washington '32

- Infrared absorption spectra of certain alkaloids. Sister Michael Edward O'Byrne. diag Opt Soc Am J 23:92-100 Mr '33

- Lupin alkaloids. G. R. Clemons, G. R. Ramage and R. Raper. Chem Soc J p2959-69 D '32

- Lupin alkaloids; the structure of lupanine and sparteine. G. R. Clemons and R. Raper. il Chem Soc J p644-5 Je '33

- Reductions in the morphine series; dihydro-pseudocodeine. R. E. Lutz and L. F. Small. Am Chem Soc J 54:4715-30 D '32

*See also*

Cinchona alkaloids Quinine  
Hygrine alkaloids Vasicine  
Morphine

**ALKANET**

- Brief history of alkanet dyes. C. D. Mell. Textile Col 55:196-8 Mr '33

**ALKINES. See Hydrocarbons****ALKYLANILINES**

- Elimination of tertiary alkyl groups from alkylnilines by hydrolysis. W. J. Hickinbottom. Chem Soc J p1070-3 Ag '33

- Preparation of alkylnilines containing tertiary alkyl groups. W. J. Hickinbottom. Chem Soc J p946-51 Ag '33



**ALKYL bromides—Continued**

Preparation and properties of *n*-alkyl ethers of  $\beta$ -*n*-alkylcholine salts. R. T. Major and J. K. Cline. bibliog Am Chem Soc J 55: 2504-9 Je '33

**ALKYL halides**

Kinetics of reactions in solution; the interaction of potassium hydroxide and the alkyl halides in ethyl alcohol. G. H. Grant and C. N. Hinshelwood. Chem Soc J p258-61 Mr '33

Reactions of atomic hydrogen with several alkyl halides. H. M. Chadwell and T. Titani. diag Am Chem Soc J 55:1363-76 Ap '33

**ALKYL nitrates**

Studies in dielectric polarisation; the dipole moments of alkyl nitrates and nitrites. E. G. Cowley and J. R. Partington. Chem Soc J p1252-4 S '33

**ALKYL nitrites**

Studies in dielectric polarisation; the dipole moments of alkyl nitrates and nitrites. E. G. Cowley and J. R. Partington. Chem Soc J p1252-4 S '33

**ALKYLATION**

Higher alkyl sulfonates. V. C. Sekera and C. S. Marvel. Am Chem Soc J 55:345-9 Ja '33

Preparation of trialkyl phosphates and their use as alkylating agents. C. R. Noller and G. R. Dutton. Am Chem Soc J 55:424-5 Ja '33

Quinazolines; the alkylation of benzoylene urea. N. A. Lange and F. E. Sheibley. bibliog Am Chem Soc J 55:2113-16 My '33

Studies on alkylated complex cyanides; the isomerism of the alkylated ferrocyanides; hexaethylated ferrocyanides. E. G. J. Hartley and H. M. Powell. Chem Soc J p101-5 Ja '33

**ALLEGHANY corporation**

Alleghany vs. depression; the Van Sweringen battle to maintain their system. Econostat 1:11, 32 O 14 '33

Bonds below collateral value. Barron's 13:6 r' 13 '33

**ALLEN, Edgar, and company**

Technical house journal with a circulation of 15,000 copies a month. E. N. Simons. Assn of Sp Lib & Inf Bur Proc 1933:71-3

**ALLEN, W. C.**

Chairman, Yale & Towne mfg. co. por Steel 92:16 F 27 '33

**ALLENE**

Photochemical polymerization of methylacetylene and allene. S. C. Lind and R. Livingston. Am Chem Soc J 55:1036-47 Mr '33

**ALLIANCE casualty company**

Indemnity Ins. co. to reinsure Alliance casualty co. Spectator 130:31 Ap 20 '33

**ALLIED chemical and dye corporation**

Allied chemical and stock exchange agree. Oil Paint & Drug Rep 124:19 Jl 10 '33

Allied Chemical in strong position. Econostat 1:14-15 Ap 1 '33

Annual report, 1932. Barron's 13:4 Mr 20 '33

Another blow for corporate secrecy; Allied chemical & dye corporation and the New York stock exchange. Forbes 31:8 My 15 '33

Dispute seems settled. Oil Paint & Drug Rep 124:24 Jl 17 '33

Exchange demands light. Econostat 1:5-6 Je 10 '33

Leader in heavy chemicals. C. J. Tatro. Barron's 12:16-17 D 19 '32

Opposes exchange attack. Oil Paint & Drug Rep 123:26 Je 5 '33

Shareholders ask for more information. Oil Paint & Drug Rep 123:15 My 1 '33

Sound stocks for income and long range profit. Mag of Wall St 52:633 O 14 '33

Speculative audit; factors affecting common-stock values. Barron's 13:12 Ap 10 '33

Wall Street showdown; battle over right to guard company secrets. Business Week p18-19 Je 7 '33

**ALLIS-Chalmers manufacturing company**

Low-priced speculations of merit. Mag of Wall St 53:81-2 N 11 '33

**ALLOSE**

Preparation of crystalline  $\beta$ -l-allose, a new aldohexose, from l-ribose by the cyanohydrin reaction. W. C. Austin and F. L. Hummoller. Am Chem Soc J 55:2167-8 My '33

**ALLOTMENT plan.** See Agriculture—United States—Farm relief**ALLOTROPY**

Allotropy in iron and steel. R. H. Harrington and W. P. Wood. bibliog Am Soc Steel Tr Trans 20:529-45; Discussion. 545-8 D '32

Einfluss von wasserstoff auf die  $A_2$ - und  $A_1$ -umwandlung des eisens. H. Esser and H. Cornelius. diag Stahl & Eisen 53:885-6 Ag 24 '33

**ALLOY steel.** See Steel alloys**ALLOYS**

Alloys move forward. Iron Age 131:39-41 Ja 5 '33

Composition of typical die-casting alloys; physical properties and applications; data sheets. Mach 39:440A Mr '33

Contribution à l'étude de la coulabilité des alliages ternaires. A. Portevin and P. Bastien. Génie Civil 102:500 My 27 '33

Die-casting metals set new standards. il Mach 40:101-3 O '33

Effect of grain boundaries on equilibrium. Engineer 156:sup[Metallurgist]53-4 Ag 25 '33

Experiments on the effects of variations in mould and pouring temperatures on the macro- and microstructures of some low melting-point metals and alloys; abstracts and discussion. F. D. Weaver. Engineering 135:311-12 Mr 17 '33; Engineer 155:266-7 Mr 17 '33

Field for non-ferrous metals is broadened by active research. Mach 39:388-90 F '33

General rules for formulating specific alloys. A. Portevin. Metal Prog 22:47+ D '32

Grain boundary effects as a factor in heterogeneous equilibrium of alloy systems. A. Phillips and R. M. Brick. il diag J Fr Inst 215:557-77 My '33

Inverse segregation. H. Sutton. Engineer 155: sup [Metallurgist] 22-4, 35-6 Ap 28, Je 30 '33

Materials for dye kettle construction as related to the economical production of true shades. H. B. Burke. Am Dyestuff Rep 22: 351-2+ Je 5 '33

Metallurgists' contributions to automotive development. F. M. Heldt. il Automotive Ind 69:64-8 Jl 15 '33

Non-ferrous metal mould castings. F. R. Francis. Can Chem & Met 16:299-300 D '32; Excerpt. Chem Age (Lond) 28:sup3-4 Ja 7 '33

Numbering code for alloy steel and non-ferrous metals used in Germany. H. Diergarten. Metal Prog 22:49-50+ D '32

Phase transformations. Weerts. Engineer 155: sup[Metallurgist] 14-16 F 24 '33

Quarter century of metallurgical progress. W. Rosenhain. Can Chem & Met 17:210-12, 231-2, 234-5 [bibliog p234-5] O-N '33; Abstract. Chem Age (Lond) 29:sup21-2 O 7 '33

Quenching and tempering in alloys; abstracts. A. Portevin. Chem Age (Lond) 28:433-4 My 13 '33; Engineer 155:480-1 My 12 '33; Engineering 135:549 My 19 '33

Relative corrodibility of some common metals and alloys; tabulation. J. Strauss. Metal Prog 24:41 N '33

Size limits of brass and other die castings. L. H. Morin. diags Iron Age 130:803-4 N 24 '32

Special exercises for students in general chemistry; the preparation and properties of an alloy. G. B. Bachman. il J Chem Educ 10:241-2 Ap '33

Structure analogies of alloys. A. Westgren. il diags Am Soc Steel Tr Trans 20:507-28 D '32

**ALLOYS—Continued**

Structure of electrodeposited alloys; the effect of current density and temperature of deposition on the structure of silver-cadmium deposits. C. W. Stillwell and H. I. Feinberg. *bibliog Am Chem Soc J* 55:1864-70 My '33

Über metallische elektrische widerstandstoffe. A. Schulze. *Zeit Ver Deutsch Ing* 77:856-8 Ag 5 '33

X-ray analysis of electrodeposited alloys. C. W. Stillwell. *il Metal Ind* 31:47-50 F '33

*See also*

Aluminum alloys	Magnesium alloys
Amalgams	Manganese alloys
Bearing metals	Mumetal
Brass	Nickel alloys
Bronze	Platinum alloys
Cadmium alloys	Silicon alloys
Chromium alloys	Silver alloys
Cobalt alloys	Sodium alloys
Copper alloys	Solutions, Solid
Duralumin	Steel alloys
Gold alloys	Tantalum carbide
Illium	Tungsten alloys
Iron alloys	Tungsten carbide
Lead alloys	Zinc alloys

**Analysis**

New instrument makes quantitative analysis of alloys simple; Spencer recording microphotometer. *il Iron Age* 130:sup14 D 29 '32

Quantitative analysis by spectroscopic methods. O. S. Duffendack, R. A. Wolfe and R. W. Smith. *bibliog Ind & Eng Chem Anal ed* 5:226-9 J1 15 '33

**Definition**

Alloys. *Engineer* 156:sup[Metallurgist] 66-7 O 27 '33

**Testing**

Condenser-tube corrosion; two reports. J. R. Freeman, jr. and A. W. Tracey. *il Mech Eng* 55:556 S '33

What metals to use in anthracite-breaker chutes. W. L. Keene and D. F. McFarland. *il diag Coal Age* 38:335-6+ O '33

**ALLOYS, Hard-facing**

Hard facing bus parts. *Elec Traction* 29:296 S '33

Hard-facing reduces die costs; dies and parts of drum-making machinery made of machine steel. *il Mach* 39:630-2 Je '33

Hard surfacing valves for steam service at high temperatures. *il Power* 77:115 Mr '33

Modern ways of fighting abrasion. G. Sykes. *il Rock Prod* 36:64 F '33

Welded alloy bucket lips cut trenching costs. G. Sykes. *il Eng N* 110:215 F 16 '33

Where there's wear—try hard-facing. *il Factory Management* 91:411-13 O '33

**ALLOYS, Heat-resisting**

Design of heat-resisting alloy members and their performance in the field. R. S. Cochran. *Iron Age* 130:804 N 24 '32

Hard surfacing valves for steam service at high temperatures. *il Power* 77:115 Mr '33

Heat and corrosion resistant cast irons having a wide range of expansion properties. T. H. Wickenden. *Automotive Ind* 69:428-9 O 7 '33

Inconel springs retail load capacity at 700 deg. F. *Iron Age* 132:13 Ag 17 '33

Thermal expansion of heat-resisting iron alloys; iron-chromium and iron-chromium-nickel. J. B. Austin and R. H. H. Pierce, jr. *Ind & Eng Chem* 25:776-9 J1 '33

**ALLYL bromide**

Peroxide effect in the addition of reagents to unsaturated compounds; the addition of hydrogen bromide to allyl bromide. M. S. Kharasch and F. R. Mayo. *diag Am Chem Soc J* 55:2468-96 Je '33

**ALPHA Portland cement company**

Companies which should show large gains in earnings. *Mag of Wall St* 52:280 J1 8 '33

**ALPHA rays**

Application of probabilities to the counting of alpha-particles. N. I. Adams, jr. *Phys R* 44:651-3 O 15 '33

Atomic transmutations. E. R. Rutherford. *Engineering* 135:348-9 Mr 31 '33

Decomposition of ozone by alpha particles and by thermal means. R. Livingston and L. H. Keyerson. *J Phys Chem* 37:533-5 Ap '33

Detection and production of swift particles. E. R. Rutherford. *Engineering* 135:283, 309, 376-7 Mr 10-17, Ap 7 '33

Emission of alpha-particles from various targets bombarded by deutons of high speed. G. N. Lewis, M. S. Livingston and E. O. Lawrence. *Phys R* 44:55-6 J1 1 '33

Measurement of the range of alpha-particles from thorium with the Wilson chamber. F. N. D. Kurie and G. D. Knopf. *Phys R* 43:311-14 Mr 1 '33

Radioactive contamination of ionization chamber materials. J. A. Bearden. *diags R Sci Instr* 4:271-5 My '33

Response of a photographic emulsion to alpha-rays. T. R. Wilkins and R. N. Wolfe. *il diag Opt Soc Am J* 23:324-32 S '33

**ALPHABETING**

Numerals vs. words. H. E. Dean. *Lib J* 58:559-60 Je 15 '33

Rules for filing cards in the dictionary catalogues of the Carnegie library of Pittsburgh. 5th ed 34p Carnegie library of Pittsburgh '32

**ALPS**

L'aménagement de la route des Alpes. J. Thomas. *il diags map Génie Civil* 102:159-61 F 18 '33

Roadbuilders conquer the Alps again; Grossglockner highway. R. Peer. *il Comp Air M* 38:4090-4 Ap '33

**ALTARPIECES. See Reredos****ALTARS***See also***Reredos****ALTERNATION of properties**

Isomorphism and alternation in the melting points of the normal alcohols, acetates, bromides, acids and ethyl esters from C<sub>10</sub> to C<sub>18</sub>. J. D. Meyer and E. E. Reid. *Am Chem Soc J* 55:1574-84 Ap '33

**ALTITUDE flying.** See Aviation—Altitude flying

**ALTITUDES**

Altitude performance of aircraft engines equipped with gear-driven superchargers; abstract. R. F. Gagg and E. V. Farrar. *Automotive Ind* 69:312, S 9 '33; Excerpt. S A E J 33:sup29 O '33

Effect of altitude on the limits of safe operation of gas appliances. J. H. Eiseman, F. A. Smith and C. J. Merritt. *il U S Bur Stand J Research* 10:619-37 My '33; Same cond. *Am Gas J* 138:19-23+ Ap '33; Abstract. *J Fr Inst* 215:602-4 My '33

*See also***Sea level****ALTROSE**

Walden inversion in the glucose series; derivatives of altrose. D. S. Mathers and G. J. Robertson. *Chem Soc J* p1076-81 Ag '33

**ALUM**

Alum and cursing. H. Nicol. *Soc Chem Ind J (Chem & Ind)* 52:156-7 F 24 '33

Aluminate size. J. J. Healy, jr. and C. P. Dyer. *Paper Tr J* 96:29-31 Mr 23 '33

Coagulants for water purification; manufacture and control of liquid alum at Baltimore. Md. J. W. Armstrong. *il diags Civil Eng* 3:168-71 Mr '33; Abstract. *Water Works & Sewerage* 80:60-1 F '33

*See also***Aluminum sulfate****ALUMILITE**

Alumilite process for decorating and protecting aluminum products. H. Bengston and R. E. Pettit. *il Am Mach* 77:76-9 F 1 '33; Abstract. *Chem & Met Eng* 40:135 Mr '33

License granted on alumilite process. *Automotive Ind* 68:298 Mr 4 '33

**ALUMINA**

Adsorption and absorption developments. *il Chem & Met Eng* 40:259 My '33



**ALUMINA—Continued**

- Adsorption of oxalic acid by alumina. P. H. Dewey. *J Phys Chem* 36:3187-8 D '32
- Alumina lakes. W. D. Bancroft and E. C. Farnham. *J Phys Chem* 36:3127-37 D '32
- Aluminium industry in Scotland; abstracts. G. Boex. *Engineering* 135:592-3 Je 2 '33; *Engineer* 155:559 Je 2 '33
- Behavior of unstable or monotropic forms in the system alumina-silica and related systems. A. B. Peck. *il Am Cer Soc J* 16:68-75 Ja '33
- Catalytic polymerization of propylene. F. H. Gayer. *bibliog Ind & Eng Chem* 25:1122-7 O '33
- Classification and definition of specialized refractories. H. E. White. *Am Cer Soc Bul* 12:252-6 Ag '33
- Depolarization by graphite anodes in the electrolysis of aluminum oxide. M. De K. Thompson and R. G. Seyl. *Electrochem Soc Trans* 64 (preprint 11):123-9 S '33
- Effect of hydrogen-ion concentration on the flocculation values of chromic and aluminum oxide sols. M. H. Bedford, W. H. Keller and J. L. Gabbard. *bibliog Am Chem Soc J* 55:3953-6 O '33
- Electrokinetics; interfacial energy and the molecular structure of organic compounds; Al<sub>2</sub>O<sub>3</sub>—organic liquid interfaces. O. G. Jensen and R. A. Gortner. *diags J Phys Chem* 36:3138-51 D '32
- Equilibria in the system alumina-silica. R. B. Sosman. *Am Cer Soc J* 16:60-8 Ja '33
- Increasing importance of alumina; catalytic and adsorptive properties. *Chem Age (Lond)* 28:506 Je 3 '33
- Leucite as a source of alumina, potash and silica. G. A. Blanc. *il diags Inst Chem Eng Trans* 9:49-62 '31
- New uses for aluminum oxide. *Chem Markets* 33:223-4 S '33
- Notes on the X-ray diffraction patterns of mullite. E. Posnjak and J. W. Greig. *il Am Cer Soc J* 16:569-83 N '33
- Oxides and hydrates of aluminum. J. D. Edwards and M. Tosterud. *il J Phys Chem* 37:483-8 Ap '33
- Refractory oxides for crucible manufacture. *Chem Age (Lond)* 28:sup29 My 6 '33
- Some commercial applications of activated alumina. *Ind & Eng Chem News* ed 11:199 J1 10 '33
- Symposium on the physical chemistry of the alumina-silica refractories. R. B. Sosman and others. *il Am Cer Soc J* 16:54-76 Ja '33
- Symposium (second) on the physical chemistry of the alumina-silica refractories. B. E. Warren and others. *Am Cer Soc J* 16:412-21 S '33
- X-ray studies on the hydrous oxides. H. B. Weiser and W. O. Milligan. *J Phys Chem* 36:3010-29 D '32

See also

Bauxite  
Corundum  
Diaspore

**Analysis**

- Determination of alumina and silica in steel by the hydrochloric acid residue method. J. G. Thompson and J. S. Acken. *U S Bur Stand J Research* 9:615-23 N '32

**ALUMINATES**

- Study of a group of typical spinels. C. W. Parmelee, A. E. Badger and G. A. Ballam. *diags Ill U Eng Exp Sta Bul* 248:1-54 '32

**ALUMINOSILICATES**

- New synthetic stone, rostone. H. C. Pepper. R. L. Harrison and R. N. Shreve. *bibliog il Ind & Eng Chem* 25:719-22 J1 '33

**ALUMINUM**

- Aluminum and its alloys. N. F. Budgen. 278p \$4.50 Pitman '33
- Aluminum cylinder heads urged as way to better design. F. F. Kishline. *S A E J* 32:121-3 Ap '33; Same. *Automobile Eng* 23:209-10 Je '33

- Aluminum finds new market. G. J. Stanley. *Iron Age* 131:47 Ja 5 '33

- Aluminum, from ore to fabrication; flow chart. A. Bregman. *Metal Ind* 31:52 F '33

- Aluminum in automotive field; abstract. E. H. Dix, jr. *Iron Age* 132:38 O 12 '33

- Aluminum in the laboratory. *il Chem Age (Lond)* 29:174 Ag 19 '33

- Aluminium industry in Scotland; abstracts. G. Boex. *Engineer* 155:559-60, 609-11 Je 2, 16 '33; *Engineering* 135:592-3, 633-6 Je 2-9 '33; *Electrician* 111:5-6 J1 7 '33; *Discussion. Engineer* 155:604 Je 16 '33; *Engineering* 135:628-9 Je 9 '33

- Aluminum-magnesium mirrors. H. W. Edwards. *Phys R* 43:205 F 1 '33

- Aluminum museum cases popular. *il Metal Ind* 30:477 D '32

- Aluminum removed from red brass. *Foundry* 61:68-9 Je '33

- Aluminum, the metal of the present and the future. *il Mach* 40:81-4 O '33

- Aluminum tire gage. *il Ry Mech Eng* 107:375 O '33

- Anomalies in hyperfine structure. S. Goudsmit and R. F. Bacher. *Phys R* 43:894-9 Je 1 '33

- Application of the FP-54 plottron to atomic disintegration-studies. L. R. Hafstad. *diags Phys R* 44:201-13 Ag 1 '33

- Average strength data for non-ferrous metals; data sheet. *Mach* 39:312A Ja '33

- Bauxite and aluminous laterite. C. S. Fox. 2d ed enl 312p [bibliog p270-304] C. Lockwood & son, London '32

- Contract plan in high-school chemistry; aluminum contract. J. O. Frank. *J Chem Educ* 10:556-9 S '33

- Corrosion research on light metals. F. Horn. *diags Soc Chem Ind J (Chem & Ind)* 52:554-62 J1 7 '33; *Excerpts. Chem Age (Lond)* 28:sup9-10; *Discussion. 10-11 F 4 '33*

- Deoxidizers for brass alloys. C. Vickers. *il Foundry* 60:20-1+, 61:26-7 D '32, F '33

- Evaporation technique for aluminum. J. Strong. *Phys R* 43:498 Mr 15 '33

- Graphitic silicon, heat-treatment, and the electrical conductivity of aluminum; abstract and discussion. L. H. Callendar. *Engineering* 135:327 Mr 24 '33

- Handling of distilled water in aluminum. H. V. Churchill. *il diag Ind & Eng Chem Anal* ed 5:264-6 J1 15 '33

- Heat-treatment and annealing of aluminum and its alloys. N. F. Budgen. 341p \$7.50 Sherwood press, inc, box 2617, Lakewood branch, Cleveland '33

- L X-ray spectrum of solid aluminum. T. H. Osgood. *Phys R* 44:517-19 O 1 '33

- New source of alumina; Russian investigations anticipate use of nephelite. *Chem Age (Lond)* 28:193 Mr 4 '33; Same. *Can Min J* 54:153 Ap '33

- Nonferrous physical metallurgy; review of literature shows wide variety of work. E. H. Dix, jr. *Min & Met* 14:39 Ja '33

- Precipitation-hardening nickel-copper alloys containing aluminum. D. G. Jones, L. B. Pfeil and W. T. Griffiths. *Engineering* 136:505-7 N 3 '33

- Quantum defect of nonpenetrating orbits, with special application to Al II. J. H. Van Vleck and N. G. Whitelaw. *bibliog Phys R* 44:551-69 O 1 '33

- Resistance welding machine built largely of aluminum. *il Iron Age* 132:26 J1 27 '33

- Solubility of nitrogen and hydrogen in aluminum; abstract. R. Röntgen and H. Braun. *Engineer* 154:sup[Metallurgist] 185-7 D 30 '32

- Test of the classical momentum transfer theory of accommodation coefficients of ions at cathodes. K. T. Compton and E. S. Lamar. *Phys R* 44:338-44 S 1 '33

- Use of aluminum for cylinder heads eliminates excessive dead weight. *Automotive Ind* 67:749 D 10 '32

- Usine de l'Aluminium français. J. F. Audouin and A. L. Racapé. *il Soc Ing Civils Bul* 85:1003-6 S '32

See also

Alumina  
Bauxite

**Analysis**

- Colorimetric determination of aluminum with aurintricarboxylic acid. P. S. Roller. *Am Chem Soc J* 55:2437-8 Je '33

**ALUMINUM—Analysis—Continued**

- Colorimetrische aluminiumbestimmung. F. Alten, H. Weiland and H. Loofmann. *bibliog Angew Chemie* 46:668-9 O 21 '33
- Determination of aluminum in nitriding steels by the use of 8-hydroxyquinoline. H. A. Bright and R. M. Fowler. *bibliog U S Bur Stand J Research* 10:327-35 Mr '33
- Determining aluminum, silicon and chromium oxides in corrosion-resisting steels. C. M. Johnson. *Iron Age* 132:24-5+ S 21 '33
- New rapid determination of aluminum in corrosion-resisting and plain steels. C. M. Johnson. *Iron Age* 132:14-17 Ag 17 '33

**Coloring**

- Anodic treatment and dyeing of aluminium castings; abstracts. N. D. Pullen. *Chem Age (Lond)* 29:6-7 Jl 1 '33; *Engineer* 155:659 Je 30 '33
- Coloral; a process for oxidizing and coloring aluminum. *Mach* 39:597 My '33
- Coloring aluminum and its alloys. L. C. Pan. *il Metal Ind* 31:143 Ap '33; *Abstract. Platers' Guide* 29:15-16 Ap '33
- Develops process for coloring aluminum. *Iron Age* 131:286 F 16 '33
- Dyeing gives aluminum a color finish. *il Iron Age* 131:357+ Mr 2 '33

**Electrotechnical uses**

- Aluminum for struts and wire. F. Giolitti. *Metal Prog* 24:48+ N '33
- Corner metals of electrical distribution: copper, aluminum, and lead. F. J. Brislee. *Soc Chem Ind J (Chem & Ind)* 52:447-51 My 26 '33
- Depositing oxide film on aluminum. A. Eyles. *Metal Ind* 31:17 Ja '33
- Electrical conductivity of aluminium wire. A. J. Field and J. H. Dickin. *Engineering* 135: 473-5 Ap 28 '33
- Overhead conductors of steel reinforced copper for transmission lines; comparison with aluminum conductors. H. Bough. *il Electrician* 109:838-9 D 30 '32
- Oxide film insulation. G. Shapiro. *Elec R (Lond)* 111:739 N 18 '32

**Machining**

See Aluminum work

**Paint**

- How to paint your bulk stations. H. Johnson. *il Pet Age* 27:27-8 Ap '33
- Metallic transformer paints cut capacity in winter. E. A. Church. *Elec W* 102:188-9 Ag 5 '33
- Permeability of paint films to moisture. R. I. Wray and A. R. Van Vorst. *bibliog il Ind & Eng Chem* 25:842-6 Ag '33

**Physiological effect**

- How much poison can we eat? T. S. Harding. *il Sci Am* 149:197-9 N '33

**Bibliography**

- Select, annotated bibliography on the hygienic aspects of aluminum and aluminum utensils. 69p Mellon institute of industrial research, Pittsburgh '33

**Plating on aluminum**

- Electroplating zinc on aluminum. H. K. Work. *Metal Ind* 31:169-70 My '33

**Protection**

- Aircraft finishing. M. R. Whitmore. *il Ind & Eng Chem* 25:19-23 Ja '33
- Alumilite process for decorating and protecting aluminum products. H. Bengston and R. E. Pettit. *il Am Mach* 77:76-9 F 1 '33; *Abstract. Chem & Met Eng* 40:135 Mr '33
- Anodic process prevents corrosion; Boeing airplane co. R. Johnson. *il Elec West* 70:158 My '33
- Anodic treatment and dyeing of aluminium castings; abstracts. N. D. Pullen. *Chem Age (Lond)* 29:6-7 Jl 1 '33; *Engineer* 155:659 Je 30 '33
- Depositing oxide film on aluminum. A. Eyles. *Metal Ind* 31:17 Ja '33
- Electroplating zinc on aluminum. H. K. Work. *Metal Ind* 31:169-70 My '33

- M.B.V. surface treatment for aluminium and its alloys. G. Eckert. *Chem Age (Lond)* 29:sup23-4 O 7 '33

- Painting aluminum. J. D. Edwards and R. I. Wray. *il Ind & Eng Chem* 25:23-6 Ja '33

**Welding**

- Metallic arc welding of aluminum. A. H. Woollen, W. M. Rogerson and G. O. Hogland. *il Aera* 23:1410-13 N '32
- Some economic aspects of welding aluminum; comparison of the merits of oxy-acetylene and oxy-hydrogen welding. D. E. Roberts. *Metal Ind* 31:61-2 F '33
- Welding aluminum. W. Froelich. *Can Chem & Met* 17:56, 58, 79-80 Mr-Apr '33
- Welding aluminum with the metallic arc. J. J. Bowman. *il Mach* 39:403-6 F '33

**ALUMINUM, Structural**

- Aluminum booms and buckets on Mississippi levees. D. B. Hobbs. *il Eng N* 110:192-4 F 9 '33
- Demountable walls for power plant construction. R. B. Horner. *il Power Pl Eng* 37:172 Ap '33
- Strength of aluminum corrugated sheet. *il Eng N* 110:705 Je 1 '33

**See also**

- Aluminum work,  
Architectural  
Cars, Aluminum

**ALUMINUM alloys**

- Alcoa aluminum and its alloys. 73p Aluminum co. of America, Pittsburgh, Pa. '33
- Alloy iron ring carriers reduce cylinder wear and give aluminum pistons longer life. E. Mahle. *il diags Automotive Ind* 68:578-82 My 13 '33
- Aluminium alloys; effect of melting and pouring temperatures. E. R. Thews. *Can Chem & Met* 16:278+ N '32
- Aluminum finds new market. G. J. Stanley. *Iron Age* 131:47 Ja 5 '33
- Aluminum for struts and wire. F. Giolitti. *Metal Prog* 24:48+ N '33
- Applications of aluminum and its alloys. G. Boex. *Engineer* 155:609-10 Je 16 '33
- Blistering of aluminum. H. Diergarten. *Metal Prog* 24:53-4 O '33
- Continuous-type furnaces employed in forging aluminum alloys. J. E. Nealey. *il diag Iron Age* 132:22-3+ Ag 31 '33
- Corrosion research on light metals. F. Horn. *diags Soc Chem Ind J (Chem & Ind)* 52:554-62 Jl 7 '33; *Excerpts. Chem Age (Lond)* 28:sup9-10; *Discussion. 10-11 F 4 '33*
- Die-casting metals set new standards. *il Mach* 40:101-3 O '33
- Electrodeposition of metals and alloys from formamide solutions. R. D. Blue and F. C. Mathers. *bibliog Electrochem Soc Trans* 63 (preprint 32):327-34 My '33
- Die entwicklung der leichtmetalle elektron und hydronalium. W. Schmidt. *Angew Chemie* 46:626 S 30 '33
- Etching characteristics of constituents in aluminum alloys. *Metal Prog* 23:44 F '33
- Experiences in machining aluminum alloys. R. V. Hutchinson. *diags Am Mach* 77:645-7. 686-8 O 11-25 '33
- Fatigue-resisting properties of light aluminium alloys at elevated temperatures. J. W. Cuthbertson. *Engineering* 135:342-3; *Discussion. 327 Mr 24 '33*; *Discussion. Engineer* 155:267 Mr 17 '33
- Fortschritte im leichtmetallguss für hohe beanspruchungen; entwicklung einer aushärtbaren aluminiumgusslegierung auf silumbasis. G. Sachs. *diags Zeit Ver Deutsch Ing* 77:115-20 F 4 '33
- Further observations on the distribution of porosity in aluminum and copper ingots, with some notes on inverse segregation; abstract and discussion. N. P. Allen. *Engineering* 136:391-2 O 6 '33
- Grain boundary effects as a factor in heterogeneous equilibrium of alloy systems. A. Phillips and R. M. Brick. *il diag J Fr Inst* 215:557-77 My '33
- Heat-treatment of aluminum alloys. D. B. Hobbs. *Mach* 39:319-20 Ja '33
- Hydronalium. *Chemische Fabrik* 6:254 Je 7 '33



**ALUMINUM alloys—Continued**

- Improved methods and alloys aid die-casting industry to expand. *il Mach* 39:266-9 D '32
- Lancaster piston. *il diag Automobile Eng* 23: 185-6 My '33
- Light alloy pistons; design and materials. J. S. Irving. *il Automobile Eng* 23:19-22, 57-60 Ja-F '33
- Light alloys help make possible the Autotram, latest development in railway cars. *il Metal Ind* 31:135 Ap '33
- Light metals in Germany. H. Diergarten. *Metal Prog* 24:56+ S '33
- Machining aluminum and its alloys. *diags Am Mach* 77:501-2 Ag 2 '33
- Manufacture and use of light alloys. W. C. Devereux. *il Roy Aeronautical Soc J* 37:145-66; Discussion. 166-7 F '33
- Micrographic study of the decomposition of the  $\beta$  phase in the copper-aluminum system. C. S. Smith and W. E. Lindlief. (Tech pub 493) 39p A.I.M.E. '33
- New aluminum alloys. *Iron Age* 131:938 Je 15 '33
- Non-ferrous metals in the aircraft industry. F. A. Westbrook. *Metal Ind* 30:463-4 D '32
- Nonferrous physical metallurgy; review of literature shows wide variety of work. E. H. Dix, jr. *Min & Met* 14:39 Ja '33
- Polishing and etching of constituents of aluminum alloys. F. Keller and G. W. Wilcox. data sheet *Metal Prog* 23:44-6 Ap; Photomicrographs [7 plates]. 23:38+ My '33
- Recent advances in silumin castings. G. Sachs. *Chem Age (Lond)* 28:sup21-2 Ap 1 '33
- Research and development in car and locomotive materials. L. H. Fry. *Ry Age* 95:32+ Jl 1 '33
- Thermal conductivity and the plate efficiency in a rectifying column; Vitreosil, cast iron and Alpac. C. P. Warden. *diags Soc Chem Ind J (Chem & Ind)* 51:405T-11T D 23 '32
- X-ray investigation of the copper-aluminum alloys; abstract. A. J. Bradley and P. Jones. *Metal Ind* 31:126 Ap '33
- See also*
- |                      |                              |
|----------------------|------------------------------|
| Aluminum, Structural | Aluminum bronze<br>Duralumin |
|----------------------|------------------------------|
- Protection**
- M.B.V. surface treatment for aluminum and its alloys. G. Eckert. *Chem Age (Lond)* 29:sup23-4 O 7 '33
- Standards**
- Thicknesses and weights of non-ferrous alloy sheets; data sheet. *Mach* 39:760a Ag '33
- Testing**
- Permanent set in certain cast non-ferrous alloys and austenitic cast irons. J. E. Hurst. *Engineering* 136:429-31 O 20 '33
- Strength of aluminum corrugated sheet. *il Eng N* 110:705 Je 1 '33
- ALUMINUM bromide**
- L'emploi du bromure d'aluminium anhydre dans un moteur à cycle binaire. H. Barjot. *diag Génie Civil* 102:13-14 Ja 7 '33; Abstracts (Aluminum bromide better than mercury). *Power* 77:172 Ap '33; *Mech Eng* 55:314-15 My '33
- ALUMINUM bronze**
- Aluminum bronze parts cast in permanent molds. E. Griffith. *il Am Mach* 77:616-17 S 27 '33
- Average strength data for non-ferrous metals; data sheet. *Mach* 39:312A Ja '33
- Making manganese bronze. C. Vickers. *il Foundry* 60:28-9+ N '32
- Permanent set in certain cast non-ferrous alloys and austenitic cast irons. J. E. Hurst. *Engineering* 136:429-31 O 20 '33
- ALUMINUM cars.** See Cars, Aluminum
- ALUMINUM chloride**
- Intramolecular rearrangement of phenyl ethers with the aid of aluminum chloride. R. A. Smith. *Am Chem Soc J* 55:849 F '33
- New inorganic heat carrier for supertemperature heating; NS fluid. T. Kayser. *Chem & Met Eng* 40:353-4 Jl '33; Same. *Chem Age (Lond)* 29:229-30 S 9 '33; Abstract. *Sci Am* 149:242-3 N '33
- Polymerization of diolefins with olefins; function of pentene-2 in the polymerization of isoprene. C. A. Thomas and W. H. Carmody. *Am Chem Soc J* 55:3854-6 S '33
- Polymerization of some unsaturated hydrocarbons; the catalytic action of aluminum chloride. W. H. Hunter and R. V. Yohe. *Am Chem Soc J* 55:1248-52 Mr '33
- Studies in the Friedel and Crafts reaction; effect of size of aluminum chloride particles in the preparation of some keto acids. P. H. Groggins and R. H. Nagel. *il Ind & Eng Chem* 25:1083-5 O '33
- Studies in the rearrangements of phenyl ethers; the action of aluminum chloride on butyl phenyl ethers. R. A. Smith. *Am Chem Soc J* 55:3718-21 S '33
- Synthesis of benzaldehyde from benzene and carbon monoxide under pressure in the presence of aluminum chloride. J. H. Holway and N. W. Krase. bibliog *il diag Ind & Eng Chem* 25:497-502 Mr '33
- Use of halogens and halogen compounds in the heat treatment of hydrocarbons; abstract. A. W. Nash and J. Mason. *Oil & Gas J* 32:33 S 14 '33
- ALUMINUM company of America**
- Aluminum's almost perfect monopoly. *Econostat* 1:13+ Je 24 '33
- ALUMINUM compounds**
- Aluminum compounds, 1931. *Oil Paint & Drug Rep* 122:33 D 12 '32
- ALUMINUM foil**
- Aluminum foil for building insulation. *diag Heat & Ven* 30:47 N '33
- Insulation properties of aluminum foil. T. F. Rockwell. bibliog *Arch Rec* 74:237 S '33; Discussion. J. B. Barnitt and E. B. Svenson. 74:408 N '33
- M.D.T. refrigerator cars insulated with aluminum foil. *il Ry Age* 94:663-4 My 6 '33
- Production expands rapidly in Germany. *Business Week* p21 F 8 '33
- Radiometric condenser; the control of oscillating circuits by radiant heat. G. G. Blake. *il diags Elec R (Lond)* 112:43-4 Ja 13 '33
- Reaction with paint destroys metal coating on Waldorf-Astoria tower. *il Iron Age* 132: 24 S 14 '33
- Thermal insulation with aluminum foil. R. B. Mason. bibliog *il Ind & Eng Chem* 25:245-55 Mr '33; Abstract. *Sci Am* 149:243-4 N '33; Summary. *Refrig Eng* 25:264 My '33
- ALUMINUM founding**
- Aluminum alloys; effect of melting and pouring temperatures. E. R. Thews. *Can Chem & Met* 16:278+ N '32
- Choosing aluminum fluxes. J. Brinn. *Metal Ind* 31:129 Ap '33
- Die-cast pistons; methods employed by the Birmingham aluminum casting (1903) co. *il diags Automobile Eng* 23:161-4 My '33
- Electrical melting of aluminum. E. F. Russ. *Engineer* 154:sup[Metallurgist] 180 D 30 '32
- Fortschritte im Leichtmetallguss für hohe Beanspruchungen; Entwicklung einer aushärtbaren Aluminiumgusslegierung auf Siluminbasis. G. Sachs. *diags Zeit Ver Deutsch Ing* 77:115-20 F 4 '33
- Giessereitechnische Fragen beim Gießen von Aluminium. J. Dornauf. *il diags Zeit Ver Deutsch Ing* 77:941-5 S 2 '33
- Heat treatment of aluminum castings. W. S. Scott. *il diags Metal Prog* 24:21-4 S '33
- Improved methods and alloys aid die-casting industry to expand. *il Mach* 39:266-9 D '32
- Ein neues Gießverfahren für Aluminium. K. Thomas. *diag Stahl & Eisen* 53:741 Jl 13 '33
- New aluminum alloys. *Iron Age* 131:938 Je 15 '33
- Prevent losses with proper gates and risers; aluminum castings. P. Dwyer. *diags Foundry* 61:36-8 My; 62+ Je; 31-2, 34 Ag; 30, 32+ S; 34, 37-8 N '33

**ALUMINUM founding—Continued**

Widening scope of aluminum permanent mold castings. H. L. Smith, jr. *il Iron Age* 131: 312-13+ F 23 '33

*See also*

Aluminum bronze

**ALUMINUM hydroxide**

Conductivity measurements of thorium and other jelly-forming systems. S. Prakash. *bibliog J Phys Chem* 37:907-16 O '33

Influence of adsorbed ions on the dissolution of colloidal aluminum hydroxide in hydrochloric acid. H. V. Tartar, C. C. Bryan and H. Shinn. *bibliog Am Chem Soc J* 55:2266-72 Je '33

*See also*

Diaspore

**ALUMINUM industry**

Aluminum. S. K. Colby. *Metal Ind* 31:7-8 Ja '33

Aluminum code asks reduction in wages. *Oil Paint & Drug Rep* 124:19+ O 2 '33

Aluminum industry of the world. *Metal Ind* 31:18-19 Ja '33

Potentialities in aluminum. W. W. Hay. *Barron's* 13:18-19 Ja 23 '33

*See also*

Bohn aluminum and brass corporation

**Scotland**

Aluminium industry in Scotland; abstracts. G. Boex. *Engineer* 155:559-60 Je 2 '33; *Engineering* 135:592-3, 633-6 Je 2-9 '33; *Discussion. Engineer* 155:604 Je 16 '33; *Engineering* 135:628-9 Je 9 '33

**ALUMINUM metallurgy**

Aluminium industry in Scotland; abstracts. G. Boex. *Engineer* 155:559-60, 609-11 Je 2, 16 '33; *Engineering* 135:592-3, 633-6 Je 2-9 '33; *Electrician* 111:5-6 Jl 7 '33; *Discussion. Engineer* 155:604 Je 16 '33; *Engineering* 135:628-9 Je 9 '33

**ALUMINUM oxide. See Alumina****ALUMINUM pipes. See Pipes, Aluminum****ALUMINUM silicates**

Behavior of unstable or monotropic forms in the system alumina-silica and related systems. A. B. Peck. *il Am Cer Soc J* 16:68-75 Ja '33

Notes on the X-ray diffraction patterns of mullite. E. Posnjak and J. W. Greig. *il Am Cer Soc J* 16:569-83 N '33

Role of silicon and aluminum in complex silicates. B. E. Warren. *diags Am Cer Soc J* 16:412-17 S '33

*See also*

Andalusite	Fuller's earth
Bentonite	Kaolin
Cyanite	Leucite
Feldspar	Sillimanite

**ALUMINUM-sodium fluoride. See Cryolite****ALUMINUM stearate**

Aluminum stearate in paint and varnish. F. J. Licata. *Oil Paint & Drug Rep* 123:29 My 22 '33

Rate of cooling large factor in manufacture of greases. F. J. Licata. *bibliog il Nat Pet N* 25:23-5 Je 7 '33

**ALUMINUM sulfate**

Aluminum sulfate in zinc-plating. *Chem Markets* 32:26 Ja '33

Coagulation with aluminum sulphate. A. G. Nolte and W. A. Kramer. *diags tables Am Water Works Assn J* 25:1263-78 S '33

Formation of floc by aluminum sulfate. A. P. Black, O. Rice and E. Bartow. *bibliog il Ind & Eng Chem* 25:811-15 Jl '33

Heavy chemicals; their manufacture and use. J. Healy, jr. *Am Dyestuff Rep* 22:92-7 Ja 30 '33

*See also*

Alum

**Manufacture**

Manufacture of aluminum sulfate at the Dalecarlia filter plant, Washington, D.C.; cost data. C. J. Lauter. *il diags Ind & Eng Chem* 25:953-8 S '33

Production of aluminium sulphate; new Italian plant. *Chem Age (Lond)* 27:553 D 10 '32

**ALUMINUM ware**

How much poison can we eat? T. S. Harding. *il Sci Am* 149:199 N '33

Something new to talk about every trip; Aluminum goods manufacturing company. *il Ptr Ink* 161:43 D 1 '32

**Bibliography**

Select, annotated bibliography on the hygienic aspects of aluminum and aluminum utensils. 69p Mellon institute of industrial research, Pittsburgh '33

**ALUMINUM work**

Cast aluminum mailbox; view and plan. *Am Arch* 142:30-1 D '32

Experiences in machining aluminum alloys. R. V. Hutchinson. *diags Am Mach* 77:645-7, 686-8 O 11-25 '33

Extrusion of aluminum and its alloys. R. L. Streeter. *diags Mach* 39:540-1 Ap '33

Fiddling on aluminum. *il Sci Am* 148:25 Ja '33

Forming aluminum and brass products by the extrusion process. J. E. Nealey. *il diags Mach* 40:140-2 N '33

Machining aluminum. W. B. Francis. *il Metal Ind* 31:158, 303, 340 My, S-O '33

Machining aluminum and its alloys. *diags Am Mach* 77:501-2 Ag 2 '33

Tapping seven holes in aluminum covers at the rate of 102 an hour; Natco two-way individual lead-screw tapper. *il Mach* 40: 40 S '33

*See also*

Pipes, Aluminum

**ALUMINUM work, Architectural**

Aluminum details; the new Cincinnati union terminal. D. B. Hobbs. *il Arch Rec* 74:227-36 S '33

Aluminum in architecture. 234p Aluminum company of America, Pittsburgh '32.

Finishes for aluminum; lustrous surfaces for ornamentation. T. D. Stay. *il Metal Prog* 23: 24-7 Ja '33

*See also*

Aluminum, Structural

**ALUMINUM work, Artistic**

How 1,000 consumers voted on five designs; Micarta tray line. *il Ptr Ink Mo* 26:24+ Mr '33

**ALUNITE**

Economics of potash recovery from wyomingite and alunite. J. R. Thoenen. *flow sheets maps U S Bur Mines Rep of Invest* 3190:1-78 '32

**AMALGAMATED metal corporation**

Financial statement. *Economist* 116:1143-4 My 27 '33

Ordinary annual general meeting, London. *Economist* 116:1211 Je 3 '33

**AMALGAMATION**

Amalgamating copper plates. *Eng & Min J* 134:321 Ag '33

**AMALGAMS**

Activity of potassium in dilute potassium amalgams. H. E. Bent and E. S. Gillfillan. *bibliog diag Am Chem Soc J* 55:3989-4001 O '33

Are liquid sodium amalgams colloidal? H. E. Bent. *bibliog J Phys Chem* 37:431-6 Ap '33

Determination of the vapour pressures of amalgams by a dynamic method. J. S. Pedder and S. Barratt. *diags Chem Soc J* p537-46 My '33

Mechanism of reduction by sodium amalgam and alcohol; the reduction of aromatic ketones to hydrois. W. E. Bachmann. *Am Chem Soc J* 55:770-4 F '33

Solubility of silver in mercury. R. E. DeRight. *bibliog diag J Phys Chem* 37:405-16 Ap '33

To recover and clean gold amalgam from a battery. *Can Min J* 54:345 S '33

**AMEBA**

Is the spelling amoeba sacrosanct? M. F. Guyer. *Science* 77:307-8 Mr 24 '33

**AMERICA fore companies**

Reports for 1932. *East Underw* 34:18 Ja 27 '33; *Ins Field (Fire ed)* 62:8 Ja 26 '33



**AMERICAN academy of arts and sciences**

Officers and fellows elected. Science 77:485  
My 19 '33

**AMERICAN airways, inc.**

E. L. Cord of American Airways acquires  
Trans-American. Business Week p5 D 28  
'32

**AMERICAN and foreign power company**

Companies benefiting from the gold embargo.  
C. L. Carberry. Mag of Wall St 52:126+  
My 27 '33

Foreign Power's huge investment. Econostat  
1:14-15 O 21 '33

Renews \$50,000,000 loan. Elec W 102:583 N 4  
'33

**AMERICAN association for the advancement of science**

Chicago meeting; abstracts of papers. Science  
78:sup6-8 Je 30; sup8, 10-11 Jl 7 '33

Foreign guests at the century of progress  
meeting. Science 76:484-5 N 25 '32

Fourth Chicago meeting, 1933. H. B. Ward,  
ed. Science 78:65-85 Jl 28 '33

Meeting, 91st, Atlantic City, Dec. 27-31.  
Science 77:123-54 F 3 '33

Officers. Science 77:15-16 Ja 6 '33

Pacific division, 17th annual meeting, Salt  
Lake City, June 12-15. Science 78:322-7,  
352-5 O 13-20 '33

Preliminary announcement of the summer  
meeting. H. B. Ward, ed. Science 77:461-75  
My 19 '33

Proceedings of a joint session of Section E  
and members of the Geological society of  
America, Atlantic City, N.J. Dec. 27, 1932.  
Geol Soc Bul 44:173-9 F '33

Section M (Engineering) Chicago meeting,  
1933. N. H. Heck. Science 78:296-303 O 6  
'33

Spring meeting of the executive committee,  
Chicago, March 24-25. Science 77:452-3 My  
12 '33

**AMERICAN association of advertising agencies**

Annual meeting. Ptr Ink 163:33-6 My 18 '33

**AMERICAN association of engineers**

Address of acceptance of Clausen medal. H.  
A. Wagner. Prof Eng 17:13 N '32

Annual convention, 18th, Washington, D.C.  
Sept. 26-28. Eng N 109:419 O 6 '32; Prof Eng  
17:8-12 N '32

Our place in the scheme of things. V. Hous-  
holder. Prof Eng 18:9-11 Ap '33

**AMERICAN association of insurance general agents**

Annual convention, 8th, Atlanta, May 22-23.  
Ins Field (Fire ed) 62:9-10+ My 25 '33; Nat  
Underw 37:3+ My 25 '33

**AMERICAN association of petroleum geologists**

Annual meeting, 18th, Houston, Tex. March  
23-25. Oil & Gas J 31:14+ Mr 30 '33; Nat  
Pet N 25:13 Mr 29 '33

**AMERICAN association of railroad superintendents**

Annual convention, 39th, Cleveland, June 12-  
13. Ry Age 94:889-92; 95:157-9+ Je 24, Jl  
22 '33

**AMERICAN association of state highway officials**

Annual meeting, 19th, Milwaukee. Eng N 111:  
478-9 O 19 '33

Meeting, Washington. Nov. 14-18. Automotive  
Ind 67:695 N 26 '32; Eng N 109:625 N 24 '32

**AMERICAN association of textile chemists and colorists**

Annual meeting, 12th, Greensboro, N. C. Dec.  
3-4. Textile World 82:1152-3 D '32

Annual convention, 13th, Chicago, Sept. 8-9.  
Textile World 83:1833-6 O '33

Proceedings. Am Dyestuff Rep 22:37-63 Ja 16  
'33

**AMERICAN association of university teachers of insurance**

Boon for insurance seen in formation of  
teachers' assn. East Underw 34:1+ Ja 13  
'33

University insurance teachers organized. Nat  
Underw 37:13 Ja 5 '33

**AMERICAN association of vehicle administrators**

Organization. Automotive Ind 69:441 O 7 '33

**AMERICAN bank note company**

Annual report, year ended Dec. 31, 1932. Bar-  
ron's 13:20 F 27 '33

Psychological monopoly. Il Fortune 7:44-7+  
My '33

**AMERICAN bankers' association**

Analysis of A.B.A. policy. F. M. Law. Rand  
McNally Bankers Mo 50:464 S '33

Annual convention, 59th, Chicago, Sept. 4-7.  
Trust Companies 57:311-23 S '33; Comm &  
Fin 22:771-2, 789-90 S 6-13 '33; Rand Mc-

Nally Bankers Mo 50:519-21+ O '33; Bank-  
ers M 127:389-446 O '33

Committees and commissions, 1933-1934. Am  
Bankers Assn J 26:38-42 O '33

**National bank division**

Annual meeting, Chicago. Bankers M 127:  
426-30 O '33

**Savings division**

Annual meeting, Chicago. Bankers M 127:437-  
42 O '33

**State bank division**

Annual meeting, Chicago. Bankers M 127:419-  
25 O '33

**State secretaries section**

Annual meeting, Chicago. Bankers M 127:443-  
6 O '33

**Trust division**

Annual meeting, 38th, Chicago, Sept. 4.  
Trust Companies 57:307-9 S '33; Bankers M  
127:431-6 O '33

Annual mid-winter trust conference, 14th,  
New York, Feb. 14-16. Trust Companies 56:  
361-7 Mr '33

Year book of the Trust division of the Ameri-  
can bankers association, 1932-33. 476p \$2.50

Trust division, American bankers assn, New  
York '33

**AMERICAN bar association**

Lawyers organize insurance section. Nat  
Underw 37:3-4 Ag 31 '33

**AMERICAN can company**

Profit prospects in cans; tin container indus-  
try and the outlook for leading companies.

N. T. Calhoun. Mag of Wall St 51:388-9+  
Ja 21 '33

Speculative audit; factors affecting common-  
stock values. Barron's 13:15 Mr 27 '33

Strong equities for income and profit. Mag  
of Wall St 52:582-3 S 30 '33

**AMERICAN car and foundry company**

Awaits rail recovery. Econostat 1:13, 23 Jl  
22 '33

Charles J. Hardy succeeds Woodin as presi-  
dent. Ry Age 94:339-40 Mr 4 '33

**AMERICAN ceramic society**

Annual meeting, 35th, Pittsburgh, Feb. 12-  
17. Brick & Clay Rec 82:85-6 Mr '33

The Bulletin, a separate publication. R. C.  
Purdy. Glass Ind 14:101 S '33

Organization and functions of the research  
committees. R. Twells. Am Cer Soc J (Bul)  
16:92-4 Ap '33

Presidential address, 1933. E. P. Poste. Am  
Cer Soc J (Bul) 16:41-8 F '33

Rules for presentation of papers at technical  
sessions of the American ceramic society.

Am Cer Soc J (Bul) 16:26-32 Ja '33

**Glass division**

Annual meeting, 35th, Pittsburgh, Feb. 12-17.  
Glass Ind 14:27-31, 34 Mr '33

**AMERICAN chemical society**

American chemical society at the World's  
fair, 1893-1933. Ind & Eng Chem News ed  
11:185-6 Je 20 '33; Abstract. Science 78:31-2  
Jl 14 '33

Annual meeting, 85th, Washington, March 27-  
31; abstracts of papers. Oil Paint & Drug  
Rep 123:17+ Ap 3; 14+ Ap 10; 30C-30D Ap  
17; 14+ Ap 24; 16 My 1; 16 My 8; 16 My 15;  
40 My 22 '33; Science 77:sup5-7 Mr 31 '33

Annual meeting, 86th, Chicago, Sept. 10-15.  
Ind & Eng Chem News ed 11:273-5 S 20  
'33

**AMERICAN chemical society—Continued**

- Annual meeting, 86th, Chicago; abstracts of papers. Oil Paint & Drug Rep 124:16A S 18; 19 O 2; 28D O 23; 30A N 6 '33
- Annual meeting, 86th, Chicago; abstracts of papers. Science 78:sup8-10 S 15 '33
- Presidents of the American chemical society. H. Hale and E. L. Nelson. pors Ind & Eng Chem 25:110-18 Ja '33
- Statement to the membership on Society's publications. C. L. Parsons. Ind & Eng Chem News ed 11:120-3 Ap 20 '33

**Chemical education division**

- Annual meeting, 84th, Denver, Aug. 22-26. J Chem Educ 9:2100-7 D '32

**Petroleum division**

- Fundamental data and practical suggestions to refiners; abstracts of papers at Washington meeting. Oil & Gas J 31:18-19 Ap 6 '33

**AMERICAN chicle company**

- Good earnings maintained and prospects still favorable after more than three years of depression. Mag of Wall St 51:530 Mr 4 '33

- Strong equities for income and profit. Mag of Wall St 52:583-4 S 30 '33

**AMERICAN colony insurance company**

- Merger of three fire companies voted. East Underw 34:20 N 3 '33

- Reinsured by Home insurance co. East Underw 34:28 Ja 6 '33; Spectator 130:28 Ja 5 '33

**AMERICAN concrete institute**

- Annual convention, 29th, Chicago, Feb. 21-23. Am Concrete Inst J 4:sup [news letter] 2-12, 15-18, 20-2 Mr '33; Concrete 41:8-9 Mr '33; Eng N 110:296-7 Mr 2 '33; Rock Prod 36:27 Mr '33

**AMERICAN cotton manufacturers' association**

- Annual convention, 37th, Pinehurst, N. C. April 28-29. Comm & Fin 22:408 My 3 '33; Textile World 83:910-13 My '33

**AMERICAN credit indemnity company**

- Receivership is requested; company resists action. Nat Underw 37:18 Jl 20 '33; Spectator 131:24 Jl 20 '33

**AMERICAN cyanamid company**

- Report for year, 1932. Oil Paint & Drug Rep 123:21 Mr 20 '33

**AMERICAN cyanamid and chemical corporation**

- For better sales control. il Management Methods 62:263-4 Je '33

**AMERICAN district telegraph protection service**

- Protecting the plant by remote control. R. K. Hyde. il Nat Safety N 27:31-2 Ja '33

**AMERICAN drug manufacturers' association**

- Annual meeting, 22d, Hot Springs, Va. May 8-11. Oil Paint & Drug Rep 123:19+ My 15; 30+ My 22 '33

**AMERICAN dyestuffs association**

- Dyestuffs industry forms organization. Oil Paint & Drug Rep 124:49 S 11 '33

**AMERICAN electroplaters' society**

- Annual convention, 21st, Chicago, June 24. Metal Ind 31:233-6 Jl '33; Platers' Guide 29: 9-16 Jl '33

**AMERICAN engineering council**

- American engineering council and public construction; letter of protest from W. S. Lee and L. W. Wallace. Eng N 109:689-91 D 8 '32

- Annual meeting, Washington, D.C. Jan. 13-14. Elec Eng 52:137-8 F '33; Eng N 110:96-7 Ja 19 '33

- Executive committee holds meeting, May 2. Civil Eng 3:354 Je '33

- Resolution on technocracy of the American engineering council. Science 77:81 Ja 20 '33

**AMERICAN face brick association**

- Annual convention, French Lick, Ind. Nov. 1-3. Brick & Clay Rec 81:162-5 N '32

**AMERICAN federation of labor**

- American federation of labor. L. L. Lorwin. 573p Brookings institution, Washington, D.C. '33

- American labor's relation to the International labor organization. S. Miller, jr. Ann Am Acad 166:156-61 Mr '33

- Annual convention, Cincinnati. Business Week p14-15 D 14 '32

- Annual meeting, 52d, Cincinnati, Nov. 21-Dec. 2. Monthly Labor R 36:129-45 Ja '33

- Labor a sanctified leech; the A.F. of L. becomes an official instrument of recovery. J. S. Lawrence. Econostat 1:8-10 Jl 29 '33

- Labor turns left. C. Wright. Mag of Wall St 51:324-5+ Ja 7 '33

- Labor unfurls its battle flags; interview with William Green. C. M. Wright. il Nation's Business 21:13-15+ F '33

- Launches move to unionize industry's workers. Automotive Ind 68:769+ Je 24 '33

- Organized labor's dilemma; A.F. of L. meeting. Business Week p6-7 O 14 '33

**AMERICAN forest products industries incorporated**

- Now it's forest industries; all kinds of wood-using industries enlist in a single organization. Business Week p 12+ Ja 11 '33

**AMERICAN founders corporation**

- Founders group made investment shifts. Barron's 13:16 Ja 30 '33

**AMERICAN foundrymen's association**

- Annual meeting, 37th, Chicago, June 20-23. Foundry 61:18-20+ Jl; 36-7 Ag '33; Iron Age 131:1038C-1038D, 1039 Je 29 '33; Metal Ind 31:239-40 Jl '33; Steel 92:30 Je 26; 93:28-30 Jl 3 '33

- Elects six new directors. pors Foundry 61:42+ Jl '33

**AMERICAN fruit and vegetable shippers' association**

- Rail aid plan proposed by perishable shippers. Ry Age 93:957 D 24 '32

**AMERICAN gas and electric company**

- Common stocks for income and price appreciation. Mag of Wall St 51:281 D 24 '32

- Speculative audit; favorable and unfavorable factors affecting common-stock values. Barron's 13:14 Jl 3 '33

**AMERICAN gas association**

- A.G.A. production and chemical committees hold joint meeting, New York, May 22-23. Gas Age 71:563-6+ Je 3 '33

- Annual convention, 15th, Chicago, Sept. 25-28. Gas Age 72:305-7+, 325-37 S 30-O 7 '33; Am Gas Assn Mo 15:399-402 O '33; Oil & Gas J 32:12+ S 28 '33; Am Gas J 139:9-43 O '33

- Association's job. A. Forward. Am Gas Assn Mo 15:411-13 O '33; Excerpts. Am Gas J 139:11-13 O '33

- Beal medal—1897-1932. H. W. Hartman. Am Gas Assn Mo 15:9-10+ Ja '33

- Distribution engineers 10th annual conference, Pittsburgh, April 3-4. Gas Age 71:405-7+ Ap 22 '33

- Gas industry in America. A. Hewitt. Am Gas Assn Mo 15:403-4+ O '33; Same cond. Am Gas J 139:10-11 O '33; Same cond. Gas J (Lond) 204:204-5 O 18 '33

- Officers for 1933-34 nominated in report. Gas Age 72:49 Jl 8 '33

- Officers for 1933-1934; portraits. Gas Age 72: 308 S 30 '33; Same. Am Gas Assn Mo 15: 401 O '33

- Section committees coordinate activities at Cleveland meeting. Am Gas Assn Mo 15:20-1 Ja '33

**Appliance testing laboratory**

- A.G.A. testing and certification program expanded to include gas appliance accessories. F. R. Wright. il Am Gas Assn Mo 15:200-1 My '33

- Butane-air mixing at laboratory. diag Am Gas Assn Mo 15:203-4 My '33

- Cleveland testing laboratory. il Gas J (Lond) 204:200-2 O 18 '33

- Glimpse at some important research at A.G.A. testing laboratory. R. M. Conner. il Am Gas Assn Mo 15:310-12 Ag '33

- Promoting progress through testing and research. A. F. Bridge. Am Gas Assn Proc 1932:41-3

- Research; Home service subcommittee report. Am Gas Assn Proc 1932:586-94



**AMERICAN gas association—Continued****Natural gas department**

Annual meeting, Chicago, Sept. 25. Gas Age 72:327-8+ O 7 '33

**Statistical department**

Development of statistics of the gas appliance industry. P. Ryan. Am Gas Assn Proc 1932: 675-8

**AMERICAN gear manufacturers' association**

Annual meeting, 17th, Wilkensburg, Pa. May 4-6. Iron Age 131:753-5 My 11 '33; Am Mach 77:308C My 10 '33; Steel 92:26 My 15 '33; Mach 39:668-70 Je '33  
Semi-annual meeting, 16th, Wilkensburg, Pa. Oct. 17-18. Iron Age 132:30-2 O 26 '33; Am Mach 77:692c O 25 '33

**AMERICAN geophysical union**

Annual meeting, 14th, Washington, April 27-29. Science 77:607-9 Je 23 '33

**AMERICAN home products corporation**

Building American home products. Econostat 1:12, 32 S 9 '33  
Report for year, 1932. Oil Paint & Drug Rep 123:36 Mr 20 '33

**AMERICAN I. G. chemical corporation**

Fiscal report for year ended March 31, 1933. Oil Paint & Drug Rep 123:43 My 29 '33  
Mystery of American I.G. Econostat 1:11+ Je 10 '33

**AMERICAN ice company**

Water still freezes and American Ice still makes money. il Fortune 7:73-6+ My '33

**AMERICAN institute of actuaries**

Annual meeting, Chicago. East Underw 34:3 Je 9 '33; Nat Underw (Life ed) 37:2+ Je 9 '33

Joint meeting with Actuarial society of America, Chicago, Oct. 18-20. Nat Underw (Life ed) 37:1+ O 27 '33; Spectator 131:12-13+ O 26 '33

**AMERICAN institute of architects**

Assists in selecting architects for public works. Arch Rec 74:7-8 Jl '33

**AMERICAN institute of banking**

Annual convention, 31st, Chicago, June 12-16. Am Bankers Assn J 26:44+ Jl '33; Bankers M 127:102-5 Jl '33

Commencement, Sept. 16. Am Bankers Assn J 26:80 O '33

Trained bankers the need. C. E. Johnson. Rand McNally Bankers Mo 50:268-70 Je '33

**AMERICAN institute of chemical engineers**

Annual meeting, 25th, Washington, D. C. Oil Paint & Drug Rep 122:17+ D 12 '32; Chem & Met Eng 39:676-7 D '32

Semi-annual meeting, 26th, Chicago, June 14-16. Chem & Met Eng 40:313 Je '33

**AMERICAN institute of electrical engineers**

Abstracts of papers at summer convention. Elec Eng 52:412-19 Je '33; Summarized review of discussions. 52:578-82, 643-6 Ag-S '33

Annual winter convention, New York, Jan. 23-27. Elec Eng 52:125-32 F '33; Elec W 101: 113-14, 156-65 Ja 28-F 4 '33; Power 77:101 F '33; Power Pl Eng 37:149-50 Mr '33

Annual summer convention, 49th, Chicago, June 26-30. Elec Eng 52:573-81 Ag '33; Power Pl Eng 37:336-7 Ag '33

Committees. Science 78:184 S 1 '33

Engineers prepare for new Century of progress; summary of discussions at Chicago meeting. Elec W 102:44-7 Jl 8 '33

Prize awards announced for 1932 papers. Elec Eng 52:424-5 Je '33

Professional advancement; a reappraisal of the value of institute membership. J. A. Johnson. Elec Eng 52:365 Je '33

Section and branch activities summarized in annual report for 1932-33. Elec Eng 52:426-8 Je '33

**AMERICAN institute of mining and metallurgical engineers**

Annual meeting, New York, Feb. 20-23. Min & Met 14:127-57 Mr '33; Eng & Min J 134:127-8 Mr '33; Rock Prod 36:30-1 Mr '33  
New nominees and medalists. pors Min & Met 13:516-17 D '32

Outstanding men on A.I.M.E. stabilization committee to consider industry's problems. E. Oliver. Oil & Gas J 31:8-9 Mr 2 '33

Regional meeting and engineers' week at Chicago. Min & Met 14:347-50 Ag '33

Stabilization forum. E. Oliver and others. Oil & Gas J 31:10-11 My 11; 16-17 My 18; 32:10 Je 1; 11-12 Je 8; 14-15 Je 15; 11-13 Je 29; 9-10 Jl 13; 8-10 Jl 20; 11-13 Jl 27; 11-12 Ag 10; 12-14 S 7; 13-14 S 14; 11-14 S 21 '33

**Coal division**

Annual meeting, New York, Feb. 20-21. Coal Age 38:94-7+ Mr '33; Min & Met 14:139-40 Mr '33

Joint fall meeting with Pennsylvania anthracite section, Hazleton, Pa. Oct. 14-15. Coal Age 37:398-400 N '32; Min & Met 13:492-4 N '32

**Health and safety in mines committee**

Field and scope of the new Health and safety committee. S. Turner. Min & Met 14:302 Jl '33

**Institute of metals division**

Annual meeting, New York, Feb. 20-23. Metal Ind 31:85-90 Mr '33; Min & Met 14:149-51 Mr '33

Fall meeting, Detroit, Oct. 2-6; abstracts of papers on non-ferrous metals. Metal Ind 31:365-8 N '33

**Iron and steel division**

Annual meeting, 142d, New York, Feb. 20-23. Iron Age 131:358-9+, 396-7 Mr 2-9 '33; Min & Met 14:152-3 Mr '33; Steel 92:27+ F 27 '33

**Mineral industry education division**

Education division considers trends in mining schools. Min & Met 14:147-8 Mr '33  
Mineral education; the Institute's youngest division reviews the year. C. H. Fulton. Min & Met 14:6-7 Ja '33

**Petroleum division**

Annual meeting, New York, Feb. 21-23. Min & Met 14:155-7 Mr '33

Annual fall meeting, Dallas, Texas, Oct. 6-7. Oil & Gas J 32:10+ O 12 '33; Min & Met 14:452-4 N '33

**AMERICAN institute of physics**

American institute of physics. K. T. Compton. R Sci Instr 4:57-8 F '33

**AMERICAN institute of steel construction, inc.**

Annual meeting, 11th, Chicago, Oct. 19-21. Steel 93:29-30 O 23 '33; Iron Age 132:33 O 26 '33; Eng N 111:512+ O 26 '33

**AMERICAN international corporation**

Report for 1932. Barron's 13:14 Ja 23 '33

**AMERICAN iron and steel institute**

General meeting, 42d, New York, May 25. Iron Age 131:867 Je 1 '33

Institute for recovery plan; trade code being drafted. Steel 92:11-12+ My 29 '33

Spring conference, New York, May 25. Blast F & Steel Pl 21:305-7 Je '33

**AMERICAN journal of science (periodical)**

American journal of science. Science 77:207-8 F 24 '33

**AMERICAN knitwear manufacturers association**

(formerly Associated knit underwear manufacturers of America)

Underwear knitters reorganize under new name. Textile World 83:217 F 14 '33

**AMERICAN legion**

American legion aeronautics commission to aid aviation. Aero Digest 23:24-5 Jl '33

Safety program of the American legion. Safety Eng 66:90 S '33

**AMERICAN library association**

A.L.A. presidents, 1876-1933; portraits. Lib J 58:841-3 O 15 '33

Forty years after; attendance list, Chicago conference, 1893. Mrs H. J. Carr, comp. Lib J 58:483-4 Je 1 '33

**AMERICAN library institute**

Contributions of A.L.I. fellows, 1932. H. O. Severance. Lib J 58:596-8 Jl '33

**AMERICAN life convention**

Annual meeting, 27th, Toronto, Ontario. Spectator 129:19+ sec 2 D 8 '32

Annual meeting, 28th, Chicago, Oct. 9-13. East Underw 34:24-37 O 13 '33; Ins Field (Life ed) Conv no 62:5-26 O 13 '33; Nat Underw (Life ed) Conv no 37:1-20 O 14 '33; Spectator 131:6-7+ O 12; 6-7 O 19 '33; Weekly Underw 129:693-703 O 14 '33

Financial section meeting, Chicago. Nat Underw (Life ed) Conv no 37:4+ O 14 '33

Industrial section meeting, Chicago. Ins Field (Life ed) Conv no 62:21 O 13 '33; Nat Underw (Life ed) Conv no 37:16-17 O 14 '33

Legal section meeting, Chicago. Ins Field (Life ed) Conv no 62:6+ O 13 '33; Nat Underw (Life ed) 37:2+ O 13 '33; Nat Underw (Life ed) Conv no 37:2+ O 14 '33

Medical section meeting, Chicago. East Underw 34:8+ Je 9 '33; Ins Field (Life ed) 62:4-5+ Je 9 '33; Nat Underw (Life ed) 37:1+ 2-3 Je 9 '33; Spectator 130:17+ Je 8 '33; Weekly Underw 128:1108-9 Je 10 '33

**AMERICAN locomotive company**

Alco's sole locomotive order trend shows the need of diversification. Econostat 1:12, 32 S 2 '33

Annual report, year ended Dec. 31, 1932. Barron's 13:6 F 27 '33

New low in locomotive business; American locomotive co. breaks a 30-year preferred-dividend record. Barron's 12:6 D 5 '32

**AMERICAN machine and foundry company**

American Machine's earnings. Econostat 1:13 Ap 15 '33

**AMERICAN management association**

Industrial marketing conference, Pittsburgh, Dec. 5-6. Iron Age 130:924-5 D 15 '32

Insurance division meeting, New York. Nat Underw 37:3+ My 25 '33

**Bibliography**

Publications of the American management association (Feb. 1st 1930 to May 30th 1933). Int Management Inst Bul 7:111-13 J1 '33

**AMERICAN manufacturers of toilet articles.**

See Associated manufacturers of toilet articles

**AMERICAN marketing society**

Convention, 1st, Dayton, Dec. 27-28. Sales Management 32:74+ Ja 15 '33

**AMERICAN medical association**

Annual meeting, Milwaukee, June 6. Science 77:sup7-8 Je 16 '33

Blue ribbon doctors. Ptr Ink 163:56-7 Je 1 '33

**AMERICAN metal company, ltd.**

Lost \$2,256,630 in 1932. Barron's 13:25 F 27 '33

**AMERICAN mining congress**

Annual meeting, 35th, Washington, Dec. 15-17. Coal Age 38:15-16 Ja '33

Coal division, 10th annual meeting, Pittsburgh. Min Cong J 19:17-29, 33-4 Je '33

Tenth annual coal convention and exposition. Min Cong J 19:26-35+ My '33

**AMERICAN museum of natural history**

Setting the museum stage; preparation and care of exhibits. C. H. Vivian. Il Comp Air M 38:4030-4 Ja '33

Welcome to the International geological congress. H. F. Osborn. Science 78:274-5 S 29 '33

**Central Asiatic expeditions**

Explorations in China; correspondence between Chang Chi and H. F. Osborn on the interruption of the Central Asiatic expedition. Science 76:539-40 D 9 '32

**AMERICAN national assurance company**

Merger with Central states life insurance co. approved. Ins Field (Life ed) 62:5 Je 30 '33

**AMERICAN national bank, Nashville, Tennessee**

How one bank guided a state through a trying financial situation. J. V. Tuttle. Bankers Mo 49:723-4 D '32

**AMERICAN newspaper publishers' association**

Annual convention, New York. Ptr Ink 163:64-5 Ap 27; 60-1 My 4 '33

**AMERICAN oil burner association**

Annual convention, 10th, Chicago, June 12-16. Dom Eng 142:60-2 J1 '33; Pet Age 27:35+ Je '33

**AMERICAN ornithologists' union**

Meeting, 50th, Quebec, Oct. 17-20. Science 76:511 D 2 '32

**AMERICAN paint and varnish manufacturers association now (National paint, varnish and lacquer association)**

Annual convention, 6th, Washington, D.C., Nov. 14-15. Oil Paint & Drug Rep 122:15+ N 21; 31-5 Extra ed N 29 '32

**AMERICAN paper and pulp association**

Annual meeting, 56th, New York. Paper Tr J 96:37+ F 16 '33

**AMERICAN petroleum equipment suppliers association**

Equipment manufacturers take steps looking to co-operation in national recovery program. Oil & Gas J 32:13 J1 27 '33

Oil-field equipment manufacturers, meeting in Dallas, choose officers and adopt code. L. E. Bredberg. Oil & Gas J 32:15+ Ag 10 '33

**AMERICAN petroleum institute**

A.P.I. executive committee appoints committee on state enforcement. Oil & Gas J 31:30 Mr 16 '33

Annual meeting, 13th, Houston, Texas, Nov. 15-17. Nat Pet N 24:12-17, 20-5 N 23 '32; Oil & Gas J 31:20-1+ N 17; 9+ N 24 '32; Oil Paint & Drug Rep 122:15+ N 21 '32; Pet Age 26:45-6 N '32

Annual meeting, 14th, Chicago, Oct. 25-28. Oil & Gas J 32:21-2 O 26; 9, 10 N 2 '33; Oil Paint & Drug Rep 124:16+ O 30 '33; Nat Pet N 25:11-12 N 1 '33

Committee named by A.P.I. refinery group to direct motor fuel research. Oil & Gas J 31:23 Ja 19 '33

Division of marketing, general committee meetings. Am Pet Inst Proc p71-87 sec 2 D '32; 14M(2):67-70 My '33

Division of production, general committee meetings. Am Pet Inst Proc (Production div) p111-24 Je '32; 14M(4):95-119 My '33

Division of refining, general committee meeting, Tulsa, Okla. June 1, 1932. Am Pet Inst Proc (Refining div) p127-32 Je '32

Mid-year meeting, Tulsa, Okla. May 17-19. Nat Pet N 25:13-22+ My 24 '33; Oil & Gas J 32:6+ 8, 9+, 13+ My 25 '33

Progress of the American petroleum industries committee. H. T. Klein. Am Pet Inst Proc 14M(1):7-10 My '33

Southwestern district of Division of production annual meeting, Houston, Tex. Oil & Gas J 31:39 Ap 13 '33

**AMERICAN pharmaceutical manufacturers association**

Annual meeting, 26th, Chicago, June 21-23. Oil Paint & Drug Rep 123:18-19, 43-4 Je 26; 124:17+ J1 3 '33

**AMERICAN physical society**

Annual meeting, 34th, Atlantic City, Dec. 28-30; with abstracts of papers. Phys R 43:370-86 Mr 1 '33

Meeting of physicists at Chicago; summary of papers. Science 76:sup8 D 2 '32

Proceedings of Chicago meeting; abstracts. Phys R 42:900-15 D 15 '32

Proceedings of Chicago meeting, June 19-24. Phys R 44:313-30 Ag 15 '33

Proceedings of Pasadena meeting, Dec. 16-17. Phys R 43:210-16 F 1 '33

Proceedings of the Salt Lake City meeting, June 15; abstracts. Phys R 44:128-31 J1 15 '33

Proceedings of Washington meeting, April 27-29. Phys R 43:1040-62 Je 15 '33

**AMERICAN pulp and paper mills superintendents association**

Annual convention, 14th, Green Bay, Wisconsin, June 8-10. Paper Tr J 96:12-17 Je 15 '33

Annual convention, 14th, Green Bay, Wis. June 8-10; abstracts of papers. Pulp & Pa of Can 34:465-8+ J1 '33



**AMERICAN radiator and standard sanitary corporation**

American Radiator's untimely merger. *Econostat* 1:12+ My 27 '33  
 Low price stocks that can be purchased now for later appreciation. *Mag of Wall St* 51:234 D 10 '32  
 Selected stocks to buy for future profit and protection. *Mag of Wall St* 52:29-30 Ap 29 '33

**AMERICAN railway association**

Aishton and Gormley head A.R.A. *Ry Age* 94:451+ Mr 25 '33  
 How the railways have increased their efficiency by co-operation. *il Ry Age* 94:251-4 F 18 '33

**Freight claim division**

Annual meeting, Louisville, Ky. June 6-8. *Ry Age* 94:861-4 Je 17 '33  
 Principles and practices for freight claim agents; code adopted. *Ry Age* 95:414 S 16 '33

**Mechanical division**

Mechanical division standing committees present reports. *Ry Mech Eng* 107:233-52 Jl '33  
 Meeting, Chicago, June 27. *Ry Age* 95:58-9+ Jl 1 '33  
 New research committee of Mechanical division. *Ry Age* 95:536 O 14 '33

**Purchases and stores division**

General committee meeting, Chicago, June 25. *Ry Age* 95:60-6 Jl 1 '33

**Safety section**

Annual meeting, 13th, Chicago, Oct. 3-5. *Ry Age* 95:665-9 N 4 '33

**Signal section**

Annual meeting, New York, May 9-10. *Ry Age* 94:693-5 My 13 '33

**AMERICAN railway engineering association**

Annual meeting, 34th, Chicago, March 14-15. *Ry Age* 94:410-25 Mr 18 '33; *Eng N* 110:382-3 Mr 23 '33

**AMERICAN reserve insurance company**

Annual statement, 1932. *Spectator* 130:29 Mr 9 '33

**AMERICAN road builders' association**

Annual meeting, 30th, Detroit. *Eng N* 110:113-15 Ja 26 '33; *Can Eng* 64:23-4, 26 Ja 24 '33

**AMERICAN rolling mill company**

Armco earnings again black. *Econostat* 1:11, 32 N 4 '33  
 Low-priced speculations of merit. *Mag of Wall St* 53:83+ N 11 '33

**AMERICAN ship building company**

Annual report, 34th, year ended June 30. *Marine R* 63:38 O '33

**AMERICAN smelting and refining company**

Earned interest in 1932. *Barron's* 13:21 F 6 '33  
 Lost \$4,506,175 in 1932. *Barron's* 13:20 Mr 13 '33

Smelters as a commodity stock. *Econostat* 1:12, 32 O 21 '33

Speculative audit; favorable and unfavorable factors affecting common-stock values. *Barron's* 13:12 S 11 '33

What is the investment outlook for these companies? *Mag of Wall St* 51:180+ N 26 '32

**AMERICAN society for pharmacology and experimental therapeutics**

Annual meeting, University of Cincinnati, April 10-12. *Science* 77:557 Je 9 '33

**AMERICAN society for steel treating**

Annual convention, Detroit, Oct. 2-6. *Iron Age* 132:27-30 O 12 '33; *Steel* 93:11-12 O 9 '33

**AMERICAN society for testing materials**

Annual meeting, 36th, Chicago, June 26-30. *Eng N* 111:18-20, 49-51 Jl 6-13 '33; *Foundry* 61:30-1+ Jl '33; *Iron Age* 132:22 Jl 13 '33; *Metal Ind* 31:237-8 Jl '33; *Ry Age* 95:89-90 Jl 8 '33; *Steel* 93:36, 38 Jl 3 '33; *Power Pl Eng* 37:338-9 Ag '33  
 Committees hold meetings in New York, March 6-10. *Eng N* 110:358-9+ Mr 16 '33; *Metal Ind* 31:128-9 Ap '33

**AMERICAN society of civil engineers**

Annual meeting, 80th, New York, Jan. 18-21. *Eng N* 110:125-7 Ja 26 '33; *Civil Eng* 3:101-2 F '33

Annual report of the board of direction for the year ending December 31, 1932. *Am Soc C E Proc* 59:supl-23 Mr '33

Meeting, Chicago, June 26-30. *Eng N* 111:20-1, 51-3 Jl 6-13 '33

Some reflections on publications costs. *Civil Eng* 3:640-1 N '33

**AMERICAN society of composers, authors and publishers**

5,000,000 songs are the commercial heritage of the American society of composers, authors and publishers. *Fortune* 7:27-33, 84, 86 Ja '33

**AMERICAN society of heating and ventilating engineers**

Annual meeting, 39th, Cincinnati, Jan. 23-25. *Power* 77:102 F '33; *Heating-Piping* 5:169-77 Mr '33

Officers and council members; portraits. *Heating-Piping* 5:228-33 Ap '33

Report of the committee on research for 1932. G. L. Larson and F. C. Houghten. *Heating-Piping* 5:165-8 Mr '33

Semi-annual meeting, Detroit, June 22-24. *Power* 77:354 Jl '33; *Heating-Piping* 5:435-40 Ag '33; *Heat & Ven* 30:42-3 Ag '33

**AMERICAN society of mechanical engineers**

A.S.M.E. at Chicago; an account of technical meetings and society affairs during Engineering week, June 25 to July 1, 1933. *il Mech Eng* 55:481-5 Ag '33

Annual meeting, 53d, New York, Dec. 5-9. *Mech Eng* 55:35-9 Ja '33; *Automotive Ind* 67:778-9 D 17 '32; *Power* 76:332-46 Mid-D '32; *Power Pl Eng* 36:44-7 Ja '33

Newly elected officers; portraits. *Power* 76:348-9 Mid-D '32

Organizations for the promotion of management research; the management activities of the American society of mechanical engineers. *Int Management Inst Bul* 7:66-9 [bibliog p77] My '33

Semi-annual meeting, Chicago, June 25-30; abstracts of papers. *Power* 77:340-6 Jl '33; *Power Pl Eng* 37:333-5 Ag '33

**Printing industries division**

Annual conference, 4th, Chicago, June 26-27. *Inland Ptr* 91:28-30 Jl '33

**Textile division**

Annual meeting, New York, Dec. 7. *Textile World* 82:1172 D '32

**AMERICAN society of municipal engineers**

Annual meeting, Detroit. *Eng N* 110:117-19 Ja 26 '33

Annual convention, Milwaukee, Sept. 25-27. *Eng N* 111:445-8 O 12 '33

**AMERICAN society of refrigerating engineers**

Annual meeting, 28th, New York, Dec. 7-9. *Refrig Eng* 25:38-9 Ja '33; *Power* 76:354-5 Mid-D '32; *Heat & Ven* 30:51-2 Ja '33

Western meeting, 20th, Chicago, June 26-28. *Heat & Ven* 30:45-7 Ag '33; *Power Pl Eng* 37:340-1 Ag '33

**AMERICAN society of sanitary engineering**

Adopts measures for plumbing. *il Dom Eng* 142:111-12+ S '33

**AMERICAN spice trade association**

Annual meeting, New York, May 9-10. *Oil Paint & Drug Rep* 123:42 My 15 '33

**AMERICAN standards association**

American standards association and the Bureau of standards. *Science* 78:95 Ag 4 '33; *Oil Paint & Drug Rep* 124:16 Jl 24 '33

Government reduces activities of Bureau of standards. *Paper Tr J* 97:30-1 Ag 10 '33

Transfer of safety-code work from Bureau of standards to American standards association. *Monthly Labor R* 37:581-2 S '33; *Same. Safety Eng* 66:132 O '33

**AMERICAN statistical association**

Annual meeting, 94th, Cincinnati, Dec. 28-31. *Am Statis Assn J* 28:supl-239 Mr '33

**AMERICAN steel warehouse association**

Annual meeting, 24th, New York, May 23-24.  
Steel 92:18 My 29 '33; Iron Age 131:866 Je 1 '33

Submits proposed code to members. Iron Age 132:33 Ag 10 '33

**AMERICAN sugar refining company**

American sugar refining co. which even in depression makes its annual millions. *il Fortune* 7:59-65+ F '33

Speculative audit; favorable and unfavorable factors affecting common-stock values. *Barron's* 13:12 My 8 '33

Stocks I would buy to hold. A. T. Miller. *Mag of Wall St* 51:627 Ap 1 '33

**AMERICAN superpower corporation**

Report for 1932. *Barron's* 13:23 Ja 30 '33

**AMERICAN surety company**

American Surety and its personnel. *pors East Underw* 33:102+ D 9 '32

Shows \$23,957,820 assets. *East Underw* 34:36 F 10 '33

**AMERICAN telephone and telegraph company**

Report for 1932. *Barron's* 13:19 F 13 '33

Speculative audit; factors affecting common-stock values. *Barron's* 13:13 Ap 3 '33

Thirty years with A. T. & T.; a graphic study of the most widely held common stock. W. Beecher. *Mag of Wall St* 51:478 F 18 '33

Three leaders in communication. F. C. Fullerton. *Mag of Wall St* 51:384-5+ Ja 21 '33

Upturn indicated. *Econostat* 1:12, 23 Jl 22 '33

**AMERICAN tobacco company**

American Tobacco income near high. *Econostat* 1:11 Ap 15 '33

Annual report, 1932. *Barron's* 13:14 Mr 20 '33

Behind-the-scenes picture of American Tobacco profits. *il Ptr Ink* 162:51-3+ Mr 30 '33

Speculative audit; favorable and unfavorable factors affecting common-stock values. *Barron's* 13:12 My 1 '33

Wins stock suit. *Barron's* 13:21 Ja 30 '33

**AMERICAN transit accountants' association**

Annual meeting, Chicago. *Elec Traction* 29:334-5 O '33

**AMERICAN transit association**

Annual meeting, 52d, Chicago, Sept. 18-20. *Transit J* 77:377-9 O 10 '33; *Elec Traction* 29:307-9, 315-19 O '33; *Bus Transportation* 12:387-91 O '33

Convention-in-print. *Transit J* 77:333-94 O 10 '33

**AMERICAN transit claims association**

Annual meeting, Chicago. *Elec Traction* 29:335-6 O '33; *Transit J* 77:382 O 10 '33

**AMERICAN transit engineering association**

Annual meeting, Chicago. *Elec Traction* 29:329-31 O '33; *Transit J* 77:381-2 O 10 '33

**AMERICAN transit operating association**

Annual meeting, Chicago. *Elec Traction* 29:326-8 O '33; *Transit J* 77:381 O 10 '33

**AMERICAN water works association**

Annual convention, 52d, Memphis, Tenn., May 2-5. *Am Water Works Assn J* 24:2025-35 D '32

Annual meeting, 53d, Chicago, June 12-16. *Water Works & Sewerage* 80:247-53, 259-61, 289-94 Jl-Ag '33; *Eng N* 110:811-14, 824 Je 22 '33; *Can Eng* 64:17-18 Je 20 '33

Looking back at a few A.W.W.A. convention groups of yester-year; illustrations. *Water Works & Sewerage* 80:208a-208h Je '33

Report of the secretary for 1931 and 1932. B. C. Little. *Am Water Works Assn J* 25:1152-6 Ag '33

**Canadian section**

Annual meeting, 13th, Ottawa, March 22-24. *Can Eng* 64:41-88 Mr 28; 17-21 Ap 25 '33

**AMERICAN welding society**

Annual meeting, 14th, New York, April 27-28. *Iron Age* 131:706-7 My 4 '33; *Eng N* 110:571-2 My 4 '33; *Steel* 92:26+ My 8 '33

Fall meeting, 13th, Detroit, Oct. 2-5. *Iron Age* 132:22-6 O 12 '33

**AMERICAN wood preservers' association**

Annual meeting, 29th, Chicago, Jan. 24-26. *Ry Age* 94:104-8 Ja 28 '33

**AMES, Charles Bismarck, 1870-**  
Sketch. *Nat Pet N* 24:15-16 N 23 '32

**AMIDES**

Arylamides of  $\beta$ -arylaminoacetic acids. J. K. Thomson and F. J. Wilson. *Chem Soc J* p1262-3 S '33

Chemistry of the alkali amides. F. W. Bergstrom and W. C. Fernelius. *Chem R* 12:43-179 [bibliog p80-3, 167-79] F '33

Properties of electrolytic solutions; the conductance of some amido salts in liquid ammonia. C. A. Kraus and W. W. Hawes. *diag Am Chem Soc J* 55:2776-85 Jl '33

See also

Potassium amide

**AMINATION**

Amination by ammonolysis. P. H. Groggins and A. J. Stirton. *bibliog Ind & Eng Chem* 25:42-9, 169-75, 274-9 Ja-Mr '33

Autoclave in organic synthesis. G. T. Morgan. *Chem Age (Lond)* 27:572-3 D 17 '32

Preparation of 1,2- and 2,3- diaminoanthraquinone. P. H. Groggins and H. P. Newton. *bibliog il Ind & Eng Chem* 25:1030-3 S '33

**AMINES**

Action of formaldehyde on amines and amino acids. H. T. Clarke, H. B. Gillespie and S. Z. Weissshaus. *bibliog Am Chem Soc J* 55:4571-87 N '33

Alpha-naphthyl isothiocyanate as a reagent for primary and secondary aliphatic amines. C. M. Suter and E. W. Moffett. *bibliog Am Chem Soc J* 55:2497-9 Je '33

Betti condensation; effect of substituents on the stability and optical rotation of the resulting amines. F. E. Ray and W. A. Moomaw. *Am Chem Soc J* 55:749-52 F '33

Character of the absorption of some amines in the near infra-red. U. Liddel and O. R. Wulf. *Am Chem Soc J* 55:3574-83 S '33

Diazotization of very weakly basic amines. H. A. J. Schoutissen. *Am Chem Soc J* 55:4531-4 N '33

Fluorine polyhalides of organic amines. H. S. Booth, W. C. Morris and G. D. Swartzel. *Am Chem Soc J* 55:4466-8 N '33

Homogeneous catalysis of gaseous reactions; the influence of iodine on the decomposition of simple aliphatic amines and of hexane. S. Bairstow and C. N. Hinshelwood. *Chem Soc J* p1155-60 S '33

Influence of poles and polar linkings on the course pursued by elimination reactions; the action of tertiary amines on triphenylmethyl halides. E. D. Hughes. *Chem Soc J* p75-7 Ja '33

Inhibitors in cracked gasoline; relation of structure to inhibiting effectiveness. G. Egloff and others. *bibliog il diags Ind & Eng Chem* 24:1375-82 D '32

Nitrogen compounds of germanium; the action of ammonia and amines on germanium tetraiodide. W. C. Johnson and A. E. Sidwell. *Am Chem Soc J* 55:1884-9 My '33

Preparation of amines by catalytic hydrogenation of derivatives of aldehydes and ketones. C. F. Winans and H. Adkins. *bibliog Am Chem Soc J* 55:2051-8 My '33

Reaction of alkylchloramines with Grignard reagents. G. H. Coleman. *Am Chem Soc J* 55:8001-5 Jl '33

Reaction of monobromoamine with Grignard reagents. G. H. Coleman, H. Soroos and C. B. Yager. *diags Am Chem Soc J* 55:2075-80 My '33

Reduction studies of Schiff bases; the condensations of certain secondary aromatic amines with formaldehyde in acid solution; nuclear or N-methylations by means of formaldehyde. E. C. Wagner. *bibliog Am Chem Soc J* 55:724-31 F '33

Studies of conjugated systems; the preparation and properties of 1-phenyl-4-aminobutadiene and 1-phenyl-4-anilindobutadiene. I. E. Muskat and L. E. Grimsley. *Am Chem Soc J* 55:3762-9 S '33

Synthesis and reactions of certain nitrogen ring compounds over nickel. C. F. Winans and H. Adkins. *bibliog Am Chem Soc J* 55:4167-76 O '33



AMINES—*Continued*

Synthesis and resolution of phenyl- $\alpha$ -( $\beta$ -methoxynaphthyl)-aminomethane. F. E. Ray and W. A. Moomaw. *Am Chem Soc J* 55:3833-8 S '33

## Analysis

Identification of amines as 3,5-dinitrobenzoates. C. A. Buehler, E. J. Currier and R. Lawrence. *Ind & Eng Chem Anal ed* 5: 277-8 J1 15 '33

## AMINO acids

Action of formaldehyde on amines and amino acids. H. T. Clarke, H. B. Gillespie and S. Z. Weiss Haus. *bibliog Am Chem Soc J* 55: 4571-87 N '33

Activity ratio of zwitterions and uncharged molecules in ampholyte solutions; the dissociation constants of amino acid esters. J. T. Edsall and M. H. Blanchard. *bibliog Am Chem Soc J* 55:2337-53 Je '33

Adsorption of simple amino-acids by purified charcoals; abstract. H. J. Phelps and R. B. Vallender. *Soc Chem Ind J (Chem & Ind)* 52:270 Mr 24 '33

Determination of amino acids and related compounds in honey. R. E. Lotherop and S. I. Gertler. *bibliog Ind & Eng Chem Anal ed* 5: 103-5 Mr 15 '33

Dielectric constant of solutions of amino acids and peptides. J. Wyman, jr. and T. L. McMeekin. *Am Chem Soc J* 55:908-14 Mr '33

Dipole moments of esters of amino acids and peptides. J. Wyman, jr. and T. L. McMeekin. *diag Am Chem Soc J* 55:915-22 Mr '33

Fate of *dl*-methionine, glycine, *d*-glutamic acid, and *l*-pyrrolidone carboxylic acid in the dog. J. A. Stekol and C. L. A. Schmidt. *tables Univ of Calif Pub in Physiology v* 8, no 4:31-41 '33

Solubility of thallous iodate and thallous chloride in the presence of amino acids. C. F. Failey. *Am Chem Soc J* 55:4374-8 N '33

## AMINOANTHRAQUINONE

Amination by ammonolysis. P. H. Groggins and A. J. Stirton. *bibliog Ind & Eng Chem* 25:42-9, 169-75 Ja-F '33

## AMINO BUTADIENE

Studies of conjugated systems; the preparation and properties of 1-phenyl-4-aminobutadiene and 1-phenyl-4-anilidobutadiene. I. E. Muskat and L. B. Grimsley. *Am Chem Soc J* 55:3762-9 S '33

## AMINO compounds

Amino-compounds of the platonic chloroamines. B. E. Dixon. *Chem Soc J* p2948-55 D '32

Effect of reversion products and amino compounds on sucrose determinations in cane products. F. W. Zerban and C. A. Gamble. *bibliog Ind & Eng Chem Anal ed* 5:34-5 Ja 15 '33

Pyrimidines; their amino and aminooxy derivatives. T. B. Johnson and D. A. Hahn. *Chem R* 13:193-303 [bibliog and index p290-303] O '33

Synthetic experiments on the nature of betanin and related nitrogenous anthocyanins. A. M. Robinson and R. Robinson. *Chem Soc J* p25-9 Ja '33

## AMINOCROTONIC acid

Arylamides of  $\beta$ -arylaminoacetic acids. J. K. Thomson and F. J. Wilson. *Chem Soc J* p1262-3 S '33

## AMINODIPHENYLMETHANE

Some substitution reactions of 4-aminodiphenylmethane. W. A. Waters. *Chem Soc J* p1060-4 Ag '33

## AMINO GUANIDINE

Aminoguanidine derivatives. V. A. Conard and R. L. Shriner. *Am Chem Soc J* 55:2867-70 J1 '33

## AMINONITRILES

Reduction of  $\alpha$ -amino-nitriles. W. McMeeking and T. S. Stevens. *Chem Soc J* p347-9 Ap '33

AMINOPHENYL urethans. See Urethans

## AMINOSULFONES

Rearrangement of *ortho*-amino-sulphones. L. A. Warren and S. Smiles. *Chem Soc J* p2774-8 N '32

## AMINOTHIOBENZOIC acid

Some alkyl and alkamine esters of *p*-aminothiobenzoic acid and related compounds. H. L. Hansen and L. S. Fosdick. *Am Chem Soc J* 55:2872-4 J1 '33

## AMINO URACIL

Preparation of 5-aminouracil and of some of its derivatives. M. T. Bogert and D. Davidson. *Am Chem Soc J* 55:1667-8 Ap '33

## AMMETERS

Crompton Parkinson tong test ammeters. *ll Engineer* 156:265 S 15 '33

Extending meter ranges by means of multipliers and shunts. G. A. Eaton. *diags Radio N* 14:592-3+ Ap '33

Resistors for voltmeter, ammeter and ohmmeter circuits. Z. Bouck. *il diags Radio N* 14:554-5 Mr '33

Surge-crest ammeter. C. M. Foust and H. P. Kuehni. *il diags Gen Elec R* 35:644-8 D '32; *Abstract. Elec W* 100:809 D 17 '32

Tong-test ammeter measures current without break in circuit. *il Brass W* 28:255 D '32; *Elec J* 30:129 Mr '33

## AMMINES

Amino-compounds of the platonic chloroamines. B. E. Dixon. *Chem Soc J* p2948-55 D '32

Ammines; cobaltous and cupric compounds from tris-( $\beta$ -hydroxyethyl)amine; new method of formation of ammino-cupric salts. J. C. Duff and E. H. Steer. *Chem Soc J* p2861-2 D '32

Ammines of chromous chloride. H. I. Schlesinger and E. S. Hammond. *Am Chem Soc J* 55:3971-6 O '33

Ammines of the lower chlorides of titanium. W. C. Schumb and R. F. Sundström. *diag Am Chem Soc J* 55:596-604 F '33

Distribution method for the determination of the dissociation pressures of salt ammoniates. R. P. Seward. *diag Am Chem Soc J* 54:4598-605 D '32

Distribution of methylamine between water and chloroform and the existence of methylamine complexes of the metal-ammine type. W. A. Felsing and S. E. Buckley. *bibliog J Phys Chem* 37:779-86 Je '33

Molecular structure of some co-ordination compounds of platinum and palladium. E. G. Cox and G. H. Preston. *Chem Soc J* p1089-93 Ag '33

Researches on ammines; dihydroxotetramminochromic hydroxide and its derivatives. H. J. S. King. *Chem Soc J* p520-3 My '33

Researches on ammines; nickel-ammine salts in aqueous solution. H. J. S. King, A. W. Cruse and F. G. Angell. *Chem Soc J* p2928-31 D '32

Researches on ammines; the action of acids on dihydroxotetramminocobaltic hydroxide. H. J. S. King. *Chem Soc J* p517-20 My '33

Structure of some ammines of platinum chloride. F. W. Pinkard, H. Saenger and W. Wardlaw. *Chem Soc J* p1056-60 Ag '33

Studies of electrolytic polarisation; ammines of copper, silver, zinc, and cadmium. S. Glasstone. *Chem Soc J* p2849-57 D '32

Supposed anomaly among the platotetrammines. H. D. K. Drew and G. H. Wyatt. *Chem Soc J* p2975-6 D '32

AMMINO compounds. See Ammines

## AMMONIA

Action of sodium upon trimethylgallium and dimethylgallium chloride in liquid ammonia. C. A. Kraus and F. E. Toonder. *diag Am Chem Soc J* 55:3547-54 S '33

Amination by ammonolysis. P. H. Groggins and A. J. Stirton. *bibliog Ind & Eng Chem* 25:42-9, 274-9 Ja, Mr '33

Ammines of the lower chlorides of titanium. W. C. Schumb and R. F. Sundström. *diag Am Chem Soc J* 55:596-604 F '33

Ammonia as agent in combating corrosion in modern non-pressure refinery equipment. S. S. Shaffer and J. E. Pollack. *Oil & Gas J* 31:88-90 N 17 '32

## AMMONIA—Continued

- Ammonia in water treatment. L. H. Enslow. *Water Works & Sewerage* 80:379 O '33
- Beginning of liquid ammonia research in the United States. R. Taft. *il J Chem Educ* 10:34-9 Ja '33
- Behavior of the hydronitrogens and their derivatives in liquid ammonia; formation of hydrazine by thermal action of incandescent filaments immersed in liquid ammonia. D. H. Howard, Jr. and A. W. Browne. *bibliog Am Chem Soc J* 55:1968-74 My '33
- Behavior of the hydronitrogens and their derivatives in liquid ammonia; influence of pressure upon yields of hydrazine obtained by pyrolysis of liquid ammonia. D. H. Howard, Jr. and A. W. Browne. *diag Am Chem Soc J* 55:3211-14 Ag '33
- Checking up on refrigeration piping—suction and discharge lines for ammonia. R. C. Doremus. *Heating-Piping* 5:466-9 S '33
- Chemical action in the glow discharge; the dissociation of ammonia. J. W. Westhaver. *bibliog J Phys Chem* 37:897-906 O '33
- Comparison of the carbonic and ammonia refrigeration cycles. H. J. McIntire. *Power* 77:412-14 Ag '33
- Conductance of bases in liquid ammonia. W. W. Hawes. *diag Am Chem Soc J* 55:4422-30 N '33
- Demonstrating the oxidation of ammonia. T. H. Hazlehurst, Jr. *diag J Chem Educ* 10: 639 O '33
- Density of ammonia at reduced pressures and its relation to the atomic weight of nitrogen, the gas constant, R, and the limiting molal volume. V. G. Dietrichson, C. W. Orleman and C. Rubin. *diag Am Chem Soc J* 55:14-21 Ja '33
- Determination of pyridine bases in the presence of ammonia by titration. F. H. Rhodes and K. R. Younger. *Ind & Eng Chem Anal ed* 5:302-4 S 15 '33
- Distribution method for the determination of the dissociation pressures of salt ammoniates. R. P. Seward. *diag Am Chem Soc J* 54:4598-605 D '32
- Effect of ammonia on the positive ion emissivity of iron, nickel and platinum. A. K. Brewer. *Am Chem Soc J* 54:4588-97 D '32
- Electrometric studies of the precipitation of hydroxides; the action of ammonia on solutions of mercuric chloride. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p601-7 Je '33
- Electrometric studies of the precipitation of hydroxides; the action of ammonia on solutions of potassium mercuri-iodide, and mercuric bromide, nitrate, sulphate, and perchlorate. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p1045-9 Ag '33
- Electrometric studies of the precipitation of hydroxides; the constitution of ammoniacal solutions of (a) silver nitrate, (f) silver oxide. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p1050-3 Ag '33
- Evaporator heat transfer analysis; individual coefficients experimentally determined for ammonia cooling water in inclined steel pipes. F. O. Gaskill. *bibliog diags Refrig Eng* 26:126-32, 151 S '33
- Far infrared absorption spectra of ammonia and phosphine gases under high resolving power. N. Wright and H. M. Randall. *Phys R* 44:391-8 S 1 '33
- Fusion curves for the systems ammonia-propyl alcohols and ammonia-butyl alcohols. H. P. Cady and E. A. Jones. *bibliog diags J Phys Chem* 37:303-20 Mr '33
- Germanium; action of ammonia upon monochloromonogermane and dichloromonogermane; action of water upon monochloromonogermane. L. M. Dennis and R. W. Work. *Am Chem Soc J* 55:4486-9 N '33
- Gewinnung von salpetersäure aus ammoniak. A. Sander. *il diag Zeit Ver Deutsch Ing* 77:450-1 Ap 29 '33
- Infrared absorption bands of ammonia. H. J. Unger. *Phys R* 43:123-8 Ja 15 '33
- Liquid ammonia as a solvent; the solubility of inorganic salts at 25°. H. Hunt and L. Boncyk. *Am Chem Soc J* 55:3528-30 S '33
- Liquid purification with otherwise waste ammonia. J. D. Price. *Gas J (Lond)* 204:142-3 O 11 '33
- Nitrogen compounds of germanium; the action of ammonia and amines on germanium tetraiodide. W. C. Johnson and A. E. Sidwell. *Am Chem Soc J* 55:1884-9 My '33
- Normal density of ammonia. G. Dietrichson, L. J. Bircher and J. J. O'Brien. *diags Am Chem Soc J* 55:1-13 Ja '33
- Photolysis of solutions of alkali metals in liquid ammonia. R. A. Ogg, Jr. P. A. Leighton and F. W. Bergstrom. *bibliog diags Am Chem Soc J* 55:1754-66 My '33
- Preparation of some alkyl substituted phenylacetoneitriles in liquid ammonia. L. H. Baldinger and J. A. Nieuwland. *Am Chem Soc J* 55:2851-3 J1 '33
- Properties of electrolytic solutions; conductance of sodium triphenylstannide, sodium triphenylgermanide and sodium triphenylmethide in liquid ammonia. C. A. Kraus and W. H. Kahler. *diag Am Chem Soc J* 55:3537-42 S '33
- Properties of electrolytic solutions; conductance of some ternary salts in liquid ammonia. C. A. Kraus and P. E. Bien. *Am Chem Soc J* 55:3609-14 S '33
- Properties of electrolytic solutions; the conductance of some amido salts in liquid ammonia. C. A. Kraus and W. W. Hawes. *diag Am Chem Soc J* 55:2776-85 J1 '33
- Reaction of monobromoamine with Grignard reagents. G. H. Coleman, H. Soros and C. B. Yager. *diags Am Chem Soc J* 55: 2075-80 My '33
- Reduction by hydrogen and the thermal decomposition of nitrides made by the reaction of ammonia with various promoted and unpromoted iron synthetic ammonia catalysts. P. H. Emmett and K. S. Love. *Am Chem Soc J* 55:4043-50 O '33
- Solubility of metallic lithium in liquid ammonia at low temperatures. W. C. Johnson and M. M. Piskur. *J Phys Chem* 37:93-9 Ja '33
- Solubility of nitrogen in liquid ammonia at 25° from 25 to 1000 atmospheres. R. Wiebe and T. H. Tremearne. *diags Am Chem Soc J* 55:975-8 Mr '33
- Spectrographic analysis of the Nessler-ammonia reaction; abstract. C. B. Allsopp and C. G. L. Wolf. *Soc Chem Ind J (Chem & Ind)* 52:160 F 24 '33
- System ammonia-water at temperatures up to 150°C. and at pressures up to twenty atmospheres. I. L. Clifford and E. Hunter. *diags J Phys Chem* 37:101-18 Ja '33
- Temperature coefficient of the photosensitized hydrogen-oxygen reaction. H. S. Taylor and D. J. Salley. *bibliog Am Chem Soc J* 55:96-109 Ja '33
- Ultraviolet absorption bands of ammonia. J. K. Dixon. *il Phys R* 43:711-15 My 1 '33

## See also

Ammines	Case hardening—Ni-
Ammonium hydroxide	triding process
Ammonium nitrate	Nitrification
Ammonium sulfate	

## Analysis

Photometric investigation of Nessler reaction and Witting method for determination of ammonia in sea water. H. E. Wirth and R. J. Robinson. *bibliog Ind & Eng Chem Anal ed* 5:293-6 S 15 '33

## Manufacture

Adsorption of nitrogen by iron synthetic ammonia catalysts. P. H. Emmett and S. Bru-nauer. *Am Chem Soc J* 55:1738-9 Ap '33

Ammonia liquor losses concentrated into profits; North Berwick gas works. C. H. S. Tupholme. *diags Chem Markets* 31:510-11 D '32

Gas-circulating pumps for high-pressure service. C. H. S. Tupholme. *diags Ind & Eng Chem News ed* 11:111-12 Ap 10 '33



**AMMONIA—Manufacture—Continued**

Haber ammonia process. Refrig W 68:39-40 My '33

Handling high pressures in chemical synthesis. R. V. Kleinschmidt. il diags Chem & Met Eng 40:361-4 J1 '33

Industrial installation planned for maximum economy; Shell chemical company. J. G. Carriere and C. F. Henderson. il Elec W 101:392-5 Mr 25 '33

Über die entwickelung der chemischen hochdrucktechnik bei dem aufbau der neuen ammoniakindustrie. C. Bosch. il diags Zeit Ver Deutsch Ing 77:305-17 Mr 25 '33; Same. Chemische Fabrik 6:127-42 Mr 22 '33

What steel to use at high pressures and temperatures; effect of hydrogen. J. L. Cox. Chem & Met Eng 40:405-9 Ag '33

Die wichtigsten neuerungen auf dem gebiete der anorganisch-chemischen industrie in den jahren 1927-1931. A. Bräuer, J. Reitstötter and H. Siebeneicher. bibliog Angew Chemie 46:7-15 Ja 7 '33

See also

Nitrogen fixation

**Prices**

Anhydrous ammonia price schedule. Oil Paint & Drug Rep 124:21-2+ N 6 '33

**Testing**

Test for quality of anhydrous ammonia. diags Refrig W 68:51 J1; 47-9 Ag '33

**AMMONIA compressors**

Checking up on refrigeration plant operation. R. B. Wolf. Power Pl Eng 37:214-15 My '33

Compound compression; theory and design from viewpoint of German practice. H. Freund. il diags Refrig Eng 25:189-92 Ap '33

Effect of wall temperature on the operation of refrigerating compressors; abstract. G. Wirth. Refrig Eng 26:256 N '33

Grimby ice factory. il diags Engineer 155:596-8, 602 Je 16 '33; Engineering 155:647-50. pl 36 Je 16 '33

How to select ammonia compressors. W. R. Kitzmiller. il diags Power 77:565-7 N '33

Instantaneous unloader for small compressors. il Refrig W 68:54-5 S '33

Machine for grinding ammonia-tight joints. C. C. Tomney. il diags Am Mach 76:1204h D 7 '32

Regulating compressor capacity for variable refrigeration loads. L. Buehler, jr. il diag Power 76:305-7 D '32

Sulzer frigorotor; abstract. diag Mech Eng 55:702-3 N '33

World's largest refrigerating compressor. il Power 77:291 Je '33

**Failures**

Ammonia compressor demolished. Locomotive 39:178-9 Ap '33

**AMMONIA condensers**

Ammonia condenser of new design. diags Power Pl Eng 37:130-1 Mr '33

Double-pipe ammonia condensers. W. S. Douglas and J. S. Westcott. Power Pl Eng 37:437-8 O '33

**AMMONIA purgers**

Ammonia purgers. K. Wegemann. il diags Refrig W 68:21-8 J1 '33

**AMMONIA soda process.** See Sodium carbonates—Manufacture

**AMMONIATES.** See Ammines

**AMMONIATION**

Ammoniation of peat for fertilizers. W. Scholl and R. O. E. Davis. bibliog il Ind & Eng Chem 25:1074-8 O '33

Purification of brine by ammoniation. W. C. Hsieh, E. O. Wilson and T. P. Hou. Ind & Eng Chem 25:165-7 F '33

**AMMONIUM alcoholates**

Influence of poles and polar linkings on the course pursued by elimination reactions; decomposition of quaternary ammonium alkoxides. C. K. Ingold and C. S. Patel. Chem Soc J p68-9 Ja '33

**AMMONIUM borocitrate**

Electrodeposition of iron-copper-nickel alloys; deposition from sulfate-boro-citrate baths. L. E. Stout and C. L. Faust. Electrochem Soc Trans 64 (preprint 10):111-22 S '33

**AMMONIUM bromocamphor sulfonate**

Preparation and optical resolution of ammonium di-alpha-bromocamphor-pi-sulfonate. A. W. Ingersoll and S. H. Babcock. Am Chem Soc J 55:341-5 Ja '33

**AMMONIUM carbamate**

Equilibria in the ammonium carbamate-urea-water system. K. G. Clark, V. L. Gaddy and C. E. Rist. bibliog Ind & Eng Chem 25:1092-6 O '33

**AMMONIUM carbonates**

Ammonia liquor losses concentrated into profits; North Berwick gas works. C. H. S. Tupholme. diags Chem Markets 31:510-11 D '32

**AMMONIUM chloride**

Ammonium chloride growths. D. I. Gleim. il J Chem Educ 10:347 Je '33

Studies in the precipitation of the copper and tin groups using hydrogen sulfide. L. Lehman. J Chem Educ 10:50-5 Ja '33

Über die beseitigung von schwebestoffen aus strömenden gasen. H. Remy. Angew Chemie 46:610-13 S 23 '33

**AMMONIUM chromate**

Chromium plating from ammonium-chromate-sulfate baths. R. R. Rogers and J. F. Conlon. Electrochem Soc Trans 64 (preprint 27):319-24 S '33

**AMMONIUM citrate**

Removal of corrosion products from iron. T. J. Finnegan and R. C. Corey. Ind & Eng Chem Anal ed 5:89-90 Mr 15 '33

**AMMONIUM compounds**

Flame proofing of textiles; use of ammonium and boron compounds. R. Chesneau. Textile Col 55:375-7+ Je '33

Influence of poles and polar linkings on the course pursued by elimination reactions; decompositions of some quaternary ammonium salts containing the methyl, benzyl, and benzhydryl groups. E. D. Hughes and C. K. Ingold. Chem Soc J p69-75 Ja '33

Influence of poles and polar linkings on the course pursued by elimination reactions; dynamics of the elimination of olefins from quaternary ammonium compounds. E. D. Hughes and C. K. Ingold. Chem Soc J p523-6 My '33

Influence of poles and polar linkings on the course pursued by elimination reactions; mechanism of the thermal decomposition of quaternary ammonium compounds. E. D. Hughes, C. K. Ingold and C. S. Patel. Chem Soc J p526-30 My '33

New Fauser process of fertilizer manufacture. H. Pincass. Soc Chem Ind J (Chem & Ind) 52:74 Ja 27 '33

Quaternary ammonium salts from halogenated, alkyl dimethylamines; omega-bromo-heptyl-, -octyl-, -nonyl- and -decyldimethylamines. M. R. Lehman, C. D. Thompson and C. S. Marvel. Am Chem Soc J 55:1977-81 My '33

Quaternary ammonium salts from halogenated alkyl dimethylamines; the polymerization of gamma-halogenopropyl dimethylamines. C. F. Gibbs, E. R. Littmann and C. S. Marvel. Am Chem Soc J 55:753-7 F '33

Semicarbazone formation, and the incomplete dissociation of a salt of the ammonium type. P. D. Bartlett. Am Chem Soc J 55:741-9 F '33

Die wichtigsten neuerungen auf dem gebiete der anorganisch-chemischen industrie. A. Bräuer, J. Reitstötter and H. Siebeneicher. bibliog Angew Chemie 46:137-9 Mr 4 '33

See also

Tetramethylammonium compounds

AMMONIUM compounds—*Continued*

## Analysis

Die konduktometrische titration von ammon-salzen, zinksalzen und cyanaten nach der visuellen methode. O. Pfundt. *Angew Chemie* 46:218-19 Ap 15 '33

## AMMONIUM hydroxide

Influence of poles and polar linkings on the course pursued by elimination reactions; decomposition of quaternary ammonium hydroxides containing the *tert.*-butylcarbonyl group. C. K. Ingold and C. S. Patel. *Chem Soc J* p67-8 Ja '33

Precipitation of rhenium sulfide from ammoniacal solution; a separation of rhenium and molybdenum. J. H. Müller and W. La Lande, jr. *Am Chem Soc J* 55:2376-8 Je '33

## AMMONIUM iodide

Solid polyiodide of ammonium. H. W. Foote and W. M. Bradley. *J Phys Chem* 37:29-31 Ja '33

## AMMONIUM lithium tartrate

Systems (a) ammonium *d*-tartrate-lithium *d*-tartrate-water, and (b) ammonium lithium *d*-tartrate-ammonium lithium *l*-tartrate-water. A. N. Campbell and L. Slotin. *diag Am Chem Soc J* 55:3961-70 O '33

## AMMONIUM nitrate

Amination by ammonolysis; effect of inorganic salts. P. H. Groggins and A. J. Stirton. *il plan Ind & Eng Chem* 25:169-75 F '33

Equilibrium in binary systems under pressure; the influence of pressure on the solubility of ammonium nitrate in water at 25°. L. H. Adams and R. E. Gibson. *Am Chem Soc J* 54:4520-37 D '32

Liquidus and solidus studies; the ternary system  $\text{KNO}_3\text{-NH}_4\text{NO}_3\text{-Pb(NO}_3)_2$ . H. M. Glass, K. Laybourn and W. M. Madgin. *Chem Soc J* p199-202 F '33

Solubility law for ideal solutions and its application to a water-salt system. A. W. Davidson. *J Chem Educ* 10:234-7 [bibliog p236-7] Ap '33

## Analysis

Die quantitative bestimmung von nitrat-, harnstoff- und ammoniakstickstoff in mischdüngern. F. Alten and H. Weiland. *Angew Chemie* 46:165-6 Mr 18 '33

## AMMONIUM phosphates

Studies of phosphates; ammonium magnesium phosphate and related compounds. H. Bassett and W. L. Bedwell. *Chem Soc J* p854-71 Jl '33

## Manufacture

Making phosphate fertilizers at Trail, B.C. W. C. Weber. *il diag Chem & Met Eng* 40:72-5 F '33

## AMMONIUM polythionate

Die druckerhitzung der ammoniumthionate und die neueren polythionatverfahren zur gasreinigung. C. Harnist. *diag Angew Chemie* 46:464-7 Jl 8 '33

## AMMONIUM sulfate

Ammonia and tar in 1932; chief inspectors' report on alkali, etc. works. *Gas J (Lond)* 203:88 Jl 12 '33

Ammonia sulphate industry in Japan. *Chemicals* 37:9 D 26 '32; 38:9 Ja 23 '33

Ammonia-sulfate; Japan is facing an over-supply. *Chemicals* 38:12 Jl 10 '33

British sulphate of ammonia federation. C. H. S. Tupholme. *Ind & Eng Chem News* ed 11: 8 Ja 10 '33

British sulphate of ammonia federation 12th annual report, year ended June 30. *Gas J (Lond)* 201:53 Ja 4 '33; *Chem Age (Lond)* 28:26 Ja 14 '33

By-products; A. G. A. subcommittee report *Am Gas Assn Proc* 1932:903-4

Changing fertilizer markets in Japan. C. E. Mullin. *il Chem Markets* 33:225-8 S '33

Equilibria in the systems  $(\text{NH}_4)_2\text{SO}_4\text{-NiSO}_4\text{-H}_2\text{O}$ ,  $(\text{NH}_4)_2\text{SO}_4\text{-CoSO}_4\text{-H}_2\text{O}$ ,  $(\text{NH}_4)_2\text{SO}_4\text{-ZnSO}_4\text{-H}_2\text{O}$ ,  $\text{Na}_2\text{SO}_4\text{-NiSO}_4\text{-H}_2\text{O}$ , and  $\text{Na}_2\text{SO}_4\text{-CoSO}_4\text{-H}_2\text{O}$ , at 25°. R. M. Caven and W. K. Gardner. *Chem Soc J* p943-6 Ag '33

Japan plans subsidy for ammonia sulphate imports. *Oil Paint & Drug Rep* 124:55 O 16 '33

Optical properties of the double salt  $(\text{NH}_4)_2\text{SO}_4\text{-CaSO}_4\cdot 2\text{H}_2\text{O}$ . A. R. Merz, J. O. Hardesty and S. B. Hendricks. *Am Chem Soc J* 55:3571-3 S '33

Use of ammonium sulfate in the dyeing of sulfur colors. J. H. Troutman. *Textile Col* 55:513-15 Ag '33

## Analysis

Die titration des sulfations nach der visuellen leitfähigkeitsmethode. O. Pfundt. *il diag Angew Chemie* 46:200-2 Ap 8 '33

## Manufacture

Ammonia situation in Sweden; abstract. G. H. Hultman. *Gas J (Lond)* 201:95 Ja 11 '33

Industrial installation planned for maximum economy; Shell chemical company. J. G. Carriere and C. F. Henderson. *il Elec W* 101: 392-5 Mr 25 '33

Mechanical handling in a sulphate factory in Holland. F. Isermann. *diags Mech Handling* 20:146-8 My '33

Ein neues verfahren zur direkten herstellung von neutralem, trockenem ammoniumsulfat. G. Fauser. *diag Chemische Fabrik* 6:304 Jl 12 '33

New ideas on gas purification and sulfate manufacture; cost data. F. Denig. *Gas Age* 71:593-6+ Je 10 '33

Random reflections on modern gas practice. B. Richardson. *Gas J (Lond)* 200:698-9; Discussion. 699 D 7 '32

Récolte et traitement des sous-produits de la carbonisation de la houille; état actuel de ces techniques en Europe et aux États-Unis. C. Berthelot. *bibliog il diags Chimie & Ind* 30:3-38; Discussion. 38 Jl '33

Report, 2d, of the liquor effluents and ammonia subcommittee, Institution of gas engineers. *Gas J (Lond)* 200:sup12 O 26 '32; Same. *Gas Age* 71:16 Ja 7 '33; Discussion. *Gas J (Lond)* 200:425-7, 687-91 N 9, D 7 '32

Trade wastes from gas-works. A. McDonald. *Gas J (Lond)* 203:623-6; Discussion. 626-7 S 20 '33

## AMMONIUM tartrate

Systems (a) ammonium *d*-tartrate-lithium *d*-tartrate-water, and (b) ammonium lithium *d*-tartrate-ammonium lithium *l*-tartrate-water. A. N. Campbell and L. Slotin. *diag Am Chem Soc J* 55:3961-70 O '33

## AMMONIUM thiocyanate

Ammonium thiocyanate (ammonium sulphocyanide). L. Shnidman. *Am Gas Assn Proc* 1932:950-69 [bibliog p68-9]

Recent developments in special by-products of coal carbonization. A. R. Powell. *Am Gas Assn Proc* 1932:906-7

## AMMONIUM trinitride

Ammonium trinitride. W. S. Frost, J. C. Cothran and A. W. Browne. *Am Chem Soc J* 55:3516-18 S '33

## AMMONOIDEA

Age of the Permian limestones of Sicily. A. K. Miller. *Am J Sci* 5th ser 26:409-27 [bibliog p426-7] O '33

Metaleogeras Jacksoni of the Irwin River coalfield, western Australia. A. K. Miller. *bibliog il Am J Sci* 5th ser 24:433-42 D '32

## AMMONOLYSIS

Amination by ammonolysis. P. H. Groggins and A. J. Stirton. *bibliog Ind & Eng Chem* 25:42-9, 169-75, 274-9 Ja-Mr '33

## AMOEBIA. See Ameba

## AMOSKEAG manufacturing company

Deficit in 1932. *Barron's* 13:13 F 20 '33

Reasons for suggested conversion of bonds into cash and non-cumulative preferred stock. *Barron's* 13:18 Ja 2 '33

## AMPHOTERIC substances

Activity ratio of zwitterions and uncharged molecules in ampholyte solutions; the dissociation constants of amino acid esters. J. T. Edsall and M. H. Blanchard. *bibliog Am Chem Soc J* 55:2337-53 Je '33



**AMPHOTERIC substances—Continued**

Über das amphotere Verhalten von metallhydroxyden. R. Scholder. *Angew Chem* 46:509-12 Ag 5 '33

**AMPLIFIERS**

Audio transformer as a selective amplifier. M. Pawley. *bibliog il diags J Fr Inst* 215:133-47 F '33

Permissible amplitude distortion of speech in an audio reproducing system. F. Massa. *diags Inst Radio Eng Proc* 21:682-9 My '33

**AMPLIFIERS, Vacuum tube**

Amplification and recording of rapid Geiger-Müller counter impulses. G. L. Locher. *diag J Fr Inst* 216:553-8 N '33

Amplification of transients. C. H. Smith. *diags Wireless Eng* 10:296-8 Je '33

Amplifier oscillograph has many applications. S. K. Waldorf. *Elec Eng* 52:189-90 Mr '33  
Application of transformer coupled modulators. J. A. Hutcheson. *il diags Inst Radio Eng Proc* 21:944-57 Jl '33

Balancing and stabilizing of high-frequency amplifiers, with special reference to power amplifiers for radio transmitters. W. Ure, E. J. Grainger and H. R. Cantelo. *diags Inst E E J* 72:528-43 Je '33; *Abstract. Wireless Eng* 10:259-60 My '33; *Discussion. Inst E E J* 72:543-6 Je '33; *Wireless Eng* 10:261 My '33

Class B amplifiers considered from the conventional class A standpoint. J. R. Nelson. *diags Inst Radio Eng Proc* 21:858-74 Je '33

Determination of grid driving power in radio-frequency power amplifiers. H. P. Thomas. *diags Inst Radio Eng Proc* 21:1134-41 Ag '33

Direct-current amplifier with good operating characteristics. A. H. Taylor and G. P. Kerr. *diag R Sci Instr* 4:28-32 Ja '33

Distortion cancellation in audio amplifiers. W. Baggally. *diags Wireless Eng* 10:413-19 Ag '33

Electronics and electron tubes; plotron and screen-grid tube applications. E. D. McArthur. *diags Gen Elec R* 36:330-6 Jl '33

Elimination of background noise in sensitive pulse amplifiers. L. F. Curtiss. *diag pl U S Bur Stand J Research* 10:151-4 F '33

Engineering acoustics. *diag Electrician* 110:389-90, 417-18 Mr 24-31 '33

Fourier analysis of radio-frequency power amplifier wave forms. L. B. Hallman, jr. *Inst Radio Eng Proc* 20:1640-59 O '32; *Discussion. 21:726-31 My '33*

Graphical determination of performance of push-pull audio amplifiers. B. J. Thompson. *diags Inst Radio Eng Proc* 21:591-600 Ap '33

Grid current compensation in power amplifiers. W. Baggally. *il diags Wireless Eng* 10:65-8 F '33

High-gain audiofrequency amplifier. L. C. Verman. *diag R Sci Instr* 4:153-6 Mr '33

How to build an amplifier for 2A3 tubes. I. A. Mitchell. *il diags Radio N* 14:722-3+ Je '33

Improved d.c. amplifying circuit. L. A. DuBridge and H. Brown. *diags R Sci Instr* 4:532-6 O '33

New class B amplifier. S. L. Baraf. *il diags Radio N* 14:402-3+ Ja '33

Non-linear valve characteristics; a brief discussion on their use. C. S. Bull. *Wireless Eng* 10:83-8 F '33

Output stages, the choice of valves for use in low-frequency amplifiers. C. C. Whitehead. *Wireless Eng* 10:78-82 F '33

Push-pull amplification; Radio Instruments transformer. *il Electrician* 110:200 F 10 '33

R.f. amplifiers for amateur transmitters. E. M. Glaser. *il diags Radio N* 14:530-1+ Mr '33

Resistance-coupled amplifier for measuring ionization currents. L. F. Curtiss. *diags U S Bur Stand J Research* 10:583-9 My '33

Spontaneous fluctuations in valve amplifiers. L. B. Turner. *diags Inst E E J* 72:25-30 Ja '33

Supersensitive amplifier for measuring small currents. F. J. Moles. *il diags Gen Elec R* 36:156-8 Mr '33

Supervisory and control equipment for audio-frequency amplifiers. H. Sohön. *bibliog diags Inst Radio Eng Proc* 21:228-37 F '33; *Discussion. 21:1497 O '33*

Technical data and circuit design for two new tubes: -58, -46. J. van Lienden. *Radio N* 14:662-3+ My '33

Three stage high-quality push-pull amplifier. S. L. Baraf and I. A. Mitchell. *il diag Radio N* 15:146-7+ S '33

Tone correcting amplifiers. G. Prieckenfried. *Wireless Eng* 10:487-90 S '33

Using the new -79 type tube in d.c. push-pull amplifier. I. A. Mitchell. *il diags Radio N* 14:598-9+ Ap '33; *Correction. 14:761 Je '33*

**AMUSEMENT parks**

Amusement features of the Century of progress exposition. N. A. Owings. *il plan Arch Rec* 73:354-62 My '33

1850-foot sky ride at World's fair embodies spectacular design. *il Steel* 92:17-18 Ja 23 '33

**Advertising**

Advertising helps amusement park report a profit. Rye, N. Y. *Ptr Ink* 161:57 N 17 '32

**Electric equipment**

Electrical amusements. *il Elec R (Lond)* 112:774 Je 2 '33

**AMUSEMENTS**

Amusement features of the Century of progress exposition. N. A. Owings. *il plan Arch Rec* 73:354-62 My '33

See also

**Games****AMYL alcohol**

Aliphatic tertiary alcohols and chlorides containing the normal amyl group and the related olefins and their ozonolysis. F. C. Whitmore and F. E. Williams. *Am Chem Soc J* 55:406-11 Ja '33

Studies in solvent action; optical rotatory powers of  $\beta$ -octanol,  $d$ -amyl alcohol, and their derivatives. H. G. Rule, E. B. Smith and J. Harrower. *Chem Soc J* p376-87 Ap '33

Use of amyl alcohol in the sodium diethyl dithiocarbamate method for estimation of copper. R. W. Thatcher. *Am Chem Soc J* 55:4524 N '33

**Analysis**

Colorimetric determination of amyl alcohol vapors and amyl acetate vapors in air; abstract. I. M. Koreman. *J Ind Hygiene* 15:sup38-9 My '33

**AMYLOSES**

Action of aqueous alkali on starches, amyloses and modified starches. T. C. Taylor and G. M. Salzmänn. *bibliog Am Chem Soc J* 55:264-75 Ja '33

Carbohydrate-fatty acid linkings in corn alpha amylose. T. C. Taylor and R. T. Sherman. *Am Chem Soc J* 55:258-64 Ja '33

**ANABASINE**

Comparison of the toxicity of nicotine and anabasine. W. A. Gersdorff. *Am Chem Soc J* 55:2941-5 Jl '33

**ANACONDA copper mining company**

Anacoda's sea of troubles. *Econostat* 1:11+ My 13 '33

**ANAGRYNE**

Alkaloids of anagryis foetida and their relation to the lupin alkaloids. H. R. Ing. *Chem Soc J* p504-10 My '33

**ANALYTIC chemistry.** See Chemistry, Analytic

**ANALYTIC geometry.** See Geometry, Analytic

**ANALYTIC mechanics.** See Mechanics, Analytic

**ANATOMY, Comparative**

New anthropogeny; twenty-five stages of vertebrate evolution, from Silurian Chordate to man. W. K. Gregory. *Science* 77:29-40 Ja 13 '33

**ANCHORS**

Large uses of steel in small ways; ship anchors. *il Steel* 92:32 My 15 '33

## ANCHORS—Continued

## Testing

- Avery 750-ton chain-cable and anchor testing machine. *il* diags Engineering 134:621-3 N 25 '32; Engineer 154:538, 542-3 N 25 '32
- 750-ton chain cable and anchor testing machine; abstract. *Mech Eng* 55:703-4 N '33

## ANDALUSITE

- Minerals with the composition  $\text{Al}_2\text{O}_3 \cdot \text{SiO}_2$ . H. Insley. *Am Cer Soc J* 16:58-60 Ja '33
- Occurrence of andalusite and related minerals at White Mountain, California. P. F. Kerr. *il* diags map *Econ Geol* 27:614-43 N '32; Discussion. J. A. Dunn. 28:692-5 N '33

## ANDREWS, Archie M.

- Andrews finds new bonanza; 50,000 unit-a-day volume from \$5 to \$300 lighter. L. M. Hughes. *il* Sales Management 33:443+ N 1 '33

## ANDREWS, Elmer F.

- Appointed New York state labor commissioner. *por* Safety Eng 65:171 My '33

## ANEMIA

- Pernicious anemia. *Science* 78:sup6 J1 28 '33
- Production of nutritional anemia in white rats. R. E. Remington. *Science* 77:115 Ja 27 '33
- Reliable method for the production of nutritional anemia in white rats. R. S. Harris. *Science* 76:495-6 N 25 '32
- Vitamin B<sub>2</sub> and pernicious anemia. W. B. Castle. *Science* 77:sup7-8 F 10 '33
- Wisconsin alumni research foundation; basic patent on inorganic compounds of iron and copper for the prevention and treatment of anemia. *Science* 77:44 Ja 13 '33

## ANEMOMETERS

- Do you use the anemometer correctly? F. T. Elder. *Heat & Ven* 30:9-11 Mr '33
- Freilaufschichtung von flügelrad-anemometern für kleine geschwindigkeiten. R. Loewenstein. *diag Zeit Ver Deutsch Ing* 77:177-8 F 18 '33
- Measurement of the flow of air through registers and grilles. L. E. Davies. *il* diags Heating-Piping 5:486-95 S '33; Abstract. *Heat & Ven* 30:41 S '33
- Standard pitot-static tube calibration at low air speeds. E. Ower and F. C. Johansen. *diag Engineer* 154:500-2 N 18 '32

## ANEMOMETERS, Portable

- Small wind meter. E. O. Hulburt. *il* diag R Sci Instr 4:501-3 S '33

## ANESTHESIA, Electric. See Electric anesthesia

## ANESTHETICS

- Art of anaesthesia. P. J. Flagg. 5th ed rev 416p [bibliog p395] Lippincott '32
- Colloid chemistry of the nervous systems. W. D. Bancroft and J. E. Rutzler, jr. *J Phys Chem* 36:3162-74 D '32
- Fluorochloroethylenes. H. S. Booth and others. *bibliog Am Chem Soc J* 55:2231-5 Je '33
- Some factors influencing the susceptibility of albino rats to injections of sodium amytal. D. H. Barron. *Science* 77:372-3 Ap 14 '33
- Les stupéfiants et la chimie légale. E. Kohn-Abreast. *Chimie & Ind* 29:1477-90 Je '33

## ANESTHETICS, Local

- Alkamine esters: novocaine analogs. M. T. Lefler and H. C. Brill. *Am Chem Soc J* 55:365-70 Ja '33
- Alkamine esters of aliphatic acids: novocaine analogs. H. C. Brill and T. A. Bulow. *Am Chem Soc J* 55:2059-61 My '33
- Local anesthesia in dentistry. G. Fischer. 4th rev ed 222p \$4 Lea & Febiger, Philadelphia '33
- Local anesthetics derived from dialkylamino-propanediols; esters of piperidinopropanediol. E. W. Scott and T. H. Rider. *Am Chem Soc J* 55:804-5 F '33
- 2-Methylpiperidinopropyl thiol- and thionbenzoates. S. A. Karjala and S. M. McElvain. *Am Chem Soc J* 55:2966-73 J1 '33
- Para-aminophenyl urethans as local anesthetics. W. H. Horne, R. F. B. Cox and R. L. Shriner. *Am Chem Soc J* 55:3435-9 Ag '33

- Piperidine derivatives; local anesthetics derived from reduction products of beta-acetylpyridine. F. M. Strong and S. M. McElvain. *Am Chem Soc J* 55:816-22 F '33
- Piperidine derivatives; phenyl and phenyl-alkyl substituted piperidinopropyl benzoates. L. A. Walters and S. M. McElvain. *Am Chem Soc J* 55:4625-9 N '33
- Some alkamine esters of cinnamic acid and derivatives: novocaine analogs. H. C. Brill and C. F. Cook. *Am Chem Soc J* 55:2062-4 My '33
- Some alkyl and alkamine esters of *p*-aminothiobenzoic acid and related compounds. H. L. Hansen and L. S. Fosdick. *Am Chem Soc J* 55:2872-4 J1 '33
- Some new local anesthetics containing the morpholine ring. J. H. Gardner, D. V. Clarke and J. Semb. *Am Chem Soc J* 55:2999-3000 J1 '33
- Some new local anesthetics containing the piperazine ring. J. H. Gardner and J. H. Schneider. *Am Chem Soc J* 55:3823-4 S '33

## See also

- Electric anesthesia  
Novocaine

## ANGLE bars

- Market history, 1914-1932; tabulation. *Steel* 92:121 Ja 2 '33

## ANGLE irons

- Ein vorschlag für eine neue winkeleisenform. K. A. Mühlenhoff. *diags Stahl & Eisen* 53:323-9 Mr 30 '33

## ANGLE of contact. See Contact angle

## ANGLE plates

- Simple equipment for grinding angle-plates. H. C. Sheaffer. *diags Mach* 39:335 Ja '33

## ANGLES

## See also

- Trisection of angle

## ANGLESITE

- Identification of cerussite and anglesite, and flotation with galena. F. D. DeVaney and R. E. Evans. *il* U S Bur Mines Rep of Invest 3214:1-9 '33

- ANGLO-ORIENTAL mining corporation, limited  
Ordinary general meeting, 5th, London. *Economist* 117:466 S 2 '33

## ANGLO-PERSIAN oil company

- Amicable adjustment of Anglo-Persian Oil's D'Arcy concession foreseen; interview with Sir John Cadman. A. E. Mockler. *Oil & Gas J* 31:8-10 D 15 '32
- Anglo-Persian—a state-owned venture. *Economist* 117:85 J1 8 '33
- Anglo-Persian accounts. *Economist* 117:85 J1 8 '33
- Anglo-Persian agreement. *Economist* 116:951-2 My 6 '33
- Britain and Persia. *Economist* 115:1125-6 D 17 '32
- Company's case. *Economist* 115:1095-6 D 10 '32
- Details of new Anglo-Persian oil concession are announced. *Nat Pet N* 25:30 My 31 '33
- Discussion in the Persian Parliament preceded attempted cancellation of concession. *Oil & Gas J* 31:9+ D 15 '32
- Oil research station. *il* Automobile Eng 22:571-4 D '32
- Ordinary general meeting, 24th, London. *Economist* 117:145 J1 15 '33
- Persian oil. *Economist* 115:1019-20 D 3 '32
- Trouble in paradise; Britain's government-controlled oil concession in Persia is threatened by the Shah. *Business Week* p21-2 D 14 '32
- World market unaffected by Persia's cancelling concession to British. *Nat Pet N* 24:16-17 D 14 '32

## ANGLO-SIAM corporation

- Annual ordinary general meeting, 36th, London. *Economist* 117:640 S 30 '33

## ANGLO-SOUTH AMERICAN bank

- Annual general meeting, 45th, London. *Economist* 117:831 O 28 '33

## ANGORA goats

## See also

- Mohair



**ANGORA rabbits**

Rabbit wool; once imported, we now raise it. Business Week p8 D 7 '32

**ANHYDRIDES**

Anhydrides of N-arylanthranilic acids. M. Goodman, N. Arbiter and G. Powell. Am Chem Soc J 55:4294-9 O '33

Interaction of ketene with aromatic aldehydes and its bearing on the Perkin reaction. C. D. Hurd and C. L. Thomas. bibliog Am Chem Soc J 55:275-83 Ja '33

**ANHYDRITE**

Anhydrite in Canada. L. H. Cole and R. A. Rogers. 89p Canada Dept. of mines, Ottawa '33

Anhydrite now has commercial value. Can Eng 63:28 D 20 '32

Origin of the anhydrite cap rock of American salt domes. M. I. Goldman. U S Geol S Professional Pa 175-D:83-94, pl 24-42 '33

Soluble anhydrite as a desiccating agent. W. A. Hammond and J. R. Withrow. bibliog il diag Ind & Eng Chem 25:653-9, 1112-15 Je. O '33

**ANHYDROACETONEBENZIL**

Reactions of anhydroacetonebenzil. C. F. H. Allen and E. W. Spanagel. Am Chem Soc J 55:3773-80 S '33

**ANILINE**

Affinity constant of aniline in acetone-water mixtures. A. N. Campbell and E. M. Brown. Electrochem Soc Trans 63 (preprint 28):291-5 My '33

Electrical conductivities of liquid mixtures of phenol-aniline, phenol-*p*-toluidine, and phenol-*m*-cresol. O. R. Howell and H. G. B. Robinson. Chem Soc J p1032-7 Ag '33

Microfractionating column for liquids having low heat of vaporization. P. E. Weston. diag Ind & Eng Chem Anal ed 5:179-80 My 15 '33

Preparation of alkylanilines containing tertiary alkyl groups. W. J. Hickinbottom. Chem Soc J p946-51 Ag '33

**ANILINE black**

Aniline black on silk. B. S. Hillman. diag Mel-liand 4:570-2, 620-2 D '32-Ja '33

Dyeing acetate rayon with aniline black. Textile Col 55:258 Ap '33

**ANILINOLEPIDINE. See Lepidine****ANILINOPROPIONIC acid**

Action of phosphoryl chloride on the toluene-*p*-sulphonyl derivative of  $\beta$ -anilinopropionic acid. O. G. Backeberg. Chem Soc J p618-19 Je '33

**ANILS**

Alleged formation of aliphatic keto-anils. J. T. Murray, W. F. Short and R. Stansfield. Am Chem Soc J 55:2805-6 Jl '33

Phototropic and thermotropic anils from 5-bromosalicylaldehyde. C. M. Brewster and L. H. Millam. Am Chem Soc J 55:763-6 F '33

**ANIMAL locomotion**

Locomotion of snakes. W. Mosauer. diags Science 76:583-5 D 23 '32

**ANIMALS**

Study of the relationships of animals; ultra-centrifuge for testing blood. T. Svedberg. Science 78:sup6 S 8 '33

**Protection**

Animal life in the national parks. Science 78:sup10 O 20 '33

International conference for the protection of the fauna and flora of Africa. Science 78: 401 N 3 '33

Wild animals in national parks. H. C. Bryant. Science 76:sup10 D 16 '32

See also

Game protection

**ANIMATED cartoons. See Moving pictures, Talking—Animated cartoons****ANIONS**

Studies in coprecipitation; the coprecipitation of anions with calcium oxalate. I. M. Kolt-hoff and E. B. Sandell. J Phys Chem 37: 459-73 Ap '33

**ANISALDEHYDE**

Freezing point-solubility relations of geometrical isomers; the dynamic isomerism of the anisaloximes. E. L. Skau and B. Saxton. J Phys Chem 37:197-207 F '33

**ANISIDINE**

Four dinitrodimethyl-*p*-anisidines. H. H. Hodgson and J. H. Crook. Chem Soc J p825-7 Jl '33

**ANISIL**

Reformatsky reaction with anisil. J. W. Cook and W. Lawson. Chem Soc J p827-8 Jl '33

**ANISOHYDROXYMYL chloride**

Anisohydroxymyl chloride. C. R. Kinney and others. Am Chem Soc J 55:3418-24 Ag '33

**ANISOTROPY**

Optical anisotropy of molecular crystals. S. B. Hendricks and M. E. Jefferson. Opt Soc Am J 23:299-307 S '33

Theory of depolarization, optical anisotropy, and the Kerr effect. R. Serber. Phys R 43:1003-10 Je 15 '33

Theory of the ferromagnetic anisotropy of single crystals. R. M. Bozorth. Phys R 42: 882-92 D 15 '32

**ANNEALING**

Annealing diagram. A. Jung. Metal Prog 24: 48 S '33

Annealing of commercial glassware. F. W. Noel. diags Glass Ind 13:175-8, 192-5 N-D '32

Annealing of glass as a physical problem. L. H. Adams. J Fr Inst 216:39-71 Jl '33

Bright annealing and normalizing in controlled-atmosphere electric furnaces. R. R. La Pelle and C. H. Carpenter. il Iron Age 132:28-31+ S 28 '33

Bright annealing coils of strip in mass production; Cuyahoga works, American steel & wire co, Cleveland. il Metal Prog 24:19-21 Ag '33

Bright annealing in gas atmosphere. S. Z. Owen. il Elec W 100:760-1 D 3 '32

Bright annealing in mixed gas. A. L. Marshall and M. C. Agens. il Metal Prog 24:32-4 S '33; Abstract. Steel 93:36+ O 9 '33

Experiments in wire drawing; annealing of h.c. copper wires drawn to varying degrees of hardness; abstract. W. E. Alkins and W. Cartwright. Engineer 156:308 S 29 '33; Same. Engineering 136:419 O 13 '33; Discussion. Engineer 156:308 S 29 '33; Engineering 136: 419-20 O 13 '33

Factors influencing the annealing of cold rolled strip steel. G. R. Brophy and L. L. Wyman. il Am Soc Steel Tr Trans 21:532-54; Discussion. 554-6 Je '33

Heat-treatment of aluminum alloys. D. B. Hobbs. Mach 39:319-20 Ja '33

Influence of hydrogen on the transformations in iron. H. Esser and H. Cornelius. diags Am Soc Steel Tr Trans 21:733-40 Ag '33; Discussion. R. H. Harrington. 21:896-8 O '33

Malleabilization of white cast iron. R. Schneidewind and A. E. White. Michigan U Eng Research Bul 24:1-56 [bibliog p55-6], photomicrographs p59-73 '33 (\$1); Abstract. Iron Age 131:sup12 Je 29 '33

Release of strain in glass. J. Bailey and D. E. Sharp. diags Am Cer Soc J 16:367-79 Ag '33

Research in bright annealing brass and other metals. Metal Ind 31:16 Ja '33

Selas automatic gas-fired annealing machine. il Am Mach 77:575 Ag 30 '33; Iron Age 132: 27 Ag 17 '33

**ANNEALING furnaces. See Electric furnaces, Annealing; Furnaces, Annealing****ANNUITIES**

American library association retirement plan. Am Lib Assn Bul 27:107-12 pt 2 F '33

Annuities described. S. S. Huebner. East Underw 34:14 Je 16 '33

Annuity business in 1932; tabulation. Spec-tator 130:13 F 16 '33

Annuity business pays if sound principles are observed. E. F. Estes. Ins Field (Life ed) 62:4 N 3 '33

**ANNUITIES—Continued**

Annuity clubs—why not? N. B. Keyes. *Spectator* 130:6-7 Ja 5 '33  
 Annuity contracts subject to transfer tax; Minnesota decision. *Trust Companies* 55:509 N '32

Annuity digest. \$3 National underwriter co, 175 W. Jackson blvd, Chicago '33; Review. *Nat Underw (Life ed)* 37:12 O 13 '33

Annuity solicitors must have licenses; New York dep't ruling. *East Underw* 33:5 D 2 '32  
 Canadian government annuities on increase. *Spectator* 130:23 Ja 5 '33

Equitable life assurance society to convert equity into an annuity. *East Underw* 33:1+ D 16 '32; *Nat Underw (Life ed)* 36:15 D 23 '32; *Spectator* 129:17+ D 22 '32  
 Equitable society's new policy fits into national campaign. *East Underw* 34:1+ Ap 14 '33

Growth of annuity is causing alarm. *Nat Underw (Life ed)* 37:3+ F 3 '33  
 Individual annuities. H. R. Bassford. *East Underw* 34:101+ pt 2 S 22 '33

Logarithms in commerce with sections on annuities and hire-purchase interest. W. Chanin. 70p Pitman '31

Metropolitan Life secures American Library contract. *Nat Underw (Life ed)* 37:5 Ja 6 '33

Metropolitan to issue new deferred annuity. H. R. Bassford. *East Underw* 34:7 My 12 '33

New annuity contract is offered by Metropolitan. *Nat Underw (Life ed)* 37:7 Je 30 '33  
 Northwestern mutual is to issue annuities. *Weekly Underw* 129:324 Ag 19 '33

Permanent annuity appeal. R. D. Murphy. *East Underw* 34:77 pt 2 S 22 '33

Present conditions—a handicap or a help to the life underwriter? W. B. Bailey. *Ins Field (Life ed)* 62:4+ F 3 '33

Public interest in annuities wanes. *Nat Underw (Life ed)* 37:3+ My 19 '33

Railway employees ask retirement insurance; hearings on the rival bills to provide for the establishment of a uniform retirement insurance-pension system. *Ry Age* 94:46-7 Ja 14 '33

Selling points of single premium annuity; policy, rates, values and dividends analyzed. B. N. Woodson, jr. *Ins Field (Life ed)* 61:9-11 D 2 '32

Short history of the annuity. D. A. Lunden-Moore. *Spectator* 131:6-7+ Jl 6; 10-12 Jl 20 '33

Standard Oil of Ohio takes insurance plan; Prudential will cover 5,000 employees under group annuity contract. *Weekly Underw* 127:982 N 19 '32

Sun Life new retirement income bond. *Nat Underw (Life ed)* 37:14 My 19 '33

These retiring librarians. K. Etz. *Special Lib* 24:18 Ja '33

Timely annuity approaches. J. D. Freeman; P. F. Clark; W. H. Hackleman. *Nat Underw (Life ed)* Daily ed 37:8+ S 28 '33

See also

Pensions, Industrial

**Rates**

Annuity rates are changed; Connecticut Mutual and Metropolitan; tables. *Nat Underw (Life ed)* 37:6 Jl 7 '33

Annuity rates may be advanced soon. *Nat Underw (Life ed)* 37:3+ Je 2 '33

Annuity rates to be raised. *East Underw* 34:5 Je 23; 6 Jl 7 '33; *Nat Underw (Life ed)* 37:1 Je 23; 1 Jl 7 '33; *Spectator* 130:17 Je 29 '33

Connecticut Mutual's new annuity rate scale is low. *Nat Underw (Life ed)* 37:12 Ag 18 '33

Equitable Life annuity rates; table. *Nat Underw (Life ed)* 37:16 Jl 14 '33

Increased rates for annuities general. *Ins Field (Life ed)* 62:6 Ag 18 '33

Mutual Benefit's new scale. *Nat Underw (Life ed)* 37:11 Ag 18 '33; *Spectator* 131:22 Ag 17 '33

New annuity rates as put into effect by the Prudential; tables. *East Underw* 34:17 Jl 7 '33; *Spectator* 130:23 Je 29 '33

Northwestern Mutual's new annuity forms announced. *Nat Underw (Life ed)* 37:2 Ag 18 '33; *East Underw* 34:10 Ag 18 '33

Sun Life's new annuity rates. *Nat Underw (Life ed)* 37:17 Ag 25 '33

**ANODES.** See Electrodes

**ANTARCTIC exploration**

Conquest of the South pole. J. G. Hayes. 318p \$3.50 Macmillan '33

Byrd expedition, 1933

End of isolation; radio communication will be maintained to Admiral Byrd's base on the Bay of Whales. *Pub Serv M* 55:152 N '33

**ANTARCTIC regions**

Antarctic meteorology; investigation of South polar weather. *Science* 78:sup5-6 S 22 '33

**ANTELOPES**

Increase in numbers of the pronghorn antelope. *Science* 77:sup8 Mr 24 '33

**ANTHOCYANIDINS**

Synthesis of pyrylium salts of anthocyanidin type; morinidin chloride; observations on cyanomaculrin. E. H. Charlesworth, J. J. Chavan and R. Robinson. *Chem Soc J* p370-4 Ap '33

**ANTHOCYANINS**

Natural colouring matters and their analogues. R. Robinson. *Soc Chem Ind J (Chem & Ind)* 52:737-42 S 15 '33; Abstract, with discussion. *Chem Age (Lond)* 29:226-8 S 9 '33

Synthetic experiments on the nature of betanin and related nitrogenous anthocyanins. A. M. Robinson and R. Robinson. *Chem Soc J* p25-9 Ja '33

**ANTHOXANTHINS**

Anthoxanthins; experiments on the synthesis of garcinin. R. Robinson and R. C. Shah. *Chem Soc J* p610-12 Je '33

Anthoxanthins;  $\omega$ -hydroxyphloracetophenone and certain derivatives; synthesis of galangin under milder conditions than those used heretofore. J. J. Chavan and R. Robinson. *Chem Soc J* p368-70 Ap '33

Anthoxanthins; synthesis of a colouring matter of Robinia pseudacacia. E. H. Charlesworth and R. Robinson. *Chem Soc J* p268-70 Mr '33

**ANTHRACENE**

Hydrogenation of American coals in anthracene. W. L. Beuschlein and C. C. Wright. *Ind & Eng Chem* 25:409-10 Ap '33

Induced oxidation of anthracene in the autoxidation of benzaldehyde. G. E. K. Branch, H. J. Alquist and E. C. Goldsworthy. *Am Chem Soc J* 55:4052-62 O '33

System anthracene-phenanthrene. G. Bradley and J. K. Marsh. *Chem Soc J* p650-2 Je '33

**ANTHRACITE** service corporation, Trenton, New Jersey

Trenton boosts anthracite by sale of automatic equipment through central agency. *Coal Age* 38:195 Je '33

**ANTHRANILIC acid**

Anhydrides of N-arylanthranilic acids. M. Goodman, N. Arbiter and G. Powell. *Am Chem Soc J* 55:4294-9 O '33

Condensation of anthranilic acid with 4-chloroquinoline and with 2-chlorolepidine. O. G. Backeberg. *Chem Soc J* p390-1 Ap '33

**ANTHRAQUINONE**

Halochromism of ketones in acids. L. C. Anderson. *Am Chem Soc J* 55:2094-8 My '33  
 Preparation of 1,2- and 2,3- diaminoanthraquinones. P. H. Groggins and H. P. Newton. *bibliog il Ind & Eng Chem* 25:1030-3 S '33

**ANTHRAX**

Active immunization to anthrax by means of heterophile antigen. G. E. Rockwell. *Science* 77:612 Je 23 '33

Occupational anthrax in Germany in 1931 and 1932. *Int Labour R* 28:395-7 S '33

**ANTHROPOGEOGRAPHY**

Geographic factor. R. H. Whitbeck and O. J. Thomas. 422p [bibliog p403-6] \$2.25 Century co. '32



**ANTHROPOLOGICAL research**

Aims of anthropological research. F. Boas. Science 76:605-13 D 30 '32

History of the National research council, 1919-1933; Division of anthropology and psychology. A. T. Poffenberger. Science 78:158-61 Ag 25 '33

**ANTHROPOLOGY**

Early steps in human progress. H. J. Peake. 256p \$3 Lippincott '33

Long road from savagery to civilization. F. C. Cole. 100p [bibliog p99-100] \$1 Century co. '33

Science of man which is anthropology; with photographs of Field Museum exhibits. Fortune 8:66-70, 98+ O '33

See also

Field museum of natural history, Chicago—Hall of races of mankind

Ireland—Harvard anthropological survey

**Classification**

Anthropology; its library classification problems. F. P. Allen. Special Lib 24:90-3 My '33

**ANTHROPOMETRY**

New types of old Americans at Harvard and at eastern women's colleges. G. T. Bowles. 144p [bibliog p143-4] Harvard univ. press, Cambridge '32

**ANTI-AIRCRAFT** guns. See Guns, Anti-aircraft

**ANTI-FREEZE solutions**

Anti-freeze solution chart. Nat Pet N 25:40 N 8 '33

Comparison of methanol and other anti-freeze agents. T. C. Albin. Chem & Met Eng 40:526-7 O '33

**ANTI-FRICTION** bearings. See Bearings, Anti-friction

**ANTIGENS and antibodies**

Active immunization to anthrax by means of heterophile antigen. G. E. Rockwell. Science 77:612 Je 23 '33

Heterologous experience (immunization) as a factor in resistance to disease. C. Armstrong and W. T. Harrison. Pub Health Rep 48:597-609 [bibliog p608-9] Je 2 '33

**ANTIMONATES**

Formulas of antimonate acid and the antimonates. L. Pauling, bibliog Am Chem Soc J 55:1895-1900 My '33

**ANTIMONIC acid**

Formulas of antimonate acid and the antimonates. L. Pauling, bibliog Am Chem Soc J 55:1895-1900 My '33

Reduction of antimonate acid in hydrochloric acid solution with mercury. L. W. McCay. Ind & Eng Chem Anal ed 5:1-3 Ja 15 '33

**ANTIMONY**

Antimony extraction by electrolysis. C. C. Downie. Elec R (Lond) 112:483 Ap 7 '33

Calibration and salt error of the antimony electrode; its application in soil reaction measurements. N. J. King, bibliog Ind & Eng Chem Anal ed 5:323-7 S 15 '33

Composition of grids for positive plates of storage batteries as a factor influencing the sulphation of negative plates. G. W. Vinal, D. N. Craig and C. L. Snyder, pl U S Bur Stand J Research 10:795-808 Je '33

Effect of tension on the electrical resistance of single antimony crystals. M. Allen. Phys R 43:569-76 Ap 1 '33

Extension of the Pd I-like isoelectronic sequence to antimony VI and tellurium VII. G. K. Schoepfle. Phys R 43:742-4 My 1 '33

Fluorescence of diatomic molecules of antimony. J. Genard. Phys R 44:468-9 S 15 '33

Theory of the stick antimony electrode. L. R. Parks and H. C. Beard. J Phys Chem 37: 821-3 Je '33

Weak X-ray lines of columbium and antimony. P. A. Ross and P. Kirkpatrick. Phys R 43:1036 Je 15 '33

**Analysis**

Analysis of white metals and their smelter products. H. Neubert. Ind & Eng Chem Anal ed 5:60-1 Ja 15 '33

Conditions for estimating antimony by the permanganate method: potentiometric titration. W. Pugh. Chem Soc J p1-4 Ja '33

Determination of small quantities of antimony in solder in presence of iron. C. W. Anderson. Ind & Eng Chem Anal ed 5:52 Ja 15 '33

Estimation of small amounts of antimony in copper. B. Park and E. J. Lewis. Ind & Eng Chem Anal ed 5:182-3 My 15 '33

Reduction of antimonate acid in hydrochloric acid solution with mercury. L. W. McCay. Ind & Eng Chem Anal ed 5:1-3 Ja 15 '33

**ANTIMONY alloys**

Electrodeposition of ternary alloys of cadmium, zinc and antimony. L. E. Stout and L. Goldstein. Il Electrochem Soc Trans 63 (preprint 3):17-37 My '33

**ANTIMONY compounds**

Distibyls; tetra-*p*-bromotetraphenyl- and tetra-*p*-tolylidistibyl; di- $\alpha$ -naphthylidostibine. F. F. Blicke and U. O. Oakdale. Am Chem Soc J 55:1198-1201 Mr '33

**ANTIOXIDANTS**

Gum formation in gasoline; control by antioxidants. T. H. Rogers and V. Voorhees. bibliog Ind & Eng Chem 25:520-3 My '33

**ANTIOXIDANTS** for rubber. See Rubber—Aging

**ANTIOXYGENS**

Studies on the nature of antioxygens present in natural fats; further observations on the removal of antioxygens from olive and linseed oils. A. Banks and T. P. Hilditch. Soc Chem Ind J (Chem & Ind) 51:411T-14T D 23 '32

**ANTIRACHITICS**. See Rickets

**ANTISEPTICS**

See also

Disinfection and disinfectants

**Advertising**

5,000,000 bottles in eight weeks is Vicks goal; new antiseptic backed by \$1,200,000 campaign. Il Ptr Ink 162:10+ Ja 26 '33

**ANTI-TARNISH** cloth. See Tarnishing of metals

**ANTS**

Australian ants are formidable animals. W. M. Wheeler. Sci Am 149:130 S '33

How the primitive ants of Australia start their colonies. W. M. Wheeler. Science 76: 532-3 D 9 '32

Swarming and mating of ants. C. C. Guthrie. Science 77:627 Je 30 '33

**ANTWERP, Belgium**

Antwerp building two tunnels. Can Eng 63: 30 D 27 '32

L'emploi de la congélation pour les travaux des tunnels sous-fluviaux d'Anvers, il diags Génie Civil 103:209-11 Ag 26 '33

Shield-driven tunnels near completion under the Schelde at Antwerp. S. A. Thoresen. il diags Eng N 110:827-32 Je 29 '33

Les tunnels pour véhicules et piétons, sous l'Escaut, à Anvers. P. Calfas. il diags plan Génie Civil 103:101-7, 137-9 Jl 29-Ag 5 '33

**APARTMENT houses**

Apartment house in Paris. il plan Arch Forum 58:305-6 Ap '33

Can apartment house vacancies be filled? H. W. Tullgren. Il Forbes 31:12 Je 15 '33

Comparison of two ways of housing 5,000 people; Hillside housing development and typical New York tenements. il plans Arch Forum 58:126-7 F '33

Designer's notes on low-cost multi-family housing. T. C. Stapleton. front Il Architecture 67:1-6 Ja '33

Modern concrete design exemplified in Brooklyn apartments; Flagg Court apartments. il plans Eng N 110:462-5 Ap 13 '33

New system of concrete construction; precast concrete beams in apartment-house construction. F. Pratt. il Arch Rec 74:391-2 N '33

**APARTMENT houses—Continued**

Plan low-cost fireproof apartments for slum clearance project. plans Concrete 41:6-7 J1 '33

Steel ceilings help landlord. il Sheet Metal Worker 23:481-2 N '32

See also  
Tenement houses

**Cost**

Servicing apartments for lower rentals. H. Wright. il plans Arch Rec 73:223-9 Mr '33

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Celtic Park apartments, Long Island City, New York. Arch Rec 73:178-9 Mr '33

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Servicing apartments for lower rentals. H. Wright. il plans Arch Rec 73:223-9 Mr '33

**Electric equipment**

All-electric flats in London. il Elec R (Lond) 113:211-12 Ag 18 '33

**Equipment**

Metered washers make manufacturers happy. Forbes 32:13-14 Ag 15 '33

**Finance**

Apartment house bonds; some plans for reorganizing defaulted issues. C. M. Jones. J Land & Pub Util Econ 9:358-67 N '33

Beaux-Arts apartments go in for publicity. il Arch Forum 59:244-6 S '33

**Heating and ventilation**

Servicing apartments for lower rentals. H. Wright. il plans Arch Rec 73:223-9 Mr '33

**Maintenance and repair**

Floor sanding needs more quality work. G. S. Bartleson. il Am Bld 54:34-5+ F '33

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Apartment modernizing; a field of growing importance. J. B. Mason. il plans Am Bld 55:32-3+ My '33

Apartment modernizing pays! il Am Bld 55:43 Ag '33

Modernization methods that bankers will support. L. C. Stone. plans Am Arch 143:13-15 Mr '33

Modernizing methods for hotels and apartments. il plans Arch Forum 58:29-40 Ja '33

New apartments for old. C. H. Lench. plans Arch Rec 74:216-18 S '33

Old city flats modernized in Brooklyn. E. S. Hanson. il Am Bld 54:36-7 Mr '33

This apartment investment was protected by modernization. C. A. McCaleb. il Rand McNally Bankers Mo 50:602-4+ N '33

**APARTMENTS**

Apartment of Archibald M. Brown, New York city, and others; views and plans. Arch Rec 73:169-77 Mr '33

Apartment of Katharine Brush in New York; views. Arch Rec 74:354-7 N '33

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Ilmenite-apatite deposits of west-central Virginia. C. W. Ryan. diag Econ Geol 28:266-75 My '33

Metallurgical use of calcium phosphate. B. M. Suslov. Metal Prog 24:50+ S '33

Microscopical determination of ore-treatment methods. A. S. Hecht. Eng & Min J 134:14-16 Ja '33

Russian phosphate rock import inquiry starts. Oil Paint & Drug Rep 123:22 Ja 23; 15 Ja 30 '33

**APOSAFRANINE**

Studies on oxidation-reduction; aposafranines. R. D. Stiehler and W. M. Clark. Am Chem Soc J 55:4097-109 O '33

**APPENDICITIS**

Appendicitis record for 1932. F. L. Hoffman. Spectator 131:6-7+ Ag 3 '33

**APPLE juice**

Effect of light on bottled juices; apple and kraut juices. D. C. Carpenter. bibliog il Ind & Eng Chem 25:932-4 Ag '33

Problems of the cider maker. P. T. H. Pickford; V. L. S. Charley. Soc Chem Ind J (Chem & Ind) 52:742-5 S 15 '33

**APPLES**

Apples of discord; strict new rules as to lead residue from sprays hold up \$1 million of western apples. Business Week p14 My 24 '33

Some recent developments in low-temperature research. W. Hardy. il diag Soc Chem Ind J (Chem & Ind) 52:45-9 Ja 20 '33

**Transportation**

Investigations on the sea transport of apples. Engineering 136:333-4 S 22 '33

**APPLETON, Wisconsin****Water supply**

Water supply system at Appleton. W. U. Gallaher. Am Water Works Assn J 25:704-10 My '33

**APPLICATIONS for position**

Finding a job during the depression. H. D. Kitson. 32p Robert C. Cook co, New York '33

Selling your ability. T. S. Knowlson. 297p \$3 Putnam '33

Technical man sells his services. E. Hurst. 239p \$2 McGraw-Hill '33

Your job, how to get it and how to keep it. R. O. Pickard. 240p Dodd '33

**APPRAISAL. See Valuation****APPRENTICES**

Apprenticeship and NRA. A. W. Forbes. Am Mach 77:692 O 25 '33

Apprenticeship in Wisconsin. Monthly Labor R 35:1104-6 N '32

Bull market in skilled workers. K. Coolbaugh. il Nation's Business 21:42-4 N '33

How about toolmakers? C. B. Cole. Am Mach 77:603 S 13 '33

What about apprentices when business picks up? Ry Mech Eng 107:192+ Je '33

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**APPROXIMATE computation**

Successive approximations by the Rayleigh-Ritz variation method. J. K. L. MacDonald. Phys R 43:830-3 My 15 '33

**AQUARIUMS**

Current rotor for changing water without losing small organisms. P. S. Galstoft and L. E. Cable. diag Science 77:242 Mr 3 '33

Simple aquarium aerator. E. C. Driver. diag Science 77:565-6 Je 9 '33

**AQUEDUCTS**

Athens builds modern water works. R. W. Gausmann. il map diag Civil Eng 3:1-5 Ja '33

Increasing the capacity of the Los Angeles aqueduct. J. E. Phillips. Am Water Works Assn J 25:1047-52 Ag '33

San Jacinto tunnel, metropolitan water district, California; unit prices. diag map Eng N 109:766 D 22 '32

Well-managed tunneling methods whip low contract price; last section of tunnel aqueduct for Boston metropolitan district water supply. il diags Eng N 111:310-14 S 14 '33

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**ARABINOSE**

Preparation of l-arabinose and l-ribose by the oxidation of l-arabinal with benzoic peracid. F. C. Austin and F. L. Humoller. Am Chem Soc J 54:4749-50 D '32



**ARABINOSE tetraacetate**

Rotatory dispersion of organic compounds; rotatory dispersion and circular dichroism of aldehydic sugars. H. Hudson, M. L. Wolfson and T. M. Lowry. *Chem Soc J* p1179-92 S '33

**ARACHNIDA**

Are the trilobites related to the arachnids? L. Störmer. *bibliog diag* *Am J Sci* 5th ser 26:147-57 Ag '33

**ARBITRATION**

Advantages of arbitration and how to secure them. C. H. Blake. *Am Arch* 143:53-4 My '33

Arbitration usage in collision cases; Lloyd's new form of agreement. *Weekly Underw* 129:546-8 S 23 '33

Law of arbitration and awards. H. S. Palmer. 160p \$1.75 Pitman '32

**ARBITRATION, Industrial**

Arbitration of disputes between cooperatives and trade-unions in Finland. *Monthly Labor R* 36:138 Ja '33

Board of reference reports on wage dispute in anthracite industry. *Monthly Labor R* 36:815-18 Ap '33

Conciliation and arbitration in industrial disputes. 696p World peace foundation '33

Conciliation boards on the railways. *Engineer* 155:245-6 Mr 10 '33

Conciliation work of the Department of labor. Published in *Monthly labor review*

First month's activities of National labor board. *Monthly Labor R* 37:885-8 O '33

Labor agreements, awards, and decisions. *Monthly Labor R* 36:568-70 Mr '33

New conciliation and arbitration law of Queensland. *Monthly Labor R* 37:108-9 Jl '33

Problems of conciliation and arbitration; a study in comparative law. E. Kuttig. *Int Labour R* 26:649-75 N '32

Reduction in wage scale of typographical workers, New York city. *Monthly Labor R* 36:337 F '33

Work of the conciliation and arbitration authorities in Germany in 1931. *Int Labour R* 27:236-42 F '33

See also

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**ARBITRATION, International**

Arbitration of the title to islands in Passamaquoddy bay and the Bay of Fundy. (International adjudications, modern series, volume VI) J. B. Moore, ed. 415p \$2.50 Oxford '33

General synopsis of treaties of arbitration, conciliation, judicial settlement, security and disarmament actually in force between countries invited to the disarmament conference. F. C. DeWolf. (Division of international law no53) 201p [bibliog p x] Carnegie endowment for international peace, Washington, D.C. '33

See also

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**ARBORETUMS**

Morris arboretum and the University of Pennsylvania. *Science* 76:459 N 18 '32

Morris arboretum of the University of Pennsylvania; dedication program. *Science* 77:503-4 My 26 '33

Morris arboretum of the University of Pennsylvania will share in a collection of more than 30,000 mounted botanical specimens from eastern Asia. *Science* 77:404-5 Ap 28 '33

**ARBORS and mandrels**

Arbor for taper turning with tailstock offset. J. E. Fenno. *diag Mach* 39:455 Mr '33

Expanding arbor with interchangeable sleeves of different sizes. *diag Mach* 39:639 Je '33

Expanding faceplate arbor for cored holes. D. L. Brown. *diag Mach* 39:526 Ap '33

Mandrel for turning and facing threaded work. E. W. Errick. *diag Am Mach* 77:252 Ap 12 '33

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From copper to gold—Arcadian Consolidated being transformed from Michigan copper property to Canadian gold development? *Barron's* 12:14 O 31 '32; 13:8 My 1 '33

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**ARCHER-Daniels-Midland company**

Stocks behind the market—ready to go. *Mag of Wall St* 52:125+ My 27 '33

**ARCHERY**

Aerodynamics of an arrow. G. J. Higgins. *J Fr Inst* 216:91-101 Jl '33

**ARCHES**

Design of continuous arches on elastic piers. A. P. Hjort. *Am Concrete Inst J* 4:143-7 N '32

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**ARCHES, Concrete**

Analysis of unsymmetrical concrete arches. C. S. Whitney. *Am Soc C E Proc* 59:1247-68 O '33

Essais de rupture d'une voûte mince conoïde en béton armé, aux ateliers de Fontenay-sous-Bois du chemin de fer Métropolitain de Paris. M. Fauconnier. *il diag* *plan Génie Civil* 102:533-8 Je 10 '33

Unsymmetrical concrete arches; determination of moment, shear and thrust at crown. F. N. Weaver. *Boston Soc C E J* 20:99-109; Discussion. O. G. Julian. 110-14 My '33

**ARCHITECTS**

Advantages of arbitration and how to secure them. C. H. Blake. *Am Arch* 143:53-4 My '33

Appraising building loans for banks, a logical field of service for architects. R. W. Sexton. *Am Arch* 143:23 Ja '33

Architect and client a century ago. H. Upjohn. *il Arch Rec* 74:377-82 N '33

Architect as financial counselor. J. C. Fistere. *Arch Forum* 58:205-8 Mr '33

Architect or building economist? L. M. Lebar. *Arch Rec* 72:395-6 D '32

Architecture can be sold to the small house buyer. N. Piper. *il Am Arch* 143:20-2 My '33

Debt takes a holiday. K. M. Murchison. *Arch Forum* 58:276-8 Ap '33

Dollars out of depreciation; inspection of buildings offers opportunity for architects. F. Dolke, jr. *Am Arch* 143:33-4 Jl '33

Dollars out of the depression; appraising a new field of business for architects. H. A. O'Dell. *Am Arch* 143:52-4 Mr '33

Economics—the new basis of architectural practice. E. R. Coburn. *Am Arch* 143:50-4 S '33

Emergency planning and research bureau for Boston architects and engineers. *Monthly Labor R* 35:1272-4 D '32

Holographs of famous architects; Burnham library of the Art Institute of Chicago. T. E. Tallmadge. *pors Am Arch* 143:8-12 Mr '33

How can architects develop business? symposium. *Arch Rec* 73:309-21 My '33

How many architects are carrying on? T. S. Holden. *Arch Rec* 74:57-8+ Jl '33

Instructions to private architects engaged upon public building work; general information and preliminary procedure. *Arch Rec* 74:73-5 Ag '33

Make no little plans. W. W. Watkin. *Am Arch* 143:67 S '33

Planning for changed needs. R. D. Kohn. *Arch Rec* 73:294+ Ap '33

Private architect's part in the federal building program. L. W. Robert, jr. *Am Arch* 143:12-14 S '33

Selling architectural services today. R. Ber-covich. *il Architecture* 67:228-30 Ap '33

Unemployment relief measures. *il Arch Rec* 72:354-60 D '32

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What is an architect? H. V. Magonigle. Am Arch 143:30-2 J1 '33

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Accurate job accounting made easy. P. P. Scroggs. Am Arch 143:48-9 My '33  
Bookkeeping system for the one-man office. W. F. Dolke, jr. Am Arch 142:26-7 D '32

**Advertising**

Seattle architects capitalize their unfinished business; a publicity plan. il Am Arch 143: 68 Ja '33

**Fees**

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Fee system defended. J. Graham. Am Arch 143:70 Ja '33  
Professional fee for the architect. R. C. Sturgis. Am Arch 142:12-13+ N '32

**Law**

Courts allow architects' fees where limits of cost are respected. G. F. Kaiser. Am Arch 143:98 Mr '33  
Ownership of preliminary sketches can be safeguarded. C. H. Blake. Am Arch 143:30-2 Ja '33  
Three legal cases of frequent occurrence. C. H. Blake. Am Arch 143:93-4 S '33  
Unlicensed architect's contract with owner is not enforceable. G. F. Kaiser. Am Arch 142: 27 N '32  
Verdict against architect for loss by fire. G. F. Kaiser. Am Arch 142:21 D '32

**Licenses and registration**

Requirements for state registration of non-resident architects. C. J. Oberwarth. Am Arch 143:31-5 My '33

**ARCHITECTS, Government**

Time has come to get the government out of the architectural business. T. S. Rogers. Am Arch 143:41-2 Mr '33

**ARCHITECTS' offices****Management**

How can architects develop new business? better office procedure; better architectural service. W. S. Parker. Arch Rec 73:311-14 My '33

Little book that helps get jobs. W. H. Wolaver. Am Arch 142:18-19 N '32

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**Mounting**

Floating a sketch. F. R. Lorenz. diag Architecture 67:11+ Ja '33

**ARCHITECTURAL education**

Architectural education; a letter from a friend. H. F. Cunningham. Architecture 68:147-9+ S '33

Cranbrook academy of art program. il Arch Rec 73:430-1, sup 17 Je '33

Harness idle hours; Peace monument for Duwamish Head, a cooperative design by members of the Seattle architectural club. H. K. Wolfe. il Am Arch 143:49 S '33

How shall we teach architecture? R. C. Jones. Arch Rec 73:427-9 Je '33

Let's send more students to our schools of architecture. B. F. Betts. Am Arch 143:7 Mr '33

Objectives of architectural education. R. Traquair. Arch Rec 74:339 N '33

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Achievement in model making; one-inch scale model of a room with an adjacent garden. Architecture 68:39 J1 '33

Forward house; models of eight houses at R. H. Macy & company exposition. il plans Arch Forum 59:279-87 O '33

How to make a cardboard model. W. F. Silliman. il plan Am Arch 142:22-3 D '32

**ARCHITECTURAL philately.** See Postage stamps

**ARCHITECTURAL rendering**

Composition and rendering. A. T. Bishop. 128p \$2.75 Wiley '33

**ARCHITECTURE**

Architectural design. E. Pickering. 311p \$6.50 Wiley '33

Architecture of a new era, revolution in the world of appearance. R. A. Duncan. 152p [bibliog p147-8] 7s 6d Search pub. co, London '33

Disappearing city. F. L. Wright. 90p W. F. Payson, New York '32

Horizons. N. B. Geddes. 293p \$4.75 Little, Brown, and co, Boston '32

How to look at buildings. D. Braddell. 166p \$2 Dutton '33

International style lacks the essence of great architecture. T. F. Hamlin. il Am Arch 143: 12-16 Ja '33; Discussion and reply. 143:95-6 My '33

Modernism—yesterday, today, and tomorrow. R. Newcomb. il Architecture 68:253-8 N '33  
New vision, from material to architecture. L. Moholy-Nagy. 191p \$5 Harcourt '32

Organic structure. C. B. Ryder. Architecture 67:145-50 Mr '33

Planning Rockefeller Center, New York. il diags plans Eng N 109:579-99 N 17 '32

Theory and practice of architecture. C. H. Reilly. 144p [bibliog p143-4] V. Gollancz, ltd, London '32

See also

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**Bibliography**

Architect's library. Published in monthly numbers of Architectural record

**Competitions**

Development of Queens boulevard, Borough of Queens, New York city; program of a three-part competition. *il plan Arch Rec 73: 10-14 Ja '33*

Queens Boulevard competition prizes. *il Arch Rec 73:432-7 Je '33*

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Restoration of Williamsburg. B. W. Norton. *il Manuf Rec 102:20-2 F '33*

**Designs and plans**

House and store development for Jenkintown, Pennsylvania. *Arch Rec 74:33-5 Jl '33*

Modern architectural design. H. Robertson. 220p Architectural press, London '32

Ownership of preliminary sketches can be safeguarded. C. H. Blake. *Am Arch 143:30-2 Ja '33*

Return of reason in architecture. H. T. Lindeburg. *Arch Rec 74:252-5 O '33*

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Spanish architecture of the Southwest; some details of woodwork and adobe construction. *Architecture 68:289-92 N '33*

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Architectural league of New York annual show. *il Arch Forum 58:sup31-2 Mr '33*

Architectural league's 48th annual exhibition; awards. *il Architecture 67:211-12 Ap '33*

Large-scale housing proposals assembled in extensive exhibit; 1933 Architectural League show, New York. *Eng N 110:332 Mr 9 '33*

**History**

Young people's story of architecture. E. H. Butterfield. 393p \$3 Dodd '33

**Modernism**

Architectural progress; Century of progress buildings. L. Skidmore. *il Elec J 30:234-7 Je '33*

Old order changeth. R. W. Sexton. *il Am Arch 142:14-17 N '32*

Ten years of modernism. P. P. Cret. *il Arch Forum 59:91-4 Ag '33*

**Sketches**

Jungle housing; the unemployed create a new village on the shores of Puget Sound. H. K. Wolfe. *Am Arch 143:24-5 Ja '33*

New castle sketches; drawings by Albert Kruse; notes by Gertrude Kruse. \$1.50 University of Pennsylvania press, Philadelphia '32

**Study and teaching**

Educating future clients; the Tennessee chapter, American institute of architects, takes architecture into the public schools. M. H. Furbringer. *il Am Arch 143:17-18 My '33*

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Le manoir de la Houblonnière. S. Chamberlain. *il Am Arch 142:34-5 D '32*

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Wales, Dinwiddie county, Va. and Dr Hugh Mercer's apothecary shop, Fredericksburg, Va.; measured drawings. *Am Arch 143:69-72 My '33*

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Architect and small house costs. H. Wright. *il plans Arch Rec 72:389-94 D '32*

Cellular steel-unit house. C. M. Price. *il front Arch Rec 74:249-51, 313 O '33*

Colonial and federal house. R. Newcomb. 174p [bibliog p173-4] 100 pl \$3.50 Lippincott '33

**ARCHITECTURE, Domestic—Continued**

- Design for living. K. K. Stowell. *il plans Arch Forum 58:173-6 Mr '33*
- Good small house precedent; photographs of four early American houses. *Am Arch 143: 68-9 S '33*
- Houses are for children, too; with details of children's requirements. R. Leigh. *Am Arch 142:39-42 N '32*
- Houses cannot be built like automobiles. A. T. North. *il Am Arch 142:18-20 D '32; Discussion. J. Burchard. 143:72; Reply. 72 Ja '33*
- Machines for living; functionalist housing. L. Mumford. *il Fortune 7:78-80, 82, 84, 87-8 F '33*
- New York city house of Richard F. Hoyt; views. *Architecture 68:151-2 S '33*
- Princeton, N.J. house of Alfred Hopkins, architect; views and plan. *Architecture 68: 273-82 N '33*
- These houses we live in; an anonymous lament. *Architecture 68:213-18 O '33*
- Trashy architecture; the menace to the building industry. W. D. Sawler. *il Manuf Rec 102:20-1 Ap '33*
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- Architecture of the new Italy; a presentation of the architectural features of the exposition held every three years in Milan. G. Ponti. *il plans Arch Forum 59:120-30 Ag '33*
- Asheville, North Carolina, house of Douglas D. Ellington. *Am Arch 143:43-8 S '33*
- Back to the land homes most popular in 1933 market. *il Am Bld 55:14-17 My '33*
- Bedford, New York, house of Joseph Husband. *Am Arch 142:67-72 N '32*
- Bedford, New York, remodeled frame farm house of Margaret Owen. *il Am Arch 143:67-72 Mr '33*
- Before & after folio of remodeled houses. *il plans Arch Forum 58:9-28 Ja '33*
- Berlin, Germany, house K in O. *Am Arch 143:25-32 S '33*
- Cannondale, Conn. house of Mrs Cora Molly Neel. *Am Arch 143:61-2 My '33*
- Charleston, West Virginia, house of Plus R. Levi. *Am Arch 143:39-42 S '33*
- Cleveland, Ohio, house of F. C. Lewman. *Am Arch 143:73-4 My '33*
- Colonial Village development in Kansas City, Mo. *Arch Rec 73:191-5 Mr '33*
- Dayton, Ohio, house of Richard R. Grant. *Am Arch 142:74 N '32*
- Eight country houses. *Arch Forum 58:209-24 Mr '33*
- Experimental house, Merion, Pa. H. D. Eberlein. *Arch Forum 58:480-4 Je '33*
- Fairfield county, Connecticut, house of Rex Stout. A. L. Kocher and G. Ziegler. *Arch Rec 74:45-9 Jl '33*
- Five rooms and garage for \$1500. *il plans Am Bld 55:42 S '33*
- Forward house; models of eight houses at R. H. Macy & company exposition. *Arch Forum 59:279-88 O '33*
- Game of planning a house. D. Scoates. 150p [bibliog p145-50] Southwest press, Dallas, Texas '33
- Geneseo, N.Y. house of Lockwood F. Young; alterations. *Am Arch 143:75-6 My '33*
- Glens Falls, N.Y. house of Alexander W. Miller. *Am Arch 143:87 My '33*
- Great Neck, Long Island, house of Harold Satterlee Willis. *Am Arch 142:55-8 D '32*
- Greenwich, Conn. house of Gilbert Browning. *Architecture 66:325-32 D '32*

- Group houses, Chestnut Hill, Pa. *Architecture 68:223-6 O '33*
- Holland; suburban villa in Rotterdam, garden city Nieuwendam, and thatched cottage. *Arch Forum 59:309-14 O '33*
- Home design section. Published in monthly numbers of American builder and building age
- Home plan section showing sixteen recommended designs. *Am Bld 54:13-22 D '32*
- House designs demonstrating the flexibility of cellular steel unit construction. *Arch Rec 74:256-88 O '33*
- House of the month. Published in monthly numbers of American builder and building age
- Housing exhibit; Century of progress exposition. *Am Bld 55:29-43, 66-7 Je '33*
- Jersey City, N. J. house of Dr Milton Barkann; convertible two-family house. *Am Arch 143:86 Jl '33*
- Kalamazoo, Mich. house of O. F. Miller. *Architecture 67:25-30 Ja '33*
- Kansas City, Mo. house of B. N. Mossman. *Am Arch 143:88 My '33*
- Kansas City, Mo. house of Dr Thomas G. Orr. *Architecture 67:285-8 My '33*
- Knoxville, Tenn. residence of Robert S. Young. *il plans Arch Forum 59:109-10 Ag '33*
- La Jolla, California, house of Remsen McGinnis. *Arch Rec 73:423 Je '33*
- La Mesa, California, house of Willard B. Merrick. *Am Arch 142:71-2 D '32*
- Los Angeles, Calif. house of Paul H. Helms. *Am Arch 143:63-8 My '33*
- Manhasset, Long Island, house of William Everdell; and others in California and New York. *il plans Arch Rec 74:359-67 N '33*
- Modern houses of the Century of progress exposition. *il diags plans map Arch Forum 59:51-62 Jl '33*
- Morristown, N.J. house of Benjamin A. Mosser. *Architecture 67:137-44 Mr '33*
- Moylan, Pa. house of Edward Wright. *Architecture 67:347-50 Je '33*
- New Canaan, Conn. house of Charles C. Belows. *Am Arch 143:77-82 My '33*
- New Haven, Conn. house of Franklin Edgerton. *il Am Arch 143:79-86 Mr '33*
- New Milford, Conn. house of L. W. Wilson. *Arch Rec 73:263-4 Ap '33*
- New York city, house of Vincent Astor; views and plans. *Architecture 67:217-22 Ap '33*
- 1932 better homes in America small house architectural competition. *Arch Rec 73:196-216 Mr '33*
- Opportunity for profit seen in small homes of known quality. *il plans Am Bld 55:64-6+ Ap '33*
- Orchard Park, New York, house of Harry F. Hudson. *Arch Rec 73:106-7 F '33*
- Pasadena, Calif. house of LeRoy Kellogg. *Architecture 67:21-4 Ja '33*
- Pasadena, Calif. house of Otho M. Behr, and house of Arthur Rosson, Santa Monica. *Arch Rec 73:265-6 Ap '33*
- Portfolio of low-cost houses. *il plans Arch Rec 74:345-53 N '33*
- Prize winning designs in nation-wide 1932 better homes contest. *Am Bld 54:24-31 Mr '33*
- Remodeled house of Irwin Wheeler, Trinity Lake, New York. *Am Arch 143:57-60 Ja '33*
- Remodeled houses, Washington, D.C. *Am Arch 143:65-6 Ja '33*
- Remodelling and adapting the small house. H. D. Eberlein and D. G. Tarpley. 163p \$3.50 Lippincott '33
- San Marino, California, house of Clarence P. Day. *Arch Rec 72:375-7 D '32*
- Santa Barbara, California, house of Clayton Demotte, Jr.; Hope Park ranch. *Am Arch 143:77-80 S '33*
- Santa Barbara, California, house of Dr and Mrs Milton J. Geyman. *Arch Rec 73:108-9 F '33*
- Short Hills, New Jersey, house of A. F. Traversers. *Am Arch 142:51-4 N '32*
- Six country houses. *Arch Forum 58:177-92 Mr '33*
- Six small homes planned to cost less than \$4,000. R. C. Hunter. *Am Bld 55:20-1 My '33*



**ARCHITECTURE, Domestic—Designs and plans**

—Continued

- Small and medium-cost houses. Arch Rec 74:33-49, 121-36 J1-Ag '33  
 Southbridge, Mass. house of Richard Lennihan. il plans Architecture 68:157-60 S '33  
 Summer colony developments. R. C. Kilborn. il maps plans Am Arch 143:69-80 J1 '33  
 Three remodeled houses. Arch Forum 58:311-26 Ap '33  
 Tokyo, Japan, houses; Antonin Raymond, architect. Arch Rec 73:48-53 Ja '33  
 Trend of progress in house design; demonstration houses at a Century of progress. il plans Am Arch 143:22-9 J1 '33  
 Villa Savoye in Poissy; Le Corbusier, architect. Arch Forum 58:299-301 Ap '33  
 Washington, D.C. house of Mr and Mrs L. C. Strong. Arch Rec 72:366-8 D '32  
 Washington, D.C.; three houses in Colony Hill. Am Arch 142:59-65 N '32  
 West Orange, New Jersey, house of B. F. Jones. Am Arch 142:66 N '32  
 Williamsport, Pa., house of Seth T. McCormick, jr. Am Arch 143:89-92 S '33

**Austria**

- Ein landhaus; view and plans. Architecture 67:331 Je '33  
 Residence Stephan Ritter v. A. il plan Arch Forum 57:514-16 D '32

**California**

- La Quinta hotel and cottages at Indio; views and plans. Arch Rec 74:345-51 N '33  
 Los Angeles, Calif. house of Herbert Allen, jr; views. Architecture 67:167-8 Mr '33  
 Palm Springs, California, house of Julian S. Nolan; views and plans. Am Arch 143:63-6 Mr '33  
 San Marino, house of Edward H. Heath; views and plan. Architecture 67:343-6 Je '33

**England**

- Homes and gardens of England. H. Batsford and C. Fry. 61p Scribner '33  
 Homes of the pilgrim fathers in England and America (1620-1685). M. S. Briggs. 211p [bibliog p199-201] Oxford '32  
 Houses and gardens. M. H. B. Scott and A. E. Beresford. 294p Architecture illustrated, London '33  
 London buildings. (English art ser. v 1) F. P. Brown. 100p \$2.50 Pitman '33

**France**

- International section; France; views and plans. Arch Forum 58:299-308 Ap '33

**Germany**

- Berlin, house K in O; views and plans. Am Arch 143:25-32 S '33  
 Machines for living; functionalist housing. L. Mumford. il Fortune 7:78-80, 82, 84, 87-8 F '33  
 Portable houses of copper; views and plans. Arch Forum 58:145-7 F '33

**Japan**

- Tokyo, Japan, houses; views and plans; Antonin Raymond, architect. Arch Rec 73:48-53 Ja '33

**Long Island**

- Noted Long Island homes. 2p 46 pl E. W. Howell co, Babylon, Long Island '33

**New England**

- Homes of the pilgrim fathers in England and America (1620-1685). M. S. Briggs. 211p [bibliog p199-201] Oxford '32

**Virginia**

- Renaissance of Carter's Grove on the James river, Virginia, now the home of A. M. McCrea. W. D. Lee. il plans Architecture 67:185-94 Ap '33  
 Wales, Dinwiddie county; measured drawings. Am Arch 143:69-70 My '33

**ARCHITECTURE, Gothic**

- International style lacks the essence of great architecture. T. F. Hamlin. il Am Arch 143:12-16 Ja '33; Discussion and reply. 143:95-6 My '33

- Lost tower of Beauvais. R. K. Fletcher. il plan Am Arch 143:10-16 My '33  
 Portfolio of Gothic niches. il Architecture 68:301-16 N '33

**ARCHITECTURE, Greek**

- International style lacks the essence of great architecture. T. F. Hamlin. il Am Arch 143:12-16 Ja '33; Discussion and reply. 143:95-6 My '33

**ARCHITECTURE, Romanesque**

- Romanesque architecture. F. Eygun. 247p \$1.35 B. Herder book co, St Louis '33

**ARCHITECTURE, Spanish**

- Spanish architecture of the Southwest; some details of woodwork and adobe construction. Architecture 68:289-92 N '33

**ARCTIC exploration**

See also

- International society for the exploration of the Arctic regions by means of aircraft

**ARCTIC regions**

- Northern lights. F. S. Chapman. map 304p, 64pl \$5 Oxford '33  
 Polar regions; abstracts. V. Stefansson. Aviation Eng 8:24 Mr '33; Sci Am 148:288-9 My '33  
 Quest for polar treasures. J. Welzl. 352p Macmillan '33

**ARGENTINA**

See also

- Bonds, Government— Finance—Argentina  
 Argentina Food industry and  
 Debts, Public—Argen- trade—Argentina  
 tina

**Commerce**

- Argentina and British investors. Economist 117:819-21 O 28 '33  
 Argentine trade mission. Chem Age (Lond) 28:138 F 18 '33  
 World trade—a la mode; Argentina will buy from us, if we reciprocate the courtesy. Business Week p27 Je 10 '33

**Commercial policy**

- Argentina's use of exchange control. E. B. Dietrich. Barron's 13:9 Je 12 '33  
 Dollars are blocked; Anglo-Argentine trade treaty freezes dollar unless Americans accept bond payment and increase imports. Business Week p24 O 28 '33

**Economic conditions**

- Argentina in 1932. Economist 116:31-2 F 18 '33

**ARGON**

- Infra-red spectra of neon, argon, and krypton. W. F. Meggers and C. J. Humphreys. U S Bur Stand J Research 10:427-48 Ap '33  
 Ionization and scattering accompanying positive ion impact in gases. C. A. Frische. diags Phys R 43:160-8 F 1 '33  
 Ionization of argon, neon and helium by A, Ne and He atoms. C. J. Brasefield. diags Phys R 43:785-7 My 15 '33  
 Neutralization and ionization of high-velocity ions of neon, argon and krypton by collision with similar atoms. H. F. Batho. bibliog diags Phys R 42:753-65 D 15 '32  
 La sublimation du magnésium dans le vide, et sa coulée dans une atmosphère d'argon. J. Hérenghuel and G. Chaudron. diags Génie Civil 102:42-3 Ja 14 '33  
 Test of the classical momentum transfer theory of accommodation coefficients of ions at cathodes. K. T. Compton and E. S. Lamar. Phys R 44:338-44 S 1 '33  
 Use of argon in the ionization method of measuring cosmic rays and gamma-rays. J. J. Hopfield. bibliog Phys R 43:675-86 My 1 '33

**ARGYRIA**

- Strange disease. I. S. Wright. Science 77:sup6 Je 23 '33

**ARISTOGENESIS**

- Aristogenesis, the observed order of biomechanical evolution; abstract. H. F. Osborn. Science 77:519 My 26 '33

## ARITHMETIC

## Study and teaching

Arithmetic for teachers. H. E. Glazier. 291p [bibliog p281-3] McGraw-Hill '32

## ARITHMETIC, Commercial

Brief business arithmetic. C. W. Sutton and N. J. Lennes. new ed 340p Allyn and Bacon, Boston '33

Business arithmetic. C. W. Sutton and N. J. Lennes. new ed 562p Allyn and Bacon, Boston '33

## ARKWRIGHT, Sir Richard, 1732-1792

Arkwright bi-centenary; abstracts. F. Nasmith. Engineer 154:623 D 16 '32; Engineering 134:737-8 D 23 '32; Textile Inst J 24: P1-7 Ja '33

## ARLINGTON cemetery

## Tomb of unknown soldier

Tomb of the unknown soldier and approaches; views. Architecture 67:255-60 My '33

## ARMAMENTS

## Cost

World's military expenditures. G. Hirschfeld. Barron's 13:3 Je 5 '33

## ARMATURES

Armature reaction. J. S. Newton. Elec J 29: sup7 D '32

## Repair

Small armature repair kinks. J. C. Coyle. il Elec Traction 29:80 Mr '33

Stand and dipping vat for armatures. il Transit J 77:216-17 Jl '33

## Testing

Drop test. C. Sylvester. diags Elec J 30:390-1 S '33

## Winding

Design of direct-current armature coils. E. H. Turnock. diags Elec J 30:131 Mr '33

## ARMORED car insurance. See Insurance, Inland marine—Policies

## ARMOUR and company

Armour helped by bond profit; report for the year ended October 29. Barron's 13:18 Ja 2 '33

Armour's president answers queries. Barron's 13:10 S 18 '33

Stockholders rebel. Business Week p10 S 9 '33

What is the investment outlook for these companies? Mag of Wall St 51:404 Ja 21 '33

## ARMOUR institute of technology

Armour institute of technology. R. M. Cunningham, jr. J Eng Educ 23:517-22 Mr '33

Development plan. J. D. Cunningham. il Mech Eng 54:841-4 D '32

## ARMSTRONG, G. W., Whitworth and company (engineers)

Organising a research bureau. J. C. S. Stuart. plans Assn of Sp Lib & Inf Bur Proc 1933: 17-32

## ARMSTRONG cork company

Armstrong Cork earns a profit. Econostat 1: 13, 32 O 14 '33

## ARMSTRONG Whitworth securities company, ltd.

Annual general meeting, London. Economist 117:145 Jl 15 '33

## ARNOLD, Harold DeForest, 1883-1933

Sketch. front (por) R Sci Instr 4:421 Ag '33; Ind & Eng Chem News ed 11:214 Jl 20 '33

## AROMATIC compounds

Action of aromatic alcohols on aromatic compounds in the presence of aluminum chloride; condensation of phenylpropylcarbinol and  $\alpha$ -chlorobutylbenzene with phenol. R. C. Huston and H. W. Strickler. Am Chem Soc J 55:4317-18 O '33

Action of elementary fluorine upon certain aromatic organic compounds under various conditions. L. A. Bigelow and others. diags Am Chem Soc J 55:4614-20 N '33

Aromatics find increasing use for reodorizing textiles. Textile World 82:1173 D '32

Existence of aromatic bisnitroso-compounds of the type  $R'N_2O_2R''$ . D. L. Hammick and others. Chem Soc J p671-4 Je '33

Labilities or electronegativities of some unsaturated alkyl radicals as determined by hydrogen chloride scission of organolead compounds. H. Gilman, E. B. Towne and H. L. Jones. Am Chem Soc J 55:4689-93 N '33

Mechanism of aromatic rearrangements; the benzidine change. C. K. Ingold and H. V. Kidd. Chem Soc J p984-8 Ag '33

Significance of tautomerism and of the reactions and aromatic compounds in the electronic theory of organic reactions. C. K. Ingold. Chem Soc J p1120-7 S '33

Volume effects of alkyl groups in aromatic compounds. R. J. W. Le Fèvre. Chem Soc J p977-84 Ag '33

## ARROWHEADS

Arrowheads found with new Mexican fossils. Science 76:sup12-13 N 25 '32

## ARSANILIC acid

*p*-Arsanilic acid derivatives of *N*-substituted malonamides. J. Kennedy. Chem Soc J p2781-2 N '32

New derivatives of *p*-arsanilic acid; *p*-arsonoadipanic acid and related compounds. G. T. Morgan and E. Walton. Chem Soc J p91-3 Ja '33

New derivatives of *p*-arsanilic acid; *p*-arsonomethylmalonanilic acid and related compounds. G. T. Morgan and E. Walton. Chem Soc J p1064-7 Ag '33

## ARSENIC

Arsenic in lead-base bearing metals. Engineer 155:sup[Metallurgist] 11-13 F 24 '33

Entfernung des arsens aus eisenzerzen. W. Ruff and E. Scheil. Stahl & Eisen 52:1193-5 D 1 '32

Evidence for an asymmetrical trivalent arsenic atom. C. F. H. Allen and F. B. Wells. Am Chem Soc J 55:3894 S '33

New process eliminates arsenic and fluorine from sulfurous gases. P. Gerard. Ind & Eng Chem News ed 11:158 My 20 '33

Revision of the atomic weight of arsenic; the analysis of arsenic tribromide; the analysis of arsenic trichloride. G. P. Baxter and others. diag Am Chem Soc J 55:1054-66 Mr '33

Revision of the atomic weight of arsenic; the comparison of arsenic trichloride with iodine pentoxide. G. P. Baxter and W. E. Shaefer. diag Am Chem Soc J 55:1957-63 My '33

## Analysis

Apparatus and procedure for the electrolytic estimation of arsenic. F. N. Moerk. bibliog diags Electrochem Soc Trans 64 (preprint 17):173-86 S '33

Interference of pyridine derivatives in arsenic determination. C. R. Gross. Ind & Eng Chem Anal ed 5:58-60 Ja 15 '33

Modification of Bettendorff's arsenic test; with adaptation for mercury determination. W. B. King and F. E. Brown. bibliog Ind & Eng Chem Anal ed 5:168-71 My 15 '33

Volumetric determination of arsenic; potentiometric titrations of reduced arsenic solutions with potassium iodate in sulfuric and hydrochloric acid solutions. I. C. Schoonover and N. H. Furman. Am Chem Soc J 55: 3123-30 Ag '33

## ARSENIC bromides

## Analysis

Revision of the atomic weight of arsenic; the analysis of arsenic tribromide; the analysis of arsenic trichloride. G. P. Baxter and others. diag Am Chem Soc J 55:1054-66 Mr '33

## ARSENIC chlorides

Revision of the atomic weight of arsenic; the comparison of arsenic trichloride with iodine pentoxide. G. P. Baxter and W. E. Shaefer. diag Am Chem Soc J 55:1957-63 My '33



**ARSENIC chlorides—Continued****Analysis**

Revision of the atomic weight of arsenic; the analysis of arsenic tribromide; the analysis of arsenic trichloride. G. P. Baxter and others. *diag Am Chem Soc J* 55:1054-66 Mr '33

**ARSENIC oxides**

Ceric sulfate as a volumetric oxidizing agent; indicator methods for the standardization and use of ceric sulfate. H. H. Willard and P. Young. *Am Chem Soc J* 55:3260-9 Ag '33

**ARSENIC poisoning**

Arsenic fungi of Gosio. C. Thom and K. B. Raper. *Science* 76:548-50 D 9 '32

Arsenic, mercury and lead poisoning. A. Hamilton. *Safety Eng* 65:141-2, 183 Ap-May '33

How much poison can we eat? T. S. Harding. *il Sci Am* 149:197-9 N '33

Occurrence of lead, copper, zinc, and arsenic compounds in atmospheric dusts, and the sources of these impurities. J. T. Dunn and H. C. L. Bloxam. *Soc Chem Ind J* 52:189T-92T Je 30 '33

Poisonous spray residues on vegetables. W. B. White. *bibliog Ind & Eng Chem* 25:621-3 Je '33

Relation of arsenoxide content to toxicity of fresh and old samples of arspenamine. S. M. Rosenthal and T. F. Probe. *bibliog Pub Health Rep* 48:969-76 Ag 11 '33

Removal of poisonous spray residues on fruit. R. H. Robinson. *il diags Ind & Eng Chem* 25:616-20 Je '33

Significance and danger of spray residue. C. N. Myers and others. *bibliog Ind & Eng Chem* 25:624-8 Je '33

**ARSENIC sulfides**

Filtration phenomena in colloids. M. Annetts. *J Phys Chem* 36:2936-9 D '32

**ARSENOXIDES**

Relation of arsenoxide content to toxicity of fresh and old samples of arspenamine. S. M. Rosenthal and T. F. Probe. *bibliog Pub Health Rep* 48:969-76 Ag 11 '33

Trypanocidal action and chemical constitution; the relative velocity of oxidation of arylarsenoxides. A. Cohen, H. King and W. I. Strangeways. *Chem Soc J* p2866-72 D '32

**ARSINE**

Arsenic, mercury and lead poisoning. A. Hamilton. *Safety Eng* 65:141-2, 183 Ap-May '33

Ultra-violet absorption spectra of phosphine, arsine, and stibine. G. H. Cheesman and H. J. Emeléus. *Chem Soc J* p2847-8 D '32

**ARSINES**

Some arsine derivatives of silver salts. G. J. Burrows and R. H. Parker. *Am Chem Soc J* 55:4133-5 O '33

**ARSON**

Adjusters' work provides background of proof to decide Attalla arson case. *Ins Field (Fire ed)* 62:6+ Mr 2 '33

Arson criminal. *Safety Eng* 65:104 Mr '33

Conspiracy, fraud, and arson. *Economist* 117:401-2 Ag 26 '33

Criminal prosecution real cure for arson. A. G. Whitelaw. *East Underw* 34:28 My 5 '33

Fire companies of New York ask city's aid to fight incendiary losses. *East Underw* 34:1+ Ap 21 '33

Five unique points settled in Alabama arson case ruling. *Ins Field (Fire ed)* 62:7-8 Ja 19 '33

How British firebugs were run to cover. A. C. Blackall. *East Underw* 34:17+ S 8 '33

Local agent's opportunity in arson control by foreseeing temptation. C. W. Ehlers. *Ins Field (Fire ed)* 62:6 Ja 5 '33

London arson trial attracts attention. *East Underw* 34:24 Ap 7 '33

Sixteen defendants guilty in great arson trial in London. *East Underw* 34:19 S 1 '33

**ARSONIC acids**

Aldehyde oxidation of tolueneearsonic acids. H. M. Farnellee and C. S. Hamilton. *Am Chem Soc J* 55:1463-9 Ap '33

**See also**

Benzeneearsonic acid

**ARSONOADIPANILIC acid**

New derivatives of *p*-arsanilic acid; *p*-arsono-*adipanic* acid and related compounds. G. T. Morgan and E. Walton. *Chem Soc J* p91-3 Ja '33

**ARSONOMETHYLMALONANILIC acid**

New derivatives of *p*-arsanilic acid; *p*-arsono-methylmalonanilic acid and related compounds. G. T. Morgan and E. Walton. *Chem Soc J* p1064-7 Ag '33

**ARSONVAL, A. de, 1850-**

Le jubilé du professeur d'Arsonval (Paris, 27 mai 1933). *por Génie Civil* 102:525 Je 3 '33

**ART**

Art for government's sake. C. T. Coiner. *Adv Arts* p23-4 S '33

**See also**

Architects	Lithography
Architecture	Mural painting and decoration
Decoration and ornament	Photography
Design	Pottery
Design, Decorative	Proportion (art)
Enamel and enameling	Sculpture
Interior decoration	Stained glass

**Bibliography**

Art index, January 1929-September 1932. 1565p Wilson, H. W. '33

Art index; annual cumulation, October 1932 to September 1933. 426p Wilson, H. W. '33

**Classification**

Architecture and the fine arts; some schemes and modifications. D. Morris. *Special Lib* 23:451-3 D '32

**United States**

Arts in American life. F. P. Keppel and R. L. Duffus. 227p \$2.50 McGraw-Hill '33

**ART, Decorative.** See Decoration and ornament; Design, Decorative

**ART, Japanese**

A B C of Japanese art. J. F. Blacker. *il* 460p \$3.50 Bridgman publishers, Pelham, N.Y. '33

Murals from the National gallery in Tokyo. *Fortune* 8:31, 35-46 Jl '33

**ART, Modernist**

What about this modern movement: is it revolution or evolution? influence on advertising. P. T. Haagen. *il Ptd Salesmanship* 61:36-9 Mr '33

**ART, Persian**

Glory of Persian art: sculptures discovered in Persepolis. *il Sci Am* 148:220-1 Ap '33

**ART, Popular**

Popular arts and workers' spare time. J. Destrée. *Int Labour R* 27:184-206 F '33

**ART galleries and museums**

Cleveland museum of art; views and plans. *Architecture* 68:261-8 N '33

Different art museum; Toledo (Ohio) museum of art. *il Sci Am* 148:322 Je '33

Remodeling Art museum, Portland, Oregon. *il plans Arch Rec* 74:50-4 Jl '33

**Directories**

Directory of museums and art galleries in Canada, Newfoundland, Bermuda, the British West Indies, British Guiana and the Falkland Islands. H. A. Miers and S. F. Markham, comps. 92p The Museums assn, 39B, Alfred Place, London, S.W.7

**Heating and ventilation**

Heating and ventilating Portland's new museum of art. W. E. Kemery, jr. *il plan Heat & Ven* 30:16-19 My '33

**ART galleries and museums—Heating and ventilation—Continued**

Proper air conditions preserve museum pieces; heating and air conditioning of the addition to the Worcester art museum. C. E. Center. *il diag Heat & Ven* 30:21-5 N '33

**Lighting**

French institute in the United States, New York. *il Illum Eng Soc Trans* 28:474-5 Je '33  
Lighting of the Municipal gallery of modern art, Dublin. *il Illum Engr* 26:196-7 Ag '33

**ART industries and trade****Germany**

Made in Germany and Austria. S. Smith. 75p  
Minton, Balch & co, New York '33

**ART libraries**

Library of the Memorial art gallery, Rochester, N.Y. M. McConnell. *Special Lib* 24: 21-2 Ja '33

*See also*

Chicago art institute  
—Burnham library

**ART objects**

For \$100,000 any man becomes a collector. *il Fortune* 7:58-66 My '33

**ART schools**

Chouinard school of art, Los Angeles; views and plans. *Arch Rec* 74:368-9 N '33

**ARTESIAN wells**

Little Hay pumping station of the South Staffordshire waterworks company. *il Engineering* 134:613-15, 626 N 25 '32  
Le puits artésien de 831 mètres de profondeur d'Aulnay-sous-Bois (Seine-et-Oise). *il diags Génie Civil* 103:351-3 O 7 '33  
Rockford water supply. D. W. Mead. *Am Water Works Assn J* 25:1140-51 Ag '33  
Slitting mill pumping station of the South Staffordshire waterworks company. *il Engineering* 136:323-5 S 22 '33

**ARTHRITIS**

Cause of arthritis. G. A. Bennett and W. Bauer. *Science* 77:sup8 My 12 '33  
Influence of conditions in the home and workshop on the course of chronic rheumatic, infective arthritis; abstract. G. Edström. *J Ind Hygiene* 15:sup26 My '33

**ARTICHOKES***See also*

Jerusalem artichoke

**ARYLAMIDES. See Amides****ARYLETHANES**

Relative stability of penta-arylethanes; the preparation of penta-arylethanes. W. E. Bachmann. *bibliog Am Chem Soc J* 55: 2135-9 My '33

**ASBESTOS**

L'amiante et l'asbeste. *Génie Civil* 102:356-7 Ap 15 '33  
Asbestos in permanganate titrations. R. W. Curtis and J. Finkelstein. *bibliog Ind & Eng Chem Anal ed* 5:318-19 S 15 '33  
Asbestos lumber replaces concrete in bus structure. O. J. Rotty. *il Elec W* 100:759 D 3 '32  
Asbestos textiles. C. K. Dillingham. *Am Soc T M Proc* 32 pt 2:743-8 '32; Same. *Am Dyestuff Rep* 21:571-3 S 12 '32; Excerpts. *Mech Eng* 54:650-1 S '32  
Cause of brittleness in chrysotile asbestos. N. D. Soboleff and M. V. Tatarinoff. *bibliog Econ Geol* 28:171-7 Mr '33  
Choice of asbestos cloth. *Chem Age (Lond)* 28:392-3 Ap 29 '33  
Chrysotile asbestos in the Bajenova district, U.S.S.R. W. A. RuKeyser. *il maps Eng & Min J* 134:355-9, 375-81, 415-19 Ag-O '33  
Mechanical cobbing of chrysotile asbestos. W. A. RuKeyser. *flow sheet il Eng & Min J* 134:235-7 Je '33  
Pretreatment of woven-molded brake lining controls quality. J. Geschelin. *il Automotive Ind* 67:744-5 D 10 '32

*See also*

Haveg

Transite

**ASBESTOS workers**

Occurrence of clumps of asbestosis bodies in the sputum of asbestos workers; abstract. M. J. Stewart, N. Tattersall and A. C. Haddow. *J Ind Hygiene* 15:sup78 J1 '33  
Pulmonary asbestosis; its clinical, radiological, and pathological features, and associated risk of tuberculous infection. P. Ellman. *bibliog il J Ind Hygiene* 15:165-83 J1 '33

**ASCORBIC acid**

Constitution of ascorbic acid. W. N. Haworth. *Soc Chem Ind J (Chem & Ind)* 52:482-5 Je 9 '33  
Constitution of ascorbic acid. R. W. Herbert and others. *Chem Soc J* p1270-90 S '33  
I-inositol in citrus fruits. E. K. Nelson and G. L. Keenan. *Science* 77:561 Je 9 '33  
Structure of ascorbic acid. E. L. Hirst. *Soc Chem Ind J (Chem & Ind)* 52:221-2 Mr 10 '33  
Structure of ascorbic acid (vitamin C). P. A. Levene and A. L. Raymond. *Science* 78: 64 J1 21 '33  
Synthesis of ascorbic acid. W. N. Haworth and E. L. Hirst. *Soc Chem Ind J (Chem & Ind)* 52:645-6 Ag 4 '33  
Vitamin C activity of hexuronic acid from suprarenal glands. W. A. Waugh and C. G. King. *bibliog Science* 76:630 D 30 '32  
Vitamin-C; specificity of hexuronic acid and a method for its determination in foodstuffs by chemical means; abstract. T. W. Birch, L. J. Harris and S. N. Ray. *Soc Chem Ind J (Chem & Ind)* 52:159-60 F 24 '33

**ASH GROVE lime and Portland cement company**

Celebrates triple anniversary. *il Rock Prod* 36:56-7 F '33

**ASH handling**

Davidson and co. vacuum smoke-box cleanser at Willesden. *il diags Engineer* 156:166-7 Ag 18 '33  
Steam raising plant at Kirkstall power station, Leeds. *il Engineering* 134:619 N 25 '32

**Cost**

Ash handling economy. R. Trautschold. *Powder Pl Eng* 37:468 N '33

**ASHING**

Simplified methods for micro-incineration of tissues. R. F. MacLennan. *Science* 78:367 O 20 '33

**ASHMOLEAN museum. See Oxford university—Ashmolean museum****ASIA**

International research institution proposed for work in Central Asia. R. C. Andrews. *Science* 76:sup8 D 23 '32

Second psychological expedition to Central Asia; study of primitive thought. A. Luria. *Science* 78:191-2 S 1 '33

**ASPARTIC acid**

Conductivities of aspartic acid and of glutamic acid and certain of their salts and the influence of temperature thereon. S. Miyamoto and C. L. A. Schmidt. *tables Univ of Calif Pub in Physiology v* 8, no 2:9-20 '32

Walden inversion; conversion of bromosuccinic acid into malic acid; conversion of aspartic acid into chloro- or bromosuccinic acid. H. N. K. Rørdam. *Chem Soc J* p2931-45 D '32

**ASPEN**

Alkaline process for obtaining high yields of pulp from aspen wood. R. L. Davis. *bibliog Paper Tr J* 97:33-46 Ag 24 '33

**ASPERGILLUS fischeri**

Carbohydrate constituents of aspergillus fischeri; abstract. A. G. Norman, W. H. Peterson and R. C. Houtz. *Soc Chem Ind J (Chem & Ind)* 51:980-1 N 25 '32

**ASPHALT**

Advantages of emulsified asphalt in penetration type construction. V. L. Ostrander. *il Can Eng* 64:13-17 F 7 '33

Asphalt emulsion reduces insulator radio troubles. F. O. McMillan. *il Elec W* 102:185-7 Ag 5 '33



**ASPHALT**—*Continued*

- Asphalt-impregnated slabs of concrete in salt water; precast units used for protection against disintegration in tunnels of Seal Beach power plant. W. R. Shettel. *il Eng N 110:108-9 Ja 26 '33*
- Asphalt-impregnated tile. Chem & Met Eng 40:81 F '33
- California leads in fight to force use of American asphalts. Nat Pet N 25:23 Ag 9 '33
- Chemical and mechanical features of asphalt emulsions. R. M. Heine. Nat Pet N 25:43-4+ JI 26 '33
- Colloid chemistry of asphalts. C. Mack. J Phys Chem 36:2901-14 D '32
- Concrete tanks lined with asphalted tile found suitable for pickling. *il Steel 93:29 S 25 '33*
- Cut-back asphalts; their characteristics and use. P. Hubbard. Roads & Sts 76:19-20 Ja; 87-9 F '33
- Emulsified asphalt industry ignores the depression. J. M. Fain and A. W. Hixson. *il Chem & Met Eng 40:180-3 Ap '33*
- Evaluation of emulsified asphalts for road building purposes. L. Kirschbraum. *il Roads & Sts 76:150-5 Ap '33*
- Foreign asphalts not needed in U. S. Mid-continent refiners protest. Nat Pet N 25:22 O 4 '33
- Gain in demand for petroleum asphalts offers refiners opportunity for substantial profit. G. Abson. *diags Oil & Gas J 31:69-70+ Mr 30 '33*
- Improved asphalt emulsion. A. W. Hixson and J. M. Fain. Eng N 110:107 Ja 26 '33
- Lummus announces new lube-asphalt process. Nat Pet N 25:25 Je 7 '33
- Manufacture of asphalt from cracking process residues. F. M. H. Taylor. *diags Inst Chem Eng Trans 9:158-71; Discussion. 171-3 '31*
- Mixture of asphalt and cypress wood fibre used as flooring; cypreturf. *il Roads & Sts 76:344 S '33*
- Natural mastic asphalt. Engineer 155:326 Mr 31 '33
- New process enables refiners to obtain large yields of lubricating stock and asphalt. C. O. Willson. *il Oil & Gas J 32:94 My 25 '33*
- Origin of the asphalt deposits of western Kentucky. W. L. Russell. *map Econ Geol 28:571-86 S '33*
- Physical properties of mixtures of bitumen and finely divided mineral matter. A. Evans. *Inst Pet Tech J 18:957-91 D '32*
- Produits asphaltiques et assimilés. H. Rabate. *Chimie & Ind 29:766-80, 1026-41 Ap-May '33*
- Progress of naphthology. 1932; asphalts and road materials. W. W. Goulston. *Inst Pet Tech J 19:617-27 JI '33*
- Protest the use of foreign asphalts for NRA highway improvement program. Oil & Gas J 32:27 S 7 '33
- Stabilization of aqueous dispersions of asphalt. A. W. Hixson and J. M. Fain. *bibliog il Ind & Eng Chem 24:1336-43 D '32*
- See also*  
Pavements, Asphalt  
Roads, Asphalt  
Roads, Bituminous

**Analysis**

Méthode nouvelle d'analyse des asphaltes destinés à être employés à froid et d'isolement des agents émulsionnants qu'ils contiennent; abstract. K. Neubronner. *Chimie & Ind 28:1363-4 D '32*

**Statistics**

Government report reflects changes in the demand for grades of asphalts. Oil & Gas J 32:30 Je 1 '33

**ASPHALT mixers**

Iroquois 40 cu. ft. (2-ton) asphalt pugmill mixer. *il Roads & Sts 75:511-12 D '32; Same. Eng & Contr 71:281-2 D '32*

**ASPHALT pavements.** See Pavements, Asphalt

**ASPHALT plants**

New type deck used on Reading pier. *il Ry Age 95:82-3 JI 8 '33*

Specifications suggested for asphalt bridge plank. L. H. Koenitzer. Eng N 110:771-3 Je 15 '33

**ASPHALT plants**

Unique asphalt-plant factory; Simplicity system company, Chattanooga, Tenn. *il Manuf Rec 102:30 Ap '33*

**ASPHALT roads.** See Roads, Asphalt**ASPHALT rock**

Asphalt limestone pavements on black base. J. H. Conzelman. *il Pub Works 64:11+ Ja '33*

Mining and milling Utah rock asphalt. R. C. Fleming. *il Min & Met 14:192-4 Ap '33*

Texas plant installs special equipment for new asphalt rock products. *il Rock Prod 35:16 D 10 '32*

**ASPHALTITE**

Occurrence, nature and origin of asphaltites in limestone and oil shale deposits in Estonia. P. N. Kogerman. *pls Inst Pet Tech J 19:215-22 Mr '33*

*See also*

Gilsonite

**ASPHYXIA**

Deaths from asphyxiation. Science 77:442-3 My 12 '33

**ASPIDINOL**

Constituents of *filix mas*; aspidinol. A. Robertson and W. F. Sandrock. *Chem Soc J 819-23 JI '33*

**ASSAY office, New York.** See United States—Assay office, New York

**ASSAYING**

Evaluating gold in certain placers by microscopy. A. L. Crawford. *il Min & Met 14:372-4 S '33*

Textbook of fire assaying. E. E. Bugbee. 2d rev ed 299p \$3 Wiley '33

*See also*

United States—Assay office, New York

**ASSEMBLING machines**

Fixture for assembling bushings in ends of links. R. Beusch. *diags Mach 39:452 Mr '33*

**ASSEMBLING methods**

Belt moves, but the work—; speedometer assembly at Stewart-Warner corporation. A. V. Levering. *il Factory Management 91:96 Mr '33*

Continuous punching, forming and assembling on automatic machines. F. H. Colvin. *il diags Am Mach 77:522-5 Ag 16 '33*

Fewer motions, more output. C. G. Johnson. *il Factory Management 91:394-5 O '33*

Motion study speeds a simple assembly. R. M. Barnes. *il diags Am Mach 77:338-40 My 24 '33*

**ASSESSMENT**

Building obsolescence and the assessor. J. E. Burton. *J Land & Pub Util Econ 9:109-20 My '33*

Fundamental bases of value which the assessor could use to aid in appraisals. J. E. Burton. *Arch Forum 59:sup27-3+ O '33*

Method for the classification of rural lands for assessment in western North Dakota. C. E. Kellogg. *J Land & Pub Util Econ 9:10-15 F '33*

**ASSESSMENTS, Special.** See Special assessments

**ASSETS**

Cash surrender value of life-insurance policies. *J Account 55:393-4 My '33*

Current assets and liabilities. A. Herrick. *J Account 56:330-49 N '33*

Prepaid expense and current assets. M. M. Strain. *Credit & Fin Management 34:14-15+ O '32; Discussion. 34:32-3 D '32*

Value of assets in bankruptcy. L. L. Briggs. *Credit & Fin Management 35:40-1 S '33*

**ASSETS, Fixed**

Asset values must be measured by factual analysis; capital deflation necessary in many industrial companies. J. R. Kraus. *Bankers Mo 50:71-2+ F '33*

**ASSETS, Fixed—Continued**

- Deflating the balance sheet to inflate earnings. W. R. Donaldson. Iron Age 131:773-5 My 18 '33; Same. Trust Companies 57:173-6 Ag '33; Same abr. Chem Markets 32:427-9 My '33
- How fixed are fixed assets? S. Stevenson. Credit & Fin Management 34:25+ D '32
- Plant depreciation and net earnings; a study in corporation management. W. A. Layman. Annalist 40:867-8 D 30 '32
- Ten business problems of contracting; appraisal of equipment of fixed assets. J. L. Harrison. Eng N 111:472-4 O 19 '33
- What's behind the plant account; from the investor's viewpoint. W. W. Hay. Mag of Wall St 51:473-4+ F 18 '33
- Writing down of plant values and its probable effect on future profits. W. A. Layman. Annalist 42:243-4 Ag 25 '33
- ASSOCIATED business papers**
- Fall meeting, Chicago. Ptr Ink 165:34-5 O 26 '33
- Several million dollars worth of space buying. R. F. Owsley. Adv & Sell 20:24+ F 16 '33
- ASSOCIATED dry goods corporation**
- Annual report, year ended Dec. 31, 1932. Barron's 13:16 F 27 '33
- ASSOCIATED electrical industries**
- Annual general meeting, 33d, London. Economist 116:773 Ap 8 '33
- ASSOCIATED employers reciprocal**
- Gullett files final report as receiver. Ins Field (Fire ed) 61:10 D 15 '32
- Reciprocal failure being wound up. Nat Underw 36:27 D 8 '32
- ASSOCIATED gas and electric company**
- Assailed by Trade examiner, J. C. Dickerman. Elec W 101:403 Ap 1 '33
- Associated Gas wins fight; stockholder's suit for receivership denied. Barron's 12:18 D 12 '32
- Associated reorganization sought through debentures. J. I. Mange. Elec W 101:629-30 My 20 '33
- Grants new rights; capital rearrangement plan. Gas Age 72:139 Ag 5 '33
- Receivership petition. Barron's 12:19 N 28 '32
- ASSOCIATED general contractors of America**
- Code of fair competition for general contractors; full text. Eng N 111:82-4 Jl 20 '33
- Meeting, Detroit. Eng N 110:123-4 Ja 26 '33
- ASSOCIATED knit underwear manufacturers of America.** See American knitwear manufacturers association
- ASSOCIATED manufacturers of toilet articles** (formerly American manufacturers of toilet articles)
- Annual convention, New York, April 25-27. Oil Paint & Drug Rep 123:15+ My 1 '33
- Ethics code conference is postponed. Oil Paint & Drug Rep 123:40 Je 26 '33
- ASSOCIATED Portland cement manufacturers**
- Ordinary general meeting, 34th, London. Economist 116:774 Ap 8 '33
- ASSOCIATED press**
- Associated press curbs radio use of news. Ptr Ink 163:65+ Ap 27 '33
- ASSOCIATED traffic clubs of America**
- Semi-annual meeting, Peoria, Ill. June 6-7. Ry Age 94:870-1 Je 17 '33
- ASSOCIATION advertising.** See Advertising, Association
- ASSOCIATION and associations**
- See also
- Advertising, Association
- Benefit societies
- Cooperation Societies
- Trade associations
- ASSOCIATION of British chemical manufacturers**
- Annual meeting, 17th, London, Oct. 12. Chem Age (Lond) 29:341-2 O 14 '33; Soc Chem Ind J (Chem & Ind) 52:876-8 O 27 '33
- Annual report for 1932. Soc Dyers & Col J 48:302-4 N '32
- Principal events of 1932. Chem Age (Lond) 28:13 Ja 7 '33

- ASSOCIATION of Dominion land surveyors**
- Annual meeting, 26th, Ottawa, Feb. 1-2. Can Eng 64:13-14 F 14 '33
- ASSOCIATION of governmental officials in industry of the United States and Canada**
- Recommendations regarding Association of governmental officials in industry. Monthly Labor R 36:305-7 F '33
- ASSOCIATION of gum naval stores distributors**
- Naval stores sellers organize. Oil Paint & Drug Rep 124:16 O 23 '33
- ASSOCIATION of iron and steel electrical engineers**
- Annual meeting, 29th, Pittsburgh, Oct. 17-19. Iron Age 132:41-3 O 26 '33; Steel 93:32+ O 23; 28-9 O 30 '33; Elec W 102:550 O 28 '33
- ASSOCIATION of life agency officers**
- Joint meeting, with Life insurance sales research bureau, Chicago, Oct. 23-25. East Underw 34:19+ O 27 '33; Ins Field (Life ed) 62:5-6+ O 27 '33; Nat Underw (Life ed) 37:1+ O 27 '33; Spectator 131:16-17+ O 26; 16+ N 2 '33; Weekly Underw 129:805+ O 28 '33
- ASSOCIATION of life insurance counsel**
- Annual meeting, New York, Dec. 6-7. Weekly Underw 127:1100+ D 10 '32
- ASSOCIATION of life insurance presidents**
- Annual meeting, New York. Weekly Underw 127:1093+ D 10 '32; Ins Field (Life ed) 61:5+ D 9 '32; Nat Underw (Life ed) 36:1+ D 9 '32; Spectator 129:10-12, 24 D 15 '32
- Proceedings of the twenty-sixth annual convention, New York, Dec. 8-9. 280p Association of life insurance presidents, New York '32
- ASSOCIATION of national advertisers**
- Annual convention, 23d, Atlantic City. Sales Management 31:472-4+ D 1 '32; Ptr Ink 161:74-6 N 24 '32; Adv & Sell 20:34 N 24 '32
- One day conference, New York. Ptr Ink 163:35-6 Je 15 '33
- ASSOCIATION of newsprint manufacturers of the United States**
- U. S. newsprint manufacturers submit code; text. Paper Tr J 97:11, 22-5 Jl 20 '33
- ASSOCIATION of official agricultural chemists**
- Annual meeting, 49th, Washington, D.C. Oil Paint & Drug Rep 124:18+ N 13 '33
- ASSOCIATION of Ontario land surveyors**
- Annual meeting, 41st, Toronto, Feb. 21-22. Can Eng 64:7-9 Mr 14 '33
- ASSOCIATION of public lighting engineers**
- Annual meeting, 10th, Margate, Sept. 4-6. Il Electrician 111:296, 315-17 S 8-15 '33; Elec R (Lond) 113:313-14, 351-2 S 8-15 '33; Gas J (Lond) 203:571-3 S 13 '33; Illum Engr 26:224-43 O '33
- ASSOCIATION of railway claim agents**
- Annual meeting, 44th, Chicago, June 21-23. Ry Age 95:87-8 Jl 8 '33
- ASSOCIATION of special libraries and information bureaux**
- Year's work of ASLIB. Assn of Sp Lib & Inf Bur Proc 1932:13-19
- Year's work of ASLIB. Assn of Sp Lib & Inf Bur Proc 1933:12-16
- ASSOCIATION of state highway officials of the North Atlantic states**
- Annual convention, 9th, Atlantic City, Feb. 15-17. Eng N 110:262-3 F 23 '33
- ASSOCIATION to aid scientific research by women**
- Origin and termination. H. J. Crawford. Science 76:492-3 N 25 '32
- ASSYRIAN sculpture.** See Sculpture, Assyrian
- ASTHMA**
- Filtered air relieves hay fever. W. H. Welker, B. Z. Rappaport and T. Nelson. Il Heating-Piping 5:348-50 Jl '33
- Hay fever halted by conditioned air; abstracts. L. N. Gay. Sheet Metal Worker 24:150 My '33; Refrig Eng 26:52 Jl '33
- ASTON, F. W.**
- Sketch. por Soc Chem Ind J (Chem & Ind) 51:1032 D 16 '32



- ASTOR, Vincent**  
In defense of Vincent Astor. pors Fortune 8: 71-80+ O '33
- ASTOR family**  
In defense of Vincent Astor; other Astors, from the first John Jacob to the sixth. pors Fortune 8:71-80+ O '33
- ASTROLABES**  
Astrolabes of the world. R. W. T. Gunther. 2v Oxford '32
- ASTRONOMICAL instruments**  
See also Sextant
- ASTRONOMICAL models**  
Building model stars. H. N. Russell. il Sci Am 148:212-13 Ap '33
- ASTRONOMICAL observatories**  
McDonald observatory. Science 77:483 My 19 '33  
McDonald observatory of University of Texas. Science 78:162 Ag 25 '33  
Telescopes are housed in welded steel buildings; United States naval observatory, Washington. il Steel 93:26-7 O 16 '33  
Centenary of the astronomical observatory at Leiden. Science 78:378-9 O 27 '33  
Warner & Swasey to construct new McDonald observatory, University of Texas. il Iron Age 132:31 O 12 '33  
See also United States naval observatory
- ASTRONOMICAL photography**  
Eclipse, bad weather, and a new way out. H. N. Russell. il map Sci Am 147:338-9 D '32  
Eclipse cinematography. S. A. Korff. R Sci Instr 4:86-7 F '33  
Motion pictures of celestial phenomena taken at the McMath-Hulbert observatory of the University of Michigan; abstract. R. R. McMath, F. C. McMath and H. S. Hulbert. Science 76:520 D 2 '32  
Photographic plates for use in spectroscopy and astronomy. C. E. K. Mees. il diag Opt Soc Am J 21:753-75; 22:204-6; 23:229-33 D '31, Ap '32, Jl '33
- ASTRONOMY**  
Astronomical aspect of the theory of relativity. W. de Sitter. Univ of Calif Pub in Mathematics v 2, no 8:143-96 '33  
Literary value of mathematical tables. H. N. Russell. il Sci Am 148:318-19 Je '33  
Results of observations with the nine-inch transit circle, 1913-1926. H. R. Morgan. 365p U.S. naval observatory, Washington '33  
See also  
Astrophysics                      Orbits  
Azimuth                          Planetariums  
Comets                            Solar system  
Earth                              Stars  
Nebulae                          Sun
- ASTRONOMY, Spherical and practical**  
Introduction to practical astronomy. D. Alter. 80p \$2 Crowell '33
- ASTROPHYSICS**  
Electron-nebula ratio. J. D. M. Smith. Soc Chem Ind J (Chem & Ind) 52:364-5 Ap 28 '33
- ASWAN dam**  
Heightening of the Aswan dam. il diags supp Engineer 155:542-5 Je 2 '33; Abstract. Génie Civil 103:29-33 Jl 8 '33  
Die zweite erhöhung der staumauer bei Aswan. A. Hermann. il diag Zeit Ver Deutsch Ing 77:910 Ag 19 '33
- ATCHAFALAYA river**  
New plans for the Mississippi; developing the Atchafalaya for greater floodflow. maps Eng N 111:102-5 Jl 27 '33
- ATCHISON, Topeka and Santa Fe railway**  
Annual report, 1932. Ry Age 94:535-6 Ap 8 '33  
Atchison's slow recovery. Econostat 1:11, 32 S 30 '33  
Bledsoe succeeds Storey on Santa Fe. Ry Age 94:671-2 My 6 '33
- Prospects for Atchison come-back. D. Hovey. il map Barron's 13:3, 6+ My 29 '33  
Santa Fe earned charges 1.63 times last year. Ry Age 95:155-6 Jl 22 '33  
Santa Fe trail of today and yesterday. L. A. Luther. il Comp Air M 38:4040-2 Ja '33
- ATHENS, Greece**  
Water supply  
Athens builds modern water works. R. W. Gausmann. il map diag Civil Eng 3:1-5 Ja '33  
Operating conditions at the Athens water purification plant. L. A. Geupel. il Water Works & Sewerage 80:113-16 Ap '33
- ATHLETIC fields**  
Lighting  
Football by artificial light. Illum Engr 26:1-2 Ja '33
- ATITLAN, Lake**  
Lake Atitlan. W. W. Atwood. il map Geol Soc Bul 44:661-8 Je '33
- ATLANTA, Georgia**  
Rapid transit  
Transit co-operation proves its worth in Atlanta. il Transit J 77:141-3 My '33  
Water supply  
New Atlanta turbidimeter. P. Weir. il plan Am Water Works Assn J 25:584-9 Ap '33
- ATLANTA university**  
Library  
Atlanta university library at Atlanta, Georgia; views and plans. Arch Rec 73:323-8 My '33
- ATLANTIC Coast Line railroad**  
Coast Line turns for the better. D. Hovey. il map Barron's 13:6-7 Je 5 '33
- ATLANTIC refining company**  
Code prospects. Econostat 1:14-15 S 9 '33  
Common stocks for income and price appreciation. Mag of Wall St 51:281-2 D 24 '32  
Good gains in profits reported. Nat Pet N 25:10 F 1 '33  
Report for 1932. Barron's 13:4 Mr 6 '33
- ATLAS corporation**  
Assets at \$7.02. Barron's 13:13 F 27 '33  
Floyd B. Odum; he made the depression work for him. G. H. Allen. Forbes 32:12-14+ Jl 15 '33  
Speculative possibilities among investment trusts. W. Gates. Mag of Wall St 51:158+ N 26 '32
- ATLAS powder company**  
Atlas Powder net earnings turn up. Econostat 1:11, 32 N 11 '33  
Companies emerging from the red. Mag of Wall St 52:178 Je 10 '33
- ATLASES**  
Atlas of the historical geography of the United States. C. O. Paulin. 162p Carnegie institution of Washington, Washington, D.C. '32  
Commercial atlas of the world; featuring new 1930 census. L. E. Smith. 208p Geographical pub. co, 621 Plymouth court, Chicago '32
- ATMOSPHERE**  
Effect of the spectral transmission of the atmosphere upon visibility by artificial light. M. G. Bennett. Illum Engr 26:75-80 Mr '33  
Variations in the small-ion content of the atmosphere and their causes. G. R. Wait. J Fr Inst 216:147-55 Ag '33  
See also  
Air  
Meteorology
- ATMOSPHERE, Solar. See Sun**
- ATMOSPHERE, Upper**  
Auroral spectrum and the upper atmosphere; abstract. L. Vegard. Engineering 136:470 O 27 '33  
Book of the sky. M. Luckiesh. rev & enl ed \$3 335p Dutton '33  
Clouds in the stratosphere. A. Thomson. Science 77:sup9 Ja 27 '33

**ATMOSPHERE, Upper—Continued**

- Continuous measurements of the virtual heights of the ionosphere. T. R. Gilliland. *pls diag U S Bur Stand J Research* 11:141-6 J1 '33; Same. *Inst Radio Eng Proc* 21:1463-75 O '33
- Cosmic-ray intensities in the stratosphere. I. S. Bowen and R. A. Millikan. *il Phys R* 43:695-700 My 1 '33
- Cosmic ray intensities in the stratosphere; abstract. I. S. Bowen and R. A. Millikan. *Science* 77:494 My 19 '33
- Electrical research; study of upper atmosphere at Halley Stewart laboratory. *Electrician* 110:620 My 12 '33
- Existence of more than one ionised layer in the upper atmosphere. G. Builder. *bibliog il Wireless Eng* 9:667-72 D '32
- General theory on the propagation of radio waves in the ionized layer of the upper atmosphere. S. Namba. *bibliog Inst Radio Eng Proc* 21:238-62 F '33
- Ionosphere. E. V. Appleton. *Electrician* 110:857 Je 30 '33
- Magneto-ionic theory. J. A. Ratcliffe. *Wireless Eng* 10:354-63 J1 '33
- Stratosphere; abstract. A. Piccard. *Aviation Eng* 8:25 F '33
- Stratosphere balloon ascent. *Science* 77:sup10-11 My 26 '33
- Travel of wireless waves; abstracts. F. Smith. *Engineering* 135:494-5 My 5 '33; *Engineer* 155:454-5 My 5 '33; *Electrician* 110:581-2 My 5 '33; *Elec R (Lond)* 112:631-2 My 5 '33; *Wireless Eng* 10:317 Je '33
- Truth about high-altitude flight. W. H. Evers. *diags Sci Am* 148:154-5+, 222-3+ Mr-Apr '33
- Wireless apparatus for the study of the ionosphere. G. Builder. *bibliog diags Inst E E J* 73:419-36, pl 1-2 O '33

See also

Kennelly-Heaviside layer

**ATMOSPHERIC electricity**

Atmospheric electricity. B. F. J. Schonland. 100p \$1.10 Dutton '33

See also

Lightning

Radio communication

—Interference

**ATMOSPHERIC pressure**

Solar variations and atmospheric pressure. H. H. Clayton. *Science* 77:568 Je 9 '33

**ATMOSPHERIC temperature**

Are winters getting warmer? study of Boston winter temperatures. R. M. Nee and D. S. Boyden. *Heat & Ven* 30:13-15 My '33

Climate in the United States. O. W. Armspach. *Refrig Eng* 24:273-6+ N '32; Same. *Heat & Ven* 29:26-9 D '32

Colder weather coming—what it means to the gas industry. R. L. Coryell. *Gas Age* 71:133-6 F 11 '33; *Excerpts. Adv & Sell* 20:20+ F 16 '33

Gulf stream overrated as maker of weather. *Sci Am* 149:173 O '33

Outside temperatures used for design in heating calculation in 96 cities; reference data. *Heat & Ven* 30:26a-26b J1 '33

Selecting the design or outside temperature for heating calculations. *map Heat & Ven* 30:33-6 My; 34-5 Ag '33

Six years of degree-day records. *Heat & Ven* 30:7-9 S '33

**ATMOSPHERICS. See Radio communication—Interference****ATOMIC numbers**

Comparison of the directive powers of elements having consecutive atomic numbers; nitration of 2:4:6-triphenylpyrylium perchlorate. C. G. Le Fèvre and R. J. W. Le Fèvre. *Chem Soc J* p2894-9 D '32

Nuclear moments and their dependence upon atomic number and mass number. N. S. Grace. *Phys R* 44:361-4 S 1 '33

**ATOMIC weights**

Atomic weight of cesium. G. P. Baxter and J. S. Thomas. *Am Chem Soc J* 55:858-9 F '33

Atomic weight of lead from Bedford cyrtolite. G. P. Baxter and C. M. Alter. *Am Chem Soc J* 55:1445-8 Ap '33; *Abstract. Science* 76:524-5 D 2 '32

Atomic weight of lead from Katanga pitchblende. G. P. Baxter and C. M. Alter. *Am Chem Soc J* 55:2785-92 J1 '33; *Abstract. Science* 77:431-2 My 5 '33; *Discussion. A. v. Grosse. Am Chem Soc J* 55:3893 S '33

Atomic weight of less volatile potassium prepared by Hevesy. G. P. Baxter and C. M. Alter. *Am Chem Soc J* 55:3270-1 Ag '33

Comparison of the densities of carbon monoxide and oxygen, and the atomic weight of carbon. M. Woodhead and R. Whytlaw-Gray. *diag Chem Soc J* p846-54 J1 '33

Density of ammonia at reduced pressures and its relation to the atomic weight of nitrogen, the gas constant, R, and the limiting molal volume. V. G. Dietrichson, C. W. Orleman and C. Rubin. *diag Am Chem Soc J* 55:14-21 Ja '33

Molecular and atomic weights. F. E. Brown. *J Chem Educ* 10:308-9 My '33

Physical atomic weights. F. W. Aston. *Chem Soc J* p2888-94 D '32; *Abstracts. Chem Age (Lond)* 27:532 D 3 '32; *Soc Chem Ind J (Chem & Ind)* 51:1023-4 D 9 '32

Revision of the atomic weight of arsenic; the analysis of arsenic tribromide; the analysis of arsenic trichloride. G. P. Baxter and others. *diag Am Chem Soc J* 55:1054-66 Mr '33

Revision of the atomic weight of arsenic; the comparison of arsenic trichloride with iodine pentoxide. G. P. Baxter and W. E. Shaefer. *diag Am Chem Soc J* 55:1957-63 My '33

Revision of the atomic weight of indium. G. P. Baxter and C. M. Alter. *Am Chem Soc J* 55:1943-6 My '33

Revision of the atomic weight of potassium. G. P. Baxter and W. M. MacNevin. *Am Chem Soc J* 55:3185-90 Ag '33

Revision of the atomic weight of thallium; the analysis of thallous chloride. G. P. Baxter and J. S. Thomas. *bibliog Am Chem Soc J* 55:2384-7 Je '33

Table of atomic weights issued in 1932 by the International union of chemistry. *Am Chem Soc J* 55:front F '33; Same. *Chem Soc J* p115 Ja '33

Teaching atomic weights. E. A. Wildman. *bibliog J Chem Educ* 10:238-40 Ap '33

Third report of the committee on atomic weights of the International union of chemistry. G. P. Baxter and others. *Am Chem Soc J* 55:441-52 F '33; Same. *Chem Soc J* p354-61 Ap '33

See also

Molecular weights

**ATOMIZATION**

Atomization of liquid jets. H. B. Holroyd. *J Fr Inst* 215:93-7 Ja '33; *Abstract. Mech Eng* 55:310 My '33

Effect of nozzle design and operating conditions on the atomization and distribution of fuel sprays. D. W. Lee. *bibliog il diags U S Nat Advisory Com for Aeronautics* 1932:505-21 '33

Mechanism of atomization accompanying solid injection. R. A. Castleman, jr. *il U S Nat Advisory Com for Aeronautics* 1932:735-44 [bibliog p744] '33

**ATOMS**

Anomalies in hyperfine structure. S. Goudsmit and R. F. Bacher. *Phys R* 43:894-9 Je 1 '33

Application of the FP-54 plotron to atomic disintegration-studies. L. R. Hafstad. *diags Phys R* 44:201-13 Ag 1 '33

Artificial transmutation of the elements; abstract. E. R. Rutherford. *Electrician* 110:749 Je 9 '33

Atom disintegration by high-speed deuterons. *Science* 78:sup6+ N 3 '33

Atomic disintegration. *Soc Chem Ind J (Chem & Ind)* 52:250 Mr 24 '33

Atomic disintegration by a relatively slow neutron. W. D. Harkins, D. M. Gans and H. W. Newson. *il Phys R* 43:208-9 F 1 '33



## ATOMS—Continued

- Atomic energy states; as derived from the analyses of optical spectra. R. F. Bacher and S. Goudsmit, comps. 562p \$6 McGraw-Hill '32
- Atomic mass of sodium; the sodium chloride-silver ratio. C. R. Johnson. *J Phys Chem* 37:923-33 O '33
- Atomic nucleus and high voltages. M. A. Tuve. *il diags chart J Fr Inst* 216:1-38 J1 '33
- Atomic projectiles and their applications. E. R. Rutherford. *il diag Inst Mech Eng Proc* 123:133-205 '32; Same cond. *Engineer* 154:486-7 N 11 '32; Abstracts. *Engineering* 134:571-2 N 11 '32; *Electrician* 109:710 D 2 '32
- Atomic structure. W. H. Barnes. *Soc Chem Ind J (Chem & Ind)* 52:215-17 Mr 10 '33
- Atomic transmutions. E. R. Rutherford. *Engineering* 135:348-9 Mr 31 '33
- Atoms as a source of light. S. Dushman. *Elec Eng* 52:173-5 Mr '33
- Der aufbau der atomkerne; neue forschungsergebnisse der kernphysik. E. Rupp. *diags Zeit Ver Deutsch Ing* 77:581-4 Je 3 '33
- Battle of the alchemists. K. T. Compton. *Elec Eng* 52:75-80 F '33
- Charge distributions for the normal atoms from boron to neon. F. W. Brown, J. H. Bartlett, jr. and C. G. Dunn. *Phys R* 44:296-9 Ag 15 '33
- Comparison of the nuclear theories of Heisenberg and Wigner. C. Eckart. *Phys R* 44:109-11 J1 15 '33
- Contemporary advances in physics, the nucleus, first part. K. K. Darrow. *il diag Bell System Tech J* 12:288-330 J1 '33
- Cosmic-ray light on nuclear physics. R. A. Millikan. *Science* 78:153-8 Ag 25 '33
- Deutons creating neutrons as cause of atomic disintegration. *Science* 78:sup8 O 6 '33
- Disintegration of lithium by protons of high energy. M. C. Henderson. *diag Phys R* 43:98-102 Ja 15 '33
- Effect of exchange on the scattering of slow electrons from atoms. P. M. Morse and W. P. Allis. *Phys R* 44:269-76 Ag 15 '33
- Elastic scattering of electrons by mercury atoms. E. B. Jordan and R. B. Brode. *diags Phys R* 43:112-15 Ja 15 '33
- Electronics and electron tubes. E. D. McArthur. *Gen Elec R* 36:136-8 Mr '33
- Electrostatic production of high voltage for nuclear investigations. R. J. Van de Graaff, K. T. Compton and L. C. Van Atta. *diags Phys R* 43:149-57 F 1 '33
- Evaporation of atoms, ions and electrons from caesium films on tungsten. J. B. Taylor and I. Langmuir. *Phys R* 44:423-58 S 15 '33
- Excerpts from nuclear theory. K. K. Darrow. *R Sci Instr* 4:324-8 Je '33
- Experimental atomic physics. G. P. Harnwell and J. J. Livingood. 472p \$5 McGraw-Hill '33
- Interaction between atoms with s-electrons. N. Rosen and S. Ikehara. *Phys R* 43:5-8 Ja 1 '33
- Linear momenta of electrons in atoms and in solid bodies as revealed by X-ray scattering. J. W. M. DuMond. *il diags Rs Mod Phys* 5:1-33 Ja '33
- Magnetized atoms actually oscillate. F. Bitter. *il Power Pl Eng* 37:300 J1 '33
- Mass defect of helium. E. Wigner. *Phys R* 43:252-7 F 15 '33
- Masses of atoms and the structure of atomic nuclei. K. T. Bainbridge. *il diags J Fr Inst* 215:509-34 My '33
- Masses of  $\text{Ne}^{20}$  and  $\text{B}^{11}$ ; the mass of  $\text{Ne}^{22}$  and the disintegration of  $\text{F}^{19}$ . K. T. Bainbridge. *bibliog il Phys R* 43:424-7 Mr 15 '33
- Neutrons and atomic nuclei; abstract. W. D. Harkins. *Science* 77:458 My 12 '33
- New wave atom, elusive and mysterious. C. J. Phillips. *diags Sci Am* 148:14-17 Ja '33
- Nuclear moments and their dependence upon atomic number and mass number. N. S. Grace. *Phys R* 44:361-4 S 1 '33
- Outline of atomic physics. O. H. Blackwood and others. 348p \$3.50 Wiley '33
- Professor Bohr at Pasadena. R. M. Langer. *Science* 77:sup10 My 26 '33
- Recent advances in atomic physics. G. Castel-franchi. 2v 360p; 400p ea \$4 Blakiston '32
- Recent advances in physics. W. F. G. Swann. *il Mech Eng* 55:75-9+ F '33
- Review of recent scientific progress; results of experiments on the atom; abstract. F. G. Hopkins. *Chem Age (Lond)* 27:550 D 10 '32
- Studies in nuclear physics. J. A. Fleming. *Science* 77:298-300 Mr 24 '33
- Thermal equilibrium between oxygen molecules and atoms. G. von Elbe and B. Lewis. *Am Chem Soc J* 55:507-11 F '33
- Transmutation of the atom. E. R. Rutherford. *Electrician* 111:477 O 20 '33

## See also

Atomic weights	Protons
Electrons	Radiation
Metastable atoms	Spectrum
Molecules	Stereochemistry
Neutrons	Valence

## Collisions

- Some factors affecting action cross section for collisions of the second kind between atoms and ions. O. S. Duffendack and K. Thomson. *Phys R* 43:106-11 Ja 15 '33

## Models

- Adaptable electronic models. S. J. French. *il J Chem Educ* 10:564-5 S '33
- Demonstrating atomic structure. R. E. Wellings. *diags J Chem Educ* 10:179-80 Mr '33
- New type of atomic models for organic chemistry. J. B. Entrikin. *il J Chem Educ* 9:2081-3 D '32

## Recombination

- Recombination of atomic hydrogen. I. Amdur. *Phys R* 43:208 F 1 '33
- Recombination of hydrogen atoms. I. Amdur and A. L. Robinson. *Am Chem Soc J* 55:1395-1406 Ap '33

## Reflection

- Reflection of metallic atoms from alkali halide crystals. R. R. Hancox. *diags Phys R* 42:864-81 D 15 '32

## ATRANORIN

- Lichen acids; atranorin. F. H. Curd, A. Robertson and R. J. Stephenson. *Chem Soc J* p130-3 F '33

## ATTACHMENT and garnishment

- Proceeds attachment under section 15, New York. *East Underw* 34:6 Je 16 '33

## ATTICS

- Attic ventilation for summer cooling. *diags Sheet Metal Worker* 24:121-2 Ap '33

## AUBURN automobile company

- Beal is appointed Auburn president by Cord; continues as Lycoming head. *Automotive Ind* 67:658 N 19 '32

## AUCTIONS

- Empire auction of stocks which Continental shares, inc. had given Chase national bank as collateral. *Fortune* 8:4+ Ag '33

## AUDIT bureau of circulations

- Adopts new rulings. *Ptr Ink* 165:44-5 O 5 '33
- Advertiser looks at the weather. S. Peabody. *Ptr Ink* 165:3-4, 92-4 O 26 '33; Excerpts. *Adv & Sell* 21:22+ O 26 '33
- Annual meeting, Chicago. *Adv & Sell* 21:50 O 26 '33
- Membership approves interim statement plan. *Ptr Ink* 162:32 Mr 9 '33
- Promotional program is planned by Audit bureau. *Ptr Ink* 165:84-5+ O 26 '33
- Quarterly interim statements to be issued by A.B.C. *Ptr Ink* 162:25-6 F 2 '33
- Seven meetings for A.B.C. week. *Ptr Ink* 165:12 O 5 '33

## AUDITING

- Accountants and the New York stock exchange. *J Account* 55:241-6 Ap '33
- Audit features of finance companies' accounts. W. E. Crim. *J Account* 55:36-49 Ja '33
- C.P.A. certification—what does it mean on the customer's statement? P. S. Suffern. *Bankers M* 127:147-52 Ag '33
- Compulsory audits by public accountants. A. J. Watson. *J Account* 56:250-60 O '33

**AUDITING—Continued**

Figures, facts—and lies; certified public accountants and the Stock exchange move in on the corporations. *Business Week* p20 Ap 26 '33

Incomplete records, the preparation and audit of accounts. K. A. Coles. 149p Gee & co. ltd, London '33

Independent audits for investors. R. Barton. *J Account* 56:91-101 Ag '33

Outline of audit procedure. T. J. Hogan and M. A. Finnen. 142p Standard text press, Brooklyn, N.Y. '33

Position of auditing and accounting in Germany. O. Hintner. *Harvard Business R* 11: 196-204 Ja '33

Responsibility in limited audits. H. D. Greeley, ed. *J Account* 55:134-5; 56:222-5 F, S '33

Stock exchange demands audit of listed companies. *J Account* 55:81-8 F '33

*See also*

Accounting

### Study and teaching

American institute of accountants' examination in auditing, November 17, 1932. *J Account* 55:374-83 My '33

American institute of accountants' examination in auditing, May 11, 1933. *J Account* 56: 376-83 N '33

**AUDITORIUMS**

*See also*

Acoustics, Architectural

Church architecture  
Theaters

### Heating and ventilation

Air conditioning a civic auditorium; exhibition hall and community center in Grand Rapids. B. A. Parks. *il diags Heat & Ven* 30:12-18 Mr '33

Heating and ventilating problem; heating a lodge hall. plan Sheet Metal Worker 24: 172-3+ Je '33

### Lighting

French institute in the United States, New York. *il Illum Eng Soc Trans* 28:474-5 Je '33

**AUDITORIUMS, Municipal**

Air conditioning a civic auditorium; exhibition hall and community center in Grand Rapids. B. A. Parks. *il diags Heat & Ven* 30:12-18 Mr '33

Construction of new municipal auditorium at Winnipeg, Man. D. A. Ross. *il Can Eng* 65:3-6+ S 5 '33

Municipal auditorium, Long Beach, California. *il Illum Eng Soc Trans* 27:771 D '32

**AUDITORS**

Election of auditors. *J Account* 56:82-5 Ag '33

Responsibility of auditors under British companies' acts. *J Account* 55:215-16 Mr '33

**AUDITORS' reports**

Compulsion! a brief for compulsory accounting services. R. Atkins. *Credit & Fin Management* 35:14+ Mr '33

Signed auditor's report should accompany financial statement. *Bankers Mo* 50:110 F '33

**AUGER machines**

De-airing stiff-mud bodies by means other than the vacuum method. H. R. Straight. *il Am Cer Soc J* 16:251-5 Je '33

**AUGUSTA, Georgia**

### Bridges

Rebuilding Fifth St. bridge at Augusta. S. B. Slack. *il diags Eng N* 110:214-15 F 16 '33

**AULNAY-sous-Bois**

### Water supply

Le puits artésien de 831 mètres de profondeur d'Aulnay-sous-Bois (Seine-et-Oise). *il diags Génie Civil* 103:351-3 O 7 '33

**AURAMINE**

Ketonimine dyestuffs and their derivatives. D. F. J. Lynch and J. D. Reid. *bibliog Am Chem Soc J* 55:2515-20 Je '33

**AURELIUS, Thomas**

Vice president, Colorado fuel & iron co. *por Steel* 92:17 Ap 3 '33

**AURINTRICARBOXYLIC acid**

Colorimetric determination of aluminum with aurintricarboxylic acid. P. S. Roller. *Am Chem Soc J* 55:2437-8 Je '33

**AURORA, Illinois**

### Sewerage

Third-year operation data of the Aurora sewage-works. *Eng N* 111:67-8 Jl 20 '33

AURORAL spectrum. *See* Spectrum, Auroral

**AURORAS**

Audibility of the aurora borealis. C. M. Garber. *Science* 78:213-14 S 8 '33

Auroral spectrum. J. Kaplan. *il Phys R* 42: 807-11 D 15 '32

Earth's corona. L. Vegard. *Science* 77:sup9 My 5 '33

**AUSTENITE**

Grain size and grain growth. M. A. Grossmann. *il Metal Prog* 24:30-4 O '33

Growth of austenite above Ac<sub>1</sub> in plain carbon steels. J. H. Whiteley. *Iron & Steel Inst J* 126:289-300, pl 27-31 no 2 '32

Die wärmetönung der austenit-perlitumwandlung. H. Esser and W. Grass. *Stahl & Eisen* 53:92 Ja 26 '33

**AUSTIN motor company**

Austip motor. *Economist* 117:679-80 O 7 '33

**AUSTRALIA**

*See also*

Electric industries—  
Australia

Finance—Australia  
Wages—Australia

### Commerce

Australian market, by the Australian association of British manufacturers. 39p P. S. King & son, ltd, London '32

### Economic conditions

Australia in 1932. *Economist* 116:27-8 F 18 '33

Australia stages a comeback. *Business Week* p24 F 15 '33

Australia; success in recovery contrasting with American experiments. *Index* 13:125-30 Jl-Ag '33

Australian situation. R. C. Mills. *Harvard Business R* 11:217-26 Ja '33

### Native races

University expedition to study the natives of Central Australia. J. B. Cleland. *Science* 77:260-1 Mr 10 '33

**AUSTRIA**

Austria—problem child. *Business Week* p22-3 S 9 '33

Austrian dilemma. *Economist* 117:397-8 Ag 26 '33

*See also*

Agriculture—Austria  
Finance—Austria

### Commerce

Foreign trade; tariff policy. *Economist* 116: 240-1 F 4 '33

Situation in Austria and Czechoslovakia. *Soc Chem Ind J (Chem & Ind)* 52:612-13 Jl 28 '33

### Economic conditions

Austria in 1932. *Economist* 116:20 F 18 '33

Austria's economic position. *Economist* 116: 1344-5 Je 24 '33

### Politics and government

Siege of Vienna. *Economist* 117:525-6 S 16 '33

### Treaties

Prospects of revision of the German and Austrian treaties. H. R. Spencer. *Ann Am Acad* 168:197-203 Jl '33

**AUTHORS**

Ad men win by-lines at last. J. J. McCarthy. *Adv & Sell* 21:16+ Ag 3 '33

**AUTHORSHIP**

*See also*

Royalties



**AUTOCLAVES**

- Amination by ammonolysis; design and construction of equipment. P. H. Groggins. *diags Ind & Eng Chem* 25:274-7 Mr '33
- Autoclave in organic synthesis. G. T. Morgan. *Chem Age (Lond)* 27:572-3 D 17 '32; Abstracts. *Soc Chem Ind J (Chem & Ind)* 51: 1029 D 16 '32; *Soc Dyers & Col J* 49:46-7 F '33
- Automatic water-level regulator for autoclaves. N. F. Conant. *diags Science* 76:522-4 D 2 '32
- Gläserner autoklav zur beobachtung der reaktionsvorgänge unter hitze und druck. O. Gerngross, K. M. Hoffmann and G. Klein. *il diag Chemische Fabrik* 6:93 F 22 '33

**AUTOGIROS**

- American airplane specifications; tabulation. *Aviation* 32:29, 31 Ja '33
- Autogiro and how to fly it. R. Brie. 82p \$1.75 Pitman '33
- Autogiro development. R. W. Morse. *S A E J* 32:sup31 Je '33
- Autogiro principle. J. R. Porter. *diags Engineer* 155:524 My 26 '33
- Case for the transport autogiro. W. L. LePage. *il diags Aviation* 32:335-8 N '33
- Five-seater autogiro. *Aviation Eng* 8:18 F '33
- Kellett giro—model K-4. *il Aviation* 32:332-3 O '33
- Lift and drag characteristics and gliding performance of an autogiro as determined in flight. J. B. Wheatley. *il U S Nat Advisory Com for Aeronautics* 1932:621-8 '33
- Odier-Bessiere clinogyre; abstract. *Mech Eng* 54:862 D '32
- Pitcairn PA-19 cabin autogiro. R. B. C. Noorduyn. *il diags Aero Digest* 22:48-50 F '33
- Servicing the autogiro. H. H. Haeberly, jr. *diags Aviation Eng* 8:14-15+ Ja '33
- World's largest autogiro. *il Aviation Eng* 8: 16 Mr '33

**AUTOLYSIS**

- Influence of oxygen tension on the rate of autolysis of certain malignant tumors and normal tissues. M. E. Maver, J. M. Johnson and C. Voegtlin. *bibliog Pub Health Rep* 48:42-51 Ja 13 '33

**AUTOMOBILE accessories****Manufacture**

- We give then what they want—but standardize just the same; oil gage procedure, AC spark plug company, Flint, Mich. M. Spear. *il Factory Management* 91:259-62 Jl '33

**AUTOMOBILE accessories industry**

- Automotive service equipment show space in Chicago taken quickly. *il Nat Pet N* 25:40 O 18 '33
- Jobbers' code would control parts and equipment wholesaling by car factories. *Automotive Ind* 69:215 Ag 19 '33
- Parts and accessory makers get together and adopt code; with text. A. F. Denham. *Automotive Ind* 69:115, 126 Jl 29 '33
- Parts and equipment code minus merit clause gets President Roosevelt's OK. *Automotive Ind* 69:592 N 11 '33
- Parts industry fights for forty hour maximum week. D. Blanchard. *Automotive Ind* 69:413-14, 430-1 O 7 '33
- Parts makers maintain strong current position despite 1932's heavy losses. D. Blanchard. *Automotive Ind* 68:675-7 Je 3 '33
- Parts makers' role gets bigger as automotive history unfolds. P. M. Heldt. *il Automotive Ind* 68:546-8+ My 6 '33
- Revised jobber code covers wholesaling by car makers and their distributors. *Automotive Ind* 69:497 O 21 '33
- Selling original equipment to the automotive industry. N. G. Shidle. *Adv & Sell* 21:19-20+ Ag 17 '33
- This one catalog serves an entire industry; Motor and equipment wholesalers association combined the catalogs of 300 manufacturers. B. W. Schenker. *il Ptd Salesmanship* 62:114-15+ O '33
- Trade show reveals optimistic maintenance outlook for 1933. L. F. Banigan. *il Automotive Ind* 67:761-2+ D 17 '32

What are the costs and how will they affect equipment sales? D. Blanchard. *Automotive Ind* 69:31-2+ Jl 8 '33

*See also*

Automobiles—Equipment

Tires, Automobile

Gasoline service stations—Automobile accessories

**Securities**

- Accessory companies, 1930-1932. *Mag of Wall St Manual* p41-2 Mr 6 '33
- Position of leading tire and accessory stocks. *Mag of Wall St* 52:430 Ag 19 '33
- Position of motor accessory common stocks. *Mag of Wall St* 51:488 F 18 '33

**AUTOMOBILE accidents**

- Accident litigation and the automobile compensation plan. P. H. French. *Ann Am Acad* 167:201-20 My '33
- Accidents d'automobile et priorité aux carrefours. A. Mestre. *Génie Civil* 103:44 Jl 8 '33
- Automobile compensation plan. P. H. French. 262p [bibliog p249-56] \$3.50 Columbia univ. press '33
- Car crash kills girl. *il Safety Eng* 65:55 F '33
- Chicago accident prevention bureau uses camera effectively. R. W. Budlong. *il East Underw* 34:38 F 24 '33
- Community drive for auto accident reduction. W. G. Hurtzig. *East Underw Extra* ed 34: 12 O 14 '33
- Defective tires, an accident causing hazard. A. C. Carruthers. *il Safety Eng* 66:49-50 Ag '33
- Eddie Cantor, famous comedian advocates safety. *Safety Eng* 65:125-6 Ap '33
- First report made on British traffic bill. *East Underw* 34:34 Ag 4 '33
- How traffic vigilance committee of St Louis safety council is lessening accidents. R. Hoffmann. *Weekly Underw* 128:241 F 4 '33
- Insuring drivers' responsibility. A. J. Lilly. *il Nation's Business* 21:35-6+ Ja '33
- Is the public interested? G. D. Newton. *Nat Safety N* 27:27-8+ Ja '33; Abstract. *Safety Eng* 64:177 O '32; Same. *Nat Underw* 36: 39+ O 6 '32
- Killing the pedestrian. J. R. Craig. *Nat Safety N* 26:34+ D '32
- New Jersey automobile accident cases. W. B. Mackay. 1053p Soney & Sage co, Newark, N.J. '33
- New safety glass law in New York state; cases of eye injuries caused by flying glass in automobile accidents. *il Safety Eng* 65: 161-2 My '33
- Pedestrian accidents. R. E. Simpson. *Safety Eng* 64:260 D '32; Excerpts. *Elec W* 100: 753-4 D 3 '32
- Pedestrian fatalities in '32 totaled 12,770; abstract. M. Halsey. *Weekly Underw* 128: 1202 Je 24 '33
- Pedestrians have extra mortality, survey of traffic accidents discloses. *Nat Underw* 37: 29 N 2 '33
- Reduced street lighting seen as serious auto accident problem. *East Underw* 33:34 D 23 '32
- "They call us civilized" brings auto accident record up-to-date. *East Underw* 34:37 F 10 '33
- Traffic court goes on the air; court broadcasts over station WHB, Kansas City. F. C. Lynch. *il Nat Safety N* 27:30+ F '33
- Travelers analyzes all motor accidents. *Weekly Underw* 128:304 F 11 '33
- Using psychological research to determine auto accident causes. A. R. Lauer. *East Underw* 34:36 Jl 28 '33
- Worn tires and accidents. R. B. Stoeckel. *Safety Eng* 65:171-2 My '33

*See also*

Automobile drivers  
Automobile driving

Insurance, Automobile

**Statistics**

- Accidental deaths drop in 1932. *Nat Safety N* 27:11-12+ Mr '33; Abstract. *Spectator* 130:35 F 2 '33

# **AUTOMOBILE accidents—Statistics—Continued**

- Decrease in automobile fatalities. *Safety Eng* 65:97 Mr '33
- Defective equipment produces increased automobile fatalities. *Safety Eng* 65:207 Je '33
- Double street lighting and avert traffic casualties. R. E. Simpson. *Elec W* 102:344-6 S 9 '33
- Facts about accidents in 1932. *Nat Safety N* 28:14-15 Jl '33
- Life-preserving rôle of good street lighting. R. E. Simpson. *Illum Eng Soc Trans* 28: 651-7 S '33; Same abr. *Safety Eng* 66:81-2+ S '33; Discussion. *Illum Eng Soc Trans* 28: 775-81 N '33
- Motor fatalities down 13 per cent. *Automotive Ind* 68:179 F 11 '33
- 1932 auto fatalities estimated at 29,000. *East Underw* 34:40 Ja 6 '33; Same. *Nat Underw* 37:27+ Ja 5 '33

# **AUTOMOBILE brakes. See Brakes, Automobile**

# **AUTOMOBILE cleaning stations**

- Standard steel and glass building for automotive servicing; Pennsylvania petroleum products co, Providence. *il Nat Pet N* 24: 36+ N 23 '32

# **AUTOMOBILE drivers**

- Accident prevention by New Jersey motor vehicle department. *Safety Eng* 65:15 Ja '33
- Bad road manners materially reduce efficiency of highways. M. McClintock. *Roads & Sts* 75:500 D '32
- Five years of progress in accident prevention; Philadelphia electric company. R. M. Godwin. *il Safety Eng* 65:157-9 My '33
- New test for drunken drivers. K. Hansen. *Sci Am* 148:290+ My '33

# **Licenses**

- Complete vision examination advocated. M. Halsey. *Safety Eng* 65:95 Mr '33

# **Testing**

- Temperament and psychology at the wheel; illustrations. *Sci Am* 148:134 Mr '33

# **AUTOMOBILE driving**

- Comparative visibility of standard luminous and nonluminous highway signs. F. W. Mills. *il Pub Roads* 14:109-28 S '33; Summary. *Roads & Sts* 76:358 O '33
- Eddie Cantor, famous comedian advocates safety. *Safety Eng* 65:125-6 Ap '33
- Glaring lights. *il Safety Eng* 66:92 S '33
- How to place road signs for night driving. C. C. Wiley. *il Roads & Sts* 76:75-8 F '33
- Killing the pedestrian. J. R. Craig. *Nat Safety N* 26:34+ D '32
- Length of pavement required for a car to pass a truck of maximum length; chart for determining location of highway markers. J. N. Arnold. *Eng N* 111:191 Ag 17 '33
- Lighted highways would reduce night driving hazards at moderate cost. D. M. Diggs. *il Automotive Ind* 69:356-7 S 23 '33
- New quota for the salesman; safety in driving. J. V. Scott. *il Nat Safety N* 27:25-6 Ap '33
- Night driving and headlight range. *il Safety Eng* 65:132 Ap '33
- Operation of an automobile. R. J. Laporte. 3d ed rev 64p \$1 Bruce Humphries, inc, Boston '32
- Recklessness in driving. A. R. Lauer. *Nat Safety N* 26:17-19+ D '32
- Restricted privilege—the key to highway safety. B. B. Fortney. *il Safety Eng* 65:121-2 Ap '33
- Seeing and highway safety. M. Luckiesh. *Nat Safety N* 28:33-6+ O '33
- September proclaimed as safety month by thirty-four governors. *East Underw* 34:31 S 1 '33
- Slow driving or fast driving? H. G. Hoffman. *Sci Am* 147:365+ D '32
- Ten thousand dollar safety award announced by H. F. Sinclair of Consolidated oil corp. *Safety Eng* 64:216 N '32
- Vigilantes are with us once again; volunteer automotive patrol. G. Malcolm-Smith. *Spectator* 131:6-7 O 5 '33

# **AUTOMOBILE engineering**

- Anforderungen an kraftwagen bei dauerfahrten. W. Kamm. *il Zeit Ver Deutsch Ing* 77: 1129-33 O 21 '33
- Automatic transmissions. P. M. Heldt. *diags Automotive Ind* 69:4-6, 43-4, 97-8, 127-30 Jl 1-8, 22-29 '33
- Automobile engineering. H. K. Thomas, ed. 7v ea \$2.25 Pitman '32-'33
- Can a transmission have a brain? S. O. White. *S A E J* 32:sup9-11 Je '33
- Car makers in campaign to popularize less viscous oils; abstracts of papers on fuels, lubricants and design at A.P.I. meeting. *diags Automotive Ind* 69:560-1+ N 4 '33
- Compression ratios, motor speed and horsepower rise in 1933. *Nat Pet N* 25:35-6 Ap '33
- Engineer's big chance is here—will he take it? J. M. Crawford. *S A E J* 32:sup11-12 Mr '33
- Future for low pressure tires gradually grows brighter. A. F. Denham. *S A E J* 32:138-41 Ap '33; Same cond. *Automotive Ind* 68:158-9+ F 11 '33; Discussion. *S A E J* 32:141-3 Ap '33
- How the design engineer views manufacturing. A. Taub. *S A E J* 31:385-6 O '32; Discussion. 31:467-8 D '32
- Independent wheel suspension. G. Brouhiet. *bibliog il diags S A E J* 33:325-47; Discussion. 347-50 O '33
- Leveling out hills with more precise molecules. W. G. Lovell. *il Sci Am* 148:80-2 F '33
- Manufacturing equipment required to meet the designer's needs. L. F. Maurer. *S A E J* 31:465; Discussion. 465-6 D '32
- Measurement of noises segregated from din of confusion, marks important step to quieter cars. J. Geschelin. *il diags Automotive Ind* 67:676-81, 712-17 N 26-D 3 '32
- Pertinent pokes for satisfied engineers. H. Chase. *S A E J* 32:73-7 Mr '33
- Recent progress rapid in design of automatic transmissions. W. C. Keys. *il diags S A E J* 32:229-43 [bibliog p241-3]; Discussion. 243-4 Jl '33
- Side winds abate performance gains hoped for from streamlining. R. H. Heald. *il S A E J* 33:sup 18-21 N '33
- Society of automotive engineers annual meeting, Detroit, Jan. 23-26. *S A E J* 32:sup 11-35+ F '33
- Striking engineering progress revealed in 1933 cars. A. M. Wolf. *il S A E J* 32:1-20 Ja '33; Same. *Automobile Eng* 23:98-102, 129-34, 165-8 Mr-My '33
- What the traveling public wants in the future. W. B. Stout. *S A E J* 33:293-7 S '33
- See also*
- Automobile engines
- Automobiles
- Bibliography**
- Notes and reviews. Published in monthly numbers of S. A. E. journal
- Tables, calculations, etc.**
- Practical methods for determining an automobile's center of gravity. P. M. Heldt. *diags Automotive Ind* 69:474-6 O 21 '33
- What transmission ratios give best efficiency? B. P. Sergayeff. *Automotive Ind* 69:448-50 O 14 '33
- AUTOMOBILE engines**
- Are cast iron crankshafts coming on high speed engines? T. H. Wickenden. *il S A E J* 32:sup14-16 Je '33; Same. *Automobile Eng* 23:419-20 N '33
- Automotive engines. P. M. Heldt. 8th ed of *The gasoline motor*. 598p P. M. Heldt, Nyack, N.Y. '33
- Braking capacity of four-stroke engines. *Automotive Ind* 68:65 Ja 21 '33
- Car makers mobilize for 1933 drive. P. M. Heldt. *il Automotive Ind* 67:790-1+ D 24 '32
- Current low priced engines being built for 65 octane gasoline. *Nat Pet N* 24:23-4 D 28 '32
- 1,800 c.c. Opel chassis; a six-cylinder model of German-American design. *il diags Automotive Eng* 23:81-7 Mr '33



**AUTOMOBILE engines—Continued**

L'influence de l'état physique de l'atmosphère extérieure sur la puissance des moteurs à combustion. Oestrich. Génie Civil 103:90-1 JI 22 '33

130 h. p. oil-engined racing car. il Engineer 156:43 JI 14 '33

Striking engineering progress revealed in 1933 cars. A. M. Wolf. il S A E J 32:1-20 Ja '33; Same. Automobile Eng 23:98-102, 129-34, 165-8 Mr-May '33

What is wrong with American cars? L. H. Pomeroy. il diags S A E J 33:313-24 S '33

See also  
Automobiles  
Carbureters

Motor bus engines  
Motor truck engines

**Bearings**

With new thin-wall big end liners rods can be lighter. Automotive Ind 68:169-70 F 11 '33

**Carbon deposits**

Explain relation of lubricant and fuel to carbon formation with special reference to gum. P. W. Stroud. bibliog Oil & Gas J 31:12+ Ap 6 '33; Abstract. Mech Eng 55:508 Ag '33

**Cleaning**

Crank-case cleaning spells profits. il Pet Age 27:20-1 Ja '33

**Cooling**

Coolant control devices for water and anti-freeze conservation. diags Automotive Ind 68:558 My 6 '33

Engine cooling; factors affecting design in water circulation systems. R. Dean-Averns. diags Automotive Eng 23:327-31 S '33

Thermostatic control gains favor. diag Automotive Ind 67:812 D 24 '32

**Design**

Aluminum cylinder heads urged as way to better design. F. F. Kishline. S A E J 32:121-3 Ap '33; Same. Automobile Eng 23:209-10 Je '33

Car manufacturers change design of engines to obtain maximum advantage of volatility. G. G. Brown. Oil & Gas J 31:13+ Ja 19 '33

Combustion problems of automotive Diesel engines; abstract. J. B. Fisher. Automotive Ind 69:248 Ag 26 '33

Compression ratio and motor speed higher in new Plymouth. Nat Pet N 24:22 N 30 '32

Compression ratios, motor speed and horsepower rise in 1933. Nat Pet N 25:35-6 Ja 25 '33

Effect of automobile engine design on octane number ratings of motor fuels used. W. H. Hubner and G. B. Murphy. diags Oil & Gas J 32:15+ S 21 '33

Effect of cylinder distortion. R. R. Teetor. Automotive Ind 69:232-3 Ag 26 '33

Engine cooling; factors affecting design in water circulation systems. R. Dean-Averns. diags Automotive Eng 23:327-31 S '33

How versatile engineering meets public demand. H. M. Crane. S A E J 32:21-7 Ja '33; Same cond. Automotive Eng 23:124-6 Ap '33; Discussion. S A E J 32:27-32 Ja '33

Meadows 10 h.p. four-cylinder engine. il diags Automotive Eng 23:3-5 Ja '33

Service dictates engine design changes. J. Gescheln. Automotive Ind 68:670-3 Je 3 '33

Smaller cylinders but more of them. P. M. Heldt. Automotive Ind 68:397+ Ap 1 '33

Tangye oil engine; abstract. diags Mech Eng 55:255-6 Ap '33

**Detonation**

Absorption spectra of gaseous charges in a gasoline engine. L. Withrow and G. M. Rassweiler. bibliog il diag Ind & Eng Chem 25:923-31 Ag '33

Automotive engine and its fuel. G. Edgar. S A E J 31:461-3 D '32; Same. Automotive Eng 23:51-2 F '33; Discussion. S A E J 31:463-4 D '32

Correlation of laboratory knock test results with actual road knock. W. V. Hanley and W. H. Paul. il Nat Pet N 25:31-2+ My 3 '33

Knocking characteristics of naphthene hydrocarbons. W. G. Lovell, J. M. Campbell and T. A. Boyd. bibliog Ind & Eng Chem 25:1107-10 O '33

Study of the frequencies of fuel knock noises. W. H. Paul and A. L. Albert. il Nat Pet N 25:24+ Ag 9 '33

**Efficiency**

Fuel economy from the design standpoint; abstracts. J. B. Macauley. Automotive Ind 69:246-7 Ag 26 '33; S A E J 33:sup22-3 O '33

Power prover analyzes exhaust gases to determine motor efficiency. L. T. White. il Nat Pet N 25:31-3+ S 6 '33

**Exhaust**

Exhaust fumes. Automobile Eng 23:339 S '33

Power prover analyzes exhaust gases to determine motor efficiency. L. T. White. il Nat Pet N 25:31-3+ S 6 '33; Abstracts. Oil & Gas J 32:16+ S 7 '33; S A E J 33:sup23 O '33

**Fuel**

Action of lubricated motor fuel in relation to engine performance. D. H. Foster. Oil & Gas J 31:38+ Ap 6 '33

Alcohol-gasoline blends would cause enormous economic losses. G. Egloff. Nat Pet N 25:30-2+ Ap 26 '33; Excerpts. Oil & Gas J 31:75 Ap 27 '33

Analyses of motor fuel in Detroit show wide differences in knock rating. W. S. Gilbreath. Oil & Gas J 31:21+ N 24 '32

Antiknock research coordinates laboratory and road tests. C. B. Veal and others. diags S A E J 32:105-20 [bibliog p119-20] Mr '33; Discussion. 32:104, 187-90 Mr, My '33

Automotive engine and its fuel. G. Edgar. S A E J 31:461-3 D '32; Same. Automotive Eng 23:51-2 F '33; Discussion. S A E J 31:463-4 D '32

Bouncing pin tests of ignition lag. J. Kuttner and J. B. Rippere. Automotive Ind 69:249-50 Ag 26 '33

Bureau of standards gives views on top oiling. F. B. Dow. Nat Pet N 25:18 F 22 '33

Car makers in campaign to popularize less viscous oils; abstracts of papers on fuels, lubricants and design at A.P.I. meeting. diags Automotive Ind 69:560-1+ N 4 '33; Nat Pet N 25:22+ N 1 '33; Oil & Gas J 32:10 N 2 '33

Comparative fuel economy with gasoline and with alcohol-gasoline blends. J Fr Inst 216:533-5 O '33

Comparison of knocking characteristics of vapor recovery and natural gasolines in blends. H. M. Trimble. bibliog Oil & Gas J 31:58, 60-1, 64 My 18 '33

C. F. R. committee determines anti-knock values by new motor method. diag Automotive Ind 67:682-4 N 26 '32

C.F.R. motor method for determining octane number approved by D2. Oil & Gas J 31:27 Ja 26 '33

Co-operative research on motor fuels between the petroleum and automobile industries. H. L. Horning. Oil & Gas J 31:15-16 Ap 27 '33; Excerpts. Nat Pet N 25:28-9 Ap 26 '33

Correlation of C.F.R. laboratory knock ratings with behavior of motor fuels in service. C. B. Veal and others. bibliog il diags Am Pet Inst Proc p139-53 sec 3 D '32

Correlation of laboratory knock test results with actual road knock. W. V. Hanley and W. H. Paul. il Nat Pet N 25:31-2+ My 3 '33

Current low priced engines being built for 65 octane gasoline. Nat Pet N 24:23-4 D 28 '32

Effect of automobile engine design on octane number ratings of motor fuels used. W. H. Hubner and G. B. Murphy. diags Oil & Gas J 32:15+ S 21 '33

Effect of gasoline volatility on engine economy. N. MacCoul. S A E J 33:363-70 N '33; Summary. Automotive Ind 69:245-6 Ag 26 '33; Same. Oil & Gas J 32:16 S 7 '33; Abstract. Nat Pet N 25:26 S 13 '33

**AUTOMOBILE engines—Fuel—Continued**

- Explain relation of lubricant and fuel to carbon formation with special reference to gum. P. W. Stroud, bibliog Oil & Gas J 31:12+ Ap 6 '33
- Forecast greater use of natural as direct motor fuel. Oil & Gas J 31:29 D 1 '32
- Further consideration of the disposal of excess volatility in manufacturing motor fuels. E. Kaye. Oil & Gas J 32:44+ Je 1 '33
- Gasoline and alcohol. G. McIntyre. Can Chem & Met 17:184-7 S '33
- How the automobile industry can help itself by helping the oil industry. A. L. Clayden. il Automotive Ind 69:586-9 N 11 '33; Same. Oil & Gas J 32:84-5+ O 26 '33
- Knock rating of gasolines may be estimated from analysis. A. W. Trusty. Nat Pet N 24: 29-30+ D 21 '32
- Knocking characteristics of naphthene hydrocarbons. W. G. Lovell, J. M. Campbell and T. A. Boyd. bibliog Ind & Eng Chem 25:1107-10 O '33
- Leveling out hills with more precise molecules. W. G. Lovell. il Sci Am 148:80-2 F '33
- Light hydrocarbons found in natural gasolines maintain rating in new antiknock tests. H. M. Trimble. Oil & Gas J 31:16+ Ja 19 '33
- Mid-continent introducing new product; D-X. Pet Age 27:48 Ja '33
- Mid-continent markets new lubricated motor fuel as successor to gasoline. Oil & Gas J 31:33 Ja 19 '33
- Mid-continent refiners fail to reach agreement as to changes in gasoline octane ratings. Oil & Gas J 31:23+ Ap 13 '33
- Mid-continent refiners oppose use of lubricants in gasoline. A. L. Foster. Nat Pet N 24:17-18 D 28 '32
- Modern refining methods. A. L. Foster. Nat Pet N 25:34-5 Ja 18; 60+ Ja 25; 22+ F 1 '33
- Motor fuel quality; a complex problem. G. G. Brown. Nat Pet N 24:43-4+ D 14; 37-8+ D 21 '32
- Natural gasoline is slowly regaining its importance as source of motor fuel. Oil & Gas J 32:36+ Ag 24 '33
- New anti-knock test method. il Pet Age 27: 22+ Ap '33
- New processes for refining benzole. Engineering 135:422 Ap 14 '33
- Oiled gas; if the public insists on being fooled, the gasoline sellers can hardly be blamed for providing the wherewithal. Business Week p9 F 1 '33
- Oxidation test for the stability of benzoles on storage. W. H. Hoffer and G. Claxton. plan Gas J (Lond) 200:494-9 N 16 '32
- Performance of car is more dependent upon volatility of fuel than generally realized. G. G. Brown. Oil & Gas J 31:51, 54 My 18 '33; Abstract. Nat Pet N 24:17 My 24 '33
- Q brand of ethyl compound to be offered licensed refiners and marketers June 1. W. T. Ziegenhain. Oil & Gas J 31:11+ Ap 20 '33
- Refiner conducts road tests of lubricating gasolines. A. L. Foster. il Nat Pet N 25:26+ Mr 1 '33
- Refiners giving attention to widening demand for lubricated gasolines. Oil & Gas J 31:28 D 8 '32
- Refiners urge lower Ethyl standard under new motor test method. A. L. Foster. Nat Pet N 25:17-18 F 15 '33
- Relation of C.F.R. knock ratings to behavior of fuels in service. T. A. Boyd. charts Am Pet Inst Proc (Refining div) p98-102; Discussion. 102-26 Je '32
- Retail motor fuel market failed to hold gains recorded during the first half of year. W. T. Ziegenhain. Oil & Gas J 31:68-9 Ja 26 '33
- Sale of lubricated gasolines stimulates research into practical value. A. L. Foster. Nat Pet N 24:11-12+ D 21 '32
- Some refinery technologists object to adopting C.F.R. motor method. R. C. Conine. Oil & Gas J 31:26 F 2 '33
- Standardized octane value, balanced fuel volatility, of great importance. J. B. Macaulay, jr. Oil & Gas J 32:57-8 N 2 '33
- Startability of motor fuels. W. A. Whatmough. Automobile Eng 23:371-4 O '33
- Suggest volatility index for motor fuels as aid in the utilization of light hydrocarbons. G. G. Oberfell and R. C. Alden. Oil & Gas J 31:14+ Ja 19 '33
- Third-grade gasoline on the way out? J. B. Rathbun. Pet Age 27:18-19 My '33
- Thirty-four states show decreases in motor fuel demand. Oil & Gas J 31:27 D 1 '32
- Trade wrestles with tests, specifications. J. B. Rathbun. Pet Age 27:28+ Mr '33
- Trend in motor fuel quality continues toward increased volatility and octane value. W. T. Ziegenhain. Oil & Gas J 31:20-1+ Ja 19 '33
- Trend toward high motor fuel vapor pressures encourages manufacturers. Oil & Gas J 31:29 D 1 '32
- Trend toward higher octane number in motor fuel despite unwarranted cost in some cases. W. T. Ziegenhain. Oil & Gas J 32:8 My 25 '33
- Two Mid-continent refining companies selling lubricated gasolines. Nat Pet N 25:11-12+ Ja 18 '33
- Use of inhibitors in treating motor fuels offers satisfactory solution to gum problems. R. C. Conine. Oil & Gas J 31:14+ N 24 '32
- Use of synthetic methanol as a motor fuel. D. A. Howes. Inst Pet Tech J 19:301-31 Ap '33
- Value of lubricated gasoline being questioned by refiners and automotive engineers. R. C. Conine. Oil & Gas J 31:9+ D 29 '32
- Vapor-lock investigation at the Bureau of standards; abstract. O. C. Bridgeman. S A E J 32:sup26 F '33

**See also**

Automotive fuel      Gasoline  
Benzol (commercial benzene)

**Fuel feeding**

- Car manufacturers change design of engines to obtain maximum advantage of volatility. G. G. Brown. Oil & Gas J 31:13+ Ja 19 '33
- Hydraulics of high speed fuel injection. N. Fodor. Automotive Ind 69:248-9 Ag 26 '33
- Mixture distribution in cylinder studied by measuring spark plug temperature. H. Rabezzana and S. Kaimar. il diag Automotive Ind 66:450-4, 486-91 Mr 19-26 '32; Same. Automobile Eng 22:587-93 D '32
- Powerplant improvement trend to downdraft carburetors. il Automotive Ind 67:791+ D 24 '32
- Results of a series of vapor-lock road tests. H. S. White and F. B. Gary. Am Pet Inst Proc p134-8 sec 3 D '32; Same. Oil & Gas J 31:62+ N 17 '32
- Vapor-handling capacity of automobile fuel systems. O. C. Bridgeman, H. S. White and F. B. Gary. S A E J 32:157-63 Ap '33

**Ignition devices**

- Burgess ignition booster. il diag Automobile Eng 23:158 My '33
- Spark timing gets a new concept. Automotive Ind 67:811 D 24 '32

**See also**

Magnetos

**Lubrication**

- Action of lubricated motor fuel in relation to engine performance. D. H. Foster. Oil & Gas J 31:38+ Ap 6 '33; Same. Nat Pet N 25: 66 Ap 12 '33
- Commercial application of chlorex process in the manufacture of high grade motor oils. W. H. Bahlke, A. B. Brown and F. F. Diwoky. il diag Oil & Gas J 32:60+ O 26 '33
- Crankcase flushing service gains oil customers. W. F. Lowe. il Nat Pet N 25:44+ N 8 '33
- Effect of cylinder distortion. R. R. Teetor. Automotive Ind 69:232-3 Ag 26 '33
- Effect of sludge on engine oil performance. D. Barnard and others. il Nat Pet N 25: 27-8, 30-2, 34 S 13 '33; Abstract. Automotive Ind 69:328 S 16 '33
- Explain relation of lubricant and fuel to carbon formation with special reference to gum. P. W. Stroud. bibliog Oil & Gas J 31: 12+ Ap 6 '33



**AUTOMOBILE engines—Lubrication—Cont.**

- Hydraulic action in ring design. D. D. Robertson. *diag Automotive Ind* 69:233-5 Ag 26 '33
- Measuring oil consumption; abstracts. J. P. Stewart and T. H. Risk. *diag Automotive Ind* 69:235 Ag 26 '33; *Oil & Gas J* 32:33 S 7 '33; *Mech Eng* 55:704 N '33
- New oil test correlating with service. D. P. Barnard. *Nat Pet N* 25:20 S 6 '33
- New winter oils—a step in right direction. J. B. Rathbun. *Pet Age* 27:32-3 O '33
- Refiners approve proposed new winter lubricating oils. *Nat Pet N* 25:28-9 N 8 '33
- Rifle-drilled connecting rods are among developments. *diag Automotive Ind* 67:811-12 D 24 '32
- Service dictates engine design changes. J. Geschelin. *Automotive Ind* 68:670-3 Je 3 '33
- Service needs foreshadow wider use of lighter engine oils; joint symposium of the S.A.E. and A.S.T.M. *Automotive Ind* 68:338-9+ Mr 18 '33; *S A E J* 32:sup30-1 My '33
- Symposium on motor lubricants. 121p American society for testing materials, Philadelphia '33
- Two new winter oils proposed to solve starting problem. *Nat Pet N* 25:25 O 18 '33; *Same abr. Oil & Gas J* 32:26 O 19 '33; *Same abr. S A E J* 33:38 N '33; *Same cond. Automotive Ind* 69:550 N 4 '33
- Why drain crankcase oil. H. C. Dickinson. *Ind & Eng Chem News ed* 11:187 Je 20 '33

**Manufacture**

- Accuracy features cylinder cores; casting of Ford V-8 engine. *il Foundry* 60:12-14+ N '32
- Block in 51 seconds; new mirror-like micro-matic honing process. K. W. Connor. *il Automotive Ind* 68:201-2 F 18 '33
- Chrysler casts two cylinder blocks in single mold. *il Iron Age* 131:946-9 Je 15 '33
- Core assembly handled as unit. *il diag Foundry* 61:10-12+ Ag '33
- Finishing cylinder bores; new method employed at the Austin works. *il Automobile Eng* 23:14 Ja '33
- Flexibility, accuracy, economy in an engine block line; Lycoming manufacturing company. W. H. Swink. *il Am Mach* 77:261-4 Ap 26 '33
- Grading and mating parts with electrolimit gages. *il Automotive Ind* 69:309-10 S 9 '33
- Hanomag works; production methods in a converted locomotive factory. *il Automobile Eng* 23:203-8 Je '33
- Honing finishes big end bores within 0.0003 in. A. F. Denham. *il Automotive Ind* 68:438+ Ap 8 '33
- How the design engineer views manufacturing. A. Taub. *S A E J* 31:385-6 O '32; *Discussion*. 31:467-8 D '32
- Machines and operations in making Rockne motor blocks. R. A. Fiske. *il Iron Age* 130:912-15+ D 15 '32
- Milling combustion spaces. *il Automobile Eng* 23:18 Ja '33
- Modern motor methods. H. Colvin. *Am Mach* 77:6-8, 74-5, 109-10, 144-5 Ja 4, F 1-Mr 1 '33
- Motor cylinder re-boring bar. *il Engineer* 156:218 S 1 '33
- Precision, flexibility and low cost all attained in Lycoming motor plant. J. Geschelin. *il Automotive Ind* 68:308-12 Mr 11 '33
- Progress in automobile production methods; highly accurate connecting-rod bearings by diamond boring and honing. F. C. Duston. *il Mach* 39:633-5 Je '33
- Running-in engines by gas. O. W. Roskill. *il Automobile Eng* 23:337-9 S '33
- Use of aluminum for cylinder heads eliminates excessive dead weight. *Automotive Ind* 67:749 D 10 '32
- Weighing and marking automobile pistons. A. W. Dilts. *il Mach* 39:279-80 D '32

**Materials**

- No more valve grinding! use of inserted valve seats. J. Geschelin. *il diag Automotive Ind* 68:188-92 F 18 '33

**Mounting**

- Crossley reveals rear engine, streamlined car at London show. *diag Automotive Ind* 69:478-9 O 21 '33
- Departure from old type of suspension. *il diag Automotive Ind* 67:813-14 D 24 '32
- French engineers frown on rear mounted engines. E. Claveau. *Automotive Ind* 68:200 F 18 '33; *Discussion. diag* 68:403, 431-3 Ap 1-8 '33
- Les progrès de la construction automobile révélés par le dernier salon de Paris; moteur, châssis, suspension, carrosserie et changements de vitesse. G. Delanghe. *il diag Génie Civil* 101:477-9 N 12 '32
- Resilient mountings. A. Taub. *il diag Automotive Ind* 69:330-2 S 16 '33; *Abstract. S A E J* 33:sup18-19 O '33

**Mufflers**

- Burgess silencer. *diag Automobile Eng* 22:528 N '32
- Schalldämpfer für automobilmotoren. A. Kauffmann and U. Schmidt. *Review. Zeit Ver Deutsch Ing* 77:26-7 Ja 7 '33
- Straight-through mufflers on many models. *il Automotive Ind* 67:813 D 24 '32

**Performance**

- Effect of gasoline volatility on engine economy. N. MacCoul. *S A E J* 33:363-70 N '33
- Performance of car is more dependent upon volatility of fuel than generally realized. G. G. Brown. *Oil & Gas J* 31:51, 54 My 18 '33

**Radiators**

- Stamping automobile parts of stainless sheet; Ford radiator shells and headlamps. J. L. McCloud. *il Metal Prog* 24:23-6 N '33

**Specifications**

- American passenger car engines specifications; tabulation. *Automotive Ind* 68:228-9 F 25 '33

**Standards**

- I.A.E. provisional standard no. 84; dimensions for valve seat inserts. *Automobile Eng* 23:60 F '33

**Starting**

- See Automobiles—Starting*

**Temperature**

- Motor car manufacturers could help to solve the vapor lock problem. O. C. Bridgeman. *Oil & Gas J* 32:8+ My 25 '33

**Testing**

- Compression ratio and fuel economy. *Automotive Ind* 68:347 Mr 18 '33
- Cylinder wear; editorial. *Engineering* 136:41-2 Jl 14 '33
- Cylinder wear; report by the Institution of automobile engineers. *il diag Engineer* 155:634-6, 660-2 Je 23-30 '33; *Same. Automobile Eng* 23:259-64 Jl '33
- Electrical testing equipment for automobile engines. *il Engineering* 135:421 Ap 14 '33
- Engine testing; careful procedure at the Lay-stall motor engineering works, ltd. *il Automobile Eng* 23:301 Ag '33
- Experimental bench testing. O. Hayes. *Automobile Eng* 22:579-80 D '32
- High-compression tests on Ford car. *Automotive Ind* 69:156-7 Ag 5 '33
- I.A.E. standard no. 85; conditions of tests for petrol engines. *Automobile Eng* 23:336 S '33
- Measuring oil consumption. J. P. Stewart and T. H. Risk. *diag Automotive Ind* 69:235 Ag 26 '33; *Abstract. Mech Eng* 55:704 N '33
- Mixture distribution in cylinder studied by measuring spark plug temperature. H. Ra-bezzana and S. Kalmar. *il diag Automotive Ind* 66:450-4, 486-91 Mr 19-26 '32; *Same. Automobile Eng* 22:587-93 D '32
- Power prover analyzes exhaust gases to determine motor efficiency. L. T. White. *il Nat Pet N* 25:31-3+ S 6 '33; *Abstracts. Oil & Gas J* 32:16+ S 7 '33; *S A E J* 33:sup23 O '33

**AUTOMOBILE engines—Testing—Continued**

Power tester is booster of servicing ignition system at stations. *il Nat Pet N 24:40 D 7 '32*

Progress of naphthology, 1932; gasoline engines and knock testing. R. Stansfield. *Inst Pet Tech J 19:567-73 J1 '33*

Running-in engines by gas. O. W. Roskill. *il Automobile Eng 23:337-9 S '33*

Skirt wear not to blame; German tests on light alloy pistons. *Automotive Ind 68:407-8 Ap 1 '33*

Tangye airless-injection engine. *Engineering 135:204 F 17 '33*

**Valves**

Adjustable valve-tappet. *diag Engineering 134:718 D 16 '32*

Automatic valve adjuster invented by R. W. McDonogh. *diag Automotive Ind 68:168 F 11 '33*

I.A.E. provisional standard no. 84; dimensions for valve seat inserts. *Automobile Eng 23:60 F '33*

Ingenious method locks inserted valves in place. H. Andrews. *diags Automotive Ind 68:560 My 6 '33*

Internal combustion engine exhaust valve failures. C. C. Hodgson. *Iron & Steel Inst J 127:189-203 [bibliog p202-3] pl 13-16 no 1 '33; Same. Automobile Eng 23:223-7 Je '33; Excerpts. Engineering 135:580-1 My 26 '33; Discussion. Iron & Steel Inst J 127:204-8 no 1 '33*

Metallurgical problems arising from internal combustion engine valves. J. R. Handforth. *Iron & Steel Inst J 126:93-131, pl 5-16a no 2 '32; Excerpts. Automobile Eng 22:468-75 O '32; Engineering 135:55-8, 83-5 Ja 13-20 '33; Discussion. Iron & Steel Inst J 126:132-57 no 2 '32*

No more valve grinding! use of inserted valve seats. J. Geschelin. *il diags Automotive Ind 68:188-92 F 18 '33*

Self-adjusting tappet. *diag Automobile Eng 23:17 Ja '33*

Self-adjusting tappet; new model. *diag Automobile Eng 23:294 Ag '33*

Valve seat inserts; methods of handling the Centrilock centrifugally cast valve seatings. *il diag Automobile Eng 22:594 D '32*

Valves and valve gears; tappets of larger diameter are used. *Automotive Ind 67:790-1 D 24 '32*

**AUTOMOBILE fabrics**

Automobile carpet. *Textile World 82:1000 N '32*  
Synthetic carpet; Lea fabrics, inc, General Johnson's plant, no code violator, makes a unique product. *Business Week p10 S 16 '33*

*See also*

Automobiles—Up-holstery

**AUTOMOBILE factories**

Büssing works; an old-established German factory for the production of commercial vehicles. *il Automobile Eng 23:277-81 Ag '33*

Plastic molding at the Ford plant. H. Chase. *il Automotive Ind 69:390-2 S 30 '33*

Saurer works; methods employed in the production of a high-grade Diesel-engined vehicle. *il Automobile Eng 23:7-13 Ja '33*

Sintering of iron ores; latest scientific principles at the new Ford motor works. *il Chem Age (Lond) 29:sup16-17 S 2 '33*

Works of the Standard motor co. *il Automobile Eng 23:45-50 F '33*

*See also*

Automobile engines— Ford motor company  
Manufacture  
Automobiles—  
Manufacture

**Accounting**

Soundness and necessity of overhead write-downs. J. Geschelin. *Automotive Ind 69:146-9 Ag 5 '33*

**Costs**

How to relate body tooling budgets to quantity requirements. N. H. Manning. *S A E J 33:351-2 O '33; Abstract. Automotive Ind 69:240-1 Ag 26 '33*

Wage cuts—what then? *Automotive Ind 68:403, 409 Ap 1 '33*

**Electric equipment**

Distribution flexibility in Plymouth motor car plant. *diag Elec W 101:483 Ap 15 '33*

**Employees**

American federation of labor launches move to unionize industry's workers. *Automotive Ind 68:769+ Je 24 '33*

Applying the labor requirements of the Recovery act to the automotive industry. J. Geschelin. *Automotive Ind 68:735-7 Je 17 '33*

Automobile industry's labor record during the depression. D. Blanchard. *Automotive Ind 69:201-2+ Ag 19 '33*

Automobile unions; Chevrolet answers protest with works councils. *Business Week p14 S 16 '33*

Detroit tool and die strike is settled. *Iron Age 132:33G-33H N 9 '33*

Employee representation plan for which Chrysler workers voted 5 to 1; text. *Automotive Ind 69:488-9+ O 21 '33; Same. Factory Management 91:453-5+ N '33*

Factories will deal individually with striking tool and die union. L. W. Moffet. *Automotive Ind 69:473+ O 21 '33*

Ford, wages, and depression; interview with Henry Ford. *Business Week p10-11 F 22 '33*

G.M. divisions form company unions; A.F. of L. grants 15 plant charters. A. F. Denham. *Automotive Ind 69:316 S 9 '33*

Labor turnover in the automobile industry, 1931 and 1932. *Monthly Labor R 36:1316-20 Je '33*

Leadership and labor are the twin problems of industry. K. T. Keller. *S A E J 32:7-10 Ap '33*

Parts industry fights for forty hour maximum week. D. Blanchard. *Automotive Ind 69:413-14, 430-1 O 7 '33*

Price concessions put parts makers on the spot. A. F. Denham. *Automotive Ind 68:185-7 F 18 '33*

Trouble in Detroit; Briggs Body strike is the first desperation strike. *il Business Week p8 F 8; 7 F 15 '33*

Truth about Briggs strike. *il Forbes 31:13+ F 15 '33*

Wages and hours of labor in the motor-vehicle industry, 1932. tables *Monthly Labor R 36:1365-75 Je '33*

Workers earn 9% more as automotive payrolls show 14% gain in August. *Automotive Ind 69:418 O 7 '33*

Works councils for automotive workers? N. G. Shidle. *il Automotive Ind 69:383-4+ S 30 '33*

**Equipment**

Are machine tool makers really "agin" low rate charge-off? J. Geschelin. *Automotive Ind 68:269-70 Mr 4 '33*

Automatic equipment for plating 7,000 pieces of automobile work a day; plating department of the H. H. Franklin mfg. co.; illustrations. *Brass W 28:249 D '32*

Brake-drum surfaces made smooth and extremely hard by planishing. *il Mach 39:716 J1 '33*

British Thomson-Houston 150-b.h.p. Diesel-electric locomotive for Ford motor company's Dagenham works. *il Engineering 134:718-19 D 16 '32; Electrician 109:785 D 16 '32; Elec R (Lond) 111:892 D 16 '32*

Cars scrapped in giant baling press, melted in huge open-hearth. *il Iron Age 131:352-3+ Mr 2 '33*

Chrysler "shoots the works" in new Plymouth plant. J. Geschelin. *il Automotive Ind 68:138-42 F 4 '33*

Chrysler tools up; more flexible production and lower costs. *Business Week p7-8 N 30 '32*

Engine testing; careful procedure at the Lay-stall motor engineering works, ltd. *il Automobile Eng 23:301 Ag '33*



**AUTOMOBILE factories—Equipment—Cont.**

Executive-factory liaison clears moot points in equipment buying. J. Geschelin. S A E J 33:sup23-30 S '33; Excerpts. Automotive Ind 69:241-2 Ag 26 '33; Discussion. S A E J 33:371-6 N '33

Flexibility in machine tool equipment. J. Geschelin. Automotive Ind 67:637-8+ N 19 '32

Ford draws own wire at Rouge plant. il Iron Age 131:166-7 Ja 26 '33

Ford—exponent of modernization. B. Finney. il Iron Age 130:795-8 N 24 '32

Ford makes starters and generators in model small plant. B. Finney. il Iron Age 132:10-14+ N 9 '33

Good looking machine tools help in production, executives say. V. P. Rumely. il S A E J 32:sup9-13 My '33; Discussion. J. E. Padgett. 33:sup22-3 Ag '33

Hanomag works; production methods in a converted locomotive factory. il Automobile Eng 23:203-8 Je '33

Heat-treatment at River Rouge. J. B. Nealey. il Am Mach 77:584-7 S 13 '33

Heat treatment furnaces. il diag Automobile Eng 23:215-18, 241-4 Je-Jl '33

Improved handling methods speed output of auto bodies; Murray corp. H. R. Simonds. il Iron Age 130:990-1+ D 29 '32

Leipzig fair; a selection of the machine tool exhibits for automobile work. il Automobile Eng 23:105-6, 135-40 Mr-Apr '33

Long life of tungsten-carbide tools in machining automobile parts; Hudson motor car co, Detroit. il Mach 39:247-8 D '32

Machines and operations in making Rockne motor blocks. R. A. Fiske. il Iron Age 130:912-15+ D 15 '32

Machining operations on White pancake type engine. F. L. Prentiss. il Iron Age 132:12-15 Ag 3 '33

Manufacturing equipment required to meet the designer's needs. L. F. Maurer. S A E J 31:465; Discussion. 465-6 D '32

Milling combustion spaces. il Automobile Eng 23:18 Ja '33

Modern motor methods; cylinder blocks. F. H. Colvin. Am Mach 77:6-8 Ja 4 '33

Most modernizing doesn't make new machine tools out of old. J. Geschelin. Automotive Ind 69:504-5 O 28 '33

Natco hydraulically fed machines for automobile plants. il Mach 39:289-90 D '32

New crankshaft grinder. il Automobile Eng 23:29-30 Ja '33

New plant and tools; recent introductions for securing greater output and accuracy. il Automobile Eng 23:285-8 Ag '33

1933 production equipment show in print. il diag Automotive Ind 69:507-29 O 28 '33

1932 stimulated ingenuity of machine tool designers, introduced new materials. J. Geschelin. il Automotive Ind 68:71-2+ Ja 21 '33

Plymouth uses induction type ovens to bake enamel on steel parts. E. L. Bailey. il Iron Age 132:23+ S 14 '33

Progress in automobile production methods; highly accurate connecting-rod bearings by diamond boring and honing. F. C. Duston. il Mach 39:633-5 Je '33

Recent progress in carburizing with gas. R. J. Cowan. il diag Metal Prog 24:44-8 O '33

Rehabilitation as usual; Chrysler corporation. K. T. Keller. il Am Mach 76:1192-4 D 7 '32

Rehabilitation savings establish low Plymouth costs. B. Finney. il Iron Age 130:874-7, 952-3 D 8, 22 '32

Saving \$15,000 with conveyors; Chevrolet plant in Bay City, Mich. E. J. Tournier. il plan Am Mach 77:204-5 Mr 29 '33

Sheet metal working; two recent introductions in equipment for the body building shop. il Automobile Eng 23:248 Jl '33

Some factors that affect machine tool prices. J. Geschelin. Automotive Ind 68:603-5 My 20 '33

Some principles of low-cost tooling. J. E. Padgett. il S A E J 32:59-64 F '33; Same. Am Mach 77:82-4 F 1 '33; Excerpts. Automotive Ind 68:127-8 F 4 '33; Iron Age 131:240 F 9 '33; Mach 39:402 F '33; Discussion. Am Mach 77:170-1 Mr 15 '33

Use of all-helical-gear transmission made possible by new equipment; 1933 Dodge, De Soto and Chrysler cars. B. Finney. il Iron Age 131:535-7+ Ap 6 '33

Vauxhall works; methods employed in the reorganised Luton factory. il Automobile Eng 23:319-25 S '33

Welding plays increasingly important part in making Dodge cars; illustrations. Iron Age 130:842-3 D 1 '32

Woodworking machinery; recent developments in equipment for motor body building. il Automobile Eng 23:61-3, 103-4 F-Mr '33

**Management**

Building sales values in the factory; Chrysler corporation. K. T. Keller. il Factory & Ind Management 83:445-8 D '32

S.A.E. production papers start lively debates; abstracts. Automotive Ind 69:312-13 S 9 '33

Some principles of low-cost tooling. J. E. Padgett. il S A E J 32:59-64 F '33; Same. Am Mach 77:82-4 F 1 '33

Soundness and necessity of overhead write-downs. J. Geschelin. Automotive Ind 69:146-9 Ag 5 '33

Waste in manufacture. C. R. F. Engelbach. Engineer 156:336 O 6 '33

**Power**

Modernization of the River Rouge power plant of the Ford motor company. T. Harvey. il diag Gen Elec R 36:262-8 Je '33

Plymouth collects dividends from power-factor improvement. Elec W 101:330 Mr 11 '33

Power-house foundations and circulating-water tunnels at the Ford motor company's works at Dagenham. R. V. Allin and M. Nachshen. Engineering 135:169-70 F 10 '33

**AUTOMOBILE fuel.** See Automobile engines—Fuel; Automotive fuel

**AUTOMOBILE industry and trade**

Auto premiums; free trip to the World's fair. Business Week p12 Jl 22 '33

Automobile outlets. il Business Week p20-2 O 28 '33

Building sales by knowing customers' tastes; General motors of Canada. N. G. Shidle. Forbes 31:6-7+ Je 1 '33

Buyers remember the "bugs" long after engineers have fixed and forgotten them. E. B. Neil. Automotive Ind 68:636-7+ My 27 '33

Continental to sell new cars by mail-order methods. H. M. Andrews. Ptr Ink 161:10+ D 29 '32

Continental's direct sales of motor cars will employ service station dealers. D. G. Baird. il Sales Management 32:28+ Ja 1 '33

Fear—father of the ugly twins, price cutting and chiseling. J. Chase. Automotive Ind 68:361-2 Mr 25 '33

Four sales fundamentals for 1933; how Chrysler is meeting extraordinary condition. J. W. Frazer. Ptr Ink 161:68-70 D 1 '32

Mail-order automobiles. Ptr Ink 161:20 D 15 '32

1932 in the news. il Automotive Ind 68:100-1, 112 Ja 28 '33

Process industries as purveyors to the motor car. T. A. Boyd. Chem & Met Eng 40:15-17 Ja '33

Production engineering; industry urged to adjust to buying power. N. N. Manning. S A E J 32:sup37 F '33

Ratio of automotive use of steel gains in 1932. W. C. Hirsch. Automotive Ind 68:93-4 Ja 28 '33

Rhythmic variations in industry; comparative trends of foods, textiles, building construction, and automobiles. T. M. McNiece. front il Mech Eng 55:659-66 N '33

60,000 independent repairshops—do they knock or boost your car. A. F. Denham. il Automotive Ind 68:573-5 My 13 '33

**AUTOMOBILE industry and trade—Continued**  
Terminal dealer key to Continental plan. Automotive Ind 67:805 D 24 '32

What are the costs and how will they affect equipment sales? D. Blanchard. Automotive Ind 69:31-2+ J1 8 '33

What does the public want? consumer research activity of General Motors of Canada. N. G. Shidle. Automotive Ind 68: 666-9+ Je 3 '33; Same cond. Ptr Ink 163: 44-8 Je 22 '33

What makes a dealer succeed, shown by one banker's experience. J. V. Tuttle. Rand McNally Bankers Mo 50:540-1 O '33

What the public wants; General Motors goes direct to a million motorists to find out. Business Week p14 Ag 19 '33

What we owe to suppliers. J. Chase. Automotive Ind 68:513-15 Ap 29 '33

Whoopie advertising takes a tailspin; Nash motors company. E. H. McCarty. Ptr Ink Mo 26:21-2+ Mr '33

#### See also

Automobile accessories industry	Automobiles—Prices
Automobile factories	Garages
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Automobile service stations	and trade
	Motor truck industry
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#### Advertising

Auto dealer's assessment for advertising. H. A. Haring. il Adv & Sell 21:19+ My 11 '33  
Chrysler advertises again. il Ptr Ink 163:84 Ap 27 '33

Chrysler's force, 75,000 strong, watch Plymouth set the pace. Sales Management 31:440 N 15 '32

Elephants, camels—and cars. Ptr Ink 164:80 S 14 '33

Enthusiasm in dealers, how DeSoto generates it. B. C. Foy. il Ptr Ink 162:3-4+ Ja 19 '33

Ford dealers carry the flag; in a variety of campaigns of their own, they wage an open war with the enemy. il Ptr Ink 164:35-8 Ag 24 '33

Ford dealers help Henry. il Adv & Sell 21:32 Ag 31 '33

General Motors adopts low pressure selling. Adv & Sell 21:36 Je 8 '33

Genuine foreign atmosphere; DeSoto sends crew to Europe to obtain authentic advertising illustrations. il Ptr Ink 162:41-2 F 16 '33

Highlights of the Ford-against-the-field fight. il Adv & Sell 21:48+ S 14 '33

Huge auto cut-out order is printed in five colors at one impression. C. B. Davis. il Inland Ptr 90:36 Ja '33

More back-fence advertising; Plymouth and Chevrolet dealers in Columbus. Ptr Ink 165:28 O 12 '33

New Ford to be advertised. il Ptr Ink 162: 43-4 F 16 '33

19,000 orders from dealers, sight unseen, price unknown; Plymouth new model. A. M. Howe. il Ptr Ink 161:28-9+ N 17 '32

Pontiac spring birds are back—with a family. il Ptr Ink Mo 26:37 Je '33

Reasons-why—plus. il Ptr Ink Mo 27:17 Ag '33

Round four; Chevrolet lands a blow on Ford in the three-cornered automobile fight. Ptr Ink 164:11-12 S 7 '33

Scattered quarter-pages sell full-page announcement; Nash new-model advertising. il Ptr Ink 165:24 N 9 '33

So he bought a horse. Ptr Ink 164:10+ S 21 '33

Steel is enough says Ford; touches off new auto fight. Sales Management 33:161 Ag 15 '33

Studebaker to spend \$430,000 in month's comeback campaign. Sales Management 33:329 O 1 '33

Testimonials with the quality touch; Pierce-Arrow motor car company. il Ptr Ink 162:28 Ja 12 '33

This display has 2,000 parts; Magic City of Chevrolet. il Ptr Ink 161:46 D 29 '32

Three million road demonstrations in two months. E. H. Shanks. il Ptd Salesmanship 61:143-5 My '33

Why friendly copy is best; Hudson motor car company. M. Wiseman. il Ptr Ink 164:33-6 S 14 '33

Word war; steel and steel-wood motor bodies are arguing in public. Business Week p20-1 Ag 26 '33

#### Finance

Automobile financing shows nearly 50% decrease compared with 1931; tabulation. Automotive Ind 67:693 N 26 '32

Cost of installment buying. L. A. Froman. Harvard Business R 11:229-31 Ja '33

Dealers wait for loans to make new sales possible. J. V. Tuttle. Rand McNally Bankers Mo 50:405+ Ag '33

Dividends, employment, wages in the automotive industry. Automotive Ind 69:426-7 O 7 '33

Floor plan financing per new car bought by dealers increases from \$257 to \$263. Automotive Ind 68:178 F 11 '33

Motor shares. Economist 117:721-2 O 14 '33  
New and used car financing data, 1930-1932. Automotive Ind 68:225 F 25 '33

1932 statements show need for moderate car price increases. D. Blanchard. Automotive Ind 68:517-20, 550-1 Ap 29-May 6 '33

#### History

International automotive congresses. P. M. Heldt. il Automotive Ind 69:178-80 Ag 12 '33  
Those exciting horseless carriage days; 25 years of General Motors. B. C. Forbes. il Forbes 32:8-10, 27-8 S 15; 10-12 O 1 '33

#### New models

Automobiles accelerate; Chevrolet's new model and others. il Business Week p8-10 D 21 '32  
Brave new model world. il Business Week p3-4 Ja 11 '33

Chrysler's force, 75,000 strong, watch Plymouth set the pace. Sales Management 31:440 N 15 '32

Enthusiasm in dealers, how DeSoto generates it. B. C. Foy. il Ptr Ink 162:3-4+ Ja 19 '33  
Mr. Willys states his case. J. N. Willys. il Ptr Ink 162:28 F 9 '33

New cars; Plymouth, Dodge, and Chevrolet. il Business Week p6-7 N 23 '32

New Ford, new fight; Detroit is expecting two new Fords. il Business Week p1-2 F 1 '33

19,000 orders from dealers, sight unseen, price unknown; Plymouth new model. A. M. Howe. il Ptr Ink 161:28-9+ N 17 '32

Willys-Overland to pioneer teardrop fully streamlined automobile. Nat Pet N 24:17 D 7 '32

#### Salesmen

Are you gambling with manpower? L. M. Stewart. Sales Management 32:216 Mr 1 '33  
Auto prospect's blues. Sales Management 32: 529 My 15 '33

Hit and strike contest; Lawler automobile company. Management Methods 62:173-4 Ap '33

How Plymouth picks its salesmen. H. G. Moock. Ptr Ink 163:37 Je 22 '33

Klinger scraps portfolios. Ptr Ink 164:40 S 28 '33; Discussion (Keep the salesmen's data books!). J. B. Rodgers. 165:102 O 12 '33

Plymouth's sales chief tells his men how to double their incomes. H. G. Moock. Sales Management 32:602 Je 15 '33

Star salesmen the depression couldn't lick; E. N. Murphy. Sales Management 33:46-7 J1 1 '33

Star salesmen the depression couldn't lick; J. Costello and I. King. Sales Management 33:318, 320+ O 1 '33

These 77 men could buy cars; but only sixteen are asked. Sales Management 32:481 My 1 '33

#### Securities

Automobile, tire and accessory companies, 1930-1932. Mag of Wall St Manual p40-2 Mr 6 '33



**AUTOMOBILE industry and trade—Securities**  
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Motor shares. Economist 117:721-2 O 14 '33  
Position of leading motor stocks. Mag of Wall St 52:429-30 Ag 19 '33  
Position of motor common stocks. Mag of Wall St 51:487 F 18 '33

**Service**

Buick, Oldsmobile and Pontiac offer free lubrication with 1933 models. J. C. Chaffield. Nat Pet N 25:7-8 Ja 11 '33  
Motor service; car makers fight to regain their old maintenance market. Business Week p10-11 My 24 '33

**Statistics**

August output places industry ahead of 1932 12-month total. D. Blanchard. maps Automotive Ind 69:295-7 S 9 '33  
Auto figures and related facts—by states. Bradstreet's 61:240 Ja 28 '33  
Automobile and rubber statistics. Published in monthly numbers of Survey of current business  
Automobile production. Published in weekly numbers of Econostat  
Automobiles produced in the United States and Canada, monthly, 1923-1932. Iron Age 131:96 Ja 5 '33  
Automotive marketing data; new-car domestic sales by makes; sales outlets by states, etc. Automotive Ind 68:223-5 F 25 '33  
Do trade barriers cut automotive exports? G. E. Quisenberry. Automotive Ind 69:18-19 Jl 1 '33  
Exports. Automotive Ind 68:226-7 F 25 '33  
Exports, imports and reimports of the automotive industry for December and twelve months ended December, 1932-1931. Automotive Ind 68:151 F 4 '33  
Facts and figures for the automobile industry in 1932. Oil & Gas J 31:27 Ja 12 '33  
Final figures place 1932 output drop at 42 per cent. Automotive Ind 68:136 F 4 '33  
First half record breeds second half optimism. D. Blanchard. maps Automotive Ind 69:59-61 Jl 15 '33  
Increase in autos per capita in some cities. Spectator 131:25+ S 28 '33  
Industry forging ahead despite political uncertainties; statistics for first quarter 1933. D. Blanchard. Automotive Ind 68:543-4 My 6 '33  
Motor vehicle production (U.S. and Canada), 1929-32; tabulation. Automotive Ind 68:60 Ja 14 '33  
Moving averages picture swing to low-priced cars. Automotive Ind 68:536 Ap 29 '33  
New passenger-car registrations in the United States, monthly, 1925-1932. Survey of Cur Business 13:19 Ag '33  
New passenger car registrations in the United States, monthly 1932 and annually 1928-1932, by make. Annalist 41:299, 332 F 24-Mr 3 '33  
1933 outlook for automobiles in use, effect on gasoline consumption. S. A. Swensrud. Nat Pet N 25:27-8 Ja 18 '33  
1932 figures show loss of million in factory car output. C. E. Kern. Oil & Gas J 31:26 F 2 '33  
1932 new car sales reach 1,097,716. Automotive Ind 68:83 Ja 21 '33  
1932 statements show need for moderate car price increases. Automotive Ind 68:517-20, 550-1 Ap 29-May 6 '33  
Old cars present factories with new service problems. D. Blanchard and M. A. Ainsworth. Automotive Ind 68:451-4 Ap 15 '33  
Production; world production trends. Automotive Ind 68:219-22 F 25 '33  
Summer spurt puts car sales ahead of 1932 in 42 states. maps Automotive Ind 69:447 O 14 '33  
38,092 answer "here"; Chilton company's annual roll call of the industry's dealer organization. D. Blanchard. Automotive Ind 68:421-3 Ap 8 '33  
Trade barriers cut America's share of world motor markets. C. F. Baldwin. Automotive Ind 68:680-1 Je 3 '33

U.S. car sales up 28% in units and 8.5% in dollars in first nine months. Automotive Ind 69:576 N 11 '33  
Urban use of private automobiles becoming stabilized. H. S. Simpson. Transit J 77:50-2 F '33  
Will 1933 production reach 2,000,000? D. Blanchard. Automotive Ind 68:691-2+ Je 10 '33  
Yesterday and tomorrow; 1931 and 1932 figures compared. A. Reeves. Automotive Ind 68:1 Ja 7 '33

**Used cars**

Factory-sponsored Unisales company helps Ford dealers to compete more intelligently. A. F. Denham. Automotive Ind 68:754-5 Je 24 '33  
New kinks for marketing the repossession. A. E. Graham. Adv & Sell 20:15-16+ D 8 '32  
Old cars present factories with new service problems. D. Blanchard and M. A. Ainsworth. Automotive Ind 68:451-4 Ap 15 '33  
Prices, markets and used car trading under the code. D. Blanchard. Automotive Ind 69:323-4 S 16 '33  
Used cars down. Business Week p21 S 23 '33

See also  
Automobiles—  
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**Austria**

Austro-Daimler diversifies. Automotive Ind 69:122 Jl 29 '33

**Canada**

Are Canadian plants justified—or are odds against profits high? N. G. Shidle. Automotive Ind 67:699-702 D 3 '32  
Canada now has 25 automobile plants. Automotive Ind 69:108 Jl 22 '33  
Despite free entry, British fail to gain foothold in Canadian motor market. Automotive Ind 68:118 Ja 28 '33  
Exchange barriers halt British entry. Automotive Ind 68:178 F 11 '33  
New Canadian tariffs reduce rates on many automotive imports from the United States. Automotive Ind 68:385 Mr 25 '33

**Germany**

German auto boom. Business Week p25 My 31 '33

**Great Britain**

Austin motor. Economist 117:679-80 O 7 '33  
British motor exports. Economist 116:1012 My 13 '33  
British motor industry. Economist 117:755-6, 805-6 O 21-28 '33  
Commercial motor shares. Economist 117:872 N 4 '33  
Despite free entry, British fail to gain foothold in Canadian motor market. Automotive Ind 68:118 Ja 28 '33  
Engineering outlook; the motor industry. Engineering 135:181-2 F 17 '33; Abstract. Automotive Ind 68:286 Mr 4 '33  
Motor industry in 1932. Economist 116:804-5 Ap 15 '33  
Our industry; editorial. Automobile Eng 23:275-6 Ag '33

**Italy**

Tax exemptions help Italian industry; Fiat and Lancia scheduled to bring out new models shortly. J. W. Gantenbein and J. M. Kennedy. Automotive Ind 68:426 Ap 8 '33

**Michigan**

Factories make quick re-adjustment to Michigan eight-day bank holiday. Automotive Ind 68:205+ F 18 '33

**United States**

Applying the labor requirements of the Recovery act to the automotive industry. J. Geschelin. Automotive Ind 68:735-7 Je 17 '33  
Approved NIRA code of the N.A.C.C.; text. L. W. Moffett. Automotive Ind 69:267-9 S 2 '33

**AUTOMOBILE industry and trade—United States—Continued**

Are Canadian plants justified—or are odds against profits high? N. G. Shidle. *Automotive Ind* 67:699-702 D 3 '32

Automobile code provides for 35-hr. week. *Iron Age* 132:38D Ag 3 '33

Automobile factories increase output as dealers increase orders. *Nat Pet* N 25:64 Ap 19 '33

Automobile industry has poorest year since 1918. C. E. Wright. *Iron Age* 131:11 Ja 5 '33

Automobile sales improve despite a minimum of speculative influences. D. W. Ellsworth. *Annalist* 41:891 Je 30 '33

Automobiles. Bradstreet's 60:1590; 61:12+, 357 D 3 '32, Ja 7, F 18 '33

Automobiles; Chevrolet's economy model carries competition to still lower price levels. *Business Week* p11 Mr 15 '33

Automobiles; sales and production begin a spurt. *il Business Week* p14 My 3 '33

Automotive industry mobilizes to put through the new deal; with text of code. D. Blanchard. *Automotive Ind* 69:143-4, 160-1 Ag 5 '33

Code drafted by N.A.D.A. provides for 20 per cent gross profit on used cars. *Automotive Ind* 69:23+ J1 1 '33

Demand for automobiles broadening steadily. *Dun & Bradstreet* 41:14-16 J1 '33

Five contenders in the arena of low-priced automobiles. N. L. Shaeffer. *il Mag of Wall St* 51:420+ F 4 '33

Ford offers new models in bid for business. *Barron's* 13:21 F 20 '33

Higher material costs and wages put new emphasis on cost-reducing methods. J. Geschelin. *Automotive Ind* 69:549-50 N 3 '33

Industrial snapshots. J. Backman and A. L. Jackson. *Barron's* 13:7 O 2 '33

Industry at grips with Recovery act. *Automotive Ind* 69:1-2 J1 1 '33

Mirrors of motordom. Published in weekly numbers of *Steel*

Motor code to be submitted just to set a good example. *Business Week* p9 J1 29; 6-7 Ag 5 '33

Motor companies to lose \$50,000,000 in 1932. *Barron's* 12:14 D 26 '32

Motor dealers' code. *Business Week* p7 S 16 '33

Motor industry advances. A. Macauley. *Bradstreet's* 61:237+ Ja 28 '33

Motor industry must bet on replacement market. R. L. Woods. *il Mag of Wall St* 51:204-5+ D 10 '32

Motor industry's program for 1933. P. H. Smith. *Forbes* 31:24-5 Ja 1 '33

Motor makers in red, await green traffic lights. P. H. Smith. *Comm & Fin* 22:41 Ja 11 '33

Motor war starts. *Business Week* p7 D 28 '32

Motors' model; automobile code comes off the assembly line. *Business Week* p5 S 2 '33

NACC code action uncertain as NRA rules against open shop. *Automotive Ind* 69:255+ Ag 26 '33

N.A.D.A. code asks 20% used car gross and guarantees minimum draw for salesmen. *Automotive Ind* 69:258+ Ag 26 '33

New automobile designs bolster sales prospects. R. Brennan. *Dun's* R 41:2-5 Ja 21 '33

New deal for dealers. D. Blanchard. *Automotive Ind* 69:443-5 O 14 '33

Nine automobile companies weathered a trying period. *Barron's* 13:17 My 22 '33

Production in last half of 1933 offers big field for speculation. *Automotive Ind* 69:184-5 Ag 12 '33

Production problems under the codes. W. S. Knudsen. *Automotive Ind* 69:501-3 O 28 '33

Recovery bill presents industry with new problems and new opportunities. D. Blanchard. *Automotive Ind* 68:633-4+ My 27 '33

Revised code filed by commercial body builders. *Automotive Ind* 69:287+ S 2 '33

Shall we have production control in the motor industries? industrial recovery bill. L. W. Moffet. *Automotive Ind* 68:616-17 My 20 '33

That potential replacement demand; what is it? what does it mean to the auto industry? *Bradstreet's* 61:238-9 Ja 28 '33

They're buying cars. *Business Week* p9-10 Je 24 '33

What will NRA do to automotive costs? A. F. Denham. *Automotive Ind* 69:216 Ag 19 '33

**See also**

Chrysler corporation General motors corporation  
Ford motor company

**AUTOMOBILE laws and regulations**

Guest liability protection in the light of recent laws and rulings. E. I. Taylor. *Ins Field* (Fire ed) 61:6 D 22 '32

National organization for motor vehicle men proposed. W. A. Van Duzer. *Weekly Underw* 129:728 O 14 '33

Rattletrap hunt; two more states join the movement to exterminate the unsafe old car. *Business Week* p6 D 28 '32

Stopping distance is only sane yardstick for defining brake capacity. D. Beecroft. *il S A E J* 33:sup22-6 N '33; Abstract. *Automotive Ind* 69:239 Ag 26 '33

**See also**

Insurance, Automobile—Compulsory liability  
Insurance, Automobile—Financial responsibility laws  
Motor bus lines—Laws and regulations  
Motor trucks—Laws and regulations  
Motor vehicles—Law  
Traffic regulations  
also American association of vehicle administrators

**California**

California vehicle act, 1931. 277p California. Dept. of motor vehicles, Sacramento '31

**Indiana**

Indiana motor vehicle laws. 1933 ed 70p Bur. of motor vehicles, Indianapolis '33

**Massachusetts**

Motor vehicles in Massachusetts. E. M. Dangel. 698p E. W. Hildreth, Boston '32

**New Jersey**

New Jersey automobile accident cases. W. B. Mackay. 1053p Soney & Sage co, Newark, N.J. '33

**Pennsylvania**

New Pennsylvania law costly to motorists. *Weekly Underw* 128:962 My 20 '33; *East Underw* 34:34 My 19 '33

Pennsylvania's security act requires cover on operator. H. R. Teitrick. *Nat Underw* 37:33 O 12 '33

Responsibility law explained. R. C. Mead. *East Underw* 34:31 J1 14 '33

**AUTOMOBILE lighting.** See *Automobiles—Lighting*

**AUTOMOBILE lubrication stations**

Special lubricants, continuous selling, put a profit in the price. E. L. Barringer. *il Nat Pet* N 25:36-7 Ja 11 '33

**AUTOMOBILE parking**

Provisions and parking; building for McCann & co. inc. Pittsburgh, Pa. *il plans Arch Forum* 58:379-80 My '33

**AUTOMOBILE parts**

Motor service; parts makers' merchandising and deferred-payment repairs have given a boost to the independent service man. *Business Week* p10-11 My 24 '33

1933 model automobiles reveal wider use of die castings for small parts. *Steel* 92:19 Ja 16 '33

Parts makers maintain strong current position despite 1932's heavy losses. D. Blanchard. *Automotive Ind* 68:675-7 Je 3 '33

Parts makers' role gets bigger as automotive history unfolds. P. M. Heldt. *il Automotive Ind* 68:546-8+ My 6 '33

Permite merchandises package reconditioning. *Adv & Sell* 20:36 Mr 2 '33

Price concessions put parts makers on the spot. A. F. Denham. *Automotive Ind* 68:185-7 F 18 '33

Selling original equipment to the automotive industry. N. G. Shidle. *Adv & Sell* 21:19-20+ Ag 17 '33



**AUTOMOBILE parts—Continued**

Unique forming and welding operations; Midland steel products co, Cleveland, manufactures automobile rear-axle housings. F. L. Prentiss. *il diags Iron Age* 131:198-201+ F 2 '33

Wage cuts—what then? *Automotive Ind* 68:403, 409 Ap 1 '33

Welded tubing for automobile use. W. E. Stine. *il Am Mach* 77:137 Mr 1 '33

See also

Automobile supplies industry

Automobiles—Doors

**AUTOMOBILE racing**

Elgin road race a test of cars and drivers. *il Automotive Ind* 69:284-5 S 2 '33

Few notes on some racers. J. Geschelin. *Automotive Ind* 68:110 Ja 28 '33

Fresh facts stream from 500-mile racing grind under revised rules. C. S. Ricker. *il diags S A E J* 33:sup13-18+ J1 '33

Meyer averages 104.162 m.p.h. to set new Indianapolis mark. *il Automotive Ind* 68:661-4 Je 3 '33

Petroleum motor oil wins at Indianapolis. J. B. Rathbun. *Pet Age* 27:23-4+ Je '33

Qualifiers beat 1932 marks in time trials in Indianapolis race. *Automotive Ind* 68:658 My 27 '33

**AUTOMOBILE research**

Research and the motor car. T. A. Boyd. *il W Soc E J* 38:274-89; Discussion. 289-91 O '33

**AUTOMOBILE roads. See Roads, Automobile****AUTOMOBILE service clubs**

Agents in Iowa oppose plans of motor clubs. A. C. Root. *Weekly Underw* 128:1106 Je 10 '33

National automobile club big aid to agents in West. H. E. Manners. *East Underw* 33:28 D 23 '32

**AUTOMOBILE service stations**

Improved income for dealers; follow-up service work. J. V. Tuttle. *il Rand McNally Bankers Mo* 50:589+ N '33

Motor doctor; individual car owners are to get an expert analysis service once confined to fleet owners. *Business Week* p11 Mr 15 '33

See also

Gasoline service stations

**Lubricating service**

Buick, Oldsmobile and Pontiac offer free lubrication with 1933 models. J. C. Chatfield. *Nat Pet N* 25:7-8 Ja 11 '33

General motors corp. cancels free lubrication plan. *Nat Pet N* 25:15 F 15 '33

Hupmobile adopts free greasing plan on 1933 car sales. *Nat Pet N* 25:28 Ja 25 '33

Motor maintenance money; motor manufacturers are offering free lubrication to bring car owners back to car dealers. *Business Week* p10 F 8 '33

Oil trade begins fight to save its automotive lubricant business. *Pet Age* 27:12-13 F '33

Our 500 million dollar lubrication market—is it slipping? G. P. Shillinger. *Pet Age* 27:16-17+ Ja '33

**AUTOMOBILE shops**

Engineering applied to maintenance in unique Servicenter building, Washington, D.C. J. F. Winchester. *il S A E J* 32:197-203 Je '33

Presence of lead dust and fumes in the air of streets, automobile repair shops, and industrial establishments of large cities. J. J. Bloomfield and H. S. Isbell. *bibliog J Ind Hygiene* 15:144-9 My '33

Servicing Washington's autos; Capitol servicenter; illustrations. *Sci Am* 148:162-3 Mr '33

60,000 independent repairshops—do they knock or boost your car. A. F. Denham. *il Automotive Ind* 68:573-5 My 13 '33

See also

Automobile service stations

Automobiles—Repair

**Employees**

Wages and hours of labor in gasoline filling stations and motor-vehicle repair garages; 1931. U S Bur Labor Statistics Bul 578:1-89 '33

**AUTOMOBILE steel. See Steel, Automobile**

**AUTOMOBILE supplies industry**

What we owe to suppliers. J. Chase. *Automotive Ind* 68:513-15 Ap 29 '33

Who cares who started price chiseling? A. F. Denham. *Automotive Ind* 68:699-700 Je 10 '33

**AUTOMOBILE touring**

How to increase gasoline sales through suggested tours. E. L. Barringer. *map Nat Pet N* 25:47-8+ Je 28 '33

Motor tourist traffic in Michigan. *map Pub Roads* 13:197-200 F '33

Motoring abroad. 207p American automobile assn, Foreign travel division, New York '33

See also

Motor caravans

**AUTOMOBILE trunks. See Trunks, Automobile**

**AUTOMOBILES**

Auburn includes striking salon 8's and 12's for 1933. A. F. Denham. *il Automotive Ind* 68:10-11+ Ja 7 '33

Austin shows four new bodies at New York. *il Automotive Ind* 68:77-8 Ja 21 '33

Automobile's challenge to America's transportation policy. B. E. Hutchinson. 35p Chrysler corp, Detroit '32

Automotive construction and operation. J. C. Wright and F. C. Smith. 2d ed rev 435p \$3.50 Wiley '33

Bentley car revived in England. M. W. Bourdon. *il Automotive Ind* 69:425 O 7 '33

Buick recommends high octane fuel for 1933 models. *Nat Pet N* 24:22 D 14 '32

Buicks; novel ventilating scheme and modern style mark 1933 models. A. F. Denham. *il diags Automotive Ind* 67:704-7+ D 3 '32

Cadillac and LaSalle show wide body choices, sixteen to be custom-built. A. F. Denham. *il Automotive Ind* 68:46-7 Ja 14 '33

Car makers mobilize for 1933 drive. P. M. Heldt. *Automotive Ind* 67:789-91, 811-18 D 24 '32

Car manufacturers add more piston rings, improve carburetion. *Nat Pet N* 25:19-20 Ja 11 '33

Chevrolet adopts advanced styling; larger, more powerful. A. F. Denham. *il diags Automotive Ind* 67:764-7+ D 17 '32

Chevrolet features octane selector and automatic spark controls. *Nat Pet N* 25:21 Ja 4 '33

Chevrolet new standard model widens market. A. F. Denham. *il diags Automotive Ind* 68:304-7 Mr 11 '33

Chevrolet's starterator and new engine suspension. *diags Sci Am* 148:122 F '33

Chryslers have longer wheelbase and greater power. A. F. Denham. *il Automotive Ind* 67:792-4 D 24 '32

Compression ratio and motor speed higher in new Plymouth. *Nat Pet N* 24:22 N 30 '32

Continental in car field with a four and two sixes in low price bracket. A. F. Denham. *il Automotive Ind* 68:16-17+ Ja 7 '33

De Soto offers easier starting with improved device, choke. *il Automotive Ind* 68:22-4 Ja 7 '33

Dodge brings an eight to the New York show. *il Automotive Ind* 68:51-2 Ja 14 '33

Dodge 1933 is smaller and lower priced than 1932 six model. *Nat Pet N* 24:35 D 21 '32

Dodge offers new line of sixes with base price of \$595. A. F. Denham. *il Automotive Ind* 67:708-10 D 3 '32

Duesenberg Arlington sedan. *il Automotive Ind* 67:799 D 24 '32

Essex Terraplane six. *il Automotive Ind* 68:576 My 13 '33

Ford eight—bigger, better looking, faster and more powerful. W. K. Toboldt. *il Automotive Ind* 68:160-1+ F 11 '33

Ford 1933 model V8 has 6.33 to 1 compression ratio, aluminum cylinder head. *Nat Pet N* 25:20 F 15 '33

## AUTOMOBILES—Continued

- Graham-Paige enters new year with three different chassis models. A. F. Denham. *il* diags Automotive Ind 68:42-4 Ja 14 '33
- Hudson-Terraplane lines usher four cars into 1933 market. *il* Automotive Ind 68:12-15 Ja 7 '33
- Hupp offerings headed by new six of 90 hp. *il* Automotive Ind 68:48-9 Ja 14 '33
- Lincoln displays two lines at New York show. *il* Automotive Ind 68:45+ Ja 14 '33
- Mechanism of the car. A. W. Judge. 2d ed rev 247p 4s Chapman & Hall, Ltd, London '33
- Nash adds eight at \$845, other prices reduced. *il* Automotive Ind 68:50+ Ja 14 '33
- Nash 1934 models feature speedstream lines. *il* Automotive Ind 69:554-5 N 4 '33
- 1933 cars. J. B. Rathbun. *il* Pet Age 26:14-15 D '32
- Oldsmobile; simplification is keynote of 1933 line. A. F. Denham. *il* diags Automotive Ind 68:6-8+ Ja 7 '33
- Packard offers forty-one models on three lines. A. F. Denham. *il* diags Automotive Ind 68:36-9 Ja 14 '33
- Packard refines its line for 1934. A. F. Denham. *il* Automotive Ind 69:300-2 S 9 '33
- Pierce-Arrow 1933. *il* Automotive Ind 67:800-3 D 24 '32
- Pierce-Arrow Silver arrow; ultra-streamlined car; illustrations. Automotive Ind 68:35 Ja 14 '33
- Plymouth now offered in two series ranging in price from \$445 to \$595. *il* Automotive Ind 68:486-7 Ap 22 '33
- Pontiac enters 1933 with single line of eights and 7 models. A. F. Denham. *il* Automotive Ind 67:796-9+ D 24 '32
- Private and commercial motor body building. H. J. Butler. 248p \$3.50 Pitman '32
- Purposes of travel of automobile owners in Wisconsin. Pub Roads 14:35-6 Ap '33; Excerpt. Roads & Sts 76:230 Je '33
- Reo body refinements for 1933. *il* Automotive Ind 68:25 Ja 7 '33
- Rockne enters 1933 with single line of sixes. A. F. Denham. *il* Automotive Ind 67:732-3 D 10 '32
- Selected papers from Purdue university automotive service conferences, 1929-1930-1932. H. M. Jacklin, comp. Purdue Univ Eng Exp Sta Bul 29:1-119 '33
- Studebaker and Nash show first new cars. Business Week p12+ O 7 '33
- Studebaker jumps compression ratio to 6.3 to 1 in 1934 models. Nat Pet N 25:76 O 11 '33
- Studebaker offers four lines with provision for power braking. *il* Automotive Ind 68:18-20 Ja 7 '33
- Studebaker offers six at \$645 and two eights at \$845 and \$1,045 for '34. A. F. Denham. *il* diags Automotive Ind 69:386-9 S 30 '33
- Stutz goes into 1933 with two new Challenger lines. *il* Automotive Ind 68:53 Ja 14 '33
- Urban use of private automobiles becoming stabilized. H. S. Simpson. Transit J 77:50-2 F '33
- What will the car makers offer for 1934? A. F. Denham. Automotive Ind 69:265-6 S 2 '33
- Willys-Overland aims at year's lowest prices with streamlined four. A. F. Denham. *il* diags Automotive Ind 68:2-5 Ja 7 '33

See also

- |                               |                       |
|-------------------------------|-----------------------|
| Automobile engineering        | Motor buses           |
| Automobile engines            | Motor caravans        |
| Automobile industry and trade | Motor cars (railroad) |
| Brakes, Automobile            | Motor trucks          |
| Cycle cars                    | Motor vehicles        |
| Electric trucks               | Taxicabs              |
| Garages                       | Tires, Automobile     |
|                               | Tractors              |

## Axles

- American stock front axles specifications; tabulation. Automotive Ind 68:254 F 25 '33
- American stock rear axles specifications; tabulation. Automotive Ind 68:250-1 F 25 '33
- Arched front axle a novel feature of new Coleman car. *il* diags Automotive Ind 68:471 Ap 15 '33

- Axles and universal joints. diag Automotive Ind 67:815-16 D 24 '32
- Dual-ratio rear axle; new Auburn chassis. *il* diags Automotive Eng 23:69-70 F '33
- Independent wheel suspension. G. Brouhiet. bibliog *il* diags S A E J 33:325-47 O '33; Abstract. Automotive Ind 69:326-8 S 16 '33; Discussion. S A E J 33:347-50 O '33
- Rear axles requiring extreme pressure lubricants. Nat Pet N 25:32 Ja 25 '33

## Bearings

- Cageless roller bearings develop high carrying capacities. K. L. Herrmann. diags S A E J 33:275-82; Discussion. P. E. Miquelon. 282 Ag '33
- Simplified method of mounting anti-friction bearings; Marlin-Rockwell G type bearing. T. Barish. *il* diag Mach 39:467 Mr '33

## Bodies

- Aerodynamic characteristics of automobile models. R. H. Heald. bibliog diags pl U S Bur Stand J Research 11:285-91 Ag '33; Abstract. Science 78:sup8 N 3 '33
- Aerodynamic two-door saloon on an 8 h.p. Ford chassis. *il* diags Automotive Eng 23:193-6 My '33
- Body construction; the advantages and disadvantages of the various systems in present use. W. H. Hunt. Automotive Eng 23:355-6, 390-1 S-O '33
- Bodywork at the Paris show. *il* Automotive Eng 22:535-9 N '32
- Fisher body no-draft ventilation in diagram. *il* Automotive Ind 67:770 D 17 '32
- Franklin Airman body styles similar to Franklin twelve. *il* Automotive Ind 69:360 S 23 '33
- Golden egg in the body builder's lap. H. Holtom. S A E J 33:sup18-21 Ag '33
- Importance of working drawings. Automotive Eng 23:39 Ja '33
- Improved handling methods speed output of auto bodies; Murray corp. H. R. Simonds. *il* Iron Age 130:990-1+ D 29 '32
- Rear-powered ultra modern bodies; two designs by Count Mario Revelli di Beaumont. *il* Automotive Ind 68:106 Ja 28 '33
- Should we go back to arched door frames? J. J. Mercer. diags Automotive Ind 69:50-1 Jl 8 '33
- Special bodywork. *il* Automotive Eng 23:71-2, 190-1, 229-30, 351-2, 389-90 F, My-Je, S-O '33
- Special bodywork; details of some R.A.C. Rally cars, and a new sports four-seater. *il* Automotive Eng 23:149-50 Ap '33
- Special coachwork; details of three interesting close-coupled bodies. *il* Automotive Eng 23:37 Ja '33
- Steel and use of conveyors speed up production; Chrysler corp. *il* Iron Age 130:883+ D 8 '32
- Studebakers have all-steel bodies. J. Geschel. *il* Automotive Ind 69:422-4 O 7 '33
- Systems of body construction. F. J. Read. diags Automotive Eng 23:310-13 Ag '33
- Talbot; 105 modern four-door saloon. *il* diags Automotive Eng 23:74-6 F '33
- They look good but—does the public think 1933 bodies skimp comfort and driving vision for style? D. Blanchard. *il* Automotive Ind 68:391-2 Ap 1 '33
- Three jeers at some recent body trends. A. C. Hewitt; E. B. White; H. Chase. Automotive Ind 68:436-7 Ap 8 '33
- Trend to smoother body exteriors favors flush type door hinges. J. Geschel. *il* diags Automotive Ind 69:16-17 Jl 1 '33
- Two-door all-weather on an Alvis Crested Eagle chassis. *il* diags Automotive Eng 23:307-9 Ag '33
- Two-door sports saloon on a Siddeley special chassis. *il* diags Automotive Eng 23:392-4 O '33
- Unique cowl construction produced at low cost. J. Geschel. *il* Automotive Ind 68:764-7 Je 24 '33
- Woodworking machinery; recent developments in equipment for motor body building. *il* Automotive Eng 23:61-3, 103-4 F-Mr '33



## AUTOMOBILES—Continued

## Braking

- Analysis of brake-design factors gives basis for future studies. B. B. Bachman. diags S A E J 33:298-304 S '33; Abstract. Automotive Ind 69:237-9 Ag 26 '33
- Braking capacity of four-stroke engines. Automotive Ind 68:65 Ja 21 '33
- Braking curves adapted from elevator industry practice. H. B. Cook. Automotive Ind 69:452-3 O 14 '33

See also

Brakes, Automobile

## Care

- Requirements of the sporting owner-driver. J. Harrison. diags Automobile Eng 23:141-3 Ap '33

## Chassis

- American passenger car chassis specifications; tabulation. Automotive Ind 68:230 F 25 '33
- 1,800 c.c. Opel chassis; a six-cylinder model of German-American design. il diags Automobile Eng 23:81-7 Mr '33

## Cleaning

- B.E.N. car washer. il diag Engineering 135:328, 329 Mr 24 '33
- Niagara car washer. il Engineering 135:396 Ap 7 '33

## Clutches

- Accelerator and clutch pedals control speed changes in Macallen transmission. P. M. Heldt. diags Automotive Ind 68:752-4 Je 24 '33
- American stock clutches specifications; tabulation. Automotive Ind 68:255 F 25 '33
- Automatic clutch control gains in popularity. Automotive Ind 67:814-15 D 24 '32
- Berry automatic centrifugal clutch and planetary transmission. diag Automotive Ind 69:44 Jl 8 '33
- Christos automatic clutch. diag Automotive Ind 68:347 Mr 18 '33
- Continental Ace models now equipped with centrifugal automatic clutch. diags Automotive Ind 68:674+ Je 3 '33
- Future clutch progress charted from design A-B-C's. E. E. Wemp. diags S A E J 32:92-103 Mr '33
- New Borg & Beck clutch developed for use with vacuum controls. diags Automotive Ind 69:367 S 23 '33
- Recent progress rapid in design of automatic transmissions. W. C. Keys. il diags S A E J 32:229-43 [biblog p241-3]; Discussion. 243-4 Jl '33
- Single-plate clutches. diags Automobile Eng 23:23-6 Ja '33; Discussion. 23:80, 118 Mr-Apr '33
- Spicer introduces direct acting hydraulic shock absorber; also offers self-operating Powerflo clutch. A. F. Denham. il diags Automotive Ind 68:724-5 Je 17 '33
- Vacuum operated clutches change gears automatically. P. M. Heldt. diags Automotive Ind 68:424-6 Ap 8 '33

## Color

- Calibrated colors have three dimensions. Automotive Ind 67:685 N 12 '32
- Is the color of your product wrong for export markets? General Motors cars. D. Guernsey. Sales Management 31:519 D 15 '32

## Cost of operation

- How the highway pays. R. W. Crum. Eng N 11:5-6 Jl 6 '33
- Salesman's car; a comprehensive survey of the policies of leading fleet operators. C. B. Larrabee. il Ptr Ink Mo 27:29-32+ S '33

## Design

- Aerodynamic characteristics of automobile models. R. H. Heald. biblog diags pl U S Bur Stand J Research 11:285-91 Ag '33; Abstract. Science 78:sup8 N 3 '33
- Aerodynamic two-door saloon on an 8 h.p. Ford chassis. il diags Automobile Eng 23:193-6 My '33

Airplanes point way for motor car; abstract.

- W. B. Stout. S A E J 32:86 Mr '33
- Anforderungen an kraftwagen bei dauerfahrten. W. Kamm. il Zeit Ver Deutsch Ing 77:1129-33 O 21 '33
- Arched front axle a novel feature of new Coleman car. il diags Automotive Ind 68:471 Ap 15 '33
- Body styles displayed at New York show offer an interesting study in trends. J. Geschelin. diags Automotive Ind 68:96-9 Ja 28 '33
- Box section side rails triple stiffness and save weight in new Studebaker frame. J. Geschelin. il diags Automotive Ind 69:396-9 S 30 '33
- Buyers remember the "bugs" long after engineers have fixed and forgotten them. E. B. Neil. Automotive Ind 68:636-7+ My 27 '33
- Car makers in art display; illustrations from exhibition of Arts and crafts guild, Detroit. Automotive Ind 68:279 Mr 4 '33
- Crossley reveals rear engine, streamlined car at London show. diags Automotive Ind 69:478-9 O 21 '33
- Does height of center of gravity affect the tendency to skid? P. M. Heldt. Automotive Ind 69:181-2 Ag 12 '33; Discussion. J. E. Padgett. 69:304 S 9 '33
- Drawing and handicraft competitions. Automotive Eng 23:33 Ja '33
- Drawing and handicraft competitions; a review of the principal exhibits at the Regent Street polytechnic. diags Automobile Eng 23:267-70 Jl '33
- Dymaxion auto. il Fortune 7:8 Je '33
- Dymaxion car. il Business Week p13-14 Jl 29 '33
- Effecting economies in motor-vehicle operation; abstract. L. V. Newton. Automotive Ind 69:313 S 9 '33
- Electric-furnace cast-iron; designer's viewpoint. H. T. Woolson. S A E J 32:65-7 F '33
- First Dymaxion transport unit. il diag Arch Rec 74:147 Ag '33
- French engineers frown on rear mounted engines. E. Claveau. Automotive Ind 68:200 F 18 '33; Discussion. diag 68:403, 431-3 Ap 1-8 '33
- Golden egg in the body builder's lap. H. Holtom. S A E J 33:sup18-21 Ag '33
- How the automobile industry can help itself by helping the oil industry. A. L. Clayden. il Automotive Ind 69:586-9 N 11 '33; Same. Oil & Gas J 32:84-5+ O 26 '33
- How versatile engineering meets public demand. H. M. Crane. S A E J 32:21-7 Ja '33; Same cond. Automobile Eng 23:124-6 Ap '33; Discussion. S A E J 32:27-32 Ja '33
- Independent wheel suspension. G. Brouhiet. biblog il diags S A E J 33:325-47 O '33; Abstract. Automotive Ind 69:326-8 S 16 '33; Discussion. S A E J 33:347-50 O '33
- Is 50 miles per gallon possible with correct streamlining? W. E. Lay. il diags S A E J 32:144-56, 177-86 Ap-May '33; Discussion. 33:261-7 Ag '33
- Is independent suspension a cure for front end troubles? A. F. Denham. diags Automotive Ind 69:571-4, 612-16 N 11-13 '33
- Looking ahead with engines behind. diags Automotive Ind 68:490-1+ Ap 22 '33
- Mr Willys states his case. J. N. Willys. il Ptr Ink 162:28 F 9 '33
- New features of German design. diags Automotive Ind 68:756-7 Je 24 '33
- New German designs at Berlin show. E. P. A. Heinze. il Automotive Ind 68:272-5 Mr 4 '33
- Paris automobile show, Oct. 6-16. il Automobile Eng 22:525-39 N '32
- Pertinent pokes for satisfied engineers. H. Chase. S A E J 32:73-7 Mr '33
- Practical methods for determining an automobile's center of gravity. P. M. Heldt. diags Automotive Ind 69:474-6 O 21 '33
- Les progrès de la construction automobile révélés par le dernier salon de Paris; moteur, châssis, suspension, carrosserie et changements de vitesse. G. Delanghe. il diags Génie Civil 101:477-81, 498-503, 522-5 N 12-26 '32

**AUTOMOBILES—Design—Continued**

- Radio direction finders for automobile drivers? L. M. Powers. *Automotive Ind* 69:395 S 30 '33
- Rear-powered ultra modern bodies; two designs by Count Mario Revelli di Beaumont. *il Automotive Ind* 68:106 Ja 28 '33
- Requirements of the sporting owner-driver. J. Harrison. *Automobile Eng* 23:93-5, 141-3 Mr-Ap '33
- Should we go back to arched door frames? G. J. Mercer. *diags Automotive Ind* 69:50-1 Jl 8 '33
- Side winds abate performance gains hoped for from streamlining. R. H. Heald. *il S A E J* 33:sup18-21 N '33
- Small four-door saloon. *il plan Automobile Eng* 22:564-6 N '32
- Smaller headlamps for streamlined cars. W. C. Brown and V. J. Roper. *diags Automotive Ind* 69:270-4, 306-8 S 2-9 '33
- Special bodywork. *il Automotive Eng* 23:351-2, 389-90 S-O '33
- Special bodywork; Corsica coupés and a motor caravan. *il Automobile Eng* 23:71-2 F '33
- Special bodywork; details of some R.A.C. Rally cars, and a new sports four-seater. *il Automotive Eng* 23:149-50 Ap '33
- Special coachwork; details of three interesting close-coupled bodies. *il Automotive Eng* 23:37 Ja '33
- Streamlining automobiles. *J Fr Inst* 216:103-6 Jl '33
- Streamlining's economies put new stress on transmissions problem; review of paper by Lay, Holton and Patterson. P. M. Heldt. *Automotive Ind* 68:368-70+ Mr 25 '33
- Striking engineering progress revealed in 1933 cars. A. M. Wolf. *il S A E J* 32:1-20 Ja '33; Same. *Automobile Eng* 23:98-102, 129-34, 165-8 Mr-May '33
- Talbot; 105 modern four-door saloon. *il diags Automobile Eng* 23:74-6 F '33
- Tests show how much streamlining car's under-ports would cut drag. N. P. Bailey. *diags Automotive Ind* 68:589 My 13 '33
- They look good but—does the public think 1933 bodies skimp comfort and driving vision for style? D. Blanchard. *il Automotive Ind* 68:391-2 Ap 1 '33
- Torque reversal shifts gears. A. F. Denham. *il diags Automotive Ind* 68:197-9 F 18 '33; Abstract. *Mech Eng* 55:313 My '33
- Two-door all-weather on an Alvis Crested Eagle chassis. *il diags Automobile Eng* 23:307-9 Ag '33
- Two-door sports saloon on a Siddeley special chassis. *il diags Automobile Eng* 23:392-4 O '33
- 280 m.p.h. top speed of the new 2350 hp. Blue Bird Campbell will use in attack on his own record. *il diag Automotive Ind* 68:133-5 F 4 '33
- What does the public want? N. G. Shidle. *il Automotive Ind* 68:666-9+ Je 3 '33; Same cond. *Ptr Ink* 163:44-8 Je 22 '33
- What is wrong with American cars? L. H. Pomeroy. *il diags S A E J* 33:313-24 S '33; Abstract. *Automotive Ind* 69:230-1 Ag 26 '33
- What the traveling public wants in the future. W. B. Stout. *S A E J* 33:293-7 S '33; Abstract. *Automotive Ind* 69:231 Ag 26 '33
- Will public buy streamlined cars? Pierce-Arrow presents one such. *il Sales Management* 32:68 Ja 15 '33
- Would economy sell lower-gearred cars? P. M. Heldt. *Automotive Ind* 68:458-62 Ap 15 '33
- See also*  
Automobile engines—Automobiles—Riding Design qualities  
Automobiles—Bodies
- Door hinges**
- Trend to smoother body exteriors favors flush type door hinges. J. Geschelin. *il diags Automotive Ind* 69:16-17 Jl 1 '33

**Doors**

- Flash welding automobile doors; Edward G. Budd mfg. co, Philadelphia. *il Iron Age* 131:316-17 F 23 '33
- Silent door furniture. *il Automobile Eng* 23:231-2 Je '33

**Electric equipment**

- Automobile water heater and battery charger make starting easy on winter mornings. G. G. Somerville. *il diag Gen Elec R* 35:654-6 D '32
- Battery voltage variations. G. Gory. *diags Automotive Ind* 68:66-8 Ja 21 '33
- Burgess ignition booster. *il diags Automobile Eng* 23:153 My '33
- Dramatizes technical sales story by talkie film; Packard electric company. B. N. MacGregor. *Ptr Ink* 164:9-10+ Jl 13 '33
- Electrical equipment of automobiles; a review of progress. W. H. Glaser. *Inst E E J* 72:147-52 F '33
- Ford makes starters and generators in model small plant. B. Finney. *il Iron Age* 132:10-14+ N 9 '33
- Scintilla Vertex magneto. *il diags Automobile Eng* 23:144-5 Ap '33
- Unit generator-motor in Hobart electrical transmission. *diags Automotive Ind* 69:212 Ag 19 '33
- Westric battery charger. *il diags Automobile Eng* 23:183-4 My '33

*See also*

Automobiles—Lighting

**Equipment**

- Artists and engineers cooperate in production of die cast hardware; Devereaux corporation. J. B. Nealey. *il Iron Age* 131:740-2 My 11 '33
- Bodywork fittings. *il diags Automobile Eng* 23:154-5, 231-2, 395-6 Ap, Je, O '33
- Briggs clarifier cleans the crankcase oil. *il Automotive Ind* 69:463 O 14 '33
- New Buicks use Delco-Lovejoy shock absorbers. *diag Automotive Ind* 67:707+ D 3 '32
- Requirements of the sporting owner-driver. J. Harrison. *Automobile Eng* 23:93-5, 141-3 Mr-Ap '33
- See also*  
Automobile accessories industry  
Automobile engines
- Brakes, Automobile  
Carbureters  
Tires, Automobile

**Exhibitions**

- Ad man goes to the auto show. B. Lorimer. *il Adv & Sell* 20:15+ Ja 19 '33
- Body styles displayed at New York show offer an interesting study in trends. J. Geschelin. *diags Automotive Ind* 68:96-9 Ja 28 '33
- L'évolution de la technique automobile américaine, d'après le dernier salon de New York. G. Delanghe. *il diag Génie Civil* 102:221-5 Mr 11 '33
- \$Millions motors. *Business Week* p5-6 Ja 18 '33
- Motor car developments; features of the Paris show. *Engineer* 156:361 O 13 '33
- Motor car show at Olympia. *il diags Engineer* 156:352, 380-1 O 13-20 '33; *Engineering* 136:446-8 O 20 '33
- New German designs at Berlin show. E. P. A. Heinze. *il Automotive Ind* 68:272-5 Mr 4 '33
- Paris automobile show, Oct. 6-16. *il Automobile Eng* 22:525-39 N '32
- Les progrès de la construction automobile révélés par le dernier salon de Paris; moteur, châssis, suspension, carrosserie et changements de vitesse. G. Delanghe. *il diags Génie Civil* 101:477-81, 498-503, 522-5 N 12-26 '32
- Le salon de l'automobile, à Berlin, en 1933. G. Delanghe. *il Génie Civil* 102:341-4 Ap 15 '33
- Strident showmanship dramatizes 1933 automobile debut; 33d annual automobile show, New York. N. G. Shidle. *Automotive Ind* 68:33-4 Ja 14 '33
- Strong trend to independent suspension at Paris show. W. F. Bradley. *il diags Automotive Ind* 69:556-9 N 4 '33



**AUTOMOBILES—Exhibitions—Continued**

Transmission developments feature London motor show. M. W. Bourdon. *il Automotive Ind* 69:541-5 N 4 '33

Le XXVI<sup>e</sup> salon de l'automobile; voitures de tourisme, motocyclettes et bicyclettes (Paris, 6-16 octobre 1932). G. Delanghe. *il Génie Civil* 101:393-402, 429-34, 453-9 O 22-N 5 '32

Le XXVII<sup>e</sup> salon de l'automobile; voitures de tourisme, véhicules industriels, motocyclettes et bicyclettes (Paris, 5-15 octobre 1933). G. Delanghe. *il diags Génie Civil* 103:389-99, 420-7, 446-51, 469-76 O 21-N 11 '33

*See also*

Chicago—World's fair, 1933—Automotive exhibits

**Fenders**

Cadillac now lacquers rustproofed sheet metal parts in matched sets. *il Automotive Ind* 69:433 O 7 '33

**Frames**

Box section side rails triple stiffness and save weight in new Studebaker frame. J. Geschelein. *il diags Automotive Ind* 69:396-9 S 30 '33

X members are in common use. *Automotive Ind* 67:817 D 24 '32

**Free wheeling**

Free wheeling dropped from some 1933 model automobiles. *Nat Pet N* 25:36 Ja 25 '33

New aspects of the free-wheeling lubricant problem. H. R. Wolf and H. C. Mougey. *bibliog diag chart Am Pet Inst Proc* (Refining div) p75-84; Discussion. 85-6 Je '32

Les progrès de la construction automobile révélés par le dernier salon de Paris; moteur, châssis, suspension, carrosserie et changements de vitesse. G. Delanghe. *il Génie Civil* 101:524-5 N 26 '32

**Gearing**

Accelerator and clutch pedals control speed changes in Macallen transmission. P. M. Heldt. *diags Automotive Ind* 68:752-4 Je 24 '33

American stock gearsets specifications; tabulation. *Automotive Ind* 68:252-3 F 25 '32

Automatic transmissions. P. M. Heldt. *diags Automotive Ind* 69:4-6, 43-4, 97-8, 127-30 Jl 1-8, 22-29 '33; Abstract. *Mech Eng* 55:639 O '33

Berry automatic centrifugal clutch and planetary transmission. *diag Automotive Ind* 69:44 Jl 8 '33

La boîte de vitesses Wilson, à trains épicycloïdaux et à présélection. *diags Génie Civil* 103:379-80 O 14 '33

Brown-Lipe has new line of helical gear transmissions. *il Automotive Ind* 69:486 O 21 '33

Burnett compact transmission is quiet in all speeds. *diag Automotive Ind* 68:560 My 6 '33

Can a transmission have a brain? S. O. White. *S A E J* 32:sup9-11 Je '33

Chevrolet synchro-mesh gear box. *diag Automobile Eng* 23:143 Ap '33

Dodge gear box; embodying sliding helical gears. *il Automobile Eng* 23:170 My '33

Extreme pressure lubricants. *il Nat Pet N* 25:42+ Ja 25 '33

Extreme-pressure lubricants. H. R. Wolf and H. C. Mougey. *bibliog il diag Am Pet Inst Proc* p118-30 sec 3 D '32; Same cond. *Oil & Gas J* 31:58+ N 17 '32; Excerpts. *Automotive Ind* 67:650-3 N 19 '32; Abstract. *Nat Pet N* 24:39-40 N 16 '32; Discussion. *Am Pet Inst Proc* p130-1 sec 3 D '32

Fluid transmission system; abstract. E. J. Cosford. *S A E J* 32:sup50-1 F '33

Ford patents three speed planetary gear. *diags Automotive Ind* 69:37 Jl 8 '33

Heat treating gears in cyanide pot and drawing oven; Muncie products division, General motors corp. E. M. Kingsley. *il plan Metal Prog* 23:13-18 Ja '33

Helical gears in more general use. *Automotive Ind* 67:815 D 24 '32

Lapping all teeth of gears simultaneously. C. O. Herb. *il Mach* 39:689-92 Jl '33

Making propeller shafts; methods at the works of Hardy-Spicer and co. *il diag Automobile Eng* 23:119-23 Ap '33

Making the Wilson gear box. *il Automobile Eng* 23:375-82 O '33

Maybach semi-automatic gear box. *il diags Automobile Eng* 23:53-4 F '33

Mono-drive automatic gear box; gear changing effected by torque reversal. *il diags Automobile Eng* 23:251-3 Jl '33

Negative thinking blocking the automatic transmission. L. Oldfield. *Automotive Ind* 69:358-60 S 23 '33

Noise caused by gears; abstract. T. J. Ban-nan. *S A E J* 32:sup37 F '33

Precision required in machining nickel-steel helical gears; Packard motor car co. B. Finney. *il Iron Age* 131:308-9+ F 23 '33

Problem of extreme-pressure lubricants. O. C. Bridgeman. *Am Pet Inst Proc* p114-17 sec 3 D '32; Same. *Oil & Gas J* 31:50+ N 17 '32; Discussion. *Am Pet Inst Proc* p130-1 sec 3 D '32

Les progrès de la construction automobile révélés par le dernier salon de Paris; moteur, châssis, suspension, carrosserie et changements de vitesse. G. Delanghe. *il diag Génie Civil* 101:502, 522-5 N 19-26 '32

Quieter gears are being demanded! how shall we make them? F. W. Cederleaf. *S A E J* 33:353-7 N '33; Abstract. *Automotive Ind* 69:242-3 Ag 26 '33; Discussion. *S A E J* 33:357-62 N '33

Recent progress rapid in design of automatic transmissions. W. C. Keys. *il diags S A E J* 32:229-43 [bibliog p241-3]; Discussion. 243-4 Jl '33

Reo's automatic shift takes 6 pints of EP lubricant. *diag Nat Pet N* 25:44 Je 28 '33

Salerni transmission; combines a fluid fly-wheel with a continuous mesh transmission. *diag Automotive Ind* 68:70 Ja 21 '33

Self-shifting transmission is standard on Reo Royale. *il diags Automotive Ind* 68:528-30 Ap 29 '33

Sharp corners. D. Dresden. *diag Engineering* 135:451 Ap 28 '33

Streamlining's economies put new stress on transmissions problem; review of paper by Lay, Holton and Patterson. P. M. Heldt. *Automotive Ind* 68:368-70+ Mr 25 '33

Timing drives. P. M. Heldt. *Automotive Ind* 68:498 Ap 22 '33

Torque reversal shifts gears. A. F. Denham. *il diags Automotive Ind* 68:197-9 F 18 '33; Abstract. *Mech Eng* 55:313 My '33

Les transmissions de rotation à couples d'embrèvement; application aux automobiles. F. E. Myard. *diags Génie Civil* 102:539-41 Je 10 '33

Use of all-helical-gear transmission made possible by new equipment; 1933 Dodge, De Soto and Chrysler cars. B. Finney. *il Iron Age* 131:535-7+ Ap 6 '33

Vacuum operated clutches change gears automatically. P. M. Heldt. *diags Automotive Ind* 68:424-6 Ap 8 '33

What is wrong with American cars? L. H. Pomeroy. *il diags S A E J* 33:317-22 S '33

What transmission ratios give best efficiency? B. P. Sergayeff. *Automotive Ind* 69:448-50 O 14 '33

Worm gears; their mounting in relation to oil-film lubrication. H. Walker. *diags Automobile Eng* 23:27-8 Ja '33

Would economy sell lower-g geared cars? P. M. Heldt. *Automotive Ind* 68:458-62 Ap 15 '33

*See also*

Automobiles—Trans-mission

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Automobiles—Steer-ing gear

Heating and ventilation

Automotive air conditioning. *diag Business Week* p 12, 13 Ag 26 '33

Body ventilation; the Fisher individually controlled window ventilators. *diags Automobile Eng* 23:189-90 My '33

**AUTOMOBILES**—Heating and ventilation  
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Interior ventilation of bodywork. diag Automobile Eng 23:394 O '33

**Inspection**

Packard uses special devices to check accuracy of parts. il Iron Age 131:233+ F 9 '33

**Insurance**

See Insurance, Automobile

**Lighting**

Effect of the spectral transmission of the atmosphere upon visibility by artificial light. M. G. Bennett. Illum Engr 26:75-80 Mr '33

Emploi de verres propres à réduire l'éblouissement produit par les projecteurs d'automobiles. A. Monnier and M. Mouton. Génie Civil 102:596 Je 24 '33

Glaring lights. il Safety Eng 66:92 S '33

High-speed night driving made safer by new three-beam headlamp. F. H. Hazard. il S A E J 33:sup20-3 Jl '33

New asymmetric headlight devices on 1933 cars. V. J. Roper. Illum Eng Soc Trans 28:390-1 My '33

New headlighting specification for safe night driving. S A E J 33:37-8 N '33

Night driving and headlight range. il Safety Eng 65:132 Ap '33

Silvering of automobile headlamp bulbs. G. S. Santmyers. Metal Ind 31:277-9 Ag '33

Smaller headlamps for streamlined cars. W. C. Brown and V. J. Roper. diags Automotive Ind 69:270-4, 306-8 S 2-9 '33; Abstract. S A E J 33:376 N '33

Studebaker magnetic control for vertical adjustment of headlamp beam; diagrams. Automotive Ind 69:484 O 21 '33

**Lubrication**

Apparatus for finding load-carrying capacity of extreme pressure lubricants. S. A. McKee, F. G. Bitner and T. R. McKee. Nat Pet N 25:21-2+ S 6 '33

Car makers in campaign to popularize less viscous oils; abstracts of papers on fuels, lubricants and design at A.P.I. meeting. diags Automotive Ind 69:560-1+ N 4 '33; Nat Pet N 25:22+ N 1 '33; Oil & Gas J 32:10 N 2 '33

Chemical mechanism of lubrication; abstract. W. F. Parish and L. Cammen. Oil & Gas J 31:23+; Discussion. 30 D 15 '32

Chemie und automobiltechnik; graphitierte autoschmiermittel. Chemische Fabrik 6:172-3 Ap 19 '33

Complete lubrication guide for 1933 Chevrolet. chart Nat Pet N 25:32-3+ Mr 29 '33

Composition of automotive lubricants and their specific application. A. L. Foster. Nat Pet N 25:48+ Ja 25 '33

Extreme pressure lubricants. il Nat Pet N 25:42+ Ja 25 '33

Extreme-pressure lubricants. H. R. Wolf and H. C. Mougey. bibliog il diag Am Pet Inst Proc p118-30 sec 3 D '32; Same cond. Oil & Gas J 31:58+ N 17 '32; Excerpts. Automotive Ind 67:650-3 N 19 '32; Abstract. Nat Pet N 24:39-40 N 16 '32; Discussion. Am Pet Inst Proc p130-1 sec 3 D '32

Gear oils; extreme-pressure lubricants. il Pet Age 27:14-15 Ap '33

Heavy residuals are main lubricating component of motor oils. P. M. Robinson. Nat Pet N 25:29-30+ Jl 5 '33

How the automobile industry can help itself by helping the oil industry. A. L. Clayden. il Automotive Ind 69:586-9 N 11 '33; Same. Oil & Gas J 32:84-5+ O 26 '33

Load-carrying capacity of extreme-pressure lubricants. S. A. McKee, E. A. Harrington and T. R. McKee. S A E J 32:217-23 Je '33

Lubricating and servicing the new cars; Chrysler six and Royal 8, 1933; charts. Pet Age 27:35-6 Ag '33

Lubricating and servicing the new cars; Packard eight, 1933 and Graham eight, 1933 (57-A); charts. Pet Age 27:29-30 O '33

Lubricating and servicing the new cars; Studebaker Commander and 6—1933; Oldsmobile 6 and 8—1933; charts. Pet Age 27:31-2 Jl '33

Lubricating and servicing the new cars; Willys-Overland 8 and Willys 77; charts. Pet Age 27:35-6 S '33

Lubricating the universal joint. il Pet Age 27:36-7 Ja '33

Lubrication guide for 1933 Ford V-8 passenger cars. chart Nat Pet N 25:48-9 Ap 26 '33

Lubrication guide for 1933 Plymouth and Dodge 6. chart Nat Pet N 25:40-1+ Ap 12 '33

Lubriplate for gears has high pressure characteristics. Automotive Ind 69:45 Jl 8 '33

More grease sales. J. B. Rathbun. Pet Age 27:12+ Ag '33

New aspects of the free-wheeling lubricant problem. H. R. Wolf and H. C. Mougey. bibliog diag chart Am Pet Inst Proc (Refining div) p75-84; Discussion. 85-6 Je '32

New equipment for automotive lubrication. il Nat Pet N 25:56+ Ja 25 '33

New silent U threaded shackles found on many 1933 model automobiles. J. C. Chatfield. il diags Nat Pet N 25:33-4 Ja 25 '33

1933 trend in merchandising automotive lubrication. Nat Pet N 25:53-4 Ja 25 '33

Passenger car capacity chart corrected to January 20, 1933. Nat Pet N 25:38-9, 41 Ja 25 '33

Patented lubricant; Keenol lubricant investigation of National physical laboratory. Automobile Eng 23:13 Ja '33

Petroleum Age automobile service chart. Published in monthly numbers of Petroleum age

Petroleum motor oil wins at Indianapolis. J. B. Rathbun. Pet Age 27:23-4+ Je '33

Problem of extreme-pressure lubricants. O. C. Bridgeman. Am Pet Inst Proc p114,17 sec 3 D '32; Same. Oil & Gas J 31:50+ N 17 '32; Same abr. Pet Age 26:21+ N '32; Discussion. Am Pet Inst Proc p130-1 sec 3 D '32

Reo's automatic shift takes 6 pints of EP lubricant. diag Nat Pet N 25:44 Je 28 '33

Service man's guide to automotive lubrication. J. B. Rathbun. 131p Chek-chart corporation, Chicago '33

Unit part lubrication needs of 1933 passenger cars. G. M. Harrison. Nat Pet N 25:37-9 Ag 16; 47-8, 50 Ag 23 '33

What quality extreme-pressure lubricants? variations of load-carrying capacity with temperature and rubbing speed tested. S A E J 32:sup17 Ja '33

What scientists are doing about motor oils; papers at joint meeting of the American society of testing engineers and the metropolitan section of the S.A.E. Pet Age 27:33-9+ S '33

What the 1933 automobile requires in lubrication. R. B. Stafford. Nat Pet N 25:29-32 Ja 25 '33

What the oil man should know about lubricating and servicing the new cars; Chevrolet 6 (master and standard) 1933; charts. Pet Age 27:33-4 Ap '33

What the oil man should know about lubricating and servicing the new cars; Dodge six and eight, 1933; charts. Pet Age 27:25-6 Je '33

What the oil man should know about lubricating and servicing the new cars; Ford V-eight, 1933 and Pontiac eight, 1933; charts. Pet Age 27:53-5 Mr '33

What the oil man should know about lubricating and servicing the new cars; Nash 6 series 1120—1933 and Nash standard 8 series 1130—1933; charts. Pet Age 27:39-41 Ja '33

What the oil man should know about lubricating and servicing the new cars; Plymouth six and De Soto six, 1933; charts. Pet Age 27:39-40 F '33

What the oil man should know about lubricating and servicing the new cars; Rockne, 1933, and Buick 8(all models) 1933; charts. Pet Age 27:25-6 My '33



**AUTOMOBILES—Lubrication—Continued**

Worm gears; their mounting in relation to oil-film lubrication. H. Walker. *diags Automobile Eng* 23:27-8 Ja '33

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cating service

Gasoline service sta-  
tions—Lubricating  
service

**Manufacture**

Body construction; the advantages and disadvantages of the various systems in present use. W. H. Hunt. *Automobile Eng* 23:355-6, 390-1 S-O '33

Building sales values in the factory; Chrysler corporation. K. T. Keller. *il Factory & Ind Management* 83:445-8 D '32

Chrysler "shoots the works" in new Plymouth plant. J. Geschelin. *il Automotive Ind* 68:138-42 F 4 '33

Chrysler tools up; more flexible production and lower costs. *Business Week* p7-8 N 30 '32

External or surface broaching; abstracts. C. E. Bleicher. *Automotive Ind* 69:243 Ag 26 '33; S A E J 33:sup40 O '33

Finish of 1933 Olds improved by rust-proofing 44 sheet metal parts. *il Automotive Ind* 69:120-1 Jl 29 '33

Ford's experience with rustless steel. J. L. McCloud. *il Iron Age* 132:10-11+ Jl 13 '33

Hanomag works; production methods in a converted locomotive factory. *il Automotive Eng* 23:203-8 Je '33

How to relate body tooling budgets to quantity requirements. N. H. Manning. S A E J 33:351-2 O '33; Abstract. *Automotive Ind* 69:240-1 Ag 26 '33

Improved handling methods speed output of auto bodies; Murray corp. H. R. Simonds. *il Iron Age* 130:990-1+ D 29 '32

Long life of tungsten-carbide tools in machining automobile parts; Hudson motor car co. Detroit. *il Mach* 39:247-8 D '32

Machining by pressure. J. H. Friedman. *il Automotive Eng* 22:559-60 N '32

1932 stimulated ingenuity of machine tool designers, introduced new materials. J. Geschelin. *il Automotive Ind* 68:71-2+ Ja 21 '33

Parts makers' role gets bigger as automotive history unfolds. P. M. Heldt. *il Automotive Ind* 68:546-8+ My 6 '33

Plymouth uses induction type ovens to bake enamel on steel parts. E. L. Bailey. *il Iron Age* 132:23+ S 14 '33

Quest for finer finishes turns spotlight on coolant cleaning. J. Geschelin. *il diags Automotive Ind* 68:364-7 Mr 25 '33

Rehabilitation savings establish low Plymouth costs. B. Finney. *il Iron Age* 130:874-7, 952-3 D 8, 22 '32

Some principles of low-cost tooling. J. E. Padgett. *il S A E J* 32:59-64 F '33; Same. *Am Mach* 77:82-4 F 1 '33; Discussion. 77:170-1 Mr 15 '33

Steel and use of conveyors speed up production; Chrysler corp. *il Iron Age* 130:883+ D 8 '32

Studebakers have all-steel bodies. J. Geschelin. *il Automotive Ind* 69:422-4 O 7 '33

Systems of body construction. F. J. Read. *diags Automobile Eng* 23:310-13 Ag '33

Unique cowl construction produced at low cost. J. Geschelin. *il Automotive Ind* 68:764-7 Je 24 '33

Vauxhall works; methods employed in the reorganised Luton factory. *il Automotive Eng* 23:319-25 S '33

Waste in manufacture. C. R. F. Engelbach. *Engineer* 156:336 O 6 '33

Welding plays increasingly important part in making Dodge cars; illustrations. *Iron Age* 130:842-3 D 1 '32

Works of the Standard motor co. *il Automotive Eng* 23:45-50 F '33

*See also*

Automobile engines  
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Automobile factories

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ing

**Materials**

Aluminum in automotive field; abstract. E. H. Dix, jr. *Iron Age* 132:38 O 12 '33

Automotive uses of beryllium bronze. *Automotive Ind* 69:98 Jl 22 '33

Average motor car contains 45 pounds of copper; abstract. W. G. Schneider. *Iron Age* 132:38 O 12 '33

Decay in timber; the causes of defects in timber and some measures for their prevention. A. C. Constantine. *il diag Automobile Eng* 23:349-51 S '33

Electric-furnace cast-iron; application to motor-vehicles. A. E. Hageboeck. S A E J 32:67-8 F '33

Electric-furnace cast-iron; automotive-foundry classification. W. R. Jennings. S A E J 32:68-70 F '33

Electric-furnace cast-iron; designer's viewpoint. H. T. Woolson. S A E J 32:65-7 F '33

Electric furnace cast iron in the Detroit territory. H. J. Hall. *il Elec W* 101:796-7 Je 17 '33

Heat and corrosion resistant cast irons having a wide range of expansion properties. T. H. Wickenden. *Automotive Ind* 69:428-9 O 7 '33

Merimet copper-fabric material developed for automobile roofs. *Automotive Ind* 68:192 F 18 '33

Metallurgists' contributions to automotive development. P. M. Heldt. *il Automotive Ind* 69:64-8 Jl 15 '33

Molybdenum additions broaden cast iron's sphere of automotive usefulness. *il Automotive Ind* 68:618-20 My 20 '33

Process industries as purveyors to the motor car. T. A. Boyd. *Chem & Met Eng* 40:15-17 Ja '33

Rubber and automobiles. C. Macbeth. 111p loose-leaf Rubber growers' assn, inc, London '33

Steel is enough says Ford; touches off new auto fight. *Sales Management* 33:161 Ag 15 '33

Symposium on nonferrous metals in the automotive industry. *Min & Met* 14:464-5 N '33

Zinc base alloy die castings find steadily widening field of automotive application. J. Geschelin. *il Automotive Ind* 69:72-5 Jl 15 '33

Zinc competes on cost of use basis; abstract. W. M. Peirce. *Iron Age* 132:37-8 O 12 '33; Abstract. *Steel* 93:41+ O 23 '33

*See also*

Automobile supplies  
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Steel, Automobile

**Model testing**

Aerodynamic characteristics of automobile models. R. H. Heald. *bibliog diags pl U S Bur Stand J Research* 11:285-91 Ag '33; Abstract. *Science* 78:sup8 N 3 '33

Is 50 miles per gallon possible with correct streamlining? W. E. Lay. *il diags S A E J* 32:144-56, 177-86 Ap-May '33; Discussion. 33:261-7 Ag '33

**Noise**

H.F. patent car vibrator; new testing equipment for tracing body and chassis noises. *il diag Automobile Eng* 23:341-2 S '33

Measurement of noises segregated from din of confusion, marks important step to quieter cars. J. Geschelin. *il diags Automotive Ind* 67:676-81, 712-17 N 26-D 3 '32

Noise caused by gears; abstract. T. J. Bannan. S A E J 32:sup37 F '33

Packard uses special devices to check accuracy of parts. *il Iron Age* 131:233+ F 9 '33

**Painting**

Automobile refinishing. C. E. Packer. 152p Goodheart-Willcox co, inc, Chicago '32

Paint gun for body stripping developed by and for Chrysler. *Business Week* p13 Jl 1 '33

**Prices**

Auto makers vie for low-priced business. *Baron's* 13:21 F 6 '33

**AUTOMOBILES—Prices—Continued**

Average price-per-pound of cars drop, as weights increase during six years. M. Ainsworth. *Automotive Ind* 68:31 Ja 7 '33

Average retail price of passenger cars and trucks, 1921-1932. *Automotive Ind* 68:225 F 25 '33

Boost prices a little and help the entire industry a lot. A. F. Denham. *Automotive Ind* 68:483-4 Ap 22 '33

Chevrolet makes its bow; a price war in prospect? Barron's 12:21 D 19 '32

Let's stand pat on prices. N. G. Shidle. *Automotive Ind* 68:313-14 Mr 11 '33

\$Millions motors. *Business Week* p5-6 Ja 18 '33

1932 statements show need for moderate car price increases. D. Blanchard. *Automotive Ind* 68:517-20, 550-1 Ap 29-My 6 '33

Prices, markets and used car trading under the code. D. Blanchard. *Automotive Ind* 69:323-4 S 16 '33

\$30 drop on Ford only major change in list prices on new Ford eight line. *Automotive Ind* 68:206 F 18 '33

What automobiles cost in commodities; tabulation. *Automotive Ind* 69:595 N 11 '33

**Radio equipment**

Car antenna problems tackled in move to better automobile radio. *il S A E J* 32:sup 12-13 Je '33

Modern auto-radio offers new features. M. J. Sheedy. *il diags Radio N* 14:412-13+ Ja '33

Operating tests on a modern auto-radio. S. G. Taylor and J. M. Borst. *il Radio N* 14:678-9+ My '33

Six-tube super for automobiles; Spartan 33. *il Automotive Ind* 68:623 My 20 '33

What's new in automobile radio. *il Radio N* 15:19+, 101+, 178-9 JI-S '33

**Repair**

Motor service; parts makers' merchandising and deferred-payment repairs have given a boost to the independent service man. *Business Week* p10-11 My 24 '33

Plan nation-wide effort to get reduction of auto repair costs. *East Underw* 34:29 My 5 '33

**Riding qualities**

Increased comforts to come. F. A. Moss. *Automotive Ind* 69:247 Ag 25 '33

Riding comfort analysis. H. M. Jacklin and G. J. Liddell. *il diags Purdue Univ Eng Exp Sta Research Bul* 44:1-144 [bibliog p83-101] '33; Abstract. *Automotive Ind* 68:758-62 Je 24 '33

Three low priced cars vary in riding comfort. F. A. Moss. *S A E J* 32:sup24-5 Mr '33

**See also**

**Automobiles—** Shock absorbers  
Springs and suspension

**Safety devices and measures**

Automotive safety devices may foster false sense of security from accident. W. C. Egbert. *Weekly Underw* 128:629+ Ap 1 '33

Car manufacturers meet increased safety demand. M. Halsey. *il Safety Eng* 65:11-12 Ja '33

Proposed federal specification for laminated plate glass for glazing automobiles. *Glass Ind* 13:199-201 D '32; Same abr. *Safety Eng* 64:255-6 D '32

Safety engineering goes on the screen; demonstration of safety glass for automobiles. A. C. Carruthers. *il Safety Eng* 64:247-9 D '32

Safety lanes for motor safety. A. P. Peck. *il Sci Am* 148:204-5 Ap '33

West Virginia traffic safety conference. A. C. Carruthers. *Safety Eng* 65:13-15 Ja '33

**Seats**

Legroom and tilt both adjustable; Brosset seat. *il Automotive Ind* 68:738 Je 17 '33

Weatherstrips seat. *diag Automobile Eng* 23:38 Ja '33

**Shock absorbers**

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**Skidding**

Does height of center of gravity affect the tendency to skid? P. M. Heldt. *Automotive Ind* 69:181-2 Ag 12 '33; Discussion. J. E. Padgett. 69:304 S 9 '33

**Small size**

What is wrong with American cars? L. H. Pomeroy. *il diags S A E J* 33:313-24 S '33; Abstract. *Automotive Ind* 69:230-1 Ag 26 '33

**Specifications**

American passenger car chassis specifications; tabulation. *Automotive Ind* 68:230 F 25 '33

**Speed**

Automatic transmissions; an analysis of the possibilities of using car speed to control gear ratio changes. P. M. Heldt. *Automotive Ind* 69:37-8 JI 22 '33

Is 50 miles per gallon possible with correct streamlining? W. E. Lay. *il diags S A E J* 32:144-56, 177-86 Ap-My '33; Discussion. 33:261-7 Ag '33

**Springs and suspension**

Covering springs; a new machine for securing the metal covers in position. *il Automobile Eng* 23:291 Ag '33

Fried. Krupp universal spring mounting for railway carriages and road vehicles. *diags Engineering* 136:315 S 15 '33

Independent suspension nomenclature. J. Haltenberger. *diags Automotive Ind* 68:734 Je 17 '33

Independent wheel suspension. G. Brouhiet. bibliog *il diags S A E J* 33:325-47 O '33; Abstract. *Automotive Ind* 69:326-8 S 16 '33; Discussion. *S A E J* 33:347-50 O '33

Inertia-control of shock-absorber action. *diag Automotive Ind* 67:817-18 D 24 '32

Is independent suspension a cure for front end troubles? A. F. Denham. *diags Automotive Ind* 69:571-4, 612-16 N 11-18 '33

New silent U threaded shackles found on many 1933 model automobiles. J. C. Chatfield. *il diags Nat Pet N* 25:33-4 Ja 25 '33

Les progrès de la construction automobile révélés par le dernier salon de Paris; moteur, châssis, suspension, carrosserie et changements de vitesse. G. Delanghe. *il diag Génie Civil* 101:498-501 N 19 '32

Sizaire develops wheel suspension. W. F. Bradley. *diags Automotive Ind* 69:41 JI 8 '33

Steel bars in torsion used as springs in new Mathis models. *diag Automotive Ind* 69:482 O 21 '33

Steel used in racing automobiles. J. W. Urquhart. *Blast F & Steel Pl* 21:159-60+ Mr '33

**See also**

Shock absorbers

**Standards**

S.A.E. standards committee reports. *Automotive Ind* 68:116, 123 Ja 28 '33

Standards groups go into action with energetic 1933 plans. *S A E J* 32:sup18-19 Mr '33

**Starting**

Automobile water heater and battery charger make starting easy on winter mornings. G. G. Somerville. *il diag Gen Elec R* 35:654-6 D '32

Ease of starting with benzole, with petrols and with benzole-petrol mixtures. W. H. Hoffert and G. Claxton. *diags Engineering* 135:300-2, 374-6 Mr 17, Ap 7 '33

Important advances made in new models. *il Automotive Ind* 67:813 D 24 '32

New engine starter; a device designed to operate from the mains supply. *Automobile Eng* 23:182 My '33

Startability of motor fuels. W. A. Whatmough. *Automobile Eng* 23:371-4 O '33

**Steering gear**

Adamite steering rod joint. *diags Automobile Eng* 22:563 N '32

American stock steering gears specifications; tabulation. *Automotive Ind* 68:253 F 25 '33



**AUTOMOBILES—Steering gear—Continued**

Bendix-Westinghouse introduces air steering control. S. Johnson, Jr. il diags Automotive Ind 68:456-7 Ap 15 '33

Independent wheel suspension. G. Brouhiet. bibliog il diags S A E J 33:325-47; Discussion. 347-50 O '33

Steering is still conventional. Automotive Ind 67:816 D 24 '32

What makes 'em shimmy? R. Wichtendahl. diags Automotive Ind 68:334-7+, 376-9 Mr 18-25 '33

**Stopping**

Stopping distance problems solved without a pencil. Automotive Ind 69:99 Jl 22 '33

**Taxation**

Car owner's tax burden. G. E. Anderson. Am Bankers Assn J 25:16+ Ja '33

Taxation of motor vehicle transportation. 196p National industrial conference board, inc, New York '32

**Testing**

Car rolls in huge hoops in new chassis dynamometer; patent. diag Automotive Ind 69:399 S 30 '33

German benzol-Verbana portable motor-car testing plant. il Engineering 136:268, 269 S 8 '33

H.F. patent car vibrator; new testing equipment for tracing body and chassis noises. il diag Automobile Eng 23:341-2 S '33

Riding comfort analysis. H. M. Jacklin and G. J. Liddell. il diags Purdue Univ Eng Exp Sta Research Bul 44:1-144 [bibliog p83-101] '33; Abstract. Automotive Ind 68:758-60 Je 24 '33

Road testing car with gas-electric drive. R. G. Paustian. il Civil Eng 3:376-8 Jl '33

**Theft**

Auto theft loss lower in Chicago. Nat Underw 37:5 Mr 2 '33

Auto theft work provokes breach among insurance men in tackling Chicago situation. Nat Underw 37:3+ Ag 10; 6 Ag 17 '33

Auto thefts in Chicago taken up. Nat Underw 37:5+ Ja 19 '33

Chicago theft situation. E. L. Rickards. Nat Underw 37:4+ Ja 12 '33

Chicago's crime commission. East Underw 33:88 D 9 '32

Extension of new Chicago plan is advocated. T. T. North. Nat Underw (Auto ins no) 37:14+ Ap 14 '33

Underwriters laboratories demand better auto locks. Nat Underw 37:9 Mr 9 '33

Urge motor number for identification of cars. East Underw 34:30 Je 23 '33

Would curb theft losses in Chicago. Nat Underw 37:4+ Ja 5 '33

Would sell salvage of stripped cars as junk. Weekly Underw 128:442 Mr 4 '33

**Tops**

Brinvilliers sunshine roof. diag Automobile Eng 23:72-3 F '33

Merimet copper-fabric material developed for automobile roofs. Automotive Ind 68:192 F 18 '33

Webasto flexible sunshine roof. diags Automobile Eng 23:154-5 Ap '33

**Transmission**

Is a turbine torque converter the answer? J. Jandasek. diags Automotive Ind 69:34-7 Jl 8 '33

Possibilities of the hydraulic transmission for automobiles. L. C. Price. diag Sibley J 47:117-19+, 135-6+ O-N '33

Unit generator-motor in Hobart electrical transmission. diags Automotive Ind 69:212 Ag 19 '33

See also

Automobiles—Gear-  
ing

**Upholstery**

Cushion and squab fillings. il diags Automobile Eng 23:112-14 Mr '33

Special converting methods used for pile fabrics; dyeing of cotton plush for the automobile trade. B. S. Hillman. Textile Col 55:522-4 Ag '33

**Vibration**

Analysis of tires and wheels as causes of tramp. O. E. Kurt. diags S A E J 32:191-6 My '33

Independent wheel suspension. G. Brouhiet. bibliog il diags S A E J 33:325-47 O '33; Abstract. Automotive Ind 69:326-8 S 16 '33; Discussion. S A E J 33:347-50 O '33

Resilient mountings. A. Taub. il diags Automotive Ind 69:330-2 S 16 '33; Abstract. S A E J 33:sup18-19 O '33

Riding comfort analysis. H. M. Jacklin and G. J. Liddell. il diags Purdue Univ Eng Exp Sta Research Bul 44:1-144 [bibliog p83-101] '33

Vibration; simple method for obtaining a close approximation to fundamental frequencies. J. Morris. Automotive Eng 23:175-6 My '33

See also  
Automobiles—  
Springs and sus-  
pension

**Shock absorbers****Wheel shimmying**

What makes 'em shimmy? R. Wichtendahl. diags Automotive Ind 68:334-7+, 376-9 Mr 18-25 '33

**Wheels**

Analysis of tires and wheels as causes of tramp. O. E. Kurt. diags S A E J 32:191-6 My '33

New metal wheels make appearance. Automotive Ind 67:816-17 D 24 '32

See also  
Tires, Automobile

**Windsheld wipers**

Automatic operations on a small shaft; machining a windshield wiper shaft. H. T. Smith. il diags Am Mach 77:146-7 Mr 1 '33

Stewart-Warner windshield wiper. il Automotive Ind 68:358 Mr 18 '33

**Windshields**

Proposed federal specification for laminated plate glass for glazing automobiles. Glass Ind 13:199-201 D '32

S.O.V. windscreen locking device. diag Automobile Eng 23:73 F '33

**Wrecking**

Cars scrapped in giant baling press, melted in huge open-hearth. il Iron Age 131:352-3+ Mr 2 '33

Chicago auto salvage plan is now placed in operation. Nat Underw 37:2+ Ap 20 '33

Compresses old automobiles to bales of charging box size. il Steel 91:24 D 19 '32

**AUTOMOBILES, Employees'**

Use of employee-owned cars in business. J. M. Orr. S A E J 32:sup38-9 F '33

**AUTOMOBILES, Industrial**

See also  
Automobiles, Em-  
ployees'

**AUTOMOBILES, Salesmen's**

Are you paying too much for salesmen's auto allowances? Sales Management 32:559+ Je 1 '33

Equitable allowances for the salesman-owned car. Ptr Ink 163:66-8 Je 15 '33

Flat allowances for salesmen's cars cause padding. D. Gridley. Ptr Ink 164:84-5 S 7 '33

Garage system for fleet owners is extended to eighteen states. Sales Management 33:327 O 1 '33

New quota for the salesman; safety in driving. J. V. Scott. il Nat Safety N 27:25-6 Ap '33

Salesman's car; a comprehensive survey of the policies of leading fleet operators. C. B. Larrabee. il Ptr Ink Mo 27:29-32+ S '33

Stop-loss plan for handling auto expenses. R. E. Runzheimer. Sales Management 33:349-50 O 10 '33

**AUTOMOBILES, Used**

Rattletrap hunt; two more states join the movement to exterminate the unsafe old car. *Business Week* p6 D 28 '32

See also

Automobile industry and trade—  
Used cars

**AUTOMOBILES and roads**

Allocation of highway costs among classes of motor vehicles for purposes of calculating graduated tax schedules. A. D. Schultz. *Am Statis Assn J* 28:286-92 S '33

Friction of tires on pavements. C. P. Roberts. *Rubber Age* 34:16 O '33

How the highway pays. R. W. Crum. *Eng N* 111:5-6 J1 6 '33

Independent wheel suspension. G. Brouhiet. bibliog il diags S A E J 33:325-47; Discussion. 347-50 O '33

Road testing car with gas-electric drive. R. G. Paustian. il *Civil Eng* 3:376-8 J1 '33

Road up-keep and your car-mile costs. C. N. Conner. *Roads & Sts* 76:199+ My '33

**AUTOMOBILES on rails**

Les applications du pneumatique à la voie ferrée; les motocyclettes-draisines, système Alcyon, pour route et pour voie ferrée. G. Delanghe. il diags *Génie Civil* 102:303-6 Ap 1 '33

**AUTOMOTIVE engineering congress, International.** See International automotive engineering congress**AUTOMOTIVE fuel**

Alcohol as auto fuel. *Sci Am* 148:118-19 F '33  
Alcohol fuels in U.S. Oil Paint & Drug Rep 123:26+ Ja 30 '33; Discussion. H. Arnstein. 123:14 F 20 '33

Alcohol-gasoline blend bills introduced in Congress. *Nat Pet N* 25:14-15 F 15 '33

Alcohol motor fuel now threatening to be nation-wide issue. J. B. Rathbun. *Pet Age* 27:18-20 F '33

Automobil- und flugtechnische gesellschaft, Berlin, 8. September 1932. *Angew Chemie* 46:81 Ja 28 '33

Britain agitates for home-produced motor fuels; hydrogenation of tars and tar oils being investigated. C. H. S. Tupholme. diags *Ind & Eng Chem News* ed 11:15-16 Ja 20 '33

Carbonization gases for fuels; a review of recent European developments. R. C. Bickmore. *Chem Markets* 33:126-8 Ag '33

Coal gas as fuel for road transport vehicles. C. H. S. Tupholme. il *Ind & Eng Chem News* ed 11:193-4 Je 20 '33; Abstract. *Am Gas J* 139:28-9 J1 '33

Cracking Alaskan fur-seal oil. G. Egloff and E. F. Nelson. *Ind & Eng Chem* 25:386-7 Ap '33

Cracking of cottonseed oil. G. Egloff and J. C. Morrell. *Ind & Eng Chem* 24:1426-7 D '32

Essais de plusieurs fluides dans les moteurs à injection. Clerget. *Génie Civil* 102:572 Je 17 '33

German tests of power alcohol. R. Fritzweiler and K. R. Dietrich. *Chem Ind* 33:307-9 O '33

Hydrogenated safety fuel. W. W. White. il *Safety Eng* 64:261-3 D '32

Iowa alcohol-gasoline proposal tabled temporarily as idea grips West. *Nat Pet N* 25: 11-12 Mr 1 '33

Kraftstoff-fragen im besondern für die verkehrswirtschaft, Welt-erdöl-kongress London 1933. A. v. Philippovich. *Zeit Ver Deutsch Ing* 77:1086-8 O 7 '33

Many fallacies to arguments advanced in favor of laws requiring gasoline-alcohol blends. R. C. Conine. *Oil & Gas J* 31:12+ F 23 '33

Modern methods of benzole refining; the use of inhibitors for preventing gum formation. W. H. Hoffert and G. Claxton. *Soc Chem Ind J* 52:25T-33T F 3 '33

Motor fuel from coal and oil shales. A. Fisher and J. C. Morrell. *Soc Chem Ind J* 52:228T-30T J1 28 '33

Motor fuels in foreign countries. U S Bur For & Dom Com Trade Information Bul 805:1-35 '32; Excerpts. *Pet Age* 26:18-19 Ag; 22-3 S; 22-3 O; 26-8 N '32

Motor fuels; use in foreign countries of substitutes for petroleum products. table index 13: 8-9, 12-15 Ja '33; Same, without table. *Oil Paint & Drug Rep* 123:15+ Ja 30 '33; Excerpt (table). *Automotive Ind* 68:406 Ap 1 '33

Motor spirit from low temperature carbonisation. A. B. Manning. *Chem Age* (Lond) 29:195-6 Ag 26 '33

Plan to blend alcohol and gasoline in United States is held infeasible. *Oil & Gas J* 31: 28+ Ja 26 '33

Production of oil from British coal; House of commons discussion. *Chem Age* (Lond) 29:110 J1 29 '33

Program of substituting alcohol for gasoline as motor fuel appears to be short-sighted. W. T. Ziegenhain. *Oil & Gas J* 31:10+ Mr 2 '33

Progress of naphthology, 1932; motor spirits and light distillates. D. A. Howes. bibliog *Inst Pet Tech J* 19:557-66 J1 '33

73 radio stations to broadcast alcohol-gas plan address. *Nat Pet N* 25:9+ F 1 '33

South African chemical business. *Soc Chem Ind J* (Chem & Ind) 52:540 Je 30 '33

Town's gas for motor vehicles. il diags *Engineer* 154:647 D 23 '32; *Automotive Ind* 68: 170 F 11 '33

Town's-gas-operated motor vehicle. il *Engineering* 134:605-6 N 18 '32; Abstract. *Gas J* (Lond) 200:556 N 23 '32

Über den verbrennungsverlauf von kohlenwasserstoffdampf-luft-gemischen. H. Schildwächter. bibliog il diags *Angew Chemie* 46: 587-92 S 16 '33

Use of synthetic methanol as a motor fuel. D. A. Howes. *Inst Pet Tech J* 19:301-31 Ap '33

Will gasoline, alcohol mix? J. B. Rathbun. *Pet Age* 27:22-3 Ja '33

See also

Airplane engines— Fuel	Gasoline
Alcohol as fuel	Motor bus engines— Fuel
Automobile engines —Fuel	Motor truck engines —Fuel
Benzol (commercial benzene)	

**Testing**

Alcohol-gasoline fuels knock ratings tested. *Oil Paint & Drug Rep* 123:21-3 Mr 6 '33

Ease of starting with benzole, with petrols and with benzole-petrol mixtures. W. H. Hoffert and G. Claxton. diags *Engineering* 135:300-2, 374-6 Mr 17, Ap 7 '33

Oxidation test for the stability of benzoles on storage. W. H. Hoffert and G. Claxton. plan *Gas J* (Lond) 200:494-9 N 16 '32

Significance of A.S.T.M. distillation curve. M. G. Blair and R. C. Alden. bibliog *Ind & Eng Chem* 25:559-62 My '33

Startability of motor fuels. W. A. Whammough. *Automobile Eng* 23:371-4 O '33

Vapor-handling capacity of automobile fuel systems. O. C. Bridgeman, H. S. White and F. B. Gary. S A E J 32:157-63 Ap '33

**AUTOMOTIVE industries**

Dividends, employment, wages in the automotive industry. *Automotive Ind* 69:426-7 O 7 '33

Selling original equipment to the automotive industry. N. G. Shidle. il *Adv & Sell* 21:19-20+ Ag 17 '33

See also

Airplane industry and trade	Motor bus industry and trade
Automobile industry and trade	Motor truck industry and trade
Automobile supplies industry	

**Exhibitions**

Glimpsing automotive achievements at the Century of progress exposition. il S A E J 33:sup40-7 S '33



**AUTOMOTIVE parts and equipment manufacturers, incorporated**

Assumption of after-market activities condition of M.E.M.A.—A.P.E.M. merger. *Automotive Ind* 69:164+ Ag 5 '33

Parts and accessory makers get together and adopt code; with text. A. F. Denham. *Automotive Ind* 69:115, 126 Jl 29 '33

**AUTOTOMY**

Protective amputation of limbs by stegomantis carolina. C. C. Guthrie. *Science* 78: 146 Ag 18 '33

**AUTOXIDATION. See Oxidation—Autoxidation****AUXINE**

Chemische und physiologische untersuchungen über auxin, einen wuchsstoff der pflanzen. F. Kögl. *Angew Chemie* 46:166-7 Mr 18 '33  
Über auxine, F. Kögl. *il Angew Chemie* 46:469-73 Jl 15 '33

**AVERAGE (maritime law)**

General average problems of stocks of shops on liners, A. Smeesters. *East Underw* 33: 91 D 9 '32

Ultimate agreement seen on Hague rules. *Weekly Underw* 128:535 Mr 18 '33

Unseaworthiness voids general average right; suit. *East Underw* 34:28 Mr 24 '33

**EVERY, Sewell Lee**

Portrait by Ervine Metzl. *Fortune* 7:49 Je '33

**AVIATION**

Adventures in the air. A. Wallace. 110p \$1 Harper '32

Air adventure; Paris-Sahara-Timbuctoo. W. B. Seabrook. 211p \$2.50 Harcourt '33

Air navigation. N. Macmillan. *Roy Aeronautical Soc J* 37:307-35; Discussion. 335-45 Ap '33

Airman's world; a book about flying. P. Supf. 224p \$3.50 William Morrow & co, New York '33

Chronology of some of the important aeronautical events of 1932. *Aero Digest* 21:22-3 D '32

Distance flier takes a chance. R. M. Cleveland. *il Sci Am* 149:202-3 N '33

Great exploits in the air. F. V. Monk and H. T. Winter. 224p Blackie & son ltd, London '32

Locating radio beacon stations. H. C. Stark. *diags Aero Digest* 21:39 D '32

Simplification of radio range beacon position and quadrant identification. *diags Air Commerce Bul* 5:2-7 Jl '33

Simplified aerial navigation by dead reckoning. J. A. McMullen. 104p Lippincott '33

**See also****Aeronautics****Aeronautics, Commercial****Air express service****Air lines****Air mail service****Airplane races****Airplanes****Airports****Airships****Airways****Aviators****Flying boats****Glider****Insurance, Aviation****Radio aids to aviation****Radio apparatus on****aircraft****Seaplanes****Television apparatus****on aircraft****Wind tunnels****Accidents**

Accident report on scheduled air transport operations for the first six months of 1933. *Air Commerce Bul* 6:63-9 S '33

Civil aircraft accident report on miscellaneous flying for the last six months of 1932. *Air Commerce Bul* 4:493-501 Ap 15 '33

Civil aircraft accidents and casualties. July 1, 1932. 51p U. S. Dept. of commerce, Aeronautics branch, Washington '32

Injuries to workers in aircraft operation. *Monthly Labor R* 36:1068 My '33

**Altitude flying**

Flying over Mount Everest. *il Sci Am* 148: 286-8 My '33

Physiological limitations of flying. G. S. Marshall. *diag Roy Aeronautical Soc J* 37: 389-99 My '33; Discussion. 37:399-410, 569-70 My-Je '33

Russian ascent to the stratosphere. *Science* 78:328 O 13 '33

Stratosphere; abstract. A. Piccard. *Aviation Eng* 8:25 F '33

Superaviation. *diags Sci Am* 148:232-3 Ap '33  
Truth about high-altitude flight. W. H. Evers. *diags Sci Am* 148:154-5+, 222-3+ Mr-Ap '33

**Arctic expeditions**

Operations under winter and polar conditions. B. Balchen. *Aviation Eng* 8:23-4 Mr '33

**See also**

International society for the exploration of the Arctic regions by means of aircraft

**Fog problem**

Down the landing beam; fog landing system demonstrated at Newark airport by the Department of commerce. S. P. Johnston. *il plan Aviation* 32:162-3 My '33

Macneil fog-eye for navigation. W. G. Barcus. *il Aviation Eng* 8:19-20 My '33

Radio system for fog landings. W. Selikoff. *il diags Aviation Eng* 8:23+ Ap '33

Simplified system for landing blind. H. C. Stark. *il Aero Digest* 22:33 My '33

**Medical aspects**

Epidemiology in relation to air travel. A. Massey. 59p H. K. Lewis & co, ltd, London '33

Physiological limitations of flying. G. S. Marshall. *diag Roy Aeronautical Soc J* 37: 389-99; Discussion. 37:399-410, 569-70 My-Je '33

**Night flying**

Solution of the problem of night effects with the radio range beacon system. H. Diamond. *il diags Inst Radio Eng Proc* 21:808-32 Je '33

**Safety devices and measures**

Overcoming obstacles to safe flying. A. A. Priestner. *il Nat Safety N* 27:13-14+ Mr '33  
Safety belt as a warning signal. *diags Sci Am* 149:124 S '33

Safety on the tropical airways; Pan American airways system. *il map Nat Safety N* 28:27-9+ O '33

**See also**

Airplanes—Fires and fire protection

**Signals**

Civil aviation signal services; considerations affecting the choice of wavelengths. N. F. S. Hecht and H. L. Crowther. *Wireless Eng* 10:596-605 N '33

Shooting down airplanes. *il Sci Am* 148:334-5 Je '33

Sonic marker beacon. *il Aero Digest* 22:45 Ap '33

**Terminology**

Air navigation. N. Macmillan. *Roy Aeronautical Soc J* 37:316-18 Ap '33

**Transatlantic flight**

Die fernflüge des flugschiffes Do X 1930/32. F. Christiansen. *il Zeit Ver Deutsch Ing* 77: 561-4 My 27 '33

In a flying boat across the Greenland ice cap to U.S.A. W. von Gronau. *il Roy Aeronautical Soc J* 36:918-30, 934-44; Discussion. 930-3 N '32

Ocean air transport. *il map Sci Am* 148:166-8 Mr '33

Trans-Atlantic air lanes. R. Q. Williams. *map Aviation* 32:208-10 Jl '33

**Transoceanic flight**

Relation of weather to transoceanic flying. J. H. Kimball. *il map Mech Eng* 55:105-10+ F '33

**See also**

Air lines—Transoceanic lines

**Winter flying**

Symposium on Arctic and winter flying. W. J. McDonough; B. Balchen; V. Stefansson. *Aviation Eng* 8:21-4 Mr '33

**World flights**

Seven days of bad weather; Wiley Post's round-the-world flight. *Aviation* 32:294 S '33

**AVIATION corporation of Delaware**

Air fight; E. L. Cord goes briskly into action when a merger threatens the market for his Stinson planes. *Business Week* p12 N 23 '32

Cord fights Aviation merger. *Aviation* 31:483 D '32; *Automotive Ind* 67:663 N 19 '32

Cord gets Aviation corporation. *Econostat* 1: 12+ My 13 '33

E. L. Cord, biggest stockholder, becomes its dominant figure through a compromise. *Business Week* p14 D 14 '32

Proxy battle compromised. *Barron's* 12:23 N 21 '32

**AVIATION landing stations**

Airway engineering in the federal government. *il Eng N* 110:309-11 Mr 9 '33

**AVIATORS**

Far horizon; twenty years of adventure, development, and invention on the new air frontier; the life story of Birger Johnsen. H. W. Lanier. 285p \$2.75 Knopf '33

Physiological limitations of flying. G. S. Marshall. *diag Roy Aeronautical Soc J* 37: 389-99 My '33; Discussion. 37:399-410, 569-70 My-Je '33

Wings of the North; a series of biographical sketches of northern air pilots. J. P. De Wet. *Can Min J* 54:24-6, 317-19, 390-3 Ja, Ag, O '33

**Clothing**

Corsets for aviators. *diag Sci' Am* 149:80 Ag '33

**Directories**

Scheduled air transport ratings issued to more than 400 air-line pilots. *Air Commerce Bul* 4:386-92 F 15 '33

**Training**

Air transportation now demands new training. G. E. Bounds. *Aero Digest* 22:23 F '33

Civil primary training. H. G. Travers. *Roy Aeronautical Soc J* 37:346-54; Discussion. 354-65 Ap '33

Radio comes to the aid of the student. *il Aviation* 32:45 F '33

Training of pilots and instructors. J. E. A. Baldwin. *Roy Aeronautical Soc J* 36:945-54; Discussion. 954-62 N '32

**AVOCADOS**

Sales methods and policies of the Calavo growers of California. E. A. Stokdyk. *Calif Agric Exp Sta Bul* 539:1-52 '32

Sprouting and grafting fractional parts of avocado embryos with attached cotyledonous material. H. P. Traub and E. C. Auchter. *Science* 78:389 O 27 '33

**AWNINGS**

Awning-sales ammunition; tests disclose useful facts. *diags Textile World* 83:1441 Ag '33

**AXES**

Axe hazard. D. Harrington. *Min Cong J* 19:21 F '33

**AXLES**

*See also*

Automobiles—Axles	Locomotives—Axles
Bearings	Motor buses—Axles
Car axles	Motor trucks—Axles

AYER, N. Y., and son  
Canada Dry. *Ptr Ink* 164:10 Ag 31 '33

**AZELAO-GLYCERIDES**

Examination of certain azelao-glycerides obtained during the oxidation of some simple synthetic and natural glycerides. T. P. Hilditch and S. A. Saletore. *Soc Chem Ind J* 52:101T-5T Ap 21 '33

**AZEOTROPY**

Azeotropic hydrobromic acid solutions at pressures of 100 mm. to 1200 mm. W. D. Bonner, L. G. Bonner and F. J. Gurney. *Am Chem Soc J* 55:1406-9 Ap '33

Der azeotropismus und seine anwendung für ein neues verfahren zur entwässerung des äthylalkohols. R. Fritzweiler and K. R. Dietrich. *diags Angew Chemie* 45:605-11; 46: 241-3 S 24 '32, Ap 29 '33

**AZIDES**

Dipole moments and structures of the organic azides and aliphatic diazo-compounds. N. V. Sidgwick, L. E. Sutton and W. Thomas. *Chem Soc J* p406-12 Ap '33

**AZIMUTH**

Azimuth determination. E. F. Coddington. *il diags Ohio State Univ Eng Exp Sta Bul* 79: 1-73 '33

Doubled azimuth traverse. M. B. Evans. *Eng & Min J* 134:109 Mr '33

**AZO compounds**

Behaviour in chemicking of materials dyed with some vat and insoluble azo dyes. D. A. Derrett-Smith and C. R. Nodder. *il Textile Inst J* 23:T293-308 N '32

Development of the stabilized insoluble azo dyes in fast color production. P. L. Mann. *Am Dyestuff Rep* 22:559-60 S 11 '33

Formation of free radicals from aliphatic azo compounds. F. O. Rice and B. L. Evering. *Am Chem Soc J* 55:3898-9 S '33

Insoluble azo-dyestuffs containing sulphur. *Chem Age (Lond)* 28:187 Mr 4 '33

**AZOMETHANE**

Effect of ethyl radicals on the thermal decomposition of azomethane; the kinetics of the thermal decomposition of tetraethyllead; ethyl radicals and hydrogen. J. A. Leermakers. *diag Am Chem Soc J* 55:4508-18 N '33

Formation of methyl radicals in the decomposition of azomethane. J. A. Leermakers. *Am Chem Soc J* 55:3499-500 Ag '33

**AZONAPHTHALENE**

Some dinaphthyl bases; reduction of 1:1'-azoxy- and 1:1'-azo-naphthalenes; isolation of 1:1'-hydrazonaphthalene. W. M. Cumming and G. Howie. *Chem Soc J* p133-5 F '33

**AZOPHENYLFLUORENE**

Some reactions of hydrazophenylfluorene. L. A. Pinck. *Am Chem Soc J* 55:1711-16 Ap '33

**AZOXY compounds**

Proof of the unsymmetrical structure of the azoxy group. Tse-Tsing Chu and C. S. Marvel. *Am Chem Soc J* 55:2841-50 Jl '33

**AZULENE**

Azulene. J. Melville. *Am Chem Soc J* 55:3288-92 Ag '33

**B****BABBITT metal**

Saving babbitt by covering melting pot. J. J. Baule. *diag Mach* 39:480 Mr '33

**BABBITTING**

Automatic connecting rod babbitting machine. Manufacturers' consulting engineers. *il Automobile Eng* 22:581 D '32

MCE automatic centrifugal babbitting machine. *il Automotive Ind* 68:320 Mr 11 '33

Rebabbitting driving box hub faces. F. M. A'Hearn. *diags Am Mach* 77:154 Mr 1 '33

With new thin-wall big end liners rods can be lighter. *Automotive Ind* 68:169-70 F 11 '33

*See also*

Bearings

**BABCOCK and Wilcox company**

1932 accounts. *Economist* 116:918 Ap 29 '33

**BABST, Earl D.**

Chairman of the board of the American sugar refining company; with portrait by Jerry Farnsworth. *Fortune* 7:63-5+ F '33

**BABY carriages**

Large uses of steel in small ways. *il Steel* 92:32 My 29 '33

**BACILLUS coli**

B. coli in cold blooded animals. J. W. Burger and S. Thomas. *Am Water Works Assn J* 25:1238-44 S '33

**BACKACHE**

Why backs ache. S. M. Roberts. *il Nat Safety* N 27:20-2+ Ja '33



**BACON**

Chemical changes in the fat of frozen and chilled meat; the effect of smoking and the influence of atmospheric humidity on the keeping properties of bacon. C. H. Lea. Soc Chem Ind J 52:57T-63T Mr 3 '33

Development of the bacon industry in Lithuania. Economist 115:1102 D 10 '32

**BACTERIA**

Bacteria as food for vertebrates. V. Burke. Science 78:194-5 S 1 '33

Bacteria destroy pipe line in California. T. D. Beckwith and P. F. Bovard. Chem & Met Eng 40:530 O '33

Bacteria-fermented beer. P. Lindner. Science 77:sup9-10 Mr 3 '33

Bacteria in relation to the decay of stone; abstract. S. G. Paine. Engineering 134:556 N 11 '32

Bacterial and chemical factors in lime deposition at Tortugas, Florida. H. Gee. il Nat Research Council Bul 89:79-82 '32

Butyric acid and butyl alcohol fermentation of hemicellulose- and starch-rich materials. S. A. Waksman and D. Kirsh. bibliog Ind & Eng Chem 25:1036-41 S '33

Catalysis of air oxidations by iron salts, phosphates and pyrophosphates. E. J. Theriault, C. T. Butterfield and P. D. McNamee. bibliog Am Chem Soc J 55:2012-24 My '33

Effect of alternation from spores to vegetative cells on the growth and activity of certain anaerobic bacteria; abstract. E. B. Fred and E. McCoy. Science 77:460 My 12 '33

Effect of carbon dioxide on bacterial growth with special reference to the preservation of fish; gas storage of fresh fish. F. P. Coyne. Soc Chem Ind J 52:19T-24T Ja 27 '33

Influence of carbon dioxide on the rate of multiplication of certain bacteria, as judged by viable counts. R. B. Haines. diags Soc Chem Ind J 52:13T-17T Ja 27 '33

Living organisms as chemical reagents. A. I. Kendall. il J Chem Educ 9:2013-25 D '32

Note on the food habits of colpidium. C. T. Butterfield. bibliog Pub Health Rep 48:314-18 Jl 14 '33

Reaction of individual bacteria to irradiation with ultra-violet light. F. L. Gates. Science 77:350 Ap 7 '33

Rôle of bacteria as food for bottom animals. G. E. MacGinitie. Science 76:490 N 25 '32

See also

Bacillus coli

Lactic acid bacteria

**BACTERIA, Nitrifying**

Ammonia-chlorine treatment yields nitrites in effluent. R. Hulbert. Eng N 111:315-16 S 14 '33

Root nodule bacteria and leguminous plants. E. B. Fred, I. L. Baldwin and E. McCoy. Wis U Studies in Science 5:1-343, pl 1-46 '32 (\$3)

**BACTERIA, Pathogenic**

Chemical antidotes for bacterial poisons. S. Bayne-Jones. Science 77:sup7 Mr 24 '33

Relationship of bacterium granulosis to trachoma. I. A. Bengtson. Science 77:218-19 F 24 '33

Story of microbes. P. W. Allen. 454p Bookmill co, Knoxville, Tenn. '32

See also

Infectious diseases

Necrobacillosis

Streptococci

**BACTERICIDES.** See Disinfection and disinfectants**BACTERIOLOGY**

Bacteria for amateurs. R. M. Watrous. il diags Sci Am 148:148-50 Mr '33

Bacteriology. F. W. Tanner. 2d ed 548p \$4.50 Wiley '33

Manual of bacteriology, medical and applied. R. T. Hewlett and J. McIntosh. 9th rev ed 746p 18s J. & A. Churchill, London '32

Mechanicism, vitalism and the growth of bacteria. J. M. Sherman and G. M. Cameron. Science 77:537-8 Je 2 '33

See also

Bacteria  
Disinfection and disinfectants  
Fermentation

Food—Bacteriology  
Milk—Bacteriology  
Viruses  
Water—Bacteriology

**Culture mediums**

Attempt to confirm the existence of a filtrable cycle of bacteria by the use of K medium. C. V. Seastone and M. B. Lawrence. Science 77:259-60 Mr 10 '33; Discussion. J. Alexander. 77:449-50 My 12 '33

Carbon dioxide as a factor affecting lag in bacterial growth. H. H. Walker. Science 76:602-4 D 23 '32

Comparison of three methods of determining the colon-aerogenes group. A. G. Nolte and W. A. Kramer. Am Water Works Assn J 25:383-9 Mr '33

Dominick-Lauter medium compared with standard lactose broth for B. coli tests. H. V. Stewart. Am Water Works Assn J 25:855-8 Je '33

Steam vs. ether in separation of acids from bacteriological media. J. B. McNair. bibliog diags Ind & Eng Chem Anal ed 5:62-5 Ja 15 '33

**Laboratory manuals**

Introduction to laboratory technique in bacteriology. M. Levine. rev ed 289p \$1.75 Macmillan '33

Microbiology laboratory manual. P. W. Allen and G. M. Cameron. 331p Bookmill co, Knoxville, Tenn. '32

Practical bacteriology. F. W. Tanner. 2d ed 235p [bibliog p225-9] \$2.50 Wiley '33

**Laboratory methods**

Comparison of the enumeration of bacteria by means of solid and liquid media. C. T. Butterfield. Pub Health Rep 48:1292-7 O 20 '33

Improved method for the study of diffusible bacterial products in vivo. E. W. Dennis. Science 76:599 D 23 '32

Protein fractions of the H 37 (human) strain of tubercle bacillus. M. Heidelberger and A. E. O. Menzel. Science 77:24-5 Ja 6 '33

**BACTERIOPHAGE**

Bacteriophage said to act by producing anti-toxins. N. W. Larkum. Science 78:sup8 O 13 '33

Inactivation of antistreptococcus bacteriophage by animal fluids. A. C. Evans. Pub Health Rep 48:411-26 [bibliog p425-6] Ap 21 '33

Particle size of biological units. J. H. Ferguson. J Phys Chem 36:2849-61 [bibliog p2860-1] D '32

**BAFFLES.** See Boilers—Baffles**BAGASSE**

Composition of bagasse fractions obtained by sifting. H. L. Grogan. Soc Chem Ind J 52: 63T-4T Mr 3 '33

**BAGGAGE and express cars**

Stainless-steel train delivered to Texas & Pacific; two-car unit for main-line mail-baggage-passenger service. il Ry Age 95: 692-4 N 11 '33

**BAGS**

See also

Cotton bags

Paper bags

**BAHAI temples.** See Temples, Bahai**BAIL**

Bail bond bureau closed in New York. Weekly Underw 129:424 S 2 '33

See also

Insurance, Surety and fidelity—Bail bonds

**BAILEY, Vernon**

Retirement of investigators of the U.S. Biological survey. Science 78:96-7 Ag 4 '33

**BAKE ovens.** See Ovens, Bakery**BAKELITE**

Bakelite makers oppose inquiry of tariff board. Oil Paint & Drug Rep 123:22 Ja 16 '33

**BAKELITE**—*Continued*

- Mounting polished surfaces in bakelite. H. C. Fuller. *il Econ Geol* 28:393-5 Je '33  
 Press and technique for mounting small specimens. D. E. Krause and J. F. Oesterle. *il Metal Prog* 24:33-5 N '33  
 Reclaiming leaky castings; abstract. W. M. Corse. *Mech Eng* 55:184-5 Mr '33

**BAKER, Benjamin, 1872-1933**

- Sketch. *por Annalist* 42:1-2 Jl 7 '33; Correction. 42:242 Ag 25 '33

**BAKER, Elbert H. 1854-1933**

- Sketch. *Ptr Ink* 165:78 O 5 '33

**BAKER, Herbert Brereton, 1862-**

- Sketch. *por Soc Chem Ind J (Chem & Ind)* 51:958-9 N 18 '32

**BAKERS and bakeries**

- Air conditioning and refrigeration in the bakery. M. Olchoff. *il diags Refrig Eng* 25: 9-13+ Ja '33  
 Air conditioning reduces losses in bakery products. W. W. Reece. *il Food Ind* 5:209-11 Je '33  
 Baking and candy require refrigeration. *Refrig Eng* 25:323+ Je '33  
 La fabrication industrielle du pain et ses rapports avec la production rémunératrice du blé. A. Pommier. *il plan Soc Ing Civils* Bul 86:96-114 Ja '33  
 La fabrication industrielle du pain; la fabrique des Grandes boulangeries de la Seine, à Bobigny. P. Calfas. *il diags Génie Civil* 102:29-32 Ja 14 '33  
 Matzoth matriarch; Horowitz bros. & Margaretan. *Fortune* 7:14 Ap '33  
 One way to ventilate a food plant. O. S. Arata. *il Food Ind* 5:357 S '33

*See also*

Bread  
 Pretzels

Advertising

*See also*

Bread—Advertising  
 Cake—Advertising

**Electric equipment**

- Electrical rehabilitation pays us \$15,000; General baking company purchases power. J. G. Coffin. *il Factory Management* 91:121-3 Ap '33  
 Electrification of a biscuit factory; Macfarlane, Lang and co. Osterley Park, Middlesex. *il Engineer* 155:271-2 Mr 17 '33; Electrician 110:496 Ap 14 '33

**Employees**

- Wages and hours of labor in the bakery industry—bread and cake departments; 1931. U S Bur Labor Statistics Bul 580:1-104 '33

**Equipment**

- Bakers' and confectioners' plant; 37th International exhibition of the confectioners', bakers' and allied trades. *il Elec R (Lond)* 113:318 S 8 '33  
 Science of mixing and kneading; modern machinery at the bakers' exhibition. *il Chem Age (Lond)* 29:233-5 S 9 '33  
 Well handled is well processed; illustrations. *Factory Management* 91:403-4 O '33

**BAKERY ovens. See Ovens, Bakery****BAKING**

- Externally fired bake ovens give flexibility in choice of fuels. H. Carlton. *il diags Food Ind* 5:445-7 N '33  
 Heat flow through bakery products; time-temperature relationships existing during the baking of bread. L. E. Stout and F. Drosten. *Ind & Eng Chem* 25:428-30 Ap '33  
 Manufacture of biscuits, cakes, and wafers. J. Fritsch. 378p Pitman '32  
 Some problems of the chemist in the flour industry. A. J. Hammer. *bibliog Soc Chem Ind J (Chem & Ind)* 52:152-5 F 24 '33  
 Taking the mystery out of a new car of flour. R. J. Clark. *il Food Ind* 5:435-7+ N '33

*See also*

Bakers and bakeries  
 Bread  
 Flour

**BAKING powder****Analysis**

- Colorimetric method for the determination of tartaric acid. A. K. Anderson, A. H. Rouse and T. V. Letonoff. *Ind & Eng Chem Anal ed* 5:19-20 Ja 15 '33

**BALANCE of payments**

- American balance of payments. *Comm & Fin* 22:709-10 Ag 16 '33  
 Balance of international payments of the United States in 1932 (including summary tables, 1919-32). A. E. Taylor. U S Bur For & Dom Com Trade Information Bul 814:1-82 '33; Abstract. *Economist* 117:8-9 Jl 1 '33  
 Balances of international payments. *Fed Res Bul* 19:272-3 My '33  
 Britain's balance of payments. *Economist* 116: 337-8 F 18 '33  
 Canada's gold bonds abroad, and factors which promise contract payment. H. E. Hansen. *Annalist* 41:291-2 F 24 '33  
 Influence of insurance on international trade balances. H. J. Werder. *East Underw* 34: 44 O 13 '33  
 International balances. C. Lewis. *Ann Am Acad* 170:162-9 N '33  
 International balances: some theories and policies. J. Donaldson. *Ann Am Acad* 170: 152-61 N '33  
 Our balance of international payments. *Index* 13:139-44 Jl-Ag '33  
 Our balance of payments and its bearing on the position of the dollar. G. E. Anderson. *Annalist* 41:659-60 My 12 '33  
 Prosperity and depression; our international payments and receipts since 1919. H. M. Bratter. *Barron's* 13:6 Ag 14 '33  
 Squaring the circle of the international account. A. E. Taylor. *Harvard Business R* 11:261-9 Ap '33

**BALANCE sheets**

- Gold appreciation and company balance sheets. P. Onida. *Int Management Inst Bul* 7:5-9 Ja '33  
 Reserves—with reservations. M. M. Strain. *Credit & Fin Management* 35:12-13+ Mr '33  
 Scheduling accounting work to facilitate preparation of monthly balance sheet and income account. *Am Gas Assn Mo* 15:384-5 S '33  
 Three important balance sheet ratios. R. A. Foulke. *Dun & Bradstreet* 41:7-11 Ag '33  
 Truthful financial statements. R. M. Swisher. *Credit & Fin Management* 35:16-17+ Mr '33

*See also*

Financial statements

**BALANCES**

- Magnetic damping for laboratory balances. *J Fr Inst* 215:189-91 F '33  
 New surface tension balance. R. J. DeGray. *bibliog il diags Ind & Eng Chem Anal ed* 5:70-3 Ja 15 '33  
 Quantitative balance in general chemistry. M. A. Goff. *J Chem Educ* 10:608 O '33  
 Student-made chemical balance. O. J. Walrath. *diags J Chem Educ* 10:118 F '33  
 Three new laboratory balances. *il Chem Age (Lond)* 28:389 Ap 29 '33

*See also*

Scales

**BALANCING machines**

- Balancing; recent developments in static and dynamic balancing equipment. W. Kuchenmeister and F. W. A. Vickery. *il diags Automobile Eng* 23:96-7 Mr '33  
 Olsen style E-O static-dynamic balancing machine. *il Am Mach* 77:643 S 27 '33; *Iron Age* 132:33 O 19 '33; *Mach* 40:161-2 N '33  
 Olsen style L automatic-weighing, static-balancing machine. *il Am Mach* 77:739 N 8 '33; *Mach* 40:174 N '33  
 Selson universal balancing machine. *il diags Engineer* 156:224 S 8 '33

**BALANCING of machinery**

- Balancing connecting rods for truck motors. H. C. Francis. *il Am Mach* 77:235 Ap 12 '33  
 Works of Messrs. C. A. Parsons and company, limited. *il Engineering* 134:676 D 9 '32



**BALDNESS**

Baldness; tonics, treatments, and toupees, make a dependable baldness business. *il* Fortune 8:52-5+ J1 '33

**BALDWIN, George Porter, 1874-1932**

Tribute. *por* Gen Elec R 36:114-15 Mr '33

**BALDWIN locomotive works**

Baldwin to refund \$12,000,000 notes. Barron's 12:6 D 26 '32  
Lost \$4,078,132 last year. Barron's 13:21 F 6 '33

**BALING presses**

Baldwin-Southwark baling presses. *il* Mach 39:294-5 D '32

Baling presses designed to give high rate of production. A. C. Buttfeld. *il* Iron Age 131:278-9 F 16 '33

Baling scrap metal for re-use. *il* Comp Air M 38:4177 J1 '33

Cars scrapped in giant baling press, melted in huge open-hearth. *il* Iron Age 131:352-3+ Mr 2 '33

Compresses old automobiles to bales of charging box size. *il* Steel 91:24 D 19 '32

Shircliffe brothers Bijoli baling press. *il* Engineering 136:179 Ag 18 '33

**BALKAN states**

Balkan federation. C. Galitzi. *Ann Am Acad* 168:178-82 J1 '33

**BALL bearings**

Ball versus tapered roller bearings; abstract. J. E. Hamilton. *Mech Eng* 55:47-8 Ja '33

Fafnir single and double felt-seal ball bearings. *diags* Mach 39:552 Ap '33

Foundry saves \$6000 annually in exhaust-fan bearing maintenance. F. A. Westbrook. *il* Heating-Piping 5:94 F '33

Handling plant transmission. *il* *diags* Mech Handling 20:170-2, 202-5 My-Je '33

Large mill bearing manufactured by Bantam ball bearing co. *il* Blast F & Steel Pl 21:380 J1 '33

Load capacities of radial ball bearings; data sheet. Mach 39:504A, 568A Ap-My '33

Load capacities of thrust ball bearings; data sheet. Mach 39:568A My '33

Load capacities of two-row radial ball bearings. Mach 39:632A Je '33

Lubrication of anti-friction bearings. K. A. Newman. *Power Pl Eng* 37:129 Mr '33; Abstract. Mach 39:413 F '33

Mining company saves with ball bearings. F. A. Westbrook. *Elec W* 101:727-8 Je 3 '33

Radial and axial belastbares kugellager mit hoher kugelzahl. A. Meyer. *diags* Zeit Ver Deutsch Ing 77:1018 S 16 '33

Simplified method of mounting anti-friction bearings; Marlin-Rockwell G type bearing. T. Barish. *il* *diags* Mach 39:467-9 Mr '33

**Manufacture**

Ball bearings deserve their reputation for quality. C. O. Herb. *il* Mach 40:1-5 S '33

Handling plant transmission. *Mech Handling* 20:101-3 Mr '33

Usines R.I.V. J. F. Audouin and A. L. Racapé. *il* plan Soc Ing Civils Bul 85:1006-18 S '32

**BALL mills**

Comparison between flint pebbles and porcelain balls as a means of hydrating in the pebble mill test. F. C. Peterson and D. C. Beyer. *Paper Tr J* 97:37-40 J1 27 '33

Dead-load ball-mill power consumption. A. M. Gow and M. Guggenheim. *Eng & Min J* 133:632 D '32

Design, construction and costs of arc welded pebble mills. D. L. Pellett. *il* *diags* Paper Tr J 95:27-30 D 22 '32

Mount Lyell, in Tasmania, installs ball mill of unusual dimensions. *il* *Eng & Min J* 134:257 Je '33

Supex centrifugal ball mill. *diag* Chem & Met Eng 40:95 F '33

Weight of steel balls in a ball mill. A. M. Gow. *Eng & Min J* 134:203 My '33

**See also**

Pulverizers  
Tube mills

**BALLANTYNE, Horatio**

Sketch. *por* Soc Chem Ind J (Chem & Ind) 52:5 Ja 6 '33

**BALLAST**

A.R.E.A. committee report on ballast. *Ry Age* 94:416 Mr 18 '33

**BALLISTICS**

Long-range gunnery and high-altitude bombing; a comparison of ballistic merit. L. Thompson. *J Fr Inst* 215:119-32 F '33

**See also**

Photography of projectiles

**BALLOONS**

Russian ascent to the stratosphere. *Science* 75:323 O 13 '33

Stratosphere balloon ascent. *Science* 77:sup 10-11 My 26 '33

**BALLOONS, Dirigible. See Airships****BALLOONS, Toy**

Dyeing transparent balloons. *India Rubber W* 87:40 D '32

Market for rubber toy balloons in Belgium. *Rubber Age* 33:162 J1 '33

**BALLS**

Ball grinding under difficulties. F. C. Hudson. *diags* Am Mach 77:206-7 Mr 29 '33

Rolling action of non-spherical balls. *il* Mach 39:663 Je '33

**BALLS, Steel**

Weight of steel balls in a ball mill. A. M. Gow. *Eng & Min J* 134:203 My '33

**BALSAMS**

Preparation of thin sections of friable material. T. H. Hite. *Am Cer Soc J* (Bul) 16:135-7 My '33

Preparing quick-drying Canada balsam for the mounting of slides. H. Coombs. *Science* 78:193-4 S 1 '33

Volatile oil and resin of cynomarrathrum nuttallii. E. K. Nelson. *Am Chem Soc J* 55:3400-2 Ag '33

**BALTIC STATES**

Baltic states as a regional unity. A. Piip. *Ann Am Acad* 168:171-7 J1 '33

**Economic conditions**

Baltic States in 1932. *Economist* 116:24-6 F 18 '33

**BALTIMORE, Maryland****See also**

Retail trade—Baltimore

**Bridges**

Expansion and moving fill damage bridge concrete. *il* *diags* Eng N 110:346-9 Mr 16 '33

**Libraries****See also**

Enoch Pratt free library, Baltimore

**Rapid transit**

Earnings and speed increased, costs decreased by new cars in Baltimore. D. J. Locke. *il* Gen Elec R 35:630-1 D '32

Transit in Baltimore. *il* Transit J 77:243 Ag '33

**Sanitary affairs**

New Baltimore garbage incinerator; abstract. O. H. Schroedl. *Water Works & Sewerage* 80:205 Je '33

New incinerator of Baltimore. *Water Works & Sewerage* 80:156 My '33

**Sewerage**

Large scale sludge digestion experiments at Baltimore. C. E. Keefer. *bibliog* *il* *diag* Water Works & Sewerage 80:81-5 Mr '33

**Water supply**

Automatic pumping stations on the Baltimore water supply system; abstract. L. Small. *Water Works & Sewerage* 80:206 Je '33

Coagulants for water purification; manufacture and control of liquid alum. J. W. Armstrong. *il* *diags* Civil Eng 3:168-71 Mr '33

- BALTIMORE**, Maryland—Water supply—*Cont.*  
Maintaining, reading and billing of water meters in Baltimore. J. S. Strohmeier. *Am Water Works Assn J* 25:916-21 J1 '33; Same. Water Works & Sewerage 80:267-9 J1 '33  
Redesign and construction of Prettyboy dam. *il diags Eng N* 111:63-7 J1 20 '33
- BALTIMORE & Ohio railroad**  
Baltimore & Ohio surmounts hurdles. D. Hovey. *il map Barron's* 13:6, 10 J1 10; 6+ J1 17 '33  
Moving from red ink to black. *Mag of Wall St* 52:530-1 S 16 '33  
Passes a crisis. *Econostat* 1:14-15, 23 J1 15 '33  
Refunding plan. *Mag of Wall St* 51:186 N 26 '32  
Shows great improvement. *Ry Age* 95:194 J1 29 '33
- BALUSTRADES**  
English balusters from a collection in the Metropolitan museum of art, New York city; illustrations. *Architecture* 67:317-22 Je '33
- BANANAS**  
Co-ferments and banana respiration. J. M. Nelson and C. Hemperly. *Am Chem Soc J* 55:1102-6 Mr '33  
Disease resistant banana. *Science* 78:sup5-6 J1 14 '33  
How to control banana ripening. C. F. Greeves-Carpenter. *il Food Ind* 5:341-2 S '33; Abstract. *Sci Am* 149:232 N '33  
Nutritive value of the banana. W. H. Eddy. 36p [biblog p34-6] Teachers college '33  
Le problème bananier dans les colonies françaises. A. Boyé. *Soc Ing Civils Bul* 85:809-22 My '32  
United Fruit bananas converted into a new drink and a baby food; Melzo. *Business Week* p10 O 7 '33  
United Fruit; the conquest of Honduras. *il Fortune* 7:31-8, 120, 122-7 Mr '33
- BANCROFT, Hugh**, 1879-1933  
Sketch. *Barron's* 13:12 O 23 '33
- BANCROFT, Wilder D.**  
Award of the Nichols medal for 1933. *Science* 77:164 F 10 '33; *Oil Paint & Drug Rep* 123:15 F 6 '33; *Chemicals* 38:12 F 20 '33
- BANK accounting**  
Accrual accounting. T. J. Barclay. *Am Bankers Assn J* 25:28-30+ D '32  
Bank cost control. B. E. Young. 299p \$5 Rand McNally Bankers Mo 50:213+ Ap-My '33  
How to build a bank budget. *Am Bankers Assn J* 25:68 Je '33  
How to control bank costs. B. E. Young. Rand McNally Bankers Mo 49:738-40+; 50:25-6+, 88+ 141-3+ D '32-Mr '33  
How to install and operate service charges in banks. 7v Cameron and co, inc. Chicago '33  
Interior distributing plan that cuts costs and saves time. L. M. Dempsey. *Bankers M* 126:150-1 F '33  
Old and honored employee; the story of an old-fashioned accountant. W. B. Compton. *Bankers M* 127:248-50 S '33  
Peg-board showing comparative statements of affiliated banks. *il Bankers M* 125:652-4 D '32  
Profit control through accrual accounting. *Am Bankers Assn J* 25:70 Je '33  
Reconciliation takes less time with this system of checking. M. L. Pence. *Bankers Mo* 50:34+ Ja '33  
Unified machine posting makes inter-branch depositing possible. J. K. Novins. *il Rand McNally Bankers Mo* 50:156-7 Mr '33  
Unit plan of posting for banks. W. M. Ingersoll. *il Bankers M* 126:396-401 Ap '33  
*See also*  
Bank auditing  
Trust companies—Accounting
- BANK advertising**  
Advertising and publicity. Published in monthly numbers of *Bankers magazine*  
Advertising investment. J. F. McRae. *il Bankers M* 126:617-19 Je '33  
Advertising that defines banking principles. D. Knowlton. *il Burroughs Clearing House* 17:18-20+ S '33  
Bank advertisers should get ideas from the public. B. Pope. *Ptr Ink* 164:94-7 S 21 '33  
Bank advertising can follow through. I. I. Sperling. *Am Bankers Assn J* 25:35+ My '33  
Bank advertising improved. Rand McNally Bankers Mo 50:271-2 Je '33  
Bank advertising is restoring confidence. *il Bankers M* 125:657-61 D '32  
Bank advertising not to fall off in 1933. *Ptr Ink* 162:41 Ja 5 '33  
Bankers now in deadly earnest about building confidence. *Ptr Ink* 164:55-6 S 21 '33  
Banks educating depositors through newspaper advertising. P. E. Reed. Rand McNally Bankers Mo 50:339+ J1 '33  
Banks to discuss better advertising. *Ptr Ink* 164:91 Ag 24 '33  
Constructive customer relations. for the banker who meets the public. 238p American bankers assn. New York '33  
Continue good advertising. H. B. Merwin. Rand McNally Bankers Mo 50:280+ Je '33  
Co-operative bank advertising. L. D. Meredith. *Bankers M* 127:355-61 O '33  
Customers write advertising that sells our bank's services. W. H. Neal. *il Bankers Mo* 49:747 D '32  
Does bank advertising pay? study of bank growth of a twenty-two-year period. *il Bankers M* 126:97-9 Ja '33  
Financial advertisers association annual convention. New York. *Bankers M* 127:469-77 O '33  
Financial advertising in 1933. R. Law. *Bradstreet's* 61:213 Ja 28 '33  
Financial advertising this year; expenditures, copy and media. I. I. Sperling. *Am Bankers Assn J* 25:27+ F '33  
Has bank advertising reached a saturation point? *il Bankers M* 126:193-6 F '33  
How new services are sold by the world's largest bank. F. M. Totton. *il Rand McNally Bankers Mo* 50:534-6+ O '33; Same. *Bankers M* 127:132-6 Ag '33  
Illinois banks have told the public about banking. P. E. Zimmermann. *Am Bankers Assn J* 25:38+ F '33  
Improving bank advertising policies. *il Bankers M* 126:287-91, 507-9 Mr, My '33  
Is financial advertising only 54% effective? analysis of headlines. M. A. Lemkuhl. *Bankers M* 125:541-3 N '32  
It can be done. J. A. Glenn. *il Bankers M* 127:89-92 J1 '33  
It pays a bank to advertise, say these banking leaders. Rand McNally Bankers Mo 50:458-9+ S '33  
Kill the ghost of the high-hat. *Ptr Ink* 163:72+ Je 1 '33  
1933 budget for bank advertising. H. A. Lyon. *Am Bankers Assn J* 25:21 D '32  
Posters tie in with newspapers. *il Ptr Ink* 162:52 F 16 '33  
Psychology in bank advertising. J. M. Case. *Burroughs Clearing House* 17:24-5 Mr '33  
Public relations, keynote of financial advertisers. *Ptr Ink* 164:44 S 14 '33  
Rebuilding public confidence. P. E. Reed. *Burroughs Clearing House* 17:6-8+ My '33  
Should banks go on the air? L. D. Meredith. *Bankers M* 125:423-9, 579-83 N-D '32  
Successful savings campaign; California bank, Los Angeles. R. I. Tennant. *il Bankers M* 126:403-6 Ap '33  
330,000 read this copy. R. M. MacLennan. *il Rand McNally Bankers Mo* 50:273 Je '33  
Truth in advertising; some thoughts inspired by Don Knowlton's article in the Atlantic monthly. *Bankers M* 126:511-14 My '33  
Urge to be different in bank advertising. C. D. Murphy. *Am Bankers Assn J* 25:26+ Ja '33  
Warning from the Bowery savings bank. *Ptr Ink* 164:58 J1 6 '33  
We must educate customers! P. E. Reed. Rand McNally Bankers Mo 50:210+ Ap-My '33



**BANK advertising—Continued**

We told the whole truth and harmful rumors were stopped. H. Jackson. Rand McNally Bankers Mo 50:288-9 Je '33

Weasel words are missing in this bank advertising; Florida National in campaign directed to legislators. A. Bradbury. il Ptr Ink 163:68-9 Je 22 '33

What have the banks to say? H. M. Hitchcock. Adv & Sell 20:30+ Ap 13 '33

What of mutual savings bank advertising? E. Mason. il Adv & Sell 21:38 Jl 20 '33

What's new in bank advertising? Rand McNally Bankers Mo 50:465 S '33

See also

Trust companies—  
Advertising

**BANK auditing**

Audit and control for the protection of depositors and stockholders. M. W. MacLachlan. Bankers M 127:6-12 Jl '33

Auditing by continuous control. S. R. Quaden. Burroughs Clearing House 17:12-14+ Ag '33

Commercial bank management; internal bank auditing procedure. 20p Bank management commission, American bankers assn, New York '33; Excerpts. Am Bankers Assn J 26:53 Jl; 67 Ag '33

Improved auditing, how to get it. H. Scarborough, jr. Rand McNally Bankers Mo 50:597-8+ N '33

**BANK buildings**

Bank and its equipment. Published in monthly numbers of Bankers magazine

Bankers trust company building; alterations and additions to a Wall Street structure of twenty-five years ago. R. H. Shreve. il plans Architecture 68:126-46 S '33

Branch bank alteration, Sutton Place branch of the National city bank of New York; views and plans. Arch Rec 73:118-20 F '33

Central national tower, Battle Creek, Michigan; views and plans. Am Arch 143:55-62 Mr '33

Earthquake design for bank buildings; four new branches of the Mitsui bank in Japan. P. F. Pape. il diags plans Eng N 110:457-60 Ap 13 '33

Experience of banks in remodeling buildings. Am Bankers Assn J 25:65-6+ Ap '33

First national bank, Amherst, Mass.; views and plan. Architecture 68:259-60 N '33

Floorplanning. C. J. Guthridge. plans Am Bankers Assn J 26:68-70 Jl '33

Modernization of the banking house. C. A. Holmes. Bankers M 127:81-4 Jl '33

New features in modernized bank quarters; Emigrant industrial savings bank. il Management Methods 62:10 Ja '33

New head office of Martins bank limited, Liverpool. il Bankers M 126:76-80 Ja '33

New quarters—new confidence. H. G. Buel. il Rand McNally Bankers Mo 50:287 Je '33

New shelter for savings, Philadelphia saving fund society. il front plans Arch Forum 57:483-98, 543-50 D '32

People's national bank, Tyler, Texas; views and plans. Arch Rec 73:240-5 Ap '33

Philadelphia's fancy turns to thoughts of architecture; Philadelphia saving fund society building. il Fortune 6:65-9+ D '32

Physical layout lowers costs. G. K. Hall. il plan Bankers Mo 50:29-30 Ja '33

Providence national bank, Providence, R. I.; views and plans. Architecture 67:157-60 Mr '33

Remodeling for branch banking; 42nd Street branch of Emigrant industrial savings bank, New York. il plan Arch Rec 73:237-9 Ap '33

Springfield safe deposit and trust company of Massachusetts takes possession of its stately new home. il Trust Companies 57:78-9 Jl '33

Structural changes in building alterations; Bankers trust company building and Herald Square hotel, New York. il diags Eng N 110:550-1 My 4 '33

Valley bank and trust company building, Phoenix, Arizona; views and plans. Am Arch 142:44-50 N '32

Wall Street's neo-Greek revival; First national bank. J. C. Fistere. il plans Arch Forum 59:111-18 Ag '33

We improved customer service by modernizing equipment and building; American security and trust co, Washington, D.C. R. L. Flather. il Rand McNally Bankers Mo 50:605+ N '33

Whittier national trust & savings bank, Whittier, California; views and plans. Am Arch 143:47-50 Ja '33

**Heating and ventilation**

Flexibility a feature of the completely conditioned Philadelphia saving fund society building. J. M. Dowling. il plans Heating-Piping 5:409-12 Ag '33

Office heating installation; Martins bank, Ltd. Liverpool. Engineer 155:330-1 Mr 31 '33

Several systems used for distributing conditioned air in Dime savings bank building, Brooklyn, New York. R. E. Cherne. il plan Heating-Piping 5:505-9 O '33

**Lighting**

American trust company, Charlotte, North Carolina. il Illum Eng Soc Trans 28:402-3 My '33

Concerning the lighting in the main banking room, Pittsburgh branch, Federal reserve bank of Cleveland. E. J. Truthan. il diag Architecture 67:sup8-9 Mr '33; Same, without diag. Arch Forum 58:sup 12 Ap '33

Economic comparison of old and new; lighting in the new addition to the Bowery savings bank, New York city. A. L. Powell. il Elec W 102:568-9 O 28 '33

Relighting a banking room; American trust company, Charlotte, N.C. R. A. Palmer. il Elec W 101:297-8 Mr 4 '33

**Power**

Metropolitan bank building, Minneapolis, installs own electric plant. Power 77:603 N '33

**BANK clearings**

Business history told in bank clearings; clearings of 137 American and Canadian cities, 1923-1932. Bradstreet's 61:153-5 Ja 28 '33

Further recession in bank clearings in 1932. Dun's R 41:25+ Ja 21 '33

**BANK consolidations**

Changes due to consolidations. Published in monthly numbers of Rand McNally bankers monthly

Facilitating merger or consolidation of trust departments; Oregon law. A. L. Grutze. Trust Companies 56:445-6 Ap '33

First national bank and First union trust and savings bank of Chicago combine banking business. Trust Companies 56:356 Mr '33

Unification of commercial banking. E. Platt. Bankers M 126:7-9 Ja '33

**BANK credit. See Credit, Bank****BANK crisis, 1933**

American banking crisis. T. E. Gregory. Economist 116:449-51 Mr 4 '33

Bank crisis brings increased hoarding, heavy gold losses, tighter money. Annalist 41:331-2 Mr 3 '33

Bank crisis met by insurance interests. Ins Field (Fire ed) 62:7-8 Mr 2 '33

Bank holiday pays some printers; emergency scrip, later destroyed, produced in many communities. A. N. Jackson. il Inland Ptr 91:23-4 Ap '33

Bank holiday's effect on insurance. Weekly Underw 128:490, 493+, 500+, 515 Mr 11 '33

Bank moratoriums cause new insurance problems. Nat Underw 37:3+ Mr 2 '33

Bank situation being clarified. Barron's 13:9 Mr 13 '33

Banking crisis. Nat City Bank p49-57 Ap '33

Banking crisis; causes and corrective measures. Index 13:45-51 Mr '33

Banking crisis; the end of an epoch. M. Nadler and J. I. Bogen. 202p Dodd '33

Banking front; National bank of Detroit illustrates new rehabilitation policies. J. S. Lawrence. Econostat 1:8-10+ Ap 1 '33

Banking kaleidoscope. J. S. Lawrence. Dun & Bradstreet 41:4-5 Mr 11 '33

**BANK crisis, 1933—Continued**

Banks' moratoria creating problem. Nat Underw (Life ed) 37:14 Mr 3 '33  
 Banks reopen. Business Week p3-4 Mr 22 '33  
 Business observes bank crisis with anxiety. Bradstreet's 61:347-84, 383-4 F 18-25 '33  
 Closed banks; depositors' committee suggests a blanket reopening scheme. Business Week p13 Ag 12 '33  
 Closed banks; liberals claim R.F.C.'s methods too conservative and slow. U. V. Wilcox. Barron's 13:18-19 Ag 7 '33  
 Closed banks; more than 1,100 member banks and 3,900 others still are closed. Business Week p23 Je 24 '33  
 Diary of the chief developments. Economist 116:580-1 Mr 18 '33  
 Documents and statements pertaining to the banking emergency. 2v U.S. Treasury dept, Washington '33  
 Effects of bank holiday. J Account 55:322-4 My '33  
 Emergency banking bill. Barron's 13:8+ Mr 13 '33; Abstract. Comm & Fin 22:251 Mr 15 '33  
 Emergency banking legislation; including proclamations and addresses of the President, regulations and statements of the Secretary of the Treasury, and emergency banking act. Fed Res Bul 19:113-32, 216-17, 247 Mr-Apr '33  
 Factories make quick re-adjustment to Michigan eight-day bank holiday. Automotive Ind 68:205+ F 18 '33  
 Financial markets; events leading up to the crisis that closed's security and commodity markets. Business Week p30-1 Mr 15 '33  
 For future historians; advertising and the bank holidays. Il Adv & Sell 20:15-16+ Mr 16 '33  
 General business conditions. Nat City Bank p34-3 Mr '33  
 Good start; editorial. Business Week p32 Mr 22 '33  
 Holiday focusses attention on new banking legislation. Dun & Bradstreet 41:22+ Mr 11 '33  
 How the capital met the bank crisis. W. H. Grimes. Barron's 13:18-19 Mr 27 '33  
 Ingenious advertisers, these; ways of using their heads when bank holiday broke. Ptr Ink 162:25-8+ Mr 16 '33  
 Insurance faces moratorium issues. Nat Underw 37:3+ Mr 9 '33; Nat Underw (Life ed) 37:3+ Mr 10 '33  
 Job that will mean billions; reopening of banks. Nation's Business 21:54 Jl '33  
 Lessons from the banking crisis. A. Anderson. Bankers M 127:142-6 Ag '33  
 Lessons of the banking disaster. L. P. Ayres. Comm & Fin 22:250-1 Mr 15 '33; Same. Trust Companies 56:297-9 Mr '33  
 Mad scramble for cash. Barron's 13:20 Mr 6 '33  
 Meeting the bank crisis. Guaranty Survey 12:1-5 Mr '33  
 Michigan holiday affects insurance. Nat Underw 37:3+ F 16; 5+ F 23 '33  
 Michigan's grim holiday; Governor closes banks for 8 days. Business Week p5 F 22 '33  
 Nearing normal banking operations. Barron's 13:17+ Mr 20 '33  
 New banking picture; chronicle of events without comment. Am Bankers Assn J 25:11-13+ Ap '33  
 New banks—model T. Business Week p5-6 Mr 8 '33  
 New deal in banking. T. M. Knappen. Mag of Wall St 51:564-6+ Mr 18 '33  
 New deal, new money, new banks. Business Week p3-4 Mr 15 '33  
 Novel methods used in bank reopenings. Forbes 31:6-7 Ap 15 '33  
 Oil company ads help allay fear during banking holiday. Nat Pet N 25:28 Mr 15 '33  
 Old banks and new. Business Week p4-6 Mr 29 '33  
 Passing through the crisis. Q. Adams. Dun & Bradstreet 41:6-7 Mr 18 '33

Plans for reopening closed banks; differences between the waiver plan and the Spokane plan. J. F. T. O'Connor. Trust Companies 57:439 O '33  
 Politician, banker, depositor; reopening of unsound state banks. Econostat 1:18 Ap 15 '33  
 R.F.C. goes to Michigan. Business Week p6 Mr 1 '33  
 Recovery, on credit. Business Week p5-6; Editorial comment. p36 O 21 '33  
 Reopened banks; frozen deposits cut from \$5 to \$2½ billions. Business Week p13 Jl 15 '33  
 Reopening of closed banks; with statement by the President. Fed Res Bul 19:595-6 O '33  
 To thaw deposits. Business Week p12 O 14 '33  
 Trust department operations and the bank holiday; policies governing fiduciary functions in closed or restricted banks. J. F. T. O'Connor. Trust Companies 57:259-63 S '33; Excerpts. Bankers M 127:432-4 O '33  
 Trusteeship history in the making. G. T. Stephenson. Am Bankers Assn J 26:22+ O '33  
 Under Caesar's seal; Director Clutchbill needed \$20,000 cash to reopen the Ferndale National; story. F. Copeland. Il Burroughs Clearing House 17:20-2+ Je '33  
 U. S. bank problem. Economist 116:509-10 Mr 11 '33  
 U. S. banking crisis. T. E. Gregory. Economist 116:570-1 Mr 18 '33  
 Washington and the banks. Business Week p3-4 Mr 8 '33  
 What the U.S. Treasury is doing to reopen your bank. J. F. T. O'Connor. Bankers M 127:232-6 S '33

**Bibliography**

Banking crisis and the emergency banking legislation. Management R 22:106-7 Ap '33  
**BANK debits**  
 Bank debits. Published in monthly numbers of Federal reserve bulletin  
 Bank debits outside and in New York city, monthly, 1919-1932. Bradstreet's 61:260 Ja 28 '33  
 Federal Reserve defines bank debits. E. L. Smead. Sales Management 31:433 N 15 '32  
**BANK deposits**  
 All banks in the United States—total loans and investments, deposits. Published in monthly numbers of Federal reserve bulletin  
 Bank concentration; half of the bank deposits are held by ½% of the banks. Business Week p16 F 22 '33  
 Bankers' balances in the light of the deposit guarantee. W. H. Steiner and O. Lasdon. Trust Companies 57:45-6+ Jl '33  
 Bank's right to apply broker's deposit to overdraft; suit. Bankers M 126:165-8 F '33  
 Big banks regain deposits; list of largest banks. Barron's 13:11 F 6 '33  
 Deflation; shrinkage in bank deposits in 6 months is \$10 billions. Business Week p4 Ag 26 '33  
 Investment bankers to be prohibited from receiving deposits. Bankers M 126:580-1 Je '33  
 Largest banks and trust companies and the largest mutual savings banks; tabulation. Burroughs Clearing House 17:26 Mr '33  
 Licensed member banks (5,500 banks); number of deposit accounts, by size of account, May 13, 1933. Fed Res Bul 19:414, 454-6 Jl '33  
 Member bank deposits. Published in monthly numbers of Federal reserve bulletin  
 Profits key to price recovery. J. S. Lawrence. Econostat 1:8-10+ Mr 25 '33  
 Rate of circulation of bank deposits in and outside New York city, monthly, 1919-1932. Bradstreet's 61:137 Ja 28 '33  
 Sharp decline in demand deposits as result of banking act of 1933. D. W. Ellsworth. Annalist 42:4-5 Jl 7 '33  
 See also  
 Banks and banking— Savings deposits  
 Guaranty of deposits



**BANK deposits—Continued****Interest**

- Banking profits in 1933; interest rates on deposits must be reduced. D. Friday. Bankers Mo 50:78-9+ F '33
- Federal reserve board's regulation Q, series of 1933; payment of interest on deposits. Fed Res Bul 19:571-4 S '33
- Interest rates after the Banking act. G. E. Anderson. Am Bankers Assn J 26:16-17+ Ag '33
- Interest rates decline. F. W. Simmonds. Am Bankers Assn J 25:23-5+ Ap '33
- Interest rates on time deposits; abstract. O. H. Wolfe. Bankers M 127:427-8 O '33
- New interest policy needed. O. H. Wolfe. Il Bankers Mo 49:734-5+ D '32

**BANK deposits, Government**

- Bank president's authority to give security for public deposits; suit. Bankers M 126:55-6 Ja '33

- Power of national bank to give security for deposits; suit. Bankers M 127:285+ S '33

**BANK directors**

- Bank directors, their legal and moral responsibilities. F. G. Awalt; L. S. Trimble; L. A. Andrew. 15p Bank management commission, American bankers assn, New York '32
- Fewer but better directors greatly improve the work of the bank. W. F. Morrish. Rand McNally Bankers Mo 50:333+ JI '33
- Licenses proposed for both directors and officers. J. A. Tawney. Rand McNally Bankers Mo 50:522-4 O '33
- Three officers on the board help get balanced board decisions. B. O. Moody. Bankers Mo 49:733+ D '32

**Interlocking directorates**

- Concentration in banking control through interlocking directorates as typified by Chicago banks. R. G. Thomas. J of Business 6:1-14 Ja '33

**BANK employees**

- Bank aids personnel work; First national bank of Chicago. Il Rand McNally Bankers Mo 50:613 N '33
- Bank cannot retain employee's notarial fees; suit. Bankers M 127:65-7 JI '33
- Bank tries employee selling; Iowa-Des Moines nat'l bank and trust co. System 62:455 O '33
- Confidence; training employees to deal with customers. W. R. Morehouse. Am Bankers Assn J 25:18-19+ Ap '33
- Employee advancement. Am Bankers Assn J 26:66 Ag '33
- Employee meetings for better customer relations. A. J. Kolar. Burroughs Clearing House 18:12-14+ O '33
- Fidelity bonds protect if their specific terms are fully met. L. Childs. Rand McNally Bankers Mo 50:601+ N '33
- Good times for suggestions. M. F. Kearns. Burroughs Clearing House 17:20+ Ja '33
- How one president manages to control human inventory. J. Poole. Il Bankers Mo 49:741-2+ D '32
- How teamwork can be stimulated among junior bank officers. Am Bankers Assn J 25:72 D '32
- How to study men by types to improve banking relations. C. O. Lee. Il Bankers Mo 50:84-6+ F '33
- Improved auditing, how to get it. H. Scarborough, jr. Rand McNally Bankers Mo 50:597-8+ N '33
- In support of the banking code; meeting the new problems of working hours and wage scales. R. H. Brunkhorst. Burroughs Clearing House 17:9+ S '33
- Obsolescence in personnel endangers wise administration. D. K. Nevell. Rand McNally Bankers Mo 50:290+ Je '33
- Operating efficiency improved with an employees' bulletin board as a basis. W. A. Millican. Il Rand McNally Bankers Mo 50:538-9+ O '33
- Public education—an announcement of a course in public relations. J. H. Puelicher. Am Bankers Assn J 26:26-7+ JI '33

- Vacations for bank employees; practices of leading banks. Bankers M 125:599-603 D '32

**BANK equipment**

- Bank and its equipment. Published in monthly numbers of Bankers magazine
- Banks will use more machines. E. C. Mack. Rand McNally Bankers Mo 50:588+ N '33
- Physical layout lowers costs. G. K. Hall. Il plan Bankers Mo 50:29-30 Ja '33
- World's fair exhibits of special interest to operating bankers. C. A. Benson. Il Rand McNally Bankers Mo 50:410-13 Ag '33

**BANK examination**

- Audit and control for the protection of depositors and stockholders. M. W. MacLachlan. Bankers M 127:6-12 JI '33
- Clearinghouse examinations. Am Bankers Assn J 26:70 N '33
- \$3,000 short; Director Clutchbill story! F. Copeland. Il Burroughs Clearing House 18:18-20+ O '33

**BANK failures**

- America's bank record. R. R. Foster. Barron's 13:9 My 29 '33
- Are small banks so bad? a discussion of bank mortality rates. E. Groseclose. Bankers M 126:227-9 Mr '33
- Bank suspensions and banks reopened. Published in monthly numbers of Federal reserve bulletin
- Bank suspensions and banks reopened, by districts and by states. Published in monthly numbers of Federal reserve bulletin
- Bank suspensions and banks reopened, by states, January 1 to December 31, 1932. Fed Res Bul 19:46 Ja '33
- Banks do not fail in other countries. T. M. Knappen. Mag of Wall St 51:316-18+ Ja 7 '33
- Biggest bank failure; Bank of U.S. M. R. Werner. Il Fortune 7:62-5+ Mr '33
- Branch banking; the first step. Fortune 6:35-6, 123-5, 128 D '32
- Closed banks—a study of causes. J. J. Driscoll. Am Bankers Assn J 25:14-17+ Je '33
- Five fund conversion policies based on the experience of 30 banks. E. D. McFarland. Bankers Mo 50:27-8+ Ja '33
- Liquidation corporation; Glass substitute for a bank deposit guarantee. Business Week p20 F 3 '33
- Plan for converting funds, based on the experience of 249 banks. E. D. McFarland. Bankers Mo 49:725-8 D '32
- Right of banking superintendent to borrow from Reconstruction finance corporation; suit. Bankers M 126:377-8 Ap '33
- Rights of holder of bank draft on failure of bank; suit. Bankers M 126:59-60 Ja '33
- Sign-off in operation; wherein the community readjusts its banking structure. I. W. Elder. Bankers M 125:567-70 D '32
- Strengthening our banking structure. J. L. Walsh. Il Mech Eng 54:825-30 D '32
- Successful program of bank liquidation; Manufacturers trust company of New York. C. C. Clough. Trust Companies 57:383-6 O '33
- Why banks close; post mortem on Guardian Trust. Business Week p14+ Ag 5 '33
- Why the banking situation demands prompt balancing of the budget. D. W. Ellsworth. Annalist 41:195-6 F 3 '33

**BANK for international settlements**

- Annual report, 3d, year ended March 31, 1933. Fed Res Bul 19:355-67 Je '33
- Bank for international settlements. Economist 116:sup11-12 My 13 '33
- B.I.S. and the gold standard. L. Pasvolksy. Barron's 12:5 D 26 '32
- Bank for international settlements at work. E. L. Dulles. 631p [bibliog p597-612] \$5 Macmillan '32
- Condition. Published in monthly numbers of Federal reserve bulletin
- Increased scope of the B.I.S. L. Pasvolksy. Barron's 13:3+ Ja 23 '33
- World bank since Lausanne. Am Bankers Assn J 25:22-3+ Ja '33

**BANK furniture**

- Portfolio of bank screens. Architecture 67:47-62 Ja '33

**BANK holiday. See Bank crisis, 1933**

- BANK libraries**  
Library of the Chase national bank, New York city; photographs. Bankers M 126:606 Je '33
- BANK loans.** See Loans, Bank
- BANK notes**  
Emergency currency; Federal reserve bank notes. A. J. Linn. Burroughs Clearing House 17:9+ My '33
- BANK of England**  
Bankers' industrial development company. A. F. Lucas. Harvard Business R 11:270-9 Ap '33  
Position of the Bank of England from April 27, 1932, to April 19, 1933. Economist 116:sup20 My 13 '33  
Romance of the Bank of England. K. Rosenberg and R. T. Hopkins. 288p [bibliog p281] T. Butterworth Ltd, London '33
- BANK of London and South America, limited**  
Ordinary meeting, 70th, London. Economist 115:1159-60 D 17 '32
- BANK of Montreal**  
Annual general meeting, 115th, Montreal. Economist 116:39-40 Ja 7 '33
- BANK of Nova Scotia**  
Celebrates its centenary. il Bankers M 125:526-9 N '32
- BANK of the United States, Second**  
Bank war. S. Bell. Comm & Fin 22:205-8 Mr 1 '33
- BANK of United States**  
Biggest bank failure. M. R. Werner. il Fortune 7:62-5+ Mr '33  
Little Napoleons and dummy directors. M. R. Werner. 215p Harper '33
- BANK officials**  
Bank president not allowed to recover money loaned to bank; suit. Bankers M 126:378-80 Ap '33  
Bank president's authority to give security for public deposits; suit. Bankers M 126:55-6 Ja '33  
Cashier not permitted to make personal profit; suit. Bankers M 125:625-8 D '32  
Equipment for officers. Am Bankers Assn J 26:86-7 S '33  
Licenses proposed for both directors and officers. J. A. Tawney. Rand McNally Bankers Mo 50:522-4 O '33  
Problems of the Canadian bank manager; must live an exile from his home town as a rule. Bankers M 126:51-2 Ja '33  
Three officers on the board help get balanced board decisions. B. O. Moody. Bankers Mo 49:733+ D '32  
What makes a successful bank manager? K. C. Kataria. Bankers M 126:41-3 Ja '33
- BANK reserves**  
Gold reserves of central banks and governments. Published in monthly numbers of Federal reserve bulletin  
Gold reserves of central banks and governments, 1913-33. Fed Res Bul 19:368-72 Je '33  
Member bank reserve balances. Published in monthly numbers of Federal reserve bulletin  
See also  
Banks and banking—  
Secondary reserves
- BANK runs**  
Depositors educated with extreme frankness. J. W. Dunegan. Rand McNally Bankers Mo 50:336-8 Jl '33  
New Orleans situation explained. Trust Companies 56:242-3 F '33  
Runs are led by bankers; don't blame your depositors. J. W. McGinnis. Bankers Mo 49:720-1 D '32
- BANK savings life insurance company**  
Royal Union included in new merger plan. Ins Field (Life ed) 62:5-6+ Jl 14 '33
- BANK vaults.** See Vaults
- BANKERS**  
Bankers in the new era; can they assume leadership? E. H. Hull. Bankers M 126:351-4 Ap '33  
Banking and business. W. F. Augustine. Am Bankers Assn J 25:18+ D '32  
Forgotten banker; in behalf of sound and patriotic banking conduct. O. H. Wolfe. Trust Companies 56:557-9 My '33  
See also  
Advertising and bankers  
Bank officials  
also names of bankers, e.g. Aldrich, Winthrop Williams
- BANKERS' associations**  
Convention friendships. D. V. Stephens. Rand McNally Bankers Mo 50:277+ Je '33  
Groups and counties, two different types of banking cooperation; Tennessee and Wisconsin. maps Am Bankers Assn J 25:54 Ja '33  
Groups, zones, counties; Virginia and Missouri. maps Am Bankers Assn J 25:56 F '33  
New York and South Dakota; successful banking cooperation under widely different conditions. maps Am Bankers Assn J 25:40 Mr '33
- BANKERS' blanket bond**  
Clandestine transactions of American bankers with London Lloyds likely subject of inquiry by Senate committee. N. H. Weed. Weekly Underw 129:34-5 Jl 1 '33  
Consider arrests most important; American Surety interested in uncovering information regarding theft of \$500,000. Liberty bonds. Nat Underw 37:19 Ag 24 '33  
Economy in blanket insurance. Am Bankers Assn J 25:1+ sec 2 F '33  
\$500,000 bank theft covered by insurance. Weekly Underw 127:1080 D 3 '32  
Lloyds of London is ordered to pay claim. Weekly Underw 128:1200 Je 24 '33  
London Lloyds activity in bank field attacked. Nat Underw 37:19 Jl 13 '33  
Saving money on blanket bonds; how parent banks may cover their controlled institutions. J. H. Magee. Bankers M 126:442-4 My '33
- BANKERS' industrial development company**  
Bankers' industrial development company. A. F. Lucas. Harvard Business R 11:270-9 Ap '33
- BANKERS reserve life company**  
Ohio National Life absorbs Bankers Reserve of Omaha. Nat Underw (Life ed) 37:4 Ap 28 '33; Ins Field (Life ed) 62:13 Ap 28 '33
- BANKING ethics**  
Engineer's view of investment banking reforms. G. M. Dexter. Mech Eng 55:275-8, 352-4 My-Je '33
- BANKING law**  
Banking and commercial law; review of important decisions. Published in monthly numbers of Bankers magazine  
Briefs on banking law. C. R. Rosenberg, Jr. Burroughs Clearing House 17:24 D '32; 27 Mr; 18:32 O '33  
Laws can improve banking if they protect both bank and depositor. E. S. Woolley. Rand McNally Bankers Mo 50:583-5+ N '33  
Legal decisions and discussion relating to banks and trust companies. Published in monthly numbers of Trust Companies  
Pledge of assets to secure deposit; suit. Econostat 1:28 Ap 8 '33  
Set-off against insolvent bank; suit. Bankers M 126:479-81 My '33  
State branch banking laws; recent changes. Am Bankers Assn J 26:66-7 O '33  
See also  
Bank directors  
Banks and banking—  
Branch banking  
Banks and banking—  
Guaranty of deposits  
Banks and banking—  
Joint accounts  
Banks and banking—  
Stockholders' liability  
Checks—Law  
Federal reserve banks  
Savings banks—Investments  
Trusts and trustees
- Bibliography**  
Banking law journal digest. J. E. Brady, comp. 4th ed rev 700p Banking law journal, Cambridge, Mass. '33



## BANKING law—Continued

## Canada

Royal commission is studying the Canadian bank act. *Am Bankers Assn J* 26:78 S '33

## Germany

Reform of the Reichsbank statute. *Economist* 117:809 O 28 '33

## Great Britain

Banking law and practice. *Economist* 116:sup8-10 My 13 '33

## Indiana

Legislative action; Study commission for Indiana financial institutions. W. S. Greenough. *Am Bankers Assn J* 25:22-4+ D '32

## New York (state)

New York banking law, annotated; containing all amendments to January, 1934. W. E. Baldwin, ed. 395p Banks-Baldwin law pub. co, New York '33

## Ohio

Laws protecting trust funds in Ohio. *Trust Companies* 56:741 Je '33

## Pennsylvania

New Pennsylvania law governing mortgage or securities pools for investment of trust funds. *Trust Companies* 56:688-9 Je '33

Pennsylvania banking and building & loan codes, 1933. B. G. Segal, ed. 553p Pennsylvania, Dept. of property and supplies, Harrisburg '33

Revised banking code. *Trust Companies* 56:615 My '33

## Texas

Laws of Texas regulating state banks. 161p James Shaw, banking commissioner, Austin, Texas '32

## United States

Analysis of the investment laws of eleven of the states in which mutual savings banks are located (revised to include 1932 legislative changes). 134p National assn. of mutual savings banks, New York '32 [lithographed]

Bank deposits guaranteed; what the new banking law means. R. H. Hemphill. *Mag of Wall St* 52:216-17+ Je 24 '33

Bank law making. G. E. Anderson. *Am Bankers Assn J* 25:17+ My '33

Bank reform. *Business Week* p3-4 D 21 '32; p3-4 Ja 4 '33

Banking act of 1933. *Nat City Bank* p100-2 Jl '33

Banking act of 1933 and the Emergency bank act of 1933. J. E. Brady, ed. 116p *The Banking law journal*, Cambridge, Mass. '33

Banking act of 1933; text. *Fed Res Bul* 19:385-401 Je '33

Banking laws will be changed. J. L. Walsh. *Bankers Mo* 49:713-16+ D '32

Banking reform. J. S. Lawrence. *Bradstreet's* 61:78-80+ Ja 21 '33

Constitutionality of legislation providing a unified commercial banking system for the United States; opinion of the General counsel of the Federal reserve board. *Fed Res Bul* 19:166-86 Mr '33

Constructive changes in federal and state banking laws. E. B. Greene. *Trust Companies* 56:47-50 Ja '33

Deposit insurance and the new Federal banking law. L. D. Webber. *Trust Companies* 56:641-3+ Je '33

Desirable modifications of the banking act of 1933. A. A. Berle, jr. *Trust Companies* 57:389-90 O '33

Emergency banking bill. *Barron's* 13:8+ Mr 13 '33; *Abstract. Comm & Fin* 22:251 Mr 15 '33

Emergency banking legislation; including proclamations and addresses of the President, regulations and statements of the Secretary of the Treasury, and emergency banking act. *Fed Res Bul* 19:113-32, 216-17, 247 Mr-Apr '33

Essentials of American banking reform and control of credit; program recommended by Economic policy commission of the A.B.A. *Trust Companies* 56:425-8+ Ap '33; Summary. *Am Bankers Assn J* 25:42 My '33; Same. *Guaranty Survey* 13:7 My '33

Federal bank control likely; how to prepare for it. E. S. Woolley. *Rand McNally Bankers Mo* 50:199-200+ Ap-May '33

Federal reserve policies and perils of inflation. E. Platt. *Trust Companies* 56:179-80 F '33

For better banks; new banking bill emerges with Administration blessing. *Business Week* p5 My 17 '33

Glass and Steagall bills. *Am Bankers Assn J* 25:22-3 Je '33

Glass bill cracked; branch banking has been sacrificed in order to drive into the open the fight against security affiliates. *Business Week* p14 F 1 '33

Glass-Steagall act and other legislation. *Bankers Mo* 127:113-17 Ag '33

Glass-Steagall banking act; will it weaken the Federal reserve system? H. Schwedersky. *Barron's* 13:3, 8 Je 26 '33

Interest rates after the Banking act. G. E. Anderson. *Am Bankers Assn J* 26:16-17+ Ag '33

Liquidation corporation; Glass substitute for a bank deposit guarantee. *Business Week* p20 F 8 '33

Men, not laws, make sound banks. F. H. Sisson. *il Nation's Business* 21:13-16+ Ja '33

National control of commercial banking; powers of Congress. T. J. Anderson, jr. *Barron's* 13:9 Mr 20 '33

New administration faces a major program of banking legislation. A. Crawford. *Burroughs Clearing House* 17:3-5+ Ap '33

New bank bills; President approves, but is not pushing them. *Business Week* p5-6; Editorial comment. 32 My 24 '33

New banking picture; chronicle of events without comment. *Am Bankers Assn J* 25:11-13+ Ap '33

New code for banks. *Econostat* 1:6-7 My 27 '33

New deal in banking. *Business Week* p22 Je 24 '33

Now to work; Washington prepares to administer the Glass-Steagall act. *Business Week* p14+ Jl 1 '33

On the calendar for Congress. A. Crawford. *Burroughs Clearing House* 17:14-16+ D '32

Opinions on the new Banking act, charted from West to East. *Am Bankers Assn J* 26:22-3+ S '33

Passion, prejudice and piffle; editorial comment. *Bradstreet's* 61:328 F 11 '33

Permanent bank reform; administration program. *Business Week* p3 Mr 29 '33

Political opposition to imperative bank reform delays business recovery. G. E. Anderson. *Analyst* 41:75-6 Ja 20 '33

Problems of permanent banking legislation. *Barron's* 13:19 Mr 27 '33

Provisions of the Glass banking bill. A. Crawford. *Burroughs Clearing House* 17:6-8+ Jl '33

Questions the bank bill raises. W. Bishop. *Nation's Business* 21:46+ Ag '33

Sound banking—a mutual responsibility. T. R. Preston. *Trust Companies* 57:391-4 O '33

Unfinished symphony; new Glass bank bill is due for revision. *Business Week* p14 Ag 5 '33

What prospect for new bank legislation. A. Crawford. *Burroughs Clearing House* 18:6-8 O '33

What the new law requires. E. S. Woolley. *Rand McNally Bankers Mo* 50:398-9+ Ag '33

## See also

Federal reserve act

## Virginia

Statutes of Virginia relating to banks, trust companies, banking, building and loan and kindred businesses. M. E. Bristow, comp. 105p Virginia. Bureau of insurance and banking, Richmond '32

**BANKRUPTCY**

- Another new deal; President Hoover would make it possible for debtors and creditors to come to agreement without bankruptcy proceedings. *il Business Week* p3-4 Ja 25 '33
- Bankruptcy act of 1898. Collier pamphlet edition, 1933 revision. W. M. Collier, 183p \$2 M. Bender & co, inc, Albany, N.Y. '33
- Bankruptcy act (United States code, title 11) as amended to March 3, 1933. W. M. Collier, 194p M. Bender & co, inc, Albany, N.Y. '33
- Bankruptcy analysis for the fiscal year 1932. *Credit & Fin Management* 35:21-3 F '33; Correction. 35:36 Mr '33
- Bankruptcy and the relief of debtors. Index 13:1-7 Ja '33
- Bankruptcy bathers; jump in consumer insolvencies. *Business Week* p12 My 24 '33
- Bankruptcy law service, compilation, annotated with court decisions, comments, discussions, reference notes, explanations, covering history of Bankruptcy act. loose-leaf Commerce clearing house, inc, New York '33
- Bankruptcy laws of the United States. 74p Supt. of doc. '33
- Bankruptcy without receiver; John David effects lease revisions. *Business Week* p10 Mr 22 '33
- Business and personal failure and readjustment in Chicago. J. H. Cover. maps J of *Business* 6:1-106 pt 2 Jl '33
- Business men urge bankruptcy law changes. *Management Methods* 61:663 D '32
- Cases and materials on the law of administration of debtors' estates. W. A. Sturges. 1141p West '33
- Causes of bankruptcies among consumers. V. Sadd and R. T. Williams. *U S Bur For & Dom Com Domestic Commerce* Ser 82:1-37 '33
- Causes of commercial bankruptcies. V. Sadd and R. T. Williams. *U S Bur For & Dom Com Domestic Commerce* Ser 69:1-52 '32
- Cities and their creditors; significance of proposed amendment to the Federal bankruptcy act. J. P. Broderick. *Barron's* 13:9 S 4 '33
- Complete bankruptcy law of the United States (including amendment of February 11, 1932). rev. and annotated by Max Isaac. 80p American bankruptcy review, inc, New York '32
- Debt laws; bills to facilitate reorganization of corporate debt structures. *Business Week* p4 D 21 '32
- Debt relief; Congress extends benefits of bankruptcy revision law to individuals, railroads and farm groups. *Business Week* p4 Mr 8 '33
- Does bankruptcy law fail? proposal for out-of-court adjustment of embarrassed debtors' affairs. A. B. Krefl. *il Credit & Fin Management* 35:14-15+ S '33
- Drug chain bankruptcy case; Louis K. Liggett co. *Business Week* p7-8 Ap 12 '33
- Farm bankruptcies not common, report says. *Spectator* 130:22 Je 29 '33
- Federal bankruptcy amendment. A. A. Berle, jr. *Am Bankers Assn J* 25:37-8+ Mr '33
- Forgotten creditor. E. I. Kilcup. *Credit & Fin Management* 35:8-9+ Je '33
- Going through the red. M. Sykes. *Comm & Fin* 22:131 F 1 '33
- Jury trial for bankruptcy preference; U. S. Supreme court decision. *Credit & Fin Management* 34:31+ D '32
- Law and procedure under the Bankruptcy act, as amended to date, with General orders and forms. S. Gordon. loose leaf Prentice-Hall, inc. '33
- Liquidation problems under bankruptcy act. G. S. Van Schaick. *Weekly Underw* 128:1046+ Je 3 '33
- Lost in the bungle. E. M. Otterbourg. 130p Country life press, Garden City, N.Y. '33
- Municipal bankruptcy and new laws we may expect. D. D. Mackey. *Rand McNally Bankers Mo* 50:462-4+ S '33
- N.A.C.M. bankruptcy resolution. *Credit & Fin Management* 35:26+ O '33
- National bankruptcy act. *J Account* 55:459-64 Je '33
- Need for national uniformity in liquidation of companies. G. S. Van Schaick. *East Underw* 34:23+ Je 9 '33; *Excerpts. Ins Field (Fire ed)* 62:9+ Je 8 '33; *Nat Underw* 37:3+ Je 8 '33; *Weekly Underw* 128:1046+, 1047 Je 3 '33
- New amendments to the bankruptcy act. C. R. Rosenberg, jr. *Burroughs Clearing House* 17:12-13+ Ap '33
- New bankruptcy law—a step in the right direction. R. P. Hartwell. *Mag of Wall St* 51:574+ Mr 18 '33
- New complete General orders in bankruptcy and forms in proceedings for the relief of debtors under Act of March 3, 1933, adopted by the Supreme court of the United States, to and including April 17, 1933. 36p American bankruptcy review, inc, New York '33
- New plan for handling bankruptcies; Irving trust company's work as standing receiver. H. F. Woods, jr. *Burroughs Clearing House* 17:12-14+ Jl; 15-16+ Ag '33
- New relief for debtors. *Nation's Business* 21:51 Ap '33
- Observations of an auctioneer. B. J. Selkirk. *Credit & Fin Management* 35:46 Ja '33
- Provisions of the emergency bankruptcy act affecting fiduciary interests. W. R. Montgomery. *Trust Companies* 56:300-2+ Mr '33
- Railroads would benefit under bankruptcy bill. *Barron's* 13:6 Ja 30 '33
- Rails aided under new bankruptcy law. *Barron's* 13:6 Mr 6 '33
- Receiver reports; Irving trust co. *Business Week* p10-11 D 14 '32
- Receiverships; procedure for the handling of bankruptcy cases through a trust institution; Irving trust company. *Am Bankers Assn J* 25:24-5+ F '33
- Senate is debating farm debt reduction and adjustment by rural farm bankruptcy councils. *Business Week* p14 F 1 '33
- Value of assets in bankruptcy. L. L. Briggs. *Credit & Fin Management* 35:40-1 S '33
- Workmen's compensation premiums a preferred claim. *Monthly Labor R* 36:1279-80 Je '33
- Worse than burglars! a fact story from the Fraud prevention department. *Credit & Fin Management* 35:29+ F '33
- See also  
Business failures  
Debtor and creditor  
Receivers
- BANKS, Home loan.** See Home loan banks
- BANKS and banking**
- Air transport stops interest losses. H. Crary. maps *Rand McNally Bankers Mo* 50:527-9 O '33
- The answer—regional clearinghouses. W. K. Payne. *Am Bankers Assn J* 25:22+ Ap '33
- Bankers' contribution to recovery. P. H. Whaley. *Trust Companies* 57:131-2 Ag '33
- Bankers' credits. V. Hvidt. 199p Levin & Munksgaard, Copenhagen; Williams & Norgate, London; pa \$2.50 Stechert, N.Y. '33
- Bankers' gold. E. L. Smith. 154p \$1.50 Simon and Schuster, inc, New York '33
- Banking and business. W. F. Augustine. *Am Bankers Assn J* 25:18+ D '32
- Banking and currency. E. Sykes. 7th ed 308p [biblog p282-5] Butterworth & co, ltd, London '32
- Banking and the depression. *Economist* 117:706-7 O 14 '33
- Banking duties and relations. T. F. Woodlock. *Barron's* 13:18 Ja 9 '33
- Bankocracy—an industrial answer to technocracy; credit system at fault. G. L. Lacher. *Iron Age* 131:127-8+ Ja 19 '33
- Banks continue to dominate business situation. *Bradstreet's* 61:383-4 F 25 '33
- Basis for banking by code. F. M. Law. *Am Bankers Assn J* 26:13-15+ S '33
- Commercial bank management studies. Bank management commission, American bankers assn, New York '32
- Commercial banking during the depression. W. E. Spahr. *Am Statis Assn J* 28:sup59-66; Discussion. F. R. Fairchild. 66-7 Mr '33



**BANKS and banking—Continued**

- Contemporary banking. H. P. Willis, J. M. Chapman and R. W. Robey. 826p Harper '33
- Currency and banking. D. T. Jack. 196p [bibliog p193] Pitman '32
- Depositor—stockholder—borrower; the right order of a bank's responsibility. M. E. Tate. Rand McNally Bankers Mo 50:537+ O '33
- Economist banking supplement. Economist 116:sup3-70 My '33; 117:sup3-64 O 14 '33
- Engineer in banking. Am Bankers Assn J 25: 11-12+ F '33
- Essential and voluntary reforms in banking practice and operation. J. F. Sullivan, jr. Trust Companies 56:683-7 Je '33
- Essential elements in banking reconstruction. O. K. Burrell. Harvard Business R 12:12-22 O '33
- How a large bank helped a small one by careful analysis of its business and policies. E. D. McFarland. Rand McNally Bankers Mo 50:284-6+ Je '33
- How can banks participate most effectively in President Roosevelt's program? seven answers. Am Bankers Assn J 26:38, 40 Jl '33
- How we may have safer banks. F. H. Sisson. Bankers M 126:563-5 Je '33
- Improving our banking methods. G. V. McLaughlin. Bankers M 127:120-2 Ag '33; Same abr. Trust Companies 57:37-9 Jl '33
- International banking notes. Published in monthly numbers of Bankers magazine
- Is banking a profession? T. C. Hennings. Am Bankers Assn J 25:86 O '32; Discussion. L. D. Meredith. 25:45 Mr '33
- Loan publicity impedes sound banking. Barron's 13:6 F 27 '33; Same. Comm & Fin 22:184-5 F 22 '33
- Making banking safe for business. N. D. Alling. Comm & Fin 22:456-60 My 24 '33
- Money and banking. W. H. Steiner. 931p \$4.50 Holt '33
- 1932 improvements in banking forecast a better situation. J. Y. Beatty. Bankers Mo 50: 82+ F '33
- On the way out; banketeer—stocketeer—racketeer. R. H. Hemphill. Mag of Wall St 52:266-7+ Jl 8 '33
- Opportunities in banking. Am Bankers Assn J 26:88 N '33
- Overseas banking from London. D. Spring-Rice. Il Rand McNally Bankers Mo 50:472-3+ S '33
- Proceedings—bank management conferences 1929-1931. Bank management commission, American bankers assn, New York '32
- Progress of banking by air. W. A. Patterson. Il Burroughs Clearing House 17:17+ D '32
- Readjustment period; how it is affecting our banks. W. B. Cudlip. Bankers M 126:323-38 Ap '33
- Recovering sound principles of commercial banking. R. M. Hanes. Trust Companies 56: 91-4 Ja '33; Same. Bankers M 126:145, 147-50 F '33
- Regional clearinghouses; public confidence. W. F. Ploch. Am Bankers Assn J 25:24+ Ja '33
- Reserve city bankers; banking problems being studied by the Commission on banking laws and practices. J. H. Hogan. Rand McNally Bankers Mo 50:455-6 S '33
- Role of commercial banking. R. E. Saunders. Comm & Fin 22:268 Mr 22 '33
- Service of banking. F. H. Sisson. Bradstreet's 61:125-6 Ja 28 '33
- Some important phases of business recovery. J. Klein. Trust Companies 56:237-8 F '33
- Some problems facing our bankers. P. E. Zimmermann. Bankers M 127:29-31 Jl '33
- Sound banking—a mutual responsibility. T. R. Preston. Trust Companies 57:391-4 O '33
- Underwriting depository bonds. E. C. Lunt. Weekly Underw 129:164-6, 335, 333-6 Jl 22, Ag 19-26 '33

Uphill to soundness. G. P. Knapp. Rand McNally Bankers Mo 50:197 Ap-May '33

**See also**

- |                         |                       |
|-------------------------|-----------------------|
| Acceptances             | Federal reserve banks |
| Advertising and bankers | Foreign exchange      |
| Agricultural credit     | Home loan banks       |
| Bank accounting         | Interest              |
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| Checks                  | Safe deposits         |
| Clearing houses         | Savings banks         |
| Credit                  | Savings deposits      |
| Drafts                  | School savings banks  |
| Escrows                 | Securities            |
|                         | Trust companies       |

**Bibliography**

Book reviews and new books. Published in monthly numbers of Bankers magazine

Books in the evening. T. D. MacGregor. Am Bankers Assn J 25:25+ Ja '33

**Bond departments**

See Banks and banking—Investment departments

**Branch banking**

- Banks do not fail in other countries. T. M. Knappen. Mag of Wall St 51:316-18+ Ja 7 '33
- Branch banking: the first step. Fortune 6:35-6, 123-5, 128 D '32
- Branch banking to relieve credit stringency. J. L. Walsh. Credit & Fin Management 35: 16-17+ Ja '33
- Branch expansion of national banks continues. Trust Companies 57:197 Ag '33
- Dangers of branch banking. J. T. Flynn. Econostat 1:16-17 Ap 29 '33
- Economic credit council's branch banking survey. Credit & Fin Management 35:15 Ap '33
- If branch banking comes, natural trading areas should define location of branches. C. E. Haring. Adv & Sell 20:19-20+ Mr 30 '33
- Revising the structure of American banking. P. Jay. Trust Companies 55:511-15 N '32
- State branch banking laws; recent changes. Am Bankers Assn J 26:66-7 O '33
- Strengthening our banking structure. J. L. Walsh. Il Mech Eng 54:829-30 D '32
- Two banking changes. J. F. Sartori. Bankers M 126:10-11 Ja '33

**See also**

Banks and banking—  
Foreign branches

**Central banks**

- Central banks. C. H. Kisch and W. A. Elkin. 473p \$5 [bibliog p463-4] Macmillan '32
- Comparative figures for the Federal reserve system, the Bank of England and the Bank of France. Published in weekly numbers of Barron's
- Condition of central banks. Published in monthly numbers of Federal reserve bulletin
- Increased scope of the B.I.S. L. Pasvolksky. Barron's 13:3+ Ja 23 '33
- See also
- Bank of England
- Bank of the United States, Second
- Federal reserve banks

**Chain banking**

Concentration in banking control through interlocking directorates as typified by Chicago banks. R. G. Thomas. J of Business 6:1-14 Ja '33

**Checking accounts**

- Building up the inactive account; a portfolio of bank letters. A. A. Kretschmar. Bankers M 127:251-8 S '33
- Customers buy all supplies and small accounts make a profit. J. W. McGinnis. Il Rand McNally Bankers Mo 50:340-1+ Jl '33

**BANKS and banking**—Checking accounts—*Cont.*  
Less trouble with balances with this stubless  
check book. A. F. Brunkow. *il* Rand Mc-  
Nally Bankers Mo 50:265 Je '33

Problem of uncollected funds. R. H. Brunk-  
horst. Burroughs Clearing House 17:12-14  
Je '33

Reconciliation takes less time with this sys-  
tem of checking. M. L. Pence. Bankers Mo  
50:34+ Ja '33

*See also*

**Banks and banking**—  
Service charge

#### Correspondent banks

Bankers' balances in the light of the deposit  
guarantee. W. H. Steiner and O. Lasdon.  
Trust Companies 57:45-6+ J1 '33

Correspondent banking relations in 1933. *Am*  
Bankers Assn J 25:13-15+ Ja; 36-7+ F '33

How a large bank helped a small one by  
careful analysis of its business and policies.  
E. D. McFarland. Rand McNally Bankers  
Mo 50:284-6+ Je '33

What services can city banks render their  
correspondents under the new banking act?  
Seven answers. *Am* Bankers Assn J 26:44+  
O '33

When the correspondent defaults. C. R. Rosen-  
berg, jr. Burroughs Clearing House 17:16-  
17+ My '33

Will correspondent bank relations be affected  
by the new banking act? Bankers M 127:  
160-1 Ag '33

#### Costs

American banking focuses attention on costs.  
G. V. McLaughlin. Trust Companies 56:212-  
16 F '33

Bank cost control. B. E. Young. 299p \$5 Rand-  
McNally co. '33; Review by R. F. Thomas.  
Rand McNally Bankers Mo 50:213+ Ap-May  
'33

How to control bank costs. B. E. Young.  
Rand McNally Bankers Mo 49:738-40+; 50:  
25-6+, 88+, 141-3+ D '32-Mr '33

Increasing profits by cutting costs. R. H.  
Brunkhorst. *il* Burroughs Clearing House  
17:3-5 Mr '33

#### Country banks

Case for insured deposits. W. E. Crum, jr.  
*il* Burroughs Clearing House 18:9+ O '33

Correspondent banking relations in 1933. *Am*  
Bankers Assn J 25:13-15+ Ja; 36-7+ F '33

Country banker's stake in federal farm legis-  
lation. A. C. Gill. *il* Am Bankers Assn J  
25:22-3+ My '33

Country banks since the A.A.A. W. E. Bark-  
ley. *Am* Bankers Assn J 26:24+ N '33

Depression and bank earnings. W. Hayes.  
Bankers M 127:13-17 J1 '33

Gettysburg in terms of crops and pride; Get-  
tysburg national bank. F. B. Barton. Bur-  
roughs Clearing House 17:11+ Ja '33

How one bank gets all loans and still keeps  
liquid; organization of an Agricultural cred-  
it corporation. A. G. Berger. Rand McNally  
Bankers Mo 50:593+ N '33

Sign-off in operation; wherein the community  
readjusts its banking structure. I. W. El-  
der. Bankers M 125:567-70 D '32

Small loans in a country bank. J. B. Surdam.  
Burroughs Clearing House 17:12+ Ja '33

Via the banks on the Wabash; feeling the  
pulse of country banking business. A. Van  
Vlissingen, jr. Burroughs Clearing House 17:  
3-5+ D '32

Waiver agreements with depositors. F. L.  
Garlock. *Am* Bankers Assn J 25:21+ F '33

#### Customer relations

Confidence; training employees to deal with  
customers. W. R. Morehouse. *Am* Bankers  
Assn J 25:18-19+ Ap '33

Constructive customer relations. for the  
banker who meets the public. 238p Ameri-  
can bankers assn. New York '33

Director aids depositors and so helps his  
bank. R. E. Ross. Rand McNally Bankers  
Mo 50:266-7 Je '33

Employee meetings for better customer rela-  
tions. A. J. Kolar. Burroughs Clearing  
House 18:12-14+ O '33

How new services are sold by the world's  
largest bank. F. M. Totton. *il* Rand Mc-  
Nally Bankers Mo 50:534-6+ O '33; Same.  
Bankers M 127:132-6 Ag '33

Public relations start at the counter-line. B.  
W. Eddy. *Am* Bankers Assn J 25:26+ Je  
'33

*See also*

**Banks and banking**— Trust companies—  
Public relations Customer relations

#### Depositors

Should banks establish a new contractual re-  
lationship with depositors? S. P. Duncan.  
*Am* Bankers Assn J 25:39 Ap '33

Sign-off in operation; wherein the community  
readjusts its banking structure. I. W. Elder.  
Bankers M 125:567-70 D '32

What customers should know about credit  
and currency. C. W. Fackler. Rand McNally  
Bankers Mo 50:350-1+ J1 '33

*See also*

**Bank deposits**  
**Banks and banking**—  
Customer relations

#### Directories

Directory, county key bankers and agricul-  
tural committees of the state bankers as-  
sociations. 54p Agricultural commission.  
American bankers assn, 522 First national  
bank bldg, Madison, Wis. '32

Merchants bank directory, and List of guar-  
anteed attorneys, January, 1933. 320p; 143p  
pa Central guarantee co, 200 Fifth av, N.Y.  
'33 [published January and July each year]

Over 15,000 banks unrestricted; new semi-  
annual edition of the Rand McNally bankers  
directory. Rand McNally Bankers Mo 50:  
484-5 S '33

Supplement number three to Rand McNally  
bankers directory. Rand McNally Bankers  
Mo 50:252-6 Ap-May '33

Wilber directory of attorneys and banks. Wil-  
ber law list co. of New York, inc, New  
York '33

#### Exhibits

Banks lend display space in profitable co-  
operative plan. M. E. Campbell. *il* Rand  
McNally Bankers Mo 50:460-1 S '33

Customers benefit from displays that take  
them behind the scenes. J. L. Watters. *il*  
Rand McNally Bankers Mo 50:550 O '33

#### Finance

Bank earnings and inflation. J. S. Lawrence.  
Econostat 1:8-10 O 7 '33

Bank prosperity forecast; anticipated rise in  
commodity prices is the basis. D. Friday.  
Rand McNally Bankers Mo 50:327-8+ J1 '33

Banking profits in 1933; interest rates on de-  
posits must be reduced. D. Friday. Bankers  
Mo 50:78-9+ F '33

Banks need more revenue. *Am* Bankers  
Assn J 26:88 S '33

Commercial banks, England, France, Ger-  
many, and Canada; assets and liabilities,  
monthly, 1930-1933. Fed Res Bul 19:639-46  
O '33

Costs and charges. R. E. Jones. *Am* Bankers  
Assn J 26:61 J1 '33

Depression and bank earnings. W. Hayes.  
Bankers M 127:13-17 J1 '33

Earnings and expenses of member banks, first  
six months of 1932. Fed Res Bul 19:47-8 Ja  
'33

Losses in bank earning assets. F. Mueller,  
jr. Bankers M 127:367-87 O '33

Maintaining earning power with liquidity. J.  
J. Driscoll, jr. Bankers M 127:422-4 O '33

Meeting the problem of bank earnings. P. R.  
Easterday. *il* Burroughs Clearing House  
18:3-5+ O '33

U.S. and British bank profits during depres-  
sion. Bradstreet's 61:277-8 F 4 '33



**BANKS and banking—Finance—Continued**

Weekly reporting member banks in 90 leading cities; principal assets and liabilities, January 1932-July 1933. Fed Res Bul 19:519-23 Ag '33

See also

Bank deposits—In- Banks and banking—  
terest Investments  
Bank reserves Banks and banking—  
Stock

**Foreign banking service**

Financing international trade. H. Salinger. maps Rand McNally Bankers Mo 50:346-7+ Jl '33

**Foreign branches**

Anglo-American banking cooperation. D. Spring-Rice. Rand McNally Bankers Mo 50:530-1+ O '33

Our foreign trade banking. Am Bankers Assn J 26:25-6 O '33

**Government ownership**

Government invasion of banking. H. Whipple. Barron's 13:18 O 23 '33

Labour and the banks. Economist 117:358 Ag 19 '33

One bank, head office: Washington. H. Whipple. Am Bankers Assn J 26:24-5, 48-9+ Ag '33

Socialisation of banking. O. Sachse. 138p \$1.25 Macmillan '33

**Group banking**

Advantages of centralizing trust management; results obtained by group banking organizations. J. E. Neville. Trust Companies 56:323-6 Mr '33

Concentration in banking control through interlocking directorates as typified by Chicago banks. R. G. Thomas. J of Business 6:1-14 Ja '33

Dangers of branch banking. J. T. Flynn. Econostat 1:16-17 Ap 29 '33

Federal reserve board regulation covering holding company affiliates—voting permits. Fed Res Bul 19:505-12 Ag '33

Operation of trust departments in group banking system. C. E. Drake. Trust Companies 57:253-6 S '33

Strengthening our banking structure. J. L. Walsh. Il Mech Eng 55:17-22 Ja '33

**Guaranty of deposits**

Bank deposit guaranties; the insurance aspects of the problem. C. L. Jamison. Bankers M 126:451-5 My '33

Bank deposits guaranteed; what the new banking law means. R. H. Hemphill. Mag of Wall St 52:216-17+ Je 24 '33

Banking laws will be changed. J. L. Walsh. Bankers Mo 49:713-16+ D '32

Best banking law; demand for deposit insurance proved too strong to resist. Business Week p19 Je 17 '33

Case for insured deposits. W. E. Crum, jr. Il Burroughs Clearing House 18:9+ O '33

Deposit insurance. Business Week p20 My 31; 12 Je 7 '33

Deposit insurance. A. H. Vandenberg. Trust Companies 57:87 Jl '33

Deposit insurance and the new Federal banking law. L. D. Webber. Trust Companies 56:641-3+ Je '33

Deposit insurance; bankers cannot head it off in the new banking bill. Business Week p5 Ap 26 '33

Deposit insurance written into the Glass banking bill. Business Week p3 Ap 12 '33

Desirable modifications of the banking act of 1933. A. A. Berle, jr. Trust Companies 57:389-90 O '33

Do customers want deposit insurance; survey showed that 66% favored it. H. W. Haines. Burroughs Clearing House 18:7-8+ N '33

Federal bank deposit insurance corporation. Burroughs Clearing House 17:10 Je '33

Federal deposit insurance corporation. Fed Res Bul 19:597 O '33

Federal guaranty of bank deposits. A. Crawford. Burroughs Clearing House 17:12-13+ My '33

Federal regulation of banking with guaranty of deposits. J. G. Hodgson, comp. Ref Shelf v 8, no 6:1-184 '32

Futility of deposit guaranty laws. F. A. Bradford. Bankers M 126:537-9 Je '33

Government guaranty of bank deposits. P. A. Benson. Am Bankers Assn J 25:14-15+ D '32

Guaranty of bank deposits. 45p American bankers' assn, Economic policy comm, New York '33

Insurance of bank deposits; past failures of such guaranty and the dangers in present legislation. H. Schwedersky. Barron's 13:5+ Je 12 '33

Overwhelming sentiment among bankers against federal deposit insurance plan. F. H. Sisson. Trust Companies 56:680 Je '33

Preferred bank stock; RFC offer may put a billion dollar cushion under the deposit insurance law. Business Week p13 O 14 '33

Price of deposit insurance. G. E. Anderson. Am Bankers Assn J 26:17-19+ O '33

Questions the bank bill raises. W. Bishop. Nation's Business 21:46+ Ag '33

Report on the guaranty of bank deposits by the Commission on banking law and practice, Association of reserve city bankers. 42 l The Association, 162 West Monroe St, Chicago '33

Saving deposits for depositors. J. S. Lawrence. map Econostat 1:8-10+ Je 3 '33

Small deposits, small borrowers; Reserve banks' statisticians find that 99% of their depositors stop at \$10,000, but accounts over \$50,000 hold 45% of their deposits. Business Week p19 Jl 29 '33

Strong state banking system without a deposit guaranty. A. M. Landon. Bankers M 127:420-2 O '33

Studying bank insurance. Business Week p20-1 N 11 '33

Wall St. vs. Woodin; guarantee of Harriman bank deposits. Business Week p18 Ap 19 '33

Washington epic; prospectus—national financial control. G. E. Anderson. Am Bankers Assn J 26:16-17+ N '33

What prospect for new bank legislation. A. Crawford. Burroughs Clearing House 18:6-8 O '33

See also

Insurance, Surety and  
fidelity—Deposit-  
tory bonds

**History**

Bank war. S. Bell. Comm & Fin 22:205-8 Mr 1 '33

Century of progress in American banking. J. Y. Beatty. Il Rand McNally Bankers Mo 50:393-7 Ag '33

Thos. Willing, esq., the first American bank president. J. Hanna. Il Am Bankers Assn J 26:26-7+ N '33

**Holding companies**

See Banks and banking—Group banking

**Insurance requirements**

Keep underwriters informed of change of name or control. Am Bankers Assn J 25:1 sec 2 Ap '33

New deal on robbery insurance. L. A. Sawyer. Il Burroughs Clearing House 17:12-13+ S '33

New insurance regulation regarding loss of cash by burglary. Bankers M 127:85 Jl '33

New restrictions in robbery insurance. Am Bankers Assn J 26:42 Ag '33

Underwriters force protection. G. H. Hot-tendorf. Am Bankers Assn J 26:1-2 sec 2 S '33

See also

Bankers' blanket  
bond

**Insurance selling**

Bank agency bill's defeat is laid to small bankers. Nat Underw 37:4 Je 22 '33

Bank agency danger again in forefront; abstracts. W. H. Bennett. Ins Field (Fire ed) 62:9+ Ag 17 '33; East Underw 34:18 Ag 18 '33

**Banks and banking—Insurance selling—Cont.**  
 Companies opposed to ousting bank agencies.  
 W. Lambeth; J. H. Doyle. East Underw  
 34:18 JI 14 '33  
 Consider future of bank agencies. Nat Underw  
 37:5 Mr 16 '33  
 Defends bank agency opposition. C. L. Gandy.  
 East Underw 34:22 JI 7 '33; Same. Weekly  
 Underw 129:55+ JI 8 '33; Excerpts. Spectator  
 131:28 JI 6 '33  
 Quotes congressional leaders on plan to divorce  
 banking and insurance. W. H. Bennett. Ins  
 Field (Fire ed) 62:6 My 25 '33  
 Suggests bank limitations. W. H. Bennett.  
 Nat Underw 37:21-2 Ap 20 '33

#### Investment advice

*See also*  
 Trust companies—  
 Investment advice

#### Investment departments

How to control bank costs; to analyze bond  
 department costs. E. E. Young. Bankers Mo  
 50:88+ F '33

#### Investment subsidiaries

Banking laws will be changed. J. L. Walsh.  
 Bankers Mo 49:713-16+ D '32  
 Banks go back to banking. Mag of Wall St  
 51:569 Mr 18 '33  
 City banks and their affiliates. B. O. Moody.  
 Bankers M 126:426-8 My '33  
 Divorcing security affiliates; Chase bank and  
 National city bank plan to drop their security  
 organizations. Barron's 13:12 Mr 13 '33  
 Dropping of affiliates by New York banks.  
 W. W. Aldrich. Bankers M 126:373-4 Ap '33  
 Investment restrictions in Glass bill. F. H.  
 Sisson. Bankers M 126:253-5 Mr '33  
 Supervision or suppression; dangers we face  
 in divorcing investment from commercial  
 banking. F. H. Sisson. Am Bankers Assn J  
 25:13-14+ F '33  
 Titans in conflict? Comm & Fin 22:248 Mr 15  
 '33  
 Twilight of the security affiliate. Econostat  
 1:6-7 Mr 25 '33  
 Valuable functions of bank investment af-  
 filiates. F. H. Sisson. Trust Companies 55:  
 566 N '32

#### Investments

Adjusting investment policies under the new  
 banking act. M. E. Holderness. Rand Mc-  
 Nally Bankers Mo 50:525-6+ O '33; Ex-  
 cerpts. Bankers M 127:428-9 O '33  
 All banks in the United States—total loans  
 and investments, deposits. Published in  
 monthly numbers of Federal reserve bulletin  
 All member banks—classification of loans and  
 investments. Published in monthly numbers  
 of Federal reserve bulletin  
 Bank bond policy. W. H. Steiner and O. Las-  
 don. Bankers M 125:605-12 D '32  
 Bank investments; if institutions must pre-  
 serve their liquidity, what are they going  
 to do with their surplus funds? O. Lasdon.  
 Bankers M 126:463-5 My '33  
 Commercial paper—the healthy bank invest-  
 ment for trying times. R. A. Foulke. Dun &  
 Bradstreet 41:6-7 JI '33  
 Depression and bank earnings. W. Hayes.  
 Bankers M 127:13-17 JI '33  
 Farm mortgage refinancing; the federal plan  
 and what it means to the bankers. C. R.  
 Rosenberg, jr. il Burroughs Clearing House  
 17:9+ Je '33  
 Five fund conversion policies based on the  
 experience of 30 banks. E. D. McFarland.  
 Bankers Mo 50:27-8+ Ja '33  
 4,398 bond issues; a survey. G. W. Edwards.  
 Am Bankers Assn J 25:22+ N '32; 25-9 F '33  
 How will bank investments be affected by  
 change in Treasury refunding policy? O.  
 Lasdon. Trust Companies 56:423-4+ Ap '33  
 Investment and finance; a monthly survey of  
 current developments affecting the bank in-  
 vestment market. Published in monthly  
 numbers of the Bankers magazine  
 Liquidating slow or frozen assets. W. K.  
 Payne. Bankers M 126:540-4 Je '33

Losses in bank earning assets. F. Mueller,  
 jr. Bankers M 127:367-87 O '33  
 Managing the commercial bank's bond ac-  
 count. R. H. George. Bankers M 127:163-9  
 Ag '33  
 Meeting the problem of bank earnings. P. R.  
 Easterday. il Burroughs Clearing House 18:  
 3-5+ O '33  
 National bank security holdings, 1914-31. W.  
 H. Steiner and O. Lasdon. J of Business 6:  
 95-112 Ap '33  
 Plan for converting funds, based on the ex-  
 perience of 249 banks. E. D. McFarland.  
 Bankers Mo 49:725-8 D '32  
 Problem of employing bank funds. Nat City  
 Bank p182-4 D '32  
 Profits secured with safety by this fund con-  
 version policy. R. N. Armstrong. Rand Mc-  
 Nally Bankers Mo 50:154+ Mr '33  
 Tax anticipation notes as bank investments.  
 C. F. Park. Trust Companies 57:407-8 O  
 '33  
 Ten rules for bond buying that will help in-  
 crease safety and yield. E. L. Harris. Rand  
 McNally Bankers Mo 50:214+ Ap-My '33  
 Way to salvage bonds. A. R. Thurn. il Rand  
 McNally Bankers Mo 50:263-4+ Je '33  
 What to do with bonds. W. H. Clark. il  
 Rand McNally Bankers Mo 50:474-6+ S  
 '33  
 Why bankers are concerned with federal fi-  
 nance. G. V. McLaughlin. Bankers M 126:  
 135-7 F '33  
 Why we still choose bonds. D. B. Smith.  
 Burroughs Clearing House 17:13+ F '33

#### *See also*

Banks and banking— Savings banks—In-  
 Secondary reserves vestments

#### Joint accounts

Withdrawal from joint savings account; suit.  
 Bankers M 126:266-8 Mr '33

#### Law

*See* Banking law

#### Location

If branch banking comes, natural trading  
 areas should define location of branches. C.  
 E. Haring. Adv & Sell 20:19-20+ Mr 30 '33

#### New business

New business suggestions. T. D. Macgregor.  
 Burroughs Clearing House 17:21-2 Mr '33

#### Officials

*See* Bank officials

#### Periodicals

Banks as sources of economic news; bank  
 publications. il Am Bankers Assn J 26:64-7  
 JI '33

#### Protection

Bank hold-up menace; with table showing in-  
 crease in bank hold-up basic insurance  
 rates. Bankers M 126:611-13 Je '33  
 Bank vaults—a battle of wits. H. Hammond.  
 il Bankers M 126:17-22 Ja '33  
 Better marksmanship for bank guards. W. H.  
 Harding. il Burroughs Clearing House 17:  
 19-20 Ap '33  
 Chicago surety ass'n suggests bank protec-  
 tive measures against holdups. East Un-  
 derw 33:33 D 23 '32  
 Delayed time-lock. V. A. Batzner. Bankers  
 M 127:190-2 Ag '33  
 Discouraging the bandit. Bankers M 127:463-6  
 O '33  
 Holdup menace increasing. Rand McNally  
 Bankers Mo 50:551+ O '33  
 Mosler delayed time-lock. Bankers M 127:85-6  
 JI '33  
 New deal on robbery insurance. L. A. Saw-  
 yer. il Burroughs Clearing House 17:12-13+  
 S '33  
 Ounce of prevention. H. W. Haines. Bankers  
 M 126:429-33 My '33  
 Problem of adequate protective measures. Am  
 Bankers Assn J 25:67-9 Ap '33  
 Protection after regular banking hours. F. B.  
 Barton. il Burroughs Clearing House 17:16-  
 17+ Ap '33



**BANKS and banking—Protection—Continued**

Protection from daylight holdups. F. B. Barton. *il Burroughs Clearing House* 17:14-16+ Mr '33  
 Protection; group action is necessary. *Am Bankers Assn J* 26:52 N '33  
 Protective committee report. J. E. Baum. *Am Bankers Assn J* 25:1, 8 sec 2 My '33  
 Protective section. Published as supplement to monthly issues of American bankers association journal  
 This equipment will frustrate mole bandits. *Rand McNally Bankers Mo* 50:620-1 N '33  
 Underwriters force protection. G. H. Hottendorf. *Am Bankers Assn J* 26:1-2 sec 2 S '33  
 When bank robberies will stop. W. S. Gordon. *Am Bankers Assn J* 26:1-2 sec 2 Ag '33  
 Why not a depression for bank robbers? Bankrol system. *Bankers M* 126:93+ Ja '33  
 Why these huge vaults? *Bankers M* 126:187, 189-91 F '33

**Public relations**

Are you shooting par in public relations? J. A. Glenn. *il Rand McNally Bankers Mo* 50:596 N '33  
 Banks and the public. G. P. Knapp. *Rand McNally Bankers Mo* 50:131+ Mr '33  
 Banks and the public. H. A. Lyon. *Trust Companies* 56:701-4 Je '33  
 Banks educating depositors through newspaper advertising. P. E. Reed. *Rand McNally Bankers Mo* 50:339+ Jl '33  
 Beautiful misunderstanding; Diogenes looks for an honest bank. *Bankers M* 127:197-9 Ag '33  
 Financial advertisers association annual convention, New York. *Bankers M* 127:469-77 O '33  
 Future bank publicity. B. W. Eddy. *Bankers M* 127:307-12 S '33  
 Illinois banks have told the public about banking. P. E. Zimmermann. *Am Bankers Assn J* 25:38+ F '33  
 It is time for united action on educational publicity. F. W. Ellsworth. *Rand McNally Bankers Mo* 50:546+ O '33  
 Junior 'board of education'. T. J. Malone. *Burroughs Clearing House* 17:9+ F '33  
 Keokuk bankers banqueting by this Iowa city's grateful citizens. R. E. Garrison. *Rand McNally Bankers Mo* 50:282-3 Je '33  
 Meetings for bank customers have maintained confidence. J. W. McGinnis. *il Rand McNally Bankers Mo* 50:144-5 Mr '33  
 Opportunity to promote public confidence in banking and trust service. H. A. Lyon. *Trust Companies* 56:307 Mr '33  
 Proper interpretation of financial news; opportunity of banks to cooperate with the press. R. W. Robey. *Trust Companies* 57:397-8 O '33  
 Public education—an announcement of a course in public relations. J. H. Puelicher. *Am Bankers Assn J* 26:26-7+ Jl '33  
 Public must be educated; Financial advertisers association pledges action. *Rand McNally Bankers Mo* 50:533+ O '33  
 Public relations, rule 1. H. A. Lyon. *Am Bankers Assn J* 26:17-18+ S '33  
 Public relations under the new deal. G. P. Knapp. *Rand McNally Bankers Mo* 50:325 Jl '33  
 Slogan 1933—bank successes. H. W. Sanders. *Burroughs Clearing House* 17:18-19 Ja '33  
 Speak up, Mr. Banker! J. H. Puelicher. *Burroughs Clearing House* 17:3-5+ Ag '33  
 We must educate customers! P. E. Reed. *Rand McNally Bankers Mo* 50:210+ Ap-May '33  
 We told the whole truth and harmful rumors were stopped. H. Jackson. *Rand McNally Bankers Mo* 50:288-9 Je '33  
 What have the banks to say? H. M. Hitchcock. *Adv & Sell* 20:30+ Ap 13 '33; Excerpts. *Bankers M* 126:619-22 Je '33  
 What new practical measures for increasing good will toward banks? seven answers. *Am Bankers Assn J* 25:44, 46 My '33

**See also**

Banks and banking—  
 Customer relations

**Purchasing**

Aggressive buying policy; Cleveland trust co. F. J. Waldeck. *Rand McNally Bankers Mo* 50:158+ Mr '33  
 Basic purchasing policy. A. C. Schlegel. *Rand McNally Bankers Mo* 50:545 O '33  
 How to save on supplies. G. M. Dodson. *Rand McNally Bankers Mo* 50:612 N '33

**Real estate operations**

Foreclosed homes quickly sold by a rehabilitation plan; First-Central trust co, Akron, O. E. O. Handy. *il Rand McNally Bankers Mo* 50:146-7 Mr '33  
 How we handle foreclosures to get the most from the property. D. B. Smith. *il Bankers Mo* 50:19-20 Ja '33  
 It is easy to sell farms if they are first improved. J. F. Johnston. *il Bankers M* 50:87+ F '33  
 Marketable real estate. *il Am Bankers Assn J* 25:68-70 My; 76-8 Je '33  
 Meeting the problem of other real estate; co-operative organization. A. J. Linn. *il Burroughs Clearing House* 17:6-7+ Mr '33  
 Renewing and selling repossessed homes; interview with W. F. Finley, the Cleveland trust company. F. B. Barton. *il Burroughs Clearing House* 18:18-20 N '33  
 Where it pays to renovate. *il Am Bankers Assn J* 26:74-6 O '33

**See also**

Trust companies—  
 Real estate operations

**Records**

Are your records adequately protected? *il Bankers M* 127:301-6 S '33  
 Collection time reduced by this system of forms. F. D. Forsyth. *il Rand McNally Bankers Mo* 50:354-5 Jl '33  
 Customer information all in one place. *il Rand McNally Bankers Mo* 50:590+ N '33  
 Old records quickly found when file boxes are numbered. D. R. Pinney. *il Bankers Mo* 50:35+ Ja '33  
 Records; standardizing forms for economy. *Am Bankers Assn J* 26:90-3 S '33  
 Safety devices for credit machinery. *Am Bankers Assn J* 26:74 S '33  
 Self-proving loan record; Northampton national bank, Easton, Pa. W. H. Myers. *il Rand McNally Bankers Mo* 50:352-3+ Jl '33  
 This system makes it simple to get collateral values at a glance. R. M. Bunten. *il Rand McNally Bankers Mo* 50:291+ Je '33

**Regulation**

Banking supervision by the states. *Am Bankers Assn J* 26:56-7 O '33  
 Federal clearing-houses; proposed plan. E. H. Youngman. *Bankers M* 126:311 Ap '33  
 Federal regulation of banking with guaranty of deposits. J. G. Hodgson, comp. *Ref Shelf* v 8, no 6:1-184 '32  
 Legislative action; Study commission for Indiana financial institutions. W. S. Greenough. *Am Bankers Assn J* 25:22-4+ D '32  
 Washington epic; prospectus—national financial control. G. E. Anderson. *Am Bankers Assn J* 26:16-17+ N '33

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**Reports**

Analysis of commercial bank statements from the depositor's point of view. *Am Gas Assn Mo* 15:469-71 N '33  
 Day's business at a glance on this director's report. W. N. Mitten. *il Rand McNally Bankers Mo* 50:599 N '33  
 How can banks hold uninsured balances; detailed statements. A. Van Vlissingen, jr. *Burroughs Clearing House* 18:6+ N '33  
 Innovation; Corn exchange bank and Northwestern life co. bare investments, set precedent. *Business Week* p8-9 F 22 '33  
 These bank statements. *il Bankers M* 127:195-7 Ag '33

**Safe deposits**

**See** Safe deposits

**BANKS and banking—Continued****Savings departments**

How we hold 70% of savers. J. V. Holdam. Bankers Mo 50:15-16+ Ja '33  
This system of personal calls helps revive dormant accounts. S. Tiernan. Bankers Mo 50:76-7 F '33

Unified machine posting makes inter-branch depositing possible. J. K. Novins. il Rand McNally Bankers Mo 50:156-7 Mr '33

*See also*  
Savings banks

**Secondary reserves**

Bonds—secondary reserves or earning assets? H. W. Sanders. Burroughs Clearing House 17:6-7+ D '32

When a small bank buys bonds. J. H. Ward. Am Bankers Assn J 26:32+ Ag '33

Why we still choose bonds. D. B. Smith. Burroughs Clearing House 17:13+ F '33

**Security affiliates**

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**Service****Management aids**

Banker au naturel; his policies call for new declaration of business independence. A. H. Little. Ptr Ink 165:6+ N 9 '33

Banker's stake in the new co-operative movement. E. H. Hull. Bankers M 126:132-4 F '33

Textile loan problem; seven answers. Am Bankers Assn J 26:38+ Ag '33

**Service charge**

Abolish free services; editorial. Am Bankers Assn J 25:31-2 My '33

Bank letters that build business. Bankers M 127:32 Jl '33

Convenient way to collect float. L. D. Kelly. Am Bankers Assn J 25:32+ Ap '33

Customers buy all supplies and small accounts make a profit. J. W. McGinnis. il Rand McNally Bankers Mo 50:340-1+ Jl '33

Example of service charge schedule. Am Bankers Assn J 26:43-4 N '33

From losses to profits on incidental services. J. J. Anton. Burroughs Clearing House 17:3-5+ F '33

How to install and operate service charges in banks. 7v Cameron and co, inc. Chicago '33

Measured charges earn 14.5% on one bank's invested capital. W. E. Johnson. Rand McNally Bankers Mo 50:133-5 Mr '33

Metered charges for bank service. L. D. Kelly. Burroughs Clearing House 17:6-8+ Ap '33

Need for bank earnings. J. J. Anton. Bankers M 125:571-3 D '32

Selling the service charge. A. J. Kolar. Burroughs Clearing House 17:14-15+ My '33

Service charge as a sales problem. G. Balkam. Burroughs Clearing House 18:15-16 O '33

Service charge survey. (Bul. 63) 20p Bank management commission, American bankers assn, New York '33

Service charges under the NRA. L. D. Kelly. Burroughs Clearing House 18:14-16+ N '33

Shall the depositor pay the freight? H. E. Wyman. Bankers M 126:498-503 My '33

Stop stalling—and fight! W. E. Johnson. Bankers M 126:127-31 F '33

Untapped sources of income. Am Bankers Assn J 26:59 Jl '33

**Show windows**

Banks lend display space in profitable co-operative plan. M. E. Campbell. il Rand McNally Bankers Mo 50:460-1 S '33

Educational displays; how to make them to benefit the bank. A. L. Bowen. il Rand McNally Bankers Mo 50:342-3+ Jl '33

Equipping the bank window. G. J. Kadel. Bankers M 126:281+ Mr '33

Seven New Year displays. A. L. Bowen. il Bankers Mo 50:31-3 Ja '33

**Statements**

*See* Banks and banking—Reports

**Statistics**

All banks in the United States; principal resources and liabilities on call dates, by districts and states. Fed Res Bul 19:49-52, 254-8 Ja, Ap '33

All member banks—condition on call dates. Fed Res Bul 18:781-2; 19:202-3, 582-3 D '32, Mr, S '33

Bankers' gazette. Published in weekly numbers of Economist

Banks listed in Rand McNally bankers directory, July, 1933 edition; enumerated by states, classified by amount of deposits. Rand McNally Bankers Mo 50:616 N '33

Big banks regain deposits; list of largest banks. Barron's 13:11 F 6 '33

Commercial banks, England, France, Germany, and Canada; assets and liabilities, monthly, 1930-1933. Fed Res Bul 19:639-46 O '33

Finance—credit and banking. Published in monthly numbers of Survey of current business

Largest banks and trust companies and the largest mutual savings banks; tabulation. Burroughs Clearing House 17:26 Mr '33

Member banks licensed and not licensed; and nonmember banks other than mutual savings banks. Fed Res Bul 19:453, 517, 578, 658 Jl-O '33

Number of banks. Published in monthly numbers of Federal reserve bulletin

Small deposits, small borrowers; Reserve banks' statisticians find that 99% of their depositors stop at \$10,000, but accounts over \$50,000 hold 45% of their deposits. Business Week p19 Jl 29 '33

Ten largest commercial banks in each Federal reserve district. Rand McNally Bankers Mo 50:404 Ag '33; Correction. 50:490 S '33

*See also*

Bank clearings  
Bank debits  
Federal reserve banks  
—Statistics

**Stock**

Agreement to repurchase stock; suit. Bankers M 127:172-5+ Ag '33

Bank shares. Economist 116:sup17-18 My 13; 117:sup22 O 14 '33

Bank stocks under the new deal. H. W. Abbot, jr. Barron's 13:3, 10 Jl 31 '33

British bank shares. Economist 116:79-80 Ja 14 '33

New York banks and the bank stock market. J. F. Barry. Bankers M 125:591-8 D '32

Potentialities of bank and trust company stocks as investments. O. J. Troster. Trust Companies 56:67-70 Ja '33

Preferred stock for banks. J. H. Jones. Bankers M 127:397-400 O '33

Stock-market probe centered on City bank. Barron's 13:10 F 27 '33

What the deposit guaranty means to bank stocks. R. S. Wallace. Forbes 32:30-1 Ag 15 '33

Yearly range of bank stock prices, 1929-1932. Barron's 13:22 Ja 2 '33

**Stockholders**

Make a new start in 1933; editorial. Bankers Mo 49:710 D '32

**Stockholders' liability**

Assessments against stock issued as dividend. Bankers M 126:264-6 Mr '33

Bank stockholder transferring shares to minor remains liable; suit. Bankers M 126:159-60 F '33

Bank stockholder transferring shares to trustee released from liability; suit. Bankers M 126:160-2 F '33

Liability of stockholder where stock withheld; suit. Bankers M 127:281-2 S '33

**Study and teaching**

Commercial and factory methods; a first-hand knowledge is increasingly essential to bankers. Am Bankers Assn J 25:72 Ja '33



BANKS and banking—*Continued*

## Taxation

Recovery of tax on bank stock paid under protest; suit. Bankers M 126:485-6 My '33  
State member banks and section 5219. M. Saxe. Am Bankers Assn J 26:16+ S '33

## Teller's departments

Pity the poor letter; telautograph. il Bankers M 125:651 D '32  
Risks of the tellers' department. B. L. Fishbach. 105p [bibliog p103-5] Bankers pub. co, New York '32

## Trust departments

Advantages of centralizing trust management: results obtained by group banking organizations. J. E. Neville. Trust Companies 56:323-6 Mr '33  
Advantages of organized cooperation among trust development men; what has been accomplished by the Trust development division of the F.A.A. W. A. Stark. Trust Companies 55:571-4 N '32  
Any bank can, at no expense, sell trusts with publicity. C. E. Auracher. il Bankers Mo 49:736-7 D '32  
Bank management of decedents' estates. J. E. Brady. 416p Brady pub. corp, Cambridge, Mass. '32  
Bright 1933 prospects for trust business. F. H. Sisson. Trust Companies 56:57-8 Ja '33  
Developing scientific methods in valuing new trust business. H. J. Clark. Trust Companies 55:516-20+ N '32  
Dispelling uncertainty in the evaluation of new trust business. S. Witting. Trust Companies 57:297-301 S '33  
Facilitating merger or consolidation of trust departments; Oregon law. A. L. Grutze. Trust Companies 56:445-6 Ap '33  
Guarding against loss or lapsation of potential personal trust business. H. J. Clark. Trust Companies 56:671-4 Je '33  
How to control bank costs; trust department costs. B. E. Young. Rand McNally Bankers Mo 50:141-3+ Mr '33  
Integrity of trust administration officially reaffirmed; no loss of trust funds during 1932 by reason of bank failures, malfeasance or mismanagement. Trust Companies 56:17-24 Ja '33  
Maintaining standards of trust personnel and service. W. H. Stackel. Trust Companies 57:159-60 Ag '33  
Meeting new demands of the trust prospect; investment counsel agency. P. S. Chalfant. Trust Companies 56:573-4 My '33  
Mid-continent trust conference, 8th, Milwaukee, Wis. Nov. 17-18. Trust Companies 55:581-3 N '32  
New business for the trust department. T. T. Weldon. 468p \$5 Bankers pub. co, 465 Main st, Cambridge, Mass. '33; Review. Bankers M 126:573-6 Je '33  
Operation of trust departments in group banking system. C. E. Drake. Trust Companies 57:253-6 S '33  
Personal trust administration. C. Lee. Bankers M 126:230-4, 355-9, 466-71, 567-71; 127:33-8, 137-41, 265-9, 362-6, 525-9 Mr-N '33  
Personal trust solicitation. W. J. McLaren. Trust Companies 55:587 N '32  
Plan to enable trust departments profitably and efficiently to handle smaller estates and trust funds; Living trust clubs, inc, Boston. Trust Companies 56:466 Ap '33  
Problem of administering trusts in smaller communities. C. Davidson. Trust Companies 56:439-42 Ap '33  
Public charter for corporate trusteeship. R. M. Sims. Trust Companies 57:303-5 S '33  
Reaffirming ideals and qualities of trust service. H. O. Edmonds. Trust Companies 56:357-60 Mr '33  
Statement of principles of trust institutions; adopted by American bankers association and made part of bankers code. Trust Companies 57:411-13 O '33; Same. Fed Res Bul 19:614-16 O '33; Same. Am Bankers Assn J 26:40-1 N '33

Successful operation of a statewide system of trust service; Wachovia bank and trust co, Winston-Salem, N.C. A. H. Eller. il Trust Companies 57:27-31 Jl '33  
Successful results from coordinating trust and banking department activities. L. H. Roseberry. Trust Companies 56:453-7 Ap '33  
Supervising the trust department. A. B. Carter. Bankers M 126:35-9 Ja '33  
Trust administration deserves public confidence. W. H. Neal. Trust Companies 56:705-9 Je '33  
Trust department operations and the bank holiday; policies governing fiduciary functions in closed or restricted banks. J. F. T. O'Connor. Trust Companies 57:259-63 S '33; Excerpts. Bankers M 127:432-4 O '33  
Trust details simplified by an automatic system; address plate equipment. W. D. Yealand. il Bankers Mo 50:96-7+ F '33  
Trust new business; what of the future? M. M. Richardson. Trust Companies 56:189-90 F '33  
Trust service that builds good will. O. J. Neibel. il Burroughs Clearing House 17:12-13+ Mr '33  
Trusteeship. Am Bankers Assn J 26:36-7+ Jl '33  
Trusteeship history in the making. G. T. Stephenson. Am Bankers Assn J 26:22+ O '33  
Use strategy to sell trusts. E. A. Pruden. il Bankers Mo 49:719+ D '32  
Washington epic; trust business under the code. G. T. Stephenson. Am Bankers Assn J 26:22-3+ N '33  
What simple ideas sell trusts! W. S. Guilford. Bankers Mo 50:21-2 Ja '33  
When the trust department functions smoothly and efficiently. J. H. Annis. Trust Companies 55:584 N '32  
Wills; to induce property owners to make wills is a constructive step for all trust institutions. il Am Bankers Assn J 25:26-7+ My '33

*See also*  
American bankers' association—Trust division Trust companies Trusts and trustees

## Unit banking

For the defense: the unit banker defends unit banking. C. F. Zimmerman. Credit & Fin Management 35:16-17+ Ap '33

## Africa

Latest balance sheets of Dominion banks having London offices. Economist 116:sup47-8 My 13 '33

## Argentina

Argentine banking reform. Economist 116:sup 16-17 My 13 '33

## Australasia

Bank of Australasia 99th annual general meeting, London, March 30. Economist 116:713-15 Ap 1 '33

Latest balance sheets of Dominion banks having London offices. Economist 116:sup48-52 My 13 '33

Trends in Australian banking. Economist 117:sup10-12, 30+ O 14 '33

## Australia

Bank of New South Wales ordinary general meeting, Sydney. Economist 116:143-4 Ja 21 '33

## Austria

Credit Anstalt balance sheet. Economist 117:125 Jl 15 '33

## Baltimore

Opening of Baltimore national bank in Maryland. Trust Companies 57:178 Ag '33

## Boston

Boston, a city whose 250-year banking history reflects the nation's eras of industrial development. H. Manchester. il map Am Bankers Assn J 25:34-5+ Ja '33

## BANKS and banking—Continued

## Canada

- American funds in Canada. J. Montagnes. Barron's 13:4 Mr 13 '33
- Banking situation in Canada. Economist 117:sup12-14, 38+ O 14 '33
- Banking system of Canada. J. Dodds. Bankers M 126:317-22 Ap '33
- Canada's banking investigation. Am Bankers Assn J 26:62-3 O '33
- Canadian banking. Economist 117:266-7 Ag 5 '33
- Canadian banking. E. L. S. Patterson. 350p Ryerson press, Toronto '32
- Canadian banking commission. Trust Companies 57:172 Ag '33
- Canadian notes and comment. Published in monthly numbers of Burroughs clearing house
- Central bank for Canada. Business Week p30 S 16 '33
- Closer view of Canada's large banks. E. C. Harwood. Am Bankers Assn J 26:29-31+ Ag '33
- Commercial banks, assets and liabilities, monthly, 1930-1933. Fed Res Bul 19:645-6 O '33
- Credit policy of Canadian banks. S. H. Logan. Bankers M 126:181-2 F '33
- Fewer branches. Burroughs Clearing House 17:24 Ag '33
- For the defense: the unit banker defends unit banking. C. F. Zimmerman. Credit & Fin Management 35:16-17+ Ap '33
- Latest balance sheets of Dominion banks having London offices. Economist 116:sup52-4 My 13 '33
- Plenty of credit for the farmer; how the Canadian banking system meets agriculture's requirements. J. E. Boyle. Barron's 13:18 S 18 '33
- U.S.A. versus Canada; comparison of the two banking systems. R. R. Foster. Barron's 13:18 O 2 '33

## See also

- Bank of Montreal
- Canadian bankers' association

## Chicago

- Chicago clearing house. Am Bankers Assn J 26:33-41 S '33
- Chicago; growth and development. H. Manchester. Il Am Bankers Assn J 25:32-4+ F '33
- Chicago's correspondent area is the United States. Il map Am Bankers Assn J 26:42-4 S '33
- Concentration in banking control through interlocking directorates as typified by Chicago banks. R. G. Thomas. J of Business 6:1-14 Ja '33
- First national bank of Chicago absorbs trust business of affiliated trust company. Trust Companies 56:700 Je '33

## Cleveland, Ohio

- Cleveland awaits May 1 for bank to replace Union trust co. Business Week p4 Ap 12 '33
- National city bank of Cleveland to take over liquid assets of Union and Guardian trust companies. Trust Companies 56:712 Je '33
- New national bank to succeed Union and Guardian trust companies of Cleveland. Trust Companies 56:469 Ap '33
- Sidney B. Congdon elected president of National city bank of Cleveland. Trust Companies 57:81 Jl '33

- Why banks close; post mortem on Guardian Trust. Business Week p14+ Ag 5 '33

## Czechoslovakia

- Bank of Czechoslovak legions, Prague, 12th annual general meeting. Economist 116:768 Ap 8 '33

## Detroit

- Banking front; National bank of Detroit illustrates new rehabilitation policies. J. S. Lawrence. Econostat 1:8-10+ Ap 1 '33
- Detroit gets a bank. Business Week p5-6 Ap 5 '33

- Detroit money market. G. W. Woodworth. Michigan Univ Bur of Business Research Business Studies v5, no2:1-221 [bibliog p209-20] '32

- Detroit's dirty linen; grand jury investigation of banking methods. Business Week p12-13 S 9 '33
- General Motors forms Detroit bank. Barron's 13:9 Mr 27 '33; Automotive Ind 68:381 Mr 25 '33; Trust Companies 56:345 Mr '33
- How Detroit's new bank was opened in record time. Rand McNally Bankers Mo 50:356-7 Jl '33
- National bank of Detroit files its first statement. Bankers M 127:152 Ag '33
- Normal and progressive banking conditions restored in Detroit by new National bank of Detroit. Trust Companies 57:75 Jl '33
- One-man bank opinion; wind-up of investigation into bank closings. Business Week p18 S 23 '33
- Plans for reopening of trust companies in Detroit. Trust Companies 56:712-13 Je '33
- Raw deal, says Detroit, as it learns about the history of its bank disaster. Business Week p13-14 Jl 8 '33
- That new bank in Detroit. Bankers M 127:96-7 Jl '33

## Ecuador

- Banking in Ecuador; La Previsora national bank of credit. Il Bankers M 127:39-43 Jl '33

## Egypt

- Banking in Egypt during the past twelve months. Economist 117:sup19-20 O 14 '33
- National bank of Egypt 33d annual ordinary general meeting. Economist 116:602-4 Mr 13 '33

## France

- Annual report of the Bank of France for 1932. Fed Res Bul 19:149-52 Mr '33
- Commercial banks, assets and liabilities, monthly, 1930-1933. Fed Res Bul 19:641-2 O '33

## Georgia

- Voluntary action; a Georgia plan. H. McFadden, jr. map Am Bankers Assn J 25:25-6+ D '32

## Germany

- Annual report of the German Reichsbank for 1932. Fed Res Bul 19:288-92 My '33
- Commercial banks, assets and liabilities, monthly, 1930-1933. Fed Res Bul 19:643-4 O '33
- Financial experiments in Germany. A. Comstock. Barron's 13:7+ N 6 '33
- German banking inquiry. Economist 117:528-9 S 16 '33
- Giro system in Germany; a method of handling checks that has great possibilities for American banks. O. Schoele. Bankers M 127:44-7 Jl '33
- Labor banks in Germany. C. W. Gray. Monthly Labor R 35:1362-4 D '32
- Position of auditing and accounting in Germany. O. Hintner. Harvard Business R 11:196-204 Ja '33
- Reichsbank head; Dr Schacht. Business Week p23-4 Mr 29 '33
- Reichs-kredit-gesellschaft. Economist 116:295-6 F 11 '33

## Great Britain

- Anglo-American banking cooperation. D. Spring-Rice. Rand McNally Bankers Mo 50:530-1+ O '33
- Bankers and the pound. Economist 116:225-6 F 4 '33
- Banking and industry; with special reference to engineering. Engineer 155:250-1, 277 Mr 10-17 '33
- Banking, credit, and the crisis. J. W. Kempster. 386p London general press, London '32
- Banking half-year; the balance sheets of the big five British banks. Economist 117:176-7 Jl 22 '33
- British bank shares. Economist 116:79-80 Ja 14 '33
- British banking. Il Fortune 6:37-40 D '32
- British banking position. Economist 116:167-8 Ja 28 '33



**BANKS and banking**—Great Britain—*Continued*  
British banks cooperate with security distributors. D. Spring-Rice. Rand McNally Bankers Mo 50:334-5 J1 '33

Commercial banks, assets and liabilities, monthly, 1930-1933. Fed Res Bul 19:639-40 O '33

Economist banking supplement. Economist 116:sup3-70 My 13; 117:sup3-64 O 14 '33

Labour and the banks. Economist 117:358 Ag 19 '33

Montagu Norman; a study in financial statesmanship. P. Einzig. 255p 10s 6d Routledge '32

National provincial bank, limited, annual general meeting, London. Economist 116:197-201 Ja 28 '33

Overseas banking from London. D. Spring-Rice. il Rand McNally Bankers Mo 50:472-3+ S '33

Socialisation of banking. O. Sachse. 137p Macmillan '33

Trials of a banker; abstract. J. B. Pease. Electrician 109:319 D 23 '32

U.S. and British bank profits during depression. Bradstreet's 61:277-8 F 4 '33

#### See also

Bank of England	Bankers' industrial
Bank of London and	development com-
South America,	pany
limited	British overseas
	bank, limited

#### Hungary

Bank balance sheets—agricultural debts. Economist 117:495 S 9 '33

Hungarian general creditbank, Budapest. Economist 116:608 Mr 18 '33

#### India

Imperial bank of India. K. C. Kataria. Bankers M 126:250-1 Mr '33

Indian banking and finance. Economist 117:sup14-16, 42-4 O 14 '33

Indian reserve bank. Economist 117:352, 356-7 Ag 19 '33

Latest balance sheets of Dominion banks having London offices. Economist 116:sup54-6 My 13 '33

Mercantile bank of India, limited, 40th annual general meeting. Economist 116:708-10 Ap 1 '33

National bank of India, limited, ordinary general meeting. Economist 116:771-2 Ap 8 '33

Native bankers of India. C. T. Hallinan. il Burroughs Clearing House 17:10-12+ D '32

#### Indiana

Via the banks on the Wabash; feeling the pulse of country banking business. A. Van Vlissingen, jr. Burroughs Clearing House 17:3-5+ D '32

#### Iowa

Twelve 10-minute interviews with Iowa bankers. A. Van Vlissingen, jr. il Burroughs Clearing House 17:3-5+ S '33

#### Ireland

Ranking in the Irish Free State. Economist 117:sup16-17, 26-8 O 14 '33

Irish Free State banking. Economist 116:295 F 11 '33

Latest balance sheets of Dominion banks having London offices. Economist 116:sup46-7 My 13 '33

Provincial bank of Ireland, limited, annual general meeting, London. Economist 116:202 Ja 28 '33

#### Italy

Banking in fascist Italy. P. Einzig. Am Bankers Assn J 52:63 Je '33

Italian banking conditions. Economist 116:sup 13-14 My 13 '33

#### Japan

See also  
Trust companies—  
Japan

#### London

Dominion banks with offices in London. Economist 117:sup26-8+ O 14 '33

Latest balance sheets of Dominion banks having London offices. Economist 116:sup46-56 My 13 '33

Latest balance sheets of foreign banks having London offices and of British banks trading abroad. Economist 116:sup56-70 My 13; 117:sup48+ O 14 '33

London money market. F. B. Makin. 58p Gee & co, ltd, London '32

#### Michigan

Michigan's grim holiday; Governor closes banks for 8 days. Business Week p5 F 22 '33

R.F.C. goes to Michigan. Business Week p6 Mr 1 '33

#### Netherlands

Annual report of the Netherlands bank for the year ended March 31, 1933. Fed Res Bul 19:432-5 J1 '33

#### New York (city)

Achievement in liquidation of New York banks accomplished by the Manufacturers trust company. Trust Companies 56:532 My '33

Bank stocks under the new deal. H. W. Abbot, jr. Barron's 13:3, 10 J1 31 '33

Increase in New York city bank deposits. Bankers M 125:615-16 D '32

Leading New York banks, a twenty year comparison. 32p Conning & co, Hartford '33

New York banks and the bank stock market. J. F. Barry. Bankers M 125:591-8 D '32

Recovery in banking. Barron's 13:19 J1 17 '33

Successful program of bank liquidation; Manufacturers trust company of New York. C. C. Clough. Trust Companies 57:383-6 O '33

20 city banks have almost \$200,000,000 in reserves. Barron's 13:13 Ap 24 '33

#### See also

Bank of United States	Morgan, J. P., and company
Chase national bank of New York	National city bank of New York
Harriman national bank and trust company	

#### New York (state)

New York and South Dakota; successful banking cooperation under widely different conditions. maps Am Bankers Assn J 25:40 Mr '33

#### New Zealand

National bank of New Zealand, limited, 61st ordinary general meeting. Economist 117:144 J1 15 '33

#### Palestine

Commerce, industry, and banking. A. P. S. Clark. Ann Am Acad 164:95-107 N '32

#### Persia

Imperial bank of Persia. il Bankers M 125:645-8 D '32

Imperial bank of Persia 44th ordinary general meeting. Economist 117:95 J1 8 '33

#### Scotland

Bank of Scotland annual general meeting, Edinburgh. Economist 116:769-70 Ap 8 '33

Joint stock banks of Scotland. Economist 116:sup41-4 My 13 '33

Royal bank of Scotland annual general court of proprietors. Economist 115:1048-9 D 3 '32

#### South Africa

South African banking. Economist 117:sup 17-19, 28+ O 14 '33

#### South America

Banking in South America. Economist 117:sup20-2 O 14 '33

#### South Dakota

New York and South Dakota; successful banking cooperation under widely different conditions. maps Am Bankers Assn J 25:40 Mr '33

## BANKS and banking—Continued

## Sweden

Swedish banking. Economist 116:sup 14-16 My 13 '33

Swedish banking system. R. L. Simons. il Burroughs Clearing House 17:16-18+ F '33  
Swedish banks in 1932. Bankers M 126:493-4 My '33

## Tennessee

How one bank guided a state through a trying financial situation; American national bank, Nashville, Tenn. J. V. Tuttle. Bankers Mo 49:723-4 D '32

## United States

Alibi for the banks. M. Thorpe. Comm & Fin 22:350-1 Ap 19 '33

All banks in the United States; principal resources and liabilities on call dates, by districts and states. Fed Res Bul 19:49-52, 254-8 Ja, Ap '33

American banking. Economist 117:sup 6-8 O 14 '33

American banking in 1932-33. Economist 116:sup 10-11 My 13 '33

American banking in transition. H. W. Sanders. 168p Bankers pub. co, New York '32  
America's bank record. R. R. Foster. Barron's 13:9 My 29 '33

Approach to banking reform. El. E. Garrison. Comm & Fin 22:289 Mr 29 '33

Are banks and railroads helping business? H. H. Allen. Factory & Ind Management 84:36 Ja '33

Bank reform by bankers; report by the Economic policy commission of the A.B.A. Business Week p 6-7+ Ap 26 '33

Banking biology; 14 points for bank reform. H. H. Heimann. Credit & Fin Management 35:8-9+ Ap '33

Banking conditions improved in 1932. O. J. Troster. Bankers M 126:34 Ja '33

Banking reform. J. S. Lawrence. Bradstreet's 61:78-80+ Ja 21 '33

Banking reform; editorial. Business Week p 32 Mr 8 '33

Banking system is set for recovery; financial storm signals were pulled down six months ago. Bradstreet's 61:127+ Ja 28 '33

Banking's most critical year. F. H. Sisson. Bankers M 127:405-9, 411-17 O '33; Excerpts. Trust Companies 57:237-43+ S '33; Rand McNally Bankers Mo 50:517+ O '33

Branch banking to relieve credit stringency. J. L. Walsh. Credit & Fin Management 35:16-17+ Ja '33

Branch, chain, and group banking. 2v U.S. Govt. ptg. office, Washington '30-31

Bringing all the banks under the Federal reserve system. E. Platt; J. F. Sartori. Bankers M 126:7-11 Ja '33

Can the banks meet the challenge of the present emergency? T. M. Knappen. Mag of Wall St 52:614-16+ O 14 '33

Century of progress in American banking. J. Y. Beaty. il Rand McNally Bankers Mo 50:393-7 Ag '33

Closed banks; more than 1,100 member banks and 3,900 others still are closed. Business Week p 23 Je 24 '33

Code of fair competition for bankers with a statement of principles of trust institutions; final text. Fed Res Bul 19:610-16 O '33; Same. Am Bankers Assn J 26:38-42 N '33; Same abr. Burroughs Clearing House 18:21, 28-9 N '33

Code of fair competition for the banks of the United States; text as adopted at the A.B.A. convention. Trust Companies 57:293-5 S '33; Bankers M 127:348-50 O '33

Code to strengthen banking. il Business Week p 16-17+ O 7 '33

Coming changes in our banking system. B. C. Forbes. Forbes 31:6 Ap 1 '33

Coming changes in our banking system. W. Hayes. Bankers M 127:123-8 Ag '33

Compulsory membership of commercial banking in Federal reserve; symposium. Trust Companies 56:411-16 Ap '33

Condition of member banks since the crisis; steps toward unsound banking. D. W. Ellsworth. Annalist 41:795 Je 9 '33

Constitutionality of legislation providing a unified commercial banking system for the United States; opinion of the General counsel of the Federal reserve board. Fed Res Bul 19:166-86 Mr '33

Deflation; shrinkage in bank deposits in 6 months is \$10 billions. Business Week p 4 Ag 26 '33

Essentials of American banking reform and control of credit; program recommended by Economic policy commission of the A.B.A. Trust Companies 56:425-8+ Ap '33; Summary. Am Bankers Assn J 25:42 My '33; Same. Guaranty Survey 13:7 My '33

Good word for the banks. J. Klein. Bankers M 126:243+ Mr '33

Government invasion of banking. H. Whipple. Barron's 13:18 O 23 '33

Henry P. Davison; the record of a useful life. T. W. Lamont. 373p \$3.50 Harper '33

Ideal bank; unification under Federal reserve is desirable, but we really need one big bank with 20,000 branches. Business Week p 16+ Ap 19 '33

In support of the banking code; meeting the new problems of working hours and wage scales. R. H. Brunkhorst. Burroughs Clearing House 17:9+ S '33

Indictment of American banking. Bradstreet's 60:1549-50 N 26 '32

Is the country underbanked? Rand McNally Bankers Mo 50:480 S '33

Lessons from the banking crisis. A. Anderson. Bankers M 127:142-6 Ag '33

Making banking safe for business. N. D. Alling. Comm & Fin 22:456-60 My 24 '33

Men, not laws, make sound banks. F. H. Sisson. il Nation's Business 21:13-16+ Ja '33

New bankers' code. Bankers M 127:215-16 Ag '33; Rand McNally Bankers Mo 50:482-3 S '33

New day for banks. J. S. Lawrence. Burroughs Clearing House 17:3-5+ Ja '33

New deal in banking. T. M. Knappen. Mag of Wall St 51:564-6+ Mr 18 '33

New deal in banking. J. S. Lawrence. Bankers M 126:421-5 My '33

New economics; report of self-constituted Committee for the nation. Business Week p 9 Mr 15 '33

Other people's money, and how the bankers use it. L. D. Brandeis. new ed 223p Stokes '32

Perspective. H. W. Haines. il Burroughs Clearing House 17:13+ D '32

Political opposition to imperative bank reform delays business recovery. G. E. Anderson. Annalist 41:75-6 Ja 20 '33

Proceedings, bank management conferences, 1929-30-31. F. W. Simmonds, comp. American bankers' assn, New York '32

Putting dollars back to work. E. R. Black. Credit & Fin Management 35:8-9+ O '33

Readjustment period; how it is affecting our banks. W. B. Cudlip. Bankers M 126:323-38 Ap '33

Reorganized banking—and business recovery. J. D. C. Weldon. Mag of Wall St 51:615-17 Ap 1 '33

Review of the month. Published in monthly numbers of Federal reserve bulletin

Revising the structure of American banking. P. Jay. Trust Companies 55:511-15 N '32

Revisions in the bank system; new banks, reopened banks, consolidations, and closed banks. Published in monthly numbers of Rand McNally bankers monthly

Sharp fall in interest rates as banking conditions become virtually normal. D. W. Ellsworth. Annalist 41:491-2 Ap 7 '33

Should banks take the blame? R. B. Hefebower. Bankers M 127:18-22 Jl '33

Sound basis for banking competition. J. L. Walsh. Am Bankers Assn J 25:11-12+ D '32

Statistical position of the Federal reserve and reporting member banks. D. W. Ellsworth. Annalist 41:363 Mr 10 '33

Steel industry's stake in better banking. J. L. Walsh. Iron Age 131:12-15 Ja 5 '33

Strengthening our banking structure. J. L. Walsh. il Mech Eng 54:825-30; 55:17-22 D '32- Ja '33



**BANKS and banking—United States—Cont.**

Trends in the banking system up to the beginning of 1933. Rand McNally Bankers Mo 50:211-12—Ap-My '33

Unify the banks; compulsory membership in the Federal reserve system constitutional. Barron's 13:10 Ap 3 '33

U.S. and British bank profits during depression. Bradstreet's 61:277-8 F 4 '33

U.S. banking situation. Economist 116:523-4 Mr 11 '33

U.S.A. versus Canada; comparison of the two banking systems. R. R. Foster. Barron's 13:18 O 2 '33

Washington epic; the banking code. W. R. Kuhns. Il Am Bankers Assn J 26:13-15 N '33

What should be done to strengthen our banking structure for the future? H. P. Willis. Management R 22:163-8 Je '33

Where are we going? E. C. Harwood. Bankers M 126:312-16 Ap '33

Where the responsibility lies for constructive banking reform. F. H. Sisson. Trust Companies 56:535-9 My '33

Why the American banking system; abstract. H. Stonier. Bankers M 127:400-1 O '33

*See also*

Banking law—United States Federal reserve banks

Banks and banking, Home loan banks National

*Crisis, 1933*

*See Bank crisis, 1933*

**Wisconsin**

History of commercial banking in Wisconsin. L. B. Krueger. Wis U Studies in Social Sciences and History 18:1-232 [bibliog p231-2] '33 (\$1.25)

**BANKS and banking, Cooperative**

*See also*

Banks and banking, Trade union

**BANKS and banking, International**

Anglo-American banking cooperation. D. Spring-Rice. Rand McNally Bankers Mo 50:530-1+ O '33

World reserve system. G. E. Anderson. Am Bankers Assn J 25:18-19+ Je '33

*See also*

Bank for international settlements

**BANKS and banking, National**

National bank net dropped 11% in year ended June 30. Barron's 13:8 Ja 23 '33

*See also*

American bankers' association—National bank division

**BANKS and banking, Private**

Duties and uses of private bankers. J. P. Morgan. Bankers M 127:57-62 Jl '33

**BANKS and banking, State**

Banks; a new type of state reserve bank in the grist of bills. Business Week p22 Ap 5 '33

Politician, banker, depositor; reopening of unsound state banks. Econostat 1:18 Ap 15 '33

*See also*

American bankers' association—State bank division

**BANKS and banking, Trade union**

Labor banks in Germany. C. W. Gray. Monthly Labor R 35:1362-4 D '32

**BANTING research foundation**

Review of work for year 1932. V. E. Henderson and D. T. Fraser. Science 77:192 F 17 '33

**BARBERS****Law**

Barber-shop closing law for District of Columbia. Monthly Labor R 36:320 F '33

Court refuses to render opinion regarding barbers not complying with statute. Monthly Labor R 36:792-3 Ap '33

Law regulating barbering held constitutional and construed; Georgia Supreme court. Pub Health Rep 48:400-1 Ap 14 '33

Texas law providing for licensing of barbers held constitutional. Monthly Labor R 35:1092-3 N '32

**BARBITAL**

Ethylene-N,N'-bisbarbital, a dimolecular barbiturate with hypnotic properties. A. W. Dox. Am Chem Soc J 55:1230-2 Mr '33

**BARBITURIC acid**

Imidazole derivatives of barbituric acid. M. S. Taggart and G. H. Richter. Am Chem Soc J 55:1110-11 Mr '33

Physico-chemical properties and hypnotic action of substituted barbituric acids. D. L. Tabern and E. F. Shelberg. bibliog Am Chem Soc J 55:328-32 Ja '33

Some naphthyl derivatives of barbituric acid. DeW. T. Keach. Am Chem Soc J 55:2975-9 Jl '33

Study of the effect of unsaturated aliphatic groups in barbituric acids. H. A. Shonle and J. H. Waldo. bibliog Am Chem Soc J 55:4649-52 N '33

Synthesis of 5- $\alpha$ -naphthyl-5-ethylbarbituric acid. DeW. T. Keach. Am Chem Soc J 55:3440-2 Ag '33

**BARCLAYS bank (Dominion, colonial and overseas)**

Ordinary general meeting, 7th, London. Economist 116:147 Ja 21 '33

**BARCLAYS bank limited**

Ordinary general meeting, London. Economist 116:138-42 Ja 21 '33

**BARGES**

Drill barge effects economies. diag Eng & Min J 134:21 Ja '33

Floating irrigation plant for Egypt. il diags Engineer 156:118-19 Ag 4 '33

Inland waterways offer big saving to cement industry; detailed cost analysis. J. A. Harman. il diags Concrete (mill sec) 41:35-9 F '33

Oil barge built from storage tanks. il Marine Eng 33:184 My '33

Sailing barges. F. G. Carr. 328p Hodder and Stoughton, Ltd, London '31

Tern, sea-going coal-carrying barge. il Engineer 154:648 D 23 '32

*See also*

Inland waterways Loading and unloading—Barges

**BARITE**

Ocher and barytes processing methods. J. R. Dellinger. Eng & Min J 134:194 My '33

Production of barytes in Scotland. Chem Age (Lond) 28:288 Ap 1 '33

*See also*

Barium sulfate

**BARIUM**

Alkaline earths and their uses. C. Hardy and P. M. Tyler. bibliog il Chem Markets 32:227-30 Mr '33

Variation of the magnetic properties of barium with temperature. C. T. Lane. Phys R 44:43-5 Jl 1 '33

**BARIUM carbonate**

Processing witherite; an uncommon barium mineral. H. C. Meyer. il Eng & Min J 134:283-4 Jl '33

Witherite as a chemical raw material. H. C. Meyer. Chem Markets 32:317-19 Ap '33

**BARIUM chloride**

Activity coefficients of salts in anhydrous acetic acid solutions from solubility measurements. A. W. Scholl, A. W. Hutchison and G. C. Chandlee. Am Chem Soc J 55:3081-8 Ag '33

**BARIUM compounds**

Use of tribarium aluminate in structural clay products. W. K. Carter and R. M. King. Am Cer Soc J 16:265-8 Je '33

Witherite as a chemical raw material. H. C. Meyer. Chem Markets 32:317-19 Ap '33

**BARIUM hydride**

Barium hydride band spectra in the near infrared. W. W. Watson. Phys R 43:9-11 Ja 1 '33

**BARIUM hydroxide**

Absorption of barium hydroxide, sodium hydroxide and water by cellulose, from aqueous barium hydroxide and from mixed solutions. S. M. Neale and W. A. Stringfellow. *Textile Inst J* 24:T30-4 Ja '33

Action of alkalies on the monobasic sugar acids; conversion of gluconic to mannonic and of galactonic to talonic acids by the action of barium hydroxide. H. T. Bonnett and F. W. Upson. *Am Chem Soc J* 55:1245-8 Mr '33

Equivalent conductance of aqueous barium hydroxide solutions. H. G. Leopold and J. M. Luck. *Am Chem Soc J* 55:2655-6 Jl '33

Hydrolysis and reduction of hydantoin-oxindoles. H. R. Henze and C. M. Blair. *Am Chem Soc J* 55:4621-5 N '33

**BARIUM nitrate**

Liquidus and solidus studies; the ternary system  $\text{Ba}(\text{NO}_3)_2\text{-Ca}(\text{NO}_3)_2\text{-KNO}_3$ . K. Laybourn and W. M. Madgin. *Chem Soc J* p236-40 Mr '33

Solubility of barium nitrate in water. J. N. Friend and W. N. Wheat. *Chem Soc J* p501-2 My '33

**BARIUM sulfate**

Aluminum removed from red brass. Foundry 61:68-9 Je '33

Quantitative spectrographic studies of coprecipitation; group II elements with barium sulfate. L. Waldhauer and E. St C. Gantz. *il Ind & Eng Chem Anal ed* 5:311-13 S 15 '33

Solubility relations of barium sulfate in aqueous solutions of strong electrolytes. E. W. Neuman. *Am Chem Soc J* 55:879-84 Mr '33

**BARKER, Joseph Warren**

President, Illuminating engineering society. *por Illum Eng Soc Trans* 27:663-5 N '32

**BARKHAUSEN effect**

Electromotive forces associated with Barkhausen discontinuities. C. W. Heaps. *Phys R* 43:945 Je 1 '33

Mono-crystal Barkhausen effects in rotating fields. F. J. Beck, jr. and L. W. McKeehan. *diags Phys R* 42:714-20 D 1 '32

Propagation of large Barkhausen discontinuities; effect of a circular field with torsion. L. Tonks and K. J. Sixtus. *Phys R* 43:70-80 Ja 1 '33

Propagation of large Barkhausen discontinuities; regions of reversed magnetization. L. Tonks and K. J. Sixtus. *Phys R* 43:931-40 Je 1 '33

**BARKLA, Charles Glover, 1877-**

Sketch. *por Soc Chem Ind J (Chem & Ind)* 52:524 Je 23 '33

**BARLEY**

Explain means of improving spray oils in order to minimize the injury to growing plants. J. H. Green. *il Oil & Gas J* 31:8-F 2 '33

New strain of barley. *Science* 77:sup8-9 Mr 17 '33

New variety of barley. *Science* 77:sup7 Ja 20 '33

**BARNJUM, Frank J. D. 1859-1933**

Sketch. *por Pulp & Pa of Can* 34:228 Mr '33

**BARNES and stables**

Steel homes for cows. *diag Iron Age* 131:775 My 18 '33

Wind proof barns; how to build. M. C. Betts and W. Ashby. *il diags Am Bld* 55:60-1 My '33

**Heating and ventilation**

Cow barn ventilation. A. J. Offner. *bibliog diags map Heating-Piping* 5:59-66 Ja '33; *Abstract. Heat & Ven* 30:46-7 Ap '33

Cow comfort means more milk; electric fans for cow barns. *il Elec J* 30:116 Mr '33

**BAROID**

Chemical treatment of rotary drilling fluids; stabilization of weighted dispersions; effect of pH value. H. A. Ambrose and A. G. Loomis. *bibliog il Ind & Eng Chem* 25:1019-22 S '33

**BAROMETERS**

New design in Fortin barometers. *il Chem Age (Lond)* 23:392 Ap 29 '33

New primary standard barometer. *Am J Sci* 5th ser 25:339-40 Ap '33

**BARRACKS**

*See also*

Police, State—Barracks

**BARRAGES.** *See* Dams

**BARRELS**

**Manufacture**

Veneers for cask manufacture. *il Chem Age (Lond)* 23:31-3 Ja 14 '33

**BARRELS, Steel**

Beer rumblings awaken interest in chrome-nickel steel for breweries. *Steel* 91:21 D 26 '32

Beer—what will it mean for steel? A. H. Allen. *il Steel* 92:11-12, 24-6 Mr 27 '33

Groen beer barrel has stainless interior. *il Steel* 92:27 Je 12 '33

New beer barrel of composite design. *Steel* 93:27 Jl 3 '33

Shipments of steel barrels in the United States, monthly, 1921-1932. *Iron Age* 131:95 Ja 5 '33

Steel beer barrel has inner and outer shells; Murray corp. *Steel* 92:28 My 15 '33

Steel beer barrel has two shells, manufactured by Motor wheel corp. *il Steel* 93:27 Jl 24 '33

**Manufacture**

Beer barrels shielded-arc welded automatically. *il Iron Age* 132:28 O 5 '33

Beer boosting steel barrel business; Murray corp. of America; illustrations. *Iron Age* 132:18-19 S 14 '33

Carbon steel beer keg is cold-formed and welded. *il Iron Age* 131:900+ Je 8 '33; *Steel* 92:26 My 8 '33

Steel beer barrels blast cleaned preparatory to finishing. *il Iron Age* 132:26 Ag 10 '33; *Steel* 93:34 Ag 7 '33

Steel beer kegs are being drawn by Toledo 1200-ton drawing press. *il Iron Age* 132:59 S 7 '33

Steel used in two new beer barrels. *il Steel* 93:27 O 30 '33

Works of the Steel barrel company of Uxbridge, limited. *il diags Engineering* 136:135-7 Ag 11 '33

**BARRETERS**

Barreters. R. L. Spiller. *Elec R (Lond)* 112:112 Ja 27 '33

**BARS and bar rooms**

Beer bars and cafés. *il diags plans Arch Forum* 58:413-28 My '33

Beer brings many orders. *il Dom Eng* 141:44+ My '33

Beer dispensing equipment. *il plan Sheet Metal Worker* 24:139-41 My '33

Detail of bar construction; working drawings. J. G. Stewart. *Architecture* 67:342 Je '33

Domestic Engineering beer equipment section. *il diags plans Dom Eng* 142:101-40 Jl; 97-132 Ag; 121-56 S; 123-58 O; 113-48 N; 101-32 D '33

How beer jobs are being installed. *il diags Dom Eng* 141:48+ Je '33

How beer's return affects the plumbing industry. *il Dom Eng* 141:36+ Ap '33

How new metals are making new work for sheet metal men. *il diags Sheet Metal Worker* 24:210-12+ Jl '33

Liquid Carbonic beer dispenser. *il Refrig W* 68:56 Jl '33

Making beer dispensing equipment. *il diags Sheet Metal Worker* 24:170-1+ Je '33

Modern beer dispensing equipment; illustrations. *Sheet Metal Worker* 24:222-3 Jl '33

New bars must observe plumbing regulations. F. R. King. *diag Dom Eng* 141:37+ Ap '33

New beer, new bars. *Business Week* p6-7 Ap 12 '33

Planning for beer means planning for repeal. R. W. Sherman. *il Am Arch* 143:52-4 Jl '33

Prizewinning café and tap room; also bar and café in Italy. *il Arch Forum* 58:491-2 Je '33



**BARS and bar rooms—Continued**

- Restyling Main street for the new deal in beverages. *il* Am Bld 55:32-3 Ap '33  
 Return of beer building up market for clay products. *il* Frick & Clay Rec 82:122+ Ap '33  
 Speakeasies of New York before a camera's eye. *il* Fortune 7:52-8 Je '33  
 Stainless steel used widely in modern bar designs. *il* Steel 92:24 Ap 3 '33  
 Trend to metal in remodeling. *il* diags Sheet Metal Worker 24:327-8+ O '33  
 What does a bar include? diags Dom Eng 141:100-1+ My '33  
 What! no mirrors? Brunswick sets out to regain position in the beer fixture field. *il* Ptr Ink 163:15-16 Ap 13 '33  
 What the plumbing dealer will find in beer dispensing equipment. *il* Dom Eng 141:63-4+ Je '33

See also  
 Beer gardens

**BARTER**

- Bank sponsors barter exchange in Brattleboro, Vermont. Bankers M 126:295 Mr '33  
 Barter. *Ptr Ink* 162:42 Mr 9 '33  
 Barter and scrip. *il* Am Bankers Assn J 25:35-6, 66-8 Mr '33  
 Business without money. *il* Forbes 31:13-14 F 1 '33  
 Cooperative self-help activities among the unemployed. *Monthly Labor R* 36:449-95, 717-70, 979-1038, 1229-40 Mr-Je '33  
 Emergency exchanges for unemployment relief. H. Baker. *Special Lib* 24:71 Ap '33  
 Grain and livestock taken by farm belt jobbers to close accounts. *Nat Pet N* 24:16 N 30 '32  
 Job exchanges. *Business Week* p7-8 Mr 29 '33  
 Local oil companies barter oil for corn, potatoes. *Nat Pet N* 25:38-9 F 8 '33  
 Men without money. W. Weishaar and W. W. Parrish. 111p \$1 Putnam '33  
 Mills balking at rail-scrap barter. *Steel* 92:25 Mr 1 '33  
 Regulations governing federal grants to self-help organizations. *Monthly Labor R* 37:511-14, 807-9 S-O '33  
 Scientific stimulation of employment. J. D. Brown. *Am Statist Assn J* 28:sup174-8; Discussion. W. Wissler. 179-81 Mr '33  
 What'll we use for money? barter-now movements and home-made currency. *il* Business Week p10-11 Ja 11 '33  
 What will you use for money? H. Richmond, Jr. *Mag of Wall St* 51:375+ Ja 21 '33

**Bibliography**

- Barter and scrip in the United States. (Agricultural economics bibliography no40) 43p U. S. Dept. Agric, Bur of agricultural economics '33 (typew)  
 Scrip and barter. H. Lazo. 32p U.S. Bur. of foreign and domestic commerce, Washington '33

**BARTER, International**

- International horse trading. G. Harding. *Ptr Ink* Mo 26:28-30 Je '33  
 Over-riding trade restrictions by barter. J. A. Moffitt. *Barron's* 13:18 Ja 9 '33  
 Policies in regard to oil barter arrangements between Canada and Russia. R. B. Bennett. *Oil & Gas J* 31:22+ F 9 '33  
 What will you use for money? H. Richmond, Jr. *Mag of Wall St* 51:375+ Ja 21 '33

**BARUCH, Bernard Mannes**

- Credo. *por* Barron's 13:17 JI 10 '33  
 Five who may rule industry with Roosevelt. *por* Sales Management 32:622 Je 15 '33  
 No climax is possible to the most extraordinary uncompleted career in America. *por* *il* Fortune 8:30-9+ O '33

**BARYTES.** See Barite**BASCULE bridges.** See Bridges, Bascule**BASE exchanging compounds**

- Über den basenaustausch von kohlenaschen. H. Mönnig. *Angew Chemie* 46:631-4 O 7 '33

**BASEMENT stores**

See also  
 Department stores—  
 Basements

**BASEMENTS**

- Build recreation rooms in basements with concrete ashlar. *il* Concrete 41:7-8 O '33  
 Ventilating a basement. diags Sheet Metal Worker 24:318+ O '33  
 With basement or without basement; which? C. R. Bennett. *Am Bld* 55:48+ My '33

**BASES (chemistry)**

- Indicator studies of acids and bases in benzene. V. K. La Mer and H. C. Downes. *bibliog* Chem R 13:47-60 Ag '33  
 Indicator studies of acids and bases in benzene. V. K. La Mer and H. C. Downes. *bibliog* diags Am Chem Soc J 55:1840-64 My '33  
 Quantitative study of very weak bases. L. P. Hammett. *Chem R* 13:61-71 [bibliog p70-1] Ag '33

**BASICITY**

- Observations on the rare earths. G. R. Sherwood, B. S. Hopkins and G. Hughes. *Am Chem Soc J* 55:3117-23 Ag '33

**BASKET making**

- Basket pioneering. O. P. Couch. 168p bds \$1; cl \$1.25 Orange Judd pub. co, inc, New York '33

**BASSIA latifolia**

- Study of some Indian seed fats; mowha (bassia latifolia) and tamal (garcinia morella) fats. D. R. Dhingra, G. L. Seth and P. C. Speers. *bibliog* Soc Chem Ind J 52:116T-18T Ap 28 '33

**BAST fibers**

- Spinning of treated bast fibres. *Textile Inst J* 24:A88 F '33

**BATHHOUSES**

- Bathhouse and swimming pool facilities at Fergus, Ont. *il* diags Can Eng 65:11-13 O 10 '33  
 New all-electric baths at Watford. *il* Elec R (Lond) 112:669 My 12 '33

**BATHING beaches**

- Sewage disposal for New Jersey coast resorts. C. G. Wigley. *il* Civil Eng 2:743-5 D '32  
 Studies of sewage disposal involving bathing beach and shellfish pollution; abstract. E. B. Phelps and E. K. Phelps. *Water Works & Sewerage* 79:392-3 N '32

**Lighting**

- Lighting of seaside and health resorts. W. N. C. Clinch. *Illum Engr* 26:229-30; Discussion. 235 O '33  
 Seaside lighting. W. J. Jones. *il* Elec R (Lond) 113:453 O 6 '33

**BATHING suits**

- New rubber bathing suits. *il* Rubber Age 33:13-14 Ap '33  
 Open letter on ravishing rubber bathing suits. *il* India Rubber W 88:31-2 My '33  
 Tarzan and the bathing suit. *Fortune* 8:8+ JI '33

**Advertising**

- New "shape ahoy" in printing; Munsing waterwear. *il* Ptd Salesmanship 61:28-9 Mr '33

**BATHROOM fixtures**

- Bathroom accessories, monthly, 1932-1933. *Survey of Cur Business* 13:20 O '33  
 Custom-building a new product to the wants of the market; C. F. Church manufacturing company. R. S. McFadden. *il* Sales Management 33:74, 76 JI 15 '33  
 Designing to sell; Standard Sanitary's new line. R. S. McFadden. *il* Sales Management 31:468-9+ D 1 '32  
 Fair at Chicago reveals progress in bathrooms. *il* Dom Eng 141:30-1 Je '33  
 How to guard against, learn, and classify blemishes in iron enamel-ware finishes. *il* Dom Eng 141:38-41+ Ja '33

**BATHROOMS**

- Bathrooms at the Fair; illustrations. *Am Bld* 55:20-1 Ag '33  
 Glorified bathrooms; furniture that turns bathroom into dressing-room. *Business Week* p15 Ag 19 '33  
 New mode in living; modern homes on exhibit at the Century of progress exposition. W. W. Stevens. *il* Dom Eng 142:33-5+ Ag '33

**BATHROOMS—Continued**

Unit bathroom panels. *il Arch Forum* 58:sup34 My '33

Ventilating a kitchen and bath room. *plan Sheet Metal Worker* 24:251-2 Ag '33

**BATHS (chemical apparatus).** See Chemical apparatus

**BATHURST, Ralph, 1620-1704**

Einige bemerkungen zu R. Bathurst, ein unbekannter vorläufer Lavoisiers. E. O. von Lippmann. *Angew Chemie* 46:351-2 Je 17 '33  
Ralph Bathurst, ein unbekannter vorläufer Lavoisiers. C. Saechtling. *Angew Chemie* 46:199-200 Ap 8 '33

**BATTERSEA power station.** See Electric plants (central stations)—London, England

**BATYL alcohol**

Evidence from surface films on the constitution of batyl and chimyl alcohols. N. K. Adam. *Chem Soc J* p164-5 F '33

Unsaponifiable matter from the oils of elasmobranch fish; the structure of batyl and selachyl alcohols. W. H. Davies, I. M. Heilbron and W. E. Jones. *Chem Soc J* p165-7 F '33

**BAUSCH, Edward**

Dinner in honor of Edward Bausch. *Science* 77:110-11 Ja 27 '33

Portrait. *Sci Am* 148:197 Ap '33

**BAUXITE**

Bauxit als zuschlag im basischen Siemens-Martin-Ofen. F. H. Schönwälder. *il Stahl & Eisen* 53:949-51; Discussion. 951-2 S 14 '33  
Bauxite and aluminous laterite. C. S. Fox. 2d ed enl 312p [bibliog p270-304] C. Lockwood & son, London '32

Bauxites and mullites. M. E. Nahmias. *Am Cer Soc J* 16:420-1 S '33

Manufacture of aluminum sulfate at the Dalecarlia filter plant, Washington, D.C.; cost data. C. J. Lauter. *il diags Ind & Eng Chem* 25:953-8 S '33

Origin of bauxite deposits. C. H. Behre, jr. *Econ Geol* 27:678-80 N '32; Discussion. E. C. Harder. 28:395-8 Je '33

Origin of bauxite deposits. E. Just. *Econ Geol* 28:506-7 Ag '33

La possibilité d'origine latéritique des bauxites françaises. V. Charrin. *Génie Civil* 102:283-4 Mr 25 '33

See also  
Alumina

**BAY CITY, Michigan**

Water supply

Chlorination in the presence of traces of ammonia. L. E. Harrison. *Am Water Works Assn J* 25:1260-2 S '33

**BAY oil**

Crystallizable chavicol and eugenol from the oil of bay. S. Palkin and P. A. Wells. *Am Chem Soc J* 55:1556-8 Ap '33

Analysis

Composition of the non-phenol portion of bay oil. S. Palkin and P. A. Wells. *Am Chem Soc J* 55:1549-56 Ap '33

**BEACH, Frederick Elijah, 1863-1933**

Sketch. L. Page. *bibliog Am J Sci* 5th ser 26:93-5 Jl '33

**BEACHES**

Beach-erosion studies by Federal board. *diags map Eng N* 111:281-3 S 7 '33

Rounding of beach sands. G. R. MacCarthy. *Am J Sci* 5th ser 25:205-24 Mr '33

Save the golden band of ocean beaches! New Jersey beaches have taxable valuation of \$4,000,000 a mile. V. Gelineau. *il diags maps Eng N* 110:765-71 Je 15 '33

See also  
Bathing beaches

**BEACONS**

Alrway beacons with double beam. *il Sci Am* 147:373-4 D '32

Discours de M. Jean Ray; phares. *Soc Ing Civils Bul* 86:10-28, pls 212-13 Ja '33; Abstract. *Génie Civil* 102:88-90 Ja 28 '33

See also  
Lighthouses  
Radio beacons

**BEAMS**

Continuous beam design by the fixed point theory. O. Albert. *diags Eng N* 110:842-4 Je 29 '33; Discussion. 111:176 Ag 10 '33

Reinforced concrete combined with light steel joists; composite floor construction well adapted to light occupancy. R. C. Johnson. *il diag Concrete* 41:3-4 N '33

Shear tests of reinforced brick masonry beams. D. E. Parsons, A. H. Stang and J. W. McBurney. *il diags U S Bur Stand J Research* 9:749-68 D '32

Stirrups for reinforced concrete beams. D. M. Burmister. *diags Civil Eng* 3:6-8 Ja '33  
Über die festigkeit von rippen bei ruhender, wechselnder und stossartiger belastung. A. Thum and S. Berg. *Zeit Ver Deutsch Ing* 77:281-7 Mr 18 '33

Welded shear reinforcement for concrete beams. D. M. McCain. *il Civil Eng* 3:331 Je '33

Wood-beam design method promises economies. J. A. Newlin, G. E. Heck and H. W. March. *il Eng N* 110:594-6 My 11 '33

See also  
Girders

**BEANS**

Electric eye sorting gives uniform grading at low cost; General bean co. Lowell, Mich. R. G. Silbar. *il Food Ind* 5:454-5 N '33

**BEARING metals**

Arsenic in lead-base bearing metals. *Engineer* 155:sup[Metallurgist] 11-13 F 24 '33

Comparison of certain white-metal bearing alloys particularly at elevated temperatures; abstract and discussion. C. E. Swartz and A. J. Phillips. *Iron Age* 132:22 Jl 13 '33  
Compo bearings; porous oil-retaining bushes of phosphor bronze. *il Automobile Eng* 23:347 S '33

Effect of lead at elevated temperatures; abstract. J. N. Kenyon. *Iron Age* 132:22 Jl 13 '33

Leaded bronze is affected by alloys. H. J. Roast. *Foundry* 61:20-1+ O '33

Melting and pouring white bearing metals. E. R. Thews. *Engineer* 154:sup[Metallurgist] 170-3 N 25 '32

New bearing alloy designed to withstand high temperature; Satco metal. *Automotive Ind* 69:122 Jl 29 '33

Nickel in foundry brasses and bronzes. *il Metal Ind* 30:466-7 D '32

Oil-permeable metal alloy; olite; abstract. *Mech Eng* 55:576 S '33

Properties of bronze bearing metals. *Am Mach* 77:597-8 S 13 '33

Tin-free leaded bearing bronze. H. K. Herschman and J. L. Basil. *il U S Bur Stand J Research* 10:591-608 My '33

White bearing metals. E. Fleischmann. *diag Engineer* 154:sup[Metallurgist] 182-4 D 30 '32; 155:sup[Metallurgist] 27-30 Ap 28 '33

See also  
Babbitt metal  
Ball bearings  
Bearings

Testing

Mechanical properties of white-metal bearing alloys at different temperatures. H. K. Herschman and J. L. Basil. *il diags Am Soc T M Proc* 32 pt 2:536-55; Discussion. 556-7 '32

White-metal bearing alloys; mechanical properties at different temperatures and service tests. H. K. Herschman and J. L. Basil. *U S Bur Stand J Research* 10:1-5 Ja '33

**BEARINGS**

Bearing lubrication analysis; handling of performance data by correlation with the hydrodynamic theory. E. M. Barber. *diags chart Refrig Eng* 25:202-7; Discussion. 207, 218 Ap '33

Better bearings protect profits. G. A. Van Brunt. *Maintenance Eng* 91:50-1 F '33

Compo bearings; porous oil-retaining bushes of phosphor bronze. *il Automobile Eng* 23:347 S '33

Corrosion-accelerated wear; its effect in relation to cylinders and bearings. H. J. Young. *il Automobile Eng* 23:295-7 Ag '33



**BEARINGS—Continued**

- Corrosion effects of lubricants upon bearing surfaces. C. H. Bierbaum. *il Iron Age* 132: 20-1+ Ag 31 '33
- Effect of diamond boring and honing on bearing lubrication. F. C. Duston. *Mach* 39:637 Je '33
- Gegenwartsfragen im bau von maschinen-teilen. E. Heidebroek. *diags Zeit Ver Deutsch Ing* 77:1169-70 O 28 '33
- How hot should a bearing run? C. G. Williams. *Am Mach* 77:527 Ag 16 '33
- Lighter oil may mean cooler bearings. J. I. Clower. *Power* 73:70-1 F '33
- Das messen der ölschicht in gleitlagern. H. Haake. *diags Zeit Ver Deutsch Ing* 77:381 Ap 8 '33
- Obtaining wear-resistant bearing surfaces by burnishing. A. T. Kuehner. *il diags Mach* 39:713-15 Jl '33
- Oil film pressure in a complete cylindrical bearing. Y. Yavitch. *diags Sibley J* 46:207-11+ D '32
- Running-in bearings; experiments on the instability and stabilisation of new surfaces. *Automobile Eng* 23:249-50 Jl '33
- Some experiments on oil films in complete cylindrical bearings. G. H. Marx and others. *110p Oxford* '32
- What happens in a bearing? C. M. Larson, H. S. Konheim and W. J. Albersheim. *diag Automotive Ind* 68:694-8 Je 10 '33

*See also*

- |  |                        |
|--|------------------------|
| Babbitt metal                                  | Bridge bearings        |
| Babbitting                                     | Lubrication and lubri- |
| Ball bearings                                  | cants                  |
| Bearing metals                                 | Roller bearings        |
| <i>also</i> subdivision Bearings under special |                        |
| subjects, e.g.                                 |                        |
| Automobile engines—                            | Locomotives—Bear-      |
| Bearings                                       | ings                   |
| Automobiles—Bear-                              | Rolling mills—Bear-    |
| ings   | ings                   |
| Cars—Bearings                                  |                        |

**Manufacture**

- Hard steel pivots and bearings; precision scales require advanced metallurgy. W. J. Burr. *il Metal Prog* 23:36-40 F '33
- Mass production methods for malleable castings. H. R. Simonds. *il Iron Age* 131:466-7+ Mr 23 '33
- Progress in automobile production methods; highly accurate connecting-rod bearings by diamond boring and honing. F. C. Duston. *il Mach* 39:633-5 Je '33

**Repair**

- Automatic turning of radius bearings. *diags Eng & Min J* 134:206 My '33

**Tables, calculations, etc.**

- Characteristic curves for fluid film lubricated journal bearings. L. J. Bradford and C. C. Davenport. *diag Refrig Eng* 24:343-7 D '32

**Testing**

- Energy loss in journal friction is expensive. H. S. Williams. *Transit J* 77:48 F '33
- New pivots and bearings for small current meters. R. L. Atkinson. *diag Civil Eng* 3: 392-3 Jl '33
- Preparing journal bearings for service. *il Ry Age* 95:303-4 Ag 26 '33; Same. *Ry Mech Eng* 107:323-5 S '33
- Research improves performance of journal bearings. *il diags Ry Age* 94:329-32 Mr 4 '33; Same. *Ry Mech Eng* 107:122-5 Ap '33

**BEARINGS, Anti-friction**

- Antifriction bearings for hot and cold saws. F. Waldorf. *diags Blast F & Steel Pl* 21: 363-71, 419-21+ Jl-Ag '33
- Bearings for the Soviets. F. Schubert. *il Am Mach* 77:229-32, 273-6, 296-9, 334-7, 369-72 Ap 12-Je 7 '33

*See also*

- Ball bearings
- Roller bearings

**BEARINGS, Jewel**

- Mechanical factor of merit with respect to electrical instruments. J. H. Goss. *diags Gen Elec R* 36:188-91 Ap '33

- Microscopic inspection aids study of meter jewels. L. H. Kistler. *il Elec W* 102:527 O 21 '33

- Synthetic corundum for jewel bearings. E. G. Sandmeier. *il Inst E E J* 72:505-8, pl 1-6 Je '33; Same cond. *Electrician* 110:34-6 Ja 13 '33; Abstract. *Elec R (Lond)* 112:47-8 Ja 13 '33; Discussion. *Inst E E J* 72:508-14 Je '33

**BEARINGS, Non-metallic**

- Gatke non-metallic bearings. *il Blast F & Steel Pl* 21:328 Je '33; *Mach* 39:680 Je '33

**BEAUHARNOIS power corporation**

- Beauharnois committee favors reorganization; plan of Montreal light, heat & power consolidated. *Elec W* 101:470 Ap 15 '33

**BEAUTY parlors**

- Beauty parlors—an undeveloped source of revenue for the gas companies. *il Am Gas J* 139:39 S '33
- Coty invades beauty shops; hair lotion is introduced through business papers and direct mail, with general advertising to come later. *il Ptr Ink* 161:25-6 D 15 '32

**BECHUANALAND***See also*

- Labor and laboring classes—Bechuana-land

**BECK, Thomas Hambly**

- Gallery. H. Powel. *il Adv & Sell* 21:22-3+ Je 8; 28+ Je 22 '33

**BECKET, Frederick Mark, 1875-**

- President, American institute of mining and metallurgical engineers. *por Steel* 92:17 Mr 20 '33

- Sketch. *por Explosives Eng* 10:360-1 D '32

**BECKMANN rearrangement. See Molecular rearrangements****BEDFORD cord**

- Bedford cord and its counterparts, cote-de-cheval and plissé. B. D. Blackman. *il Textile World* 83:230-2 F 14 '33

**BEDROOMS**

- Details of built-in beds. *il diags plan Am Arch* 143:46-7 Mr '33

**BEDSPREADS. See Coverlets****BEECH-nut packing company**

- Selected stocks to buy for future profit and protection. *Mag of Wall St* 51:678-9 Ap 15 '33

**BEEF**

- Chemical changes in the fat of frozen and chilled meat; the protective influence of carbon dioxide on the fat of beef stored at 0° C. C. H. Lea. *Soc Chem Ind J* 52:9T-12T Ja 27 '33

- Studies on the refrigeration of meat; conditions determining the amount of drip from frozen and thawed muscle. W. A. Empey. *Soc Chem Ind J* 52:230T-6T Jl 28 '33

- Thermal properties of meat. J. H. Awbery and E. Griffiths. *diag Soc Chem Ind J* 52: 326T-8T O 6 '33

**Color**

- Effect of carbon dioxide on the colour changes or bloom of lean meat. J. Brooks. *Soc Chem Ind J* 52:17T-19T Ja 27 '33

**BEER**

- Bacteria-fermented beer. P. Lindner. *Science* 77:sup9-10 Mr 3 '33

- Beer boom. *Business Week* p11 My 3 '33

- Beer, etc.; industry progresses too fast for statistics. *Business Week* p10 Ap 26 '33

- Beer labels. *il Ptr Ink Mo* 27:16-17 N '33

- Beer makes good; for once, the Treasury underestimates returns from taxes. *il Business Week* p14+ S 2 '33

- Beer nearer. *Business Week* p3-4 N 30 '32

- Beer—profits or losses? why investors should exercise unusual caution. C. E. Robbins. *Barron's* 12:5 D 5 '32

- Beer prospects. *Business Week* p3-5 D 7 '32

- Beer turns sour. *Ptr Ink* 165:25-6+ N 9 '33

- Beer would give farmer small aid. *Barron's* 12:16 N 21 '32

- Beer's honeymoon. *Business Week* p10-11 Ap 19 '33

**BEER—Continued**

Beer's re-birth brings surprises. *Forbes* 31:8-9  
Je 1 '33

Effective plan for beer distribution records;  
how specialized order routine prevents  
credit misunderstandings. *il System and  
Management Methods* 62:390-1 S '33

850,000,000 bottles for beer; Owens-Illinois  
glass co. *il Fortune* 8:48-51+ J1 '33

Froth from the beer news. R. Dickinson. *Ptr  
Ink* 162:25-7 Mr 30 '33

Higher mortality expected from legalization  
of beer. *Nat Underw (Life ed)* 37:12+ Ap  
28 '33

Legalization of beer. *Guaranty Survey* 13:3-  
10 Ap '33

Modern system of beer production. L. Nathan.  
*il diag Refrig Eng* 26:176-80+ O '33

Now beer is back—who will sell it? How,  
where and when will it be advertised? L. H.  
Engel. *il Adv & Sell* 20:15-16+ Ap 13 '33

Tie-ups with beer. *Ptr Ink* 163:55-6 My 18 '33

What beer might do for city real estate. Bar-  
ron's 12:9 N 28 '32

Whether it's tap or lager, it must start with  
good water, hops and malt. P. J. Kolachov.  
*il Food Ind* 5:218-20 Je '33

**Advertising**

Advertising advice to beer makers; a British  
editor has some fun and incidentally preach-  
es an important sermon. *il Ptr Ink* 162:25-6  
Ja 19 '33

Beer advertising. *Ptr Ink* 162:67-9 F 16 '33

Beer and Canada Dry. *Ptr Ink Mo* 27:52 S '33

Beer and its advertising. R. Dickinson. *il  
Ptr Ink* 162:24-7 F 23 '33

Beer as an advertising source. R. Dickinson.  
*il Ptr Ink* 162:16-19 Mr 23 '33

Beer by August? *il Sales Management* 32:228  
Mr 1 '33

Brewers advertise health benefits of beer. *il  
Ptr Ink* 163:72-3 Je 22 '33

Brewer's advertising appropriation. *Ptr Ink*  
162:28 Mr 30 '33

Brewery bequeaths dry era outlet to com-  
petitor; recommends Maxwell House. *il Ptr  
Ink* 164:10-11 J1 6 '33

But beer makes you fat! S. H. Birchall. *Adv &  
Sell* 21:21 My 25 '33

Draught beer tells its story. *il Ptr Ink*  
164:50 Ag 3 '33

Fighting the ban on beer ads. *il Adv & Sell*  
20:34 F 16 '33

Hemoglobins. *Ptr Ink* 164:57 J1 6 '33

How brewers are fixing their advertising ap-  
propriations. *Ptr Ink* 164:51+ S 21 '33

If Canada can, why can't we? P. K. Whipple.  
*Ptr Ink* 162:65 Mr 9 '33

Kings beer flouts defamers, and plugs away  
on purity. L. M. Hughes. *il Sales Manage-  
ment* 33:254-5+ S 15 '33

Letter to a brewer; where is all the promised  
advertising. *il Ptr Ink* 163:5-6 My 4 '33

Memo to brewers; posters. *Adv & Sell* 21:sup  
[Adv Arts] 16 My '33

More beer news. *Ptr Ink* 162:52-3 F 2 '33

More or less open letter to Larry from a  
brewer. M. G. Silver. *il Ptr Ink* 163:40-2  
My 18 '33

Open letter on a wide-open subject. *Ptd Sales-  
manship* 60:369+ Ja '33

Orders swamp this brewery, but advertising  
goes on. R. J. Schaefer. *il Ptr Ink* 163:17-  
19 Je 15 '33

Pabst beer plans. *Ptr Ink* 163:73 Ap 20 '33

Prospects for beer revenue. *Adv & Sell* 20:  
26+ Ap 27 '33

Real beer and copy arrive. R. Dickinson. *il  
Ptr Ink* 163:10-12 Ap 13 '33

Ruppert pokes fun at New Yorkers. *il Ptr  
Ink* 165:16 N 9 '33

Schlitz becomes prophetic. *il Ptr Ink* 161:40 D  
29 '32

Schlitz secrets. *il Ptr Ink* 164:16 J1 20 '33

What's brewing in beer copy? W. B. Edwards.  
*il Ptr Ink Mo* 26:20-2 Ap '33

X marks the spot to get fine beer. P. Fen-  
nelly. *Ptr Ink* 164:98+ S 21 '33

**Pasteurization**

Gas in the modern brewery. C. W. Swenson.  
*il diag Gas Age* 72:227-8 S 9 '33

**Transportation**

Carloads of beer; the evolution of the General  
American tank car corp. R. Laffan. *il Bar-  
ron's* 13:16-17 Ap 3 '33

**BEER bonds.** See Insurance, Surety and fidelity  
—Liquor bonds

**BEER gardens**

Building business in beer gardens. *il Am Bld*  
55:26 J1 '33

1933 model beer garden run at Sinclair sta-  
tion. *Nat Pet N* 25:31 S 27 '33

**BEES**

After 10,000 years—a new bee! R. M. Strick-  
land. *il Sci Am* 149:101-3 S '33

Bee business. *Business Week* p25-6 N 11 '33

**BEETLES**

Destructive action of moths (dermestids) and  
its prevention. A. Herfs. *il Melland* 4:555-  
8, 625-8, 681-5 D '32-F '33

**BEE TLEWARE**

New materials in products and packages. *il  
Adv & Sell* 20:sup [Adv Arts] 30 Mr '33

**BEETS and beet sugar**

Analysis of mineral content of Steffen's waste.  
E. Bartow and H. M. Benninghoff. *Ind &  
Eng Chem* 25:175-7 F '33

Beet sugar, a bright spot in agriculture;  
United States now leading producer. J. M.  
Guilfoyle. *Barron's* 13:19 Mr 13 '33

Beet sugar factory effluents; biological oxida-  
tion as a means of purification. *il Chem Age*  
(Lond) 23:425-6 My 13 '33

Beet-sugar industry; a study in tariff protec-  
tion. I. Bettman, jr. *Harvard Business R*  
11:369-75 Ap '33

Determination of small amounts of invert  
sugar in the presence of sucrose. A. H. Ed-  
wards and S. J. Osborn. *bibliog Ind & Eng*  
*Chem Anal ed* 5:42-9 Ja 15 '33

Der diffusionsvorgang in der diffusionsbatterie.  
A. Löffler. *diag Zeit Ver Deutsch Ing* 76:  
1253 D 17 '32

Fortschritte in der rübenzuckerindustrie. H.  
Claassen. *il diag Zeit Ver Deutsch Ing* 77:  
137-42 F 11 '33

Further investigations on [beet] juice puri-  
fication, especially on dry and wet liming;  
abstract. O. Spengler, F. Tödt and S. Bött-  
ger. *Soc Chem Ind J* 51:sup1131 D 30 '32

Greenhouse farm flower; the sugar beet; par-  
adox of an industry. *il map Fortune* 7:54-8,  
111-12+ F '33

Manufacture of sugar from beet. J. H. Wil-  
son. *Chem Age (Lond)* 29:29-31 J1 8 '33

Natural gas proves efficient in the beet sugar  
industry. L. Conklin. *il Gas Age* 71:249-50+  
Mr 11 '33

Our beet sugar industry. J. H. Pfeiffer. *Comm  
& Fin* 21:1475 D 28 '32

Solubility of sucrose in beet house sirups.  
R. J. Brown and A. R. Nees. *Ind & Eng*  
*Chem* 25:555-8 My '33

Sugar beets; relation of inorganic constituents  
to sugar content and purity. A. R. Nees. *Ind  
& Eng Chem* 25:462-5 Ap '33

Sugar industry in foreign lands. C. A. Browne.  
*bibliog il Ind & Eng Chem* 25:61-4 Ja '33

Sweet beets. A. P. Peck. *il Sci Am* 148:280-2  
My '33

**BEHREND, Bernard Arthur, 1875-1932**

Sketch. *Inst E E J* 71:982-3 D '32

**BEILBY, Sir George Thomas, 1850-1924**

Young, Beilby, and some experiments on the  
carbonization of coal. F. S. Sinnatt. *il*  
*diag Gas J (Lond)* 203:565-70 S 13 '33

**BEIT memorial fellowships.** See Scholarships  
and fellowships

**BELGIUM**

See also  
Steel industry and  
trade—Belgium

**Commerce**

Economic conditions in Belgium; abstract.  
N. S. Reyntiens. *Engineering* 136:68 J1 21  
'33

**Economic conditions**

Belgian economy resists the depression. M. D.  
Gould. *Barron's* 13:18 F 13 '33



**BELGIUM**—Economic conditions—*Continued*  
Belgium in 1932. Economist 116:18 F 13 '33  
Economic conditions in Belgium, 1932. Chem  
Age (Lond) 28:531-2 Je 10 '33

**BELLING, John**, 1866-1933  
Sketch. C. B. Davenport. Science 77:250 Mr  
10 '33

## BELLS

Merton college bells. il Electrician 110:574 Ap  
28 '33

### Manufacture

Science perfects bell making; E. W. Vanduzen  
co. J. B. Nealey. il Foundry 61:174 F '33

**BELLS, Electric**. See Electric bells

## BELTING

Belting in Argentina. H. A. Scott. Rubber  
Age 34:18 O '33

Camel hair belting yarns. J. H. Fisher. il  
Melliand 4:559-60 D '32

Choosing the right drive; multiple V-ropes  
and pivoted motor short center drives. W.  
Stanlar. il Iron Age 132:8-12 S 21 '33

Flat belt drives cut power transmission costs.  
il Power 77:189-90 Ap '33

How to eliminate slip on vertical belt drives.  
W. F. Schaphorst. diags Pulp & Pa. of Can  
33:442 N '32; Same. Can Min J 54:27 Ja '33

How to make a hinged belt joint for short  
turns. G. Rice. diags Pulp & Pa. of Can 34:  
237 Mr '33; Same. Can Min J 54:150 Ap '33

How wobble in belts can be stopped. Power  
77:319-20 Je '33

Idle leather-belt drives need inspection and  
maintenance. Power 77:144 Mr '33

Improved V-belts used in Worthington drives.  
il Iron Age 132:27 Ag 10 '33

Incorrectly installed belts are costly. W. F.  
Schaphorst. Mach 39:413 F '33

Inspecting and reconditioning leather belts. J.  
N. Smith. Ry Mech Eng 107:105-6 Mr '33;  
Same. Am Mach 77:177 Mr 15 '33; Same.  
Steel 92:35 My 8 '33; Same. Textile World  
83:741 Ap '33; Same. Factory Management  
91:285 Jl '33; Same. Elec W 102:636 N 11 '33;

Abstract. Power Pl Eng 37:207 My '33  
New compensated belt designed for low ten-  
sion operation. diags Melliand 4:560 D '32

Rubber belting a boon to industry. H. B.  
O'Neill. il Pulp & Pa. of Can 34:615-16 O '33

Short-center drive on pulsating load. Factory  
Management 91:117-18 Mr '33

Top-pull belts on pivoted motor drives. W. F.  
Schaphorst. diags Power Pl Eng 37:314 Jl  
'33

Use of Texpore drives in paper mills. N.  
Hollefried. il Pulp & Pa. of Can 34:616-17  
O '33

Versuche mit keilriementrieben. K. Kutzbach.  
il diags Zeit Ver Deutsch Ing 77:238-43 Mr  
4 '33

See also

Power transmission  
Pulleys

### Manufacture

Leather power-belts regain favor. J. R. Hop-  
kins. il Sci Am 148:32-3 Ja '33

### Tables, calculations, etc.

Alignment charts solve flat belt problems. E.  
Cowan. charts Power 77:586-8 N '33

Calcul des courroies. R. Syngedauw. diags  
Soc Ing Civils Bul 85:825-69 Jl '32

### Testing

Belts given accelerated test for endurance.  
Steel 93:30 S 11 '33

Giving belt 5 years' wear in 30 days. V. W.  
Wells. il Automotive Ind 69:431 O 7 '33

## BELTING, Conveyor

Conveyor and elevator belting; new standard  
specification. Mech Handling 20:244-5 Ag '33

How long should a conveyor belt last? P. W.  
Van Orden. Rock Prod 36:85 Ag '33

Installing new conveyor belts. Mech Handling  
20:58 F '33

Maintenance of belt conveyors. W. E. Warner.  
Mech Handling 20:291 S '33

Rubber conveyor belts in mines; improvements  
in manufacture and operation. J. Cunnings-  
ham. Mech Handling 20:55-6 F '33

## BEMBERG

New chiffon and triple sheer fabrics of Bem-  
berg. C. K. Seid. samples Melliand 5:70-1 My  
'33

## BENCHMARKS

Preserve the landmarks! W. Bowie. il Eng  
N 111:172-3 Ag 10 '33

## BENDING

Bending flat springs. C. Kugler. diag Am  
Mach 77:120 F 15 '33

Bending more than 90 degrees. E. Foldvary.  
diag Am Mach 77:508 Ag 2 '33

Bending stresses in wire ropes analyzed. H.  
M. Hall. Can Eng 65:9-10 Ag 8 '33

Collapsible die that forms twelve bends at  
one stroke of the press. A. Beusch. diags  
Mach 39:786-7 Ag '33

Effects of bending wire rope. F. C. Carstar-  
phen. diags Am Soc C E Proc 57:1439-66 D  
'31; Discussion. 58:659-72, 810-21; 59:183-91  
Ap-May '32, Ja '33

Fixture for bending flat copper bars. A.  
Beusch. diag Am Mach 77:411 Je 21 '33

Forming tools for 90-deg. bends. E. Foldvary.  
diag Am Mach 77:214 Mr 29 '33

Press tools for bending flat springs. F. A.  
Gabriel. diag Am Mach 76:1166 N 23 '32

Press tools for bending tubing. F. H. Stran.  
diag Am Mach 77:120 F 15 '33

Tools that were a failure. Am Mach 77:284,  
476-7, 634 Ap 26, Jl 19, S 27 '33

See also

Pipe bending

## BENDING machines

G. D. S. motor-driven bar bending machine.  
il Iron Age 130:808 N 24 '32

Giant bending roll aids construction at  
Hoover dam. il Am Mach 77:156-7 Mr 1 '33

Sampson hand bending machine. il Am Mach  
77:414 Je 21 '33

Schatz bending roll which pre-bends plate  
ends. diag Mach 39:677-8 Je '33

Schatz hand and power tube benders de-  
signed for rapid production. il Iron Age  
132:33 Ag 3 '33

Wagner plate bending roll. il Am Mach 77:  
353-4 My 24 '33; Iron Age 132:27 S 7 '33;  
Steel 93:34 Ag 7 '33

Wickes pyramid-type plate bending roll. il  
Iron Age 131:170 Ja 26 '33; Comp Air M  
38:4044 Ja '33

## BENDING moment

Bending moments in the master rod of a  
radial aircraft engine. C. F. Taylor. diags  
S A E J 31:488-92 D '32

New data on the bending moments in the  
master connecting-rod. C. F. Taylor.  
S A E J 32:sup26-7 Je '33; Correction. 32:  
sup23 Jl '33

## BENDIX aviation corporation

Bendix helped by auto upturn. Econostat  
1:13, 23 Jl 15 '33

Moving from red ink to black. Mag of Wall  
St 52:531 S 16 '33

## BENEDUM, Michael L.

Government's representative, a pioneer oil  
producer. por Nat Pet N 25:6, 17 S 6 '33

## BENEFIT societies

Diversification is urged in investment portfo-  
lio. S. A. Oscar. Nat Underw (Life ed)  
37:3 S 1 '33

Experiment in freedom of choice of physician  
by members of mutual benefit association;  
Spaulding bakeries, inc. Binghamton, N.Y.  
Monthly Labor R 37:295-6 Ag '33

Five Bohemian fraternal societies are com-  
bined. Nat Underw (Life ed) 37:12 Ja 6 '33

Fraternal orders, assessment life and accident  
associations; business of 1932 and condition  
December 31, 1932; tabulation. Weekly  
Underw 128:59 sec 2 My 13 '33

Fraternal had peculiar problems on account  
of some moratorium rules; Woodmen of  
the world. De E. Bradshaw. Nat Underw  
(Life ed) 37:2 Jl 21 '33

Governor of Iowa announces results of his  
investigation of Modern brotherhood of  
America. Nat Underw (Life ed) 37:4 Jl  
21 '33

**BENEFIT societies**—*Continued*

Iowa commissioner cited before executive council. Nat Underw (Life ed) 37:4 JI 28; 3+ Ag 3 '33; Ins Field (Life ed) 62:6 JI 28; 5 Ag 4 '33; Weekly Underw 129:193 JI 29 '33; East Underw 34:1+ Ag 4 '33

*See also*

National fraternal congress

**BENNETT, Richard Bedford**

Portrait. Can Min J 54:136 Ap '33

**BENNETT, Charles W.**

Acting president. American sheet & tin plate co. por Steel 92:16 Mr 6 '33

**BENSON boiler.** *See* Boilers—Benson boiler**BENTONITE**

Bentonite; application in water dispersions of rubber and in latex compounding. India Rubber W 87:37 Mr '33

Bentonite reveals Mother Earth's age. Comp Air M 38:4074 Mr '33

Experiments with the settling of bentonite in water. E. M. Kindle. il Nat Research Council Bul 89:68-73 '32

Modern cleaning out methods will improve ultimate oil recovery of east Texas field; discussion of materials found in well cores. L. G. E. Bignell. map Oil & Gas J 32:15+ S 7 '33

**BENZALACETOPHENONE.** *See* Chalcone**BENZAL chloride.** *See* Dichlorotoluene**BENZALDEHYDE**

Betti condensation; effect of substituents on the stability and optical rotation of the resulting amines. F. E. Ray and W. A. Moornaw. Am Chem Soc J 55:749-52 F '33

Derivatives of benzaldehyde-*p*-arsonic acid. C. S. Gibson and B. Levin. Chem Soc J p352 Ap '33

Induced oxidation of anthracene in the autoxidation of benzaldehyde. G. E. K. Branch, H. J. Almqvist and E. C. Goldsworthy. Am Chem Soc J 55:4052-62 O '33

Interaction of ketene with aromatic aldehydes and its bearing on the Perkin reaction. C. D. Hurd and C. L. Thomas. bibliog Am Chem Soc J 55:275-83 Ja '33

Synthesis of benzaldehyde from benzene and carbon monoxide under pressure in the presence of aluminum chloride. J. H. Holloway and N. W. Krase. bibliog il diag Ind & Eng Chem 25:497-502 My '33

**Analysis**

Quantitative determination of formaldehyde and benzaldehyde and their bisulfite addition products. L. H. Donnelly. Ind & Eng Chem Anal ed 5:91-2 Mr 15 '33

**BENZALPYRUVIC acid**

Addition reactions of unsaturated alpha-ketonic acids. M. Reimer and H. H. Kamerling. Am Chem Soc J 55:4643-8 N '33

**BENZALQUINALDINE**

Ring-chain conjugation in the quinoline series. A. Hoffman, M. W. Farlow and R. C. Fuson. Am Chem Soc J 55:2000-4 My '33

**BENZANISOIN**

Mixed benzoin; conversion of benzanisoins into anisobenzoin. J. S. Buck and W. S. Ide. bibliog Am Chem Soc J 55:4312-17 O '33

**BENZANTHRACENE**

Conversion of a bile acid into a hydrocarbon derived from 1:2-benzanthracene. J. W. Cook and G. A. D. Haslewood. Soc Chem Ind J (Chem & Ind) 52:758-9 S 22 '33

**BENZANTHRAQUINONE**

Conversion of phthaloylnaphthalenes and naphthoyl-2-benzoic acids into benzanthraquinones. L. F. Fieser and M. Fieser. Am Chem Soc J 55:3342-52 Ag '33

**BENZANTHRENE**

New route to chrysene and 1:2-benzanthracene. R. D. Haworth and C. R. Mavin. Chem Soc J p1012-16 Ag '33

**BENZANTHRONE**

Constitution of the chlorination products of benzanthrone. R. S. Cahn, W. O. Jones and J. L. Simonsen. Chem Soc J p444-9 Ap '33

**BENZENE**

Densities of mixtures of benzene with phenylethyl alcohol and with methyl salicylate. R. C. Glowaski and C. C. Lynch, jr. Am Chem Soc J 55:4051-2 O '33

Diamagnetism of carbon tetrachloride, benzene and toluene at different temperatures. G. F. Boeker. Phys R 43:756-60 My 1 '33

Equilibrium constants in terms of activities derived from cryoscopic data; the dissociation of pyridine *o*-chlorophenoxide in benzene. H. M. Glass and W. M. Madgin. Chem Soc J p193-8 F '33

Equilibrium in the system cyclohexane-benzene-hydrogen. R. B. Purdum and R. N. Pease. diag Am Chem Soc J 55:3109-11 Ag '33

Freezing points of solutions of nitrobenzene in benzene and cyclohexane, and their relations to the electrical polarisation. L. G. Davy and N. V. Sidgwick. Chem Soc J p281-6 Mr '33

Indicator studies of acids and bases in benzene. V. K. La Mer and H. C. Downes. bibliog diag Am Chem Soc J 55:1840-64 My '33

Indicator studies of acids and bases in benzene. V. K. La Mer and H. C. Downes. bibliog Chem R 13:47-60 Ag '33

Infrared absorption of benzene in the liquid, solid and vapor states. C. E. Leberknight. diags Phys R 43:967-72 Je 15 '33

Photochemical studies; a further study of the chlorination of benzene. H. P. Smith, W. A. Noyes, jr. and E. J. Hart. bibliog diags Am Chem Soc J 55:4444-59 N '33

Polarity in certain hydrocarbon vapors. K. B. McAlpine and C. P. Smyth. diags Am Chem Soc J 55:453-62 F '33

Properties of electrolytic solutions; conductance as influenced by the dielectric constant of the solvent medium. C. A. Kraus and R. M. Fuoss. diag Am Chem Soc J 55:21-36 Ja '33

Properties of electrolytic solutions; conductance of some salts in benzene. R. M. Fuoss and C. A. Kraus. diag Am Chem Soc J 55:3614-20 S '33

Properties of electrolytic solutions; the conductance minimum and the formation of triple ions due to the action of Coulomb forces. R. M. Fuoss and C. A. Kraus. bibliog Am Chem Soc J 55:2387-99 Je '33

Removal of thiophene from benzene by catalytic hydrogenation. R. N. Pease, W. B. Keighton, jr. and W. C. Munro. Ind & Eng Chem 25:1012-13 S '33

Solid polyiodide of ammonium. H. W. Foote and W. M. Bradley. J Phys Chem 37:29-31 Ja '33

Solid polyiodides of cesium. H. W. Foote, W. M. Bradley, and M. Fleischer. J Phys Chem 37:21-7 Ja '33

Studies in dielectric polarisation; benzene solutions. E. C. E. Hunter and J. R. Partington. Chem Soc J p2812-29 D '32; p87-90 Ja '33

Sur la transformation du benzène, du toluène et du xylène en méthane. A. Mailhe. Chimie & Ind 28:1263-71 D '32

Synthesis of benzaldehyde from benzene and carbon monoxide under pressure in the presence of aluminum chloride. J. H. Holloway and N. W. Krase. bibliog il diag Ind & Eng Chem 25:497-502 My '33

Systems of sulfur dioxide and hydrogen derivatives of benzene. W. F. Seyer and E. G. King. diags Am Chem Soc J 55:3140-9 Ag '33

Thermal behavior of sulfur compounds in hydrocarbon solvents; normal butyl sulfide in benzene solution. W. M. Malisoff and E. M. Marks. bibliog Ind & Eng Chem 25:780-3 JI '33

Tricresyl phosphate as solvent for phenol recovery from gas-plant effluents. C. H. S. Tupholme. Ind & Eng Chem 25:303-4 Mr '33

Vapor-liquid equilibria for *N*-hexane-benzene mixtures. C. O. Tongberg and F. Johnston. bibliog Ind & Eng Chem 25:733-5 JI '33

Vapor-liquid equilibria of hydrocarbons at high pressures. W. K. Lewis and C. D. Luke. bibliog Ind & Eng Chem 25:725-7 JI '33



**BENZENE—Continued**

Vapor pressure of crystalline benzene and cyclohexene. V. R. Deitz, diags Am Chem Soc J 55:472-5 F '33

See also

Benzol (commercial benzene) Ethyl benzene Nitrobenzene

**BENZENEARSONIC acid**

Derivatives of benzaldehyde-*p*-arsonic acid. C. S. Gibson and B. Levin, Chem Soc J p352 Ap '33

Phenylarsonic acid as a reagent for the determination of tin. J. S. Knapper, K. A. Craig and G. C. Chandlee, Am Chem Soc J 55:3945-7 O '33

**BENZENE poisoning**

Benzol poisoning. H. H. Kessler, Safety Eng 65:105-6, 108-10, 146 Mr-Apr '33

New research on quantitative poisoning from benzol and benzene vapors; abstract. O. Bamesreiter, J Ind Hygiene 15:sup68 Jl '33

**BENZIDINE**

Mechanism of aromatic rearrangements; the benzidine change. C. K. Ingold and H. V. Kidd, Chem Soc J p934-8 Ag '33

Rapid volumetric method for determination of sulfur in coal and coke; comparison of a modified benzidine method with the standard methods. E. L. Skau and I. L. Newell, bibliog Ind & Eng Chem Anal ed 5:180-2 My 15 '33

**BENZIMIDAZOLE**

Attempts to prepare some nitrogenous derivatives of divalent carbon. D. Wood, jr. and F. W. Bergstrom, Am Chem Soc J 55:3314-19 Ag '33

**BENZINE**

Die bedeutung des brechungswertes bei benzinen. P. Lob, Angew Chemie 46:91-2 F 4 '33

Messung von glühzündungstemperaturen in raschlaufenden zündermotoren; benzinzolluft. K. Schnauffer, il diags Zeit Ver Deutsch Ing 77:927-31 Ag 26 '33

**Manufacture**

Fortschritte in der erdöl-industrie 1929-1932. C. Walther, Chemische Fabrik 6:251-2 Je 7 '33

**BENZINE poisoning**

New research on quantitative poisoning from benzol and benzene vapors; abstract. O. Bamesreiter, J Ind Hygiene 15:sup68 Jl '33

**BENZOFLOURENE**

Synthesis of 2,3-benzofluorene. C. F. Koelsch, Am Chem Soc J 55:3885-7 S '33

**BENZOIC acid**

Determination of dissociation constants of monobasic acids. D. J. G. Ives, Chem Soc J p731-7 Je '33

Recommended specifications for analytical reagent chemicals. W. D. Collins and others, Ind & Eng Chem Anal ed 5:289 Jl 15 '33

Relative strength of benzoic and salicylic acids in alcohol-water solutions. J. O. Halford, Am Chem Soc J 55:2272-8 Je '33

**Analysis**

Continuous air-lift extractor; application to quantitative determination of benzoic acid. R. P. Chapman and L. P. Hanumett, diags Ind & Eng Chem Anal ed 5:346-7 S 15 '33

**BENZOIC peracid.** See Perbenzoic acid

**BENZOIN**

Benzoin reduction; the mechanism of ketone formation; the case of *m*-chlorobenzoin. S. S. Jenkins and E. M. Richardson, Am Chem Soc J 55:3874-9 S '33

**BENZOINS**

Mixed benzoins; conversion of benzanisoin into anisbenzoin. J. S. Buck and W. S. Ide, bibliog Am Chem Soc J 55:4312-17 O '33

Synthesis of isomeric unsymmetrical benzoins. S. S. Jenkins, Am Chem Soc J 55:3048 Jl '33

**BENZOL (commercial benzene)**

Benzene used industrially is held subject to federal gasoline tax. Oil Paint & Drug Rep 123:16; Editorial comment, 15 My 22 '33

Benzol poisoning. H. H. Kessler, Safety Eng 65:105-6, 108-10 Mr '33

Benzole recovery. F. Blackburn, Gas J (Lond) 200:565-8; Discussion, 568-70 N 23 '32

Benzol recovery replaces petroleum imports. C. H. S. Tupholme, il Chem Markets 32:221-4 Mr '33

Benzolgewinnung aus koksofengas mittels aktiver kohle. A. Sander, diags Zeit Ver Deutsch Ing 77:1076-7 S 30 '33

Carbonization gases for fuels; a review of recent European developments. R. C. Bickmore, Chem Markets 33:126-8 Ag '33

Comparison of benzole and tricresyl phosphate for treating effluents. Gas Age 71:575 Je 3 '33

Ease of starting with benzole, with petrols and with benzole-petrol mixtures. W. H. Hoffert and G. Claxton, diags Engineering 135:300-2, 374-6 Mr 17, Ap 7 '33

Investigations of refining processes for manufacturing motor benzole from crude benzole; abstract. R. Weller and E. Schramm, Gas J (Lond) 200:856 D 28 '32

Messung von glühzündungstemperaturen in raschlaufenden zündermotoren; benzinzolluft. K. Schnauffer, il diags Zeit Ver Deutsch Ing 77:927-31 Ag 26 '33

Modern methods of benzole refining; the use of inhibitors for preventing gum formation. W. H. Hoffert and G. Claxton, Soc Chem Ind J 52:25T-33T F 3 '33

Motor fuels; use in foreign countries of substitutes for petroleum products, table Index 13:8-9, 12-15 Ja '33; Same, without table. Oil Paint & Drug Rep 123:15+ Ja 30 '33

New processes for refining benzole. Engineering 135:422 Ap 14 '33

Oil and motor spirit from coal. C. H. Lander, Gas J (Lond) 201:691 Mr 15 '33

Phenol supplies and cellulose. H. Levinstein, Soc Chem Ind J (Chem & Ind) 52:650-4; Discussion, 654-5 Ag 11 '33

Récolte et traitement des sous-produits de la carbonisation de la houille; état actuel de ces techniques en Europe et aux États-Unis. C. Berthelot, bibliog il diags Chimie & Ind 30:3-38; Discussion, 38 Jl '33

Recovering benzole with activated charcoal; abstracts. A. Engelhardt and H. Rüping, Gas J (Lond) 203:154 Jl 19 '33; Am Gas J 139:32 S '33

Solvent dewaxing of oils with benzol and acetone. F. X. Govers and G. R. Bryant, flow diag il Am Pet Inst Proc 14M(3):7-15 My '33; Abstract, Nat Pet N 25:38 My 17 '33

Theoretical aspects of benzole recovery from coal gas. C. M. Wearing, bibliog Gas J (Lond) 201:750-4, 814-17 Mr 22-29 '33; Discussion, 201:817-18 Mr 29 '33

Über katalytische einflüsse bei selbstzündungsvorgängen. C. Zerbe, F. Eckert and H. Jentzsch, Angew Chemie 46:659-62 O 21 '33

**Testing**

Oxidation test for the stability of benzoles on storage. W. H. Hoffert and G. Claxton, plan Gas J (Lond) 200:494-9 N 16 '32

**BENZONAPHTHASPIROPYRANS**

Styrylpyrylium salts; further study of the colour phenomenon associated with benzonaphtha- and dinaphtha-spiropyran. I. M. Heilbron, R. N. Heslop and F. Irving, Chem Soc J p430-4 Ap '33

**BENZOPHENONE**

Halochromism of ketones in acids. L. C. Anderson, Am Chem Soc J 55:2094-9 My '33

Influence of iron salts on the electrolytic reduction of benzophenone. S. Swann, jr. Electrochem Soc Trans 63 (preprint 23):227-8 My '33

Mechanism of reduction by sodium amalgam and alcohol; the reduction of aromatic ketones to hydrols. W. E. Bachmann, Am Chem Soc J 55:770-4 F '33

Photochemical reduction of ketones to hydrols. W. E. Bachmann, Am Chem Soc J 55:391-5 Ja '33

Reducing action of the Grignard reagent; hydrocarbons formed during reduction. C. R. Noller, W. E. Grebe and L. H. Knox, Am Chem Soc J 54:4690-6 D '32

**BENZOPHENONE**—*Continued*

Systems: diphenyl-diphenylamine, diphenylbenzophenone and benzophenone-diphenylamine. H. H. Lee and J. C. Warner. *Am Chem Soc J* 55:209-14 Ja '33

Ternary system diphenyl-diphenylamine-benzophenone. H. H. Lee and J. C. Warner. *il Am Chem Soc J* 55:4474-7 N '33

**BENZOPINACOL**

Action of sodium alcoholate and of sodium amalgam on aromatic pinacols. W. E. Bachmann. *Am Chem Soc J* 55:355-61 Ja '33

**BENZOQUINONE**

Halochromism of ketones in acids. L. C. Anderson. *Am Chem Soc J* 55:2094-8 My '33

**BENZOSELENAZOLEGUANIDINE**

Monoarylguanidines; benzoselenazoleguanidine. G. B. L. Smith, J. P. Miale and C. W. Mason. *Am Chem Soc J* 55:3759-62 S '33

**BENZOTRICHLORIDE**. See Trichlorotoluene**BENZOYLACETONE**

Case of ketonic activity of acetic anhydride, and the condensation of salicylaldehyde with benzoylacetone. R. J. W. Le Fèvre and J. Pearson. *Chem Soc J* p1197-1200 S '33

**BENZOYLBROMOACETATE**

Structure of  $\alpha$ -benzoyl  $\alpha$ -bromo esters. B. W. Howk and S. M. McElvain. *Am Chem Soc J* 55:3372-80 Ag '33

**BENZOYL chloride**

Possibility of dipole rotation in certain crystalline solids. S. E. Kamerling and C. P. Smyth. *Am Chem Soc J* 55:462-5 F '33

Reaction between acid chlorides and ethers in the presence of zinc chloride. L. P. Kyrides. *Am Chem Soc J* 55:1209-12 Mr '33

Reaction between some acid chlorides and esters. L. P. Kyrides and M. N. Dvornikoff. *Am Chem Soc J* 55:4630-2 N '33

**BENZOYL hydrogen peroxide**

Preparation of benzoyl hydrogen peroxide. B. T. Brooks and W. B. Brooks. *Am Chem Soc J* 55:4309-11 O '33

**BENZOYLPHENACYLCARBINOL**

Benzoylphenacylcarbinol. H. W. Dudley and S. Ochoa. *Chem Soc J* p625-6 Je '33

**BENZOYLATION**

Benzoyl derivatives of indigotin. E. Hope, D. Richter and R. W. R. Kersey. *Chem Soc J* p2783-7 N '32; p1000-3 Ag '33

**BENZOYLENE urea**

Quinazolines; the alkylation of benzoylene urea. N. A. Lange and F. E. Sheibley. *bibliog Am Chem Soc J* 55:2113-16 My '33

**BENZYLAMINE**

Reactions of certain halogen substituted aryl, alkyl and di-alkyl sulfoxides with benzylamine. T. P. Dawson. *bibliog Am Chem Soc J* 55:2070-5 My '33

**BENZYL BENZALDOXIME**

Benzylbenzaldoxime. E. Wertheim. *bibliog Am Chem Soc J* 55:2540-3 Je '33

**BENZYL cellulose**

Benzyl cellulose—a new plastic. *Sci Am* 147:371-2 D '32

Benzyl cellulose moulding compositions. *Chem Age (Lond)* 28:529-30 Je 10 '33; Same *abr. Plastic Prod* 9:228 Ag '33

Properties of benzyl cellulose. *Plastic Prod* 9:367-+ N '33

Sorption of organic vapors by resinous and cellulosic materials. C. H. Winning and J. W. Williams. *Am Chem Soc J* 55:3560-9 S '33

**Analysis**

Determination of plasticizers in organic cellulosic plastics. J. D. Ryan and G. B. Watkins. *Ind & Eng Chem Anal ed* 5:191-2 My 15 '33

**BENZYL chloride**. See Chlorotoluene**BENZYL cyanide**. See Tolunitrile**BENZYL indole**

Studies in the indole series; the synthesis of alpha-benzylindoles. P. L. Julian and J. P. P. *bibliog Am Chem Soc J* 55:2105-10 My '33

**BENZYL levulinate**

Benzyl levulinate. P. P. T. Sah, Hsing Han Lei and Hsi Meng Fang. *Am Chem Soc J* 55:4727 N '33

**BENZYLMAGNESIUM chloride**

Abnormal reactions of benzylmagnesium chloride; the mechanism of the *o*-tolyl rearrangement. J. R. Johnson. *Am Chem Soc J* 55:3029-32 Jl '33

**BENZYLPHENOL**

Chloro derivatives of benzyl phenols; some monochloro, dichloro and trichloro derivatives of ortho and para benzyl phenols. R. C. Huston and others. *Am Chem Soc J* 55:4639-43 N '33

**BENZYLXANTHYL**

Addition of free radicals to certain dienes, pyrrole and maleic anhydride. J. B. Conant and B. F. Chow. *Am Chem Soc J* 55:3475-9 Ag '33

**BENZYLATION**

Bromo derivatives of benzylphenols; some monobromo, dibromo and tribromo derivatives of ortho and para benzylphenols. R. C. Huston and others. *Am Chem Soc J* 55:2146-9 My '33

Chloro derivatives of benzyl phenols; some monochloro, dichloro and trichloro derivatives of ortho and para benzyl phenols. R. C. Huston and others. *Am Chem Soc J* 55:4639-43 N '33

**BENZYLIDENEACETONE**

Heterocyclic ketones;  $\beta$ -amino-ketones and related pyrazolines derived from benzylidene- and furfurylidene-acetone. H. B. Nisbet and C. G. Gray. *Chem Soc J* p839-40 Jl '33

**BENZYLIDENEMETHYLGLUCOSIDES**

Optical superposition and the 4 : 6-benzylidenemethylglucosides. D. S. Mathers and G. J. Robertson. *Chem Soc J* p696-8 Je '33

**BEQUESTS**. See Legacies**BERGAMOT oil**

Bergamot oil. D. D. Mossman. 124p Columbia univ press '32

**BERGIUS process**

Bergin process for oil from coal; inner history of the introduction of the process to England. T. L. Gilmour. *Chem Age (Lond)* 29:167-8 Ag 19 '33; Same. *Gas J (Lond)* 203:408-9 Ag 23 '33

**BERLE, Adolph Augustus**

Brain trust; Roosevelt's classroom cabinet of economists. *Business Week* p16-17 Mr 22 '33

That Columbia crowd. C. H. McCall. *por Credit & Fin Management* 35:16-17, 39 Je '33

**BERLIN, Germany**

See also  
Housing—Berlin

**Architecture**

House K in O; views and plans. *Am Arch* 143:25-32 S '33

**Rapid transit**

La distribution de l'énergie aux lignes urbaines et suburbaines de Berlin. *map Génie Civil* 102:70 Ja 21 '33

Der umstelgebahnhof Schöneberg in Berlin. H. Berg. *il diags plan Zeit Ver Deutsch Ing* 77:288-90 Mr 18 '33

Zur eröffnung des elektrischen betriebes auf der Berliner Wannseebahn. A. Schieb. *il diags map Zeit Ver Deutsch Ing* 77:533-6 My 20 '33

**Subways**

Nouveau dispositif de commande pour trains à unités multiples du métropolitain de Berlin. *diags Génie Civil* 102:40-1 Ja 14 '33

**BERLINER, Emile**

Portrait. *Sci Am* 148:29 Ja '33

**BERMUDA library**

Bermuda library. G. R. Lomer. *il Lib J* 58:537-9 Je 15 '33

**BERNARD, Pierre A.**

Evolution. *por Fortune* 8:4 Jl '33



**BERNET, John J. 1868-**

Again Nickel Plate president. *por* Ry Age 94:258-9 F 18 '33

Bernet methods; the Van Sweringen 3-way railroad president is noted for straight-line business strategy. *por* Business Week p18 Mr 1 '33

**BERNOULLI'S theorem**

Bernoulli's theorem; what it means. J. C. Reed and E. E. Ambrosius. *diags* Heating-Piping 5:111-12 F '33

**BERRIES**

*See also*

Hackberries  
Strawberries

**BERYL**

Beryllium minerals in Brazil. L. J. Moraes. *Econ Geol* 28:289-92 My '33

**BERYLLIUM**

Beryllium. A. Stock. *il diag* Electrochem Soc Trans 61 (preprint 35):451-68 Ap '32; Abstract. *Mech Eng* 55:44-5 Ja '33

Beryllium; American brass co. announces complete line of beryllium-copper products. *Business Week* p 16+ Ja 11 '33

Beryllium atoms proved radioactive. R. M. Langer and R. Raitt. *Science* 77:sup6 Mr 24 '33

Beryllium; developing its use in industry. W. H. Bassett. *Min & Met* 14:227-8 My '33

Beryllium minerals in Brazil. L. J. Moraes. *Econ Geol* 28:289-92 My '33

Beryllium now available for high-strength alloys. *Elec W* 101:57 Ja 14 '33

Chemistry of beryllium; organic compounds of beryllium. H. S. Booth and D. G. Pierce. *bibliog diags* J Phys Chem 37:59-78 Ja '33

Chemistry of beryllium; reactions of sulfur dioxide with organic beryllium compounds. H. S. Booth and V. D. Smiley. *bibliog diag* J Phys Chem 37:171-81 F '33

Electro-deposition of beryllium. *Engineer* 156:sup[Metalurgist]50-2 Ag 25 '33

Failure to detect radioactivity in beryllium with the linear amplifier. R. D. Evans and M. C. Henderson. *Phys R* 44:59 J1 1 '33

Failure to detect the radioactivity of beryllium with the Wilson cloud chamber. D. M. Gans, W. D. Harkins and H. W. Newson. *Phys R* 44:310 Ag 15 '33

Influence of beryllium on steel; abstract. J. H. S. Dickenson and W. H. Hatfield. *Engineer* 156:305-6 S 29 '33; Same. *Engineering* 136:352 S 29 '33; Same. *Mech Eng* 55:699 N '33; Discussion. *Engineer* 156:306 S 29 '33; *Engineering* 136:352 S 29 '33

Mass of Be<sup>9</sup> and the atomic weight of beryllium. K. T. Bainbridge. *il Phys R* 43:367-8 Mr 1 '33

More radioactive elements. K. K. Darrow. *R Sci Instr* 4:328-9 Je '33

Partial resolution of the Be I line  $\lambda 4572.69$  and probable spin of the Be<sup>9</sup> nucleus. A. E. Parker. *Phys R* 43:1035-6 Je 15 '33

Stability of beryllium. W. F. Libby. *Phys R* 44:512-13 S 15 '33

**BERYLLIUM alloys**

Automotive uses of beryllium bronze. *Automotive Ind* 69:98 J1 22 '33

Beryllium alloys; patent. *Chem Age* (Lond) 28:sup30 My 6 '33

Beryllium; American brass co. announces complete line of beryllium-copper products. *Business Week* p 16+ Ja 11 '33

Beryllium-copper; abstract. C. H. Davis. *Mech Eng* 55:377 Je '33

Beryllium-copper alloys on display. *Steel* 91:32 D 5 '32; *Mach* 39:365 Ja '33

Beryllium-copper alloys; their manufacture and heat treatment. E. F. Cone. *il Iron Age* 132:14-16+ Ag 10 '33

Beryllium; developing its use in industry. W. H. Bassett. *Min & Met* 14:227-8 My '33

Casting beryllium-copper alloys. E. F. Cone. *Foundry* 61:20-1, 59-60 S '33; Abstract. *Iron Age* 131:1027+ Je 29 '33

Castings of beryllium alloys win several different uses. H. J. Noble. *Iron Age* 131:786 My 18 '33

Copper alloys that have the strength of steel. *Mach* 40:105 O '33

Heat treatment of beryllium-copper. E. F. Cone. *il Am Mach* 77:620-2 S 27 '33

Riverside beryllium copper. *Metal Ind* 31:177 My '33; *Mach* 39:733 J1 '33

Special properties and applications of beryllium-copper alloys. E. F. Cone. *il Iron Age* 132:18-19+ S 7 '33

**BERYLLIUM compounds**

Chemistry of beryllium; organic compounds of beryllium. H. S. Booth and D. G. Pierce. *bibliog diags* J Phys Chem 37:59-78 Ja '33

Chemistry of beryllium; reactions of sulfur dioxide with organic beryllium compounds. H. S. Booth and V. D. Smiley. *bibliog diag* J Phys Chem 37:171-81 F '33

**BERYLLIUM fluoride**

Über die darstellung und eigenschaften einiger berylliumfluoridgläser. G. Heyne. *il Angew Chemie* 46:473-7 J1 15 '33

**BERYLLIUM hydride**

Quantum mechanics of beryllium hydride. C. E. Ireland. *Phys R* 43:329-36 Mr 1 '33

**BESSE, Arthur**

New president of the National association of wool manufacturers. *por* Textile World 83:1795 O '33

**BESSEMER converters. See Converters****BESSEMER process**

Basic Bessemer steel. *Engineer* 154:591-2 D 9 '32

Basic steel process in France; abstracts of papers read before Société des ingénieurs civils de France. *Engineering* 135:171-2 F 10 '33

Bau und betrieb des neuen Thomasstahlwerkes der firma Hoesch-Köln-Neuessen A.-G. in Dortmund. W. Broel and A. Dittmar. *il diags* plan Stahl & Eisen 53:749-57; Discussion. 757-8 J1 20 '33

Bessemer screw steel is improved. *Steel* 93:40 O 23 '33

British Bessemer; Stewarts & Lloyds, Ltd. plans mill to make Bessemer steel for tubes. *Business Week* p22 D 21 '32

Discours de M. Daladier. *Soc Ing Civils Bul* 85:1254-7 N '32

Discours de M. A. Portevin, président de la Société des ingénieurs civils de France. *Soc Ing Civils Bul* 85:1223-7 N '32

Historique des procédés basiques en métallurgie. L. Guillet. *Soc Ing Civils Bul* 85:1228-33 N '32

Neues verfahren für die kalkzugabe in den Thomaskonverter. K. Thomas. *Stahl & Eisen* 53:148 F 9 '33

New process for the dephosphorisation of pig iron in the basic converter. F. Bicheroux. *Engineer* 154:646 D 23 '32

Le procédé au convertisseur Thomas. P. Piérard. *Soc Ing Civils Bul* 85:1234-9 N '32

Untersuchungen über den metallurgischen verlauf des Thomasverfahrens. F. Körber and G. Thanheiser. *Stahl & Eisen* 52:1176 N 24 '32

**BEST, Alfred M., company, inc.**

Busy is right! publications and activities. *East Underw* 34:21 Ap 21 '33

**BEST and company**

Opportunities in stocks that have not yet discounted their earnings recovery. *Mag of Wall St* 52:232-3 Je 24 '33

Selected stocks to buy for future profit and protection. *Mag of Wall St* 52:77 My 13 '33

**BETA lactose. See Lactose****BETA rays**

Continuous beta-ray spectrum. A. Bramley. *Phys R* 43:767 My 1 '33; Same. *J Fr Inst* 216:275-6 Ag '33

**BETANIN**

Synthetical experiments on the nature of betanin and related nitrogenous anthocyanins. A. M. Robinson and R. Robinson. *Chem Soc J* p25-9 Ja '33

**BETHLEHEM steel corporation**

Companies which should show large gains in earnings. *Mag of Wall St* 52:279 J1 8 '33

How Bethlehem Steel has effected employment stabilization. J. M. Larkin. *Iron Age* 130:954-5+ D 22 '32

**BETHLEHEM** steel corporation—*Continued*  
Lost \$19,404,431. *Barron's* 13:17 F 13 '33  
Takes a \$19-million loss. *Econostat* 1:13+ Mr 25 '33

**BETTENDORF** test. See *Arsenic—Analysis*

**BETTER** business bureaus

Better business bureaus to affiliate with Advertising federation. *Ptr Ink* 164:90-1 S 21 '33

**BETTING**. See *Gambling*

**BEVERAGE** dispensing equipment industry  
Submits code. *il Dom Eng* 142:129+ O '33

**BEVERAGE** workers

Wage rates of cereal beverage workers, 1932. *Monthly Labor R* 36:360-2 F '33

**BEVERAGES**

Effect of light on bottled juices; apple and kraut juices. D. C. Carpenter. *bibliog il Ind & Eng Chem* 25:932-4 Ag '33

Hires concentrates to beat beer; Coca-Cola finds going tougher. *Sales Management* 33:122 Ag 1 '33

Large uses of steel in small ways; bottled beverage coolers. *Steel* 92:25 Ja 9 '33

See also

Beer	Coffee
Bottling	Fruit juices
Cider	Root beer
Coca Cola company	Tea

Advertising

Developing a new product in a competitive market; *Bosco*. W. C. Scull. *il Ptr Ink* 163:10-12 Je 22 '33

New Blue Ribbon malt campaign features radio tie-in; newspaper cartoon series and script. *il Ptr Ink* 162:10+ Mr 23 '33

See also

Ginger ale—Advertising

Statistics

Soft drinks; consumption has been falling off—and now comes beer. *Business Week* p9-10 Ap 26 '33

**BEVERLY HILLS, California**

Water supply

Water softening at Beverly Hills. J. L. Perhab and A. Taylor. *Am Water Works Assn J* 25:504-7 Ap '33

**BIBLIOGRAPHY**

Bibliographical work in connection with the overseas British Empire. E. Lewin. *Assn of Sp Lib & Inf Bur Proc* 1933:102-10

International indexing; the twelfth conference of the International institute of bibliography. Brussels, July 18-20. *Engineering* 136:173 Ag 18 '33

La onzième conférence de l'Institut international de documentation. P. Bourgeois. *Chimie & Ind* 28:1477-85 D '32

Standard catalog for public libraries; annual supplements. M. E. Sears, comp. 390p *Wilson*, H. W. '32

See also

Cataloging

also subdivision Bibliography under various subjects, e.g. Accounting; Aeronautics; Business; Ceramics; Chemistry; Civil engineering; Engineering; Factory management; Hygiene, Industrial; Labor and laboring classes; Labor laws and legislation; Lighting; Mechanical engineering; Paper; Petroleum; Physics; Radio communication; Rubber; Statistics; Steel; Technology; Translations; Waterworks

Best books

A. L. A. catalog, 1926-1931. M. Horton, ed. 330p \$4.50 *American library assn*, Chicago '33

Best books of the year 1931. A. J. Philip, ed. new ser v 3 131p *Simpkin Marshall*, Ltd, London '33

National book exhibit. A. Kroch, comp. 124p *Kroch's book-stores*, inc, Chicago '33

What books shall I read? W. E. Simnett. 327p *Houghton* '33

Bibliography

Checklist of current bibliography. K. Brown, comp. *Lib J* 58:33 Ja 1 '33

Current national bibliographies; a list of sources of information concerning current books of all countries. L. Heyl, comp. 22 numb 1 *American library assn*, Chicago '33  
Index to library reference lists. 1932. M. F. Bonner, comp. *Bulletin of Bibliography* 14:208-10 Ja '33

Indexes

Index to bibliographical papers published by the Bibliographical society and the Library association, London, 1877-1932. G. W. Cole. 262p \$4 *Univ. of Chicago press* '33

Terminology

Bibliographers' glossary of foreign words and phrases. B. Cowles. 82 1 R. R. Bowker co. New York '33

**BICYCLE** tires. See *Tires, Bicycle*

**BICYCLES**

Bicycle rampant; bicycle industry, now in revival. *il Fortune* 8:49-51+ S '33

Engineering outlook; the motor cycle and cycle industry. *Engineering* 135:150-2 F 10 '33

Fire and casualty agent at work; the hazards of cycling. C. G. Hale. *Spectator* 131:11 Ag 10 '33

New cycle for bicycles; revival of two-wheeler. P. H. Erbes, jr. *il Ptr Ink* 163:64-6 Ap 20 '33

Now comes indoor cycling; Iver Johnson adapts a gymnasium idea. *il Ptr Ink* 164:20 S 7 '33

Manufacture

Modern bicycle production utilizes special equipment; Iver Johnson's arms & cycle works. H. R. Simonds. *il Iron Age* 131:13-14+ My 25 '33

**BIG** Bear market. See *Market stores*

**BIGINELLI** reaction

Researches on pyrimidines; the mechanism of formation of tetrahydropyrimidines by the Biginelli reaction. K. Folkers and T. B. Johnson. *Am Chem Soc J* 55:3784-91 S '33

**BILE** acids

Action of selenium dioxide on sterols and bile acids; abstract. R. K. Callow and O. Rosenheim. *Soc Chem Ind J (Chem & Ind)* 52:272-3 Mr 24 '33

Chemistry of the sterols and bile acids. I. M. Heilbron and others. *Soc Chem Ind J (Chem & Ind)* 51:1061-3; 52:10-13 D 23 '32, Ja 6 '33

Conversion of a bile acid into a hydrocarbon derived from 1:2-benzanthracene. J. W. Cook and G. A. D. Haslewood. *Soc Chem Ind J (Chem & Ind)* 52:758-9 S 22 '33

Ring-system of sterols and bile acids. O. Rosenheim and H. King. *Soc Chem Ind J (Chem & Ind)* 51:464-6, 954-7; 52:299-301 My 27, N 18 '32, Ap 7 '33; Discussion. E. L. Kenaway and J. W. Cook. 51:521 Je 10 '32

Structure of the sterols and bile acids. I. M. Heilbron, J. C. E. Simpson and F. S. Spring. *Chem Soc J* p626-35 Je '33

Synthesis of substances analogous to bile acid degradation products. J. W. Baker and H. Burton. *Chem Soc J* p811-18 Jl '33

**BILLBOARDS**

See also

Posters

**BILLHEADS**

Elaborate form headings. *il System and Management Methods* 62:401 S '33

**BILLING**

How reels of film replaced accounts receivable ledgers. *Management Methods* 62:114 Mr '33

Maintaining, reading and billing of water meters in Baltimore, Md. J. S. Strohmeier. *Am Water Works Assn J* 25:916-21 Jl '33; Same. *Water Works & Sewerage* 80:267-9 Jl '33

Maximum billing production with minimum supervision and fewer errors; abstract. J. K. Novins. *Management R* 22:80-1 Mr '33



**BILLING—Continued**

- No more monthly statements; easy house-keeping shop. *Management Methods* 62:65-6 F '33
- Office practice in the Winston-Salem water and sewer department. R. L. Dixon. *Am Water Works Assn J* 25:822-31 Je '33
- Presto! change! now it's a typewriter—now it's a billing machine. *Management Methods* 62:265+ Je '33
- Reel bookkeeping; Strawbridge & Clothier. L. G. Andrews. *il Credit & Fin Management* 35:22-3+ Mr '33
- Speed in customer billing; use of billing machines by Toledo Edison company. *Elec W* 101:169-70 F 4 '33
- Statements eliminated; Square D and Garlock packing. *Management Methods* 62:222 My '33
- Transferring final charges vs. rendering final bills. H. F. Hutcheson. *Am Gas Assn Mo* 15:250-1 Je '33

*See also*

- Billheads  
Collecting of accounts  
Invoices

**BINARY vapor engines.** *See* Steam engines—Binary vapor engines

**BINDING materials**

- Latex as a bonding agent. W. H. Stevens. *India Rubber W* 88:23+ Ap '33
- Utilization of sulphite waste liquor. H. K. Benson. *bibliog Paper Tr J* 95:31-4 N 17 '32

**BINGHAM, Hiram**

Hiram Bingham's N. A. A. C. Caldwell. *Aero Digest* 22:19+ Je '33

**BINGHAMTON, New York****Rapid transit**

- Binghamton's riding public rides buses; why they prefer them. E. F. Theisinger. *il Bus Transportation* 12:404-7 O '33

**BINS, Concrete**

- Design of circular tanks; chart for solution of Janssen's formula. E. Cowan. *Concrete* 41:16 N '33
- Handling and storing of grain, with special reference to Canadian methods. H. H. Broughton. *diags Inst Mech Eng Proc* 124:95-101 '33; Same cond. *Engineer* 155:139-41, supp F 10 '33; Same cond. *Engineering* 135:199-201 F 17 '33; Same cond. *Mech Handling* 20:284, 317 S-O '33
- Moving forms for concrete construction. H. H. Broughton. *il (supp) Engineer* 155:134-5 F 10 '33
- Sliding form work; report of committee 608. L. B. Mercer. *il diags Am Concrete Inst J* 4:201-40 Ja '33
- Sliding form work; supplement to report of committee 608. W. R. Sproul. *il diags Am Concrete Inst J* 4:285-99 F '33

**BIOGRAPHY****Dictionaries**

- Who's who in library service. C. C. Williamson and A. L. Jewett, eds. 457p Wilson, H. W. '33

**BIOLOGICAL abstracts (periodical)**

- Grand master key to biological literature; indexes to Biological abstracts. D. Reddick. *Science* 77:625-7 Je 30 '33

**BIOLOGICAL apparatus**

- Adjustable metal mould for paraffin embedding. W. F. R. Phillips. *diags Science* 76:547 D 9 '32
- Apparatus for dehydrating nematodes. P. Berwick. *diag Science* 78:312-13 O 6 '33
- Device for mounting anatomical preparations. H. W. Schoenborn and C. P. Hickman. *diag Science* 77:287-8 Mr '33
- Improvements in biological laboratory apparatus. E. C. Jeffrey. *Science* 76:597-8 D 23 '32
- Micro vessel for glass electrode determinations of hydrogen-ion activity of biological fluids. I. R. Taylor and J. H. Birnie. *diags Science* 78:172-4 Ag 25 '33
- Mouth pipette and containers for smaller organisms. E. H. Myers. *diag Science* 77:609-10 Je 23 '33

Simple device for the perfusion of the mammalian heart. J. W. Wilson and J. M. Darlington. *diag Science* 77:370-1 Ap 14 '33

*See also***Micromanipulators****BIOLOGICAL chemistry**

- Annual review of biochemistry. J. M. Luck, ed. v2 564p \$5 Stanford univ. press, Stanford University, Calif. '33
- Biochemical investigations. *Can Chem & Met* 17:28-9 F '33
- Biochemical society; abstracts of papers. *Soc Chem Ind J (Chem & Ind)* 52:420-2, 505-6, 583-4 My 12, Je 16, Jl 14 '33
- Biochemistry of medicine. A. T. Cameron and C. R. Gilmour. 506p \$7.25 Williams & Wilkins '33
- Chemistry and agriculture. A. Lauder. *Soc Chem Ind J (Chem & Ind)* 52:792-5 O 6 '33
- Coupled reactions in biological systems. H. F. Schott and H. Borsook. *Science* 77:589 Je 16 '33
- Mechanistic autonomy of nature. C. F. Krafft. 101p C. F. Krafft, Washington, D.C. '33
- Microbial metabolism and its bearing on the cancer problem. A. J. Kluyver. *Science* 76:527-32 D 9 '32
- Neue Gesichtspunkte auf dem gebiete des biologischen kohlenhydratabbaues. R. Nilsson. *Angew Chemie* 46:647-50 O 14 '33
- Pantothenic acid, a growth determinant of universal biological occurrence. R. J. Williams and others. *bibliog Am Chem Soc J* 55:2912-27 Jl '33
- Physical chemistry of living tissues and life processes, as studied by artificial imitation of their single phases. R. Beutner. 337p Williams & Wilkins '33
- Pyrimidines; their amino and amino-oxy derivatives. T. B. Johnson and D. A. Hahn. *Chem R* 13:193-303 [bibliog and index p290-303] O '33
- Research investigations reported to Toronto biochemical society. *Can Chem & Met* 17:7+ Ja '33
- Scientific problems of Canadian fisheries; some chemical aspects of the work of the Pacific biological station, Nanaimo, B.C. N. M. Carter. *il Can Chem & Met* 17:188-90 S '33
- Some chemical aspects of life. F. G. Hopkins. *Soc Chem Ind J (Chem & Ind)* 52:719-29 S 8 '33; Same. *Science* 78:219-31 S 15 '33; Abstract. *Chem Age (Lond)* 29:225-6 S 9 '33

*See also*

- |                     |                         |
|---------------------|-------------------------|
| Bacteria            | Microorganisms          |
| Bacteriology        | Nutrition               |
| Bile acids          | Physiological chemistry |
| Blood               |                         |
| Botanical chemistry | Plant growth            |
| Chlorophyll         | Proteins                |
| Hormones            | Vitamins                |

**BIOLOGICAL laboratories**

- Extension of the Plymouth marine biological laboratory. J. P. Scott. *Science* 76:586 D 23 '32
- Some recent developments in low-temperature research. W. Hardy. *il diag Soc Chem Ind J (Chem & Ind)* 52:45-9 Ja 20 '33

**BIOLOGICAL physics**

- Mechanik und leben. E. Leschke. *Zeit Ver Deutsch Ing* 77:489-92 My 13 '33

**BIOLOGICAL research**

- History of the National research council, 1919-1933; Division of biology and agriculture. F. Payne. *Science* 78:93-5 Ag 4 '33
- Papers at the Cincinnati meeting of the Federation of American societies for experimental biology. *Science* 77:sup6-8 Ap 21 '33

**BIOLOGY**

- Biology and the principle of reproducibility. E. W. Pike. *Science* 78:265-6 S 22 '33
- Conference on quantitative biology at Cold Spring Harbor. *Science* 78:304-5 O 6 '33

*See also*

- |                      |           |
|----------------------|-----------|
| Autotomy             | Evolution |
| Bacteriology         | Genetics  |
| Biological chemistry | Growth    |
| Botany               | Heredity  |
| Cells                | Plants    |

**BIOMETRY**

Analysis of variance in a "2Xs" table with disproportionate frequencies. A. E. Brandt. bibliog Am Statist Assn J 28:164-73 Je '33

**BIOS**

Some observations on the nature and properties of bios; abstract. R. L. Edwards. Soc Chem Ind J (Chem & Ind) 52:271-2 Mr 24 '33

Wildiers' bios; the fractionation of bios from yeast. W. L. Miller, E. V. Eastcott and J. E. Maconachie. Am Chem Soc J 55:1502-17 Ap '33

**BIRD houses**

You do it better with gas, sing Kansas City birds; heating of bird house belonging to Dr O. W. Wilke. il Gas Age 71:93-4 Ja 28 '33

**BIRDS**

Damage to grain fields by wild fowl overrated. W. L. McAtee. Sci Am 148:119-20 F '33

Hailstone damage to birds. W. H. Gates. Science 78:263-4 S 22 '33

**Protection**

Boulder Canyon lake wild life refuge. Science 77:276-7 Mr 17 '33

Keep marshlands for wild fowl. P. G. Redington. il Sci Am 149:14-16 Jl '33

**BIRKENHEAD, England****Harbor**

Dock extension at Birkenhead. il map Engineering 135:498-9 My 5 '33; Engineer 155:450 My 5 '33

**BIRMINGHAM, Alabama**

Rechanneling through the city of Birmingham. J. R. Moore; S. J. Peterson. il Explosives Eng 11:217-23 Jl '33

**Railroads**

Complete grade separation project at Birmingham. il diags plan Ry Age 95:271-5 Ag 19 '33

**Sewerage**

Cost analysis of the Ensley sewage treatment plant, Birmingham, Alabama. H. H. Hendon and M. E. Borriess. il Water Works & Sewerage 80:275-9 Ag '33

Extensive sanitary program. H. H. Hendon. il Manuf Rec 102:20 My '33

**BIRTH control**

Birth control and bigotry. C. C. Little. il Sci Am 148:309-11 Je '33

**BIRTH rate**

Fall of the birth rate and its effects on social policy. L. Hersch. Int Labour R 28:153-67 Ag '33

Fertility of social classes in various types of communities of the east north central states in 1900. C. V. Kiser. bibliog Am Statist Assn J 27:371-82 D '32

**BIRTHMARKS**

Birthmarks treated by radium. Science 78:sup 8 S 29 '33

**BISMUTH**

Absorption spectrum of diatomic bismuth. G. M. Almy and F. M. Sparks. il Phys R 44:365-75 S 1 '33

Bismuth isotopes. F. Allison and E. R. Bishop. Phys R 43:47 Ja 1 '33

Bolivian bismuth industry. T. L. Johnston. flow sheet il diag map Min & Met 14:333-8 Ag '33

Effect of homogeneous mechanical stress on the electrical resistance of crystals. P. W. Bridgman. Phys R 42:858-63 D 15 '32

Effect of tension on the electrical resistance of single bismuth crystals. M. Allen. il diags Phys R 42:848-57 D 15 '32

Electrodeposition of bismuth from perchloric acid solutions. M. Harbaugh and F. C. Mathers. Electrochem Soc Trans 64 (preprint15):155-60 S '33

New phenomena in the change of resistance of Bi single crystals in magnetic fields. O. Stierstadt. Phys R 43:577-9 Ap 1 '33

**Analysis**

Bismuth in copper. Engineer 155:sup [Metallurgist] 45-6 Je 30 '33; Abstract. Soc Chem Ind J (Chem & Ind) 52:473-4 Je 2 '33

Determination of minute traces of bismuth in animal tissues; abstract. G. F. Hall and A. D. Powell. Soc Chem Ind J (Chem & Ind) 52:843 O 20 '33

**BISMUTH alloys**

Contribution à l'étude de la coulabilité des alliages ternaires. A. Portevin and P. Bastien. Génie Civil 102:500 My 27 '33

Matrix alloy reduces tool and die costs. J. R. Weaver. il diags Mach 40:129-32 N '33

Special exercises for students in general chemistry; the preparation and properties of an alloy. G. B. Bachman. il J Chem Educ 10:241-2 Ap '33

**BISMUTH compounds**

Chemical constitution of oil-soluble basic bismuth salts. A. P. T. Easson and F. L. Pyman. Soc Chem Ind J 52:97T-9T Ap 7 '33

**BISMUTH perchlorate**

Electrodeposition of bismuth from perchloric acid solutions. M. Harbaugh and F. C. Mathers. Electrochem Soc Trans 64 (preprint15):155-60 S '33

**BISULFATES**

Absorption and fluorescence spectra of the acid sulfates of quinine and ten of its derivatives in water and aqueous sulfuric acid solution. L. J. Heidt and G. S. Forbes. Am Chem Soc J 55:2701-9 Jl '33

**BISULFITES**

Quantitative determination of formaldehyde and benzaldehyde and their bisulfite addition products. L. H. Donnelly. Ind & Eng Chem Anal ed 5:91-2 Mr 15 '33

**BITUMEN**

Hot water separation of bitumen from Alberta bituminous sand. K. A. Clark and D. S. Pasternack. il diag Ind & Eng Chem 24:1410-16 D '32

**BITUMINOUS materials**

Bituminous emulsions for use in road works. F. Wilkinson and F. J. Forty. 395p Contractors' record, Ltd, London '32

Bituminous pipe coatings. W. M. Wallace and J. A. Parks. Am Water Works Assn J 25:1387-1411; Discussion. E. Rinehart. 1411-17 O '33

Deutschlands versorgung mit mineralölen und bituminösen strassenbaustoffen. C. Walther. Zeit Ver Deutsch Ing 77:1153-6 O 28 '33

Economic significance of pipe linings; bitumastic enamel lining. E. T. Killam. Water Works & Sewerage 80:75-6 Mr '33

Examination of bitumen emulsions; abstract. T. Temme. Inst Pet Tech J 19:369A-70A S '33

Field application by machine of hot bituminous coatings; Gardiner pipe-coating machine. W. T. Smith. il Gas Age 72:339-42+ O 7 '33

Friction losses in bitumastic lined water pipes. C. W. Sherman. Am Water Works Assn J 25:244-7 F '33

Interfacial tension between asphaltic materials and solutions of alkaline inorganic salts. R. N. Traxler and C. U. Pittman. Ind & Eng Chem 24:1391-3 D '32

Investigation into the plastic properties of asphaltic bitumen. R. N. J. Saal and G. Koens. diags Inst Pet Tech J 19:176-212 Mr '33

Liquid asphaltic road materials from the producer's standpoint. P. Hubbard. Am Pet Inst Proc 14M(3):94-8; Discussion. 98-101 My '33

Physical properties of mixtures of bitumen and finely divided mineral matter. A. Evans. Inst Pet Tech J 18:957-91 D '32

Pipe-line protection. S. Gill. bibliog il Ind & Eng Chem 25:49-53 Ja '33

Produits asphaltiques et assimilés. H. Rabaté. Chimie & Ind 29:766-80, 1026-41 Ap-My '33

La protection des chaussées bétonnées et des terrains d'aviation au moyen d'émulsions bitumineuses. Génie Civil 103:91-2 Jl 22 '33



**BITUMINOUS materials—Continued**

- Some modern methods of coating and lining pipe; bitumastic enamel lining, cement mortar and other coating. L. Stuart. Am Water Works Assn J 25:1431-8; Discussion. L. W. Stocker. 1438-42 O '33
- Specifications for liquid asphaltic materials for low-cost roads. E. F. Kelley. Am Pet Inst Proc 14M(3):89-93 My '33
- Treatment of road surfaces with bitumen emulsions; Colas and Terolas. Il Engineering 135:659 Je 16 '33
- Das versuchsprogramm für die untersuchung der aufbereitung und verarbeitung von teer- und bitumenhaltigen strassenbaustoffen. Zeit Ver Deutsch Ing 77:1052-4 S 23 '33

*See also*

- |            |                   |
|------------|-------------------|
| Asphalt    | Oil shales        |
| Asphaltite | Road oils         |
| Coal tar   | Roads, Bituminous |
| Gilsonite  |                   |

**Analysis**

- Rapid and accurate analysis of bituminous materials. D. M. Wilson. Il Soc Chem Ind J (Chem & Ind) 52:579-81 JI 14 '33

**Specifications**

- Liquid asphalt road materials specifications proposed. Nat Pet N 25:40 My 17 '33

**BITUMINOUS sand**

- Hot water separation of bitumen from Alberta bituminous sand. K. A. Clark and D. S. Pasternack. Il diag Ind & Eng Chem 24:1410-16 D '32

**BLACK**

- Black dye from the salt-bush. C. D. Mell. Textile Col 55:489 JI '33

- Dyeing colored cotton in black shades; abstract. P. Dory. Textile Col 55:618 S '33

*See also*

- Aniline black  
Carbon black  
Sulfur black

**BLACK carpet beetle**

- Black carpet beetle. N. D. White. Il Am Dyestuff Rep 21:683-4+ D 5 '32

**BLACK gum**

- Chemical properties of screen fractions of black gum and slash pine ground wood pulps. E. R. Schafer and M. Santaholma. Paper Tr J 97:46-7 N 9 '33

**BLACK ROCK, New York****Railroads**

- Grade separation eliminates many multiple-track crossings; four railroads join in the construction of two long underpasses at Black Rock, N. Y. Il Ry Age 95:182-4 JI 29 '33

**BLACKALL, Frederick S. Jr.**

- President, Taft-Pierce mfg. co. por Steel 93:19 JI 24 '33

**BLACKBOARDS**

- Tilting blackboard for geologic instruction. H. S. Palmer. Science 78:388 O 27 '33

**BLACKMER, Charles F. 1879-**

- President, American steel & wire co. por Steel 91:16 N 28 '32

**BLACKSMITHS**

- Wages and hours of union blacksmiths. Monthly Labor R 37:355-7 Ag '33

**BLANCOMETER**

- Blancometer; a means of determination of nearly white colorings. Am Dyestuff Rep 22:461 JI 17 '33

**BLANKETS**

- Blankets and barter; Chatham manufacturing co. Fortune 8:20+ O '33

- Part wool; blanket manufacturers will be more definite about wool content. Business Week p9 Ja 25 '33

**BLAST furnace gas**

- Blast furnace activities in 1932. W. A. Haven and W. C. Buell, jr, comps. Blast F & Steel Pl 21:33-4 Ja '33

- Blast furnace gas engines. F. J. Taylor. Il diags Blast F & Steel Pl 21:216-19 Ap '33

- Combustion of solid, liquid, and gaseous industrial fuels. H. L. Pirie. Gas J (Lond) 201:96-8 Ja 11 '33

- Co-ordinated heat conservation at the Normanby Park steel works, Scunthorpe; abstract. W. J. Brooke. Engineer 156:288-9 S 22 '33; Discussion. Engineer 156:288-9 S 22 '33; Engineering 136:339 S 22 '33

- Generation of steam from blast-furnace gas. A. F. Webber. Iron & Steel Inst J 126:11-47 [bibliog p46-7] no 2 '32; Excerpts. Blast F & Steel Pl 20:843-7, 898-900; 21:49-50+ N '32- Ja '33; Engineering 134:577-9 N 11 '32; Abstracts. Engineer 154:350 O 7 '32; Mech Eng 54:868-9 D '32; Discussion. Iron & Steel Inst J 126:48-73 no 2 '32; Engineer 154:350 O 7 '32

- Notes on the utilisation of blast-furnace gas. W. E. Baxter. diags Engineering 136:318-20 S 15 '33; Same cond. with tables. Blast F & Steel Pl 21:593-4 N '33; Abstracts. Elec R (Lond) 113:392 S 22 '33; Engineer 156:289 S 22 '33

- Recent developments in American blast-furnace design and practice. W. A. Haven. Iron & Steel Inst J 127:72-6 no 1 '33; Same. Blast F & Steel Pl 21:480-2 S '33

- Ueber die genauigkeit der gichtgasbilanz. B. von Sothen. Stahl & Eisen 53:281-2 Mr 16 '33

**Cleaning**

- Le dépoussiérage des gaz de haut fourneau par voie humide. Il diags Génie Civil 102:14-16 Ja 7 '33

- Lodge-Cottrell large blast-furnace gas cleaning plant. Engineer 156:193 Ag 25 '33

- Recent developments in American blast-furnace design and practice. W. A. Haven. Iron & Steel Inst J 127:56-9 no 1 '33; Same. Engineering 135:502 My 5 '33; Same. Blast F & Steel Pl 21:366-7 JI '33; Abstract. Elec R (Lond) 112:632-3 My 5 '33; Discussion. Iron & Steel Inst J 127:81-5 no 1 '33; Engineering 135:541 My 19 '33

- Über den stand der hochofengasreinigung. K. Guthmann. bibliog Il Zeit Ver Deutsch Ing 77:173-6 F 18 '33

**BLAST furnace stoves**

- Recent developments in American blast-furnace design and practice. W. A. Haven. Iron & Steel Inst J 127:54-6 no 1 '33; Same. Engineering 135:502 My 5 '33; Same. Blast Furnace & Steel Pl 21:365-6 JI '33

- Vergleich von ein- und mehrzonenwinderhitzern. F. Kofler and J. W. Gilles. diags Stahl & Eisen 53:393-7 Ap 20 '33

- Winderhitzer auf deutschen hochofenwerken. H. Schmitz. diags Stahl & Eisen 53:821-31, 856-61 Ag 10-17 '33

**BLAST furnaces**

- Beitrag zur bewertung von eisenerzen für den hochofen. E. Diepschlag, M. Zillgen and H. Poetter. Il diags Stahl & Eisen 52:1154-62 N 24 '32

- Blast furnace activities in 1932. W. A. Haven and W. C. Buell, jr, comps. Blast F & Steel Pl 21:32-4+ Ja '33

- Blast furnace smelting practice. A. J. MacDonald. Blast F & Steel Pl 20:883-6; 21:103-6, 157-8, 215+; 258-9+ D '32, F-My '33

- Composition and deoxidation of iron oxide sinters. T. L. Joseph, E. P. Barrett and C. E. Wood. bibliog Blast F & Steel Pl 21:147-50, 207-10, 260-3, 321-3+ Mr-Je '33

- Einfluss der ofenabmessungen auf den brennstoffverbrauch im hochofenbetrieb. A. Wapenhensch. Stahl & Eisen 53:988-9 S 21 '33

- External heat loss of a blast-furnace. D. F. Marshall. diags Iron & Steel Inst J 127:44 no 1 '33; Abstracts. Engineering 135:526 My 12 '33; Engineer 155:471 My 12 '33; Discussion. Iron & Steel Inst J 127:145-51 no 1 '33; Engineering 135:526 My 12 '33; Engineer 155:471 My 12 '33

- Intermittent operation of blast furnaces pronounced a success. Iron Age 131:283 F 16 '33

- Making phosphoric acid in the blast furnace. H. W. Easterwood. Il Chem & Met Eng 40:283-7 Je '33

**BLAST furnaces—Continued**

Modern blast furnace plant; the Irlam works of the Lancashire steel corporation. *il Chem Age (Lond)* 29:sup 10-11 Ag 5 '33  
 Möllering nach physikalischen grundsätzen. A. Wagner, A. Holschuh and W. Barth. *il diags Stahl & Eisen* 52:1109-16; Discussion. 1116-18 N 17 '32

Niederblasen von hochöfen. *Stahl & Eisen* 53: 223 Mr 2 '33

Recent developments in American blast-furnace design and practice. W. A. Haven. *Iron & Steel Inst J* 127:51-80, pl 2-6 no 1 '33; Same cond. *Engineering* 135:501-4, pl 30 My 5 '33; Excerpts. *Blast F & Steel Pl* 21:364-7, 415-18, 480-2 JI-S '33; Abstracts. *Elec R (Lond)* 112:632-3 My 5 '33; *Chem Age (Lond)* 28:sup 28 My 6 '33; *Génie Civil* 102: 513-15 Je 3 '33; Discussion. *Iron & Steel Inst J* 127:81-5 no 1 '33; *Engineering* 135: 541 My 19 '33; *Engineer* 155:471 My 12 '33

Reduktionsversuche mit eisenerzen und sinter unmittelbar am hochöfen. W. Feldmann, J. Stoecker and W. Ellender. *diags Stahl & Eisen* 53:289-96; Discussion. 296-300 Mr 23 '33

Re-screens coke at the blast furnace skips; Weirton steel co, Weirton, W. Va. E. J. Tourner. *il diag Iron Age* 131:585-6 Ap 13 '33

Unfallverhütungsmassnahmen im hochöfenbetriebe der Vereinigten stahlwerke, A.G., Bochumer verein. A. Rein. *il diags Stahl & Eisen* 53:797-801 Ag 3 '33

Verhalten von zink im hochöfen. W. Feldmann. *Stahl & Eisen* 52:1290 D 29 '32

Wasserkühlung des hochöfens. B. v. Sothen. *diags Stahl & Eisen* 53:85-91, 121-5 Ja 26-F 2 '33; Abstract. *Génie Civil* 103:92-3 JI 22 '33

*See also*

Blast furnace gas	Iron workers
Blowers	Iron works
Iron metallurgy	Slag

**Air supply**

Einfluss der windführung auf den hochöfengang. A. Michel. *diags Stahl & Eisen* 53: 1073-8; Discussion. 1078-80 O 19 '33

Einfluss der windmenge und windtemperatur auf die oxydationszone im hochöfengestell. G. Eichenberg and W. Ellender. *diags Stahl & Eisen* 53:997-1000 S 28 '33

**Charging**

Luminous signal board shows blast furnace charging. Demag, Duisburg, Germany. *il diag Steel* 93:28+ S 11 '33

**Control**

Centralized control of blast furnace. O. P. Van Steewen. *il diags Blast F & Steel Pl* 21:523-6, 579-80 O-N '33 (to be cont)

Fanning—a new technique in blast furnace control. *il Steel* 92:86 Ja 2 '33

**Equipment**

Lichtsignalanlage für einen hochöfen. *diag Stahl & Eisen* 52:1272 D 22 '32

*See also*

Blast furnace stoves

**Fuel**

Coke consumption in blast-furnace practice; the effect of removal of breeze. D. F. Marshall and R. V. Wheeler. *diags Iron & Steel Inst J* 127:87-113, pl 7-8 no 1 '33; Same cond. *Engineering* 135:531-2 My 12 '33; Abstract. *Engineer* 155:470 My 12 '33; Discussion. *Iron & Steel Inst J* 127:114-25 no 1 '33; *Engineering* 135:525-6 My 12 '33; *Engineer* 155:470-1 My 12 '33

Dry-quenched coke for the blast furnace; with cost data. J. F. Miller. *il diag Iron Age* 132:12-15 Ag 24 '33

**Lining**

Refractory linings for modern blast furnaces. M. Barrett. *Soc Chem Ind J (Chem & Ind)* 51:972-3 N 25 '32; Same. *Blast F & Steel Pl* 21:123-4 F '33

**BLASTING**

Blasting a cutoff channel on the Saco river. L. D. Barrows. *il map Eng N* 111:198 Ag 17 '33

Blasting channels for flood control. *Manuf Rec* 102:46 Ap '33

Blasting procedure at Southwestern Portland cement company. J. C. Coyle and R. Mann. *il maps Explosives Eng* 11:148-51 My '33

Carbon dioxide for blasting; Cardox. *Soc Chem Ind J (Chem & Ind)* 51:940 N 11 '32

Comparison of blasting methods in trap rock and dolomite quarries; New York trap rock corporation. S. A. Jones. *il diags Explosives Eng* 11:71-4 Mr '33

Demolishing a 22-ton casting for foundry iron. *diags Eng & Min J* 134:156 Ap '33

Details of a pier demolition job; China Basin, San Francisco. E. F. Ward. *il diags Explosives Eng* 10:375-8 D '32

Device to make wrapped stemming. *diags Eng & Min J* 134:68 F '33

Drainage canal reclaims swamp land for agriculture. F. Barbegat. *il Explosives Eng* 11: 317 O '33

Europe breaks scrap iron in armored blasting pits. R. Feuchtinger. *il Explosives Eng* 11: 106-7 Ap '33; Abstract. *Steel* 92:52 Ap 10 '33

Explosives demolish stack after other methods fail. E. F. Ward. *il Explosives Eng* 11:266-7 S '33

Explosives drain flooded lands. R. W. McKee. *il Explosives Eng* 11:213 JI '33

Explosives for settling highway fills. E. Godfrey. *diags Can Eng* 64:11-13 My 2 '33

Explosives important to Hoover Dam progress; illustrations. *Explosives Eng* 11:16-17 Ja '33

Mountain sculpture; use of dynamite in carving Mount Rushmore memorial. G. Borglum. *il Sci Am* 148:7-9 Ja '33

New method of blasting swamp for highway fill. C. L. Wooley. *il diags Eng N* 110:715-17 Je 1 '33

New methods in highway fill settlement work in Rhode Island. *il Roads & Sts* 76:249-52 JI '33

Open pit blasting at Flin Flon. M. A. Roche. *diags Can Min J* 54:219-20 Je '33

Progress in blasting with LOX at Chuquicamata. W. D. B. Motter, jr. *il diag Min & Met* 14:367-72 S '33

Quarry blast that had to be right; Union Portland cement company, Devil's Slide, Utah. H. Petersen. *il diag Explosives Eng* 11:263-5 S '33

Rechanneling through the city of Birmingham. J. R. Moore; S. J. Peterson. *il Explosives Eng* 11:217-23 JI '33

Record underground blast; fifty-five tons of explosive in a single shot at Climax, Colorado. W. J. Coulter and W. E. Romig. *il diags Eng & Min J* 134:405-9 O '33

Record well-drill blast aids progress at San Gabriel dam no. 2. R. C. Fleming. *il diags Explosives Eng* 11:231-7 Ag '33

Settling a road embankment by underfill blasting. C. G. Wahl. *bibliog Pub Works* 64:15-16 Mr '33

Smokestack brought to the ground by explosives. J. K. Walsh. *il Explosives Eng* 11: 75 Mr '33

*See also*

Coal mines and min-	Detonators, Electric
ing—Blasting	Dynamite
Coal mines and min-	Explosives
ing—Explosives	Wrecking

**Safety devices and measures**

Delphia blast-protection device. *il Min & Met* 14:74 Ja '33

How explosives made New York harbor safer; illustrations from the files of the N.Y. daily graphic of 58 years ago. *Explosives Eng* 11:205-12 JI '33

How to prevent so-called quick fuses. A. Laprairie. *Can Min J* 54:342 S '33



**BLASTING**—Safety devices and measures—*Continued*

Misfire hazard in blasting reduced by simple safety device. *il* diags Eng & Min J 133: 639-41 D '32

*See also*

Coal mines and mining—Safety measures

**BLASTING, Subaqueous**

Bombing out subaqueous rock at Golden Gate bridge pier. *il* Eng N 111:93-5 JI 27 '33

Explosives widen and deepen Miami river and canal. R. S. Petty. *il* Explosives Eng 11: 344-5 N '33

New channel in the upper Yangtze. H. R. Dixon. *il* Comp Air M 38:4239-42 O '33

**BLEACHERIES**

Bleachery modernization permits quicker delivery and variety of finish; Union bleachery. *il* Textile World 83:436-7 F 28 '33

**Management**

Effectiveness in grey room operation, can it be improved today? M. W. Alling. plan Am Dyestuff Rep 22:109-12, 139-41 F 13 '33

**Safety devices and measures**

Exceptional accident reduction record; Sayles Biltmore bleacheries. Safety Eng 65:51 F '33

**BLEACHERS' association limited**

Ordinary general meeting, 34th, Manchester. Economist 117:36-7 JI 1 '33

**BLEACHING**

Bleaching of pile fabrics. B. S. Hillman. diags Melland 5:204-6, 242-4 O-N '33 (to be cont)

Bleaching with peroxides. P. W. Hargreaves. Textile Col 54:842-4; 55:43-4 D '32-Ja '33

Determination of the hydrogen ion concentration of hypochlorite solutions with the glass electrode. G. F. Davidson. bibliog Textile Inst J 24:T185-206 My '33

Hydrogen peroxide bleaching of wool, cotton, and silk. L. E. Weber. Textile Inst J 24: P178-93 Ag '33; Excerpts. Chem Ind 33:321, 323 O '33; Abstracts. Textile Col 55:701-2 O '33; Chem Age (Lond) 29:374 O 21 '33

Peroxide bleaching. H. G. Smollens. Am Dyestuff Rep 22:600-2 O 9 '33

Practical ideas in processing cotton, rayon, silk, and linen piece goods. A. C. Estey. Textile Col 55:171-3, 267-9 Mr-Apr '33

Rapid control methods for the bleach house; two tests for the oxidising power of detergent liquors. Chem Age (Lond) 27:601 N 26 '32

Some observations on the pH values of hypochlorite solutions. L. P. Lynch and C. R. Nodder. Textile Inst J 23:T309-18 N '32

Sulfur dioxide in the textile industry. A. K. Scribner. Am Dyestuff Rep 22:185-7 Mr 13 '33

Use of silicates in the textile industry. W. Stericker. Am Dyestuff Rep 22:8-10; Discussion. 10-13 Ja 2 '33

*See also*

Bleacheries	Dyes and dyeing
Bleaching materials	Paper making—
Decolorization	Bleaching

**Cotton**

Bleaching with ozone; abstract. W. Bauer. Am Dyestuff Rep 22:460 JI 17 '33

Comparison of a modern U.S.S.R. kieren and bleaching process with the usual western methods. A. J. Hall. Am Dyestuff Rep 22: 1-4 Ja 2 '33

Determination of the hydrogen ion concentration of hypochlorite solutions with the glass electrode; variation of the hydrogen ion concentration of hypochlorite solutions during the bleaching of cotton. G. F. Davidson. Textile Inst J 24:T194-206 My '33; Abstract. Am Dyestuff Rep 22:536-7 Ag 28 '33

Effectiveness in grey room operation, can it be improved today? M. W. Alling. plan Am Dyestuff Rep 22:109-12, 139-41 F 13 '33

pH control in bleaching and finishing cotton. C. E. Mullin. Textile Col 55:81-4+ F '33

Impoverishment of rayon. A. J. Hall. Textile Col 55:187-8 Mr '33

Improvements in piece bleaching machinery. A. Grunert. *il* diags Soc Dyers & Col J 49:285-8; Discussion. 288-90 S '33

Kier boiling, peroxide and sodium hypochlorite bleaching, and anti-chloring cellulose fabrics. M. W. Alling. *il* Am Dyestuff Rep 22:544-6+ S 11 '33

Method for bleaching absorbent cotton? Textile Col 55:347 My '33

Modern bleaching of cotton fabrics. W. H. Adams. diags Melland 4:663-5, 718-20 F-Mr '33

Peroxide bleach on cotton and cotton-rayon hosiery. W. H. Hand. *il* Textile World 83: 740-1 Ap '33

Peroxide bleaching of cotton piece goods. C. L. Eddy. Am Dyestuff Rep 21:725-7 D 19 '32

Practical ideas in processing cotton, rayon, silk, and linen piece goods. A. C. Estey. Textile Col 55:171-3 Mr '33

Tendered cellulose fibers and alkali treatments; effects of alkalies on overbleached cotton and rayon materials. Textile Col 55: 232-3+ Ap '33

Textile dyeing, bleaching and finishing. W. Woosnam. Comm & Fin 22:74-5 Ja 11 '33

Weakening of cotton with hydrogen peroxide. L. Kollmann. Melland 5:162 Ag-S '33

**Cotton—artificial silk**

Peroxide bleach on cotton and cotton-rayon hosiery. W. H. Hand. *il* Textile World 83: 740-1 Ap '33

Print-works methods for bleaching cotton-rayon fabrics. R. Cottrell. Textile World 83:1271 JI '33

**Linen**

Study of the flax chloramines. M. M. Tschilkin. *il* Melland 5:249-51 N '33 (to be cont)

**Silk**

Bleaching of silk with hydrogen peroxide. Textile Col 55:702 O '33

**Silk, Artificial**

Impoverishment of rayon. A. J. Hall. Textile Col 55:187-8 Mr '33

Printing and bleaching rayon and construction of leno weave piece goods. A. C. Estey. diags Textile Col 55:49-52, 101-3+ Ja-F '33

Rayon dyeing and finishing. B. L. Hathorne. Am Dyestuff Rep 22:353-4+, 382, 481-2 Je 5-19, JI 31 '33

Tendered cellulose fibers and alkali treatments; effects of alkalies on overbleached cotton and rayon materials. Textile Col 55: 232-3+ Ap '33

**Wool**

Bleaching wool for the new white dress suits. G. Rice. diag Textile Col 55:463+ JI '33

Modern methods of wool bleaching. J. F. Holmes. Textile Col 55:250+ Ap '33

New wool bleaching process. Chem Age (Lond) 23:461 My 20 '33

**BLEACHING machinery**

Improvements in piece bleaching machinery. A. Grunert. *il* diags Soc Dyers & Col J 49:285-8; Discussion. 288-90 S '33

Some examples of modern finishing machinery development. W. J. Norton. diag Textile Inst J 24:P231-2 S '33

**BLEACHING materials**

Bleaching clay in water purification. G. D. Norcom. *il* Water Works & Sewerage 80: 53-4 F '33

Extraction of oil and fat in spent bleaching clay; Buss process. Chemicals 38:7 N 13 '33

Filtrol co. has unique fullers' earth substitute. Oil Paint & Drug Rep 122:23 D 19 '32

Modern methods of wool bleaching. J. F. Holmes. Textile Col 55:250+ Ap '33

New bleaching agent. A. J. Hall. Textile Col 55:40 Ja '33

**BLEACHING materials—Continued**

Wide variety of bleaching clays in United States to satisfy the needs of petroleum refiners. P. G. Nutting. *Oil & Gas J* 31:14 Ja 26 '33

*See also*

Bleaching powder      Hydrogen peroxide  
Chlorine                  Sodium hypochlorite  
Fuller's earth

**BLEACHING powder**

Action of bleaching powder on ketones and on ethyl acetoacetate. C. D. Hurd and C. L. Thomas. *Am Chem Soc J* 55:1646-9 Ap '33

**BLED SOE, Samuel Thomas, 1868-**

Bledsoe succeeds Storey on Santa Fe. *por Ry Age* 94:671-2 My 6 '33

**BLEILE, Albert Martin, 1856-1933**

Sketch. *Science* 78:256-7 S 22 '33

**BLIND**

Blind can read by ear. *il Sci Am* 148:121 F '33  
Blind in school and society. T. D. Cutsforth. 263p \$2.50 Appleton '33

Dogs at work; the Seeing Eye school. *il Fortune* 8:66-7 Jl '33

Exaggerations on telescopic spectacles. *Sci Am* 148:165 Mr '33

Facial expressions of the blind. G. Dumas. *Science* 77:sup7 Ja 20 '33

Professional writing; opportunities for the blind in journalism and allied fields. G. Lathrop. 41p pa 50c American foundation for the blind, inc, 125 E. 46th st, New York '33

**BLIND, Periodicals for**

Directory of periodicals of special interest to the blind in braille and inkprint. H. Lende, comp. 58p pa 25c American foundation for the blind, inc, 125 E. 46th st, New York '33

**BLINDNESS**

*See also*

Insurance, Eyesight

**BLOC system**

Government by blocs. J. M. Beck. *Pub Serv Management* 54:13-14 Ja '33

**BLOOD**

Carbonic anhydrase; abstract. N. U. Meldrum and F. J. W. Roughton. *Soc Chem Ind J (Chem & Ind)* 52:271 Mr 24 '33

Development of organized vessels in cultures of blood cells. R. C. Parker. *Science* 77:544-6 Je 2 '33

Mammalian life without red blood corpuscles. W. R. Amberson and others. *Science* 78:106-7 Ag 4 '33

Testing the blood resistance of butchers' wrapping paper. C. E. Libby and L. Parkinson. *il Paper Tr J* 96:37-40 My 4 '33

**Analysis**

Beiträge zur alkoholbestimmung im blut nach Widmark. H. Kaiser and E. Wetzel. *bibliog Angew Chemie* 46:622-5 S 30 '33

La Motte blood chemistry handbook. 82p La Motte chemical products co, Baltimore '32

Rapid micro method for the determination of chlorides in fluids. L. T. Fairhall and J. W. Heim. *Am Chem Soc J* 55:968-70 Mr '33

Technical refinements for the micro colorimetric method of iodine in blood. R. G. Turner and M. Z. Weeks. *Am Chem Soc J* 55:254-8 Ja '33

**Examination**

Additional notes on the preparation and examination of thick blood films for malaria diagnosis. W. H. W. Komp. *Pub Health Rep* 48:875-84 Jl 28 '33

Estimation of basophilic cells (reticulocytes) in blood by examination of ordinary blood film. R. R. Jones. *Pub Health Rep* 48:1011-20 [bibliog p1019-20] pl 1 Ag 18 '33

**Testing**

New blood test may decide kinship. C. Todd and R. G. White. *Sci Am* 147:362-3 D '32

New test for drunken drivers. K. Hansen. *Sci Am* 148:290+ My '33

Study of the relationships of animals; ultracentrifuge for testing blood. T. Svedberg. *Science* 78:sup6 S 8 '33

**Transfusion**

Blood for transfusions. *Sci Am* 149:127-8 S '33

**BLOOD pressure**

Hemodynamic and respiratory changes following the manipulation and traction of the gastrohepatic ligament; abstract. A. B. Luckhardt, R. Alpert and S. Smith. *Science* 76:545 D 9 '32

Physiologic changes during exposure to ionized air. C. P. Yaglou, A. D. Brandt and L. C. Benjamin. *bibliog Heating-Piping* 5:423-30 Ag '33; Same cond. *J Ind Hygiene* 15:341-53 S '33

**BLOOMINGTON, Indiana****Sewerage**

Bloomington's sewage disposal plant wins heated campaign. *Concrete* 41:15 Ag '33

**BLOTTERS**

Blotter contest pulls fifteen per cent replies. C. V. Putnam. *il Ptr Ink* 162:33-4+ Ja 5 '33

Blotters that keep out of the waste-basket. *il Ptd Salesmanship* 60:240 N '32

Blotters that really sell. B. H. Briscoe. *il Ptd Salesmanship* 60:207 N '32

These blotters leave nothing to dealer's imagination. E. Peterson. *Ptr Ink* 161:77-8 N 17 '32

**BLOWERS**

Ausnutzung der kinetischen austrittsenergie der luft bei ventilatoren mittels diffusoren. H. Vüllers. *diags Zeit Ver Deutsch Ing* 77:847-9 Ag 5 '33

Automatic draft induction makes for fuel economies. F. A. Westbrook. *il Dom Eng* 141:67 F '33

Bryan Donkin rotary blower with constrained blades. *il diags Engineering* 135:211, 212 F 24 '33

Fan, blower and suction pipe systems. J. W. Romig. *Glass Ind* 14:41-3+ Ap '33

Hochofen-turbogebläse für Russland. A. Hinz. *Zeit Ver Deutsch Ing* 77:131-2 F 4 '33

Inexpensive Muencke blower. R. F. Robey. *diag Ind & Eng Chem Anal ed* 5:148 Mr 15 '33

Power production from sludge gas at Springfield, Ill.; with cost data. W. B. Walraven. *il diag Water Works & Sewerage* 80:151-6 My '33; Same cond. *Eng N* 110:682-3 My 25 '33

Venting gas-fired boilers with positive pressure blowers. E. T. Poor. *diag Gas Age* 72:127-8 Ag 5 '33

Weigh all air entering the cupola. A. W. Weston. *Foundry* 61:24+ O '33

Works of Messrs. C. A. Parsons and company, limited. *il diags Engineering* 134:648, 654 D 2 '32

*See also*

Airplane engines—	Exhaust systems
Superchargers	Fans, Mechanical
Blast furnaces	Mine ventilation
Diesel engines—Su-	Soot blowers
perchargers	Ventilation

**BLOWPIPES**

Simple burner for blowpipe reaction. I. A. Cowperthwaite. *diag J Chem Educ* 10:96 F '33

**BLUE**

Blue sodium salt of rhodamine- $\beta$  and some related substances. W. R. Brown and F. A. Mason. *Chem Soc J* p1264-9 S '33

*See also*

Indigo  
Methylene blue  
Prussian blue

**BLUEPRINTING**

pH value of blue-print sensitizing solutions. P. K. Winter and H. V. Moyer. *il Ind & Eng Chem* 25:461-2 Ap '33

Photographic technique for the study of extensive data on small populations. C. W. Darrow. *Science* 78:61-2 Jl 21 '33

**BLUEPRINTS**

Estimating weights from blue prints. J. H. Hill. *diags Foundry* 61:36-7+ Je '33



**BLUE RIDGE corporation**

Shenandoah-Blue Ridge statement for 1932.  
Barron's 13:8 Ja 30 '33

**BLUE sky laws.** See Securities—Law**BOARD of mediation, Railroad.** See Railroad board of mediation**BOAT building**

How to build 20 boats. W. Farmer, ed. 145p  
Fawcett pub. inc, Minneapolis, Minn. '33  
Model sail and power boats. C. W. Horst. 96p  
\$2 Bruce pub. co, New York '33

**BOAT fabrics**

Bleaching, dyeing and waterproofing boat  
duck. G. Rice. il Textile Col 55:169-70 Mr  
'33

**BOATS**

Air drive for boats for shallow water. il diag  
Engineering 136:192 Ag 25 '33  
Imperishable imperial metal; metal fixtures of  
Caligula's pleasure galleys. Can Min J 53:  
545 D '32

*See also*

Barges	Lifeboats
Coast guard cutters	Motor boats
Dredges	Shipbuilding
Electric boats	Ships
Ferryboats	Steamboats
Fishing boats	Submarine boats
Flying boats	Towboats
Freight ships	Yachts

**BOATS, Electric.** See Electric boats**BOBBINS**

Bobbin builder quadrant; method of adjust-  
ment on spinning and twisting machines.  
C. Amson. diag Melland 5:165-6 Ag-S '33

**Advertising**

Bobbin makers advertise against cheap for-  
eign goods. Ptr Ink 162:54 Mr 23 '33

**BODENSEE.** See Constance, Lake of**BOGERT, Marston Taylor**

American contemporaries. H. L. Fisher. por  
Ind & Eng Chem 25:591-2 My '33

**BOHN aluminum and brass corporation**

Companies emerging from the red. Mag of  
Wall St 52:178-9 Je 10 '33

Low price stocks that can be purchased now  
for later appreciation. Mag of Wall St 51:  
216 D 10 '32

Raises dividend. Econostat 1:12, 32 N 11 '33

**BOHR, Niels**

Professor Bohr at Pasadena. R. M. Langer.  
Science 77:sup10 My 26 '33

**BOILER explosions**

Accidents to heating and hot water supply  
equipment. il Locomotive 39:175-7 Ap '33

Boiler explosion inquiries. Engineering 135:  
233-4, 621-2; 136:220, 277 F 24, Je 9, S 1-8 '33

Natural gas furnace explosion at Colorado  
Springs. il Locomotive 39:167-8 Ap '33

Power boiler accidents. il Locomotive 39:  
202-4 Jl '33

Recent power boiler explosions involving loss  
of life. il Locomotive 39:171-3 Ap '33

Steam heating boilers in violent explosions.  
il Locomotive 39:143-4 Ja '33

Three examples of furnace explosion. il Loco-  
motive 39:130-1 Ja '33

**BOILER furnaces.** See Furnaces, Boiler**BOILER inspection**

Improved means of studying plate embrittle-  
ment; use of magniscope and photomicrog-  
raphy. J. P. Morrison. il diag Locomotive 39:  
162-6 Ap '33

Photographic investigation of caustic em-  
brittlement. J. P. Morrison. il Locomotive  
39:196-202 Jl '33

**BOILER plants**

Battersea power station. il diag Engineer 155:  
498-500, 502, 646-8 My 19, Je 30 '33

Boiler plant and equipment development. il  
diags Power Pl Eng 36:14-20 Ja '33

Forstmann woolen co. adds power generation,  
scraps old boiler plants. F. L. Bradley. il  
Power 77:559-61 N '33

Forstmann woolen co. builds two modern  
power plants. diags Power Pl Eng 37:464-5  
N '33

Modernized boiler plant gives 31% savings in  
operating costs; Willimantic mills of the  
American thread co. S. B. Gammel. plans  
Textile World 82:984-5 N '32

Steam for making gas; new boiler plant at  
the Elizabethtown consolidated gas co. at  
Elizabeth, N. J. il diags Power Pl Eng  
37:414-17 O '33

Three 30,000-kw. electric-steam generators  
in paper mill; Ontario paper company. V.  
R. Young. il Elec W 102:317-18 S 2 '33

*See also*

Ash handling	Draft
Boilers	Feed water
Chimneys	Steam plants

**Costs**

90.3% boiler efficiency—an average for 16  
months; cost tables; International harvester  
company. Power 77:112-14 Mr '33

U.S. steam \$\$ in Baltimore; post office and  
customs house; estimated costs of purchased  
and locally generated steam. E. H. Thomp-  
son. Power 77:200-1+ Ap '33

**Efficiency**

Saving 1,000 tons of coal; American machine  
& foundry company, Brooklyn. il Factory  
& Ind Management 83:469 D '32

**Equipment**

Bennis stokers at a paper mill. il diag Engi-  
neer 155:573-4 Je 9 '33

Boiler house instruments; improvements in  
design and reliability. W. G. Marskell. il  
diags Electrician 111:509-11+ O 27 '33

Cincinnati terminal boilers roundhouse swap  
heat. il plan Power 77:186-8 Ap '33

Efficient stoker, redesign of boilers and instru-  
ments modernize college plant; Ball state  
teachers college. T. R. Davis. diags Heat &  
Ven 30:42-3 F '33

Government hospital in Northwest has oil-  
fired boilers; U. S. marine hospital, Seattle.  
C. H. Knowles. il Heat & Ven 30:33-6 Ap  
'33

High heat liberation with gas in Dallas  
boilers. J. B. Nealey. il Power 77:410-11  
Ag '33

Insulation for boiler rooms and piping sys-  
tems. il Power Pl Eng 37:211-12 My '33

Review of power and mechanical equipment.  
il diags Power 76:356-83 Mid-D '32

Survey of instruments in the heating plants  
of large Chicago buildings. J. A. Masek.  
il Heat & Ven 30:9-14 O '33

Waste heat boiler in the small gas plant.  
H. M. Riley. il diags Am Gas J 138:33-6 Ap  
'33

*See also*

Boilers	Fuel economizers
Carbon dioxide re- corders	Furnaces, Boiler
Coal handling	Pressure gages
Feed water heaters	Soot blowers
Feed water regulators	Stokers, Mechanical
	Water gages

**Management**

Charting boiler operation saves coal. L. A.  
Corwin. Power 77:409 Ag '33

Efficient boiler management, with special re-  
ference to the cost per therm. J. Webster.  
Gas J (Lond) 202:165-7 Ap 19 '33

90.3% boiler efficiency—an average for 16  
months; cost tables; International harvester  
company. Power 77:112-14 Mr '33

**Safety devices and measures**

Automatic gas valve reduces hazard. diag Eng  
& Min J 134:54 F '33

**BOILER plates****Testing**

Die beurteilung von kesselblechen durch die  
kerbbiegeprobe. A. Thum and H. Holdt.  
Stahl & Eisen 53:505-8, pl 1-2 My 11 '33

**BOILER scale**

Scale prevention in the boiler. E. A. Smith.  
Chem Age (Lond) 28:570-1 Je 24 '33

Soda for high-pressure boilers; abstract. F. G.  
Straub. Power 77:345-6 Jl '33

**BOILER tubes**

- Boiler tubes made by a new process. *il* Ry Mech Eng 107:144 Ap '33  
 Deslagging boiler tubes with water. *diag* Power 77:141 Mr '33  
 Seamless mill produces small-diameter tubing without reheating; Babcock & Wilcox tube co. J. D. Knox. *il* *diag* Steel 92:17-19 F 13 '33

**Testing**

- Electric resistance welded boiler tubes. J. S. Adelson. *il* Iron Age 132:21-3+ Ag 17 '33  
 Electromagnetic method of measuring the thickness of boiler tubes in situ. B. M. Thornton and W. M. Thornton. *il* *diags* Inst Mech Eng Proc 123:745-60 '32  
 Stresses in boiler tubes; abstract and discussion. W. L. De Baufre. Power 76:337 Mid-D '32

**BOILERS**

- Advances in steam generation practice. *il* *diags* Power Pl Eng 36:10-13 Ja '33  
 American boiler practice; some recent improvements and innovations. V. Walker. Elec R (Lond) 112:626 My 5 '33  
 Boiler plant and equipment development. *il* *diags* Power Pl Eng 36:14-20 Ja '33  
 Boilers; current research projects. Power 77:249-50 My '33  
 Boilers, refractories and accessories. *il* *diags* Power 76:356-8 Mid-D '32  
 High-pressure steam-generator research; abstract and discussion. H. L. Solberg, G. A. Hawkins, and P. A. Willis. *diag* Power 76:335 Mid-D '32  
 High pressure steam research at Purdue university. H. L. Solberg. *diags* W Soc E J 37:301-13 D '32  
 Higher steam pressures and temperatures a challenge to engineers. M. D. Engle and I. E. Moulthrop. *diags* Elec Eng 52:3-9 Ja '33; Abstract. Power 77:152-3 Mr '33  
 Kidder station; Otter tail power co, North Dakota. G. W. Welsh. *il* *diag* Power Pl Eng 37:111-12 Mr '33  
 Neuere entwicklung des dampfkesselbaues. E. Lupberger. *il* *diags* Stahl & Eisen 53:1021-30, 1052-63, 1080-4 O 5-19 '33  
 New research boiler built by the Superheater company. Blast F & Steel Pl 21:167 Mr '33  
 Progress in the production and transmission of heat and power; steam boilers, generators and superheaters. *diag* Paper Tr J 96:78-80 F 16 '33  
 Small high efficiency boiler for Isco chemical co. *diag* Power Pl Eng 37:348 Ag '33  
 Spiral flow of gases and liquids; abstract. C. Schuster. Mech Eng 55:442-3 Jl '33  
 Wasserrumlauf und dampfkesselkonstruktion. O. Berner. *bibliog* Zeit Ver Deutsch Ing 77:223-30 Mr 4 '33  
 Water heating and steam raising plant at Belfast; works of Robinson and Cleavers. *il* Engineer 155:76 Ja 20 '33  
 Year notable for 450-lb. industrial boilers. *diags* Power 77:10-12 Ja '33

**See also**

- |   |                         |
|---|-------------------------|
| Boiler explosions and other headings beginning Boiler | Feed water purification |
| Boiler plants   | Flue gas                |
| Feed water  | Furnaces, Boiler        |
| Feed water heating                                    | Locomotive boilers      |
|   | Water gages             |

**Baffles**

- Use of baffles saves twenty tons of fuel per month. W. F. Schaphorst. *diag* Refrig Eng 26:270 N '33

**Benson boiler**

- Benson boiler. *diags* Engineer 155:621-2 Je 23 '33  
 Benson boiler at Langerbrugge. *il* *diags* Engineer 155:399-400 Ap 21 '33  
 Benson boiler to operate at all pressures. Gleichmann. Power 77:478 S '33  
 Die Benson-hochdruckanlage im kraftwerk Langerbrugge. L. Herry and E. Josse. *il* *diags* Zeit Ver Deutsch Ing 77:679-83 Je 24 '33  
 Benson land and marine boiler; abstract. F. Ohlmüller. *diag* Mech Eng 55:50 Ja '33

- La chaudière Benson, à 225 kg cm<sup>2</sup>, de la centrale de Langerbrugge (Belgique). C. Montell. *il* *diags* Génie Civil 102:562-4 Je 17 '33

- La chaudière Benson, à très haute pression, de la centrale de Langerbrugge (Belgique). L. Herry. *il* *diags* plan Génie Civil 102:581-6 Je 24 '33

- New Benson boiler developments; abstracts. Mech Eng 55:512 Ag '33; Elec R (Lond) 113:88 Jl 21 '33; Power Pl Eng 37:378 S '33

**Blowdown**

- Abblasevorrichtungen für dampfkessel. E. Praetorius. *diags* Zeit Ver Deutsch Ing 77:776-7 Jl 15 '33  
 How about blowdown? Power 77:595-6 N '33

**Control**

- Automatic combustion control keeps steam pressure constant. *il* *diags* Power 77:202-4 Ap '33  
 Automatic combustion control operates base-load boiler; South Meadow plant, Hartford, Conn. E. S. Bristol. *il* Power 77:468-9 S '33  
 Battersea power station; boiler control equipment. *il* *diags* Engineer 155:646-8 Je 30 '33  
 Boiler control; modern installation at St Denis II power station, Paris. C. J. O. Garrard. *il* *diag* Electrician 111:253-5 S 1 '33  
 High pressure steam research at Purdue university. H. L. Solberg. *diags* W Soc E J 37:394-10 D '32  
 Maintaining water level. V. Walker. Elec R (Lond) 113:78-9 Jl 21 '33  
 Metering and control systems improved by centralization. *il* Power 77:28-9 Ja '33

**Corrosion**

- Boiler corrosion investigation in Germany. *diag* Power Pl Eng 37:291 Jl '33  
 Dispositifs pour l'enlèvement des boues ferrugineuses des chaudières pendant la marche. *diags* Génie Civil 103:283 S 16 '33  
 Electrical methods for preventing corrosion. W. L. Debeaufre. Pulp & Pa of Can 33:443 N '32  
 Korrosionserscheinungen an hochdruck-dampfkesseln. K. Hofer. *il* Stahl & Eisen 53:925-9; Discussion. 930 S 7 '33  
 Prevention of pitting in stand-by boilers. *diags* Elec W 102:189-90 Ag 5 '33  
 Scale prevention in the boiler. E. A. Smith. Chem Age (Lond) 28:570-1 Je 24 '33  
 Sediment in boilers as a source of danger; abstract. H. Richter. *diag* Mech Eng 55:582-3 S '33

**Design**

- Chaudière rotative à haute pression fonctionnant sans pompe alimentaire. H. Vorkauf. *il* *diags* Génie Civil 102:136-7 F 11 '33  
 Dampferzeuger mit turbine. H. Vorkauf. *il* *diags* Zeit Ver Deutsch Ing 76:988-90 O 8 '32; Abstract (Rotary boiler-turbine installation). Mech Eng 54:869-71 D '32  
 Designing heads for tanks and heat exchangers. C. O. Sandstrom. *diags* Chem & Met Eng 39:668-72; 40:67-71 D '32 F '33; Discussion. 40:91 F '33  
 Druckfeuerung von dampfkesseln in Verbindung mit gasturbinen. W. G. Noack. *il* *diags* Zeit Ver Deutsch Ing 76:1033-9 O 15 '32; Abstract (Pressure-fired boilers). Power Pl Eng 37:119-20 Mr '33; Discussion. Zeit Ver Deutsch Ing 76:1196 D 3 '32  
 Foaming and priming of boiler water. C. W. Foulk and K. Groves. *il* *diag* Ind & Eng Chem 25:800-3 Jl '33  
 Modern suspended arches: latest scientific principles of furnace construction. *il* Soc Chem Ind J (Chem & Ind) 52:279 Mr 31 '33  
 Neuere entwicklung des dampfkesselbaues. E. Lupberger. *il* *diags* Stahl & Eisen 53:1021-30, 1052-63, 1080-4 O 5-19 '33  
 One tube, 1½ miles long forms new high-pressure boiler. *il* Power 77:97 F '33; Same. Sci Am 148:294 My '33



**BOILERS—Design—Continued**

Post-war developments in high-pressure boilers. C. H. Davy and C. H. Sparks. diags Inst E E J 72:461-99 [bibliog p499] Je '33; Abstracts. Engineering 134:741-2 D 23 '32; Elec R (Lond) 111:888 D 16 '32; Electrician 109:320 D 23 '32; Discussion. Inst E E J 72:499-504 Je '33; Elec R (Lond) 111:925 D 23 '32

Recent improvements in oil field boiler designs. H. M. Harris. diags Am Pet Inst Proc (Production div) p65-9; Discussion. 69-70 Je '32

**Efficiency**

Air control steps up stoker performance; Beacon Street heating plant, Detroit. J. H. Walker. il diag Power 76:282-4 D '32

Boiler efficiency and wood waste fuel. H. W. Beecher. Power Pl Eng 36:808-9 D '32

Boilers and heat pumps. Engineer 154:669 D 30 '32; Abstract. Mech Eng 55:259-60 Ap '33

Boilers show 82-86% availability; abstracts. C. F. Hirshfeld and G. U. Moran. Elec W 100:893-4 D 31 '32; Power 76:337 Mid-D '32

Charting boiler operation saves coal. L. A. Corwin. Power 77:409 Ag '33

Free air is expensive. B. W. Wheeler. Power 77:538 O '33

90.3% boiler efficiency—an average for 16 months; cost tables; International harvester company. Power 77:112-14 Mr '33

Plugging the leaks in silk dyeing and finishing plants. W. R. Clendinning. il Textile World 83:582-3 Mr '33

Steam unit performance sustained, report to A.S.M.E. shows. Elec W 100:770 D 10 '32

**Electric heating**

Canada has 1,105,770 kw. in electric steam boilers. B. A. Malkin. Elec W 101:214 F 18 '33

Dairy sterilizing with an electric boiler. D. B. Leonard. il diag Elec W 101:109 Ja 21 '33

Distilling water by electricity; electrode boiler installation. il Chem Age (Lond) 28:269 Mr 25 '33

Do electric boilers offer an opportunity? Elec W 101:351-2 Mr 18 '33

Electric steam generators; abstract. R. W. Leeper. Mech Eng 55:449 J1 '33

Electric steam generators use excess hydro power. il diags Power 76:295-7 D '32

Electric steam plant started; Ontario hydro power for Ontario paper co. Thorold, Ont. Pulp & Pa of Can 34:275-6 Ap '33

Electric thermal storage; discussion. Elec R (Lond) 111:890 D 16 '32

Electrically heated steam generators for the process industries. S. Z. Owen. il Ind & Eng Chem 25:1078-9 O '33

Generating steam by electricity. Locomotive 39:179 Ap '33

Limitations on electric steam generation. Elec W 101:590 My 6 '33

Load building possibilities of the latent steam boiler for use on dairy farms. D. B. Leonard. Elec West 70:268-9 Je '33

Steam from Canadian hydro; abstract. J. Morse and F. T. Kaelin. Power 77:352 J1 '33

Steam; its generation and use at the mill of the Ontario paper company, Thorold. A. Johnson and E. J. Calnan. il plan charts Pulp & Pa of Can 34:388-92+ Je '33

Steam raising by electricity; practical proposition of the electrode boiler. il Chem Age (Lond) 27:568-9 D 17 '32

Three 30,000-kw. electric-steam generators in paper mill; Ontario paper company. V. R. Young. il Elec W 102:317-18 S 2 '33

See also

Boilers, Heating—  
Electric heating

**Embrittlement**

See Boilers—Failures

**Equipment**

Boiler feedwater piping design features and precautions. H. C. Moffett. Power Pl Eng 36:824-5 D '32

Dewrance boiler water level indicator. diags Engineer 154:490 N 11 '32

Draft equipment must fit combustion needs. G. C. Daniels. diags Power Pl Eng 37:116-18 Mr '33

Improved piping arrangement for operating a damper regulator. W. H. Wilson. diag Heating-Piping 5:248-9 My '33

**Failures**

Improved means of studying plate embrittlement; use of magnoscope and photomicrography. J. P. Morrison. il diag Locomotive 39:162-6 Ap '33

Mechanical breakdown of prime movers and boiler plant. L. W. Schuster. diags Engineer 155:459-62 My 5 '33; Discussion. 449 My 5 '33

Photographic investigation of caustic embrittlement. J. P. Morrison. il Locomotive 39:196-202 J1 '33

**Firing**

Action of waste wood and oil fuel on refractories. K. G. Skinner and N. L. Field. il Brick & Clay Rec 81:204+ D '32

Druckfeuerung von dampfkesseln in verbundung mit gasturbinen. W. G. Noack. il diags Zeit Ver Deutsch Ing 76:1033-9 O 15 '32; Abstract (Pressure-fired boilers). Power Pl Eng 37:119-20 Mr '33; Discussion. Zeit Ver Deutsch Ing 76:1196 D 3 '32

Firing with unground coal dust; abstract. O. Haller. Mech Eng 55:378 Je '33

How and why we burn cotton-seed hulls. G. Hoffman. diag Power 77:462-3 S '33

Konstruktive neuerungen im feuerungsbau. F. Schulte and E. Tanner. diags Zeit Ver Deutsch Ing 77:823-7 J1 29 '33

Method of determining values of different fuels for power plant use. H. M. Faust. Ohio State Univ Eng Exp Sta Circ 29:1-8 '33

New boiler arranged for combination firing of pulverized coal and gas. diag Steel 93:74 S 25 '33

New combustion chart insures speed—ease—accuracy. E. Therkelsen. Power 77:600-1 N '33

New Orleans steam electric station; combination gas, pulverized coal and oil burners. K. P. Kammer. il diags Gas Age 72:183-4 Ag 26 '33

New stoker technic developed for lignite. G. W. Welch. il diag Power Pl Eng 37:205-7 My '33

Oil, gas, and coal compete as steam fuels. il Power 77:8-9 Ja '33

Power station cost control as affected by design. C. D. Zimmerman. Elec W 100:699-701 N 19 '32

Recent advances in the combustion field. J. G. Worker. il diag Blast F & Steel Pl 21:46-8 Ja '33

Smoke abatement; abstract. V. R. Chadwick. Chem Age (Lond) 27:580-1 D 17 '32

Stand und entwicklung der feuerungstechnik. F. Schulte and E. Tanner. il diags Zeit Ver Deutsch Ing 77:565-72 My 27 '33

Stoker combustion rates increased; Delray powerhouse no. 3; abstract and discussion. P. W. Thompson and F. J. Chatel. Power 76:341-2 Mid-D '32

Underfeed combustion with preheated air; abstract. P. Nicholls and M. G. Eilers. Power 77:343 J1 '33

See also

Boilers, Heating—	Boilers, Marine—
Firing	Firing
	Stokers, Mechanical

**Foaming and priming**

Control of boiler water carryover. H. T. Hotchkiss, Jr. Power Pl Eng 37:385-6 S '33

Dirty process steam; what can be done about it? S. H. Coleman. il Food Ind 5:246-7 J1 '33

Foaming and priming of boiler water. C. W. Fouk and K. Groves. il diag Ind & Eng Chem 25:800-3 J1 '33

**Gas firing**

Application of gas fuel to coal-fired boilers. H. F. Rehfeldt. il Am Gas Assn Mo 15:158-61 Ap '33

Autocontrol gas-fired steam boiler. il diags Engineering 135:515 My 12 '33

**BOILERS—Gas firing—Continued**

- Converting boilers to gas fire at Shrewsbury gas plant. F. C. Meyers. *il Gas Age* 72: 171-2 Ag 19 '33
- Co-ordinated heat conservation at the Normanby Park steel works, Scunthorpe; abstract. W. J. Brooke. *Engineer* 156:288-9 S 22 '33; *Discussion, Engineer* 156:288-9 S 22 '33; *Engineering* 136:339 S 22 '33
- Developments in the use of town gas for steam and power production. A. J. Cruise. *Gas J (Lond)* 202:108-9 Ap 12 '33
- Gasification of town's refuse. *il diags Engineer* 156:355-6 O 13 '33
- Generation of steam from blast-furnace gas. A. F. Webber. *Iron & Steel Inst J* 126:11-47 [bibliog p46-7] no 2 '32; *Excerpts, Blast F & Steel Pl* 20:843-7, 898-900; 21:49-50+ N '32-Ja '33; *Engineering* 134:577-9 N 11 '32; *Abstracts, Engineer* 154:350 O 7 '32; *Mech Eng* 54:868-9 D '32; *Discussion, Iron & Steel Inst J* 126:48-73 no 2 '32; *Engineer* 154:350 O 7 '32
- High heat liberation with gas in Dallas boilers. J. B. Nealey. *il Power* 77:410-11 Ag '33
- Highest pressure steam plant uses natural gas; Public service company of San Antonio, Texas. J. B. Nealey. *il Am Gas J* 137:29-30 S '32; *Same, Am Gas Assn Mo* 14: 496-7+ D '32; *Same, Manuf Rec* 101:34-5 D '32
- Mol; direct road to the answer in all combustion problems. E. F. Dawson. *Power* 76: 292-4 D '32
- Natural gas proves efficient in the beet sugar industry. L. Conklin. *il Gas Age* 71:249-50+ Mr 11 '33
- Notes on the utilisation of blast-furnace gas. W. B. Baxter. *diags Engineering* 136:318-20 S 15 '33; *Same cond, with tables, Blast F & Steel Pl* 21:593-4 N '33
- Off-peak gas for year-round service; Public service company of northern Illinois supplies gas to Benjamin electric manufacturing co. C. F. Henness and F. W. Pearson. *il diag Gas Age* 72:3-4+ J1 1 '33
- Producer gas furnace for Lancashire boilers. *diags Engineer* 156:156-7 Ag 18 '33
- Rubber tires made by gas at Chicago fair. J. B. Nealey. *il Am Gas Assn Mo* 15:321-2+ Ag '33
- Steam generation; A.G.A. forum on gas as fuel. *Am Gas Assn Proc* 1932:631-4
- Up-to-date methods of boiler firing. D. W. Frye. *il diag Gas Age* 71:377-8 Ap 15 '33
- Use of gaseous fuel in South Wales industries. A. J. Cruise. *Soc Chem Ind J (Chem & Ind)* 52:124-6 F 10 '33
- Venting gas-fired boilers with positive pressure blowers. B. T. Poor. *diag Gas Age* 72:127-8 Ag 5 '33

*See also*

Boilers, Waste heat

**Loeffler boiler**

- Löffler boilers at Trebovice; abstract. B. Belohlávek. *Mech Eng* 55:641-2 O '33
- Loeffler boilers in high pressure plant in Czechoslovakia; abstract. J. Havlíček. *Engineering* 136:207 Ag 25 '33

**Manufacture**

- Principal parts of boiler and radiator code approved by advisory boards. *Heat & Ven* 30:31-2 N '33

**Oil firing**

- Adapting oil burners to pulverized coal boilers. E. F. Walsh. *diags Elec W* 101:522-3 Ap 22 '33; *Abstract, Mech Eng* 55:449 J1 '33
- Banking oil-fired boilers. H. M. Spring. *Heat & Ven* 30:21 Mr '33
- Flue gas heat losses when oil is the fuel. N. C. Ebaugh. *Power* 77:128-9 Mr '33
- For lower steam costs—coal or oil? D. M. Myers. *il diags Factory Management* 91:142-5 Ap '33
- Furnace for oil burning. *Power* 77:436-7 Ag '33
- How to select the right oil burners. H. J. Klotz. *Power* 77:212 Ap '33

- Oil firing in pulverized-coal furnaces; abstract. J. F. Muir. *Power* 77:342 J1 '33
- Oil fuel firing and combustion equipment. E. G. Peterson. *il Power Pl Eng* 37:73-4, 169-70, 302-4 F, Ap, J1 '33
- Steam for process heating furnished by Foster Wheeler oil fired boiler. *diag Power Pl Eng* 37:389 S '33

*See also*

Boilers, Heating

Boilers, Marine—

—Oil firing

Oil firing

**Pulverized coal firing**

- Anthracite duff as boiler fuel; the Swansea contract. *il diags Elec R (Lond)* 112:739 My 26 '33
- Automatic combustion control operates base-load boiler, South Meadow plant, Hartford, Conn. E. S. Bristol. *il Power* 77:468-9 S '33
- Blandin paper modernizes power plant to meet price cut. A. J. Kull. *il Power* 77: 414-15 Ag '33
- Combination waste heat and pulverized fuel unit; Consolidated mining and smelting company of Canada, Ltd. Trail, B.C. W. H. D. Clark. *il diags Can Min J* 53:387-93 S '32; *Abstract, Mech Eng* 54:867-8 D '32
- Eliminating damp coal difficulties. H. M. Spring. *diag Power Pl Eng* 37:145 Mr '33
- Konstruktive neuerungen im feuerungsbau. F. Schulte and E. Tanner. *diags Zeit Ver Deutsch Ing* 77:823-7 J1 29 '33
- Lighting large boiler units with gas. C. W. Swenson. *il Gas Age* 72:83-4 J1 22 '33
- Lighting pulverized coal safely. *il Power* 77:163 S '33
- Multiplex pulverised-fuel unit. *il Engineering* 136:83-5 J1 28 '33
- No-coal alarm for pulverizer coal feeder. H. M. Spring. *diag Power* 77:85 F '33
- Progress in the production and transmission of heat and power; pulverized coal preparation and firing. *il diags Paper Tr J* 96:61+ F 16 '33
- Pulverized coal bypass improves boiler operation. H. M. Spring. *diags Power* 77:537 O '33
- Pulverised fuel—a new burner. *diags Engineer* 155:584 Je 9 '33
- Standby and reserve with pulverized fuel; abstract. E. H. Tenney. *Power* 77:341-2 J1 '33
- Steam raising plant at Kirkstall power station, Leeds. *il diags Engineering* 134:617-19, pl 23 N 25 '32
- Tacoma completes 25,000-kw. plant; steam unit supplements Cushman hydro power during low water periods. A. F. Darland. *il diag Elec West* 70:81-2 Mr '33
- Use of low-volatile duff for pulverized-fuel firing; abstract. *Mech Eng* 55:255 Ap '33
- Utilization of briquet waste with a simple supplementary powdered-coal firing; abstract. K. Weiss. *diags Mech Eng* 55:379-81 Je '33

*See also*

Boilers, Marine—Pulverized coal firing

**Pulverized coke firing**

- Use of petroleum coke as boiler-plant fuel. O. F. Campbell. *il diags Am Pet Inst Proc* p28-43 sec 3 D '32; *Same abr. Oil & Gas J* 31:85-6 N 17 '32; *Abstract, Nat Pet N* 24:72 N 16 '32
- Use of pulverized petroleum coke at Michigan City. *Power Pl Eng* 37:75 F '33

**Repair**

- Header patch put on 400-lb boiler. W. R. Mills. *il diag Power* 77:466 S '33

**Safety devices and measures**

- Davis develops protective unit for oil field boilers. *diags Oil & Gas J* 31:67 Ap 20 '33
- Direct-reading water-level indicator and alarm. H. M. Spring. *diag Power* 77:43 Ja '33

*See also*

Boilers, Heating—

Safety valves

Safety devices and measures



**BOILERS—Continued****Schmidt boiler**

Wasserumlauffmessungen an einem hochdruckkessel. O. H. Hartmann and O. Kehrler. *il diags Zeit Ver Deutsch Ing* 76:1173-8 N 26 '32

**Settings**

Designing settings for small boilers. J. P. Greenwood. *diags Power Pl Eng* 37:76-7 F '33

**Specifications**

New deal in boiler specifications. H. G. Lyken. *Power* 77:521-2 O '33

**Standards**

Derivation of revised A.S.M.E. boiler code rules for reinforcement of openings. *diags Mech Eng* 55:453-4 J1 '33

Revisions and addenda to the A.S.M.E. boiler construction code. *Mech Eng* 55:59-60, 140, 267-8, 327-8, 386 Ja-F, Ap-Je '33

**Testing**

Characteristics of the twin-set Hell Gate boilers. W. E. Caldwell. *Power* 77:355-8 J1 '33

Festigkeitseigenschaften von proben aus einer elektrisch geschweissten trommel. E. Rüter. *il Zeit Ver Deutsch Ing* 77:917-20 Ag 26 '33; Abstract (Tests on electric welding). *Engineer* 156:sup[Metallurgist] 77 O 27 '33

Fusion welded drums. *il Engineer* 154:569 D 2 '32; *Engineering* 134:661 D 2 '32

Untersuchung einer elektrisch geschweissten hochdrucktrommel. W. Jamm and O. Weinrich. *il Zeit Ver Deutsch Ing* 77:901-4 Ag 19 '33

Werkstoffuntersuchungen an alten dampfkesseln. K. Daeves, E. Pfeiffer and G. Urbanczyk. *il diags Zeit Ver Deutsch Ing* 76:551-6 Je 4 '32; Discussion. 77:336-8 Ap 1 '33

**Velox boiler**

Theory of the Velox boiler; editorial. *Engineering* 134:539-40 N 4 '32; Discussion. 134:688-9, 690-1, 716 D 9-16 '32

Velox boiler and over 100 per cent efficiency. W. G. Noack. *il diags Engineer* 155:22-3 Ja 6 '33; Same. *Engineering* 135:52-3 Ja 13 '33; Discussion. A. J. Jadot. 135:186-7 F 17 '33

Velox explosion type boilers reach commercial status. *Elec W* 101:441 Ap 8 '33

Working cycle of the Velox boiler. O. Klüsener. *Engineering* 136:176 Ag 18 '33; Abstract. *Mech Eng* 55:641 O '33

**Wood firing**

Action of waste-wood ash on refractories when used with auxiliary oil-firing. K. G. Skinner and N. L. Field. *il diags Am Cer Soc J* 16:393-403 Ag '33

Boiler efficiency and wood waste fuel. H. W. Beecher. *Power Pl Eng* 36:808-9 D '32

**Zoelly boiler**

Zoelly high-performance steam generator; abstract. H. Wesche. *diag Mech Eng* 55:50-2 Ja '33

**BOILERS, Diphenyl oxide**

High-boiling-point organic compounds. J. J. Grebe and E. F. Holser. *diags Mech Eng* 55:369-73 [biblog p373] Je '33

**BOILERS, Heating**

Boiler provides heat energy for this air conditioning job. W. W. Hughes. *il plans Dom Eng* 141:63-7 F '33

Summer shutdowns; preparing boilers for the summer. H. A. Wagner. *il diags Dom Eng* 141:30-2 My '33

Survey of instruments in the heating plants of large Chicago buildings. J. A. Masek. *il Heat & Ven* 30:9-14 O '33

Year's new equipment. *il Heat & Ven* 30:27-30 Ja '33

**Control**

Controls for automatic heating. H. L. Alt. *diags Dom Eng* 141:86+ Je '33

**Efficiency**

Load and efficiency go together. L. C. Price. *il diags Dom Eng* 142:56-7+ N '33

**Electric heating**

Electrode boilers in a large bus garage. *il Elec R (Lond)* 112:374 Mr 17 '33

**Firing**

Comparison of oil and gas firing in a heating boiler. L. E. Seeley and E. J. Tavanlar. *Heating-Piping* 5:532-5 O '33

Toledo schools expel high heating costs. S. R. Lewis. *Heating-Piping* 5:12-13 Ja '33

**Gas firing**

See Gas heating

**Oil firing**

Air supply and its effect on performance of oil burners and heating boilers. L. E. Seeley, J. H. Powers and E. J. Tavanlar. *Heating-Piping* 4:823-6 D '32; Excerpts. *Heat & Ven* 30:46-7 F '33; *Dom Eng* 141:23-30 Mr '33

Code for testing steam boilers burning oil. L. E. Seeley. *il Dom Eng* 141:78+ Ja '33

Comparison of oil and gas firing in a heating boiler. L. E. Seeley and E. J. Tavanlar. *Heating-Piping* 5:532-5 O '33

Government hospital in Northwest has oil-fired boilers; U. S. marine hospital, Seattle. C. H. Knowles. *il Heat & Ven* 30:33-6 Ap '33

Oil-fired central boiler plant shows savings for New Haven municipal buildings. W. W. Gaylord. *il plan Heat & Ven* 30:30-2 Ap '33

Reference lists of oil burning equipment; boiler and boiler-burner lists. *Heat & Ven* 30:23-6 Ap '33

Relative fuel economy of electricity, gas, oil, and solid fuel, as heating agents. A. H. Barker. *Inst E E J* 72:269-95; Discussion. 295-312 Ap '33

Technical features of the new General Electric oil furnace. R. S. Thurston. *il diags Gen Elec R* 35:602-8 D '32

**Repair**

Welding cracked boiler sections. *il Heat & Ven* 30:32-4 F '33

**Safety devices and measures**

Method to determine if low water cut-out does its job. J. Fletcher. *il Dom Eng* 142:55+ Ag '33

**Testing**

Code for testing steam boilers burning oil. L. E. Seeley. *il Dom Eng* 141:78+ Ja '33

**BOILERS, Marine**

Benson land and marine boiler; abstract. F. Ohlmüller. *diag Mech Eng* 55:50 Ja '33

Furnace water-walls for marine boilers. *diags Engineering* 135:12-13 Ja 6 '33

Towden-Johnson waste-heat recovery system. *diags Marine Eng* 38:146-7 Ap '33; *Mech Eng* 55:257-8 Ap '33

Modern boilers; editorial. *Engineering* 135:333-4 Mr 24 '33

Shipbuilding and marine engineering in 1932. *il Engineer* 155:40-1 Ja 13 '33

Water-tube boiler of the cargo ship; abstract. W. N. Whayman and W. Gregson. *Mech Eng* 55:312-13 My '33

**Firing**

Coal-oil mixtures. W. R. Ormandy and J. Burns. *Engineer* 156:390 O 20 '33

Pulverized coal and colloidal fuel; abstracts. H. D. Tollemache. *Mech Eng* 55:379 Je '33; *Engineering* 136:202-3 Ag 25 '33; *Coal Age* 38:344 O '33

Smoke abatement is possible by improved combustion. W. G. Christy. *Marine R* 63:36 O '33

Stoker- and pulverized-coal-fired steamships; abstract. *Mech Eng* 55:703 N '33

**Oil firing**

Coal oil for ship propulsion; Sydney, New South Wales. *Marine Eng* 38:308 Ag '33

**BOILERS, Marine—Continued****Pulverized coal firing**

- Les formes nouvelles d'emploi du charbon pulvérisé. C. Berthelot. diags Génie Civil 103:201-2 Ag 26 '33  
 New pulverised fuel system. il diags Engineer 155:332-3 Mr 31 '33  
 Pulverised coal firing in marine Scotch boilers. W. G. Gibbons and M. Arthurson. diags Engineer 155:168 F 17 '33  
 Pulverised-fuel firing on Japanese steamers. il Engineering 135:377-8, 384 Ap 7 '33

**Testing**

- Naval water-tube boilers. S. R. Dight. diags Engineer 155:434-6; Discussion. 420 Ap 28 '33; Abstract. Engineering 135:483-4 My 5 '33

**BOILERS, Mercury**

- Coordinated production of industrial steam and utility power; Schenectady works of the General electric company. A. R. Smith. il diags plan Gen Elec R 36:300-9 J1 '33; Abstracts. Power 77:426-7 Ag '33; Power Pl Eng 37:354-6 Ag '33  
 Twenty years of mercury vapor power development. il diags Power Pl Eng 37:263-8 Je '33

**BOILERS, Range**

- Range boiler protection; where to place relief valves. diags Dom Eng 141:37 My '33

**BOILERS, Waste heat**

- Combination waste heat and pulverized fuel unit; Consolidated mining and smelting company of Canada, Ltd. Trail, B.C. W. H. D. Clark. il diags Can Min J 53:387-93 S '32; Abstract. Mech Eng 54:867-8 D '32  
 Diesel-fired boilers; types, sizes, uses. il diags Power 77:534-6 O '33  
 Waste heat boiler in the small gas plant. H. M. Riley. il diags Am Gas J 138:33-6 Ap '33  
 Waste-heat boilers effect fuel saving. diags Eng & Min J 134:352 Ag '33  
 Waste heat boilers for wet-process cement kilns. diags Engineering 135:616-17 Je 9 '33

**BOILERS, Water tube**

- Designing settings for small boilers. J. P. Greenwood. diags Power Pl Eng 37:76-7 F '33  
 Modern boilers; editorial. Engineering 135:333-4 Mr 24 '33  
 Radiation in boiler furnaces; abstract. W. T. Eottomley. Elec R (Lond) 112:84-5 Ja 20 '33  
 Water-tube boiler of the cargo ship; abstract. W. N. Whayman and W. Gregson. Mech Eng 55:312-13 My '33

**Testing**

- Naval water-tube boilers. S. R. Dight. diags Engineer 155:434-6; Discussion. 420 Ap 28 '33; Abstract. Engineering 135:483-4 My 5 '33

**BOILING**

- Ebullition of refrigerants. L. A. Philipp and B. E. Tiffany. diags Refrig Eng 25:140-6+ Mr '33  
 Heat transmission from metal surfaces to boiling liquids. D. S. Cryder and E. R. Gilliland. bibliog diags Ind & Eng Chem 24:1382-7 D '32; Same, without table. Refrig Eng 25:78-83 F '33; Abstract. Mech Eng 55:192 Mr '33; Discussion. Refrig Eng 25:83-5+ F '33

**BOILING points**

- Ébulliomètre à prise de vapeur pour la détermination des points de rosée et d'ébullition des mélanges de liquides volatils. L. Gay and J. Soulié. diags Génie Civil 102:309 Ap 1 '33  
 Ebullioscopic method for determining the equilibrium constant of esterification. W. Swietoslawski. J Phys Chem 37:701-7 Je '33  
 Improved boiling-point apparatus. H. L. Davis. diags J Chem Educ 10:47-9 Ja '33  
 Improved methods for approximating critical and thermal properties of petroleum fractions. K. M. Watson and E. F. Nelson. bibliog Ind & Eng Chem 25:880-7 Ag '33  
 Über die beziehungen zwischen siedepunkt und chemischer konstitution; abstract. K. Billig. Angew Chemie 46:395 Je 24 '33

- Vapor pressure and boiling point of pure methylacetylene. G. B. Heisig and C. D. Hurd. Am Chem Soc J 55:3485-7 Ag '33

**BOLIVIA***See also*

- Finance—Bolivia Paleobotany—Bolivia  
 Mines and mineral resources—Bolivia

**BOLL weevil**

- Peacetime activities of the Chemical warfare service. R. E. Sadtler. Chem Ind 33:303-4 O '33

**BOLTS and nuts**

- Bolts and flanges for tanks and heat exchangers. C. O. Sandstrom. diags Chem & Met Eng 40:67-71 F '33; Discussion. 40:314-15 Je '33  
 Bolts and nuts at high temperatures. A. C. MacNeish. diags Engineer 155:sup[Metalurgist] 13-14 F 24 '33  
 Care important in tightening tower bolts. C. A. Booker. Power 77:155 Mr '33  
 Dean locknut. diags Engineer 156:364 O 13 '33  
 Kiblok-lock nut. diags Mech Handling 20:48 F '33  
 Monel metal for bolts. Chem Age (Lond) 29:26 J1 8 '33  
 Special bolt for use in projection welding. diags Iron Age 131:108 Ja 12 '33; Am Mach 77:27-8 Ja 4 '33

*See also*

- Rail fastenings

**Manufacture**

- Cold forming the stainless steels. A. E. R. Peterka. il Metal Prog 24:35-8 O '33  
 Combination progressive and transfer die for an intricate stamping. A. Suter. il diags Mach 39:764-7 Ag '33  
 Continuous pickling process in a bolt and nut factory. Mech Handling 20:81-2 Mr '33  
 Gas furnaces in bolt and nut plant; Graham works of the Pittsburgh screw & bolt co; illustrations. Iron Age 132:30 O 19 '33  
 Heading properties of brass wire as it varies with composition and temper. D. K. Cramp-ton. il diags Metal Prog 23:20-4 Mr '33  
 Heat treatment localizes cold heading effects. C. L. Harvey. Steel 93:41 O 23 '33  
 London bolt factory; British Dardelet thread-lock, Ltd. il Engineer 156:158-9 Ag 18 '33  
 Materials for cold heading; structure more important than composition. H. B. Pulsifer. il Metal Prog 23:13-17 Mr '33  
 Progressive improvements made in technique of bolt manufacture. J. B. Nealey. il Steel 91:23-6 N 28 '32  
 Special furnace equipment for bolt production. J. B. Nealey. il Steel 93:27-9 S 25 '33

**Standards**

- I.A.E. provisional standard no. 80; 5/8 in. dia. B.S.F. studs for disc wheels, for commercial vehicles. diags Automobile Eng 23:219-20 Je '33  
 Regular, heavy and light series bolts and nuts. S A E J 32:sup19 Ja '33  
 Variations for S.A.E. bolt heads and nuts, proposed. S A E J 32:sup18 Ja '33

**Testing**

- Recommended practice for testing bolts, screws, nuts, studs, and pins. Metal Prog 23:25-6+ Mr '33

**BOMBAY****Lighting**

- Development of public lighting in the city of Bombay. J. P. Blackmore. Gas J (Lond) 203:627-9 S 20 '33; Same cond. il Illum Engr 26:274-6 N '33

**BOMBBS (chemical apparatus)**

- Microbomb for determination of organic halogens. F. E. Beamish. diags Ind & Eng Chem Anal ed 5:348-9 S 15 '33

**BOMBBS, Aerial**

- Bombardment aviation. J. E. Fechet. il Aero Digest 23:18-19 O '33

**BONBRIGHT, James C.**

- Portrait. Pub Util 12:390 S 28 '33



**BONDERIZING**

- Finish of 1933 Olds improved by rust-proofing 44 sheet metal parts. *il Automotive Ind* 69:120-1 *Jl* 29 '33  
 Rust-proofing refrigerator parts. *il Iron Age* 131:168 *Ja* 26 '33

*See also*

Metal protection

**BONDHOLDERS**

- Business tribunal for corporate reorganizations. P. G. Phillips. *Harvard Business R* 11:178-86 *Ja* '33  
 Defaulted foreign bonds; Corporation of foreign security holders to be put into operation. *Am Bankers Assn J* 26:66 *S* '33  
 Foreign bonds; organization of the American bond holders' protective committee. *Business Week* p23-4 *O* 28 '33  
 Let us protect your bonds; bondholders' protective committees protested; plan to create central authority. *Business Week* p22-3 *Ja* 25 '33  
 Protection for American bondholders. *Bankers M* 127:449-50 *O* '33  
 Sop to foreign bondholders? some aspects of the Corporation of foreign bondholders. J. U. Grissinger. *Barron's* 13:18 *O* 16 '33

**BONDS**

- Bank bond policy. W. H. Steiner and O. Lasdon. *Bankers M* 125:605-12 *D* '32  
 Bond behavior in a depression period. G. W. Edwards. *J of Business* 6:132-8 *Ap* '33  
 Bond holdings subject to reconsideration. J. S. Williams. *Mag of Wall St* 51:575+ *Mr* 18 '33  
 Bond litigation near end? Colorado court upholds the validity of \$8,750,000 bonds of the Moffat tunnel improvement district. *Barron's* 12:6 *D* 26 '32  
 Bond market in waiting attitude. J. S. Williams. *Mag of Wall St* 51:479 *F* 18 '33  
 Bond market resists decline. J. S. Williams. *Mag of Wall St* 51:147+ *N* 26 '32  
 Bond market's action suggests caution. J. S. Williams. *Mag of Wall St* 51:527 *Mr* 4 '33  
 Bond offerings. Published in weekly numbers of *Barron's*  
 Bond prices hold firm against inflationary doubts. J. S. Williams. *Mag of Wall St* 52:523+ *S* 16 '33  
 Bonds and the gold clause. J. U. Grissinger. *Barron's* 13:10 *Ap* 24 '33  
 Bonds display encouraging strength. J. S. Williams. *Mag of Wall St* 51:381 *Ja* 21 '33  
 Bonds of unusual stability. H. D. Kellogg. *Barron's* 12:10-11 *N* 21 '32  
 Bonds—secondary reserves or earning assets? H. W. Sanders. *Burroughs Clearing House* 17:6-7+ *D* '32  
 Buying of bonds as an aid to recovery. A. G. Wilson. *Bankers M* 126:369-73 *Ap* '33  
 Current security offerings. Published in *Annalist*  
 Disregard for bond contracts. *Bankers M* 127:448-9 *O* '33  
 Dollar protection in foreign bonds. M. Winkler. *Mag of Wall St* 52:19+ *Ap* 29 '33  
 Even tenor of bonds encouraging. J. S. Williams. *Mag of Wall St* 51:431 *F* 4 '33  
 Favorable outlook for high-grade bonds. E. C. Harwood. *Barron's* 12:3+ *D* 5 '32  
 Financial markets. Published in weekly numbers of *Business week*  
 Foreign bond situation. R. S. Byfield. *Rand McNally Bankers Mo* 50:614-15+ *N* '33  
 Foreign dollar bond problem; market and default record comparable to that of domestic bonds. R. S. Byfield and E. Sharp. *Barron's* 13:18-19 *S* 25 '33  
 4,398 bond issues; a survey. G. W. Edwards. *Am Bankers Assn J* 25:22+ *N* '32; 28-9 *F* '33  
 Future of bond yields. D. Friday. *Bankers Mo* 50:7-9+ *Ja* '33  
 Gold clause; until the courts decide otherwise, the answer seems to be "try and get it." *Business Week* p8 *My* 10 '33  
 Good risks in speculative bonds. R. S. Wallace. *Forbes* 31:30 *F* 1 '33  
 High grade bonds in demand. J. S. Williams. *Mag of Wall St* 51:329 *Ja* 7 '33  
 If you really want investment safety—buy these bonds. *Forbes* 31:29 *Ap* 15 '33

List of bonds for safety and profit. P. Clay. *Forbes* 31:31-2 *Ja* 1 '33

Magazine of Wall Street's bond appraisals. *Mag of Wall St* 51:330-1, 382-3 *Ja* 7-21 '33 [cont bi-weekly]

Managing the commercial bank's bond account. R. H. George. *Bankers M* 127:163-9 *Ag* '33

Practical plan for the restoration of impaired estates; selection of bonds selling at large discount. A. W. Whittlesey. *Trust Companies* 57:33-6 *Jl* '33

Record of high grade industrial bonds. R. E. Stanley. *Burroughs Clearing House* 17:18-20 *Ag* '33

Securities markets. P. S. Krecker. Published in weekly numbers of *Commerce and Finance*  
 Short time bond values; tables showing the net return from 2% to 10% on bonds and notes. 4th ed rev & enl 869p *Financial pub. co.* Boston '33

Six bond possibilities at 40c on the dollar. R. S. Wallace. *Forbes* 32:40-1 *O* 15 '33

Some guiding policies for corporate trust business. A. C. Downing. *Trust Companies* 56:219-24 *F* '33

Sustained strength in bonds. J. S. Williams. *Mag of Wall St* 52:223+ *Je* 24 '33

Syndicate financing. *Barron's* 13:14 *Ja* 30 '33

Ten rules for bond buying that will help increase safety and yield. E. L. Harris. *Rand McNally Bankers Mo* 50:214+ *Ap-My* '33

Tentative improvement in bonds. J. S. Williams. *Mag of Wall St* 51:273+ *D* 24 '32

Trend toward bond investments and away from mortgages; abstracts. O. J. Arnold. *East Underw* 34:36 *O* 13 '33; *Ins Field (Life ed)* *Conv* no 62:16-17 *O* 13 '33; *Nat Underw (Life ed)* *Conv* no 37:8+ *O* 14 '33

Two-way bond market. J. S. Williams. *Mag of Wall St* 51:207+ *D* 10 '32

War-debts problem complicates bond outlook. *Barron's* 12:10-11 *D* 5 '32

Way to salvage bonds. A. R. Thurn. *il Rand McNally Bankers Mo* 50:263-4+ *Je* '33

What bonds to buy, sell or hold. J. S. Williams. *Mag of Wall St* 52:70-1+ *My* 13 '33

What recent experience has taught in handling trust investments. C. W. Fenninger. *Trust Companies* 56:39-45 *Ja* '33

What to do with bonds. W. H. Clark. *il Rand McNally Bankers Mo* 50:474-6+ *S* '33

What to do with European bonds. M. Winkler. *Mag of Wall St* 51:270-2+ *D* 24 '32

What will stocks and bonds do in 1933? R. W. Schabacker. *Forbes* 31:13 *Ja* 15 '33

When a small bank buys bonds. J. H. Ward. *Am Bankers Assn J* 26:32+ *Ag* '33

Why we still choose bonds. D. B. Smith. *Burroughs Clearing House* 17:13+ *F* '33

*See also*

- |                             |                      |
|-----------------------------|----------------------|
| Bondholders                 | Railroads—Securities |
| Debts, Public               | Securities           |
| Municipal bonds             | State bonds          |
| New York stock exchange     | Stock exchange       |
| Public utilities—Securities | Stocks               |

**Default**

Bond redemptions and defaults: latest notices. Published in weekly numbers of *Annalist*

Bonds, mortgages, equipment; some administration problems under corporate trusteeship. W. G. Littleton. *Bankers M* 126:554-60 *Je* '33; *Excerpts. Trust Companies* 56:335-8 *Mr* '33

Foreign bonds; 18 countries have 131 dollar bond issues partially or wholly in default. *Business Week* p21-2 *My* 17 '33

How bonds rated as legal and high grade have fared. E. Schickhaus. *Trust Companies* 55:586 *N* '32

Problems of trustees under defaulted bond issues. B. W. Utter. *Trust Companies* 56:653-8 *Je* '33

*See also*

- |                            |                         |
|----------------------------|-------------------------|
| Bonds, Government—Default  | Municipal bonds—Default |
| Bonds, Real estate—Default |                         |

## BONDS—Continued

## Marketing

City banks and their affiliates. B. O. Moody.  
Bankers M 126:426-8 My '33

## Prices

Bond market record in 1932, New York stock  
exchange. Mag of Wall St Manual p25-30 Mr  
6 '33

Bond prices and bond yields, monthly, 1931-  
1932. Survey of Cur Business 13:19 Ap '33

Bond transactions—New York stock exchange.  
Published in weekly numbers of Annalist

Depreciating dollars and appreciating bonds.  
Economist 1:6 JI 15 '33

Events that move bonds. Am Bankers Assn J  
25:16-17+ D '32

Index of security prices. Published in month-  
ly numbers of the Index

Paper dollar and gold dollar prices compared;  
investment significance. H. Richmond, jr.  
Mag of Wall St 52:320-1+ JI 22 '33

Range of prices for active bonds on the New  
York stock and New York curb exchanges.

Published in weekly numbers of Barron's

Representative bonds on the New York curb  
exchange. Mag of Wall St Manual p31 Mr 6  
'33

Transactions, 1932, N.Y. stock exchange. An-  
nalist 41:121-7 Ja 20 '33

Transactions on out-of-town markets. Pub-  
lished in weekly numbers of Annalist

Transactions on out-of-town markets, 1932.  
Annalist 41:134-9 Ja 20 '33

Transactions on the New York curb exchange.  
Published in weekly numbers of Annalist

Transactions on the N.Y. curb exchange, 1932.  
Annalist 41:130-3 Ja 20 '33

Transactions on the New York real estate  
exchange, 1932. Annalist 41:139 Ja 20 '33

## Redemption

Bond maturities in 1933. Barron's 13:13 Ja 30  
'33

Bond redemptions and defaults: latest notices.  
Published in weekly numbers of Annalist

Recent bond calls. Published in weekly num-  
bers of Barron's

What about maturities? an immediate prob-  
lem under the Securities act. Business  
Week p18 S 30 '33

## Statistics

Security offerings in 1932; tabulation. Bar-  
ron's 13:13 Ja 30 '33

Stock and bond market averages and volume  
of trading. Published in weekly numbers  
of Annalist

## Valuation

## See also

Insurance companies

—Investments—

Valuation

## Yields

Bond prices and bond yields, monthly, 1931-  
1932. Survey of Cur Business 13:19 Ap '33

Effect of the depression upon bond yields.  
C. Thomas. Am Statis Assn J 28:261-71 S  
'33

## BONDS, Convertible

Hedging income against inflation. L. Vance  
and R. Weidenhammer. Barron's 13:18-19 Je  
5 '33

## BONDS, Government

Creditors versus debtors. Economist 117:772  
O 21 '33

Developments appertaining to 24 foreign bond  
issues; review of comprehensive report pub-  
lished by Institute of international finance.  
Inv Banking 3:129-32 D 2 '32

Foreign bonds in 1932. Economist 116:869-70  
Ap 22 '33

League loans. Economist 115:938-9 N 19 '32

Will League loans secure preference? J. U.  
Grissinger. Barron's 13:16 F 20 '33

## See also

Debts, Public

Municipal bonds

State bonds

## Default

Billion dollar obstacle to world recovery plans.  
M. Winkler. il Am Bankers Assn J 26:36-7+  
N '33

Foreign bonds; 18 countries have 131 dollar  
bond issues partially or wholly in default.  
Business Week p21-2 My 17 '33

Institute of international finance; general bul-  
letin on securities in default. Published by  
Institute of international finance, 90 Trinity  
place, New York '32

Report of I.B.A. foreign securities committee.  
Inv Banking 3:57-61 N 16 '32

## Argentina

Argentina and British investors. Economist  
117:819-21 O 28 '33

Argentine bonds. Economist 117:238 JI 29 '33

Argentine government bonds. Economist 115:  
1250 D 31 '32

## Australia

Another Australian conversion. Economist  
117:541-2 S 16 '33

Australian conversion. Economist 117:184 JI  
22 '33

Australian scheme? Economist 116:971-2, 1030  
My 6-13 '33

## Austria

Austrian loan issued. Economist 117:328-9  
Ag 12 '33

## Brazil

Brazilian bond position. Economist 116:1363 Je  
24 '33

## Bulgaria

Bulgarian League loans. Economist 117:416-  
17 Ag 26 '33

## Canada

Canada's gold bonds abroad, and factors  
which promise contract payment. H. E.  
Hansen. Annalist 41:291-2 F 24 '33

Canadian conversion. Business Week p24 O 21  
'33

Canadian financing; Ottawa floats first bond  
issue in London since war. Business Week  
p27 Ag 5 '33

## Chile

Chile's doubtful prospects; export surplus far  
below debt-service requirements. R. K. Mar-  
tin. Barron's 12:11 N 28 '32

## China

Sino-Japanese bonds. Economist 116:364 F 18  
'33

## Europe

What to do with European bonds. M. Winkler.  
Mag of Wall St 51:270-2+ D 24 '32

## Germany

German bond payments. Economist 116:1082  
My 20 '33

German bond position. Economist 116:1252 Je  
10 '33

German dollar bonds; Reichsbank to pay 50%  
in cash on interest due latter half-year. G.  
W. Bolton. Barron's 13:17 S 18 '33

German government bonds. Economist 116:  
816 Ap 15 '33

Reforms planned for German public debt  
service. R. C. Long. Annalist 41:35-6 Ja 13  
'33

## Great Britain

Britain to convert dollar bonds. Business  
Week p23 JI 29 '33

Gilt-edged prospects. Economist 117:371-2 Ag  
19 '33

Gold bond conversion offer. Economist 117:  
175-6 JI 22 '33

New Treasury issue. Economist 117:630 S 30  
'33

New trick in depreciation war; astute  
maneuver to depress the pound and raise  
the dollar. Economist 1:5-6 JI 29 '33

Outlook for government stocks. Economist 115:  
987-8 N 26 '32



**BONDS, Government—Continued****Greece**

Greek debt position. *Economist* 117:374 Ag 19 '33

**Hungary**

Hungarian bond interest cut. E. Baldwin. *Baron's* 12:12 D 5 '32

**Japan**

Japanese bond prospects. *Economist* 117:773 O 21 '33

Japanese bond weakness. *Economist* 115:893 N 12 '32

Japanese bonds. *Economist* 116:1140-1 My 27 '33

Sino-Japanese bonds. *Economist* 116:364 F 18 '33

**Latin America**

Bond forecast offers basis for optimism. *Business Week* p24 O 7 '33

**New Zealand**

New Zealand loan. *Economist* 117:677-8 O 7 '33

**Rumania**

Roumanian default. *Economist* 117:374, 416 Ag 19-26 '33

**Russia**

More Soviet bonds offered to American public. *Business Week* p27 Ag 5 '33

Soviet bonds popular. *Business Week* p23 My 17 '33

**South America**

Billion dollar obstacle to world recovery plans. M. Winkler. *Il Am Bankers Assn J* 26:36-7+ N '33

**United States**

Demand for government bonds and short-term certificates. *Bankers M* 126:49-51 Ja '33

How will bank investments be affected by change in Treasury refunding policy? O. Lasdon. *Trust Companies* 56:423-4+ Ap '33

Mounting national debt—America's false complacency. L. D. Edie. *Iron Age* 130:771+ N 17 '32

Study of tax-exempts. D. D. Mackey. *Rand McNally Bankers Mo* 50:201-3+ Ap-May '33

Uncle Sam's credit is good; long-term issues are readily absorbed. *Business Week* p18-19 Ag 5 '33

United States government bond prices, monthly, 1917-1932. *Survey of Cur Business* 13:20 Je '33

United States government securities. Published in weekly numbers of *Annalist*

Will federal bond issues bring on or prevent inflation? J. D. C. Weldon. *Mag of Wall St* 51:668-9+ Ap 15 '33

**Yugoslavia**

Jugoslav settlement with foreign bondholders. *Economist* 117:417 Ag 26 '33

**BONDS, Municipal. See Municipal bonds****BONDS, Real estate****Default**

Apartment house bonds; some plans for reorganizing defaulted issues. C. M. Jones. *J Land & Pub Util Econ* 9:358-67 N '33

Problems of the trustee in connection with bond issues; trust mortgages, foreclosures and reorganizations. H. L. Stanton. *Trust Companies* 55:529-36 N '32

Real estate bonds; new committee of protective committees is set up with Judge Seabury as arbiter. *Business Week* p14 D 7 '32

**BONE, William Arthur**

Presentation of Society of chemical industry's medal to Prof. W. A. Bone. *Soc Chem Ind J (Chem & Ind)* 52:596-7 Jl 21 '33

**BONE black**

Blacks output in 1931. *Oil Paint & Drug Rep* 123:36 Ja 9 '33

**BONES**

Bone marrow in tularaemia. R. D. Lillie and E. Francis. *Pub Health Rep* 48:1127-36, pl 1-3 S 15 '33

Effect of tropical sunlight on the development of bones of children in Puerto Rico. M. M. Elliot. *U S Children's Bur Pub* 217:1-122 '33

**BONUS, Soldiers'. See Soldiers' bonus****BONUS system**

Costs kept in hand by bonus plan; Halsey 50/50 plan. W. H. Roehlke. *il Factory Management* 91:446-8 N '33

Effectiveness in grey room operation, can it be improved today? M. W. Alling. *plan Am Dyestuff Rep* 22:109-12, 139-41 F 13 '33

Incentives in maintenance work. L. E. Bryant. *Factory Management* 91:36 Je '33

Printing troubles and their scientific aid. M. W. Alling. *il diags Am Dyestuff Rep* 21:747-9 D 19 '32

Wages and hours of labor in the dyeing and finishing of textiles, 1932. *U S Bur Labor Statistics Bul* 588:13-15 '33

Why not incentives for quantity and quality? W. E. Curley. *Factory Management* 91:124-5 Ap '33

**See also**

Premiums

Salesmen—Bonuses

Wage payment plans

**BONUS system (for contractors)**

Improving concrete quality by paying bonuses to contractors on group of sewerage structures. M. H. Klegerman. *il Eng N* 111:434-7 O 12 '33

**BONUS system (for executives)**

Bonus for management. F. E. Seidman. *Credit & Fin Management* 34:22-3 D '32

Corporation salaries and bonuses in theory and in actual recent practice. P. M. Payne. *bibliog Annalist* 42:605-10 N 10 '33

Executive bonuses face test. *Forbes* 31:11 Mr 1 '33

What price management? abstract. W. Hutchinson. *Management R* 21:368 D '32

You can sell, but can you collect? R. H. Rositzke. *Management Methods* 62:120-1+ Mr '33

**BOOK industry and trade**

Britannica and Guild unite sales forces in 4-state test. *Sales Management* 32:625 Je 15 '33

1932 in the booktrade. *Publishers' Weekly* 123:186-9 Ja 21 '33

Position of the wholesaler in the book trade. C. T. Wheeler. *Harvard Business R* 11:237-43 Ja '33

**See also**

Bookbinding

Booksellers and book-

selling

Paper industry and trade

**Advertising**

Advertising of books goes national. *Adv & Sell* 20:30 Mr 16 '33

Alfred A. Knopf writes about book advertising. E. St. A. Hingham. *Adv & Sell* 20:20 D 8 '32

Co-operative campaign for books. *il Ptr Ink* 162:48 F 23 '33

This copy solves the small space problem; Simon and Schuster column. J. Lewis. *Ptr Ink* 165:84+ N 2 '33

**Bibliography**

Bibliotheca typographica in usum eorum qui libros amant; a list of books about books. H. Hart. 142p Printing house of Leo Hart, Rochester, N.Y. '33

Fifty books about bookmaking; exhibition prepared by Columbia university library for the twelfth annual Conference on printing education, June 26, 27, 28, 1933. H. Lehmann-Haupt, comp. 39p Columbia univ. press '33

**Directories**

British book trade directory, 1933. xlv,306p J. Whitaker & sons, Ltd, London '33

**Statistics**

International book production statistics for 1931. *Publishers' Weekly* 123:194-5 Ja 21 '33

**BOOK industry and trade—Statistics—Cont.**

Publishers' output in 1932. Publishers' Weekly 123:196-8 Ja 21 '33

**BOOK plates.** See Bookplates**BOOK rarities**

Stratford Lee Morton, St Louis general agent has rare American historical collection. D. F. Barrett. il East Underw 33:36+- D 9 '32

Tribute to printing and the John Henry Nash library; radio talk. J. H. Nash. Inland Ptr 91:44-5 S '33

**BOOK reviews**

Book review digest; twenty-eighth annual cumulation, March 1932 to February 1933 inclusive. 1187p Wilson, H. W. '33

Librarian's book review. K. D. Ferguson. Special Lib 24:61-2 Ap '33

Some thoughts on book reviewing. M. Jackson. Special Lib 24:62 Ap '33

**BOOK stores.** See Bookstores**BOOK windows.** See Bookstores**BOOKBINDING**

Development of Du Pont PX cloth. il Plastic Prod 9:24 Mr '33

Study of physical properties of binders board. B. W. Scribner and L. W. Snyder. il diags Paper Tr J 95:29-33 O 20 '32; Discussion. F. R. Blaylock. 96:20-1 Ap 6 '33

**BOOKKEEPING**

Bookkeeping principles and practice. A. H. Rosenkamm and W. C. Wallace. 426p Prentice-Hall, inc. '32

Card records simplify bookkeeping work; Hygienic products company. Management Methods 62:117-18 Mr '33

Double entry real estate accounting simplified; advantages of columnar journal. il Management Methods 62:64-5 F '33

Good accounting as move to cut dealer failures; National Lead. Ptr Ink 162:42-3 F 9 '33

Ledger reference speeded; Abbott laboratories. il Management Methods 62:66 F '33

Modern bookkeeping practice, first-year course. N. Altholz and A. W. Klein. 442p Lyons and Carnahan, Chicago '32

Time saved in posting; Jewel tea company. System and Management Methods 62:351 Ag '33

See also

Accounting  
Auditing  
Cost accounting

**Bibliography**

Third American check-list of early bookkeeping texts. J. C. Myer and H. Herskowitz, comps. 8p [Reprinted from the Certified public accountant, April, '33]

**Dictionaries**

Pitman's dictionary of book-keeping. R. J. Porters. 3d ed 810p Pitman '32

**Loose-leaf system**

Loose-leaf plan works well. Management Methods 62:214 My '33

**BOOKKEEPING machines**

Bookkeeping machines solve payroll problem. il Management Methods 61:614-15 N '32

Comparative features of bookkeeping machines. Am Gas Assn Proc 1932:220-4

Unit plan of posting for banks. W. M. Ingersoll. il Bankers M 126:396-401 Ap '33

**Advertising**

Most interesting advertising job I ever did; Underwood campaign. J. D. Tarcher. il Ptr Ink 162:57-9 Mr 16 '33

**BOOKLETS, Advertising.** See Advertisements—Books and booklets**BOOKPLATES**

Book of artists' own bookplates. R. T. Saunders. 87p Saunders studio press, Claremont, Calif. '33

**BOOKS**

Reader's choice; some tips for makers of books. P. M. Paine. Lib J 58:157-9 F 15 '33

See also

Bibliography  
Bookbinding  
Cataloging  
Classification  
Libraries  
Printing  
Publishing

**Conservation and restoration**

Fumigating books to kill bookworms. il Sci Am 148:118 F '33

Study of the deterioration of book papers in libraries. A. E. Kimberly and A. L. Emley. U S Bur Stand Misc Pub 140:1-7 '33

**Photographic reproduction and projection**

Films versus books. E. A. Henry. Lib J 58:237-40 Mr 15 '33

Stockholm's new photograph apparatus. C. Björkbohm. il Lib J 58:316-17 Ap 1 '33

**BOOKS and reading**

Books and leisure. L. J. Richardson. Lib J 58:442-3 My 15 '33

Books for unemployed youth. J. Osborne. Lib J 58:728-9 S 15 '33

Illiteracy of the literate. H. R. Huse. 273p [bibliog p263-7] \$2 Appleton-Century '33

Reader receives new consideration. L. R. Wilson. Lib J 58:353-8 Ap 15 '33

See also

Bibliography

**Bibliography**

References on reading for business and professional people. W. A. Roblyer, comp. 4p Russell Sage foundation, 130 E. 22d St, New York '33

**BOOKSELLERS and bookselling**

Annals of American bookselling. H. W. Boynton. 209p \$3 Wiley '32

Business of selling books. Ptr Ink 164:49-50 Jl 27 '33

Romance of an industry. P. J. Wielandy. 311p Press of Blackwell Wielandy co, St Louis '33

See also

Bookstores

**BOOKSTORES**

Modern book windows in Germany. K. Kdp. il Adv & Sell 20:sup [Adv Arts] 22 Mr '33

**BOOKWORMS**

Fumigating books to kill bookworms. il Sci Am 148:118 F '33

**BOOMS**

Aluminum booms and buckets on Mississippi levees. D. B. Hobbs. il Eng N 110:192-4 F 9 '33

Piers and booms as used in connection with holding grounds. W. J. Williamson and F. R. Wilcox. il diags Pulp & Pa of Can (Convention no) 34:142-4+ [F] '33

**BOONVILLE, Missouri****Bridges**

Vertical-lift bridges with synchronous motors. W. L. Six. il diags Eng N 111:402-3 O 5 '33

**BOOTS pure drug company**

Annual general ordinary meeting, 45th, Nottingham. Economist 116:1269-70 Je 10 '33;

Chem Age (Lond) 28:553 Je 17 '33

Conveyor plant in a drug factory. il diag Engineer 155:366-8, 376 Ap 14 '33

Drug, inc. disposal of Boots interest vetoed. Oil Paint & Drug Rep 123:17+- Ja 16 '33

Important Anglo-American deal completed. Chem Age (Lond) 28:36 Ja 14 '33

Modern factory design in England. E. O. Williams. il diags Eng N 110:675-6 My 25 '33

New drug factory, Beeston, Nottinghamshire, England. il plans Arch Rec 73:267-73 Ap '33

**BORATES**

Kramer borax deposit in California and the development of other borate ores. R. G. Mead. bibliog maps Min & Met 14:405-9 O '33

See also

Borax  
Ethyl borate  
Sodium perborate



**BORAX**

- Flame proofing of textiles; use of ammonium and boron compounds. R. Chesneau. Textile Col 55:375-7+ Je '33
- Interfacial tension between asphaltic materials and solutions of alkaline inorganic salts. R. N. Traxler and C. U. Pittman. Ind & Eng Chem 24:1391-3 D '32
- Kramer borax deposit in California and the development of other borate ores. R. G. Mead. bibliog maps Min & Met 14:405-9 O '33
- 20 mule team borax in modern dress. Il Ptr Ink 162:76 Ja 5 '33

**Advertising**

- Most interesting advertising job I ever did. J. K. Fraser and others. Ptr Ink 162:10+ F 2 '33

**BORAX consolidated, limited**

- Ordinary general meeting, 25th, London. Economist 116:434-5 F 25 '33

**BORDEAUX, France****Harbor**

- Bordeaux reaches seaward; new steamship terminal supported on concrete piers sunk with the aid of compressed air emulseurs. R. G. Skerrett. Il diags map Comp Air M 33:4210-13 S '33
- Concrete caissons sunk by air-lift pumping; landing jetty at Le Verdon, France. diags map Eng N 111:249-50 Ag 31 '33
- Ocean port of Le Verdon. Il diags plan Engineer 156:203-5, 210 S 1 '33

**BORDEN company**

- New deal for Borden; agricultural adjustment act may benefit company greatly. Econostat 1:11+ Jl 8 '33
- Opportunities in stocks that have not yet discounted their earnings recovery. Mag of Wall St 52:234 Je 24 '33
- Speculative audit; favorable and unfavorable factors affecting common-stock values. Barron's 13:14 N 6 '33

**BORERS (insects)**

- Wood borers remove piles from building foundations; loft building in St Paul. C. A. P. Turner. Eng N 111:159-60 Ag 10 '33

**BORERS, Marine.. See Marine borers****BORG-WARNER corporation**

- Low price stocks that can be purchased now for later appreciation. Mag of Wall St 51:218 D 10 '32
- Opportunities in stocks that have not yet discounted their earnings recovery. Mag of Wall St 52:232 Je 24 '33

**BORIC acid**

- Recommended specifications for analytical reagent chemicals. W. D. Collins and others. Ind & Eng Chem Anal ed 5:289-90 Jl 15 '33

**Manufacture**

- Exploitation or natural steam springs in Tuscany; boric acid and borax manufacture at Larderello. Il Chem Age (Lond) 29:348-9 O 14 '33
- Natural steam springs of Tuscany; their industrial exploitation. G. Ginori-Conti. Chem Age (Lond) 28:431-2 My 13 '33
- Putting a volcano to work. G. Ginori-Conti. Il Chem Markets 32:520-2 Je '33

**BORING. See Drilling and boring****BORING bars**

- Motor cylinder re-boring bar. Il Engineer 156:218 S 1 '33

**BORN, Max**

- Professor Born's reconciliation of old and new physics. Science 78:sup8-9 S 1 '33

**BORNEO****See also**

- Labor laws and legislation—Borneo

**BORNEOL**

- Depression of the melting point of *r*-isoborneol, *l*-borneol, and *d*-camphoroxime by various substances. T. S. Patterson, J. H. Blackwood and J. M. Stewart. Chem Soc J p93-5 Ja '33

**BORNEOLGLYCURONIC acid**

- New reagent for determination of zinc. A. J. Quick. Ind & Eng Chem Anal ed 5:26 Ja 15 '33

**BOROMALATES**

- Rotary dispersion of organic compounds; borotartrates and boromalates. B. Jones. Chem Soc J p951-5 Ag '33

**BORON**

- Boron and its derivatives. Engineering 135:647 Je 16 '33
- Boron content of sea water. E. G. Moberg and M. W. Harding. Science 77:510 My 26 '33
- Charge distributions for the normal atoms from boron to neon. F. W. Brown, J. H. Bartlett, Jr. and C. G. Dunn. Phys R 44:296-9 Ag 15 '33
- Colloidal boron. A. L. Elder and N. D. Green. J Phys Chem 36:3085-6 D '32
- Disintegration of boron by swiftly moving protons. M. G. White and E. O. Lawrence. Phys R 43:304-5 F 15 '33
- Mass ratio of the boron isotopes from the spectrum of BO. F. A. Jenkins and A. McKellar. Il Phys R 42:464-86 N 15 '32
- Masses of Ne<sup>20</sup> and B<sup>11</sup>; the mass of Ne<sup>22</sup> and the disintegration of F<sup>19</sup>. K. T. Bainbridge. bibliog Il Phys R 43:424-7 Mr 15 '33

**See also****Borax****BORON compounds**

- Interaction of the boron sextet with adjacent groups. D. L. Yabroff, G. E. K. Branch and H. J. Almqvist. bibliog Am Chem Soc J 55:2935-41 Jl '33

**BORON fluoride**

- Organic reactions with boron fluoride; ether cleavage in the presence of organic acids. G. F. Hennion, H. D. Hinton and J. A. Nieuwland. Am Chem Soc J 55:2857-60 Jl '33
- Organic reactions with boron fluoride; the rearrangement of isopropylphenol, *o*-, *m*- and *p*-cresyl ethers. F. J. Sowa, H. D. Hinton and J. A. Nieuwland. Am Chem Soc J 55:3402-7 Ag '33

- Reactions and properties of boron fluoride in methyl alcohol. L. A. O'Leary and H. H. Wenzke. bibliog Am Chem Soc J 55:2117-21 My '33

**BORON hydrides**

- Hydrides of boron; dimethoxyborine. A. B. Burg and H. I. Schlesinger. Am Chem Soc J 55:4020-5 O '33
- Hydrides of boron; the preparation of B<sub>5</sub>H<sub>11</sub>; its thermal decomposition and reaction with hydrogen. A. B. Burg and H. I. Schlesinger. diags Am Chem Soc J 55:4009-20 O '33

**BORON oxides**

- Absorption spectra of cobaltous compounds; the alkali oxide-boric oxide glasses. W. R. Brode. Am Chem Soc J 55:939-47 Mr '33
- Mass ratio of the boron isotopes from the spectrum of BO. F. A. Jenkins and A. McKellar. Il Phys R 42:464-86 N 15 '32
- System: CaO-B<sub>2</sub>O<sub>3</sub>. E. T. Carlson. U S Bur Stand J Research 9:825-32 D '32; Excerpts. Concrete (mill sec) 41:41-2 Mr '33

**BOROTARTRATES**

- Rotatory dispersion of organic compounds; borotartrates and boromalates. B. Jones. Chem Soc J p951-5 Ag '33

**BOROUGHs**

- Borough and town; a study of urban origins in England. C. Stephenson. 236p \$4.75 Mediaeval academy of America, Cambridge, Mass. '33

**BORROWING**

- Can you spare \$10 'til pay day? W. S. Dutton. Il Nation's Business 21:42+ Ja '33

**BOSS rule**

- Boss in politics—asset or liability? W. B. Munro. Ann Am Acad 169:12-20 S '33

**BOSTON, Massachusetts**

- Boston. Il map Fortune 7:26-36+ F '33
- Boston, a city whose 250-year banking history reflects the nation's eras of industrial development. H. Manchester. Il map Am Bankers Assn J 25:34-5+ Ja '33

**BOSTON, Massachusetts—Continued**

City growth and decay revealed by census figures. H. W. Green. maps Eng N 110:187-90 F 9 '33

Plan of Boston; a capital city. A. C. Comey. il maps Am Soc C E Proc 59:429-40 Mr '33; Discussion. 59:917-19 My '33

**Water supply**

Corewall of 31 caissons sunk under air; Quabbin reservoir of the Boston metropolitan water supply. il diags plan Eng N 111:215-19 Ag 24 '33

Metropolitan district water supply tunnel from the Ware river to the Wachusett reservoir. F. E. Winsor. map diags Boston Soc C E J 19:461-87 N '32

Progress on the new water supply for metropolitan Boston. il diags map Eng N 111:308-14 S 14 '33

Water supply sources for the metropolitan district. map Boston Soc C E J 19:452-5 O '32

**BOSTON elevated railway**

Boston and Salt Lake win Brady medals. il Transit J 76:559 D '32

Property records for motor buses; accounting system. T. A. Dunbar. il Elec Traction 28:494-5+ D '32

Safety inspectors promote accident prevention plan. F. N. Hollingsworth. il Elec Traction 29:168-9 Je '33

**BOSTON society of civil engineers**

Annual reports. Boston Soc C E J 20:67-98 Ap '33

**BOTANICAL chemistry**

Problem of twisted trees. M. Copisarow. Science 77:581-3 Je 16 '33

*See also*

Agricultural chemistry  
Anthocyanins  
Auxine  
Bacteria  
Cellulose  
Chlorophyll  
Fruit—Chemical analysis

Molds (botany)  
Pectins  
Photosynthesis  
Plant cells and tissues  
Plants—Chemical analysis  
Plants—Nutrition  
Plants, Effect of gases on

**BOTANICAL exploration**

British botanical expedition to Turkey. Science 78:327 O 13 '33

University of California botanical garden expedition to western China and Tibet. T. H. Goodspeed. Science 78:144 Ag 18 '33

**BOTANICAL gardens**

Annual report of the Brooklyn botanic garden. Science 77:362-3 Ap 14 '33

*See also*

New York botanical garden

**BOTANICAL gazette (periodical)**

American botany, 1886-1932, as shown in the Botanical gazette. F. Ramaley. Science 78:365 O 20 '33

**BOTANICAL laboratories****Equipment**

Special air-chamber for studying photosynthesis under natural conditions. A. J. Heinicke. diag Science 77:516-17 My 26 '33

**BOTANICAL literature**

Courses in the literature of botany. E. Horn. Science 78:212-13 S 8 '33

**BOTANICAL research**

Phytopathological and botanical research methods. T. E. Rawlins. 156p \$2.50 Wiley '33

**BOTANY***See also*

Conifers  
Forests and forestry  
Paleobotany  
Photosynthesis  
Plant cells and tissues  
Plant growth  
Rubber plants and planting  
Trees  
Weeds

**Ecology**

Concepts in phytosociology. H. A. Gleason. Science 78:238-9 S 15 '33

Units of plant sociology. H. S. Conard. Science 78:237-8 S 15 '33

**Nomenclature**

How plants get their names. L. H. Bailey. 209p Macmillan '33  
Pronunciation of botanical terms. R. W. Brown. Science 78:323-5 O 13 '33

**Physiology**

Chemical versus morphological species differences. S. C. Brooks. Science 77:221-2 F 24 '33

Parthenocarp and seedlessness in vitis vinifera. H. M. Pearson. Science 76:594 D 23 '32

**Study and teaching**

Botany at the University of Oxford. Science 78:303 O 6 '33

**Hawaiian Islands**

Some problems of the Hawaiian flora; abstract. D. H. Campbell. Science 76:544 D 9 '32

**New York (state)**

Distribution of serapias helleborine in central New York. V. A. Young. Science 77:560-1 Je 9 '33

**Ohio****Bibliography**

Bibliography of Ohio botany. E. M. Miller. (Ohio biological survey, Bul 27) p 283-376 \$1  
Ohio state university press, Columbus '32

**United States**

Most northern occurrence of mesquite on the Great Plains. C. N. Gould. Science 77:511-12 My 26 '33

**BOTANY, Economic**

Plants useful to man. W. W. Robbins and F. Ramaley. 428p Blakiston '33

**BOTANY, Medical**

Manual of Pacific coast drug plants. E. T. Stuhr. 189p [bibliog p142-3] Science press ptg. co, Lancaster, Pa. '33

Medicinal and poisonous plants of southern Africa. J. M. Watt and M. G. Breyer-Brandwijk. 314p E. & S. Livingstone, Edinburgh '32

Romance of Empire drugs. Can Chem & Met 17:25-6 F '33

**BOTTLE making machinery**

Continuous glass furnace and automatic bottle forming machines. J. B. Nealey. il Am Gas Assn Mo 15:16-17+ Ja '33

850,000,000 bottles for beer; Owens-Illinois glass co. il Fortune 8:50-1 Jl '33

**BOTTLE washing machines**

Bottle soaking, washing and rinsing. il diags Chem Age (Lond) 29:253 S 16 '33

Bürstenlose flaschenreinigungsmaschinen. J. Huber. il diags Zeit Ver Deutsch Ing 77:447-9 Ap 29 '33

Modern machines for mechanically cleaning bottles. il Mech Handling 20:217-18, 241-3 Jl-Ag '33

Washing insides of bottles with compressed air. diags Comp Air M 38:4247 O '33

**BOTTLED gas. See Gas, Bottled****BOTTLED goods**

Effect of light on bottled juices; apple and kraut juices. D. C. Carpenter. bibliog il Ind & Eng Chem 25:932-4 Ag '33

How strong is a woman? can she unscrew the tops from jars and bottles. M. L. Carr. Food Ind 5:86-7, 133-40, 170-1+ Mr-May '33

Large uses of steel in small ways; bottled beverage coolers. Steel 92:25 Ja 9 '33

*See also*

Beer  
Beverages  
Flavoring extracts

**BOTTLES**

Oil marketed in glass. il Glass Ind 14:109+ O '33

*See also*

Milk bottles  
United glass bottle manufacturers, limited



**BOTTLES—Continued****Manufacture**

Blowing glass containers for varied purposes; T. C. Wheaton company, Millville, N.J. R. G. Skerrett. *il Glass Ind* 14:105-8 O '33  
 Continuous glass furnace and automatic bottle forming machines. J. B. Nealey. *il Am Gas Assn Mo* 15:16-17+ Ja '33  
 850,000,000 bottles for beer; Owens-Illinois glass co. *il Fortune* 8:48-51+ JI '33

**BOTTLING**

Exhibits at the Brewers' and allied trades' exhibition, Oct. 29-Nov. 4. *Mech Handling* 19:401-2 D '32  
 Gas in the modern brewery. C. W. Swenson. *il diag Gas Age* 72:227-8 S 9 '33

**BOULDER Canyon lake wild life refuge**

New reservation. *Science* 77:276-7 Mr 17 '33

**BOULDER CITY, Nevada**

Plan of Boulder City. S. R. De Boer. *il plans Arch Rec* 73:154-8 Mr '33  
 Review of preliminary construction operations; Hoover dam. *il map Eng N* 109:713-15 D 15 '32  
 Taxing rights in Boulder City upheld by Federal district court. *Eng N* 110:331 Mr 9 '33

**Water supply**

Water softening at Boulder City. E. M. Kelly. flow sheet *Am Water Works Assn J* 25: 838-46 Je '33  
 Worst water in the West made fit to drink; treatment of the silt-laden Colorado River water for the Boulder Dam builders. D. M. Forester. *il plan Eng N* 111:275-9 S 7 '33

**BOULDER Dam project.** See Colorado river—Boulder Dam project

**BOULEVARDS.** See Parkways

**BOUNDARIES**

International boundary between United States and Canada is well marked; work of the International boundary commission. *Can Eng* 64:40 Ja 3 '33

**BOUNDARIES (estates)**

Surveyor and his legal equipment. A. H. Holt. *bibliog Am Soc C E Proc* 59:1105-19 S '33

**BOUNDARIES, State**

See also

Vermont—Boundary

**BOURDON tube gages**

Recorder-controller for materials-testing machines; Southwark-Emery system. C. H. Gibbons. *bibliog il Iron Age* 131:274-6+ F 16 '33

**BOURNEMOUTH, England****Sewerage**

Motor-driven disintegrator breaks up sewage solids; abstracts. H. R. Homewood. *diag plan Eng N* 111:380 S 28 '33; *Pub Works* 64:22 S '33

**BOUTONNEUSE fever**

Rocky Mountain spotted fever and Boutonneuse fever. L. F. Badger. *Pub Health Rep* 48:507-11 My 12 '33

**BOWATER, Eric V.**

Chairman of the board and managing director, Bowater paper mills, limited. *por Pulp & Pa of Can* 34:584 O '33

**BOWKER, Horace**

Mr Bowker's first 4,000 miles of selling hope and fertilizer. L. M. Hughes. *Sales Management* 32:248-9 Mr 15 '33

**BOYCOTT**

Federal courts and organized labor, since the Clayton act; the boycott cases and the Norris-La Guardia act. J. F. Christ. *J of Business* 6:62-82, 157-70, 247-61 Ja-JI '33

**BOYCOTT, International**

Is a boycott the only weapon against Nazi Germany? M. Sykes. *Comm & Fin* 22:655 JI 26 '33

Japan in economic war against British India. *Barron's* 13:12 Ag 7 '33

Lord & Taylor bans Nazi goods. *Adv & Sell* 21:34+ S 28 '33  
 Nazi boycott; American Jews organize National boycott committee. *Business Week* p31-2 S 16 '33

**BOYLE'S law**

Deviation of natural gas from Boyle's law. T. W. Johnson and W. B. Berwald. *U S Bur Mines Tech Pa* 539:1-29 '32; *Excerpt. Oil & Gas J* 31:30+ F 9 '33; *Abstract. Am Gas J* 138:21-4+ My '33

**BOYS**

Survey of transient boys in the United States. *Monthly Labor R* 36:91-3 Ja '33  
 200,000 wandering boys. *il Fortune* 7:46-7 F '33

**BRACHIOPODA, Fossil**

Attempt to zone the North American Jurassic on the basis of its brachiopods. C. H. Crickmay. *Geol Soc Bul* 44:871-93, pl 19-22 O '33

Marine fossils from the top of the New Albany shale of Indiana. J. W. Huddle. *il Am J Sci* 5th ser 25:303-14 Ap '33

**BRACING**

Cliff-dwellers of 1000 A.D. as underpinning experts; what the inhabitants of Pueblo Bonito did to prevent destruction of their city by a great rock. J. B. Hamilton and F. A. Kittredge. *il diags Eng N* 110:774-5 Je 15 '33

Wind bracing. A. Smith. *diags W Soc E J* 38:1-18 F '33

See also

Wind pressure

**BRADSTREET'S weekly (periodical)**

Editorial covenant. *Bradstreet's* 60:1744-6 D 31 '32

**BRAGG, James Elton**

Guardian Life appoints James Elton Bragg general agent in New York. *por East Underw* 33:3 D 23 '32

**BRAGG, Sir William**

Royal Institution and Sir William Bragg. *Science* 77:484-5 My 19 '33

**BRAID**

Plain braids, braiders and braiding. E. J. Gibbons. *il diags Melliand* 3:928-9; 4:30-2, 295-7, 503-5; 5:99-101 F, Ap, Ag, N '32, Je-JI '33

**BRAIN**

Gorilla with an exceptional brain. C. J. Conolly. *Science* 77:sup9-10 My 19 '33

Laminar destruction of the nerve cells of the cerebral cortex. J. G. Dussier de Barenne. *Science* 77:546-7 Je 2 '33

Representation of ipsilateral-extremities in the cerebral cortex. P. C. Bucy. *Science* 78: 418 N 3 '33

**BRAKE beams**

A.R.A. mechanical division committee report on brakes and brake equipment. *diags Ry Mech Eng* 107:239-41 JI '33

**BRAKE linings**

Fighting the depression with an idea—instead of price cuts; Multibestos company tailored brake lining. M. T. Rogers. *diag Ptr Ink* 162:49-51 F 16 '33

Pretreatment of woven-molded brake lining controls quality. J. Geschelin. *il Automotive Ind* 67:744-5 D 10 '32

Die prüfung von mechanischen bremsen und bremsbelägen. K. Kutzbach. *diag Zeit Ver Deutsch Ing* 77:443-7 Ap 29 '33

Sales portfolio that opens new accounts; American brakeblok corporation. G. E. Mitchell. *il Ptd Salesmanship* 61:158-9 My '33

School on wheels stimulates jobber interest; Multibestos company. M. T. Rogers. *il Ptr Ink* 162:51-3 Ja 5 '33

Stop the loom! silk and rayon crepes require accurate brake adjustment. H. E. Wenrich. *il Textile World* 83:1082-3 Je '33

This sales plan's key man is the distributor; Raybestos concentrates on the middleman. *il Ptr Ink* 164:61-4 S 21 '33

**BRAKE linings—Continued****Advertising**

Pretty girl advertisements sell brake lining; Multibestos company. R. J. Gray. *il* *Ptr* Ink 164:41+ Ag 17 '33

**BRAKE shoes**

Brake-shoes; their design considered graphically. V. G. Barford. *diags* *Automobile Eng* 22:555-8 N '32

Off-center mounting of brake shoe head equalizes wear. H. S. Williams. *diag* *Transit J* 77:156 My '33

**Testing**

Friction of railway brake shoes, its variation with speed, shoe pressure, and wheel material. E. C. Schmidt and H. J. Schrader. *il* *Ill U Eng Exp Sta Bul* 257:1-96 '33

**BRAKES**

Calculating the power of hand brakes. T. B. Aldridge, jr. *diag* *Ry Mech Eng* 107:24-5 Ja '33

Several types of material used for brake pull rods. *Transit J* 77:159-60 My '33

Trailer brake gear. *il* *diag* *Automobile Eng* 22:595-6 D '32

**See also**

Air brakes

**Testing**

Die prüfung von mechanischen bremsen und bremsbelägen. K. Kutzbach. *diag* *Zeit Ver Deutsch Ing* 77:443-7 Ap 29 '33

**BRAKES, Airplane**

Brake pedal problem. A. H. Hofer. *Aviation* 32:243 Ag '33

Goodyear develops new airwheel brakes. *il* *Aviation* 32:129 Ap '33

**BRAKES, Automobile**

Adoption of power braking gains. *Automotive Ind* 67:816 D 24 '32

Analysis of brake-design factors gives basis for future studies. B. B. Bachman. *diags* *S A E J* 33:298-304 S '33; *Abstract. Automotive Ind* 69:237-9 Ag 26 '33

Bendix electric brake unit. *diag* *Automotive Ind* 68:346-7 Mr 18 '33

Bossert Pres-I-Dent brake drums. *il* *Automotive Ind* 68:122 Ja 28 '33

Brake design. R. Dean-Averns. *diags* *Automotive Eng* 23:292-4 Ag '33; *Discussion*. 23:240, 383 S-O '33

Brake reliner's manual. 5th ed 124p Johns-Manville, Inc. New York '33

Fighting the depression with an idea—instead of price cuts; Multibestos company tailored brake lining. M. T. Rogers. *diag* *Ptr Ink* 162:49-51 F 16 '33

Hawley brake for Ford replacement. *diag* *Automotive Ind* 68:390 Mr 25 '33

No long torsional members in Girling brake system. *il* *Automotive Ind* 68:561 My 6 '33

Reaction gives feel to new vacuum brake. *diags* *Automotive Ind* 68:172 F 11 '33

School on wheels stimulates jobber interest; Multibestos company. M. T. Rogers. *il* *Ptr Ink* 162:51-3 Ja 5 '33

Stewart-Warner power brake features. *Automotive Ind* 68:105 Ja 28 '33

Stopping distance is only sane yardstick for defining brake capacity. D. Beecroft. *il* *S A E J* 33:sup22-6 N '33; *Abstract. Automotive Ind* 69:239 Ag 26 '33

**Manufacture**

Brake-drum surfaces made smooth and extremely hard by planishing. *il* *Mach* 39:716 JI '33

Cent's worth of fuel does 100 lb. of work in the jappanning department of the Midland steel products co. at Detroit. J. B. Nealey. *il* *Automotive Ind* 68:163-4 F 11 '33

**Testing**

Accurate control of conditions provided in new brake and lining testing machine. *il* *Automotive Ind* 69:150-2 Ag 5 '33

**BRAKES, Electric**

Bendix electric brake unit. *diag* *Automotive Ind* 68:346-7 Mr 18 '33

Electric brakes for cranes. C. H. S. Tupholme. *Elec R (Lond)* 112:518-19 Ap 14 '33

**See also**

Braking, Dynamic  
Braking, Regenerative

**BRAKES, Hydraulic**

Fluid friction principle is successfully applied to brakes for drawworks and sand reels. L. G. E. Bignell. *il* *Oil & Gas J* 31:33+ My 18 '33

Goodyear develops new airwheel brakes. *il* *Aviation* 32:129 Ap '33

**BRAKES, Motor bus**

Brake shoes or brake lining? *Bus Transportation* 12:296 JI '33

**BRAKES, Motor truck**

Adequate brakes measured by stopping distances. *Food Ind* 5:66-7 F '33

Wärmeaustausch zwischen bremsstrommel und felge bei lastkraftwagen. H. Knoblauch. *il* *Zeit Ver Deutsch Ing* 77:321-2 Mr 25 '33

**See also**

Air brakes, Motor truck

**BRAKES, Track. See Car retarders****BRAKES, Vacuum**

Reaction gives feel to new vacuum brake. *diags* *Automotive Ind* 68:172 F 11 '33

**BRAKING**

Mechanical braking and its influence on winding equipment. J. F. Perry and D. M. Smith. *il* *diags* *Inst Mech Eng Proc* 123:537-602 '32; *Same cond. Engineering* 134:608-11, 663-5, 696-8 N 18, D 2-9 '32; *Discussion. Inst Mech Eng Proc* 123:603-20 '32

**BRAKING, Dynamic**

Adjusting crane control by speed-torque curves. A. A. Merrill. *il* *Steel* 93:27-30 S 4 '33

Dynamic braking. *diags* *Elec J* 29:402 Ag '32; *Same. Power Pl Eng* 37:390 S '33

Dynamic braking of synchronous machines. C. E. Kilbourne and I. A. Terry. *il* *Elec Eng* 51:843-5 D '32

Why dynamic braking? C. A. Burleson. *il* *Elec Traction* 29:6-7+ Ja '33

**BRAKING, Regenerative**

British Thomson-Houston regenerative-control equipment for trolley 'buses. *il* *Engineering* 136:437-8 O 20 '33; *Engineer* 156:390 O 20 '33

G-E variable voltage winder drive with regenerative braking of the unwinding reel installed at the Bogalusa paper co, Bogalusa, La. D. R. Shoults. *il* *diag* *Paper Tr J* 96:21-2 Je 8 '33

Tramway regenerative control. *Elec R (Lond)* 112:340-1 Mr 10 '33

**BRANCH banking. See Banks and banking—Branch banking****BRANCH factories, Foreign**

Are Canadian plants justified—or are odds against profits high? N. G. Shidle. *Automotive Ind* 67:699-702 D 3 '32

Chapin predicts more U. S. branch factories abroad, in annual report. *Automotive Ind* 67:754 D 10 '32

**BRANCH factories, Foreign (in United States)**

American branch is English firm's answer to tariff; William Hollins & co, Ltd, Forestdale, R. I. *il* *Textile World* 83:592 Mr '33

**BRANCH houses**

Taking branch offices out of the red. *Ptr Ink Mo* 26:18-19 F '33

**Accounting**

Handling expense vouchers; Jewel tea co. *Management Methods* 62:175-6 Ap '33

**BRANCH management**

Branch office economies. R. C. Baker; H. M. Harman. 16p American management assn, New York '33

**BRANCH managers**

347 branch managers join this advertising department: Beneficial management corporation. R. L. Stratford. *Ptr Ink* 162:40-1+ Ja 12 '33



**BRANDING**

Marking plastic materials by branding. Mach 39:496C Mr '33

*See also*

Misbranding  
Trade marks

**BRANDS**, Advertised. *See* Advertising, National  
**BRANDS**, Private. *See* Private brands

**BRASS**

Aluminum removed from red brass. Foundry 61:68-9 Je '33

Average strength data for non-ferrous metals; data sheet. Mach 39:376A F '33

Brass rolling mill, 1932. W. J. Pettis. Metal Ind 31:11-12 Ja '33

Common high brass. R. S. Pratt. Metal Prog 24:39-40+ Ag '33

Effect of corrosive agents on admiralty metal. S. Born and W. L. Nelson. bibliog Nat Pet N 25:27-8, 30-1 Jl 19 '33

Factors affecting the physical properties of cast red brass (85 Cu, 5 Zn, 5 Sn, 5 Pb). H. B. Gardner and C. M. Saeger, jr. il diags Am Soc T M Proc 32 pt 2:517-34 '32; Abstract. Engineer 154:sup[Metallurgist] 156 O 28 '32; Discussion. Am Soc T M Proc 32 pt 2:535 '32

Free-cutting brass; machinability of the various alloys. D. K. Crampton and H. P. Croft. Metal Prog 23:31-2+ Ja '33

Gear materials and blanks; American recommended practice approved July 31, 1933 by the American standards association. Am Mach 77:534 Ag 16 '33

Nonferrous physical metallurgy; review of literature shows wide variety of work. J. L. Christie. Min & Met 14:35 Ja '33

Research in bright annealing brass and other metals. Metal Ind 31:16 Ja '33

Size limits of brass and other die castings. L. H. Morin. diags Iron Age 130:803-4 N 24 '32

Workability of high brass sheet influenced by hardness, ductility and grain size. M. H. Medwedeff. il Metal Prog 23:18-22 F '33

*See also*

Brass founding  
Brass foundries  
Brazing

**Testing**

Cooling coil efficiency tests; admiralty brass, glass, and chrome nickel iron as tube materials tested. B. L. Peables and D. K. Taylor. Gas Age 70:653-4 D 17 '32

Development of internal stresses and season-cracking in cold-drawn brass tubes. J. Fox. il Engineering 136:375-6 O 6 '33

Influence of recrystallization temperature and grain size on the creep characteristics of non-ferrous alloys. C. L. Clark and A. E. White. il Am Soc T M Proc 32 pt 2:492-506; Discussion. 507-16 '32

Sulphur in red brass; abstract. H. B. Gardner and C. M. Saeger, jr. Iron Age 132:22 Jl 13 '33

*See also*

Wire, Brass—Test-  
ing

**BRASS founding**

Aluminum removed from red brass. Foundry 61:68-9 Je '33

Deoxidizers for brass alloys. C. Vickers. il Foundry 60:20-1+ D '32; 61:15+ Ja; 26-7 F '33

Factors affecting the physical properties of cast red brass (85 Cu, 5 Zn, 5 Sn, 5 Pb). H. B. Gardner and C. M. Saeger, jr. il diags Am Soc T M Proc 32 pt 2:517-34 '32; Abstract. Engineer 154:sup[Metallurgist] 156 O 28 '32; Discussion. Am Soc T M Proc 32 pt 2:535 '32

Fluxes in brass melting. W. Fröhlich. Metal Ind 31:91-2, 123-4 Mr-Apr '33

Handling materials in a brass shop; Hawthorne works of the Western electric co. D. G. Anderson and B. F. McAuley. il Foundry 61:28-9+ F '33

Nickel in foundry brasses and bronzes. il Metal Ind 30:466-7 D '32

Sulphur in red brass; abstract. H. B. Gardner and C. M. Saeger, jr. Iron Age 132:22 Jl 13 '33

**BRASS foundries**

Brass foundry, 1932. H. M. St John. Metal Ind 31:11 Ja '33

What is wrong with the brass foundry? W. J. Reardon. Metal Ind 31:15 Ja '33

*See also*

Brass founding

**Equipment**

Conveyors used for handling all material through a modern brass foundry; illustrations. Iron Age 130:956-7 D 22 '32

Handling materials in a brass shop; Hawthorne works of the Western electric co. D. G. Anderson and B. F. McAuley. il Foundry 61:28-9+ F '33

**BRASS wire**. *See* Wire, Brass

**BRASS work**

Die for making 10,000 terminal clips an hour. W. C. Betz. diags Mach 39:317-18 Ja '33

Drawn and extruded shaped bars and wire. il diags Mach 40:88-91 O '33

Forming aluminum and brass products by the extrusion process. J. B. Nealey. il diags Mach 40:140-2 N '33

Hot brass pressings; abstract. J. W. Beard. Mech Eng 55:256-7 Ap '33

Hot-pressing of intricate brass and bronze parts. il Mach 40:29-30 S '33

Report on the heat conductivity and hardness of carbon and high-speed steel, also the durability of these steels when cutting brass. D. Smith and A. Nield. diags Inst Mech Eng Proc 123:709-25 '32

**BRASS works**

Recovery of smelter dust and oxide at a secondary metals plant. W. Romanoff and C. O. Thieme. il diag Min & Met 14:425-7 O '33

**BRASSIDIC acid**

Study of the high-precision determination of iodine values by the Wijs method. L. J. P. Keffler and A. M. Maiden. Soc Chem Ind J 52:242T-5T Ag 11 '33

**BRAZIL**

*See also*

Coffee trade—Brazil  
Diamond mines and  
mining—Brazil  
Public health—Brazil

**Commerce**

British preëminence in Brazil, its rise and decline. A. K. Manchester. 371p [bibliog p343-54] \$3.50 University of North Carolina press, Chapel Hill '33

Trade of Brazil. Engineering 135:600 Je 2 '33

**Commercial policy**

Brazil thaws dollars. Business Week p26 Je 17 '33

**Economic conditions**

Brazil in 1932. Economist 116:sup32 F 18 '33

**BRAZING**

Brazing alloys containing silver. Chem Age (Lond) 28:sup35 Je 3 '33

Continuous furnace brazing of steel. C. L. West. il Steel 93:25-8 O 23 '33; Excerpts. Iron Age 132:15-16+ Jl 27 '33

Copper brazing. C. L. West. il Metal Prog 24:44-8 Jl '33

Copper-hydrogen welding a quantity-production process; abstracts. W. W. Anderson. il Iron Age 131:538-9 Ap 6 '33; Aviation Eng 8:14+ Ap '33

Cost cut on motor job by electric brazing. A. Finkenstein and M. W. Brewster. il diags Steel 92:21-3 F 27 '33

Electric furnace co. new continuous brazing furnace. il Automotive Ind 69:509 O 28 '33

Electricity welds in unique way; Bundy tubing company. T. M. Rude. il Elec W 101: 487 Ap 15 '33

Fabricating products by electric furnace brazing. H. M. Webber. il diags Mach 39:520-4 Ap '33

**BRAZING—Continued**

- Fluxes for brazing steel. Bus Transportation 12:294 J1 '33  
 Mass production welding; Zeppelin copper-hydrogen-electric furnace. *il Sci Am* 149: 118-19 S '33  
 Practical slants on electric furnace brazing. H. M. Webber. *il diags Am Mach* 76:1153-5 N 23 '32  
 Simple method of brazing high-speed steel tips to low-carbon steel shanks. J. M. High-ducheck. *Mach* 39:445 Mr '33

**BREAD**

- Adapting automatic wrapping machines to transparent cellulose. J. D. Conti. *il diags Food Ind* 5:92-3 Mr '33  
 Air conditioning reduces losses in bakery products. W. W. Reece. *il Food Ind* 5:209-11 Je '33  
 Bread quality of wheat produced in aqueous culture media. W. F. Gericke. *Science* 77: 229-32 Mr 3 '33  
 Breads, rolls and sweet doughs. P. Richards. 2d ed 352p Bakers' helper co, Chicago '32  
 Effect of the addition of oils and fats to doughs on the composition of the washed-out glutens. E. A. Fisher and P. Halton. *Soc Chem Ind J* 52:195T-ST Je 30 '33  
 La fabrication industrielle du pain et ses rapports avec la production rémunératrice du blé. A. Pommier. *il plan Soc Ing Civils Bul* 86:96-114 Ja '33; Abstract. *Génie Civil* 102:143-4 F 11 '33  
 La fabrication industrielle du pain; la fabrique des Grandes boulangeries de la Seine, à Bobigny. F. Calfas. *il diags Génie Civil* 102: 29-32 Ja 14 '33  
 Heat flow through bakery products; time-temperature relationships existing during the baking of bread. L. E. Stout and F. Drosten. *Ind & Eng Chem* 25:423-30 Ap '33  
 Taking the mystery out of a new car of flour. R. J. Clark. *il Food Ind* 5:435-7+ N '33  
 Use of vitamin D from cod-liver oil in milk and bread. T. F. Zucker. *Science* 77:19-20 Ja 6 '33  
 La valeur boulangère des blés récoltés en France. *Génie Civil* 102:141-2 F 11 '33

*See also*

- |                     |       |
|---------------------|-------|
| Bakers and bakeries | Flour |
| Baking              | Yeast |
| Baking powder       |       |

**Advertising**

- Parkway baking company builds sales through children's clubs. *il Sales Management* 33: 190-1 Ag 15 '33  
 Plans uninterrupted; Ward baking company. *Ptr Ink* 162:20 Mr 16 '33

**Prices**

- Flour processing taxes cause price skirmish. *Forbes* 32:9-10 J1 15 '33

**BREAKFAST food.** See Cereals, Prepared

**BREAKWATERS**

- Les brise-lames à parements verticaux. J. Lira. *diags plans Génie Civil* 102:320-5 Ap 8 '33

**Bibliography**

- Breakwaters; a bibliography. H. E. Haferkorn, comp. 86p U.S. Engineer school library, Washington '32

**BREAKWATERS, Concrete**

- Lake Zurich breakwater built on piles. A. J. Luchinger. *il plan Eng N* 110:50-1 Ja 19 '33

**BREATHING.** See Respiration

**BREEDING**

- After 10,000 years—a new bee! R. M. Strickland. *il Sci Am* 149:101-3 S '33

**BREVOLITE** lacquer company. See Zapon-Brevolite lacquer company

**BREWERIES**

- Brewery risks in light of control by gangsters. *Weekly Underw* 127:971 N 19 '32  
 Checklist requirements of breweries. G. W. Rustay. *il diags plans Arch Rec* 73:63-6 Ja '33  
 Planning of breweries. G. W. Rustay. *il Arch Rec* 73:57 Ja '33

Planning of breweries; alterations and additions. J. D. Weiss. *il diags Arch Rec* 73: 375-7 My '33

Planning the brewery; the stock house. J. B. Newman. *il plans Arch Rec* 73:132-6 F '33  
 Principles of brewery planning. J. D. Weiss. *il diags Arch Rec* 73:58-62 Ja '33

Return of beer budding up market for clay products. *il Brick & Clay Rec* 82:122+ Ap '33

**Accounting**

Brewery accounts. F. W. Thornton. *J Account* 55:340-4 My '33

**Employees**

Wage rates of cereal beverage workers, 1932. *Monthly Labor R* 36:360-2 F '33

**Equipment**

Air conditioning in the modern brewery. L. L. Simmons. *il Heating-Piping* 5:245-6 My '33  
 American gas makes Mexican beer. J. B. Nealey. *il Gas Age* 71:297-8+ Mr 25 '33; Abstract. *Am Gas J* 139:33 J1 '33

Beer rumblings awaken interest in chrome-nickel steel for breweries. *Steel* 91:21 D 26 '32

Beer—what will it mean for steel? A. H. Allen. *il Steel* 92:11-12, 24-6 Mr 27 '33

Brewers find changes among construction materials. *il Chem & Met Eng* 40:272-3 My '33

Chromium steel for brewery equipment. H. D. Edwards. *il Refrig Eng* 26:192-4+ O '33

Concrete stock houses for beer. *il Sci Am* 149: 226 N '33

Helping beer go robot; Mason-Neilan regulator co. L. H. Brendel. *il Ptr Ink* 164:72-3 J1 13 '33

High-speed labeling aids return of beer. *il Food Ind* 5:448-9 N '33

Legalizing beer means modernization of old breweries. R. C. Doremus. *Heating-Piping* 5:18-19 Ja '33

Modern system of beer production. L. Nathan. *il diag Refrig Eng* 26:176-80+ O '33

1933 refrigeration for 1933 breweries. F. Ophuls and A. B. Stickney. *chart Power* 77:118-20 Mr '33

Pipe welding plays an important part in modernizing breweries. F. W. Rabe. *Heating-Piping* 5:509 O '33

Piping services in a brewery. *il Heating-Piping* 5:200-2+ Ap '33

Power and refrigerating plant in the brewery. F. Ophuls. *Refrig W* 68:13-17 My; 19-23 Ag '33

Refrigeration in the brewery. F. Ophuls. *il Refrig Eng* 25:72-7 F '33; Excerpts. *Power Pl Eng* 37:175-7 Ap '33; Discussion. *Refrig Eng* 25:77+ F '33

Refrigeration in the brewery. E. H. Paulsen. *il Refrig Eng* 25:319-20+ Je '33

Refrigeration the control factor in brewing. A. B. Stickney. *il Refrig Eng* 26:70-2+ Ag '33

Rustless steels in the German brewing industry. M. H. Sommer. *il Iron Age* 131:984-7 Je 22 '33

What beer means to our metals business. G. S. Herrick. *il Iron Age* 131:461-3+ Mr 23 '33

*See also*

Botting

**Fires and fire protection**

Hazards of present and past breweries. W. O. Lincoln. *il plan Spectator* 130:6-7+ My 18; 6-7+ Je 1 '33

**Layout**

What the brewery of the future will look like. V. Buhr. *flow sheet il plans Food Ind* 5: 123-8 Ap '33

**Power**

Combined heat and power supply at the Carlsberg breweries; abstract. J. P. Spangenberg. *Engineering* 136:206 Ag 25 '33

Power and refrigerating plant in the brewery. F. Ophuls. *Refrig W* 68:19-23 Ag '33

Power for the brewery; Atlas brewing company. *il diag plans Power Pl Eng* 37:64-9 F '33

60% less coal for 1933 beer. F. Ophuls and A. B. Stickney. *plans Power* 77:59-62 F '33



**BREWING**

- Brewing—the present situation. H. A. Rosenbusch. *il Refrig Eng* 26:251-2; Discussion. 252-3 N '33
- Desalting brewery water by electroosmosis. R. Leonhardt. *diag Elec W* 101:725 Je 3 '33
- How beer is brewed. *flow sheet il Sci Am* 148:329 Je '33
- Modern system of beer production. L. Nathan. *il diag Refrig Eng* 26:176-80+ O '33
- Preparation of brewing water. R. Leonhardt. *diags Elec R (Lond)* 112:772 Je 2 '33
- Refrigeration in the brewery. E. H. Paulsen. *il Refrig Eng* 25:319-20+ Je '33
- Whether it's tap or lager, it must start with good water, hops and malt. P. J. Kolachov. *il Food Ind* 5:218-20 Je '33

**BREWING industries**

- Advice to brewers; Schwarz laboratories, inc. *Fortune* 7:8+ Ja '33
- After beer—what? *Forbes* 31:7-8 Ap 1 '33
- Beer—a new billion dollar market? W. F. Weber. *il Sales Management* 31:516-17+; 32:16-17+ D 15 '32-Ja 1 '33
- Beer; business finds propagandists have put more than 3.2% of pure hope in the new beer. *il Business Week* p3-4 Ap 5 '33
- Beer market; what a revival of brewery selling and buying will mean to the big industries. *Business Week* p5-6 Ja 4 '33
- Beer prospects. *Business Week* p3-5 D 7 '32
- Beer taxes as a revenue-producer. M. H. Tillitt. *Barron's* 13:5-4 Ja 16 '33
- Beer's honeymoon. *Business Week* p10-11 Ap 19 '33
- Brewers making ready. *Barron's* 12:16 N 21 '32
- Brewers' rubber goods. W. Norris. *il India Rubber W* 87:31-3 Ja '33
- Brewery notes. *Refrig W* 68:62-3, 65, 67 Ap; 58-60, 62 My; 39, 59-62 Je; 62-5 Jl; 58-60 Ag; 61-2 O '33
- Brewery situation. *Refrig Eng* 25:5+ Ja '33
- Brewing—a fertile but difficult field for chemical cultivation. R. Schwarz. *Chem & Met Eng* 40:27 Ja '33
- Legalization of beer. *Guaranty Survey* 13:8-10 Ap '33
- Siebel-Schwarz memorial. *Refrig Eng* 26:189+ O '33
- Underwriting the beer industry. E. M. Stiles. *East Underw* 34:30 O 6 '33
- What shall it profit the ice man if he gain back beer and it's not kept on ice! *Refrig W* 67:19+ D '32

*See also*

Beer

**Advertising**

- Brewers fight racketeers. *Ptr Ink* 164:74 S 21 '33

**Securities**

- Beer—profits or losses? why investors should exercise unusual caution. C. E. Robbins. *Barron's* 12:5 D 5 '32
- Separating the sheep from the goats in the liquor industry. J. C. Clifford. *il Mag of Wall St* 52:176-7+ Je 10 '33

**Great Britain**

- Brewery share prospects. *Economist* 117:872-3 N 4 '33

**BRIBERY, Commercial**

- Bribery and secret commissions. D. Milne-Watson. *Gas J (Lond)* 201:745 Mr 22 '33
- Buying graft; S. Klein prosecutes buyer thereby helping to discourage bribery. *Business Week* p6 Ja 18 '33
- Cook paint & varnish company given F.T.C. order; bribery by former salesman basis of charge. *Oil Paint & Drug Rep* 124:29 O 16 '33
- Salesmen at Christmas. W. B. Edwards. *Ptr Ink* 161:10+ D 8 '32

*See also*

Salesmen, Retail—Bonuses (manufacturers')

**BRICK breaking machine**

- Winget brick breaker. *Engineering* 135:213, pl 13 F 24 '33

**BRICK columns. See Columns, Brick****BRICK construction**

- Beauty of old world architecture produced by clay products; Northeastern federal penitentiary, Lewisburg, Pa. *il Brick & Clay Rec* 82:66+ F '33
- Brick in the New York code. R. S. Tilden. *Eng N* 110:757 Je 8 '33
- Church architecture assumes new beauty in all-brick structure; St Matthew's Roman Catholic church, Auburn, R. I. *il Brick & Clay Rec* 82:90-1 Mr '33
- Faulty construction accused for California earthquake damage. *Brick & Clay Rec* 82:125-6 Ap '33
- Leaky brick walls and how to prevent them. J. H. Mallon. *bibliog il Arch Rec* 72:412-16+ D '32; Same cond. *Am Bid* 54:30-2+ F '33
- New brick unit provides new system of construction. *il Brick & Clay Rec* 82:138+ Ap '33

*See also*

Brick houses

Brick work

Masonry

Pavements, Brick

Roads, Brick

Sewers, Brick

Walls, Brick

**Reinforcement**

- Design of reinforced brick masonry; report by American society for testing materials. *Can Eng* 65:7 S 5 '33
- Developments in reinforced brick masonry. J. H. Hansen. *il Am Soc C E Proc* 59:407-27 Mr '33; Discussion. 59:913-16, 1344-7, 1637-8 My, O, D '33
- How did you like the brick house at the World's fair? *Brick & Clay Rec* 83:93-4 S '33
- New unit for earthquake-proof reinforced brick masonry. *il Brick & Clay Rec* 82:127-8 Ap '33
- Reinforced brick columns tested at Lehigh university. I. Lyse. *il Eng N* 110:345 Mr 16 '33
- Reinforced brick masonry for industrial use; Standard oil company (Indiana) refinery, Wood River, Ill. H. S. Haworth. *il plan Civil Eng* 3:204-6 Ap '33
- Reinforced brick masonry is main topic at National brick manufacturers research foundation meeting. *Brick & Clay Rec* 82:86-7 Mr '33
- Reinforced brick masonry on Dearborn sewer system. C. H. Fork. *diags Eng N* 109:749-50 D 22 '32
- Reinforced brick masonry; principles of design and construction. (Brick engineering volume 3) H. Filippi. 240p pa \$2 Brick manufacturers assn of America, Cleveland '33
- Reinforced brick masonry proves its practical value. H. Filippi. *il Brick & Clay Rec* 81:159-61+ N '32; Abstract. *Can Eng* 63:13-15 D 20 '32
- Reinforced brick masonry slabs. *Can Eng* 65:11 Ag 8 '33
- Reinforced-brick walls reduce steelwork. L. B. Lent. *diags Eng N* 111:257-8 Ag 31 '33
- Results of tests on seven demonstration structures with summary covering tests on twenty structures. E. E. Krauss, J. Vogdes and J. R. Shank. *il Am Cer Soc J (Bul)* 12) 16:166-97 Je '33
- Shear tests of reinforced brick masonry beams. D. E. Parsons, A. H. Stang and J. W. McBurney. *il diags U S Bur Stand J Research* 9:749-68 D '32; Abstract. *Eng & Contr* 71:278 D '32
- Structural engineer "kibitzes" the brick industry about the lack of interest in reinforced brick masonry. *Brick & Clay Rec* 82:210+ Je '33
- Test reinforced brick masonry for flexural limitations. M. O. Withey. *Brick & Clay Rec* 83:23 Jl '33
- Tests of reinforced brick columns. I. Lyse. *il Am Cer Soc J* 16:584-97 N '33
- What holds those porches up? reinforced brick masonry in common brick house at a Century of progress. *il plans Am Bid* 55:42-3 Je '33

**BRICK construction—Continued****Testing**

Developments in reinforced brick masonry. J. H. Hansen. *il Am Soc C E Proc* 59:407-27 Mr '33; Discussion. 59:913-16, 1344-7, 1637-8 My, O, D '33

Permeability of brick masonry walls; abstract. W. C. Voss. *Rock Prod* 36:42 J1 '33

Reinforced brick columns tested at Lehigh university. I. Lyse. *il Eng N* 110:345 Mr 16 '33

Results of tests on seven demonstration structures with summary covering tests on twenty structures. E. E. Krauss, J. Vogdes and J. R. Shank. *il Am Cer Soc J* (Bul 12) 16:166-97 Je '33

Shear tests of reinforced brick masonry beams. D. E. Parsons, A. H. Stang and J. W. McBurney. *il diags U S Bur Stand J Research* 9:749-68 D '32

Test reinforced brick masonry for flexural limitations. M. O. Withey. *Brick & Clay Rec* 83:23 J1 '33

Tests of reinforced brick columns. I. Lyse. *il Am Cer Soc J* 16:584-97 N '33

*See also*

Bricks—Testing

**BRICK houses**

All-clay products house costing less than \$6,000. *il Brick & Clay Rec* 81:205 D '32

Brick colonial and other brick designs of tested type; views and plans. *Am Bld* 54:23-5 F '33

Common brick house. *il plans Arch Forum* 59:60 J1 '33

How did you like the brick house at the World's fair? *Brick & Clay Rec* 83:93-4 S '33

Most unusual brick house designed for Century of progress. *il Brick & Clay Rec* 81:196-7; 82:158 D '32, My '33

What holds those porches up? reinforced brick masonry in common brick house at a Century of progress. *il plans Am Bld* 55:42-3 Je '33

World's most unusual brick house ready for millions of visitors; Century of progress. *il Brick & Clay Rec* 83:14-16 J1 '33

**BRICK industry and trade**

A.F.B.A. points way to business recovery. *il Brick & Clay Rec* 81:162-5 N '32

Back to cooperation and common sense. G. A. Bass. *Brick & Clay Rec* 81:166-7 N '32

Brick industry's big job is selling the dealer. *Brick & Clay Rec* 82:62+ F '33

Carry on, is the cry of the common brick industry. *il Brick & Clay Rec* 82:50-2 F '33

Dealer should not sell clay products! *Brick & Clay Rec* 81:202-3 D '32

Give the dealer a chance; bridge the gap between the manufacturer and the building material consumer. *Brick & Clay Rec* 82:22+ Ja '33

Menace of prison-operated plants to clay products industry; report to the Shannon committee investigating government competition. G. S. Eaton. *Brick & Clay Rec* 81:206 D '32

Sell brick for these markets. J. Mansfield. *Brick & Clay Rec* 82:160 My '33

Tell the public what you have to sell. H. H. Potter. *Brick & Clay Rec* 83:62-3 Ag '33

*See also*

Clay industries

**Advertising**

Brick manufacturing will help solve the unemployment problem. *Brick & Clay Rec* 83:60 Ag '33

**Statistics**

Face brick production, monthly, 1929-1932. Survey of Cur Business 13:20 Je '33

**Great Britain**

Brick industry in England. *Brick & Clay Rec* 83:130-1 O '33

London brick company and Forders, limited. *Economist* 116:475, 553 Mr 4-11 '33

**United States**

Structural clay products groups formulate master code. *Brick & Clay Rec* 83:46-50 Ag '33

**BRICK making.** *See* Brickmaking

**BRICK manufacturers association of America** (formerly Common brick manufacturers' association)

Annual convention, Washington, Feb. 7-9. *Brick & Clay Rec* 82:50-2 F '33

**BRICK walls.** *See* Walls, Brick

**BRICK work**

Clay products developing new trend in church architecture. *il Brick & Clay Rec* 82:166-7 My '33

Current Dutch brickwork. G. K. Geerlings. *il Architecture* 68:161-8 S '33

**BRICK works**

Cannons' are brick making family—mother head of South River firm. *Brick & Clay Rec* 82:212 Je '33

*See also*

Brickmaking

**Electric equipment**

Power factor correction; the B.T.-H. shunt phase advancer in a brick works. *il diag Elec R* (Lond) 111:920 D 23 '32

**Equipment**

Endless chain haulage gears in quarries and brickworks. A. C. Farren. *diags Mech Handling* 20:151-4 My '33

Fate-Root-Heath co. announces de-airing machine. *il Brick & Clay Rec* 83:102+ S '33

Opportunities for using indicating and recording control instruments in the rock products industries. J. R. Withrow. *il Rock Prod* 36:32-5 F '33

**BRICKLAYING**

Impervious brick masonry. 70p [bibliog p60-5] Alton brick co, St Louis '33

**BRICKMAKING**

Applying the de-airing process to the making of paving brick. R. P. Keplinger. *Brick & Clay Rec* 82:55-6 F '33

Bricks without air; de-airing equipment developed by the Bonnot co, Canton, O. *Business Week* p8 F 1 '33

Closed-end hollow brick weigh 25% less. *il Brick & Clay Rec* 82:200+ Je '33

Entrapped gases as a factor in stratification. R. E. Birch. *il Am J Sci* 5th ser 25:406-14 My '33

Importance of experience; some problems in the utilisation of waste sand. W. R. Ormandy. *Chem Age* (Lond) 28:111 F 11 '33

Industrial furnaces for gas; kilns for heavy clay products. L. E. Biemiller. *il diags Am Gas J* 138:16-18 Ja '33

Manufacture of lightweight brick. *diag Brick & Clay Rec* 83:26 J1 '33

Some problems solved in the production of vertical fibre paving brick. H. C. Kenyon. *diag Brick & Clay Rec* 82:17-18 Ja '33

Use of tribarium aluminate in structural clay products. W. K. Carter and R. M. King. *Am Cer Soc J* 16:265-8 Je '33

**BRICKMAKING machinery**

Makes quality cement brick at \$5.00 per thousand; Kalamazoo Haydite tile co. *il Am Bld* 54:34 Ja '33

Using sand blast machine to produce rough faced brick of hard materials. *il Brick & Clay Rec* 83:131-2 O '33

*See also*

Auger machines

**BRICKS**

New bricks for pickling tanks. *il Blast F & Steel Pl* 21:430-1 Ag '33

Propose new type of slab brick. *il Brick & Clay Rec* 83:121 O '33



**BRICKS—Continued**

X-ray study of the toughness of paving brick. G. E. Stong. *Am Cer Soc J* 16:598-600 N '33

*See also*

Brick construction      Glass brick  
Brick industry and      Magnesite brick  
trade      Masonry  
Brickmaking      Pavements, Brick  
Clay      Roads, Brick  
Clay industries      Sand lime brick  
Concrete brick      Silica brick  
Fire brick      Tiles

**Color**

Some processes employed in producing colors in common brick. H. G. Lutter. *Brick & Clay Rec* 82:19 Ja '33

Use slip to produce grey brick—clay mixtures make buff and grey colors. L. P. Collin. *Brick & Clay Rec* 83:24+ JI '33

**Testing**

Bond in masonry construction. W. C. Voss. *il diags Boston Soc C E J* 20:19-37 F-Mr '33  
Prove value of brick on tie-beam construction. *Brick & Clay Rec* 82:212 Je '33

Relation of bond between brick and mortar and leaky masonry walls. E. F. Gallagher. *Brick & Clay Rec* 82:133-4 Ap '33

**BRIDES**

Budget for a bride; her annual contribution to American business. *il Fortune* 7:38-41 Je '33

**BRIDGE (game)**

There's money in the bridge market. *Ptr Ink* 161:76-7 D 15 '32

**BRIDGE approaches**

Bell splice composite pile developed in Texas; concrete approaches to Neuces River crossing. G. G. Wickline. *il diags Eng N* 111:39-40 JI 13 '33

George Washington bridge; approaches and highway connections. J. C. Evans. *il diags maps Am Soc C E Proc* 59:317-55 F '33; Discussion. 59:906-12 My '33

Hauling and erecting large steel girders; approach plaza of George Washington bridge. W. G. Rapp. *il plan Civil Eng* 3:373-5 JI '33

Trestle design to resist Rio Grande floods; approach to bridge at Del Rio, Tex. J. W. Beretta. *il diags Eng N* 110:802-4 Je 22 '33

Vancouver's new harbor crossing; Burrard bridge. J. R. Grant. *il diags Eng N* 110:239-41 F 23 '33

**BRIDGE bearings**

Lenticular expansion rollers for concrete spans. A. B. Willett. *il diag Eng N* 110:255 F 23 '33

**BRIDGE design**

Albany-Rensselaer vertical-lift bridge. S. Hardesty. *il diags Civil Eng* 3:249-53 My '33  
Analysis of unsymmetrical concrete arches. C. S. Whitney. *Am Soc C E Proc* 59:1247-68 O '33

Beauty of design sought in Queens parkway bridges. C. U. Powell. *il diags Eng N* 110:316-19 Mr 9 '33

Bridge over the Saskatchewan river at Nipawin, Sask. A. R. Ketterson. *il diags Can Eng* 65:3-8 O 24 '33

Building a bridge in three strips; replacement of old Klinge Valley Connecticut ave. bridge in Washington, D.C. H. C. Whitehurst. *il Eng N* 109:784-6 D 29 '32

Burrard bridge, Vancouver. J. R. Grant. *il Engineer* 155:84, 94 Ja 27 '33

Checking the strength of bridge girders. J. E. Holmstrom. *Engineering* 136:157-9 Ag 18 '33

Cleveland again bridges Cuyahoga valley; Lorain-Carnegie bridge. *il diags Eng N* 109:747-9 D 22 '32

Combining concrete and timber for trestle decks. G. D. Burr. *il diags Eng N* 110:523-4 Ap 27 '33

Concrete-arch bridge on the highway between San Luis Obispo and Santa Barbara notable for large skew angle. A. A. Eremin. *il diags Eng N* 110:399 Mr 30 '33

Concrete rigid-frame bridges for railroad loadings in Cincinnati. D. A. McGavren. *il diags Eng N* 111:526-8 N 2 '33

Continuous truss utilized for Missouri River bridge north of Helena, Mont. W. Bertwell. *il Eng N* 111:498-9 O 26 '33

Design and construction of small span suspension bridges. F. H. Frankland. *Roads & Sts* 76:109-12 Mr '33

Design and construction of the French King bridge on the Mohawk Trail route across the Connecticut river, Massachusetts. A. E. Kleinert, jr. *il diags map plan Boston Soc C E* 20:117-35 Je '33; Same cond. *Roads & Sts* 76:332-6 S '33

Design for an all welded Warren truss railroad bridge. R. E. Burt. (*Engineering and science ser no. 40*) 20p Rensselaer polytechnic institute, Troy, N.Y. '33

Design of continuous arches on elastic piers. A. P. Hjort. *Am Concrete Inst J* 4:143-7 N '32

Design of modern suspension bridges; generalized deflection theory. D. B. Steinman. *il Civil Eng* 3:490-1 S '33

Design of modern suspension bridges; various stress formulas compared. A. A. Jakkula. *il Civil Eng* 3:491-2 S '33

Design of steel bridges. F. H. Abrahams. 195p Draughtsman pub. co. ltd, London '32

Early truss bridges of wood and iron; railroad spans of the eighties. C. D. Purdon. *diags Civil Eng* 3:369-72 JI '33

Economy through continuity in girder-beam bridges for three-span bridges in Nebraska. J. Sorkin. *diags Eng N* 111:496-8 O 26 '33

Erhöhung der wirtschaftlichkeit von versteiften hängebrücken durch berücksichtigung der formänderungen. W. Blick. *Zeit Ver Deutsch Ing* 77:921-3 Ag 26 '33

Evolution of early American bridges; abstract. L. N. Edwards. *Engineering* 135:389-90 Ap 7 '33

Foreign bridges exemplify unusual designs. *diags Eng N* 110:498-500 Ap 20 '33

Freyssinet method of arch construction applied to the Rogue River bridge in Oregon. A. L. Gemeny and C. B. McCullough. *il diags Am Concrete Inst J* 4:57-79 O '32; Discussion. C. S. Whitney. 4:401-4 F '33

George Washington bridge; design of superstructure. A. Dana, A. Andersen and G. M. Rapp. *il diags plans Am Soc C E Proc* 58:1661-1726 D '32

George Washington bridge; design of the towers. L. S. Moisseiff. *il diags Am Soc C E Proc* 58:1727-68 D '32

George Washington bridge; general conception and development of design. O. H. Ammann. *il diags plan map Am Soc C E Proc* 58:969-1035 Ag '32; Discussion. 58:1610-13; 59:196-8, 369-75, 832-4 N '32, Ja-F, My '33

Girderless flat-slab bridges for grade crossings; experience on the D. L. & W. railroad. M. Hirschthal. *il diags Eng N* 111:344-7 S 21 '33

Highway bridges for curved alignment; Westchester county park commission. A. G. Hayden. *il map Civil Eng* 3:568-9 O '33

History of the development of wooden bridges. R. Fletcher and J. P. Snow. *il diags plans Am Soc C E Proc* 58:1455-98 N '32; Discussion. 59:216-18, 390-3, 510-20, 621-39, 860-5, 999-1013 Ja-My, Ag '33

Integral abutment and pier feature grade separation; tracks of Toledo terminal railroad carried over Dixie highway on a plate-girder bridge. *il diags Eng N* 111:568-9 N 9 '33

Little Belt bridge, Jutland. A. C. Davids and A. Mortensen. *il diags map plan Civil Eng* 3:361-5 JI '33

Louisville & Nashville completes outstanding bridge at Henderson, Ky. *il diags Ry Age* 94:658-62 My 6 '33

Low-cost highway bridges; use of continuous beams, rigid frames, open end bents, and combinations of wood, steel, and concrete. S. B. Slack. *il Civil Eng* 3:601-5 N '33

Low-cost I-beam bridges for Pennsylvania highways. *il diags Eng N* 110:709-10 Je 1 '33

Martinez-Benicia bridge. W. H. Kirkbride. *il diags plan map Am Soc C E Proc* 58:1181-1206 S '32; Discussion. 58:1619-30; 59:384-6, 997-8 N '32, F, Ag '33

**BRIDGE design—Continued**

- Massnahmen zur verringering der bauhöhe breiter strassenbrücken. H. Gottfeldt. il diags Zeit Ver Deutsch Ing 77:773-4 JI 15 '33
- New Jersey high-level viaduct. H. W. Hudson. il Civil Eng 3:146-8 Mr '33
- New Seventh Street trafficway in Kansas City, Kansas. L. Grover. il diags map Eng N 111:460-3 O 19 '33
- Le nouveau pont suspendu de Veurey, sur l'Isère. G. Leinekugel Le Cocq. il diags Génie Civil 103:173-8, pl 1 Ag 19 '33
- Revision of allowances for impact in railway underbridges. J. D. W. Ball. Engineering 136:133-4 Ag 11 '33
- Richmond launches program of bridge construction; a public works plan for unemployment relief. S. C. Jemian. il diags Civil Eng 3:545-9 O '33
- Ring-connector joints used on timber bridge trusses for logging railroad in Washington. W. J. Ryan and W. D. Smith. il diags Eng N 111:95-7 JI 27 '33
- Self-anchored suspension bridge built in Missouri. H. Mullins. il diags Eng N 111:367-70 S 28 '33
- Shallow bridge permitted by reinforced gunite, Allentown, Pa. E. W. Meckley. il diag Eng N 110:430 Ap 6 '33
- Sky ride, a new type of long-span bridge. il Iron Age 131:619 Ap 20 '33
- Small concrete bridge simulates a timber structure; Lyons mill bridge in Rock Creek park, Washington, D.C. D. H. Gillette. il diags Eng N 111:140-1 Ag 3 '33
- Strassenbrücke über den Nil bei Benha. il diags Zeit Ver Deutsch Ing 77:793-4 JI 22 '33
- Suspension bridges under the action of lateral forces. L. S. Moisseiff and F. Leinhardt. diags Am Soc C E Proc 58:301-16 Mr '32; Discussion. 58:932-43, 1258-87, 1805-10 My, S, D '32
- Ten years of achievement with rigid-frame bridges; with tabulation. il Eng N 110:531-3 Ap 27 '33
- 320-ft. concrete arch on scenic route along California coast; Bixby Creek bridge. S. Mitchell. il diags Eng N 110:467-70 Ap 13 '33
- Three-level crossing involves interesting bridges; flat-slab structure carries Lehigh Valley over new highway. A. B. Cohen. il diag plan Ry Age 94:236-9 F 18 '33
- Three-level rail and road crossing, Newark, N.J. A. B. Cohen. il diags Eng N 110:179-83 F 9 '33
- Three-span continuous-truss railroad bridge, Cincinnati, Ohio. W. T. Ballard. diags plan Am Soc C E Proc 59:585-606 Ap '33; Discussion. 59:1373-4 O '33
- Traneberg arch bridge, Stockholm. il diags map Engineer 156:258, 261-4 S 15 '33
- Trestle design to resist Rio Grande floods; approach to bridge at Del Rio, Tex. J. W. Beretta. il diags Eng N 110:802-4 Je 22 '33
- Unusual designs are used for concrete bridges; grade-revision project on Missouri Pacific. il Ry Age 94:468-70 Ap 1 '33
- Vancouver's new harbor crossing; Burrard bridge. J. R. Grant. il diags Eng N 110:239-41 F 23 '33
- Vertical-lift bridges with synchronous motors. W. L. Six. il diags Eng N 111:402-3 O 5 '33
- See also*  
 Bridge approaches  
 Bridges, Arched  
 Bridges, Suspension
- BRIDGE engineering**  
 Brooklyn bridge—a half century of service. E. A. Byrne. il Civil Eng 3:299-303 Je '33
- George Washington bridge; organization, construction procedure, and contract provisions. E. W. Stearns. il Am Soc C E Proc 58:1343-73 O '32; Discussion. 58:1837-8; 59:858-9 D '32, My '33
- BRIDGE moving**  
 Girders of old bridge turned over and re-used in highway relocation project between Los Angeles and Bakersfield. L. C. Hollister. il diag Eng N 110:414-15 Mr 30 '33

Two three-span bridges moved in six hours. L. Brannon. il Roads & Sts 76:85-6 F '33

**BRIDGE traffic**

East River bridge traffic, New York city. Eng N 109:772 D 29 '32

**BRIDGE whistle. See Bridge (game)****BRIDGEPORT, Connecticut****Water supply**

Bridgeport water supply; abstracts. S. P. Senior and others. Water Works & Sewerage 80:356-8 O '33; Eng N 111:384-5 S 28 '33

**BRIDGES**

- Advances in bridge construction. O. H. Ammann. il diags Civil Eng 3:428-32 Ag '33
- Ancient bridges of mid and eastern England. E. Jervoise. 164p Architectural press, London '32
- Bridge construction in 1932. il Engineer 155:24-5, supp 3 Ja 6 '33
- Bridge welding practices in Australia. W. T. B. McCormack. il Eng N 110:596-8 My 11 '33
- Craigavon bridge, Londonderry. il diag Engineer 156:72 JI 21 '33
- Economy through continuity in girder-beam bridges for three-span bridges in Nebraska. J. Sorkin. diags Eng N 111:496-8 O 26 '33
- Evolution of early American bridges; abstract. L. N. Edwards. Engineering 135:389-90, Ap 7 '33
- Foreign bridges exemplify unusual designs. diags Eng N 110:498-500 Ap 20 '33
- Heinrich Gerber und die brückenbautechnik. G. Kapsch. il Zeit Ver Deutsch Ing 76:1179-80 N 26 '32
- Lachine-Cauchonawaga bridge. Can Eng 63:18 D 6 '32
- Low cost roads and bridges. V. J. Brown and C. N. Conner. 544p Gillette pub. co, Chicago '33
- New Jersey's newest pride; Newark-Jersey City viaduct. il Fortune 7:58-9 Ap '33
- Progress made on large engineering projects; bridge construction. il Eng N 110:157-8 F 2 '33
- Richmond launches program of bridge construction; a public works plan for unemployment relief. S. C. Jemian. il diags Civil Eng 3:545-9 O '33
- Shallow bridge permitted by reinforced gunite, Allentown, Pa. E. W. Meckley. il diag Eng N 110:430 Ap 6 '33
- Storström bridge, Denmark. il diag map Engineer 155:483; 156:44 My 12, JI 14 '33; Engineering 135:497-8; 136:347 My 5, S 22 '33; Can Eng 65:12 JI 11 '33
- World bridges—ancient and modern depicted on postage stamps; illustrations. Civil Eng 3:supl, 409 JI '33
- See also*  
 Bridge approaches  
 Bridge design  
 Culverts  
 Girders  
 Highway administration  
 Highway engineering  
 Trusses  
 also subdivision Bridges under names of cities, e.g. New York (city)—Bridges

**Architecture**

Another honor for Canadian engineers; high level bridge at Hamilton wins honorable mention in annual bridge competition of A.I.S.C. il Can Eng 64:9 Je 13 '33

Bayonne bridge over Kill van Kull; views. front Arch Rec 72:361-5 D '32

Beauty of design sought in Queens parkway bridges. C. U. Powell. il diags Eng N 110:316-19 Mr 9 '33

New bridges mean opportunity for architects. G. D. Clarke. il Am Arch 143:56-61 S '33

Steel construction institute awards bridge plaques for 1932. Iron Age 131:826 My 25 '33; il Eng N 110:723 Je 1 '33; il Steel 92:14 My 29 '33

**Cost**

Bridge maintenance costs. S. B. Slack. Roads & Sts 76:316 Ag '33



**BRIDGES—Cost—Continued**

Complete unit bid prices, four contracts on San Francisco-Oakland bridge. Eng N 110:393-4 Mr 23 '33

Contracts 3 and 5, San Francisco Bay bridge; unit prices. Eng N 110:516 Ap 20 '33

Low-cost highway bridges; use of continuous beams, rigid frames, open end bents, and combinations of wood, steel, and concrete. S. B. Slack. il Civil Eng 3:601-5 N '33

Piers, Little Bay bridge, New Hampshire; unit prices. Eng N 111:214 Ag 17 '33

Unit prices; Connecticut River bridge, Hartford. Eng N 110:486 Ap 13 '33

**Erection**

Bridge over the Saskatchewan river at Nipawin, Sask. A. R. Ketterson. il diags Can Eng 65:3-8 O 24 '33

Building a bridge in three strips; replacement of old Klinge Valley Connecticut ave. bridge in Washington, D.C. H. C. Whitehurst. il Eng N 109:784-6 D 29 '32

Burrard bridge a fine example of structural engineering. il Can Eng 64:5-8+ Ap 18 '33

Burrard bridge, Vancouver. J. R. Grant. il Engineer 155:84-5, 94 Ja 27 '33

Code of standard practice for bridge substructures. C. S. Proctor. il Civil Eng 3:129-33 Mr '33

Concrete arch construction from contractor's view point. E. C. Blosser. il Roads & Sts 75:413-16 O '32; Same. Eng & Contr 71:257-9 N '32

Concrete placing begins on Golden Gate bridge pier. il Eng N 110:761-2 Je 8 '33

Continuous truss utilized for Missouri River bridge north of Helena, Mont. il Eng N 111:498-9 O 26 '33

Design and construction of small span suspension bridges. F. H. Frankland. Roads & Sts 76:111-12 Mr '33

Design and construction of the French King bridge on the Mohawk Trail route across the Connecticut river, Massachusetts. A. E. Kleinert, jr. il diags map plan Boston Soc C E J 20:117-35 Je '33; Same cond. Roads & Sts 76:332-6 S '33

Efficient pile-casting yard for highway bridges; Great Egg Harbor structures in New Jersey. il diags Eng N 109:743-5 D 22 '32

Englehart bridge over White river carries Ferguson highway. J. S. Leitch. il Can Eng 64:5-8 Je 13 '33

Freyssinet method of arch construction applied to the Rogue River bridge in Oregon. A. L. Gemeny and C. B. McCullough. il diags Am Concrete Inst J 4:57-79 O '32; Discussion. C. S. Whitney. 4:401-4 F '33

George Washington bridge; construction of substructure. M. B. Case. il diag plans Am Soc C E Proc 59:29-64 Ja '33

George Washington bridge; construction of the steel superstructure. E. W. Bowden and H. R. Seely. il diags plans Am Soc C E Proc 59:65-152 Ja '33

Highway-railway bridge erection methods for 280 ft. deck truss spans. diags Roads & Sts 76:304-6 Ag '33

Ice helps bridge builder surmount difficulty. Comp Air M 38:4087 Mr '33

Jersey Meadows high-level viaduct. il diags Engineer 155:402, 405-6 Ap 21 '33

Little Belt bridge, Jutland. A. C. Davids and A. Mortensen. il diags map plan Civil Eng 3:361-5 Jl '33

Louisville & Nashville completes outstanding bridge at Henderson, Ky. il diags Ry Age 94:658-62 My 6 '33

Martinez-Benicia bridge. W. H. Kirkbride. il diags plan map Am Soc C E Proc 58:1181-1206 S '32; Discussion. 58:1619-30; 59:384-6, 997-8 N '32, F, Ag '33

New bridge at Brisbane, Australia. il Engineer 155:186-7, 196 F 24 '33

New Jersey high-level viaduct. H. W. Hudson. il Civil Eng 3:146-8 Mr '33

New Seventh Street trafficway in Kansas City, Kansas. L. Grover. il diags map Eng N 111:459-63 O 19 '33

Le nouveau pont suspendu de Veurey, sur l'Isère. G. Leinekugel Le Cocq. il diags Génie Civil 103:173-8, pl 1 Ag 19 '33

Rail and road bridges on same foundations; one of several structures required over new Beauharnois canal in Quebec. il diags Eng N 111:284-5 S 7 '33

La reconstruction du pont de Champigny, sur la Marne; serrage du béton armé par des appareils de pervibration. L. Roussel. il diags Génie Civil 103:365-9 O 14 '33

Rolling a 400-ton railway span into position from falsework at Buckland, Conn. G. B. Taylor. diags Eng N 110:775 Je 15 '33

Salter Street viaduct over C.P.R. tracks at Winnipeg. H. N. Halland. il diags Can Eng 64:5-8 F 21 '33

Some offspring of Mother Necessity; ingenious methods used in building a bridge to connect the Port of Kilindini, East Africa, with the main land. Pub Works 64:34-5 F '33

Traneberg arch bridge, Stockholm. il diags map Engineer 156:258, 261-4 S 15 '33

Vancouver's new harbor crossing; Burrard bridge. J. R. Grant. il diags Eng N 110:239-41 F 23 '33

Varied steel-erection practice on New Jersey viaduct; three miles of truss spans on high-level structure on Holland Tunnel approach highway. il diag Eng N 110:43-8 Ja 12 '33

Willington bridge, Calcutta. R. Mair. Engineering 134:593 N 18 '32

**See also**

Bridges—Reconstruction

**Floors**

Asphalt-plank bridge-floor construction; discussion of its adaptability for extending the period of usefulness of old bridges. W. C. Brockway. il Can Eng 64:9-12 Ja 10 '33

Combining concrete and timber for trestle decks. G. D. Burr. il diags Eng N 110:523-4 Ap 27 '33

First Ohio battledeck bridge at Port Clinton dedicated. il Steel 93:20 Ag 14 '33

George Washington bridge; design of superstructure. A. Dana, A. Andersen and G. M. Rapp. il diags Am Soc C E Proc 58:1705-13 D '32

Irving open-mesh bridge decking. il Engineering 135:636 Je 9 '33

Modern practices in bridge re-decking. W. F. Carson. il diags Eng N 110:86-9 Ja 19 '33

Open-mesh steel deck for Seattle bascule. diags Eng N 109:624 N 24 '32

Paving Victoria bridge at Montreal; sheet asphalt and expansion steel mesh. F. J. Leduc. il Can Eng 63:16-17 D 6 '32

Pump concrete 600 feet on viaduct contract in Milwaukee. il Concrete 41:3-4 S '33

Specifications suggested for asphalt bridge plank. L. H. Koenitzer. Eng N 110:771-3 Je 15 '33

University bridge, Seattle. il Engineering 136:231 S 1 '33

Widened bascule bridge in Seattle has decking of steel mesh. R. C. Hill. il Steel 92:26+ My 22 '33

**Foundations and piers**

Bay bridge progress at San Francisco. il Eng N 111:464-6 O 19 '33

Bombing out subaqueous rock at Golden Gate bridge pier. il Eng N 111:93-5 Jl 27 '33

Bridge over the Saskatchewan river at Nipawin, Sask. A. R. Ketterson. il diags Can Eng 65:3-6 O 24 '33

Code of standard practice for bridge substructures. C. S. Proctor. il Civil Eng 3:129-33 Mr '33

Concrete jackets protect timber piles exposed to sea water; with cost data. J. W. Barnwell, jr. il diags Concrete 41:3-5 Je '33

Efficient pile-casting yard for highway bridges; Great Egg Harbor structures in New Jersey. il diags Eng N 109:743-5 D 22 '32

Expansion and moving fill damage bridge concrete. il diags Eng N 110:346-9 Mr 16 '33

Foundations get under way on New Orleans bridge. il diags Eng N 111:189-91 Ag 17 '33

George Washington bridge; construction of substructure. M. B. Case. il diag plans Am Soc C E Proc 59:29-64 Ja '33; Discussion. 59:894-5 My '33

**BRIDGES**—Foundations and piers—*Continued*

- Golden Gate bridge work makes progress. *il* Eng N 111:7-8 JI 6 '33
- La Salle-Cauchawaga bridge. *Can Eng* 65:11 JI 11; 8 Ag 8 '33
- Little Belt bridge, Jutland. A. C. Davids and A. Mortensen. *il* diags map plan *Civil Eng* 3:361-5 JI '33
- Martinez-Benicia bridge. W. H. Kirkbride. *il* diags plan map Am Soc C E Proc 58:1181-1206 S '32; Discussion. 58:1619-30; 59:384-6, 997-8 N '32, F, Ag '33
- Proportioning, mixing and placing of concrete piers for the St Johns bridge, across the Willamette river. W. A. Scott. *il* Concrete 41:19-20 Mr '33
- Rail and road bridges on same foundations; one of several structures required over new Beauharnois canal in Quebec. *il* diags Eng N 111:284-5 S 7 '33
- Repairing bridge piers of disintegrated concrete. J. B. Ferguson. *il* diag Eng N 110:57-8 Ja 12 '33
- Sampling and soil tests for Bay bridge, San Francisco. D. E. Moran. *il* diags Eng N 111:40-4 O 5 '33
- Sheeting interlocked on barge for cofferdam wall; concrete multiple-arch highway bridge across the Mohawk river between Cohoes and Waterford, N.Y. *diag Eng N* 110:191 F 9 '33
- Soundings for bridge foundations. F. Greve. *Pub Works* 64:24 F '33
- Unusual designs are used for concrete bridges; grade-revision project on Missouri Pacific. *il* Ry Age 94:468-70 Ap 1 '33
- Vom bau der zweigleisigen eisenbahn- und strassenbrücke über den Kleinen Belt. G. Schaper. *il* diags Zeit Ver Deutsch Ing 77:33-8, 596-8 Ja 14, Je 3 '33
- Work progresses on \$15,000,000 Mississippi River bridge at New Orleans. *il* Manuf Rec 102:24+ N '33

**Maintenance and repair**

- Asphalt-plank bridge-floor construction; discussion of its adaptability for extending the period of usefulness of old bridges. W. C. Brockway. *il* Can Eng 64:9-12 Ja 10 '33
- Bridge maintenance costs. S. B. Slack. *Roads & Sts* 76:316 Ag '33
- Modern practices in bridge re-decking. W. F. Carson. *il* diags Eng N 110:86-9 Ja 19 '33
- Repairing bridge piers of disintegrated concrete. J. B. Ferguson. *il* diag Eng N 110:57-8 Ja 12 '33
- Suggestions for repairing and strengthening old bridges. F. Kellam. *Pub Works* 64:8 My '33
- Welding progress facilitates bridge reconstruction and repair. A. Vogel. *il* Iron Age 132:18-23 S 28 '33

*See also*

Bridges—Reconstruction

**Reconstruction**

- L.M.S. bridge re-construction at Peterborough. *il* Engineer 155:398-9 Ap 21 '33
- Novel bridge renewal on Bengal-Nagpur railway, India. Eng N 110:437 Ap 6 '33
- Open-mesh steel deck for Seattle bascule. *diags Eng N* 109:624 N 24 '32
- Proposed scheme for Waterloo bridge. *diag Engineering* 134:603 N 18 '32
- Rebuilding Fifth St. bridge at Augusta, Ga. S. B. Slack. *il* diags Eng N 110:214-15 F 16 '33
- Welding progress facilitates bridge reconstruction and repair. A. Vogel. *il* Iron Age 132:18-23 S 28 '33

*See also*

Bridges, iron and steel—Reconstruction

**Specifications**

- George Washington bridge; design of superstructure. A. Dana, A. Andersen and G. M. Rapp. *il* diags plans Am Soc C E Proc 58:1661-1726 D '32

**Stresses**

- Checking the strength of bridge girders. J. E. Holmstrom. *Engineering* 136:157-9 Ag 18 '33
- Design of modern suspension bridges; generalized deflection theory. D. B. Steinman. *il* Civil Eng 3:490-1 S '33
- Design of modern suspension bridges; various stress formulas compared. A. A. Jakkula. *il* Civil Eng 3:491-2 S '33
- Dynamic effects in railway bridges. C. E. Inglis. *Engineer* 154:492-3, 508 N 11-18 '32
- Portal effect on top-chord stresses. B. J. Lambert. *diag Civil Eng* 3:330-1 Je '33
- Revision of allowances for impact in railway underbridges. J. D. W. Ball. *Engineering* 136:133-4 Ag 11 '33

*See also*

Bridge design

**Tolls**

- High bridge tolls approved for the International bridge over the St Lawrence river. *Can Eng* 64:16 Ja 24 '33
- Survey of the toll bridge field. P. K. Schuyler. *Roads & Sts* 76:146 Ap '33

**Widening**

- Seattle remodels its University bridge. J. A. Dunford. *il* diags Eng N 111:439-40 O 12 '33
- Widened bascule bridge in Seattle has decking of steel mesh. R. C. Hill. *il* Steel 92:26+ My 22 '33
- Widening highway bridge decks in Mississippi. C. Simmons. *diags Eng N* 110:710-11 Je 1 '33
- Widening old timber bridges under traffic. J. E. Blair. *Roads & Sts* 76:314-15 Ag '33

**Wrecking**

- Bridge builders give lesson in economy. *il* diags Comp Air M 38:4086 Mr '33
- Details of a pier demolition job; China Basin, San Francisco. E. F. Ward. *il* diags Explosives Eng 10:375-8 D '32

**BRIDGES, Arched**

- Analysis of unsymmetrical concrete arches. C. S. Whitney. *Am Soc C E Proc* 59:1247-68 O '33
- Bayonne bridge over Kill van Kull; views. *front Arch Rec* 72:361-5 D '32
- Building a bridge in three strips; replacement of old Klinge Valley Connecticut ave. bridge in Washington, D.C. H. C. Whitehurst. *il* Eng N 109:784-6 D 29 '32
- Concrete-arch bridge on the highway between San Luis Obispo and Santa Barbara notable for large skew angle. A. A. Eremin. *il* diags Eng N 110:399 Mr 30 '33
- Concrete arch construction from contractor's view point. E. C. Blosser. *il* Roads & Sts 75:413-16 O '32; Same. Eng & Contr 71:257-9 N '32
- Design of continuous arches on elastic piers. A. P. Hjort. *Am Concrete Inst J* 4:143-7 N '32
- Freyssinet method of arch construction applied to the Rogue River bridge in Oregon. A. L. Gemeny and C. B. McCullough. *il* diags Am Concrete Inst J 4:57-79 O '32; Discussion. C. S. Whitney. 4:301-4 F '33
- Gunitite retains integrity on Oregon road bridges. C. B. McCullough. *il* Eng N 111:259-60 Ag 31 '33
- New Grey Street bridge in Brisbane, Australia. *il* Eng N 110:836-7 Je 29 '33
- Le pont-route réunissant Venise à la terre ferme. E. Miozzi. *il* diags maps Génie Civil 102:365-71 Ap 22 '33
- La reconstruction du pont de Champigny, sur la Marne; serrage du béton armé par des appareils de pervibration. L. Roussel. *il* diags Génie Civil 103:365-9 O 14 '33
- Russia builds rail-bridge over Dnieper river. C. L. Christensen. *il* Eng N 111:160-1 Ag 10 '33
- 320-ft. concrete arch on scenic route along California coast; Bixby Creek bridge. S. Mitchell. *il* diags Eng N 110:467-70 Ap 13 '33
- Traneberg arch bridge, Stockholm. *il* diags map Engineer 156:258, 261-4 S 15 '33



## BRIDGES, Arched—Continued

## Testing

Laboratory tests of multiple-span reinforced-concrete arches. W. M. Wilson. Civil Eng 3:455 Ag '33

## BRIDGES, Bascule

First Ohio battledock bridge at Port Clinton dedicated. il Steel 93:20 Ag 14 '33

Les installations maritimes de Port-Bouet et le pont-rails flottant sur la lagune d'Abidjan (Côte d'Ivoire). C. Dantin. il diags maps Génie Civil 102:173-9, pl 1 F 25 '33

Mechanical gear of Bangkok memorial bridge, Siam. F. W. Thompson. Mech Handling 20:253 Ag '33

Open-mesh steel deck for Seattle bascule. diags Eng N 109:624 N 24 '32

Seattle remodels its University bridge. J. A. Dunford. il diags Eng N 111:439-40 O 12 '33

Swing-basculer bridge. T. R. Halsey. diags Eng N 110:598 My 11 '33

University bridge, Seattle. il Engineering 136:231 S 1 '33

Widened bascule bridge in Seattle has decking of steel mesh. R. C. Hill. il Steel 92:26+ My 22 '33

## BRIDGES, Cantilever

Cleveland again bridges Cuyahoga valley; Lorain-Carnegie bridge. il diags Eng N 109:747-9 D 22 '32

Little Belt bridge, Jutland. A. C. Davids and A. Mortensen. il diags map plan Civil Eng 3:361-5 J1 '33

Mississippi River bridge at New Orleans will accommodate both railway and highway traffic. diags Ry Age 94:700 My 13 '33

## BRIDGES, Concrete

Analysis of unsymmetrical concrete arches. C. S. Whitney. Am Soc C E Proc 59:1247-68 O '33

Betonbogenbrücke von 181 m spanweite in Stockholm. il diags Zeit Ver Deutsch Ing 77:937-8 Ag 26 '33

Check levels made on Fort Snelling-Mendota bridge. W. H. Wheeler. Eng N 109:371 S 29 '32; Discussion. C. S. Whitney. 109:507 O 27 '32; Reply. 110:415 Mr 30 '33

Concrete-arch bridge on the highway between San Luis Obispo and Santa Barbara notable for large skew angle. A. A. Eremin. il diags Eng N 110:399 Mr 30 '33

Concrete arch construction from contractor's view point. E. C. Blosser. il Roads & Sts 75:413-16 O '32; Same. Eng & Contr 71:257-9 N '32

Concrete rigid frame bridges for railroad loadings in Cincinnati. D. A. McGavren. il diags Eng N 111:526-8 N 2 '33

Freyssinet method of arch construction applied to the Rogue River bridge in Oregon. A. L. Gemeny and C. B. McCullough. il diags Am Concrete Inst J 4:57-79 O '32; Discussion. C. S. Whitney. 4:401-4 F '33

Girderless flat-slab bridges for grade crossings; experience on the D. L. & W. railroad. M. Hirschthal. il diags Eng N 111:344-7 S 21 '33

Lenora Street viaduct, Seattle. C. Cavanagh. il Am Concrete Inst J 4:185-8 D '32

Lenticular expansion rollers for concrete spans. A. B. Willett. il diags Eng N 110:255 F 23 '33

Long precast bridge slabs carry tracks without ballast; reinforced concrete structures on the Canadian National. il plans Ry Age 95:209-11 Ag 5 '33

New concrete bridge at Saskatoon over South Saskatchewan river. C. J. Mackenzie. il diags Can Eng 64:5-9 Mr 21 '33

New Grey Street bridge in Brisbane, Australia. il Eng N 110:836-7 Je 29 '33

Le nouveau pont en béton armé sur le Tranebergssund, a Stockholm. diags Génie Civil 103:332-3 S 30 '33

Old Forest Hill road bridge in Forest Hill village, Ont. W. D. Proctor. il Can Eng 65:5-7 Ag 8 '33

Le pont en béton armé des Migneaux, sur la Seine, à Poissy. M. Cayla. il diags Génie Civil 101:654-5 D 31 '32

Ponts de la Caille. J. F. Audorsin and A. L. Racapé. il Soc Ing Civils Bul 85:1064-8 S '32

La reconstruction du pont de Champigny, sur la Marne; serrage du béton armé par des appareils de pervibration. L. Roussel. il diags Génie Civil 103:365-9 O 14 '33

Reinforced concrete bridge design. C. S. Chettoe and H. C. Adams. 400p 42s Chapman & Hall, Ltd, London '33

Russia builds rail-bridge over Dnieper river. C. L. Christensen. il Eng N 111:160-1 Ag 10 '33

See beneficial effects of admixture in test run on viaduct. C. A. Gill. Concrete 41:16 Je '33

Small concrete bridge simulates a timber structure; Lyons mill bridge in Rock Creek park, Washington. D. C. D. H. Gillette. il diags Eng N 111:140-1 Ag 3 '33

Ten years of achievement with rigid-frame bridges; with tabulation. il Eng N 110:531-3 Ap 27 '33

320-ft. concrete arch on scenic route along California coast; Bixby Creek bridge. S. Mitchell. il diags Eng N 110:467-70 Ap 13 '33

Three-level crossing involves interesting bridges; flat-slab structure carries Lehigh Valley over new highway. A. B. Cohen. il diags plan Ry Age 94:236-9 F 18 '33

Three-level rail and road crossing, Newark, N.J. A. B. Cohen. il diags Eng N 110:179-83 F 9 '33

Three new Thames bridges. il Engineer 156:17 J1 7 '33

Traneberg arch bridge, Stockholm. il diags map Engineer 156:258, 261-4 S 15 '33

Unusual designs are used for concrete bridges; grade-revision project on Missouri Pacific. il Ry Age 94:468-70 Ap 1 '33

Vibration on Michigan bridge work. A. C. Benkelman. Am Concrete Inst J 5:57-8 S '33

## Cost

Concrete bridge and earth dam, Michigan; unit prices. Eng N 110:608 My 11 '33

## Maintenance and repair

Expansion and moving fill damage bridge concrete. il diags Eng N 110:346-9 Mr 16 '33

## Testing

Laboratory tests of multiple-span reinforced-concrete arches. W. M. Wilson. Civil Eng 3:455 Ag '33

Temperature effects in concrete sections; unequal changes in unsymmetrical viaduct slab and girder sections create serious stresses. S. B. Slack. il diags Civil Eng 3:213-16 Ap '33

## BRIDGES, Iron and steel

Coal mining company uses welding to build bridge of old pipe and rails. il Steel 93:30 S 25 '33

Englehart bridge over White river carries Ferguson highway. J. S. Leitch. il Can Eng 64:5-8 Je 13 '33

Integral abutment and pier feature grade separation; tracks of Toledo terminal railroad carried over Dixie highway on a plate-girder bridge. il diags Eng N 111:568-9 N 9 '33

Khedevis Ismail bridge, Cairo, Egypt. il diags map Engineering 136:105-7, pl 5 Ag 4 '33

Low-cost I-beam bridges for Pennsylvania highways. il diags Eng N 110:709-10 Je 1 '33

Self-anchored suspension bridge built in Missouri. H. Mullins. il diags Eng N 111:367-70 S 28 '33

Silicon steel for North Dakota highway bridge. diags Pub Works 63:12 D '32

Sky ride, a new type of long-span bridge. il Iron Age 131:619 Ap 20 '33

Strassenbrücke über den Nil bei Benha. il diags Zeit Ver Deutsch Ing 77:793-4 J1 22 '33

Three-span continuous-truss railroad bridge, Cincinnati, Ohio. W. T. Ballard. diags plan Am Soc C E Proc 59:585-606 Ap '33; Discussion. 59:1373-4 O '33

## See also

Bridges, Railroad

**BRIDGES, Iron and steel—Continued****Maintenance and repair**

Repairing bridges with wrought iron plates.  
W. R. Roof. *il diags Ry Age* 95:122-3 J1 15 '33

**Reconstruction**

Girders of old bridge turned over and re-used in highway relocation project between Los Angeles and Bakersfield. L. C. Hollister. *il diag Eng N* 110:414-15 Mr 30 '33

L.M.S. bridge reconstruction. *il Engineer* 155:255-6 Mr 10 '33

Methods of reconstructing old steel bridges. C. A. Melick. *diags Roads & Sts* 76:236-9+ Je '33; Excerpts. *Eng N* 110:706-8 Je 1 '33

Wrought iron bridge 45 years old rehabilitated by steel and welding. *il Steel* 92:20 F 13 '33

**Testing**

1,250-ton universal testing machine. W. L. Brocker. *il Can Eng* 63:15-16 D 27 '32

Strahlenmessungen bei Röntgenprüfungen an brückenteilen. W. Rostek, A. Herr and M. Widemann. *Stahl & Eisen* 53:801-3 Ag 3 '33

**BRIDGES, Lift**

Albany-Rensselaer vertical-lift bridge. S. Hardesty. *il diags Civil Eng* 3:249-53 My '33

Louisville & Nashville railroad builds new Tennessee River bridge. *il diags Ry Age* 94:858-60 Je 17 '33; Abstract. *Eng N* 111:165 Ag 10 '33

Vertical-lift bridges with synchronous motors. W. L. Six. *il diags Eng N* 111:402-3 O 5 '33

**BRIDGES, Movable**

Soft trolley for movable railway bridges; Pennsylvania railroad electrified system. *il diag Ry Age* 94:299 F 25 '33

**See also**

Bridges, Bascule

Bridges, Lift

Bridges, Swing

**Electric equipment**

Electrical equipment for bascule, lift, and swing bridges. H. H. Vernon. *il Gen Elec R* 36:450-4 O '33

Vertical-lift bridges with synchronous motors. W. L. Six. *il diags Eng N* 111:402-3 O 5 '33

**BRIDGES, Pontoon**

Les installations maritimes de Port-Bouet et le pont-rail flottant sur la lagune d'Abidjan (Côte d'Ivoire). C. Dantin. *il diags maps Génie Civil* 102:173-9, pl 1 F 25 '33

**BRIDGES, Railroad**

All-welded test bridge erected by the Swiss federal railways. *Elec R (Lond)* 113:47 J1 14 '33

A.R.E.A. committee reports on wooden bridges and trestles and on iron and steel structures. *Ry Age* 94:411-12 Mr 18 '33

Builds cutoff to take traffic from city streets; project of the Los Angeles & Salt Lake at Long Beach, Cal. *il map Ry Age* 94:506-8 Ap 8 '33

Concrete rigid-frame bridges for railroad loadings in Cincinnati. D. A. McGavren. *il diags Eng N* 111:526-8 N 2 '33

Dynamic effects in railway bridges. C. E. Inglis. *Engineer* 154:492-3, 508 N 11-18 '32

Early truss bridges of wood and iron; railroad spans of the eighties. C. D. Purdon. *diags Civil Eng* 3:369-72 J1 '33

Eisenbahnbrücke bei Ludwigshafen über den Rhein. R. Bernhard. *il diags Zeit Ver Deutsch Ing* 76:1266-8 D 24 '32

Girderless concrete slabs solve headroom problem; overstreet crossings at Elmira, N. Y. M. Hirschthal. *il diags map Eng N* 109:678-81 D 8 '32

Girderless flat-slab bridges for grade crossings; experience on the D. L. & W. railroad. M. Hirschthal. *il diags Eng N* 111:344-7 S 21 '33

Integral abutment and pier feature grade separation; tracks of Toledo terminal railroad carried over Dixie highway on a plate-girder bridge. *il diags Eng N* 111:568-9 N 9 '33

Large grade separation project completed on the Reading. *il map Ry Age* 95:688-91 N 11 '33

L.M.S. bridge re-construction at Peterborough. *il Engineer* 155:398-9 Ap 21 '33

Long Island is completing another large grade separation project at Valley Stream, N. Y. *il plan Ry Age* 95:550-3 O 21 '33

Long precast bridge slabs carry tracks without ballast; reinforced concrete structures on the Canadian National. *il plans Ry Age* 95:209-11 Ag 5 '33

Louisville & Nashville completes outstanding bridge at Henderson, Ky. *il diags Ry Age* 94:658-62 My 6 '33

Louisville & Nashville railroad builds new Tennessee River bridge. *il diags Ry Age* 94:858-60 Je 17 '33; Abstract. *Eng N* 111:165 Ag 10 '33

Martinez-Benicia bridge. W. H. Kirkbride. *il diags plan map Am Soc C E Proc* 58:1181-1206 S '32; Discussion. 58:1619-30; 59:384-6, 997-8 N '32, F, Ag '33

Mississippi River bridge at New Orleans will accommodate both railway and highway traffic. *diag Ry Age* 94:700 My 13 '33

Novel bridge renewal on Bengal-Nagpur railway, India. *Eng N* 110:437 Ap 6 '33

Railroads and bridges—twin developments. *il Ry Age* 95:42-4 J1 1 '33

Railway builds rigid-frame bridges in Ireland. H. P. Stewart. *il Eng N* 111:84 J1 20 '33

Repairing bridges with wrought iron plates. W. R. Roof. *il diags Ry Age* 95:122-3 J1 15 '33

Revision of allowances for impact in railway underbridges. J. D. W. Ball. *Engineering* 136:133-4 Ag 11 '33

Roadway changes required by electrification; Pennsylvania railroad. *il diags Ry Age* 94:281-3 F 25 '33

Rolling a 400-ton railway span into position from falsework at Buckland, Conn. G. B. Taylor. *diags Eng N* 110:775 Je 15 '33

Russia builds rail-bridge over Unieper river. C. L. Christensen. *il Eng N* 111:160-1 Ag 10 '33

Soft trolley for movable railway bridges; Pennsylvania railroad electrified system. *il diag Ry Age* 94:299 F 25 '33

Speed and bridge design feature grade separation project; Lackawanna eliminates 12 street crossings in Elmira, N.Y. *il diag plan Ry Age* 95:461-4 S 30 '33

Structural design of economic types. J. L. Vogel. *il Civil Eng* 3:140-2 Mr '33

Three-level crossing involves interesting bridges; flat-slab structure carries Lehigh Valley over new highway. A. B. Cohen. *il diag plan Ry Age* 94:236-9 F 18 '33

Three-level rail and road crossing, Newark, N.J. A. B. Cohen. *il diags Eng N* 110:179-83 F 9 '33

Three-span continuous-truss railroad bridge, Cincinnati, Ohio. W. T. Ballard. *diags plan Am Soc C E Proc* 59:585-606 Ap '33; Discussion. 59:1373-4 O '33

Treated timber makes good record in M. & O. railroad bridges. H. Austil. *Eng N* 110:681 My 25 '33

Treated wood in bridge work. H. Austil. *Ry Age* 94:107-8 Ja 28 '33

Unusual designs are used for concrete bridges; grade-revision project on Missouri Pacific. *il Ry Age* 94:468-70 Ap 1 '33

Vom bau der zweigleisigen eisenbahn- und strassenbrücke über den Kleinen Belt. G. Schaper. *il diags Zeit Ver Deutsch Ing* 77:33-8, 596-8 Ja 14, Je 3 '33

Willington bridge, Calcutta. R. Mair. *Engineering* 134:593 N 18 '32

**See also**

Railroads—Track elevation

**Maintenance and repair**

Electric welding at the Selby swing bridge. *il diags Engineering* 134:583-4, pl 22 N 18 '32

**BRIDGES, Removable**

Zerlegbare brücke für ein lawinengebiet. P. Fessler. *diag Zeit Ver Deutsch Ing* 77:356-7 Ap 1 '33



**BRIDGES, Steel.** See Bridges, Iron and steel

# **BRIDGES, Suspension**

- Brooklyn bridge—a half century of service. *E. A. Byrne. il Civil Eng 3:299-303 Je '33*
- Cable strength as a measure of suspension-bridge size. *Eng N 110:349-50 Mr 16 '33; Sci Am 148:286-7 Ap '33*
- Complete unit bid prices, four contracts on San Francisco-Oakland bridge. *Eng N 110:393-4 Mr 23 '33*
- Design and construction of small span suspension bridges. *F. H. Frankland. Roads & Sts 76:109-12 Mr '33*
- Design of modern suspension bridges; generalized deflection theory. *D. B. Steinman. il Civil Eng 3:490-1 S '33*
- Design of modern suspension bridges; various stress formulas compared. *A. A. Jakkula. il Civil Eng 3:491-2 S '33*
- Design of Skyway and observation towers. *W. G. Grove. il Civil Eng 3:513-15 S '33*
- Erhöhung der wirtschaftlichkeit von versteinerten hängebrücken durch berücksichtigung der formänderungen. *W. Blick. Zeit Ver Deutsch Ing 77:921-3 Ag 26 '33*
- Fabrication of steel for the Sky Ride at Century of progress exposition. *E. T. Blix. diags W Soc E J 35:182-92 Ag '33*
- George Washington bridge; approaches and highway connections. *J. C. Evans. il diags maps Am Soc C E Proc 59:317-55 F '33; Discussion. 59:906-12 My '33*
- George Washington bridge; construction of substructure. *M. B. Case. il diags plans Am Soc C E Proc 59:29-64 Ja '33*
- George Washington bridge; construction of the steel superstructure. *E. W. Bowden and H. R. Seely. il diags plans Am Soc C E Proc 59:65-152 Ja '33*
- George Washington bridge; design of superstructure. *A. Dana, A. Andersen and G. M. Rapp. il diags plans Am Soc C E Proc 58:1661-1726 D '32*
- George Washington bridge; design of the towers. *L. S. Moisseiff. il diags Am Soc C E Proc 58:1727-68 D '32*
- George Washington bridge; general conception and development of design. *O. H. Ammann. il diags plan map Am Soc C E Proc 58:969-1035 Ag '32; Discussion. 58:1610-13; 59:196-8, 369-75, 832-4 N '32, Ja-F, My '33*
- George Washington bridge; materials and fabrication of steel structure. *H. J. Baker. il diags Am Soc C E Proc 59:269-316 F '33*
- Golden Gate bridge. *diags plan Engineer 156:164-6 Ag 18 '33*
- Golden Gate bridge work makes progress. *il Eng N 111:7-3 Jl 6 '33*
- Le nouveau pont suspendu de Veurey, sur l'Isère. *G. Leinekugel. Le Cocq. il diags Génie Civil 103:173-8, pl 1 Ag 19 '33*
- Self-anchored suspension bridge built in Missouri. *H. Mullins. il diags Eng N 111:367-70 S 28 '33*
- Short-span suspension bridge uses prestressed rope cables; Lewis River crossing near Yale, Wash. *H. O. Blair. il diags Eng N 111:70-1 Jl 20 '33*
- Sky ride, a new type of long-span bridge. *il Iron Age 131:619 Ap 20 '33*
- Suspension bridges under the action of lateral forces. *L. S. Moisseiff and F. Lienhard. diags Am Soc C E Proc 58:301-16 Mr '32; Discussion. 58:932-43, 1258-87, 1805-10 My, S, D '32*
- Unit prices; Connecticut River bridge, Hartford. *Eng N 110:486 Ap 13 '33*
- BRIDGES, Swing**
- Electric welding at the Selby swing bridge. *il diags Engineering 134:583-4, pl 22 N 18 '32*
- Khedive Ismail bridge, Cairo, Egypt. *il diags map Engineering 136:105-7, pl 5 Ag 4 '33*
- Swing-bascule bridge. *T. R. Halsey. diags Eng N 110:598 My 11 '33*
- BRIDGES, Wooden**
- Concrete jackets protect timber piles exposed to sea water; with cost data. *J. W. Barnwell, jr. il diags Concrete 41:3-5 Je '33*

- History of the development of wooden bridges. *R. Fletcher and J. P. Snow. il diags plans Am Soc C E Proc 58:1455-98 N '32; Discussion. 59:216-18, 390-3, 510-20, 621-39, 860-5, 999-1013 Ja-My, Ag '33*
- Important details in treated timber bridge construction. *W. A. Stacey. il Pub Works 64:23-4 F '33*
- 95-year-old covered bridge near Springfield, Ohio. *G. W. Studabaker. il Roads & Sts 76:298 Ag '33*
- Old problems of wooden bridge beams solved. *Roads & Sts 76:280 Jl '33*
- Old timber bridges. *C. K. Allen. diags Eng N 109:753-4 D 22 '32*
- Ring-connector joints used on timber bridge trusses for logging railroad in Washington. *W. J. Ryan and W. D. Smith. il diags Eng N 111:95-7 Jl 27 '33*
- Unique pioneer bridge; Mohawk River bridge at Schenectady, N.Y. *S. E. Slocum. il Eng N 110:691 My 25 '33*
- Widening old timber bridges under traffic. *J. E. Blair. Roads & Sts 76:314-15 Ag '33*
- BRIGGS, Arthur J.** 1871-Sketch. *por Sibley J 47:61 Mr '33*
- BRIGGS, Lyman J.** 1874-Director of the Bureau of standards. *por Steel 92:17 My 29 '33*
- Portrait. *Sci Am 149:3 Jl '33*
- BRIGHAM, Albert Perry.** 1855-1932-Memorial. *A. Keith. por Geol Soc Bul 44:307-17 [bibliog p312-17] Ap '33*
- BRIGHAM, Herbert O.** Who's who. *Special Lib 24:15 Ja '33*
- BRINE**
- Corrosive action of brine. *R. L. Beach. Refrig W 68:11-15 Jl '33*
- Mid-continent brine yields salt, bromine, calcium chloride, and epsom salts. *il Chem & Met Eng 40:414-16 Ag '33*
- Purification of brine by ammoniation. *W. C. Hsieh, E. O. Wilson and T. P. Hou. Ind & Eng Chem 25:165-7 F '33*
- Refrigeration plant chemistry; corrosion in brine installations. *C. B. Hill. Refrig Eng 25:216+ Ap '33*
- See also
- Salt
- BRINELL hardness test**
- Fehlergrenzen der betriebsmässigen Brinellhärteprüfung. *M. Moser. Stahl & Eisen 53:16-18 Ja 5 '33*
- Sintered tungsten carbide Brinell balls; abstracts. *H. Styri. Mech Eng 55:182 Mr '33; Engineer 155:sup[Metallurgist] 21-2 Ap 28 '33*
- BRINTNELL, Wilfred Leigh.** 1895-Wings of the North; biographical sketch. *J. P. de Wet. por Can Min J 54:317-19 Ag '33*
- BRIQUETS (fuel)**
- Fuel brick from coal slack and Portland cement. *Concrete 41:15 S '33*
- Solving the slack question—Covington coal block plant converts fines into high-priced fuel. *R. L. Beard. il Coal Age 38:228-9 Jl '33; Excerpt. Min Cong J 19:12 Ag '33*
- Utilization of briquet waste with a simple supplementary powdered-coal fring; abstract. *K. Weiss. diags Mech Eng 55:379-81 Je '33*
- BRIQUETTING**
- Milwaukee briquetting machine makes briquets under uniform pressure. *il Foundry 61:56 Ag '33*
- BRIQUETTING (fuel)**
- Carbonization of screened, mixed, and blended coals. *H. Hollings. flow diags Gas J (Lond) 201:370-4; Discussion. 374-6 F 15 '33*
- Characteristics and composition of briquetting pitch. *H. Broche and H. Nedelmann. Gas J (Lond) 202:109 Ap 12 '33*
- Making profits from waste by briquetting coke. *E. J. Tournier. il diags Gas Age 72:230-4 S 9 '33*
- Les méthodes modernes de carbonisation à basse température et de préparation d'anthracite artificiel. *C. Berthelot. bibliog il diags Chimie & Ind 29:18-44 Ja '33*

**BRISBANE, Australia****Bridges**

- New bridge at Brisbane. *il Engineer* 155:186-7, 196 F 24 '33  
 New Grey Street bridge in Brisbane. *il Eng N* 110:836-7 Je 29 '33

**BRISTOL, Connecticut**

- Building outlook and real estate condition. *il Arch Forum* 58:435-8 My '33

**BRITANNIC assurance company**

- Annual ordinary general meeting, 67th. Birmingham. *Economist* 116:548-50 Mr 11 '33

**BRITISH American tobacco company**

- Annual general meeting, 30th, London. *Economist* 116:91 Ja 14 '33

**BRITISH and German trust, limited**

- Annual general meeting, 7th. *Economist* 116:605-6 Mr 18 '33

**BRITISH association for the advancement of science**

- Meeting, Leicester. *Engineer* 156:254-6, 292-3, 314 S 15-29 '33; *Engineering* 136:312-13, 339-40, 368-9, 417-19, 470-1, 526-7, 552-3 S 15-29, O 13, 27, N 10-17 '33; *Electrician* 111:313-14, 340 S 15-22 '33; *Elec R (Lond)* 113:349-50 S 15 '33; *Chem Age (Lond)* 29:291-2, 317-18 S 30-O 7 '33

**BRITISH association of chemists**

- Annual meeting, 15th. *Chem Age (Lond)* 27:529-30 D 3 '32; *Soc Chem Ind J (Chem & Ind)* 51:1024-5 D 9 '32

- Annual meeting of the Birmingham section, May 30. *Chem Age (Lond)* 28:530 Je 10 '33

- Expanding activities and membership. *Chem Age (Lond)* 27:638 D 31 '32

**BRITISH cast iron research association**

- Members' and staff bulletins. M. Pears. *Assn of Sp Lib & Inf Bur Proc* 1933:67-70

**BRITISH Celanese patent hearing. See Silk, Artificial—Patents****BRITISH chemical abstracts. See Chemical abstracts, British****BRITISH chemical and dyestuffs traders' association**

- Annual general meeting, 10th, London. *Chem Age (Lond)* 28:487-8 My 27 '33

**BRITISH chemical plant manufacturers' association**

- Annual dinner, Jan. 26. *Soc Chem Ind J (Chem & Ind)* 52:103-4 F 3 '33  
 Co-operative selling in overseas markets; views of chemical plant manufacturers. *Chem Age (Lond)* 28:91-3 F 4 '33

**BRITISH colour council**

- Annual meeting, 2d, London, April 4. *Chem Age (Lond)* 28:358 Ap 22 '33

**BRITISH Columbia***See also*

- Mines and mineral resources—British Columbia

**BRITISH commercial gas association**

- Annual meeting, 22d, Bournemouth, Sept. 25-27. *Gas J (Lond)* 204:51-7, 62-5 O 4 '33  
 Annual report, 22d, of the general committee. *Gas J (Lond)* 203:678-80 S 27 '33

**BRITISH commonwealth relations conference**

- Meeting, Toronto. *Economist* 117:855-6 N 4 '33

**BRITISH cyanides company**

- Progress. *Chem Age (Lond)* 27:509 N 26 '32

**BRITISH drug houses, Ltd.**

- British drug houses. *il Soc Chem Ind J (Chem & Ind)* 52:27-9 Ja 13 '33

**BRITISH electrical and allied industries research association**

- Annual meeting, London, Feb. 15. *Elec R (Lond)* 112:279 F 24 '33

**BRITISH electrical and allied manufacturers' association**

- Annual dinner, London, May 18. *Electrician* 110:675 My 26 '33; *Elec R (Lond)* 112:747 My 26 '33

- Annual meeting, London, March 16. *Electrician* 110:387 Mr 24 '33; *Elec R (Lond)* 112:414 Mr 24 '33

- Annual report for year ended Sept. 30, 1932. *Engineering* 135:390 Ap 7 '33

**BRITISH electrical development association**

- Annual luncheon and meeting. *Electrician* 110:379-80 Mr 24 '33; *Elec R (Lond)* 112:415 Mr 24 '33

- Case for a national convention. *Elec R (Lond)* 111:704 N 11 '32

- New E.D.A. *Electrician* 110:852 Je 30 '33

- Reconstitution of E.D.A. *Electrician* 110:739 Je 9 '33; *Elec R (Lond)* 112:819 Je 9 '33  
 Reorganisation of E.D.A.—and after. *Elec R (Lond)* 112:947; 113:127-8 Je 30, Jl 28 '33

**BRITISH engineers' association**

- British engineers' association—in retrospect and prospect. W. Reavell. *Engineer* 134:520 N 18 '32

**BRITISH industries fair**

- British industries fair, Birmingham and London. *il diags Engineer* 155:166-8, supp i-viii, 187-8, suppl-viii, 213-16, 239-44 F 17-Mr 10 '33; *Engineering* 135:183-6, 208-16, 240-9, 269-75, pl 10-17 F 17-Mr 10 '33; *Elec R (Lond)* 112:219-38, 267-70 F 17-24 '33; *Electrician* 110:224-6, 257-70, 301-3 F 17-Mr 3 '33; *Chem Age (Lond)* 28:143-6, 170-5 F 18-25 '33; *Gas J (Lond)* 201:478-503 F 22 '33; *Soc Chem Ind J* 52:sup S2-44, 257-8 F 17, Mr 24 '33; *Mech Handling* 20:83-6 Mr '33

**BRITISH insulated cables, limited**

- Meeting, 37th, Liverpool, March 28. *Economist* 116:716-17 Ap 1 '33; *Excerpts. Electrician* 110:445-6 Mr 31 '33

**BRITISH non-ferrous metals research association**

- Annual meeting, Birmingham, June 19. *Chem Age (Lond)* 29:sup3-5 Jl 1 '33

**BRITISH non-ferrous metals research association. Bulletin**

- Notes on the Bulletin. B. Fullman. *Assn of Sp Lib & Inf Bur Proc* 1933:59-61

**BRITISH overseas bank, limited**

- Annual general meeting, 13th, London. *Economist* 115:1156-8 D 17 '32

**BRITISH South Africa company**

- Outlook for Chartered. *Economist* 116:1081-2, 1308 My 20, Je 17 '33

**BRITISH standards institution**

- Report of work of the Illumination section of the British standards institution during the year 1932. *Illum Engr* 26:99 Ap '33

**BRITISH sulphate of ammonia federation, Ltd.**

- Annual report, 12th, year ended June 30. *Gas J (Lond)* 201:53 Ja 4 '33

- British sulphate of ammonia federation. C. H. S. Topholme. *Ind & Eng Chem News* ed 11:8 Ja 10 '33

**BRITTLENESS***See also*

- Steel—Brittleness

**BROACHES**

- Heat-treatment of broaches. W. E. Snow. *Mach* 39:584-6 My '33

**BROACHING**

- Broach-holder that opens and closes automatically. *diag Mach* 39:255-6 D '32

- Broaching in the lathe. F. Server. *diag Am Mach* 77:410-11 Je 21 '33

- External broaching. C. E. Bleicher. *Am Mach* 77:623-4 S 27 '33; *Abstracts. Automotive Ind* 69:243 Ag 26 '33; *S A E J* 33:sup40 O '33

- Preparing journal bearings for service. *il Ry Age* 95:303-4 Ag 26 '33; *Same. Ry Mech Engr* 107:323-5 S '33

**BROACHING machines**

- Field of application of broaching machines broadens. *il Mach* 39:264-5 D '32

- Important features in the design of broaching tools. F. Server. *diags Am Mach* 77:378-9 Je 7 '33

- Schütte vertical hydraulic broaching machine. *il Engineering* 136:203 Ag 25 '33

**BROADSIDES (advertisements)**

- How the broadside helps sell advertising to dealers. E. Biggs. *il Ptr Ink* 163:63-6 My 11 '33

- RCA lures in 1,600,000 prospects by free voice test invitation. *Sales Management* 31:433 N 15 '32



**BROADSIDES** (advertisements)—*Continued*

Shout—if you want the dealer's ear. *il Ptr Ink Mo* 25:29 D '32

\$217,000,000 premium industry starts "buy now" campaign. *il Sales Management* 33:322 O 1 '33

When the prospect asks for details he gets them. *Ptr Ink* 161:48 D 15 '32

**BROKERS**

One more crack at the market. *Business Week* p18 J1 8 '33

*See also*

Insurance brokers

Stock exchange

**BROKERS' loans**

Brokers' loans. Published in monthly numbers of Federal reserve bulletin

**BROMAMINE**

Reaction of monobromoamine with Grignard reagents. G. H. Coleman, H. Soroos and C. B. Yager. *diags Am Chem Soc J* 55:2075-80 My '33

**BROMINATION**

Action of bromine on acetomesitylene; polyhalo derivatives of 3,5-dibromoacetylmesitylene. C. H. Fisher. *Am Chem Soc J* 55:4241-5 O '33

Addition reactions of the indole nucleus. S. G. P. Plant and M. L. Tomlinson. *Chem Soc J* p955-60 Ag '33

Behavior of piperonal derivatives toward bromination and nitration. L. C. Raiford and F. W. Oberst. *bibliog Am Chem Soc J* 55:4288-92 O '33

Bromination of  $\beta$ -naphthylamine. F. Bell. *Chem Soc J* p2732-4 N '32

Bromination of saturated aliphatic hydrocarbon gases. W. J. Perelis. *diag Ind & Eng Chem* 25:1160-1 O '33

Bromination of 2-nitro-*p*-cresol. W. O. Kermack and W. T. Spragg. *Chem Soc J* p2946-8 D '32

Direct dibromination of *m*-bromophenol and an example of group migration. H. H. Hodgson, J. Walker and J. Nixon. *Chem Soc J* p1053-6 Ag '33

Polyhalo derivatives of acetomesitylene; the bromination of 3,5-dichloroacetylmesitylene. C. H. Fisher. *Am Chem Soc J* 55:4594-7 N '33

Some mono and dibromo derivatives of meta cresol. R. C. Huston and W. J. Peterson. *Am Chem Soc J* 55:3879-82 S '33

Velocity of bromination of acetoacetic ethyl ester. K. J. Pedersen. *J Phys Chem* 37:751-64 Je '33

**BROMINE**

Action of bromine upon arylazobenzoylacetates. F. D. Chattaway and R. J. Lye. *Chem Soc J* p480-2 My '33

Action of bromine upon nitrophenylazoacetates and related compounds. F. D. Chattaway and D. R. Ashworth. *Chem Soc J* p475-9 My '33

Addition reactions of unsaturated alpha-ketonic acids. M. Reimer and H. H. Kamerling. *Am Chem Soc J* 55:4643-8 N '33

Bromine sensitized photo-decomposition of chlorine dioxide. J. W. T. Spinks. *Am Chem Soc J* 55:428-9 Ja '33

Fine structure in the K X-ray absorption spectrum of bromine. S. T. Stephenson. *Phys R* 44:349-52 S 1 '33

Germicidal effectiveness of chlorine, bromine and iodine. T. D. Beckwith and J. R. Moser. *Am Water Works Assn J* 25:367-74 Mr '33

Mechanism of substitution in organic compounds; elimination of bromine from bromoacetic acid and the bromoacetates. H. M. Dawson and N. B. Dyson. *Chem Soc J* p1133-43 S '33

Reaction between ethylene and bromine in carbon tetrachloride. D. M. Williams. *Chem Soc J* p2911-15 D '32

Resonance spectrum of bromine. H. Plumley. *Phys R* 43:495 Mr 15 '33

Studies of conjugated systems; the addition of bromine, hydrogen bromide and hypobromous acid to 1-bromobutadiene. I. E. Muskat and L. B. Grimsley. *bibliog Am Chem Soc J* 55:2140-5 My '33

Use of aqueous solutions of chlorine and bromine for the production of the unshrinkable finish on knitted woollen goods. S. E. Trotman. *Soc Chem Ind J* 52:159T-63T Je 2 '33; *Abstract. Textile Col* 55:691+ O '33; *Discussion. Soc Chem Ind J* 52:164T, 544 Je 2, 30 '33

**Manufacture**

Bromine to be made from seawater in North Carolina; Ethyl-Dow chemical company. *Oil Paint & Drug Rep* 124:16 Ag 14 '33

Dead Sea salts industry. *il Chem Age (Lond)* 29:163 Ag 19 '33

Mid-continent brine yields salt, bromine, calcium chloride, and epsom salt. *il Chem & Met Eng* 40:414-16 Ag '33

New industry to recover bromine from the sea; Ethyl-Dow plant. *Ind & Eng Chem News ed* 11:244 Ag 20 '33; *Automotive Ind* 69:214 Ag 19 '33; *Nat Pet N* 25:17-18 Ag 16 '33

**Statistics**

Salt, bromine and iodine in 1932. A. T. Coons. *Chemicals* 38:4 J1 10 '33

**BROMINE chlorides**

Equilibria, complex ions and electrometric titrations; iodine or bromine in hydrochloric acid. J. H. Faull, jr. and G. S. Forbes. *bibliog diag Am Chem Soc J* 55:1809-20 My '33

Thermodynamic constants of iodine monochloride, iodine monobromide and bromine monochloride in carbon tetrachloride solutions. C. M. Blair, jr. and D. M. Yost. *Am Chem Soc J* 55:4489-96 N '33

**BROMINE compounds**

Bromo derivatives of benzylphenols; some monobromo, dibromo and tribromo derivatives of ortho and para benzylphenols. R. C. Huston and others. *Am Chem Soc J* 55:2146-9 My '33

Dehalogenation of aliphatic bromo acids; the bromo and dibromo olefins. G. B. Bachman. *Am Chem Soc J* 55:4279-84 O '33

Hydroxy and bromo esters derived from the hydrogenation of certain omega-acetyl esters. E. J. Lease and S. M. McElvain. *Am Chem Soc J* 55:806-8 F '33

Some mono and dibromo derivatives of meta cresol. R. C. Huston and W. J. Peterson. *Am Chem Soc J* 55:3879-82 S '33

Structure of  $\alpha$ -benzoyl  $\alpha$ -bromo esters. B. W. Howk and S. M. McElvain. *Am Chem Soc J* 55:3372-80 Ag '33

**BROMOACETATES**

Hydrolysis of salts of the halogen-substituted aliphatic acids in aqueous solution. H. M. Dawson and N. B. Dyson. *Chem Soc J* p49-56 Ja '33

Mechanism of substitution in organic compounds; elimination of bromine from bromoacetic acid and the bromoacetates. H. M. Dawson and N. B. Dyson. *Chem Soc J* p1133-43 S '33

**BROMOACETIC acid**

Mechanism of substitution in organic compounds; elimination of bromine from bromoacetic acid and the bromoacetates. H. M. Dawson and N. B. Dyson. *Chem Soc J* p1133-43 S '33

**BROMAMINE. See Bromamine****BROMOBENZENESULFONATES**

Aryl *p*-bromobenzenesulfonates as derivatives for the identification of phenols. V. C. Sekera. *Am Chem Soc J* 55:421 Ja '33

**BROMOBENZOIC acid**

Reactivity of *peri*-substituted naphthalenes; the replacement of halogen in 8-halogeno-1-naphthoic acids and in *o*-halogenobenzoic acids. H. G. Rule and A. J. G. Barnett. *Chem Soc J* p2728-32 N '32

**BROMOBENZOYL crotonic acid**

Studies on unsaturated 1,4-dicarbonyl compounds; aryl unsaturated 1,4-diketones and ketonic acids derived from citraconic and mesaconic acids, with particular reference to the  $\beta$ -[*p*-bromobenzoyl]-methylacrylic acids. R. E. Lutz and R. J. Taylor. *Am Chem Soc J* 55:1168-78 Mr '33

- BROMOBENZOYL methylacrylic acid**  
Studies on unsaturated 1,4-dicarbonyl compounds; aryl unsaturated 1,4-diketones and ketonic acids derived from citraconic and mesaconic acids, with particular reference to the  $\beta$ -[*p*-bromobenzoyl]-methylacrylic acids. R. E. Lutz and R. J. Taylor. *Am Chem Soc J* 55:1168-78 Mr '33
- BROMOBUTADIENE**  
Studies of conjugated systems; the addition of bromine, hydrogen bromide and hypobromous acid to 1-bromobutadiene. I. E. Muskat and L. B. Grimsley. *bibliog Am Chem Soc J* 55:2140-5 My '33
- BROMOBUTANE**. See Butyl bromide
- BROMOBUTYRIC acid**  
Maximum rotations in the homologous series of  $\alpha$ -bromo acids. P. A. Levene. *Am Chem Soc J* 55:1295-6 Mr '33
- BROMOCAMPHOR sulfonates**  
Preparation and optical resolution of ammonium *dl*- $\alpha$ -bromocamphor-*pi*-sulfonate. A. W. Ingersoll and S. H. Babcock. *Am Chem Soc J* 55:341-5 Ja '33  
Solubility relationships among optically isomeric salts; the mandelates and  $\alpha$ -bromocamphor-*pi*-sulfonates of  $\alpha$ -phenylethylamine and  $\alpha$ -para-tolylethylamine. A. W. Ingersoll, S. H. Babcock and F. B. Burns. *Am Chem Soc J* 55:411-16 Ja '33
- BROMODIMETHYLAMINES**  
Quaternary ammonium salts from halogenated alkyl dimethylamines; omega-bromo-heptyl-, -octyl-, -nonyl- and -decyl-dimethylamines. M. R. Lehman, C. D. Thompson and C. S. Marvel. *Am Chem Soc J* 55:1977-81 My '33
- BROMOETHANE**. See Ethyl bromide
- BROMOETHANE**. See Ethyl bromide
- BROMOMORPHIDE**  
Catalytic hydrogenation of the halogenomorphides: dihydrodesoxymorphine-D. L. F. Small, K. C. Yuen and L. K. Eilers. *Am Chem Soc J* 55:3863-70 S '33
- BROMONAPHTHALENE**  
Solid-liquid-air contact angles and their dependence upon the surface condition of the solid. F. E. Bartell and A. D. Wooley. *diags Am Chem Soc J* 55:3518-27 S '33
- BROMONAPHTHOIC acid**  
Reactivity of *peri*-substituted naphthalenes; the replacement of halogen in 8-halogeno-1-naphthoic acids and in *o*-halogenobenzoic acids. H. G. Rule and A. J. G. Barnett. *Chem Soc J* p2728-32 N '32
- BROMOPHENOL**  
Alkyl derivatives of halogen phenols and their bactericidal action; bromophenols. E. Klarman and others. *Am Chem Soc J* 55:4657-622 N '33  
Direct dibromination of *m*-bromophenol and an example of group migration. H. H. Hodgson, J. Walker and J. Nixon. *Chem Soc J* p1053-6 Ag '33
- BROMOPHENOL indophenol**  
Absorption spectra of *m*-bromophenol indophenol, 2,6-dibromophenol indophenol and guaicol indophenol. M. M. Brooks. *Am Chem Soc J* 55:2434-5 Je '33
- BROMOPRENE**  
Acetylene polymers and their derivatives; the addition of hydrogen bromide to vinylacetylene, bromoprene and dibromobutene. W. H. Carothers, A. M. Collins and J. E. Kirby. *Am Chem Soc J* 55:786-8 F '33  
Acetylene polymers and their derivatives; the polymerization of bromoprene. W. H. Carothers, J. E. Kirby and A. M. Collins. *il Am Chem Soc J* 55:789-95 F '33
- BROMOPROPYLDIMETHYLAMINE**  
Quaternary ammonium salts from halogenated alkyl dimethylamines; the polymerization of gamma-halogenopropyl dimethylamines. C. F. Gibbs, E. R. Pittmann and C. S. Marvel. *Am Chem Soc J* 55:753-7 F '33
- BROMOSALICYLALDEHYDE**  
Phototropic and thermotropic anils from 5-bromosalicylaldehyde. C. M. Brewster and L. H. Millam. *Am Chem Soc J* 55:763-6 F '33
- BROMOSUCCINIC acid**  
Walden inversion; conversion of bromosuccinic acid into malic acid; conversion of aspartic acid into chloro- or bromosuccinic acid. H. N. K. Rørdam. *Chem Soc J* p2931-45 D '32
- BROMOTETRAMETHYLBENZENE**  
Jacobsen reaction; the monobromo derivatives of the three tetramethylbenzenes. L. I. Smith and C. L. Moyle. *Am Chem Soc J* 55:1676-82 Ap '33
- BRONZE**  
Average strength data for non-ferrous metals; data sheet. *Mach* 39:376A F '33  
Centrifugal bronze gear blanks. F. W. Rowe. *il Metal Prog* 23:14-19 Je '33  
Compo bearings; porous oil-retaining bushes of phosphor bronze. *il Automobile Eng* 23:347 S '33  
Copper alloys that have the strength of steel. *il Mach* 40:104-5 O '33  
Free-cutting brass; machinability of the various alloys. D. K. Crampton and H. P. Croft. *Metal Prog* 23:31-2+ Ja '33  
Gear materials and blanks; American recommended practice approved July 31, 1933 by the American standards association. *Am Mach* 77:534 Ag 16 '33  
Herculoy; new silicon bronze. *Metal Ind* 31:72 F '33  
Hot-pressing of intricate brass and bronze parts. *il Mach* 40:29-30 S '33  
Imperishable imperial metal; metal fixtures of Caligula's pleasure galleys. *Can Min J* 53:545 D '32  
Leaded bronze developed by standards bureau. L. J. Briggs. *Iron Age* 131:828 My 25 '33  
Nonferrous physical metallurgy; review of literature shows wide variety of work. J. L. Christie. *Min & Met* 14:35 Ja '33  
Phosphor bronze; its analysis, characteristics, qualities and applications. *il Automobile Eng* 23:387 O '33  
Properties of bronze bearing metals. *Am Mach* 77:597-8 S 13 '33  
See also  
Aluminum bronze  
Bearing metals
- Testing**
- Influence of recrystallization temperature and grain size on the creep characteristics of non-ferrous alloys. C. L. Clark and A. E. White. *il Am Soc T M Proc* 32 pt 2:492-506; Discussion. 507-16 '32  
Leaded bronze is affected by alloys. H. J. Roast. *Foundry* 61:20-1+ O '33
- BRONZE founding**  
Aluminum bronze parts cast in permanent molds. E. Griffith. *il Am Mach* 77:616-17 S 27 '33  
Casting of two huge doors in bronze. F. H. Landolt. *il Metal Ind* 31:90 Mr '33  
Centrifugal bronze gear blanks. F. W. Rowe. *il Metal Prog* 23:14-19 Je '33  
Deoxidizers for brass alloys. C. Vickers. *il Foundry* 60:20-1+ D '32; 61:15+ Ja; 26-7 F '33  
Leaded bronze is affected by alloys. H. J. Roast. *Foundry* 61:20-1+ O '33  
Nickel in foundry brasses and bronzes. *il Metal Ind* 30:466-7 D '32  
Prevent losses with proper gates and risers. P. Dwyer. *diags Foundry* 60:38+ O; 39-40+ N; 40-2 D '32; 61:41-2+ F '33  
Prevent segregation in bronze. J. Brinn. *diags Foundry* 61:41-2+ Je '33  
Science perfects bell making; E. W. Vanduzen co. J. B. Nealey. *il Foundry* 61:17+ F '33  
Sculptor reproduces work in bronze; Carl Milles exhibits cast bronze figures. *il Foundry* 61:26-7+ Mr '33
- BRONZE welding**  
Bronze-welding of damaged kiln blocks avoids replacement expense. *il Concrete (mill sec)* 41:34-5 My '33  
Welding cracked boiler sections. *il Heat & Ven* 30:32-4 F '33  
Welding galvanized piping. *diags Heating-Piping* 5:413+ Ag '33



**BRONZES**

- Races of mankind; sculptures by Malvina Hoffman in the Field museum of natural history. *H. Field. Science* 78:146-7 Ag 18 '33
- Sculptor reproduces work in bronze; Carl Milles exhibits cast bronze figures. *il Foundry* 61:26-7+ Mr '33
- Sculptor turns anthropologist; work of M. Hoffman in Field museum. *il Sci Am* 149: 209 N '33

**BROOKINGS institution**

- Survey by Brookings. *Business Week* p17-18 Mr 29 '33

**BROOKLYN, New York****Parks**

- Marine park proposed for Brooklyn. front *il Arch Rec* 73:4-8 Ja '33

**Rapid transit**

- Brooklyn's new trolley bus line. G. H. McKelway. *il Elec Traction* 28:446-7+ N '32

**BROOKLYN union gas company**

- Brooklyn union gas company honors President Jourdan for fifty years' service. *Am Gas Assn Mo* 14:495+ D '32

- Had good year in 1932. *Barron's* 13:17 F 6 '33

**BROOMS, Switch cleaning**

- Broom with refillable head. M. W. Wales. *diags Transit J* 77:59 F '33

**BROWN, Ernest William**

- Honorary degrees conferred at Yale university. *Science* 77:622 Je 30 '33

**BROWN and Sharpe manufacturing company**

- First 100 years; Brown & Sharpe celebrates its centennial. *il Am Mach* 77:270-2 Ap 26 '33; *Mach* 39:598-600 My '33

**BROWNE, George M. 1857-**

- George M. Browne. J. W. Neckers. *por J Chem Educ* 10:222-3 Ap '33

**BROWNE, Henry E.**

- Career as telegraph operator began in mad days of the oil exchange. T. F. Smiley. *por Oil & Gas J* 31:10-11 F 2 '33

**BROWNELL, Ernest A.**

- Making 26,000 mile trip; Ernest A. Brownell president of British America and Western assurance, to visit sixteen countries where companies operate. K. K. Wilson. *East Underw* 33:84 D 9 '32

**BROWNIAN movements**

- Brownian motion of the resonance radiometer. G. A. Van Lear, jr. *bibliog R Sci Instr* 4: 21-7 Ja '33

**BRUCE, Everend Lester, 1884-**

- Portrait. *Can Min J* 54:376 O '33

**BRUCITE**

- Brucite deposit, Paradise range, Nevada, a preliminary report. E. Callaghan. *il diags fold map Univ of Nevada Bul* 27, no 1:1-34 '33

- Modern refining methods. A. L. Foster. *Nat Pet N* 25:62 Ja 25 '33

- Results of brucite treatment of light distillates. E. C. Higgins. *Nat Pet N* 25:26+ Ap 12 '33; *Same. Oil & Gas J* 31:10+ My 4 '33

**BRUÈRE, Henry**

- To melt banks' frozen assets. *por Barron's* 13:4 O 16 '33

**BRUSH, Graham M.**

- President, Seatrains lines, inc. B. K. Price. *por Marine R* 63:37 Ja '33

**BRUSHES (electric machinery)**

- Brush maintenance keeps trouble away. S. Ein. *Factory Management* 91:445 N '33

- Conducting motor brush tests. J. W. Gruber. *Transit J* 77:154-5 My '33

- Humidity control prevents a.c. brush disintegration. E. F. Bracken. *Elec W* 102: 410-11 S 23 '33

- Practical investigation into the design of brushes and brush holders. P. Hunter-Brown and C. J. Hews. *diags Inst EEJ* 71:799-818 N '32

- Scheduled maintenance reduces brush replacement costs. R. B. Glen. *diags Power* 77:372-3 Jl '33

**Testing**

- Carbon brush testing. H. S. Williams. *Transit J* 77:316 O '33

**BRUSHES, Industrial***See also*

- Paint brushes

**BRYANT, Arthur Peyton, 1868-**

- American contemporaries. H. E. Barnard. *por Ind & Eng Chem* 25:1178-9 O '33

**BRYONY**

- Purple dye from the berries of the common bryony plant. *Textile Col* 55:119+ F '33

**BUBBLES**

- Ebullition of refrigerants. L. A. Philipp and B. E. Tiffany. *diags Refrig Eng* 25:140-6+ Mr '33

*See also*

- Soap bubbles

**BUBONIC plague. See Plague****BUCKETS**

- Aluminum booms and buckets on Mississippi levees. D. B. Hobbs. *il Eng N* 110:192-4 F 9 '33

- Benne preneuse à coquilles, pour le déchargement des navires. *il diag Génie Civil* 102: 139 F 11 '33

- Bennes automatiques à griffes indépendantes, pour la manutention de blocs irréguliers. *il diags Génie Civil* 102:68-9 Ja 21 '33

- Drag scraper bucket with swinging blade. D. Paris. *diags Rock Prod* 36:40 F '33

- Mehrschalengreifer für beliebiges Fördergut. J. M. Bernhard. *il diags Zeit Ver Deutsch Ing* 77:806-7 Jl 22 '33; *Abstract* 20:313-14 O '33

- Priestman grab with a planing action. *il diags Engineer* 155:606 Je 16 '33

- Repairing elevator buckets. J. F. Robertson. *Rock Prod* 35:28-9 D 10 '32

- Selbstgreifer für massengut mit elektrisch-hydraulischem eigenantrieb. *diags Zeit Ver Deutsch Ing* 77:599 Je 3 '33

- Self-contained grab bucket for handling loose materials. *diags Mech Handling* 20:245-6 Ag '33

- Shovel places concrete for Delaware road; bottom-dump bucket substituted for dipper. *il Eng N* 111:202-3 Ag 17 '33

- Small excavating grab. *diag Engineer* 156: 390-1 O 20 '33

- Welded alloy bucket lips cut trenching costs. G. Sykes. *il Eng N* 110:215 F 16 '33

*See also*

- Hoisting machinery

**BUCKLEY, Oliver E.**

- To direct research for Bell laboratories. *Elec W* 102:223 Ag 12 '33

**BUCKSTAYS**

- Improving open-hearth furnace design. W. C. Buell, jr. *Steel* 92:31-2 Mr 13; 29-31 Mr 20 '33

**BUDGET***See also*

- |                    |                     |
|--------------------|---------------------|
| Finance            | Purchasing, Govern- |
| Government expend- | ment                |
| itures             |                     |

**Australia**

- Australian budget. *Economist* 117:665 O 7 '33

**Canada**

- Canadian budget. *Business Week* p20 Mr 8 '33

- Canadian provinces balance their budgets. J. R. Clarke. *Barron's* 13:16-17 Mr 6 '33

- Dominion's budget. J. R. Clarke. *Barron's* 13:10 O 9 '33

**France**

- Budget. *Economist* 115:930 N 19 '32

- Budget deficit proposals and their repercussions—commodity prices. *Economist* 117: 765-6 O 21 '33

- French budgetary prospects. *Economist* 117: 220-1 Jl 29 '33

**Great Britain**

- British budgets; third series, 1921-22 to 1932-33. B. Mallet and C. O. George. 575p Macmillan '33

- Budget prospects. *Economist* 116:569-70 Mr 18 '33

**BUDGET—Great Britain—Continued**

Defeat of the British reflationists. L. Pasvol-sky. *Barron's* 13:7+ My 29 '33  
Economist budget supplement. *Economist* 116:sup1-12 Ap 15 '33  
Half-and-half budget. *Economist* 116:891-3 Ap 29 '33

**India**

Indian budget. *Economist* 116:448-9 Mr 4 '33

**Ireland**

Irish budget. *Economist* 116:1063-4 My 20 '33  
Ulster budget. *Economist* 116:1122-3 My 27 '33

**Mississippi**

Now it has quality government; reducing state expenditures in Mississippi. *Pub Serv M* 54:80 Mr '33

**New York (state)**

Balancing the state budget. M. Graves. *Am Statis Assn J* 28:89 Mr '33

**United States**

Appropriation cuts will curtail I.C.C. activity. *Ky Age* 94:675+ My 6 '33

Aviation in the federal budget. *Aviation* 32:15-16 Ja '33

Balanced budget? *Business Week* p4-5 Mr 1 '33

Balancing the budget supersedes war debts as a major problem. L. D. Edie. *Iron Age* 130:967 D 22 '32

Balancing the federal budget. R. P. Falkner. *Am Statis Assn J* 28:87-8 Mr '33

Budget medicine (mild); president's suggestions. *Business Week* p4 D 14 '32

Budgeting federal construction to stabilize employment. D. H. Sawyer. *Eng N* 110:657-9 My 18 '33

Business prospects and business hurdles; abstract. L. D. Edie. *Iron Age* 130:806 N 24 '32

Certified political accountancy. *il Am Bankers Assn J* 26:13+ Ag '33

Critical emergency in federal finance; National economy league offers practical method for tax relief. *Barron's* 13:3+ F 6 '33

Federal budget, Washington's jig-saw puzzle. *Am Bankers Assn J* 25:16-17+ F '33

Fighting federal waste; the future battleground of economy. C. M. Mills. *Barron's* 13:6 Ag 7 '33

How a billion can be cut from the budget. J. D. C. Weldon. *Mag of Wall St* 51:139-41+ N 26 '32

Industry and the federal tax problem. A. A. Ballantine. *Min Cong J* 19:10-11+ Mr '33

Lame ducks can't balance. *il Business Week* p3 Ja 18 '33

Large reduction in federal work proposed in budget. *Eng N* 109:732-3 D 15 '32

Must the budget be balanced now? *Comm & P'n* 22:125 F 1 '33

National budget. G. E. Anderson. *Am Bankers Assn J* 25:17+ Ap '33

Need for economy in government. *Guaranty Survey* 12:7-10 N '32

1933 deficit; will government economies make greater tax levies unnecessary? W. P. Helm. *Am Bankers Assn J* 25:38+ D '32

1933 federal aid for highway work now in jeopardy. *Eng N* 109:790 D 29 '32

Our effort to balance the budget; actual results of the new taxes. M. Edwards. *Nation's Business* 20:32+ D '32

Reductions in the federal budget for scientific work. *Science* 76:561 D 16 '32

Should we balance the budget? J. S. Lawrence. *Bankers M* 126:217-21 Mr '33

Uncle Sam closes his books. *Econostat* 1:7 Jl 8 '33

Uncle Sam's new pocketbook. C. B. Upham. *il Nation's Business* 21:23-4+ S '33

Washington budget-go-round. *Business Week* p14+ Mr 22 '33

Washington; Roosevelt attack kills sales tax. *Business Week* p2-3 Ja 4 '33

Why the banking situation demands prompt balancing of the budget. D. W. Ellsworth. *Annalist* 41:195-6 F 3 '33

**BUDGET, Business**

Accounting and budgeting for power station operation. C. D. Zimmerman. *Elec W* 101:196-7 F 11 '33

Budgetary control covering fixed capital expenditures during period of construction. E. A. Berry. *Am Gas Assn Proc* 1932:169-80

Budgetary control of expenses. E. C. Schwier. *Am Water Works Assn J* 24:1904-8; Discussion. W. C. Mabey. 1908-10 D '32

Cash budget. F. J. Bischoff, jr. *Am Gas Assn Proc* 1932:180-1

Controlled budget holds cost low. J. D. Towne. *Inland Ptr* 91:52-4 Jl '33

Departmental budgets. W. F. R. Münnich. *Am Gas Assn Proc* 1932:165-8

Down with overhead—\$600,000 down! Consolidated steel corporation. P. B. Ross. *Factory & Ind Management* 83:459-60 D '32

Electricity budget control. A. W. Willmsore. *Elec R (Lond)* 111:823 D 2 '32

How one large wholesaler budgets his business; table. C. W. Owen. *Dom Eng* 141:103 Je '33

How to budget for profit. F. H. Rowland. 297p Harper '33

How to relate body tooling budgets to quantity requirements. N. H. Mannink. *S A E J* 33:351-2 O '33; Abstract. *Automotive Ind* 69:240-1 Ag 26 '33

Installation and operation of sales budgets. H. E. Howell. *Management R* 21:355-62 D '32; Abstract. *Factory & Ind Management* 83:306 Ag '32

Maintenance cost control; control by budget. W. C. Zinck. *Factory Management* 91:413-14 O '33

New budgetary methods and control of departmental profit and loss in a metal goods factory. *Int Management Inst Bul* 7:27-32 F '33

Planning and budgeting during the depression. F. Klein. *Iron Age* 131:130-1 Ja 19 '33; Same. *Chem Markets* 31:520-2 D '32

Profits vs. plant capacity. C. E. Knoepfel. *Chem Markets* 31:499-502 D '32

Recent developments in budgeting. A. Lazarus and others. 20p *Am. management assn*, 20 Vesey st, New York '33

Working the budget; abstract. G. Brooke. *Management R* 22:207 Jl '33

**BUDGET, Household**

American family income and prosperity. L. Bader. *Am Statis Assn J* 28:303-11 S '33

Chicago standard budget for dependent families. F. Nesbitt, comp. 4th rev ed 52p pa 25c Council of social agencies of Chicago, 203 N. Wabash av, Chicago '32; Excerpt.

Monthly Labor R 35:1211 N '32

New analysis of the family budget. *N E L A Bul* 19:735 D '32

Problem of the representative budget in a cost of living index. B. D. Mudgett. *Am Statis Assn J* 28:sup26-32 Mr '33

Quantity and cost budgets for family of an executive; family of a clerk; family of a wage earner; dependent families or children; prices for San Francisco, Nov. 1932. 58p Univ. of California, Berkeley '33

Typical family budgets of executive, clerk, and wage earner, in San Francisco, 1932. Monthly Labor R 37:470-1 Ag '33

See also

Cost of living

**BUDGET, Library.** See Library finance

**BUDGET, Municipal**

Budget less Brobdignagian; some cheer for the taxpayers of New York. J. P. Broderick. *Barron's* 13:5+ Ja 30 '33

Is municipal credit sound? C. H. Chatters. *Eng N* 109:740-1 D 22 '32

**BUDGET, State**

Now it has quality government; reducing state expenditures in Mississippi. *Pub Serv M* 54:80 Mr '33

**BUFFALO, New York**

See also

Unemployment—

Buffalo, New York

**BUFFALO moth.** See Black carpet beetle



**BUFFER action**

Preparation of acetate and phosphate buffer solutions of known PH and ionic strength. A. A. Green. bibliog Am Chem Soc J 55: 2331-6 Je '33

Study of acetic acid-acetate buffers in potassium chloride and sodium chloride solutions using the quinhydrone electrode. E. F. Chase. Am Chem Soc J 55:3072-5 Ag '33

**BUILDING**

Advantages of tested home building methods. H. V. Walsh. il Brick & Clay Rec 82:194-6 Je '33; Same. Am Bld 55:14-15+ J1 '33

Better practice. W. F. Bartels. diags Architecture 68:219-22, 285-8 O-N '33

Building tells the story of progress; Chicago's new World's fair. R. Willoughby. il Nation's Business 21:22-4 Je '33

Century of progress in construction. il diags Civil Eng 3:423-54 Ag '33

Construction challenges chemical engineering talents. F. E. Schmitt. Chem & Met Eng 40:23-6 Ja '33

La construction des agrandissements des magasins aux Galeries Lafayette, à Paris; particularités présentées par les fondations. R. L'Hermite. il diags plans Génie Civil 102: 101-8 F 4 '33

Construction management stressed over technique; World's fair, Chicago. J. Stewart. il Eng N 110:289-93 Mr 2 '33

Construction reports. Published in weekly numbers of Engineering news-record

Drama of building; photographic studies by Jeannette Griffith. Architecture 65:325-8; 66: 73-6, 209-12, 337-40 Je, Ag, O, D '32

Economics of construction management. J. L. Harrison. 330p Gillette pub. co, Chicago '32

Engineering research and building construction. Century of progress exposition. E. M. Thorud. diags Arch Forum 59:65-9 J1 '33

Exposition buildings unique in form and structure; World's fair, Chicago. C. W. Farrier. il diags Eng N 110:278-82 Mr 2 '33

How can architects develop business? symposium. Arch Rec 73:309-21 My '33

Low cost, rapid work, feature construction of Fair buildings. B. M. Thorud. il plans Am Bld 55:50-3+ Je '33

Mass-produced houses in review. il plans Fortune 7:52-7+ Ap '33

Materials and structural elements in the buildings of Rockefeller Center. diags Eng N 109:590-2 N 17 '32

New materials and improved construction methods. A. L. Kocher and A. Frey. il diags plans Arch Rec 73:281-93 Ap '33

New materials and methods in country house construction. R. W. Sherman. il Arch Forum 58:225-34 Mr '33

Operate passenger terminal under mammoth building project; construct new Chicago postoffice over Chicago union station tracks without interfering with train service. il plan Ry Age 94:71-4 Ja 21 '33

Practical job pointers. Published in monthly numbers of American builder and building age

Protecting polished stainless steel during building construction. C. C. Snyder. Sheet Metal Worker 24:2 Ja '33

Venting dust explosions. H. R. Brown and R. L. Hanson. bibliog il Chem & Met Eng 40:116-19 Mr '33; Abstract. Eng N 110:436-7 Ap 6 '33

*See also*

Acoustics, Architectural  
Arches  
Architecture  
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Bracing  
Brick construction  
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Wind pressure

Windowless construction

Windows

Winter construction

Wood construction

Wrecking

**Bibliography**

Bibliography on building, housing and construction. 18p Chamber of commerce of U.S.A. Washington '33 (typew)

**Cost**

Architect and small house costs. H. Wright. il plans Arch Rec 72:389-94 D '32

Big market is in small houses. Am Bld 54:20 F '33

Building construction costs, all types, American appraisal co., quarterly average 1913-1923, monthly 1924-1933. Survey of Cur Business 13:20 Ag '33

Building-erection costs in Detroit. Monthly Labor R 37:910-11 O '33

Building operations in principal cities, 1932. Monthly Labor R 36:585-94 Mr '33

Building operations in principal cities of the United States. Published in Monthly labor review

Comparative costs; tabulation figured on the cubic-foot basis. Architecture 67:45-6 Ja '33

Consequences of inflation on construction. T. F. McSweeney. Eng N 110:564-5 My 4 '33

Construction statistics; construction costs. C. Gill. Am Statis Assn J 28:44-9 Mr '33

Cost of building a dwelling. F. I. Fisher. Spectator 130:31 F 2 '33

Cost of laying rubble masonry. A. K. Grimmer. il Can Eng 64:11 My 16 '33

Cost \$12,000 in 1925—only \$7,950 today. il plans Am Bld 55:31 My '33

Costs of dwelling units in various cities, as shown by building permits in 14 selected cities for the year 1931. Monthly Labor R 35:1338-96 D '32

Home ownership; factors indicating lower costs. Index 13:16-20 Ja '33

Plan now for future building. E. H. Hewitt. Am Arch 143:70 S '33

Pre-planning low cost housing projects to meet economic requirements. A. M. Butts. chart Am Arch 143:31-4 Mr '33

Relation between accidents and cost of building construction. Monthly Labor R 35:1339-40 D '32

Relative cost of material and labor in building construction, 1931-32. Monthly Labor R 35:763-72 O '32; Excerpts. Am Bld 54:28-9 D '32

Small house of the future. L. E. Olsen. plans Am Bld 54:23-5+ D '32

*See also*

Apartment houses—

**Cost**

Bridges—Cost

**Dictionaries**

Concise building encyclopedia, illustrated. T. Corkhill, comp. 237p Pitman '32

**Economic aspects**

How can architects develop new business? determining building needs. D. S. Wenzlick. Arch Rec 73:317-20 My '33

In defense of George B. Ford's Building height, bulk and form. A. B. Randall. J Land & Pub Util Econ 9:95-7; Reply. G. Aldis. 97-8 F '33

**BUILDING—Economic aspects—Continued**

Planning Rockefeller Center, New York. il plan Eng N 109:579-83 N 17 '32  
Survey of needed construction. R. D. Kohn and others. Arch Forum 58:445-52 Je '33

**Estimates**

Approximate estimates. T. E. Coleman. 6th ed rev 327p Spon '32  
Cubage estimating is the bunk. A. W. Holt. Am Bld 55:104-5 Je '33  
Estimating by the house valuator method. A. W. Holt. Am Bld 55:62-5+ J1; 669+ Ag; 80-2 S; 68-9+ O; 68+ N '33  
Little book that helps get jobs. W. H. Wolaver. Am Arch 142:18-19 N '32  
Your answer to the question, What will this house cost? A. W. Holt. il plans Am Bld 51:66-70 F '33

**Extensions**

Demountable walls for power plant construction. R. B. Horner. il Power Pl Eng 37:172 Ap '33  
Structural changes in building alterations; Bankers trust company building and Herald Square hotel, New York. il diags Eng N 110:550-2 My 4 '33

**Finance**

Building money; news and activities in building finance, real estate, management and construction. il plans Arch Forum 58:327-41 Ap '33 [cont monthly]  
Construction statistics; financing of construction. C. Gill. Am Statis Assn J 28:40-4 Mr '33  
Economics of modernization. L. C. Stone. Arch Forum 58:80-4 Ja '33  
Federal financing for home building and modernization work. W. J. Kohler. Brick & Clay Rec 82:172 My '33  
Funds for remodeling; building and loan associations to use borrowings from the home loan bank. W. B. Whitlock. Arch Forum 58:sup18 Ja '33  
Mortgage debts and building prospects. J. D. C. Weldon. il Mag of Wall St 52:516-18+ S 16 '33  
Safe financing for home for growing income. E. Mowery. il plans Am Bld 54:23-5+ Ja '33  
What lies ahead for building? D. L. Hoopgarner. Bradstreet's 61:228-30+ Ja 28 '33  
What's the answer to out-of-town competition? R. H. Morris. il Am Bld 54:56-7+ Ja '33

**See also**

Building and loan as-	Home ownership—
sociations	Finance
Building loans	Housing finance

**Heating aspects**

Heat transmission through building materials. F. B. Rowley and A. B. Algren. il diags Minn U Eng Exp Sta Bul 8:1-106 '32  
Heating equipment for small houses. T. F. Rockwell. il Arch Rec 74:393-407 N '33  
Insulation for house construction. J. D. Hoffman. diags Purdue Univ Eng Extension Dept Bul 31:1-29 '33  
Selection of building insulation. T. F. Rockwell. bibliog diags Arch Rec 74:65-71, 149-54 J1-Ag '33  
Simple, accurate infiltration calculations. O. J. Kuenhold. Heat & Ven 30:37-8 J1 '33

**Rapid construction**

Salvaging a burned pier for Cunard line in New York. R. T. Betts. il diags plan Civil Eng 3:550-4 O '33

**Repair and reconstruction**

After 25 years one of Oregon's pioneer buildings was modernized; schedule of costs. il diags Arch Forum 58:441-3 My '33  
Alteration work for architects in 1933. Arch Rec 73:16 Ja '33  
Apartment modernizing; a field of growing importance. J. B. Mason. il plans Am Bld 55:32-3+ My '33

Architect organizes campaign to stimulate building in Joplin, Mo. C. B. Manning. il Am Arch 143:24-6 Mr '33  
Architects' influence in modernization increasing. L. S. Schnitman. Arch Rec 72:388 D '32

Builders make best salesmen; Chicago newspaper modernizing drive. J. B. Mason. il Am Bld 55:24-6+ O '33

Building industry is fast learning how to sell; Johns-Manville's advertising program to dealers and homeowners exploiting a million dollars to lend. K. R. Dyke. Ptr Ink 163:25-8 Ap 6 '33

Building modernization in 1932, with special reference to the influence of architects. L. S. Schnitman. Arch Rec 73:125 F '33

Business revival in old Philly. Pub Serv M 54:83 Mr '33

Cleveland launches renovize drive. il Am Bld 54:22-3 Mr '33

Constructing a new front on a St Louis building; street widening requires removal of 40-ft. section of McNichols building. C. W. Martin. plans Eng N 110:554-5 My 4 '33

Economics of modernization. L. C. Stone. Arch Forum 58:80-4 Ja '33

\$87,928,535 in 84 cities for renovation. Am Bankers Assn J 26:77-8 Ag '33

Experience of banks in remodeling buildings. Am Bankers Assn J 25:65-6 Ap '33

Financing building improvements; deferred payment merchandising plan. J. L. Wood. Manuf Rec 102:23 Mr '33

How can architects develop new business? an opportunity in industrial rehabilitation. M. H. Furbringer. il Arch Rec 73:314-15 My '33

How I promote home modernizing; smart style mailing piece. C. J. Barnhart. il Am Bld 55:27 O '33

How to locate and sell modernizing and repair work. E. L. Gilbert. il Am Bld 55:18-22+ O '33

Kansas City area pledges \$11,000,000 for renovizing. E. L. Gilbert. il Am Bld 55:40-2 Ag '33

Latest renovize campaign news from many cities. il Am Bld 55:44-5 S '33

Letting modernization sell itself; Elmira, N.Y. il Nation's Business 21:20-1 J1 '33

Maintenance round table, U.S. Chamber of commerce's meeting in Washington. Arch Forum 58:519 Je '33

Making for rent signs obsolete. R. Willoughby. il Nation's Business 21:23-5+ Ap '33

Making hard times bring tenants. il Nation's Business 20:51 D '32

Marketable real estate. il Am Bankers Assn J 25:68-70 My; 76-8 Je '33

Meaning of modernizing. F. M. Feiker. Arch Forum 58:1-3 Ja '33

Modernization in first quarter, 1933, with special reference to the influence of architects. L. S. Schnitman. Arch Rec 73:378 My '33

Modernization methods that bankers will support. L. C. Stone. plans Am Arch 143:13-15 Mr '33

Modernization restores earnings of buildings approaching obsolescence. C. A. McCaleb. il Rand McNally Bankers Mo 50:542-4 O '33

Modernizing the small house; check list and suggestions. F. A. Pawley. il Arch Forum 58:3-8 Ja '33

Old city flats modernized in Brooklyn. E. S. Hanson. il Am Bld 54:36-7 Mr '33

Philadelphia at the crossroads; Renovize Philadelphia campaign. G. H. Houston. Nation's Business 21:55 F '33

Remodelling and adapting the small house. H. D. Eberlein and D. G. Tarpley. 163p \$3.50 Lippincott '33

Renewing and selling repossessed homes; interview with W. F. Finley, the Cleveland trust company. F. B. Barton. il Burroughs Clearing House 18:18-20 N '33

Renovize Rhode Island is first statewide campaign. E. L. Gilbert. il Am Bld 55:28-31 J1 '33

Renovizing; Philadelphia's recovery plan. Business Week p18 F 15 '33

Six steps in the remodeling of a valuable residential property. il Am Bld 55:40-1 O '33



**BUILDING**—Repair and reconstruction—*Cont.*  
 Steel ceilings help landlord. *il* Sheet Metal Worker 23:481-2 N '32  
 Structural changes in building alterations; Bankers trust company building and Herald Square hotel, New York *il* diags Eng N 110:550-2 My 4 '33  
 This house-to-house jobbing service builds business. J. B. Mason. *Am Bld* 54:26-7 D '32  
 \$21,101,432 in work-pledges was obtained from Philadelphians by the building trades. *Arch Forum* 53:332-4 Ap '33  
 Where it pays to renovate. *il* *Am Bankers Assn* J 26:74-6 O '33

*See also*

Bridges—Reconstruction	Piers—Reconstruction
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**Safety aspects**

Survey of traffic volumes through building exits. H. B. Houghton and J. H. Courtney. *Eng N* 111:200-2 Ag 17 '33  
 These safety building methods will help eliminate accidents in homes. J. M. Dorsey. *diags Am Bld* 55:38-9+ S '33

**Specifications**

Master specifications and how they can be adapted to small jobs. H. A. Fruauff. *Am Arch* 143:38-9 My '33

**Standards**

Code of standard practice governing professional structural engineering services adopted by the Structural engineers association of southern California. *Civil Eng* 3:245-6 Ap '33  
 Lumbermen offer a shop-built house for local dealers and builders. W. F. Shaw. *il* *diags plans Am Bld* 54:14-17 F '33  
 Recommended minimum requirements for small dwelling construction. *il* *diags U S Bur Stand Building and Housing Pub* 18:1-107 '32

**Statistics**

American Architect survey shows first signs of building recovery; forecast of new building and modernizing projects, September, 1932, to September, 1933. *Bradstreet's* 61:232 Ja 28 '33  
 Architects' influence in modernization increasing. L. S. Schnitman. *Arch Rec* 72:388 D '32  
 Building construction in recent years. F. C. Mills. *Heat & Ven* 30:27 Mr '33  
 Building contracts awarded and permits issued. Published in monthly numbers of Federal reserve bulletin  
 Building materials, construction, and real estate. Published in monthly numbers of Survey of current business  
 Building modernization in 1932, with special reference to the influence of architects. L. S. Schnitman. *Arch Rec* 73:125 F '33  
 Building operations in cities of the United States having a population of 100,000 or over, first half of 1933. *Monthly Labor R* 37:347-9 Ag '33  
 Building operations in principal cities, first half of 1933, by types of buildings. *Monthly Labor R* 37:621-6 S '33  
 Building operations in principal cities, 1932. *Monthly Labor R* 36:585-94, 833-52 Mr-Ap '33  
 Building operations in principal cities of the United States. Published in Monthly labor review  
 Construction contracts. Published in weekly numbers of Econostat  
 Construction contracts awarded; non residential and commercial buildings, monthly 1930-1932; public works and public utilities, monthly 1925-1932. *Survey of Cur Business* 13:20 S '33  
 Construction statistics. C. Gill. *Am Statis Assn J* 28:31-54 Mr '33  
 Elapsed time in building construction. *Monthly Labor R* 36:158-69 Ja '33  
 Modernization in first quarter, 1933, with special reference to the influence of architects. L. S. Schnitman. *Arch Rec* 73:378 My '33

Practical application of construction census statistics. A. D. Morehouse. *Am Statis Assn J* 28:sup190-5 Mr '33  
 Statistical picture of current construction. *map Eng N* 110:145-50 F 2 '33  
 Total construction contracts, monthly, 1919-1932. *Bradstreet's* 61:231 Ja 28 '33  
 Trend of building construction in groups of cities of classified size, 1921-1932. *Monthly Labor R* 37:136-9 Jl '33  
 What public construction means to general business. F. S. Baldwin. *Eng N* 110:633-8 My 18 '33  
 Year's business—trends, volumes and sales. *Heat & Ven* 30:14-20 Ja '33

**Superintendence**

Empire State building, New York city. F. W. Skinner. *chart Engineering* 134:641 D 2 '32  
 Organization and construction supervision for Rockefeller Center. *Eng N* 109:598-9 N 17 '32  
 Some pitfalls in supervision. W. F. Bartels. *Architecture* 65:335-6; 66:35-6, 101-2, 163-4, 223-4, 279-80, 341-2; 67:37-8, 101-2, 165-6, 223-4, 283-4, 351-2; 68:37-8, 71-2, 169-70 Je '32-S '33  
 Supervision of arc-welded construction. A. S. Coombs. *il* *Am Arch* 143:51-2 My '33

**Unit construction**

Cellular steel-unit house. C. M. Price. *il* *front Arch Rec* 74:249-51, 313 O '33  
 House designs demonstrating the flexibility of cellular steel unit construction; views and plans. *Arch Rec* 74:256-88 O '33

**Detroit**

Building-erection costs in Detroit. *Monthly Labor R* 37:910-11 O '33

**New York (city)**

Proposed new building code for New York city. R. P. Miller. *Eng N* 110:495-8, 525-9 Ap 20-27 '33; Discussion. R. S. Tilden. 110:757 Je 8 '33

**Southern states**

\$560,000,000 contracts awarded during past year. *Manuf Rec* 102:25-8 Ja '33

**United States**

Building cycles in the United States, 1875-1932. J. R. Riggelman. *Am Statis Assn J* 28:174-83 Je '33  
 Building industry vital to prosperity. W. E. Price. *Dom Eng* 141:30-1 F '33  
 Building is going up. A. E. Beals. *Bradstreet's* 61:233 Ja 28 '33  
 Building materials, construction, and real estate. Published in monthly numbers of Survey of current business  
 Building operations in cities of the United States having a population of 100,000 or over, first half of 1933. *Monthly Labor R* 37:347-9 Ag '33  
 Building operations in principal cities. Published in Monthly labor review  
 Building outlook for 1933. E. L. Gilbert. *Am Bld* 54:10-11 Ja '33  
 Building prospects. *Business Week* p24 Ja 11 '33  
 Building trends and outlook. L. S. Schnitman. Published in monthly numbers of Architectural record  
 Consequences of inflation on construction. T. F. McSweeney. *Eng N* 110:564-5 My 4 '33  
 Construction volume—is it a forecast of general business? T. F. McSweeney. *Eng N* 110:503-4 Ap 20 '33  
 Economics—the new basis of architectural practice. E. R. Coburn. *Am Arch* 143:50-4 S '33  
 Harbingers of better days for building. *Comm & Fin* 22:44 Ja 11 '33  
 Looking ahead architecturally through 1933 and beyond. W. O. Ludlow. *Am Bld* 54:12 Ja '33  
 New construction. Published in monthly numbers of Chemical and metallurgical engineering

**BUILDING—United States—Continued**

Outlook brightens for greatest consuming industry. M. D. Gould. *Mag of Wall St* 52:270-2+ J1 8 '33

Outlook for residential building. L. S. Schnitman. *Arch Rec* 73:222 Mr '33

Selling construction to public through a united industry. E. J. Mehren. *Roads & Sts* 76:113-14 Mr '33

Sharp shrinking in building construction. C. E. Wright. *Iron Age* 131:11+ Ja 5 '33

What is the real outlook for building? *Brick & Clay Rec* 83:55-6 Ag '33

What lies ahead for construction? D. L. Hoopingarner. *Bradstreet's* 61:228-30+ Ja 28 '33

**BUILDING accidents**

Accident experience in the construction industry during 1931. J. C. Forester. *Eng & Contr* 71:271 D '32

Construction neglects safety and pays for it. *Eng N* 109:646 D 1 '32

Cost of indifference. F. I. Rowe. *Nat Safety N* 27:21-2+ Mr '33

Relation between accidents and cost of building construction. *Monthly Labor R* 35:1339-40 D '32

**BUILDING and loan associations**

Building and loan meeting climaxes convention of Ohio association of retail lumber dealers. L. R. Putman. *Am Bld* 54:74-5 Mr '33

Building and loan society; conception, expansion, and present plight. *Arch Forum* 59:sup32-4 J1 '33

Building societies and small housing. *Economist* 115:868-9 N 12 '32

Building societies; summary of the last three years' results of 31 leading building societies. *Economist* 117:78-81 J1 8 '33

Building society interest rates. *Economist* 117:374-5 Ag 19 '33

Building society policy. *Economist* 116:419 F 25 '33

How to get money for home financing; newly organized federal savings and loan associations backed by government funds. H. M. Quinn. *Am Bld* 55:28-9+ O '33

Law of building and loan associations. J. H. Sundheim. 3d ed 448p Callaghan '33

Law providing for the organization, government and control of savings and loan associations. J. W. Allen, comp. 62p Washington (state) dept. of efficiency, Olympia '33

Pennsylvania banking and building & loan codes, 1933. B. G. Segal, ed. 553p Pennsylvania, Dept. of property and supplies, Harrisburg '33

Yes, Mr Prospect, building and loan shares are a good investment, but—E. P. Hermann. *Spectator* 130:12 Ja 19 '33

*See also*

United States building and loan league

**Insurance requirements**

Selling of B. & L. blanket bond 16 urged by Indemnity co. of N.A. *East Underw* 33:40 N 18 '32

**BUILDING contracts**

Base bid method of bidding. R. R. Graham. *Arch Rec* 73:sup26 Ja '33

Bid peddling; the construction industry strikes a blow to destroy its old scourge. *Business Week* p6-7 S 9 '33

Bidding systems; a resumé of the Huddleston, Detroit and Nashville plans. T. S. Rogers. *Am Arch* 143:67-8 J1 '33

Contractual procedure for foundations of buildings. L. R. Viterbo. *il Civil Eng* 3:126-9 Mr '33

Handling extra-work orders in building construction. C. V. Hobaugh. *Eng N* 111:105-6 J1 27 '33

Law of building and engineering contracts, and of the duties and liabilities of architects, engineers and surveyors. A. A. Hudson. 6th ed 607p Sweet & Maxwell, Ltd, London; Carswell co, Ltd, Toronto, Can. '33

Salvaging a burned pier for Cunard line in New York. R. T. Betts. *il diags plan Civil Eng* 3:550-4 O '33

Sheet metal contract blank. *il Sheet Metal Worker* 24:113-14, 147-8, 178-7, 216 Ap-J1 '33

Technical services cooperate to cut building costs; St Mary college and academy, Monroe, Mich. W. G. Mansuy. *il Eng N* 109:650-1 D 1 '32

Unlicensed architect's contract with owner is not enforceable. G. F. Kaiser. *Am Arch* 142:27 N '32

*See also*

Contractors  
Contracts, Letting of

**BUILDING cycles**

Building cycles in the United States, 1875-1932. J. R. Riggelman. *Am Statis Assn J* 28:174-83 Je '33

**BUILDING failures**

Lost tower of Beauvais. R. K. Fletcher. *il plan Am Arch* 143:10-16 My '33

**BUILDING fittings**

Materials and structural elements in the buildings of Rockefeller Center. *diags Eng N* 109:590-2 N 17 '32

Some pitfalls in supervision; hardware. W. F. Bartels. *Architecture* 67:38, 101 Ja-F '33

Today's craftsmanship in hand-wrought hardware. G. K. Geerlings. *il Architecture* 67:15-20 Ja '33

*See also*

Ironwork, Architectural  
Mechanical equipment of buildings

Sheet metal work, Architectural  
Woodwork

**BUILDING inspection**

Dollars out of depreciation; inspection of buildings offers opportunity for architects. F. Dolke, jr. *Am Arch* 143:33-4 J1 '33

Les essais par chargement direct des constructions. *Génie Civil* 102:401-2 Ap 29 '33

**BUILDING laws and regulations**

Anti-earthquake building code proposed in California. *il Brick & Clay Rec* 83:95-6 S '33

Better construction in earthquake zone recommended by jury. *Eng N* 110:480-1 Ap 13 '33

Building code; New York. *Business Week* p20-1 Ap 19 '33

Building codes. G. N. Thompson and others. *Ind Stand* 4:160-75 O '33

Building codes and fire prevention. F. Burton. *Safety Eng* 66:61-2+ Ag '33

Concrete control encouraged by Northwest building codes. H. M. Hadley. *Eng N* 110:49 Ja 12 '33

Electricity in buildings; recommendations to L.C.C. with respect to equipment, lifts and escalators. *Electrician* 109:756 D 9 '32

Law and the building. M. J. Reidy. 181p Building publications co, New York '32

Masonry code at Long Beach revised by inspector's order. *Eng N* 110:570 My 4 '33

New California building law makes lateral force design mandatory. *Eng N* 110:722 Je 1 '33

Old building codes are being revised; National Board report. *East Underw* 34:21 Je 2 '33

Les prescriptions allemandes de 1931 sur les constructions soudées. L. Carpentier. *diags Génie Civil* 101:459-61 N 5 '32

Proposed new building code for New York city. R. P. Miller. *Eng N* 110:495-8, 525-9 Ap 20-27 '33; Discussion. R. S. Tilden. 110:757 Je 8 '33

Recommended minimum requirements for small dwelling construction. U S Bur Stand Building and Housing no 18:1-107 '32

School building in California to be regulated by the state. *Eng N* 110:569-70 My 4 '33

Some unsolved problems in high building. H. S. Swan. *J Land & Pub Util Econ* 9:25-36 F '33

Steel joist construction and the modern building code. R. C. Manning. *il Can Eng* 63:7-12 D 20 '32

*See also*

Building contracts  
City planning—Zone system  
High buildings

Housing laws  
Mechanics' liens  
Plumbing laws and regulations



**BUILDING loans**

Appraising building loans for banks, a logical field of service for architects. R. W. Sexton. *Am Arch* 143:23 Ja '33  
 Architect as financial counselor. J. C. Fistere. *Arch Forum* 58:205-8 Mr '33

*See also*

Building and loan associations

Home loan banks

**BUILDING management.** *See* Buildings—Management

**BUILDING materials**

Construction challenges chemical engineering talents. F. E. Schmitt. *Chem & Met Eng* 40:23-6 Ja '33

Effect of carbon dioxide on the strength of some building materials. G. E. Bessey. *Soc Chem Ind J* 52:288T-93T S 15 '33

Exhibition in print of new products and designs; items for builders, architects and dealers at Century of progress exposition. *il Am Bld* 55:54-65 Je '33

Exposition buildings unique in form and structure; World's fair, Chicago. C. W. Farrier. *il diags Eng N* 110:278-82 Mr 2 '33

Heralding the nonmetallic mineral age. C. C. Whittier. *Min & Met* 14:410-11 O '33

Lead alloys for building applications. *Engineering* 136:127-8 Ag 4 '33

Materials and structural elements in the buildings of Rockefeller Center. *diags Eng N* 109:590-2 N 17 '32

Materials and their application to engineering design. E. A. Allcut and E. Miller. 2d ed 519p C. Griffin and co. ltd, London '32

New constructions developed for standardizing homes. *Heat & Ven* 30:38 Mr '33

New materials and improved construction methods. A. L. Kocher and A. Frey. *il diags plans Arch Rec* 73:281-93 Ap '33

New materials and methods in country house construction. R. W. Sherman. *il Arch Forum* 58:225-34 Mr '33

New products: wood, textiles, paper. *il diags Arch Rec* 73:295-306 Ap '33

Planning, engineering, equipment; Philadelphia saving fund society building. *il plans Arch Forum* 57:543-6 D '32

Plywood as a building material. P. S. Hill. *il Mech Eng* 55:355-7+ Je '33

Rostone, a new building material. *il Rock Prod* 36:44-6 My '33; Same cond. *Brick & Clay Rec* 82:175-6 My '33

Style review—new and tested products. *il Am Bld* 55:14-19+ Ap '33

Synthetic houses; house that chemistry built at the Century of progress exposition. *il Sci Am* 149:180 O '33

Would you like to sell to Uncle Sam? R. J. Monteth. *Am Bld* 55:54-6 Jl '33

*See also*

Aluminum, Structural

Asbestos

Bricks

Building stone

Cement

Concrete

Concrete, Reinforced

Concrete blocks

Concrete brick

Concrete slabs

Cork

Fire resisting materials

Flooring

Glass

Glass, Structural

Glass brick

Gravel

Gunite

Gypsum

Insulation (heat)

Iron

Limestone

Lumber

Masonite

Masonry

Metal work, Architectural

Plaster and plastering

Plywood

Roofing

Sheet metal, Enamelled

Sheet metal work, Architectural

Steel, Structural

Strength of materials

Terra cotta

Tiles

Wall board

Wood

**Advertising**

Building industry is fast learning how to sell; Johns-Manville's advertising program to dealers and homeowners exploiting a million dollars to lend. K. R. Dyke. *Ptr Ink* 163:25-8 Ap 6 '33

Lowering the cost of distribution. *il Am Bld* 54:66-7 Ja '33

More homes will be built when more homes are sold. *Brick & Clay Rec* 82:205 Je '33  
 These letters dig up forgotten sales; Comfort coal-lumber co. gets cooperation of manufacturers. H. Blauvelt. *Ptr Ink Mo* 26:83-4 Ja '33

When form follows function; the United States gypsum company's printing. P. T. Haagen. *il Ptd Salesmanship* 60:370-2+ Ja '33

*See also*

Advertising—Architects, Appeal to

**Exhibitions**

Homes and housing materials to be exhibited at World's fair, Chicago. *il Eng N* 110:293 Mr 2 '33

**Prices**

Cost of materials delivered on the job per \$1,000 of building contract price; tabulation. *Am Bld* 54:40 D '32

Current prices of construction materials. Published in Engineering news-record, first issue of each month

Will government control of industry raise material prices? E. L. Gilbert. *Am Bld* 55:53-4 Jl '33

**Statistics**

Employment and values in construction. L. Mehren. *maps Eng N* 111:353-7 S 21 '33

**Testing**

Heat transmission through building materials. F. B. Rowley and A. B. Algren. *il diags Minn U Eng Exp Sta Bul* 8:1-106 '32

**BUILDING stone**

Abrasive resistance of natural stone floor tiles. *J Fr Inst* 215:739-40 Je '33

Building stones of Pennsylvania. R. W. Stone. 316p Dept. of internal affairs, Topographic and geologic survey, Harrisburg, Pa. '32

Canadian limestone for building purposes. M. F. Goudge. 196p Canada Dept. of mines, Ottawa '33

Technische gesteinprüfung. K. Stöcke. *Zeit Ver Deutsch Ing* 77:404 Ap 15 '33

*See also*

Quarries and quarrying

**Preservation**

Stone decay. E. F. Power. *Am Concrete Inst J* 4:sup[news letter] 5 F '33

**Weathering**

Weathering of building stones. *Engineering* 134:761-2 D 30 '32

Weathering of natural building stones. R. J. Schaffer. 149p [bibliog p129-39] Great Britain. Dept. of scientific and industrial research, London '32

**BUILDING trades**

Architect organizes campaign to stimulate building in Joplin, Mo. C. B. Manning. *il Am Arch* 143:24-6 Mr '33

Brick industry's big job is selling the dealer. *Brick & Clay Rec* 82:62+ F '33

Building and loan meeting climaxes convention of Ohio association of retail lumber dealers. L. R. Putman. *Am Bld* 54:74-5 Mr '33

Building boom on the way? E. L. Gilbert. *il Adv & Sell* 20:16-17+ F 16 '33

Building industry is fast learning how to sell; Johns-Manville's advertising program to dealers and homeowners exploiting a million dollars to lend. K. R. Dyke. *Ptr Ink* 163:25-8 Ap 6 '33

Building industry needs a marketing plan that follows through. L. R. Putman. *Am Bld* 54:54-5 Ja '33

Building money; news and activities in building finance, real estate, management and construction. *il plans Arch Forum* 58:327-41 Ap '33 [cont monthly]

Business side of construction. *Eng N* 110:38-9 Ja 5 '33 [cont monthly]

Construction; heterogeneous groups of widely assorted associations unite under the aegis of the Construction league of the United States. *Business Week* p13 F 1 '33

**BUILDING trades—Continued**

- Construction needs a purge and better dietetics. H. H. Wilson. Eng N 110:29-31 Ja 5 '33
- Construction's proposals for a way out. Eng N 110:112 Ja 26 '33
- Effectiveness of public works in stabilizing the construction industry. C. Gill. Am Statis Assn J 28:sup196-200 Mr '33
- Getting ahead in 1933; American builder editorial service. L. R. Putman. Am Bld 54:8-9+ Ja '33
- Give the dealer a chance; bridge the gap between the manufacturer of brick and the building material consumer. Brick & Clay Rec 82:22+ Ja '33
- House market; inter-industry competition. Il Business Week p14 N 23 '32
- How one dealer found hundreds of new customers; Tuttle bros, Westfield, N.J. Il Am Bld 55:62-3 Ap '33
- Let's adopt a new plan of battle. A. A. Hood. Am Bld 54:12+ D '32
- Local problems of nation-wide extent confront the building industry. L. R. Putman. Am Bld 54:10-11 D '32
- National plan to revive building forges ahead. L. R. Putman. Am Bld 54:12-13 F '33
- New type homes will stimulate vast new market. B. G. Dahlberg. Am Bld 55:66-7 Jl '33
- Opportunity for profit seen in small homes of known quality. Il plans Am Bld 55:64-5+ Ap '33
- Quick profits from time payments. J. L. Wood. Am Bld 54:62-3+ Mr '33
- Rhythmic variations in industry; comparative trends of foods, textiles, building construction, and automobiles. T. M. McNiece. front Il Mech Eng 55:659-66 N '33
- Selling the home complete; First national registered homes system. G. W. Dulaney, jr. Am Bld 55:102-3+ Je '33
- Trends in residence construction. E. T. Peterson. Il Adv & Sell 20:22-3+ Mr 2 '33
- Was the dealer wrong? L. R. Putman. Am Bld 55:61 Ap '33
- What's the answer to out-of-town competition? R. H. Morris. Il Am Bld 54:56-7+ Ja '33
- Where there is—selling—there is building. L. R. Putman. Il Am Bld 55:58-60 Jl '33

*See also*

- |                            |                       |
|----------------------------|-----------------------|
| Brick industry and trade   | Contractors           |
| Cement industry and trade  | Contracts, Letting of |
| Concrete products industry | Lumber trade          |
|                            | Painting, Industrial  |
|                            | Plumbing trade        |
|                            | Winter construction   |

**Advertising**

- Brass tacks plan for profits in your home town. L. R. Putman. Il Am Bld 54:68-9+ Mr '33
- Group advertising favored by local building interests. Il Am Bld 55:70-1 Ap '33
- Value of the local lumber and material dealer to his community. L. R. Putman. Il Am Bld 55:38-9 O '33

*See also*

- Building materials—  
Advertising

**Exhibitions**

- Homes and housing materials to be exhibited at World's fair, Chicago. Il Eng N 110:293 Mr 2 '33

**Finance**

- Johns-Manville's time payment remodeling plan—and how it works. J. L. Wood. Sales Management 32:255-6 Mr 15 '33

**Labor conditions**

- Building trades, San Francisco; award and decision. Monthly Labor R 36:568-9 Mr '33
- Construction boost; NRA considers brake on wages to give building early start. Business Week p14 O 14 '33
- Construction wage rates, monthly, 1922-1933. Survey of Cur Business 13:19 S '33
- Current building and construction trades wage rates per hour. Eng N 110:39 Ja 5 '33 [cont monthly]

- Earnings in the building trades in Germany, August 1932. Monthly Labor R 37:390-2 Ag '33

- Employment in building construction in September, 1932. Monthly Labor R 35:1195-6 N '32 [cont monthly]

- Hours and wage rates reported to NRA; special committee of Construction league compiles data. Eng N 111:382-4 S 28 '33

- Wage scales in the building trades, as of December 15, 1932; tabulation. Arch Rec 73:sup24 Ja '33 [cont monthly]

- Wages and hours in the building trades of South Africa. Monthly Labor R 36:189-90 Ja '33

- Wages in the building trades in Amsterdam, Netherlands, in June, 1931 and 1932. Monthly Labor R 35:1170 N '32

**Securities**

- Building trade shares. Economist 116:1080-1 My 20 '33

- Companies associated with building industries, 1930-1932. Mag of Wall St Manual p56-7 Mr 6 '33

**Statistics**

- Construction by contract analyzed by U.S. Census. Eng N 110:339-43 Mr 16 '33

- Employment and values in construction. L. Mehren. maps Eng N 111:353-7 S 21 '33

**Canada**

- National construction council organized. Can Eng 64:15-16 F 14 '33

- National construction council petitions government to aid recovery. Can Eng 64:21-3+ F 28 '33

- New Canadian organization to stimulate building activities. Monthly Labor R 36:1334-5 Je '33

**Long Island**

- Is there any home building being done in 1933? survey of Rockville Centre. E. L. Gilbert. Il Am Bld 55:28-30+ My '33

**New England**

- Official year book, 1933. 479p \$5 New England building officials' conference, 694 Washington st, Boston '33

**United States**

- Bid peddling; the construction industry strikes a blow to destroy its old scourge. Business Week p6-7 S 9 '33

- Builders seek a code. Arch Forum 59:246, sup34 S '33

- Codes—by an eye witness. W. S. Parker. Arch Rec 74:168-9 S '33

- Construction and cyclical probabilities; with chart showing cycles in the building industry. Bradstreet's 61:354 F 18 '33

- Construction and recovery. F. H. Dow. Dun & Bradstreet 41:2-3 Ag '33

- Construction code for entire industry submitted to NRA. Eng N 111:144, 148-9, 208+ Ag 3, 17 '33

- Construction code making and administration. J. W. Follin. Eng N 111:494-5 O 26 '33

- Construction codes today. S. F. Voorhees. Eng N 111:492-4 O 26 '33

- Construction industry—code of fair competition; text. Roads & Sts 76:327-8 S '33; Same. Am Bld 55:26-8, 62+ S '33

- Construction industry code under NRA; with supplementary code for engineers; text. Civil Eng 3:631-6 N '33

- Construction industry codes to be handled through Construction league of U.S. Heating-Piping 5:396 Ag '33

- Construction industry in the depression; attempts at stabilization. J. B. Hubbard. Harvard Business R 11:146-55 Ja '33

- Constructive policy for the construction industry. L. H. Brown. Architecture 67:353-4 Je '33

- Contracting ends year with increased stability. Eng N 110:168 F 2 '33

- Employment and values in construction. L. Mehren. maps Eng N 111:353-7 S 21 '33

- Four stumbling blocks may still trip the construction code. Arch Forum 59:332-3 O '33

- Industrial snapshots. J. Backman and A. L. Jackson. Barron's 13:5 O 30 '33



**BUILDING trades—United States—Continued**

- Jobs for millions through revival of building; suggestion for Building construction division under NRA. B. F. Betts. chart Am Arch 143:8-11 S '33
- List of codes submitted by construction groups. Am Bld 55:27 S '33
- Practical application of construction census statistics. A. D. Morehouse. Am Statis Assn J 28:sup190-5 Mr '33
- Recession continues in building industry. R. Brennan. Dun's R 41:2-4 F 18 '33
- What kind of a code will the building industry get? Am Bld 55:16-17 Ag '33

**BUILDINGS**

- Erschütterungsmessungen an einem gebäude mit erschütterungs-schutzmauer. W. Schneider. Zeit Ver Deutsch Ing 77:505-6 My 13 '33
- Novel chamber of commerce building at Williamsou, W. Va. constructed entirely of coal. il Manuf Rec 102:23 Je '33
- La résistance des constructions aux mouvements vibratoires. A. Klein. Génie Civil 102:349-52, 371-5 Ap 15-22 '33
- Survey of exit practice in buildings. H. B. Houghton and J. H. Courtney. Eng N 111:164-5 Ag 10 '33
- Survey of traffic volumes through building exits. H. B. Houghton and J. H. Courtney. Eng N 111:200-2 Ag 17 '33

*See also*

- |                      |                      |
|----------------------|----------------------|
| Airport buildings    | Library buildings    |
| Apartment houses     | Machine shops        |
| Architecture         | Mechanical equipment |
| Bank buildings       | of buildings         |
| Building             | Municipal buildings  |
| Capitols             | Office buildings     |
| Churches             | Public buildings     |
| College buildings    | Public utilities—    |
| Community centers    | Buildings            |
| Courthouses          | Railroads—Buildings  |
| Factories            | and structures       |
| Farm buildings       | School buildings     |
| Foundries            | Steel construction   |
| Gymnasiums           | Stone construction   |
| High buildings       | Store buildings      |
| Hotels               | Theaters             |
| Industrial buildings | Warehouses           |

**Exterior lighting**

- Century of progress; lighting of building exteriors; photographs. Elec W 101:689-96 My 27 '33
- City hall, Los Angeles, Calif. il Illum Eng Soc Trans 28:11 Ja '33
- Exposition lighting. C. J. Stahl. il Elec J 30:229-33 Je '33
- Floodlighted facade, S. & W. cafeteria, Charlotte, N.C. il Illum Eng Soc Trans 28:219 Mr '33
- Floodlighting during the Wakefield pageant. il Illum Engr 26:204 Ag '33; il Electrician 111:70 Jl 14 '33
- Floodlighting of building estates. R. S. Ross. il Gas J (Lond) 201:804-5 Mr 29 '33
- Floodlighting pays; Wrigley building. Illum Eng Soc Trans 28:640 S '33
- Floodlighting public buildings. F. D. Crowther. il diags Gen Elec R 35:639-43 D '32
- Kansas City power & light company. il Illum Eng Soc Trans 27:778 D '32
- Lighting heads the list of special facilities; World's fair, Chicago. J. L. McConnell. il diags Eng N 110:283-5 Mr 2 '33
- Niagara-Hudson, Syracuse lighting company. il Illum Eng Soc Trans 27:680-1 N '32
- Outdoor illumination in Rome. il Illum Engr 26:108 Ap '33
- Scheme to floodlight London. G. B. J. Athoe. il Elec R (Lond) 113:413 S 29 '33
- Wrigley building floodlighted ten times former intensity. Elec W 102:105 Jl 22 '33

**Management**

- Biggest janitor; American building maintenance company. Business Week p15 Ja 18 '33
- Tailored advertising; Reliance property management, inc. W. Baker. il Ptr Ink 162:62-4 F 9 '33

**Obsolescence**

- Building obsolescence and the assessor. J. E. Burton. J Land & Pub Util Econ 9:109-20 My '33
- Obsolescence insurance involves an architect and not an insurance company. J. C. Knapp. Arch Forum 58:440+ My '33
- Time zoning as a preventive of blighted areas. K. Lonberg-Holm. il Arch Rec 74:340-1 N '33
- Valuation**
- Dollars out of the depression; appraising a new field of business for architects. H. A. O'Dell. Am Arch 143:52-4 Mr '33
- Fundamental bases of value which the assessor could use to aid in appraisals. J. E. Burton. Arch Forum 59:sup27-8+ O '33

**BUILDINGS, Group***See also*

- New York (city)—  
Rockefeller Center

**BUILDINGS, Multiple use**

- RCA building of 69 stories rivals Empire State. il diags plans Eng N 109:587-90 N 17 '32

*See also*

- New York (city)—  
Rockefeller Center

**BUILDINGS, Remodeled**

- Alteration of a building, North Conway, N. H.; views and plans. Am Arch 143:87-8 Mr '33
- Bankers trust company building; alterations and additions to a Wall Street structure of twenty-five years ago. R. H. Shreve. il plans Architecture 68:126-46 S '33
- Dutch banker, an architect and a real estate agent spent \$93,000 to create a good address out of shabby tenements; New York city. il plans Arch Forum 58:335-6 Ap '33
- Seventeen examples of successful modernizing. il plans Arch Forum 58:45-68 Ja '33

**BULBS**

- Packaging the lily. il Ptr Ink 164:32 Ag 24 '33

**Advertising**

- Bulbs from Holland; fictitious nature of the Hollandia's world-famed flower bulbs advertisement. F. P. McWhorter. Science 77:21 Ja 6 '33

**BULGARIA***See also*

- Insurance, Social—  
Bulgaria

**BULKHEADS**

- Bulkhead built of sheet piling. il Steel 92:27 Mr 20 '33
- Design of steel sheet-piling bulkheads. R. P. Pennoyer. il diags Civil Eng 3:615-19 N '33
- Driving long Z-sheeting for deep-water bulkhead. F. R. Harris. il diags Eng N 110:592-3 My 11 '33
- Resistance of sheet piling to overturning; results of experimental work on bulkheads. D. P. Krynine and R. W. Abbett. il diags Civil Eng 3:263-5 My '33

**BULKHEADS (naval architecture)**

- Use of bulkheads to restrict fire area. Weekly Underw 128:954+ My 20 '33

**BULLETIN boards**

- Operating efficiency improved with an employees' bulletin board as a basis. W. A. Millican. il Rand McNally Bankers Mo 50:538-9+ O '33

**BULLETS. See Projectiles****BUNGALOWS**

- Two likeable small bungalows; views and plans. Am Bld 54:22 F '33

**BUNSEN burner**

- Report on the conversion of the potential energy of coal gas into radiant energy. H. Hartley. Gas J (Lond) 200:sup14 O 26 '32; Discussion. 200:427-31, 691-4 N 9, D 7 '32

**BUOYS**

- Welded buoys and tanks; John Bellamy, Ltd. il Engineer 156:143-4 Ag 11 '33

**BUREAU of personal accident and health underwriters**

Annual meeting, New York. *Ins Field* (Fire ed) 62:10 F 16 '33; *Nat Underw* 37:29+ F 16 '33; *Weekly Underw* 128:360+ F 18 '33; *Safety Eng* 65:52 F '33

**BUREAU of yards and docks.** See United States—Navy department—Yards and docks, Bureau of**BUREAUCRACY**

America go bust; an exposé of the federal bureaucracy and its wasteful and evil tendencies. L. Ludlow. 144p \$1.25 Stratford co, Boston '33

Business fostered bureaucracy. G. C. Miller. *Nation's Business* 21:16 F '33

Menace of bureau-made laws; extracts from the argument in the case of the Appalachian electric power company against the Federal power commission. N. D. Baker. *Nation's Business* 20:57 D '32

Our wonderland of bureaucracy. J. M. Beck. rev & enl 290p \$3 Macmillan '33

**BURETS**

Burette with greaseless stopcock. W. A. Lande, jr. *diag R Sci Instr* 4:296 My '33

Mechanically operated buret. C. H. Whitnah. *diags Ind & Eng Chem Anal* ed 5:352-4 S 15 '33

Microburet for potentiometric microanalysis. H. L. Lochte and A. Hoover. *diag Ind & Eng Chem Anal* ed 5:335 S 15 '33

Super cement fineness analyzer. S. Rordam. *diag Concrete* 41:9-10 O '33

**BURGESS, Starling**

Yachts to Dymaxions. *por Fortune* 7:8+ Je '33

**BURGLAR alarms**

Private alarm system model of efficiency; Los Angeles fire alarm co. *il Elec West* 70:164 My '33

**BURGLARY**

Clever police work recovers rich haul in stolen jewelry. *Weekly Underw* 128:554 Mr 18 '33

Consider arrests most important; American Surety interested in uncovering information regarding theft of \$500,000 Liberty bonds. *Nat Underw* 37:19 Ag 24 '33

**BURKE, Mildred A.**

Chairman of our newspaper group. *por Special Lib* 23:438 D '32

Some of our members and what they do. *Special Lib* 24:130 Jl '33

**BURLINGAME, King and Dunk**

Farmers for gentlemen. *Fortune* 7:6 My '33

**BURMA**

Constitution for Burma. *Economist* 117:314-15 Ag 12 '33

See also

Wages—Burma

**BURMA corporation**

Annual general meeting, Rangoon. *Economist* 116:40-1 Ja 7 '33

**BURMAH oil company, limited**

Annual general meeting, 14th, Glasgow. *Economist* 116:1260-3 Je 10 '33

Burmah oil. *Economist* 116:1144-5 My 27 '33

**BURNERS**

Commercial burners for underwater fires. K. A. Kobe and C. W. Hauge. *il diags Power* 77:402-3 Ag '33

Pulverised fuel burner applied to a Lancashire boiler. *diags Engineer* 155:584 Je 9 '33

See also

Gas burners

Oil burners

Tar burners

**BURNHAM library.** See Chicago art institute—Burnham library**BURNISHING.** See Polishing**BURNS and scalds**

Study of injuries due to electric shock and burns. H. K. Cook. *Safety Eng* 65:93-4 Mr '33

**BURROUGHS adding machine company**

Burroughs' impressive record. *Econostat* 1:11, 32 O 28 '33

**BURRS**

Cutting teeth on tiny burrs and formed milling cutters. F. H. Mayon. *diags Mach* 39:274-5 D '32

**BUSBARS**

Bolting of busbar joints. E. B. Shand and C. E. Valentine. *il diags Elec J* 30:377-80 S '33

Destructive voltage-rises on low-tension busbars; a suggestion. H. P. McGraw. *Inst E E J* 72:402-12 My '33

Effect of busbar insulation on heat dissipation. R. J. Coe. *Elec W* 101:223-4 F 18 '33

Electrical contact of busbar joints. C. L. Denault. *il Elec J* 30:281-3 Jl '33

Extension of metal-clad units and flexible bus support features of 1932 switchgear. *il Elec J* 30:10 Ja '33

Modernization of the River Rouge power plant of the Ford motor company. T. Harvey. *il diag Gen Elec R* 36:262-8 Je '33

Tubular busbars; their deflection characteristics when applied to outdoor substations. A. M. Spruce. *il Elec R (Lond)* 112:484 Ap 7 '33

**BUSH terminal company**

Beating around the bush. P. H. Smith. *Comm & Fin* 22:269 Mr 22 '33

**BUSHINGS**

Device for pulling cylinder bushings. *diags Ry Mech Eng* 106:510-11 D '32

Fixture for assembling bushings in ends of links. A. Beusch. *diags Mach* 39:452 Mr '33

Running floating bushings successfully. G. Dempster. *diags Ry Mech Eng* 107:222-3 Je '33

**BUSHINGS, Insulating**

Ferranti high voltage bushings. *il diag Electrician* 110:49 Ja 13 '33

Insulating bushings; a 220 kV oil filled condenser bushing. W. Hüter. *diag Electrician* 110:619 My 12 '33

Riser support without cable grip. W. W. Wishard. *diags Elec W* 102:623 N 11 '33

**Manufacture**

How a magazine and hopper feed stepped up production eight times. J. E. Fenno. *diags Mach* 40:9-11 S '33

**BUSINESS**

Balancing America's pay-roll; reducing distribution's needlessly heavy cost as national overhead. C. Fast. *Barron's* 13:11 Mr 27 '33

Big bad wolf takes a licking; Chicago business men lick the depression. *il System* 62:490-1+ N '33

Birth of a state of mind. *Nation's Business* 21:64 Je '33

Business—a profession. L. D. Brandeis. 374p \$3 Hale, Cushman & Flint, 857 Boylston st, Boston '33

Business implications of recent social trends. W. J. Donald. *Management R* 22:131-5 My '33

Business principles everyone should know. A. B. Zu Tavern and A. E. Bullock. 544p Commercial textbook co, ltd, South Pasadena, Calif. '33

Business under the Recovery act. L. Valenstein and E. B. Weiss. 314p \$2.50 Whittlesey House, McGraw-Hill '33

Call for leadership. H. S. Person. *Taylor Soc Bul* 18:41-3; Discussion. I. M. Tarbell. 43-4 Ap '33

Failure of business leadership and the responsibility of the universities. W. E. Donham. *Harvard Business R* 11:418-35 Jl '33

Financial handbook. R. H. Montgomery, ed. 2d ed 1628p \$7.50 Ronald press '33

Forgotten man. E. G. Shinner. 167p \$2 Paterson pub. co, Chicago '33

Government and business. C. E. Merriam. *J of Business* 6:181-90 Jl '33

Important business developments. Published in weekly numbers of *Econostat*

Introduction to business. H. N. Gilbert and C. I. Gragg. 2d ed 404p \$3 McGraw-Hill '33

Introduction to business. C. A. Reed and V. J. Morgan. 529p, 22p Allyn and Bacon, Boston '33



**BUSINESS—Continued**

- Irrepressible conflict; business vs. finance. D. C. Coyle. 3d ed 45p pa 60c David Cushman Coyle, 101 Park av, New York '33
- Long-range planning and the future of business. D. Friday. il Civil Eng 3:134-6 Mr '33
- Ply and apply; difficulty is the absence of wanting to change our minds. C. F. Kettering. Credit & Fin Management 35:12-13+ F '33
- Repercussions of roadbuilding on business prosperity. J. L. Harrison. Eng N 110:248-50 F 23 '33
- What ails chambers of commerce? E. A. Filene. il Nation's Business 21:37-8+ O '33
- What public construction means to general business. F. S. Baldwin. Eng N 110:633-8 My 18 '33
- World of business. R. W. Babson, ed. 350p University society, inc, New York '33
- You—me and business. L. M. Waite. 46p pa 60c Coldfax publications, 113 Washington st, South Norwalk, Conn. '32

**See also**

- |                                    |                           |
|------------------------------------|---------------------------|
| Accounting                         | Industrial management     |
| Advertising                        | Industry                  |
| Applications for position          | Instalment plan           |
| Auditing                           | Insurance                 |
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| Government regulation of industry  | Telegraph in business     |
| House organs                       | Trade marks               |
| Income                             | Trust companies           |
|                                    | Trusts, Industrial        |
|                                    | Valuation                 |

**Bibliography**

- Book reviews. Published in quarterly numbers of the Journal of business of the University of Chicago
- Book reviews and new books. Published in monthly numbers of Bankers magazine
- Books for the advertising man; list of 1930 books on advertising, marketing, and related subjects. 20p Advertising federation of America, 330 W. 42d st, New York '31
- Books for the advertising man; list of 1931 books on advertising, marketing, and related subjects. 13p Advertising federation of America, 330 W. 42d st, New York '31
- Books for these times. Cleveland Pub Lib Business Information Bur Bul v4, no2:1-2 My '33
- Bookstores and business books. R. L. Smitley. Publishers' Weekly 124:1507-9 O 28 '33
- Business books in brief. Ptr Ink 162:71-2 Ja 12; 163:80-1 Ap 13; 82-3 My 25; 164:86-7 Jl 27; 82-3 S 7 '33
- Digest of business book reviews. Special Lib 24:77-9 Ap '33
- Guides to business facts and figures. 49p Special lib. assn. '33

List of business manuscripts in Baker library. 112p 50c Baker library, Harvard graduate school of business administration, Boston, Mass. '32

Paging the new books. Published in monthly numbers of Credit and financial management

Selected list of business reading. (Business literature, v 5, no 10) 2p Business branch, Public library, Newark, N. J. '33

**Opportunities**

Born of the depression; Kelp laboratories, San Diego, Calif. M. J. Walsh. il Food Ind 5:299 Ag '33

**Political aspects**

Business advisors for Department of commerce planned. Oil Paint & Drug Rep 123:18 Je 5 '33

Business' cards in the new deal. M. Edwards. il Nation's Business 21:13-15 My '33

Business in inaugural years. W. J. Nolle. Barron's 12:6 N 21 '32

Intimate letters of a Washington journalist and his New York broker. Mag of Wall St 51:20-1+, 88-9+, 142-3, 202-3, 266-7+, 322-3+, 378-9+, 476-7, 570-1+, 618-19+, 666-7+, 52:14-15+, 64-5+, 114-15+, 162-3+, 218-19, 316-17+, 624-5+; 53:20-1+ O 29 '32-Ja 21, F 18, Mr 18-Je 24, Jl 22, O 14-28 '33

Mr Roosevelt's economic platform. Nation's Business 20:17+ D '32

Recovery of business to take measure of Roosevelt regime. L. M. Lamm. Steel 92: 71-3+ Ja 2 '33

Roosevelt talked business with me. M. Edwards. il Nation's Business 20:14-16+ D '32

Watching Washington. F. Shelton. Nation's Business 21:20+ Ag; 17-19+ S; 17-19 O; 19-21 N '33

What's ahead in Washington. W. M. Kiplinger. Nation's Business 20:21-4 D '32; 21: 17-20 Ja; 17-19 F; 17-19 Mr; 17-19 Ap; 17-19 My; 19-21 Je; 17-19 Jl '33

**See also**

- |                                   |                                  |
|-----------------------------------|----------------------------------|
| Government regulation of industry | National recovery administration |
| Industry and state                |                                  |

**Small business**

About this new bird: is it an eagle or a hawk? S. Norvell. Sales Management 33: 162, 164+ Ag 15 '33

David and Goliath in manufacture. D. R. Stevens. Elec W 101:97-9 Ja 21 '33; Excerpt. Manuf Rec 102:27 F '33

Economic justification of the small machine or tool shop. F. J. Schlegel. Iron Age 131:587 Ap 13 '33

NRA and the small city. J. Kelley and P. McCrea. il Nation's Business 21:30, 32+ O '33

Size of industrial and commercial establishments in different countries, tables Int Labour R 27:839-59 Je '33

Small business and today's market; seven big advantages for the small manufacturer. A. Bradbury. Ptr Ink Mo 26:37+ F '33

Small business has its day. C. D. Poland. Nation's Business 21:51+ Mr '33

Small plant holds its own. B. Finney. Iron Age 131:499-501 Mr 30 '33

Today's midgets are tomorrow's giants. Ptr Ink 164:92 Jl 27 '33

**See also**

- Business management—Expansion problems

**BUSINESS cards**

Business card contest; German captures first and second prizes for cards. il Inland Ptr 91:31-4 S '33

**BUSINESS charts**

How to chart the course of a business. F. J. Batchelder. il System 62:447-9+ O '33

**BUSINESS combinations**

Consolidation; cooperative lease operation. H. P. Hill. Refrig W 68:10-18 Mr '33

**See also**

- Business consolidations

**BUSINESS conditions**

- Address before the Philadelphia life underwriters association. S. S. Huebner. Spectator 130:15+ Je 1 '33
- Annalist business activity index revised, monthly 1929-1932. Survey of Cur Business 13:19 O '33
- Annalist index of business activity. D. W. Ellsworth. Annalist 41:71-2 Ja 20 '33 [cont monthly]
- Appraising the autumn business outlook. J. D. C. Weldon. Mag of Wall St 52:471-2+ S 2 '33
- Appraising the business recovery. C. W. Fackler, il Burroughs Clearing House 17:3-5+ J1 '33
- Arresting the forces of deflation and destruction of values. F. M. Gordon. Trust Companies 56:95-7 Ja '33
- Banking moratorium marked low point of depression. C. Benedict. Mag of Wall St 52:9-11+ Ap 29 '33
- Business and financial conditions. Published in monthly numbers of Guaranty survey
- Business and financial situation—retrospect and outlook, with special reference to prospective tariff reduction. B. M. Anderson, jr. Chase Econ Bul 12:3-20 N 17 '32
- Business background of the year's events. B. Ostroienk. Eng N 110:143-4 F 2 '33
- Business betterment begins; industrial leaders and trade association executives give facts on current conditions. Oil Paint & Drug Rep 123:13-16B My 22 '33
- Business conditions and forecasts. Published monthly by the American management association, New York
- Business conditions; by district offices of Dun & Bradstreet, inc. Published in monthly numbers of Dun & Bradstreet
- Business indicators; charts. Published in monthly numbers of Survey of current business
- Business on a holiday. Business Week p6-7 Mr 15 '33
- Business outlook. D. W. Ellsworth. Published in weekly numbers of Annalist
- Business outlook for 1933. B. Baker. Annalist 41:69-70 Ja 20 '33
- Business prospects and business hurdles; abstract. L. D. Edie. Iron Age 130:806 N 24 '32
- Business prospects dependent on many factors; opinions of southern business men. Manuf Rec 102:14-15 Ja '33
- Business situation summarized. Published in monthly numbers of Survey of current business
- Business thermometer; a compilation of business and financial trends and indications. Published in monthly numbers of Credit and financial management
- Business this fall: good or bad? C. Hoskins. Forbes 32:11-12 S 1 '33
- Business upturn seen; answers of trade associations to questionnaire. R. D. Chapin. Oil Paint & Drug Rep 123:15-16 Ja 9 '33
- Can business maintain the pace? J. D. C. Weldon. Mag of Wall St 52:263-5+ J1 8 '33
- Comparison of 1932 and 1931. Guaranty Survey 12:2-10 D '32
- Comparison of principal data, 1929-1933; charts. Published in monthly numbers of Survey of current business
- Condition of business. Published in monthly numbers of the American bankers association journal
- Current trends and expectations in the metal-working industry. Iron Age 131:1031-8; 132:33-5 Je 29-J1 6 '33
- Dangers of inaction. F. W. Parsons. Gas Age 72:77-8+ J1 22 '33
- Economist index of business activity. Published as Economist monthly supplement beginning Oct. 21, 1933
- Econostat index of general business. Published in weekly numbers of Econostat
- Figures of the week. Published in weekly numbers of Business week
- Financial picture brightens. P. S. Kreckler. Comm & Fin 22:38-9 Ja 11 '33
- First real test of administration's price-raising program due this fall. H. E. Hansen. Annalist 42:78 J1 21 '33
- Forbes business pictograph. Published in semi-monthly numbers of Forbes
- Frank talk to salesmen about the NRA. S. Norvell. Sales Management 33:250-1 S 15 '33
- Future for business. E. C. Harwood. Barron's 13:8 Je 19; 9 J1 31 '33
- Gauging the prospect for corporate profits; the investor views the outlook in leading industries. J. C. Clifford. Mag of Wall St 51:326-8 Ja 7 '33
- General business conditions. Published in monthly numbers of National city bank
- Graphic conspectus of recent economic changes in the United States. H. E. Hansen. Annalist 42:211 Ag 18 '33
- Has business improvement reached a profitable level? C. Benedict. Mag of Wall St 52:153-6+ Je 10 '33
- Higher prices and wages reflect a steady upward business trend. Sales Management 32:574 Je 1 '33
- How can the sun affect business? L. V. Burton. Food Ind 5:107-8 Mr '33
- How merchants view the upswing. P. H. Hayward. il Nation's Business 21:28+ S '33
- I am not afraid of inflation. J. B. Mathes. Adv & Sell 21:20-1+ S 28 '33
- Index of business activity. Published in monthly numbers of Guaranty survey
- Index of new enterprise. Bradstreet's 60:1654 D 17 '32
- Industrial dial. Published in the last issue of each month as part of the Business trend section of Steel
- Inflation; an appraisal of the results of our recent monetary policy. H. P. Willis. Annalist 42:307-8+ S 8 '33
- Is business really on the upgrade? C. Hoskins. Forbes 31:15-16 Ja 1 '33
- Lookout in the foretop. T. H. Price. Published in weekly numbers of Commerce and finance
- Monthly review of credit and business conditions. Second federal reserve district. Published by Federal reserve bank, New York
- Monthly survey of business. Published by American federation of labor, Washington, D.C.
- Nation-wide collection and sales conditions. Published in monthly numbers of Credit and financial management
- NRA enters buy-now phase. Ptr Ink 164:98, 100-1 S 14 '33
- National summary of business conditions. Published in monthly numbers of Federal reserve bulletin
- 1933, and business activity in 1932. Business Week p1-2 D 28 '32
- 1933 should mark the low point of depression. E. A. Barnes. Mag of Wall St Manual p5-6 Mr 6 '33
- Outlook for 1933. L. D. Edie; M. C. Rorty. Am Statis Assn J 28:sup207-10 Mr '33
- Outlook for recovery. L. P. Ayres. Trust Companies 57:130 Ag '33
- Position of leading industries in relation to their business policies. W. W. Danforth. Annalist 41:86-8+ Ja 20 '33
- Pulse of business. Published in weekly numbers of Econostat
- Raw material prices and business conditions. M. T. Copeland. Harvard Univ Graduate School of Business Administration Bur Business Research Studies 2:1-56 '33
- Recent economic changes; a detailed comparison with the 1921 recovery. Annalist 42:371 S 22 '33
- Reorganized banking—and business recovery. J. D. C. Weldon. Mag of Wall St 51:615-17 Ap 1 '33
- Retrospective reflections. S. Bell. Comm & Fin 22:37-8 Ja 11 '33
- Review of the month. Published in monthly numbers of Federal reserve bulletin
- So you're handing us chaos; younger generation starts with a new viewpoint. A. Bradbury. Ptr Ink 161:3-4+ D 15 '32
- Statistical position and outlook in leading industries and commodities. A. T. Shurick; W. W. Case. Annalist 42:508-10 O 20 '33
- Survey of industry, fourth quarter 1932. Q. Adams. Dun's R 41:6-9+ Ja 21 '33
- Survey of industry, first quarter, 1933. Dun & Bradstreet 41:6-7 Ap '33



**BUSINESS conditions—Continued**

- Survey of industry, second quarter, 1933. Dun & Bradstreet 41:8-9 J1 '33  
 Survey of industry, third quarter, 1933. Dun & Bradstreet 41:5-7 O '33  
 Taking the pulse of business; C. G. Wyckoff barometer of business trends. Published in bi-weekly numbers of Magazine of Wall Street  
 Territories where sales ought to be good. Ptd Salesmanship 61:331-3 Ag '33  
 This year, no summer slump? Forbes 31:12+ Je 1 '33  
 Weekly service. Published by Bankers economic service, 200 Hudson st, New York. \$10 a year  
 What has happened since March. L. P. Ayres. Barron's 13:7 S 18 '33  
 What's ahead in 1933? a symposium by 15 business leaders. Management Methods 62:7-9+ Ja '33  
 Why business should get better; six factors which will affect purchasing power. W. Young. Ptr Ink 164:102+ S 14 '33  
 Will purchasing power sustain business activity? J. D. C. Weldon. Mag of Wall St 52:314-15+ J1 22 '33

*See also*

- |                      |                   |
|----------------------|-------------------|
| Business cycles      | Index numbers     |
| Business depression  | (economics)       |
| Business failures    | Market statistics |
| Business forecasting | Prices            |
| Economic conditions  |                   |

**BUSINESS consolidations**

- How General Foods built up mass selling plan; protected quality, improved packages, scientific pricing and continued advertising. C. Francis. Ptr Ink 162:25-8 Mr 9 '33  
 Today's path to profits—tested, planned selling; General foods corp. C. Francis. Il Management Methods 62:163-5+ Ap '33  
 When the merger is favorite of economic gods. W. J. Donald. Ptr Ink 164:37+ J1 27 '33

*See also*

- |                         |                                    |
|-------------------------|------------------------------------|
| Bank consolidations     | Sales policies—Combination selling |
| Railroads—Consolidation |                                    |

**Accounting**

- Consolidated return. J. W. Jones. J Account 55:255-71 Ap '33

**BUSINESS cycles**

- Balancing of economic forces; second progress report to American engineering council. Mech Eng 55:211-24 Ap '33; Same. Elec Eng 52:293-303 My '33  
 Booms and depressions, some first principles. I. Fisher. 258p [bibliog p244-52] Adelphi co, New York '32  
 British railways in boom and depression; an essay in trade fluctuations and their effects, 1878-1930. C. D. Campbell. 125p P. S. King & son, Ltd, London '32  
 Business cycles and the next five years. P. O. Crawford. Management Methods 62:251-3+ Je '33  
 Can new construction restore prosperity? E. C. Harwood. Il Mech Eng 54:837-40 D '32  
 Cycles in real estate activity: Los Angeles county. L. A. Maverick. J Land & Pub Util Econ 9:52-6 F '33  
 Economic cycles and crises. W. C. Schluter. 378p \$2.50 Sears pub. co, New York '33  
 Monetary theory and the trade cycle. F. A. Hayek. 244p \$2 Harcourt '33  
 Mortgage debts and business cycles. Comm & Fin 22:145-6 F 8 '33  
 New construction can restore prosperity; discussion of article by E. C. Harwood. D. C. Coyle. Mech Eng 55:111-12 F '33  
 Pattern of recovery from the depressions of the seventies and nineties. J. A. Hopkins. Annalist 42:275-6 S 1 '33  
 Problem of purchasing power. R. E. Flanders. Il Mech Eng 55:595-602 O '33  
 Rhythmic variations in industry; comparative trends of foods, textiles, building construction, and automobiles. T. M. McNiece. front Il Mech Eng 55:659-66 N '33  
 Seasonal variations in industry and trade. S. S. Kuznets. 455p National bur. of economic research, New York '33

- Thrift cycle; statistical evidence in defense of saving. E. C. Harwood. Am Bankers Assn J 25:20+ Ja '33  
 Trade cycles. A. F. Enström. Engineer 156:41 J1 14 '33  
 Value theory and business cycles. H. L. McCracken. 270p \$4 Falcon press, inc, 330 W. 42d st, New York '33  
 What the machine has done to us. W. S. Giele. Iron Age 131:305-7, 354-6+ F 23-Mr 2 '33

*See also*

- |                      |                           |
|----------------------|---------------------------|
| Building cycles      | Stabilization in industry |
| Business depression  | try                       |
| Business forecasting |                           |
- BUSINESS depression**  
 Address on business conditions. E. J. Cornish. Oil Paint & Drug Rep Extra ed 122:13 N 29 '32  
 Agenda for restoration of confidence and stability. E. W. Kemmerer. Trust Companies 56:417-22 Ap '33  
 Appraisal of American industry; international peace, coordination and control of industry, and debt cancellation. T. F. Woodlock. Management R 22:99-103 Ap '33  
 As I see it. C. Benedict. Mag of Wall St 51:609+ Ap 1 '33  
 Balancing of economic forces; second progress report to American engineering council. Mech Eng 55:211-24, 295-304 Ap-My '33; Same (pt. 1). Elec Eng 52:293-303 My '33; Discussion. L. P. Alford. Mech Eng 55:345-6 Je '33  
 Camels—a hard times product that didn't have a chance. Sales Management 32:18+ Ja 1 '33  
 Can new construction restore prosperity? E. C. Harwood. Il Mech Eng 54:837-40 D '32  
 Captains of industry need to supply collective leadership. L. D. Edie. Iron Age 131:137-8 Ja 19 '33  
 Causes of the present depression and possible remedies. W. W. Aldrich. 36p Chase national bank, New York '33; Excerpts. Bankers M 126:339-44 Ap '33  
 Collapse or cycle? P. H. Douglas. 23p pa 25c American library assn, Chicago '33  
 Conditions better than public thinks; testimony before Senate committee. D. F. Houston. East Underw 34:1+ F 24 '33  
 Confessions of a business man. Mag of Wall St 51:605 Ap 1 '33  
 Depression and mining. R. E. Phelan. Can Min J 54:313-17 Ag '33  
 Depression and the water works. Pub Works 64:30 S '33  
 Depressions clear away—and build up. W. H. Hazard. East Underw 34:45+ pt 2 S 22 '33  
 Did gold cause the depression? Nat City Bank p118-22 Ag '33  
 Economic and social effects of urbanization. A. L. Pollard. Mech Eng 55:27-31+ Ja '33  
 Economics in the depression. J. P. Hogan and others. Il Civil Eng 2:731-9 D '32  
 Economists on the crisis; a survey of current literature. J. B. Condliffe. Lib J 58:14-17 Ja 1 '33  
 Effects of recent events on financial statements. W. W. Nissley. J Account 55:272-90 Ap '33  
 Engineers and progress. B. Gherardi. Elec Eng 52:257-8 Ap '33  
 La gestion des entreprises de la crise à la reprise. P. Maquenne. Chimie & Ind 29:215-23 Ja '33  
 Has the turning point been passed? G. Paish. Barron's 13:9 N 6 '33  
 Higher material costs and wages put new emphasis on cost-reducing methods. J. Geschelein. Automotive Ind 69:549-50 N 4 '33  
 Huang Cheng; political measures taken to relieve a depression in ancient China. Fortune 8:16 S '33; Same. Bankers M 127:245-6 S '33  
 Impact of the depression on business activity and real income in Minnesota. R. S. Vaile, ed. Minnesota U Studies in Economics and Business 8:5-59 '33 (pa 75c)  
 Individualism amuck. E. S. Martin. Mech Eng 55:42 Ja '33  
 International aspects of depression. Guaranty Survey 12:11-16 D '32

**BUSINESS depression—Continued**

- International financial relationships and the world depression. F. W. Pethick-Lawrence. Assn of Sp Lib & Inf Bur Proc 1932:91-5
- Jobs to give purchasing power only way to prosperity. J. B. Wootan. Pub Serv Management 54:55-6 F '33
- Machinery industry at grips with the business cycle. W. H. Rastall. Mech Eng 55:10-12+ Ja '33
- Mechanics of recovery. H. C. Dickinson. S A E J 32:45-53+ F '33; Excerpt. Automotive Ind 68:129-30 F 4 '33
- Meeting problems of present day America; statement to Senate finance committee. E. D. Duffield. East Underw 34:10-11 F 24 '33
- Migration and depression: a note on a neglected point in economic history. E. P. Neale. Int Labour R 26:813-25 D '32
- Nation-wide needs for legitimate credit by industry. R. A. Young. Management R 22:35-43 F '33
- New construction can restore prosperity; discussion of article by E. C. Harwood. D. C. Coyle. Mech Eng 55:111-12 F '33
- New deal is a policy of give and take. W. Lippmann. Ptr Ink 165:90-1 O 26 '33
- Observations concerning our economic depression. R. W. Horne. Boston Soc C E J 20:51-60 Ap '33
- Our industry's future. G. B. Cortelyou. N E L A Bul 19:707-9 D '32
- Pattern of recovery from the depressions of the seventies and nineties. J. A. Hopkins. Annalist 42:275-6 S 1 '33
- Permanently curing depressions. M. H. Raymond. 128p \$2 Baker and Taylor co, New York '33
- Physical volume of production of gold, silver, and other commodities. G. F. Warren and F. A. Pearson. Am Statis Assn J 28:sup 113-17 Mr '33
- Planning and budgeting during the depression. F. Klein. Iron Age 131:130-1 Ja 19 '33
- Price cutting, child of fear, mother of panic. E. T. Weir. Iron Age 131:326 F 23 '33
- Problem of economic balance. S. H. Slichter. Mech Eng 55:95-100 F '33; Discussion. 55:455-7 JI '33
- Readjustment period; how it is affecting our banks. W. B. Cudlip. Bankers M 126:323-38 Ap '33
- The remedy. H. C. Dickinson. S A E J 32:15-16 Ap '33
- Road to business recovery. G. V. Cox. W Soc E J 38:260-5; Discussion. 265-6 O '33
- Should banks take the blame? R. B. Heflbower. Bankers M 127:18-22 JI '33
- Sickness and the economic depression. G. St. J. Perrott. S. D. Collins and E. Sydenstricker. Pub Health Rep 48:1251-64 O 13 '33
- Social change; otherwise the present depression runs true to form. K. C. Hogate. Barron's 12:6 N 23 '32
- Sound business policies essential to security; abstracts. H. I. Harriman. Weekly Underw 127:1097 D 10 '32; East Underw 33:11 D 16 '32
- This is an economic war; we must co-operate with Britain. D. H. Rundie. Mag of Wall St 51:588-9 Mr 18 '33
- Training the sales telescope on tomorrow's markets. J. H. Van Deventer. Iron Age 131:573-5+ Ap 13 '33
- Way out. E. S. Chase. N E Water Works Assn J 47:207-8 Je '33
- Where are we? business recovery depends on reduction of government costs. H. Bancroft. Barron's 12:4 N 21 '32
- Which way business? R. E. Flanders. Am Mach 77:562-4 Ag 30 '33
- Why canal boat prosperity today? C. B. Kuhlmann. Il Credit & Fin Management 35:10-12+ N '33
- World recovery and economic peace. T. W. Lamont. Barron's 12:21+ N 21 '32; Same. Credit & Fin Management 35:8-9+ Ja '33
- Write down the debts of inflation. R. C. Rowe. Can Min J 54:142-4 Ap '33
- Years of the locust (America, 1929-1932). G. Seldes. 355p \$3 Little, Brown, and co, Boston '33
- See also*
- |                     |                           |
|---------------------|---------------------------|
| Business conditions | Panics                    |
| Business cycles     | Stabilization in industry |
| Business failures   | Unemployment              |
| Business management |                           |
- Bibliography**
- Literature of the crisis. Economist 117:sup1-2 S 9 '33
- BUSINESS districts**
- El Saquero, a shopping centre for Westwood Village, Los Angeles; views. Architecture 68:233-6 O '33
- See also*
- Industrial districts
- BUSINESS education**
- Case method in undergraduate teaching. E. H. Schell. J Eng Educ 23:539-42 Mr '33
- Commercial education in the high school. F. G. Nichols. 514p \$3 Appleton-Century '33
- Economics in engineering education. W. D. Ennis. J Eng Educ 23:543-9 Mr '33
- Education for commerce; addresses before meeting of the British association for commercial education. Gas J (Lond) 202:388 My 17 '33
- Introduction to business. J. G. Kirk, H. B. Buckley and M. A. Waesche. 250p John C. Winston co, Philadelphia '33
- Office practice, an integrated laboratory project. R. A. Scholl, A. Stern and E. J. McNamara. 2v Gregg '33
- BUSINESS ethics**
- Build men or get out. A. G. Ruthven. S A E J 33:sup13-15 Ag '33
- Code of ethics. W. Zinsser. Oil Paint & Drug Rep Extra ed 122:25 N 29 '32
- Ethics—a code for icemen. B. C. Brown. Refriger W 68:23-5 Mr '33
- Ethics and modern business. H. S. Dennison. 68p \$1 Houghton '32
- Facing the facts. M. Hall. 3d ed 151p David McKay co, Philadelphia '32
- How to fritter away your money; government bureau expenses are criticized, yet private business losses go on unhindered. T. S. Harding. Il Sci Am 149:53-5 Ag '33
- It's better to tell the truth about corporations. Ptr Ink 162:49-50 Mr 23 '33
- Lashes "tear-down" competition in oil burner field. A. K. Perego. Il Dom Eng 142:55-6+ JI '33
- Mortgages and morale. H. O. Frey. Bankers M 127:271-2 S '33
- Public utility code enunciated. C. W. Kellogg. Elec W 101:259 F 25 '33
- Rackets in business. L. R. Taylor. Sheet Metal Worker 24:249 Ag '33
- Some problems in sales ethics. W. H. Gardner. Nation's Business 21:28 Je '33
- Swiping speculative ideas; printer-lithographer problems. R. K. Leavitt. Adv & Sell 21:30+ My 11 '33
- Worm's-eye view of business. W. G. Stevens. 148p \$1 Meador pub. co, 470 Atlantic av, Boston '33
- See also*
- |                         |                              |
|-------------------------|------------------------------|
| Accounting ethics       | Speculation                  |
| Advertising, Fraudulent | Substitution (merchandizing) |
| Advertising ethics      | Trade practices              |
| Competition, Unfair     | Trade relations              |
| Discount, Trade         | Trade secrets                |
| Misbranding             |                              |
- BUSINESS failures**
- Business and personal failure and readjustment in Chicago. J. H. Cover. maps J of Business 6:1-106 pt 2 JI '33
- Commercial failures. S. I. Miller. Am Statis Assn J 28:sup140-5; Discussion. W. H. Steiner. 145-6 Mr '33
- Commercial failures in Canada, monthly, 1922-1933. Survey of Cur Business 13:20 O '33
- Failure record of 1932. Dun's R 41:13 Ja 7 '33
- Failures slacken; late months of 1932 reversed 3-year trend. Business Week p4 Ja 25 '33



**BUSINESS failures—Continued**

- First precept of business success—know thy own business. *Econostat* 1:7 Je 3 '33
- Great improvement in failure record for the half year. *Dun & Bradstreet* 41:22-5 Jl '33
- Insolvency analyses of 1932 records. *Dun's R* 41:10-13 Ja 21 '33
- Management—an intangible asset. E. B. Moran. *Bradstreet's* 61:165-9 Ja 28 '33
- Mortality of business firms in Minneapolis-St Paul, and Duluth, 1926-1930. E. A. Heilman. *Minnesota U Employment Stabilization Research Institute Bul* v 2, no 1:1-30 '33; *Abstract. Management R* 22:235-6 Ag '33
- Record of Canadian insolvencies in 1932. *Dun's R* 41:7 F 4 '33
- Relation between wholesale prices and commercial failures; abstract. *Management R* 22:274 S '33
- Statistics for 1932 and previous years. *Bradstreet's* 61:170-2 Ja 28 '33
- Weekly, monthly and quarterly statistics. Published in *Dun & Bradstreet*
- Why so many retail stores are failing. P. J. Fitzpatrick. *Credit Executive* [New Haven, Conn.] 27:14-22 Je '33

*See also*

- Bank failures                      Corporations—Finance  
Bankruptcy  
Business depression

**BUSINESS fallacies**

- Popular financial delusions. R. L. Smitley. 338p \$3 Roland Swain co, Philadelphia '33

**BUSINESS forecasting**

- Annalist business index again sharply higher; description of the revised index. *Annalist* 42:213- Ag 18 '33
- Business curve based on interest rates and prices; an adaptation of the quantity theory of money. O. M. Smart. *Am Statis Assn J* 28:76-81 Mr '33
- Business cycles and the next five years. P. O. Crawford. *Management Methods* 62:251-3+ Je '33
- Business forecasting. J. H. Richardson. 98p [biblog p91-2] Pitman '31
- Business forecasting and its practical application. W. Wallace. 3d ed 128p \$2.25 Pitman '32
- Construction volume—is it a forecast of general business? T. F. McSweeney. *Eng N* 110: 503-4 Ap 20 '33
- Future for business. E. C. Harwood. *Barron's* 13:8 Je 19 '33
- Major trend barometers. Published by Dunningan's forecast reports, 111 Sutter st, San Francisco, Calif.
- New York Times weekly business index; details of May 14, 1933 revision. *Annalist* 41: 692, 698 My 19 '33
- Oldest index continually compiled in the United States; *Bradstreet's* commodity price index. F. Greene. *Bradstreet's* 61:121-2 Ja 28 '33
- Order speaks; quantity, price, and amount method for analyzing business conditions. W. Hutchinson. *Credit & Fin Management* 35: 10-11 Mr '33
- Preparation of a forecast at a manufacturing concern; Dennison manufacturing company; abstract. C. E. Jones. *Management R* 22:44-5 F '33
- Psychology and recovery. J. S. Lawrence. *Bradstreet's* 60:1520-1+ N 19 '32
- Recent and current divergences between the weekly and monthly business indices. D. W. Ellsworth. *Annalist* 40:804 D 16 '32
- Trend of the utilities' growth is upward—if. R. W. Babson. *Pub Util* 11:33-4 Ja 5 '33
- See also*
- Budget, Business                      Production and sales,  
Electric plants (central                      Coordination of  
stations)—Load                      Sales estimates  
estimates
- BUSINESS information**
- Banks as sources of economic news; bank publications. *il Am Bankers Assn J* 26:64-7 Jl '33
- Interpretation of trust investment factors; checking up on sources of data and information. W. P. Davis. *Trust Companies* 55: 557-62 N '32

Trends in business reading in 1932. (Business literature, v 5, no 5) 2p *Business branch, Public library, Newark, N. J.* '33

**BUSINESS insurance.** See Insurance, Business

**BUSINESS law.** See Commercial law

**BUSINESS libraries**

Publisher looks at special libraries. O. Tead. *Special Lib* 24:175-8 O '33

*See also*

Insurance libraries

**BUSINESS management**

Applied scientific management. K. Hathaway. *Taylor Soc Bul* 17:156-61, 229-34; 18:6-8 O '32-F '33

Born during the depression—our business has thrived; Norge corporation. H. E. Blood. *il System and Management Methods* 62:339-41+ Ag '33

Business economics and changes in German business conditions. E. Schmalenbach. *Harvard Business R* 11:490-7 Jl '33

Can stuffed-shirt presidents survive under the new deal? S. Norvell. *Sales Management* 33:61-2+ Jl 15 '33

Cashing in on young ideas; Junior executive board, McCormick & co, Baltimore. J. True. *il Nation's Business* 21:48+ Je '33

Do salaried jobs hamstring company executives? G. James. *Sales Management* 31:463-4+ D 1 '32

Dolan and Isler have set records every month for fourteen years. L. M. Hughes. *il Sales Management* 33:30-1+ Jl 1 '33

Don't blame the depression! F. B. Calhoun. *Factory & Ind Management* 84:16-18 Ja '33

Face the future squarely. J. L. Nelson. *System and Management Methods* 62:312-14 Jl '33

Figures tell the story; Adjustment bureau of the Detroit association of credit men. L. E. Deeley. *Credit & Fin Management* 35:21+ Ja '33

Five ways of running a business; General Motors' department of consumer research. *il Ptr Ink* 164:36 Jl 13 '33

Football; its business and management lessons. A. R. MacDonald. *il System* 62:435-7 O '33

For the leaders of tomorrow's new born industries. A. Hirose. *il Adv & Sell* 21:13-15+ My 11 '33

Forget your jitters—and have a plan! twenty-six constructive suggestions. W. J. Donald. *Forbes* 31:8-9 Mr 15 '33

Founders' punch. R. R. Updegraff. *il Adv & Sell* 20:13-14+ F 16 '33

Gegenwartsfragen der kaufmännischen betriebswirtschaft. H. Dinkelbach. *Stahl & Eisen* 52:1144-53 N 24 '32; Discussion. 52: 1239-42 D 15 '32

Go right ahead but go ahead right! J. M. Hancock. *Forbes* 31:5 Ap 1 '33

How to build business by building confidence. L. C. Walker and others. *Forbes* 31:8-9 Mr 1 '33

Ideal management. S. Norvell. *Sales Management* 32:510-11+ My 15 '33

Individual company's responsibilities under the codes. R. H. Rositzke. *Management R* 22:323-32 N '33

Industrial engineer today; how he can help management. H. V. Coes. *Taylor Soc Bul* 18: 16-19 F '33

Ingenious advertisers, these; ways of using their heads when bank holiday broke. *Ptr Ink* 162:25-8+ Mr 16 '33

Introduction to business management; a revised edition of "An introduction to business". H. H. Maynard, W. C. Weidler and K. D. Reyer. 558p Ronald press '33

Let competitors build your 1933 profits! comparing financial statements. R. H. Rositzke. *Forbes* 31:10-11 Ap 1 '33

Management—an intangible asset. E. B. Moran. *Bradstreet's* 61:165-9 Ja 28 '33

Management essentials for recovery. C. M. Bigelow. *il Mech Eng* 54:749-52 N '32; Discussion. 55:263-5 Ap '33

Management is back at its desk with sleeves rolled up. H. E. Blood. *Refrig Eng* 25:228-9 Ap '33

**BUSINESS management—Continued**

- Manufacturing of customers is biggest production problem now. J. H. Knapp. *Ptr Ink* Mo 27:13-14+ J1 '33
- Marketing executives plan steps toward business recovery; American marketing society convention. *Sales Management* 32:74+ Ja 15 '33
- More sales for your money; Miller, Franklin & company. C. H. Hatch. *Ptr Ink* 164:49+ Ag 17 '33
- National association of hosiery and underwear manufacturers executive conference, New York, Oct. 26-27. *Textile World* 82:958-9 N '32
- Necessity for courtesy. A. Bradbury. *Ptr Ink* 163:70-2+ My 25 '33
- Plant overexpansion as a logical result of the industrial recovery act. W. W. Hay. *Annalist* 42:115-16 J1 28 '33
- Present tendencies in management; abstract. H. A. Hopf. *Management* R 22:207-8 J1 '33
- Profit engineering. C. E. Knoepfel. 326p '33 McGraw-Hill '33
- Profits first! D. A. Weir. *Credit & Fin Management* 35:10-11+ Je '33
- Profits on current business. L. W. W. Morrow. *Elec W* 101:316-20 Mr 11 '33; *Excerpt. Am Mach* 77:211-12 Mr 29 '33
- Ten business problems of contracting. J. L. Harrison. *Eng N* 111:73-5, 129-32, 192-4, 254-6, 407-9, 472-4, 531-5 J1 20, Ag 3, 17, 31, O 5, 19, N 2 '33
- Ten guideposts to profits under higher wages and shorter hours. C. R. Hatch. *il System* 62:487-9, 524 N '33
- To the boss: 25 checking points on reconstruction selling. M. L. Wilson. *Adv & Sell* 21:15+ Ag 17 '33
- Today's midgets are tomorrow's giants. *Ptr Ink* 164:92 J1 27 '33
- What kind of competitor are you? L. J. Dougherty. *Nation's Business* 21:46+ Ap '33
- What's behind the plant account; from the investor's viewpoint. W. W. Hay. *Mag of Wall St* 51:473-4+ F 18 '33
- Why January 1933 was the best January we ever had; Abbott laboratories. J. F. Stiles, Jr. *il Management Methods* 62:111-13+ Mr '33
- Why Jewel Tea earned a million last year. M. H. Karker. *il Management Methods* 62:209-11+ My '33

**See also**

- |                                    |                               |
|------------------------------------|-------------------------------|
| Accounting                         | Ideas in business             |
| Accounting departments             | Industrial management         |
| Advertising departments            | Instalment plan               |
| Advertising managers               | Insurance, Business           |
| Auditing                           | Inventories                   |
| Banks and banking—                 | Jobbers                       |
| Service—Management aids            | Mail order business           |
| Bookkeeping                        | Marketing                     |
| Branch houses                      | Merchandizing                 |
| Budget, Business                   | Office management             |
| Business forecasting               | Order blanks                  |
| Collecting of accounts             | Orders                        |
| Competition                        | Organization in industry      |
| Complaints                         | Overhead expense              |
| Controllers                        | Planning                      |
| Corporations                       | Production and sales,         |
| Courtesy                           | Coordination of               |
| Credit                             | Profit                        |
| Credit departments                 | Public relations              |
| Delivery of goods                  | Purchasing                    |
| Department stores—                 | Purchasing departments        |
| Management                         | Retail trade—Store management |
| Efficiency, Industrial             | Sales departments             |
| Employment management              | Sales management              |
| Executives                         | Sales policies                |
| Factory management                 | Show windows                  |
| Files and filing (documents, etc.) | Side lines                    |
| Hotels—Management                  | Success                       |
|                                    | Trade marks                   |

**Expansion problems**

- Effect of the depression on multiplant manufacturing organizations. T. E. Thompson. *Am Statist Assn J* 28:sup75-80; Discussion. G. J. Lawrence. 81-3 Mr '33

**BUSINESS men**

- Democrats in big business. *il Fortune* 7:16-21+ Ja '33
- Politician looks at business men in public office. R. J. Alderdice. *Pub Serv Management* 54:28-9 Ja '33; Discussion. C. J. Crandon. 54:59-61 F '33
- What's ahead in 1933? a symposium by 15 business leaders; with portraits. *Management Methods* 62:7-9+ Ja '33
- Why business men fall down in politics. A. J. Cermak. *il Nation's Business* 21:24-7 Ja '33

**BUSINESS periodicals**

- Advertising to business under the new deal. D. Taylor. *Ptr Ink* 165:67-9 O 26 '33
- Bacon's publicity manual. 88p \$3 R. H. Bacon & co, Chicago '33
- Business magazines classified by subject. M. C. Manley, comp. 31p pa \$1 Public library, Newark, N.J. '33
- Classified list of commercial periodicals. Leeds Pub Lib Comm & Tech Lib Bul New Ser 50:1-8 O '33
- Editorial covenant; Bradstreet's weekly. Bradstreet's 60:1744-6 D 31 '32
- Trends in business reading in 1932. (Business literature. v 5, no 5) 2p Business branch, Public library, Newark, N. J. '33
- Use of business periodicals. G. H. Elliott. *Special Lib* 24:9-11 Ja '33

**See also**

- |                            |                               |
|----------------------------|-------------------------------|
| Associated business papers | Banks and banking—Periodicals |
|                            | Trade journals                |

**BUSINESS research**

- Problems confronting domestic business; extract from annual report of Bureau of foreign and domestic commerce. F. M. Feiker. *Paper Tr J* 95:31-2 D 29 '32

**See also**

- Advertising research  
Market research  
Market surveys

**BUSINESS schools and colleges****Libraries**

- Questionnaire submitted to libraries of schools of business, by the Lippincott library, 16p University of Pennsylvania, Philadelphia '33

**BUSINESS statistics**

- Business editors ask government to maintain statistical service. *Sales Management* 32:529 My 15 '33
- Business statistics. Published in weekly numbers of *Annalist*
- Financial, industrial, and commercial statistics. Published in monthly numbers of Federal reserve bulletin
- For intelligent comparisons. *Management Methods* 62:10-11 Ja '33
- Important business statistics. Published in weekly numbers of *Econostat*
- Industrial production and trade; the record of physical volume of business in the United States, 1919-33. W. M. Persons. *Barron's* 13:18 My 15 '33
- Plague of curves. P. T. Cherington. *il Adv & Sell* 20:16-17+ Mr 2 '33
- Problems met by companies that instruct their employees in statistical methodology. T. H. Brown. *Am Statist Assn J* 28:sup10-14 Mr '33
- Statistical record of business: monthly, 1919 to March, 1933; chart. W. M. Persons. *Barron's* 13:19 My 22 '33
- Statistical record of commerce and finance. Published in monthly numbers of *Dun & Bradstreet*
- Statistical record of 1932. *Barron's* 13:20 Ja 2 '33

**See also**

- |                       |                           |
|-----------------------|---------------------------|
| Business charts       | Index numbers (economics) |
| Business forecasting  | Market statistics         |
| Commercial statistics | Sales statistics          |

**BUTADIENE**

- Acetylene polymers and their derivatives; dichloro-2,3-butadiene-1,3 and trichloro-1,2,3-butadiene-1,3. G. J. Berchet and W. H. Carothers. *Am Chem Soc J* 55:2004-8 My '33



**BUTADIENE—Continued**

Acetylene polymers and their derivatives; halogen-4-butadienes-1,2; the mechanism of 1,4-addition and of  $\alpha,\gamma$ -rearrangement. W. H. Carothers and G. J. Berchet. *Am Chem Soc J* 55:2807-13 J1 '33

Acetylene polymers and their derivatives; the preparation of orthoprenes by the action of Grignard reagents on chloro-4-butadiene-1, 2. W. H. Carothers and G. J. Berchet. *Am Chem Soc J* 55:2813-17 J1 '33

Action of radon on some unsaturated hydrocarbons; vinylacetylene and butadiene. G. B. Heisig. *bibliog Am Chem Soc J* 55:2304-11 Je '33

**BUTALDEHYDE.** See Butyraldehyde

**BUTANE**

Bright annealing and normalizing in controlled-atmosphere electric furnaces. R. R. La Pelle and C. H. Carpenter. *il Iron Age* 132:28-31+ S 28 '33

Butane-air mixing at A.G.A. testing laboratory. *diag Am Gas Assn Mo* 15:203-4 My '33

Butane as a fuel for the mining and metallurgical industry. R. Gahl. *Eng & Min J* 133: 638-9 D '32

Butane serving as fuel in California rail coach. *Oil & Gas J* 32:33 Je 1 '33

Corrosion test for liquid butane. F. M. Clothier, jr. *diag Nat Pet N* 25:42 Ag 23 '33

La distribution en France du butane liquéfié. *diag Génie Civil* 101:586-7 D 10 '32

Equilibrium dehydrogenation of ethane, propane, and the butanes. F. E. Frey and W. F. Huppke. *bibliog diag Ind & Eng Chem* 25:54-9 Ja '33

Handbook of butane-propane gases. G. H. Finley, ed. 279p [bibliog p267-73] \$5 Western gas, 124 West Fourth st, Los Angeles '32

Ignition of gases; ignition by a heated surface; (a) mixtures of ethane, propane, or butane with air; (b) mixtures of ethylene, propylene, or butylene with air. C. A. Naylor and R. V. Wheeler. *Chem Soc J* p1240-7 S '33

New fuel for rail motor cars. *il Ry Age* 94: 896 Je 24 '33

**BUTANOL.** See Butyl alcohol

**BUTANONE**

Condensation of 2-butanone with normal aliphatic aldehydes. S. G. Powell, H. C. Murray and M. M. Baldwin. *Am Chem Soc J* 55:1153-4 Mr '33

**BUTCHER shops**

Hygienic butcher's shop. *Science* 76:sup10 D 30 '32

**BUTCHERS' wrapping paper.** See Wrapping paper

**BUTENE**

Catalytic vapor-phase hydration of 2-butene under high pressures. L. F. Marek and R. K. Flege. *il diag Ind & Eng Chem* 24:1428-31 D '32

Preparation of pure 1-butene and isobutene. H. Pines. *Am Chem Soc J* 55:3892-3 S '33

**BUTLER, Ralph Starr**

Advertising manager. R. K. Leavitt. *Adv & Sell* 21:22-3+ J1 6 '33

**BUTTER**

Butter—a world problem. G. Marples. *Comm & Fin* 22:397 My 3 '33

Butter and eggs; prices are rising. *Business Week* p10 D 7 '32

Colour and vitamin-A activity of butter as affected by the breed of the cow; abstract. S. K. Kon and R. G. Booth. *Soc Chem Ind J (Chem & Ind)* 52:844 O 20 '33

Huge stocks of butter pile up; the government will buy some of it, and may cut the tax. *Business Week* p9-10 O 21 '33

Some factors affecting supply and price of butter. R. S. McBride. *Food Ind* 4:406-9 D '32

Trade thinks pegging the butter market with government money helps packers, not farmers. *Business Week* p19 S 30 '33

See also

Cacao butter

**Statistics**

Apparent consumption of creamery butter, monthly, 1917-1932. Survey of Cur Business 13:19 Je '33

**BUTTER fat**

New variable factor in butter fat; abstract. R. G. Booth and others. *Soc Chem Ind J (Chem & Ind)* 52:270 Mr 24 '33

**BUTTONS, Lapel**

Large uses of steel in small ways; lapel buttons and clips. *il Steel* 91:34 N 28 '32

**BUTYL acetate**

Surface tension studies with *n*-butyl acetate. E. R. Washburn and C. H. Shildneck. *Am Chem Soc J* 55:2354-7 Je '33

**BUTYLACETIC acid.** See Caproic acid

**BUTYL alcohol**

Azeotropic mixture of secondary butyl alcohol and secondary butyl bromide. D. F. Houston. *Am Chem Soc J* 55:4131-2 O '33

Butyl alcohol patent upheld by high court. *Oil Paint & Drug Rep* 123:16 Mr 13 '33

Butyric acid and butyl alcohol fermentation of hemicellulose- and starch-rich materials. S. A. Waksman and D. Kirsh. *bibliog Ind & Eng Chem* 25:1036-41 S '33

Catalytic vapor-phase hydration of 2-butene under high pressures. L. F. Marek and R. K. Flege. *il diag Ind & Eng Chem* 24:1428-31 D '32

Fusion curves for the systems ammonia-propyl alcohols and ammonia-butyl alcohols. H. P. Cady and E. A. Jones. *bibliog diags J Phys Chem* 37:303-20 Mr '33

Ternary systems: water, tertiary butanol and salts at 25°. P. M. Ginnings, E. Herring and B. Webb. *Am Chem Soc J* 55:875-8 Mr '33

Tertiary aliphatic alcohols and chlorides containing normal butyl groups. F. C. Whitmore and H. M. Woodburn. *Am Chem Soc J* 55:361-5 Ja '33

**BUTYL aldehyde.** See Butyraldehyde

**BUTYL aniline**

Preparation of alkylnilines containing tertiary alkyl groups. W. J. Hickinbottom. *Chem Soc J* p946-51 Ag '33

**BUTYL bromide**

Azeotropic mixture of secondary butyl alcohol and secondary butyl bromide. D. F. Houston. *Am Chem Soc J* 55:4131-2 O '33

Reaction of organic halides with piperidine; cyclohexyl bromide and the butyl bromides. W. V. Drake and S. M. McElvain. *Am Chem Soc J* 55:1155-8 Mr '33

**BUTYLCARBINOL**

Dehydration of tertiary alcohols containing a neopentyl system; methylisopropyl-*tert*-butylcarbinol, methyl-di-*tert*-butylcarbinol, and methylethyleneopentylcarbinol. F. C. Whitmore and K. C. Laughlin. *Am Chem Soc J* 55:3732-8 S '33

**BUTYL carbonyl group**

Influence of poles and polar linkings on the course pursued by elimination reactions; decomposition of quaternary ammonium hydroxides containing the *tert*-butylcarbonyl group. C. K. Ingold and C. S. Patel. *Chem Soc J* p67-8 Ja '33

**BUTYL chloride**

Microfractionating column for liquids having low heat of vaporization. P. E. Weston. *diag Ind & Eng Chem Anal* ed 5:179-80 My 15 '33

Vapor pressure of normal butyl chloride. C. W. Lenth. *Am Chem Soc J* 55:3283 Ag '33

**BUTYL ethers**

Alpha substituted ethyl *n*-butyl ethers. H. R. Henze and J. T. Murchison. *Am Chem Soc J* 55:4255-9 O '33

**BUTYL mercaptan**

Studies in dielectric polarisation; benzene solutions of *n*-propyl mercaptan, *n*-butyl mercaptan, thiophenol, and acetonitrile. E. C. E. Hunter and J. R. Partington. *diag Chem Soc J* p2812-19 D '32

**BUTYLMETHYLCARBINOL.** See Pinacolyl alcohol

**BUTYL phenyl ether**

Studies in the rearrangements of phenyl ethers; the action of aluminum chloride on butyl phenyl ethers. R. A. Smith. *Am Chem Soc J* 55:3718-21 S '33

**BUTYL phthalate**

Effect of curvature of surface on surface energy; rate of evaporation of liquid droplets; thickness of saturated vapor films. D. J. Woodland and E. Mack, jr. *Am Chem Soc J* 55:3149-61 Ag '33

**BUTYL sulfide**

Studies in dielectric polarisation; benzene solutions of methyl, *n*-propyl, and *n*-butyl sulphides. E. C. E. Hunter and J. R. Partington. *Chem Soc J* p2819-24 D '32

Thermal behavior of sulfur compounds in hydrocarbon solvents; normal butyl sulfide in benzene solution. W. M. Malisoff and E. M. Marks. *bibliog Ind & Eng Chem* 25: 780-3 JI '33

**BUTYL tartrate**

Effect of curvature of surface on surface energy; rate of evaporation of liquid droplets; thickness of saturated vapor films. D. J. Woodland and E. Mack, jr. *Am Chem Soc J* 55:3149-61 Ag '33

**BUTYL tetradiphenylethane**

Dissociation into free radicals of di-*tert*-butyltetradiphenylethane. J. B. Conant and R. F. Schultz. *Am Chem Soc J* 55:2098-104 My '33

**BUTYLENE**

Ignition of gases; ignition by a heated surface; (a) mixtures of ethane, propane, or butane with air; (b) mixtures of ethylene, propylene, or butylene with air. C. A. Naylor and R. V. Wheeler. *Chem Soc J* p1240-7 S '33

**BUTYLENE glycol**

Production of 2,3-butylene glycol by fermentation; effect of sucrose concentration. E. I. Fulmer, L. M. Christensen and A. R. Kendall. *bibliog Ind & Eng Chem* 25:798-800 JI '33

**Analysis**

Determination of 2,3-butylene glycol in fermentations. M. C. Brockmann and C. H. Werkman. *bibliog diag Ind & Eng Chem Anal ed* 5:206-7 My 15 '33

**BUTYRALDEHYDE**

Temperature coefficient of vulcanization; determination for mixes accelerated with tetramethylthiuram disulfide and a butyraldehyde-aniline condensation product. R. V. Sandstrom. *Ind & Eng Chem* 25:684-6 Je '33

$\alpha\alpha\beta$ -Trihalogenated butaldehydes. F. D. Chattaway, H. Irving and G. H. Outhwaite. *Chem Soc J* p993-5 Ag '33

**BUTYRIC acid**

Butyric acid and butyl alcohol fermentation of hemicellulose- and starch-rich materials. S. A. Waksman and D. Kirsh. *bibliog Ind & Eng Chem* 25:1036-41 S '33

**See also**

Dihydroxybutyric acid

**BUY-at-home campaigns**

Boomerangs in "buy American"? Trade balance still favorable. *Sales Management* 32: 176 F 15 '33

Buy American and give Americans work. L. D. Odhner. *Am Cer Soc J (Bul)* 16:121-7 My '33

Buy American? even if salesmen could agree on a name the Commerce department apparently wouldn't like it. *Business Week* p10 F 1 '33

Buy American; movement to favor domestic manufactured goods gains some momentum. *Business Week* p2-3 D 28 '32

Buy American—with a reason why; Hygrade, Pennsylvania. *il Ptr Ink* 161:41-2 D 1 '32

How "buy American" can succeed while "buy British" is doomed to fail. *Ptd Salesmanship* 61:43 Mr '33

Isolationist policy. *Ptr Ink* 161:28 D 22 '32; Discussion. 162:73 F 2 '33

Sure, buy American! editorial. *Business Week* p32 F 8 '33

Truth about "buy American." C. K. Alexander, E. M. Fitch and H. R. Mohat. 23p pa 15c Research associates, 509 State st, Madison, Wis. '33

**BUY now campaigns**

Aids "Buy now" campaign; Thomas A. Edison industries. *System* 62:503 N '33

Buy now, because—NRA's big drive is based on human nature and dollar signs. *il Business Week* p5-6 O 14 '33

Economic copy slant. *il Adv & Sell* 21:34 O 12 '33

New York NRA campaign drafted by committee of experts. *Ptr Ink* 161:35-7 S 21 '33

\$217,000,000 premium industry starts "buy now" campaign. *il Sales Management* 33:322 O 1 '33

**BUYING. See Purchasing****BUYING habits**

Buyers remember the "bugs" long after engineers have fixed and forgotten them. E. B. Neil. *Automotive Ind* 68:636-7+ My 27 '33

Cost of backstairs buying. W. H. Gardner. *Nation's Business* 21:42 My '33

Food consumer—1933 model. C. W. Dipman. *Adv & Sell* 21:38 My 11 '33

How 10-cent package has created a place for itself. *il Ptr Ink* 161:60-3 D 15 '32

How will the consumer use revived purchasing power? L. H. Harvey. *il Adv & Sell* 21:24+ JI 6 '33

Survey of a retail trading area; Champaign-Urbana district. F. M. Jones, III. *U Bur Business Research Bul* 44:1-32 '32; Abstract. *Sales Management* 32:66+ Ja 15 '33

**See also**

Women as purchasers

**BUYING motives**

Consumer doesn't change. P. Hollister. *Nation's Business* 21:67-8 O '33

**BUYING power. See Consumption (economics); Market statistics****BYRD expedition, 1933. See Antarctic exploration—Byrd expedition, 1933****C****CABBAGE**

Is goiter due to an iodine deficiency per se? H. Levine and R. E. Remington. *il J Chem Educ* 10:649-59 [bibliog p658-9] N '33

**CABLE, Frank Taylor, 1863-**

Consulting engineer, Electric boat co. A. H. Jansson. *por Marine R* 63:39 N '33

**CABLE grips. See Electric cables—Installation****CABLE laying machines**

Mechanical methods in cable laying, with special reference to the mole-drainer; abstracts. R. N. Hamilton. *Electrician* 110:492 Ap 14 '33; *Elec R (Lond)* 112:525 Ap 14 '33

**CABLES**

Cable control applied to disc gasholders. E. L. Pease. *diags Gas J (Lond)* 202:603-4 My 31 '33; Abstract. *Am Gas J* 139:27 JI '33

Cable strength as a measure of suspension-bridge size. *Eng N* 110:349-50 Mr 16 '33; *Sci Am* 148:236-7 Ap '33

George Washington bridge construction of the steel superstructure. E. W. Bowden and H. R. Seely. *il diags plans Am Soc C E Proc* 59:65-152 Ja '33

Reliability of oil tempered vs. cold drawn wire. A. T. Adam. *Metal Prog* 23:46-7 Ja '33

**See also**

Bridges, Suspension

Cableways

Chains

Electric cables

Rope

Telephone cables

Wire rope

**Testing**

Tensiometre, système Okhuisen-Stoppani. *diag Génie Civil* 103:188-9 Ag 19 '33



**CABLES, Submarine**

- Audio-frequency atmospherics. E. T. Burton and E. M. Boardman. *il Inst Radio Eng Proc* 21:1476-94 O '33; Same. *Bell System Tech J* 12:498-516 O '33
- Brooklyn-New York power cables. *il diag Engineer* 155:110-11, 118 F 3 '33
- Impedance curves of a composite cable. M. I. Pupin. *Elec Eng* 52:115-18 F '33
- Laying power cables in the bed of the East river. R. G. Skerrett. *il Comp Air M* 38:4191-4 Ag '33
- Recovery of deep-sea cable. J. C. Besly and H. V. Higgitt. *il diags Inst E E J* 72:160-8 F '33

See also

- |                   |                   |
|-------------------|-------------------|
| Telegraph, Subma- | Telephone, Subma- |
| rine              | rine              |

**Testing**

- Submarine cables; testing in the presence of earth currents on board ship. D. K. McCleery. *diags Electrician* 111:473-5 O 20 '33 (to be cont)

**CABLES and wireless, limited**

- Report. *Economist* 116:1083-4 My 20 '33

**CABLEWAYS**

- Aerial ropeway for handling goods and cattle in the Himalayas. *il Mech Handling* 20:184 Je '33
- Aerial tram for crushed stone. *il Rock Prod* 36:77-8 Ag '33
- Aerial tramway solves refuse disposal at Octavia J mine. J. H. Edwards. *il Coal Age* 38:123-4 Ap '33
- Aerial tramway solves refuse-disposal problem at Wheelwright mines. E. R. Price. *il plan Coal Age* 37:432-3 D '32
- Automatic tramway solves refuse disposal at Fordson. J. H. Edwards. *diags Coal Age* 38:271 Ag '33
- Ballast pit ropeway and excavator. *il Engineer* 156:162, 170 Ag 18 '33
- Construction of the Hoover dam. W. R. Nelson. *il diags plan Comp Air M* 38:4099-4104 Ap '33
- Design and construction of aerial ropeways. A. H. Wright. *Mech Handling* 20:87-9, 123-4 Mr-Apr '33
- Hoover dam on the Colorado river. *plan Engineer* 156:402 O 27 '33
- Inland steel co. builds aerial tram for disposal of coal mine waste. *il Iron Age* 131:430-1 Mr 16 '33
- Kalimpong aerial ropeway. *il map Engineer* 155:426, 431-2 Ap 28 '33
- 150-ton cableway for the Hoover dam. *il diags Engineering* 136:218-19 S 1 '33
- Other features of Hoover Dam project well under way. *il diag Eng N* 109:720-3 D 15 '32
- Les téléphériques de Caillaouas (Hautes-Pyrénées). J. Leclerc du Sablon. *il diags Génie Civil* 102:509-13 Je 3 '33
- World's longest bi-cable ropeway; Northern Peru mining & smelting company. W. L. Graham. *il Eng & Min J* 134:287-8 Jl '33

See also

- Conveying machinery  
Mountain railroads  
Railroads, Suspended

**CACAO**

- Cacao. C. J. J. van Hall. 2d ed 514p \$7.50 Macmillan '32
- Les échanges de substances diffusibles dans les produits alimentaires; préparation du cacao. R. Whympers. *pl Chimie & Ind* 30:507-17 S '33

See also

- Chocolate  
Cocoa

**Storage**

- Application of fumigants to ships and warehouses; penetration of hydrogen cyanide into bags of raw cacao stacked in piles of different sizes. A. B. P. Page and O. F. Lubatti. *Soc Chem Ind J* 52:323T-6T O 6 '33

**CACAO butter**

- Composition of cacao butter. E. Lewkowitsch. *Soc Chem Ind J* 52:236T-8T Jl 28 '33

- Melting and solidification of cacao butter; abstract. W. Reinders, C. L. Doppler and E. L. Oberg. *Soc Chem Ind J* 51:sup1125 D 30 '32

**CACTUS**

- Natural occurrence of crown gall on the giant cactus, *carnegiea gigantea*. J. G. Brown and M. M. Evans. *Science* 78:167 Ag 25 '33

**CADALENE**

- New synthesis of cadalene. E. de B. Barnett and J. W. Cook. *Chem Soc J* p22-4 Ja '33

**CADMAN, Sir John**

- Institute of fuel award to Sir John Cadman; the Melchett medal for 1933. *Chem Age (Lond)* 28:357 Ap 22 '33

**CADMIUM**

- Cadmium, thallium, indium, and gallium as by-products of the lithopone industry. W. N. Hirschel. *Soc Chem Ind J (Chem & Ind)* 52:797-8 O 6 '33
- Composition of grids for positive plates of storage batteries as a factor influencing the sulphation of negative plates. G. W. Vinal, D. N. Craig and C. L. Snyder. *pl U S Bur Stand J Research* 10:795-808 Je '33
- Paschen-Back effect of hyperfine structure and polarization of resonance radiation; cadmium ( $^{61}\text{Pb}$ - $^{61}\text{Sn}$ ). N. P. Heydenburg. *Phys R* 43:640-7 Ap 15 '33
- Reflection of metallic atoms from alkali halide crystals. R. R. Hancox. *diags Phys R* 42:864-81 D 15 '32
- Thermodynamic calculations; further theoretical study of the separation of cadmium and zinc. C. G. Maier. *U S Bur Mines Rep of Invest* 3218:31-51 '33

**Analysis**

- Determination of cadmium; a critical study of the Evrard method. L. C. Hurd and R. W. Evans. *Ind & Eng Chem Anal ed* 5:16-17 Ja 15 '33

**CADMIUM alloys**

- Copper-cadmium alloys. G. Owen and L. Pickup. *Engineer* 155:sup[Metallurgist] 44-5 Je 30 '33
- Electrodeposition of ternary alloys of cadmium, zinc and antimony. L. E. Stout and L. Goldstein. *il Electrochem Soc Trans* 63 (preprint 3):17-37 My '33
- Structure of electrodeposited alloys; the effect of current density and temperature of deposition on the structure of silver-cadmium deposits. C. W. Stillwell and H. I. Feinberg. *bibliog Am Chem Soc J* 55:1864-70 My '33
- X-ray analysis of electrodeposited alloys. C. W. Stillwell. *il Metal Ind* 31:47-50 F '33

**CADMIUM bromide**

- Free energies and heats of formation of tetrahydrate and anhydrous forms of cadmium bromide and their transition temperatures. H. M. Spencer and R. F. Selden. *diags Am Chem Soc J* 54:4504-15 D '32

**CADMIUM compounds**

- Studies of electrolytic polarisation; amines of copper, silver, zinc, and cadmium. S. Glasstone. *Chem Soc J* p2549-57 D '32

**CADMIUM iodide**

- Iodide cells; an investigation of the cadmium iodide and zinc iodide types. A. E. Salazar. *Electrician* 110:650 My 19 '33
- Partial molal volumes of cobalt sulfate and of cadmium iodide. R. C. Cantelo and H. E. Phifer. *Am Chem Soc J* 55:1333-8 Ap '33

**CADMIUM nitrate**

- Debye-Hückel ion size parameter in terms of individual ionic radii; the activity coefficient of lead chloride in solutions of cadmium nitrate. H. D. Crockford and H. C. Thomas. *Am Chem Soc J* 55:568-74 F '33

**CADMIUM oxide**

- Vapor pressure of cadmium oxide. W. B. Hincke. *Am Chem Soc J* 55:1751-3 My '33

**CADMIUM plating**

- Cadmium coatings on steel. S. G. Clarke. *Metal Ind* 31:307, 373-4 S, N '33

**CADMIUM plating—Continued**

Some new organic addition agents for cadmium electroplating. R. A. Claussen and H. L. Olin. *Electrochem Soc Trans* 63 (preprint 5):45-52 My '33

Udylite develops new test method for cadmium. *Platers' Guide* 29:11-12 O '33

**CADMIUM selenide**

Selenium ruby glass; preparation and X-ray study. M. H. Bigelow and A. Silverman. *bibliog Am Cer Soc J* 16:214-19 My '33

**CADMIUM sulfate**

Diffusion in standard cells. G. A. Hulett and R. B. Elliott. *diag J Phys Chem* 37:245-52 F '33

Partial and integral heats of dilution of cadmium sulfate solutions from electromotive force measurements. V. K. La Mer and W. G. Parks. *Am Chem Soc J* 55:4343-55 N '33

**CADMIUM sulfide**

Selenium ruby glass; preparation and X-ray study. M. H. Bigelow and A. Silverman. *bibliog Am Cer Soc J* 16:214-19 My '33

Studies in the precipitation of the copper and tin groups using hydrogen sulfide. L. Lehman. *J Chem Educ* 10:50-3 Ja '33

Zur kenntnis der färbung von gefälltem cadmiumsulfid. W. J. Müller and G. Löffler. *il Angew Chemie* 46:538-9 Ag 19 '33

**CADY, Hamilton P.**

Beginning of liquid ammonia research in the United States. R. Taft. *pors J Chem Educ* 10:34-9 Ja '33

**CAESIUM. See Cesium****CAHILL, Michael Harrison**

Katy head makes them all salesmen. H. Manley. *por Forbes* 32:17-18 O 15 '33

**CAIRO, Egypt****Bridges**

Khediye Ismail bridge. *il diag map Engineering* 136:105-7, pl 5 Ag 4 '33

**CAISSONS**

Concrete caissons sunk by air-lift pumping; landing jetty at Le Verdon, France. *diags map Eng N* 111:249-50 Ag 31 '33

Corewall of 31 caissons sunk under air; Quabbin reservoir of the Boston metropolitan water supply. *il diags plan Eng N* 111:215-19 Ag 24 '33

Difficult caisson sinking for Vancouver water tunnel. W. Smail and R. M. Wynne-Edwards. *il diags Eng N* 111:9-11 Jl 6 '33

Foundations get under way on New Orleans bridge. *il diags Eng N* 111:189-91 Ag 17 '33

Lake Zurich breakwater built on piles. A. J. Luchinger. *il plan Eng N* 110:80-1 Ja 19 '33

Pneumatic caissons for Corewall, Quabbin dike, Mass.; unit prices. *diags Eng N* 110:72 Ja 12 '33

Sliding caissons for 1,148-ft. lock at St. Nazaire. *il diags Engineering* 136:165-6 Ag 18 '33

Vom bau der zweigleisigen eisenbahn- und strassenbrücke über den Kleinen Belt. G. Schaper. *il diags Zeit Ver Deutsch Ing* 77:33-8 Ja 14 '33

**See also**

Bridges—Foundations and piers

**CAKE**

Hydrogenated shortening for cake bakers. *il Sci Am* 149:78 Ag '33

**Advertising**

5,000,000 angel food cakes. *Ptr Ink* 164:20 S 21 '33

**CAKING of salts**

How to prevent caking in powdered foods. H. V. Moss. *Food Ind* 5:133 Ap '33

Tricalcium phosphate as a caking inhibitor in salt and sugar. H. V. Moss, T. W. Schilb and W. G. Warning. *bibliog il diags Ind & Eng Chem* 25:142-7 F '33

**CALCINATION**

Mechanism of development of pigment value in zinc sulfide. L. T. Work and I. H. Odell. *bibliog il Ind & Eng Chem* 25:411-16, 543-9 Ap-May '33

**CALCITE**

Effect of grinding and etching on a pair of split calcite crystals. F. K. Richtmyer, S. W. Barnes and K. V. Manning. *Phys R* 44:311-12 Ag 15 '33

Quantitative analysis of calcite-aragonite mixtures by X-rays. E. G. Cox and T. H. Goodwin. *Soc Chem Ind J (Chem & Ind)* 52:172 Mr 3 '33

**CALCIUM**

Alkaline earths and their uses. C. Hardy and P. M. Tyler. *bibliog il Chem Markets* 32:227-30 Mr '33

Removal of positive ions by electroosmose apparatus. E. Bartow and M. A. Fry. *Ind & Eng Chem* 25:336-8 Mr '33

**Analysis**

Determination of calcium in lead-calcium alloys of low calcium content. B. L. Clarke and L. A. Wooten. *Ind & Eng Chem Anal* ed 5:313-15 S 15 '33

Magneto-optic nicol rotation method for quantitative analysis of calcium. E. R. Bishop, C. B. Dollins and I. G. Otto. *Am Chem Soc J* 55:4365-70 N '33

Microdetermination of calcium in sea water. P. L. Kirk and E. G. Moberg. *diag Ind & Eng Chem Anal* ed 5:95-8 Mr 15 '33

Quantitative determination of calcium by the magneto-optic method. E. R. Bishop and C. B. Dollins. *Am Chem Soc J* 54:4585-8 D '32

**Physiological effect**

Effect of calcium on transplanted mouse tumors. M. J. Shear. *Pub Health Rep* 48:1103-14 [bibliog p1114] S 8 '33

**See also**

Calcium in the body

**Therapeutic use**

Calcium metabolism and calcium therapy. A. Cantarow. 2d ed rev 252p [bibliog p215-35] Lea & Febiger, Philadelphia '33

**CALCIUM acetate****Statistics**

Acetate of lime data, 1932. *Oil Paint & Drug Rep* 123:53 F 27 '33

**CALCIUM alloys**

Porous plastics made by use of calcium alloys. C. C. Downie. *Metal Prog* 24:46+ Ag '33

**CALCIUM aluminates**

Effect of composition of Portland cement on length and weight changes of mortars. H. Woods, H. R. Starke and H. H. Steinour. *diag Rock Prod* 36:24-9 Je '33

Hydration of tricalcium aluminate. W. D. Foster. *bibliog il Am Concrete Inst J* 4:189-200 D '32; Excerpts. *Concrete (mill sec)* 41:29-30 Je '33

**CALCIUM arsenates**

Calciumarseniat. G. Fester and F. Bertuzzi. *Angew Chemie* 46:477-8 Jl 15 '33

**CALCIUM carbide****Manufacture**

Canada's most important synthetic organic chemical industry; Shawinigan chemicals, Ltd. A. F. G. Cadenhead. *Chem & Met Eng* 40:184-5 Ap '33

**CALCIUM carbonate**

Bacterial and chemical factors in lime deposition at Tortugas, Florida. H. Gee. *il Nat Research Council Bul* 89:79-82 '32

Nomograph for rapid calculation of sulfate-carbonate ratios. R. T. Sheen. *Ind & Eng Chem Anal* ed 5:276-7 Jl 15 '33

Relation of the buffer mechanism of sea water to the solubility of calcium carbonate. D. M. Greenberg and E. G. Moberg. *Nat Research Council Bul* 89:73-4 '32

Rôle of sodium aluminate in accelerating the separation of solid phases during water-softening operations; softening calcium bicarbonate solutions. L. M. Clark and L. S. Price. *Soc Chem Ind J* 52:42T F 10 '33



**CALCIUM carbonate—Continued**

System common carbonate-calcium carbonate-water. C. R. Bury and R. Redd. *Chem Soc J* p1160-2 S '33

See also

Dolomite  
Limestone

**Analysis**

Losses of volatile matter in coal by standard method; water of hydration and carbon dioxide of mineral matter. W. A. Selvig and W. D. Pohle. *Ind & Eng Chem Anal* ed 5:239-41 J1 15 '33

Quantitative analysis of calcite-aragonite mixtures by X-rays. E. G. Cox and T. H. Goodwin. *Soc Chem Ind J (Chem & Ind)* 52:172 Mr 3 '33

**CALCIUM chloride**

About roadway stability using calcium chloride. H. F. Clemmer. *Roads & Sts* 76:184-6 My '33; Same. *Can Eng* 65:11-13 J1 25 '33; Excerpts. *Pub Works* 64:31+ Je '33

Application of calcium chloride brine to air conditioning. G. T. Condon. *diag Heat & Ven* 30:11-13 Ag '33

Calcium chloride for maintenance. H. F. Clemmer. *Can Eng* 63:80, 82 S 20 '32; Same *abr. Roads & Sts* 75:497-8 D '32

Curing of concrete pavements with calcium chloride. H. F. Clemmer. *il Roads & Sts* 76:264-7 J1 '33

Low-cost roads and unemployment relief. R. B. Traver. *il Pub Works* 64:27-8 Ap '33

Mid-continent brine yields salt, bromine, calcium chloride, and epsom salt. *il Chem & Met Eng* 40:414-16 Ag '33

Moisture-film cured macadam. C. A. Hogentogler, jr. *il Pub Works* 64:29-30 N '33

Rôle of sodium aluminate in accelerating the separation of solid phases during water-softening operations; softening calcium chloride solution. L. M. Clark and L. S. Price. *Soc Chem Ind J* 52:41T-2T F 10 '33

Soil concrete; use of calcium chloride in soil stabilization. R. A. Giddings. *Chemicals* 38:9 S 18 '33; Abstract. *Automotive Ind* 69:308 S 9 '33

Sorption von gasen, dämpfen und nebeln. H. Remy. *Angew Chemie* 46:101-4 F 11 '33

Stabilization of low cost roads by calcium chloride. C. A. Hogentogler, jr. *il Roads & Sts* 76:359-60 O '33

Stabilizing a gravel street surface. K. B. Robertson and D. N. Smith. *diags Can Eng* 65:11-14 Ag 22 '33

Stabilizing gravel roads, Onondaga county, N.Y.; moisture regulation by calcium chloride. *il Eng N* 111:529-30 N 2 '33

See also

Bleaching powder

**CALCIUM chloride association**

Organization. *Refrig Eng* 25:152 Mr '33

**CALCIUM cyanamide**

La chimie de la cyanamide. G. Barsky. *Chimie & Ind* 28:1032-7 N '32

Die wichtigsten neuerungen auf dem gebiete der anorganisch-chemischen industrie. A. Bräuer, J. Reitschötter and H. Siebeneicher. *bibliog Angew Chemie* 46:140 Mr 4 '33

**CALCIUM hydroxide**

Activity coefficients of hydroxyl ion in solutions of calcium hydroxide at 30° C. E. P. Flint and L. S. Wells. *U S Bur Stand J Research* 11:163-71 Ag '33

**CALCIUM hypochlorite**

Experience in sterilizing new mains. C. Leopold. *diags Water Works & Sewerage* 80:321 S '33

Relative stabilities of bleached rag half stocks and bleached purified sulphite pulps to degradation by calcium hypochlorite solutions. H. F. Lewis. *Paper Tr J* 96:41-6 My 11 '33; Correction. 96:38 Je 8 '33

**Manufacture**

Electrolytic plant of the Canadian international paper company at Temiskaming, Que. J. Hedalen. *Electrochem Soc Trans* 63 (preprint 19):183-9 My '33

**CALCIUM in the body**

Calcium metabolism and calcium therapy. A. Cantarow. 2d ed rev 252p [bibliog p215-35] Lea & Febiger, Philadelphia '33

Is goiter due to an iodine deficiency per se? H. Levine and R. E. Remington. *il J Chem Educ* 10:649-59 [bibliog p658-9] N '33

Minerals in milk. J. A. Tobey. *il Sci Am* 149:24 J1 '33

Reinforcing a weak spot in our diet. H. V. Moss. *il Sci Am* 148:90-1 F '33

Significance of phosphoric esters in metabolism. R. Robison. 104p \$2 N.Y. univ. press; 8s 6d Oxford '32

Tricalcium phosphate as a caking inhibitor in salt and sugar. H. V. Moss, T. W. Schilb and W. G. Warning. *bibliog il diags Ind & Eng Chem* 25:142-7 F '33

**CALCIUM iodide**

Spectra of the calcium I-like ions: manganese VI, iron VII, cobalt VIII and nickel IX. W. M. Cady. *Phys R* 43:322-8 Mr 1 '33

**CALCIUM levulinate**

Some salts of levulinic acid. A. Proskouriakoff. *bibliog Am Chem Soc J* 55:2132-4 My '33

**CALCIUM nitrate**

Calcium nitrate; heats of dilution of solutions of calcium nitrate in water. W. W. Ewing and A. N. Rogers. *Am Chem Soc J* 55:3603-9 S '33

Liquidus and solidus studies; the ternary system Ba(NO<sub>3</sub>)<sub>2</sub>-Ca(NO<sub>3</sub>)<sub>2</sub>-KNO<sub>3</sub>. K. Laybourn and W. M. Madgin. *Chem Soc J* p236-40 Mr '33

Le nitrate de chaux et la synthèse des nitrates. A. Couturier. *il Chimie & Ind* 29:463-71 F '33

**CALCIUM oxalate**

Heat capacity and entropy of calcium oxalate from 19 to 300° absolute; the entropy and free energy of oxalate ion. W. M. Latimer, P. W. Schutz and J. F. G. Hicks, jr. *Am Chem Soc J* 55:971-5 Mr '33

Precipitation and titration of magnesium oxyquinolate in the presence of calcium oxalate, and its application in the analysis of Portland cement and similar silicates. J. C. Redmond. *U S Bur Stand J Research* 10:823-6 Je '33

Studies in coprecipitation; internal structural changes on aging of freshly prepared precipitates. I. M. Kolthoff and E. B. Sandell. *J Phys Chem* 37:723-33 Je '33

Studies in coprecipitation; the coprecipitation of alkali ions with calcium oxalate and the adsorbent properties of the latter. I. M. Kolthoff and E. B. Sandell. *bibliog J Phys Chem* 37:443-58 Ap '33

Studies in coprecipitation; the coprecipitation of anions with calcium oxalate. I. M. Kolthoff and E. B. Sandell. *J Phys Chem* 37:459-73 Ap '33

Studies in coprecipitation; water content of calcium oxalate monohydrate. E. B. Sandell and I. M. Kolthoff. *tables J Phys Chem* 37:153-70 F '33

**CALCIUM oxide. See Lime****CALCIUM phosphates**

How to prevent caking in powdered foods. H. V. Moss. *Food Ind* 5:133 Ap '33

Metallurgical use of calcium phosphate. B. M. Suslov. *Metal Prog* 24:50+ S '33

Reactivity between dolomite and superphosphate components. W. H. MacIntire and W. M. Shaw. *il Ind & Eng Chem* 24:1401-9 D '32

Reinforcing a weak spot in our diet. H. V. Moss. *il Sci Am* 148:90-1 F '33

Tricalcium phosphate as a caking inhibitor in salt and sugar. H. V. Moss, T. W. Schilb and W. G. Warning. *bibliog il diags Ind & Eng Chem* 25:142-7 F '33

Ueber die reduktion des trikalziumphosphats. W. Jansen and W. Baukloh. *Stahl & Eisen* 53:451 My 4 '33

See also

Apatite

**CALCIUM silicates**

Effect of composition of Portland cement on length and weight changes of mortars. H. Woods, H. R. Starke and H. H. Steinour. *diag Rock Prod* 36:24-9 Je '33

System,  $\text{Ca}_2\text{SiO}_4\text{-FeSiO}_4$ . N. L. Bowen, J. F. Schairer and E. Posnjak. *il Am J Sci* 5th ser 25:273-97 Ap '33

**Analysis**

Quantitative bestimmung von  $\text{CaO}$ ,  $3\text{CaO}\cdot\text{SiO}_2$ ,  $2\text{CaO}\cdot\text{SiO}_2$ ,  $3\text{CaO}\cdot 2\text{SiO}_2$ ,  $\text{CaO}\cdot\text{SiO}_2$  und  $\text{SiO}_2$  nebeneinander. W. Jander and E. Hoffmann. *Angew Chemie* 46:76-80 Ja 28 '33

**CALCIUM silicide**

Ueber die beruhigung des stahles besonders durch kalziumsilizium. C. Schwarz. *Stahl & Eisen* 53:1000-3 S 28 '33

**CALCIUM sulfate**

Action of  $\text{CaSO}_4$  compounds on clinker; abstracts. P. Schachtschabel. *Rock Prod* 35:40 D 10 '32; 36:38 Ja '33

Hydrates of calcium sulphate. C. S. Gibson and S. Holt. *diags Chem Soc J* p638-40 Je '33; Discussion. *Soc Chem Ind J (Chem & Ind)* 52:503 Je 16 '33

Optical properties of the double salt  $(\text{NH}_4)_2\text{SO}_4\cdot\text{CaSO}_4\cdot 2\text{H}_2\text{O}$ . A. R. Merz, J. O. Hardesty and S. B. Hendricks. *Am Chem Soc J* 55:3571-3 S '33

Reaction between urea and gypsum. C. W. Whittaker, F. O. Lundstrom and S. B. Hendricks. *bibliog Ind & Eng Chem* 25:1280-2 N '33

Rôle of sodium aluminate in accelerating the separation of solid phases during water-softening operations; softening calcium sulphate solutions. L. M. Clark and L. S. Price. *Soc Chem Ind J* 52:42T F 10 '33

*See also*

Anhydrite  
Gypsum  
Plaster of Paris

**CALCIUM tungstate**

Luminescence of alkaline earth tungstates containing lead. F. E. Swindells. *Opt Soc Am J* 23:129-32 Ap '33

**CALCULATING machines**

Development and program of the differential analyzer; abstract. V. Bush. *Science* 76:519 D 2 '32

Least-squares curve-fitting machine, using springs. W. L. Gaines and J. R. Palfrey. *diag Science* 76:472-4 N 18 '32

Mallock electrical calculating machine. *il Engineering* 135:567 My 26 '33

Synchronous-motor pulling-into-step phenomena. H. E. Edgerton and others. *bibliog diag Elec Eng* 52:707-12 O '33

*See also*

Counting machines  
and devices

**CALCULUS**

Calculus helps cut waste in cutting of soles; abstract. A. T. McKay. *J Fr Inst* 215:117-18 Ja '33

First course in calculus. E. S. Crawley and P. A. Caris. 342p F. S. Crofts & co, New York '33

**Study and teaching**

Mathematical facts and processes prerequisite to the study of the calculus. W. H. Fagerstrom. 68p \$1.50 Teachers college '33

**CALCULUS of tensors**

Some applications of the absolute differential calculus to physics. C. Kaplan. *Phys R* 43:137-42 Ja 15 '33

**CALCULUS of variations**

Contributions to the calculus of variations, 1931-1932; theses submitted to the Department of mathematics of the University of Chicago. 523p \$3 Univ. of Chicago press '33

**CALCUTTA, India****Bridges**

Willington bridge, Calcutta. R. Mair. *Engineering* 134:593 N 18 '32

**CALENDAR**

Calendar reform. N E L A Bul 19:669-71+ N '32

Statistical errors and calendar reform. H. Platzer. 14p World calendar assn, inc, 485 Madison av, New York '32

13-month calendar. *Management Methods* 61:678 D '32

Thirteen months; more than 400 companies are now using the new calendar. *Ptr Ink* 163:56-7 Ap 6 '33

Unchangeable calendar without blank days and only two days of the present calendar changed. J. A. Colligan. 12p Univ. of San Francisco, San Francisco '33

Use of 13-month calendar. *Business Week* p4 N 23 '32

**CALENDARS**

Shakespeare calendar; Elizabethan woodcuts by Harry G. Spanner. *Adv & Sell* 20:sup [Adv Arts] 20A-20D Ja '33

**CALENDERS**

Performance of two new finishing machines on linen. E. Butterworth. *il diag Textile Inst J* 24:P209-13 S '33

Thickness measurements of calendered materials. R. W. Brown. *il diag India Rubber W* 89:35-7 N '33

**CALGARY, Alberta****Water supply**

Judgment in Glenmore dam inquiry; all city officials and engineers exonerated. *Can Eng* 64:15-17 Ja 31 '33

**CALICO printing**

Ageing vat colors. R. E. Rupp. *Am Dyestuff Rep* 21:727-8, 737; Discussion. 737-9 D 19 '32

Basic colors in printing cotton; abstract.

R. Sansone. *Textile Col* 55:759 N '33

pH control in dyeing and printing cotton.

C. E. Mullin. *Textile Col* 55:155-7+ Mr '33

Important phases of printing. M. W. Alling.

*il Am Dyestuff Rep* 21:657-60+ N 21 '32

Improvements in the printing of chrome colors. G. von Niederhäusern. *Textile Col* 55:768 N '33

Printing cotton and viscose rayon materials with fast multi-colored patterns. B. Bernardy. *Textile Col* 54:832 D '32

Printing of color and luster effects on cotton materials. A. J. Hall. *Textile Col* 55:189+ Mr '33

Printing sulphur dyes on cotton; abstract.

B. J. Cheshire. *Textile Col* 55:543 Ag '33

Producing a very fast brown shade on cotton materials by printing methods; abstract.

E. Zunder and L. Lantz. *Textile Col* 55:473 J1 '33

Reproducing natural effects through printing.

R. Sansone. *il Textile Col* 55:731-4 N '33

(to be cont)

Some color shop problems in cotton printing.

J. H. Easley. *Am Dyestuff Rep* 22:577-9 S 25 '33

Utility of chromium plating in calico printing.

J. B. Dick. *Am Dyestuff Rep* 22:305-9; Discussion. 309-10 My 8 '33

**CALIFORNIA**

Recent areal subsidence found in releveling; changes in elevation since 1920 over a large area centering on San Jose, Calif. H. S. Rappleye. *map Eng N* 110:845 Je 29 '33

*See also*

Cost of living—California

Electric utilities—California

Geology—California

Hydroelectric plants—California

Mines and mineral resources—California

Petroleum—California

Petroleum industry and trade—California

Public utilities—California

Public works—California

Water supply—California

**CALIFORNIA academy of sciences**

Eightieth anniversary of the founding of the California academy of sciences. *Science* 77:383-4 Ap 21 '33

**CALIFORNIA date growers association**

New outlets lift product out of competition rut. T. W. Braun. *Ptr Ink* 162:10+ Ja 5 '33



**CALIFORNIA fruit growers exchange**

Sane marketing can turn farm surpluses into profits; a lesson from the California fruit growers exchange and California walnut growers association. C. C. Teague. *Ptr Ink* 161:36-7+ D 15 '32

**CALIFORNIA laurel**

Capric acid from the seed fat of the California bay tree. C. R. Noller, I. J. Millner and J. J. Gordon. *Am Chem Soc J* 55:1127-8 Mr '33

**CALIFORNIA university**

University of California. botanical garden expedition to western China and Tibet. T. H. Goodspeed. *Science* 78:144 Ag 18 '33

**CALIFORNIA walnut growers association**

More advertising, more sales, and higher prices. G. E. Mitchell. *il Ptd Salesmanship* 60:362-3+ Ja '33

One way back to agricultural health. C. C. Thorpe. *il Am Bankers Assn J* 25:31+ Ja '33

Sane marketing can turn farm surpluses into profits; a lesson from the California fruit growers exchange and California walnut growers association. C. C. Teague. *Ptr Ink* 161:36-7+ D 15 '32

**CALIFORNIA-Western state life insurance company**

Annual report. *Ins Field (Life ed)* 62:6 F 10 '33

**CALIPERS**

Accuracy with calipers. E. C. Shanks. *Am Mach* 76:269-70 F 25 '32; Discussion. 76:1156-7 N 23 '32

Extensions for vernier calipers. W. Wells. *diag Am Mach* 77:152 Mr 1 '33

Starrett inside micrometer caliper. *il Ry Mech Eng* 107:106-7 Mr '33

**CALLENDER'S cable and construction company**

Ordinary general meeting, 37th, London. *Economist* 116:1325 Fe 17 '33

**CALLER records. See Office management—Caller records****CALORIMETERS and calorimetry**

Calorimetric determination of the intrinsic energy of gases as a function of the pressure; data on oxygen and its mixtures with carbon dioxide to 40 atmospheres at 28° C. F. D. Rossini and M. Frandsen. *diags U S Bur Stand J Research* 9:733-47 D '32

Calorimetric method for determining the rates of interdiffusion of reacting liquids. F. Barry and A. K. Smith. *bibliog diag Am Chem Soc J* 55:2215-30 Je '33

Effect of atmospheric humidity in gas calorimetry. F. Fahey. *Gas Age* 72:149-52 Ag 12 '33

Gas calorimetry. C. G. Hyde and F. E. Mills. 376p 42s Ernest Benn. Ltd, London '32

Griffin-Sutton bomb calorimeter. *il diag Engineering* 135:96, 97 Ja 27 '33

Heat of formation of hydrogen chloride and some related thermodynamic data. F. D. Rossini. *diags U S Bur Stand J Research* 9:679-702 N '32

Isothermal calorimeter for slow reactions. E. D. Coon and F. Daniels. *bibliog diags J Phys Chem* 37:1-12 Ja '33

Low temperature specific heats; an improved calorimeter for use from 14 to 300°K; the heat capacity and entropy of naphthalene. J. C. Southard and F. G. Brickwedde. *diag Am Chem Soc J* 55:4378-84 N '33

New automatic cut-off for calorimeters. W. Masterton. *diag Gas J (Lond)* 201:51-2; Discussion. 52 Ja 4 '33

Report, 30th, of the joint research committee of the Institution and Leeds university; report on the Sigma B.Th.U. recorder. *Gas J (Lond)* 200:sup15-16 O 26 '32; Discussion. 200:432-3, 743 N 9, D 14 '32

Some heat capacity for durene, pentamethylbenzene, stilbene, and dibenzyl. J. D. Ferry and S. B. Thomas. *J Phys Chem* 37:253-5 F '33

Standard states for bomb calorimetry. E. W. Washburn. *U S Bur Stand J Research* 10: 525-58 Ap '33

Steam research; progress of work at the U.S. Bureau of standards. N. S. Osborne. *Mech Eng* 55:116-17 F '33

Thermal effects produced by the exposure of massive gold to saturated water vapor. F. Barry and E. P. Barrett. *diag Am Chem Soc J* 55:3083-98 Ag '33

Thomas recording gas calorimeter. R. S. Jessup. *diags U S Bur Stand J Research* 10:99-121 Ja '33

Total heats of gas oils at elevated temperatures and pressures. W. W. Gary, L. C. Rubin and J. T. Ward. *diag Ind & Eng Chem* 25:178-83 F '33

**CAMBRIDGE university, Cambridge, England**

Buildings and equipment of the Engineering department at Cambridge university. *il plan Engineering* 135:117-19, 132, pl 5 F 3 '33

**CAMELINA sativa**

Zur kenntnis des leindotteröles. H. Heller. *Angew Chemie* 46:441-2 Jl 1 '33

**CAMEL'S hair**

Camel hair belting yarns. J. H. Fisher. *il Melliand* 4:559-60 D '32

**CAMERAS**

All-seeing eye; multiple lens aerial camera. *il diags Aviation* 32:211-12 Jl '33

Debiele slow motion camera. *il Aviation Eng* 8:24 Ap '33

Fairchild five-lens aerial camera. *il Aero Digest* 22:44 Je '33; *Aviation* 32:200 Je '33

Ground-glass focusing roll-film camera; Pal Ko. *il diag Sci Am* 148:290 My '33

High-speed timing camera. *il Sci Am* 149:29 Jl '33

New small reflex camera. *il Sci Am* 149:229 N '33

Stockholm's new photograph apparatus. C. Björkbom. *il Lib J* 58:316-17 Ap 1 '33

**Advertising**

Coupon booklet offer brings 5,000 replies; Folmer Graflex corporation customers build advertising piece with their own photographs. *il Ptr Ink Mo* 26:46 My '33

**CAMEROON**

Cocoa in the Cameroons under French mandate and in Fernando Po. L. J. Schwarz. *il map U S Bur For & Dom Com Trade Promotion Ser* 148:1-64 '33

**CAMP libraries**

Civilian conservation camp libraries. D. MacArthur. *Lib J* 58:790-1 O 1 '33

**CAMPBELL, James Anson, 1854-1933**

Sketch. *por Iron Age* 132:54 S 28 '33; *Steel* 93:18 S 25 '33

**CAMPBELL, James E. 1872-1933**

Sketch. *Paper Tr J* 97:26 N 2 '33

**CAMPHOR**

Domestic output of synthetic camphor—consumption in U.S. Chemicals 38:7 Ja 9 '33

Du Ponts make synthetic camphor in New Jersey. Chemicals 38:12 Ap 17 '33; Same. *Oil Paint & Drug Rep* 123:14+ Ap 10 '33

Mercury derivatives of camphor; the constitution of Reychler's acid. J. D. Loudon. *Chem Soc J* p823-5 Jl '33

New camphor synthesis. J. J. Ritter. *Am Chem Soc J* 55:3322-6 Ag '33

Pyroxylin and camphor in Japan. C. E. Mullin. *Plastic Prod* 9:322 O '33

Salt-forming characteristics of doubly- and singly-linked elements of the oxygen group; the rotation of camphor in strong mineral acids. J. W. Baker. *Chem Soc J* p2923-7 D '32

Survey of synthetic camphor with checklist of patents. I. Mellon. *bibliog Plastic Prod* 9:363-6 N '33

Synthetic camphor in United States. *il Sci Am* 149:32 Jl '33

Synthetic camphor; relation of domestic production to domestic consumption. Chemicals 37:3 D 26 '32

**CAMPFOR substitutes**

Camphor substitutes; with a check-list of patents. I. Mellon. *il Plastic Prod* 9:323, 325 O '33

**CAMPHORATES**

Solubility relationships among optically isomeric salts; the camphorates of alpha-paratolyethylamine. A. W. Ingersoll and F. B. Burns. *Am Chem Soc J* 54:4712-15 D '32

**CAMPHORIC acid**

Studies in organic peroxides; peroxides in the camphoric acid series. N. A. Milas and A. McAlevy. *Am Chem Soc J* 55:349-52 Ja '33  
Studies in organic peroxides; the use of camphoric acid peracid for the estimation of unsaturation. N. A. Milas and I. S. Cliff. *Am Chem Soc J* 55:352-5 Ja '33

**CAMPHOROXIME**

Depression of the melting point of *r*-isoborneol, *l*-borneol, and *d*-camphoroxime by various substances. T. S. Patterson, J. H. Blackwood and J. M. Stewart. *Chem Soc J* p93-5 Ja '33

**CAMPS**

*See also*

Construction camps      Unemployment—Relief measures—  
Labor camps              Camps  
Lumber camps

**CAMPS, Tourist**

Are you getting anything but dust from tourists? B. L. Johnson. *il Am Bld* 55:62-4 My '33

The market business forgets. J. J. McCarthy. *il Nation's Business* 21:38+ Ag '33

Pay dirt in tourist camps. J. J. McCarthy. *il Adv & Sell* 21:26+ My 25 '33

Tourist camp market. *Ptr Ink* 161:56 D 8 '32

**CAMS**

Cam-milling attachment for the bench lathe. E. Wittmann. *diags Am Mach* 77:604 S 13 '33

Cam milling fixture with automatic stop. F. W. Curtis. *diags Mach* 39:783-4 Ag '33

Curd Nube cam cutting machine built in three sizes. *il Iron Age* 132:34 O 12 '33

Grinding true flat surfaces on the sides of thin cams. H. Kaffine. *diags Mach* 40:157-8 N '33

Operating two slides in opposite directions with one single-groove cam. J. E. Fenno. *diags Mach* 39:769 Ag '33

Pivoted-cam mechanism for double folding die. *diags Mach* 39:708-9 Jl '33

Producto automatic cam milling machine. *il Mach* 39:610-11 My '33

Screw machine work; pullouts for drills. *Am Mach* 77:661 O 11 '33

Simplified method of plotting a gravity cam curve. A. S. Kingman. *Mach* 39:503-4 Ap '33

Single cam action performs four different functions. V. Waitkus. *diags Mach* 39:517-18 Ap '33

Standardizing automatic screw machine cams. C. W. Hinman. *Am Mach* 77:264 Ap 26 '33

Switching arrangement for cylindrical cam with intersecting grooves. J. E. Fenno. *diags Mach* 39:581-2 My '33

Threading lobes on screw machine cams. C. W. Hinman. *Am Mach* 77:728 N 8 '33

**CAMSHAFTS****Manufacture**

Die casting iron and steel; cast-o-matic die casting machine. A. W. Morris and H. R. Simonds. *il Iron Age* 131:1028-30+ Je 29 '33

Essex slashes camshaft costs with electric furnace alloy; Proferall. J. Geschelin. *il Automotive Ind* 67:620-2 N 12 '32; Abstract. *Mach* 39:309 Ja '33

Precision grinding machines; cam shaft grinding. *il Engineer* 154:612-13 D 16 '32

**CAN filling machines**

Type of equipment and methods used in canning lubricating oils. A. L. Foster. *il plan Nat Pet* N 25:36+ S 20 '33

**CAN handling machinery**

Many types of conveyors are available to meet lubricating oil canning requirement. E. F. Morgan. *il Nat Pet* N 25:47-8+ S 20 '33

*See also*

Canneries—Equipment  
Tin cans

**CANADA**

Canada's great development since 1893. *Can Eng* 64:21+ My 30 '33

*See also*

Agricultural colonization—Canada	Hydroelectric plants—Canada
Banks and banking—Canada	Manufactures—Canada
Chemical industries—Canada	Mines and mineral resources—Canada
Electric industries—Canada	Railroads—Canada
Gold mines and mining—Canada	Roads—Canada
	Wages—Canada

**Commerce**

Anglo-Canadian trade. *Economist* 116:573 Mr 18 '33

Canadian trade turns Empirewards. *Barron's* 13:17 Mr 13 '33

Steel industry's example in cooperative export selling; abstract. J. Piggott. *Chem Age (Lond)* 28:92 F 4 '33

Summary of the trade of Canada, December, 1932 and 12 months ending December, 1931 and 1932. 39p Canada Dominion bur. of statistics, External trade branch, Ottawa '33

Tourist trade of Canada; abstract. R. H. Coats. *Can Eng* 65:65 S 19 '33; Discussion. 65:9-10 S 26 '33

Trade of Canada (imports for consumption and exports) calendar year 1932. 447p Canada Dominion bureau of statistics, Ottawa '33

Trade of Canada, year ended March 31, 1932. 853p Canada Dominion bureau of statistics, Ottawa '33

**Commercial policy**

Canada must compete in world markets. R. A. McInnis. *Pulp & Pa of Can* 34:261-2+ Ap '33

Policies in regard to oil barter arrangements between Canada and Russia. R. B. Bennett. *Oil & Gas J* 31:22+ F 9 '33

Russian oil for Canada in new plan for barter. *Oil Paint & Drug Rep* 123:46 Ja 9 '33

**Economic conditions**

Annalist index of Canadian business activity. H. E. Hansen. *Annalist* 41:90-3 Ja 20 '33 [cont monthly]

Canada in 1932. *Economist* 116:sup26-7 F 18 '33

Canadian business indexes, monthly, 1921-1931. Survey of Cur Business 13:18-19 F '33

Commercial failures in Canada, monthly, 1922-1933. Survey of Cur Business 13:20 O '33

Current conditions in Canada. Published in monthly numbers of Bankers magazine

Record of Canadian insolvencies in 1932. *Dun's R* 41:7 F 4 '33

*See also*

Finance—Canada

**Economic policy**

Would U.S. recovery plan work here? A. R. Randall-Jones. *Pulp & Pa of Can* 34:491-3 Ag '33

**Sanitary affairs**

Progressive fight against typhoid fever in Canada. N. J. Howard. *Can Eng* 63:29-32 N 15 '32

**Statistics**

Canada 1933; the official handbook of present conditions and recent progress. 192p pa 25c Canada Dominion bureau of statistics, Ottawa '33

Monthly review of business statistics. Published by Canada Dominion bureau of statistics

**CANADA dry ginger ale, incorporated**

Canada Dry prepares for repeal. *Econostat* 1:11, 23 Ag 19 '33

Canada wet; Canada Dry broadens its drink list to cover the repeal market. *Business Week* p9-10 O 7 '33

**CANADIAN bankers' association**

Canadian bankers' association. J. Holladay. map *Am Bankers Assn J* 26:30-1+ S '33



**CANADIAN ceramic society**

Annual meeting, 31st, Ottawa, Feb. 27-28. Can Chem & Met 17:50-2 Mr '33

**CANADIAN chemical association**

Annual meeting, 16th, Quebec. Can Chem & Met 17:112-18 Je '33

**CANADIAN construction association**

Annual meeting, 15th, Windsor, Ont. Jan. 24-26. Can Eng 64:30 Ja 31 '33

**CANADIAN electrical association**

Annual meeting, 43d, Lucerne-in-Quebec. Elec W 101:812-13 Je 24 '33

**CANADIAN engineer (periodical)**

Advertisements and news items of 1893. il Can Eng 64:22-4 My 30 '33

Canadian engineer from 1893 to 1933. il Can Eng 64:26, 28 My 30 '33

Celebrates its anniversary in new home. il Can Eng 64:32 My 30 '33

**CANADIAN gas association**

Annual convention, 26th, Ottawa, Sept. 18-19. Gas Age 72:347-8 O 7 '33; Gas J (Lond) 204:79-81 O 4 '33

**CANADIAN good roads association**

Annual convention, 20th, Hamilton, Ont. Sept. 13-14. il Can Eng 65:41-76, 132 S 19 '33

**CANADIAN institute of insurance**

Objects of organization. Spectator 129:29 D 29 '32

**CANADIAN institute of mining and metallurgy**

Annual meeting, 34th, Toronto, April 4-6. Can Min J 54:184-6 My '33

Annual western meeting, 14th, Vancouver. Can Min J 54:13-16 Ja '33

**CANADIAN international paper company**

Annual report, 1932. Pulp & Pa of Can 34:471 Jl '33

**CANADIAN national exhibition, Toronto**

Around the Canadian national exhibition. il Pulp & Pa of Can 34:553-4 S '33

Engineering exhibits. Can Eng 65:11-12 Ag 29; 8 S 5 '33

**CANADIAN national railways**

Financial position. E. N. Rhodes. Ry Age 94:490 Ap 1 '33

**CANADIAN Pacific railway**

Annual report, 52d, for year ended Dec. 31, 1932. Ry Age 94:496-8 Ap 1 '33

Canadian Pacific earnings prospects. Economist 115:893-4 N 12 '32

Income sagging \$4,000,000. Barron's 12:7 D 26 '32

Relative position of world's largest transportation system is not appreciated. F. T. Northrup. Mag of Wall St 51:578-9+ Mr 18 '33

Results for 1931 and 1932 compared with 1929. Economist 116:592-3 Mr 18 '33

**CANADIAN pulp and paper association**

Annual convention, 20th, Montreal, Jan. 25-27. Pulp & Pa of Can (Convention no) 34:55+, 89-90+ [F] '33; Paper Tr J 96:26-9 F 2 '33

Canadian pulp and paper association, twenty years old. J. N. Stephenson. il Pulp & Pa of Can (Convention no) 34:69-71 [F] '33

Review of 1932 by sections. Pulp & Pa of Can (Convention no) 34:127-32 [F] '33

Summer meeting of the Technical section, Three Rivers, June 22. Pulp & Pa of Can 34:447-50 Jl '33

**CANADIAN trades and labor congress**

Annual meeting, 48th, Hamilton, Ontario, Sept. 12-17. Monthly Labor R 35:1372-3 D '32

**CANADIAN transit association**

Annual meeting, 29th, Hamilton, Ont. June 8-9. Transit J 77:226-7 Jl '33

**CANAL rays. See Rays, Positive****CANAL traffic****Statistics**

Canal statistics for the year ended December 31, 1932. 49p Canada Dominion bur. of statistics, Ottawa '33

**CANALS**

Formula developed for determining canal seepage losses. S. Shulits. Eng N 111:433 O 12 '33

**See also**

Dredges  
Illinois waterway  
Imperial canal  
Irrigation canals  
Locks (hydraulic engineering)

Panama canal  
Suez canal  
Welland ship canal  
Waterways

**Electric traction**

Electric canal haulage; some interesting continental schemes. R. Hedley. il Elec R (Lond) 112:593 Ap 28 '33

Use of electric locomotives on continental canals. R. Hedley. il Electrician 109:711 D 2 '32

**Belgium**

Le canal Albert, voie de grand navigation intérieure de Liège à Anvers. A. Bijls. il diags map Génie Civil 102:437-42 My 13 '33

**Florida**

Georgia-Florida canal; proposed project. W. S. Lee. map Manuf Rec 102:20 O '33

**France**

Projet de canal de l'Atlantique à la Méditerranée, ou canal maritime des Deux Mers. Lebrec. diags map Génie Civil 102:567-9 Je 17 '33

**Great Britain**

Future of British canals. Economist 117:486-7 S 9 '33

Some canal projects; abstract. W. Maughan. Engineering 136:368-9 S 29 '33

**New York (state)****See also**

New York state  
barge canal

**United States**

All-American canal preliminaries approach appropriation stage. Eng N 110:131 Ja 26 '33

**CANALS, Drainage.** See Drainage

**CANALS, Irrigation.** See Irrigation canals

**CANBERRA, Australia**

Building the capital city of Australia. M. J. Moir. il Arch Rec 74:55-6 Jl '33

**CANCER**

Action of the parenteral administration of sugars on the hydrogen-ion concentration of normal and malignant tissues in living animals. C. Voegtlin, H. Kahler and R. H. Fitch. Science 77:567-8 Je 9 '33

Aniline cancer; abstract. I. Berenblum. J Ind Hygiene 15:sup26 My '33

Cancer cells. Science 77:sup9 My 12 '33

Cancer following germ injection. Science 77:sup8 Ap 7 '33

Cancer house disproved statistically. A. Lumière and P. Vigne. Science 77:sup10 My 5 '33

Cancer-producing constituent of coal tar; abstract. J. W. Cook, I. Hieger and C. Hewett. Science 76:sup8+ D 30 '32

Cancer record of 1932. F. L. Hoffman. Spectator 130:10-12 Ap 27 '33

Cancer: then and now. New York city cancer committee. 80p Chemical foundation, inc, New York '32

Chemical attack on cancer. C. Voegtlin. Science 76:sup11 N 25 '32

Cholesterol as soil for the growth of cancer. A. H. Roffo. Science 77:sup10 Ja 27 '33

Cigarette tar in cancer. Sci Am 148:245-6 Ap '33

Effect of calcium on transplanted mouse tumors. M. J. Shear. Pub Health Rep 48:1103-14 [bibliog p1114] S 8 '33

Effect of inhibiting factor from normal tissues on spontaneous tumors of mice. J. B. Murphy and E. Sturm. Science 77:631-3 Je 30 '33

Identify substance causing coal tar cancer. Sci Am 148:186 Mr '33

**CANCER—Continued**

- Influence of oxygen tension on the rate of autolysis of certain malignant tumors and normal tissues. M. E. Maver, J. M. Johnson and C. Voegtlin. *bibliog Pub Health Rep* 48:42-51 Ja 13 '33
- Inheritance of disease. C. B. Davenport. *il diags Sci Am* 149:162-4 O '33
- Is malignancy due to a process analogous to somatic mutation? M. R. Curtis, W. F. Dunning and F. D. Bullock. *Science* 77:175-6 F 10 '33
- Is methylene-blue anti-carcinogenic? M. Copisarow. *Science* 78:212 S 8 '33
- Isolation of a cancer-producing hydrocarbon from coal tar. J. W. Cook, C. L. Hewett and I. Hieger. *pl Chem Soc J* p395-405 Ap '33
- Lubricating oils and cancer. *Soc Dyers & Col J* 49:53 F '33
- Microbial metabolism and its bearing on the cancer problem. A. J. Kluyver. *Science* 76:527-32 D 9 '32
- New test for cancer. *Sci Am* 149:185 O '33
- Occupational cancer. *Int Labour R* 26:693-704, 847-60 N-D '32
- Production of a malignant growth in a guinea pig. T. J. Glover and J. L. Engle. *Pub Health Rep* 48:319-21 Mr 31 '33
- Relation of carcinogenicity of mineral oils to certain physical and chemical characteristics of these oils. R. Lyth. *J Ind Hygiene* 15:226-37 Jl '33
- Successful interspecies transplantation of a mouse tumor. A. M. Cloudman. *Science* 76:525-6 D 2 '32

**Bibliography**

- Review of the recent literature of tar cancer (1927-1931 inclusive); abstract. M. G. Seelig and Z. K. Cooper. *J Ind Hygiene* 15:sup25 My '33

**CANDLES**

- Candle manufacturing. C. C. Dominge. *Weekly Underw* 128:1059 Je 3 '33
- Candles and candlemaking. D. Allan. *Inst Pet Tech J* 19:155-71 Mr '33; Abstract. *Chem Age (Lond)* 28:139 F 18 '33; Discussion. *Inst Pet Tech J* 19:171-5 Mr '33
- Why Columbia candles are now a preferred line with big buyers. R. S. McFadden. *il Sales Management* 32:160-1 F 15 '33

**CANDY**

*See also*  
Confectionery

**Manufacture**

- Beating properties of egg white. W. C. Henry and A. D. Barbour. *bibliog il Ind & Eng Chem* 25:1054-8 S '33
- Dehydration by absorption characterizes cast confectionery manufacture. O. H. Windt. *il Food Ind* 5:213-15 Je '33
- Taking the guesswork out of cast confectionery drying. O. Windt. *il diag Food Ind* 5:248-50 Jl '33
- Use, and misuse of flavors. J. H. Montgomery. *Food Ind* 5:400-2 O '33
- Using fresh strawberries in cordial and cream candies. W. F. Robertson. *il Food Ind* 5:168 My '33
- Why have twenty-three formulas when four are enough? J. A. King. *il Food Ind* 5:296-8 Ag '33

*See also*

Chocolate—Manu-  
facture

**Standards**

- Confectionery standards. S. Jordan. 370p \$5  
Applied sugar laboratories, inc, 109 Wall  
Street, New York '33

**CANDY factories**

- A. S. Wilkin, Ltd. *Soc Chem Ind J (Chem & Ind)* 52:615-16 Jl 28 '33
- Baking and candy require refrigeration. *Refriger Eng* 25:323+ Je '33
- World's garden toffery. *il Chem Age (Lond)* 29:58 Jl 15 '33

*See also*

Chocolate—Manu-  
facture

**Equipment**

- Bakers' and confectioners' plant; 37th International exhibition of the confectioners', bakers' and allied trades. *il Elec R (Lond)* 113:318 S 8 '33
- Vacuum fumigation protects candy bars from insect damage. G. Williamson. *il Food Ind* 5:166-7 My '33

**CANDY institute of America, inc.**

- Strong associations can develop strong individual leaders. C. B. Larrabee. *Ptr Ink* 162:17-20 Ja 19 '33

**CANDY trade**

- Gadgets gain dignity of company name; Charms candy ornaments lead to organization of new company. L. P. Fisher. *il Adv & Sell* 20:15+ F 16 '33
- How Imperial induces key dealers to feature its line of candies. M. E. Bridgton. *il Sales Management* 32:251+ Mr 15 '33
- How we maintained sales during the deflation jag; New England confectionery company, Cambridge, Mass. H. R. Chapman. *il Sales Management* 32:474-5+ My 1 '33
- Knowing—not guessing, what they really want in candy assortments. H. S. Knowlton. *il Food Ind* 5:303+ Ag '33

*See also*

Confectionery

**Advertising**

- Advertises NRA report to President Roosevelt; Curtiss candy company. *il Ptr Ink* 165:58 O 19 '33

**CANNED fish**

- Pellagra-preventive value of autoclaved dried yeast, canned flaked haddock, and canned green peas. G. A. Wheeler. *bibliog Pub Health Rep* 48:67-77 Ja 20 '33
- Putting the silver horde into tins. L. A. Luther. *il plan Comp Air M* 38:4119-22 My '33

**CANNED food**

- Brings product into spotlight with package change; Pacific coast brands. *il Ptr Ink* 163:40 My 4 '33
- Corrosion of tin cans used as food containers. S. G. Lipsett. *Can Chem & Met* 17:171-2+ Ag '33
- Designing to sell; La Choy food products, inc. R. S. McFadden. *il Sales Management* 32:440-1 Ap 20 '33
- Food safely left in tin cans. *Sci Am* 148:294 My '33
- From bulk to brand by the canning route; Sodus cooperative creamery company, Wolcott, New York. R. S. McFadden. *il Sales Management* 32:162+ F 15 '33
- Science aids the canners. E. F. Kohman. *il Sci Am* 148:34-5 Ja '33
- Study of canned shrimp with reference to the presence of vitamins A, B and D. M. C. Moore and H. W. Moseley. *bibliog Science* 78:368-9 O 20 '33
- Vitamins in canned foods; canning tomato juice without vitamin C loss. E. F. Kohman, W. H. Eddy and C. Z. Gurin. *Ind & Eng Chem* 25:682-4 Je '33

*See also*

Packing industry  
Snake meat  
Tin cans

**Advertising**

- And now concerning copy: Heinz campaign. P. Kavenew. *il Adv & Sell* 21:27+ Ag 31 '33
- More canned foods advertising. *Ptr Ink* 162:73 Ja 26 '33
- Through 1933 with an advertising program still broader; Gerber products company. D. Gerber. *il Ptr Ink* 164:50-2+ Ag 24 '33

*See also*

Soup—Advertising

**Prices**

- What makes the price of canned vegetables? *Food Ind* 5:60+ F '33

**Statistics**

- California canning off 7.7% in 1932. *Barron's* 13:15 Ja 30 '33



**CANNED goods**

- Advantages of handling motor oil in cans to refiners, compounders. R. B. Stafford. *il Nat Pet N 25:33-4 S 20 '33*  
 Jobbers add new outlets with canned oils. *il Nat Pet N 25:60-2 S 20 '33*  
 Public responds to canned oil; station sales increase. E. L. Barringer. *il Nat Pet N 25:52-3+ S 20 '33*

**CANNERIES**

- Dirty process steam; what can be done about it? S. H. Coleman. *il Food Ind 5:246-7 J1 '33*  
 Policy covering the seed advance of canners sold. *Nat Underw 37:5 S 21 '33*

**Employees**

- Effectiveness of new cannery code in New York state. *Monthly Labor R 37:284-6 Ag '33*

**Equipment**

- Canning fruit and vegetables. G. Cadbury. *Soc Chem Ind J (Chem & Ind) 52:885-91 N 3 '33*; Abstracts with discussion. *Chem Age (Lond) 29:393-4 O 28 '33*; *Soc Chem Ind J (Chem & Ind) 52:841-2 O 20 '33*  
 Canning industry plant; straight-line syrupeur and briner. *il Chem Age (Lond) 29:68 J1 15 '33*  
 Controlling the density of solutions electrically; Ly-O-Stat. H. M. Pillars. *diag Elec W 101:286 Mr 4 '33*  
 Cooling conveyors at the Barming cannery. *il Mech Handling 20:315-17 O '33*  
 Elevator-stacker for cans. *il Mech Handling 20:275 S '33*  
 La fabrication des conserves de légumes et de fruits, en Allemagne et en Angleterre. *plan Génie Civil 102:426-7 My 6 '33*  
 Fruit and vegetable canning; processes and equipment in a Lincolnshire factory. *il Elec R (Lond) 111:771-2 N 25 '32*  
 Mechanical handling devices used in the canning of soft fruit. *il Mech Handling 20:143-4 My '33*  
 Mechanical handling in a preserve factory; advantages of the team system. T. W. Winterton. *Mech Handling 20:191-3 Je '33*  
 Mechanical handling processes in the canning industry; canning peas. *il diag Mech Handling 20:73-6 Mr '33*  
 Use of non-ferrous metals in the food industry. T. N. Morris and J. M. Bryan. *Soc Chem Ind J (Chem & Ind) 52:139-41 F 17 '33*

**Fires and fire protection**

- Cannery premiums off 50% on Pacific coast. *Nat Underw 36:3+ D 29 '32*

**Waste**

- Canning wastes treated with lime and ferrous sulphate. *Eng N 110:255 F 23 '33*

**CANNING and preserving**

- Die abdichtung von konservendosen. E. Jahn. *Zeit Ver Deutsch Ing 77:600 Je 3 '33*  
 Canning; a highly important branch of the food industry. *Index 13:115-19 Je '33*  
 Canning fruit and vegetables. G. Cadbury. *Soc Chem Ind J (Chem & Ind) 52:885-91 N 3 '33*; Abstracts with discussion. *Chem Age (Lond) 29:393-4 O 28 '33*; *Soc Chem Ind J (Chem & Ind) 52:841-2 O 20 '33*  
 Chemistry in the canning industry. R. S. Scull. *Can Chem & Met 17:98 My '33*  
 Effect of salt impurities in canning; abstract. G. E. Gollop. *Can Chem & Met 17:170 Ag '33*  
 Fruit and vegetable canning; processes and equipment in a Lincolnshire factory. *il Elec R (Lond) 111:771-2 N 25 '32*  
 How spaghetti is canned. D. S. Huber. *il plan Food Ind 5:394-6+ O '33*  
 How to prevent vinegar gnat infestation of tomatoes. C. H. Bloedorn. *Food Ind 5:353 S '33*  
 Increased acidity inhibits corrosion; application to canning prunes. E. F. Kohman and N. H. Sanborn. *Ind & Eng Chem 25:920-2 Ag '33*  
 Possibilities and limitations in canning orange juice. M. A. Joslyn and C. L. Marsh. *bibliog il Food Ind 5:172-3 My '33*

- Principles of fruit preservation. T. N. Morris. 239p \$5 Van Nostrand '33  
 Steam-pressure canner best for low-acid foods. *Sci Am 149:77-8 Ag '33*  
 Value of types of dextrose in the preservation of fruits and vegetables. M. B. Van Arsdale and W. H. Eddy. 24p Teachers college '33  
 Vitamins in canned foods; canning tomato juice without vitamin C loss. E. F. Kohman, W. H. Eddy and C. Z. Gurin. *Ind & Eng Chem 25:682-4 Je '33*

**See also**

- Bottling  
 Canned fish  
 Canned food  
 Canneries

**CANNON family**

- Three generations of the family which taught cotton to hang on the bathroom rail. *il pors Fortune 8:55+ N '33*

**CANNON iron foundries, ltd.**

- Cannon iron foundries, ltd. *il Soc Chem Ind J (Chem & Ind) 52:453-4 My 26 '33*

**CANNON mills company**

- Cannon. *il Fortune 8:50-3+ N '33*

**CANS****See also**

- Can handling machinery  
 Continental can company  
 Canned food  
 Tin cans

**CANTILEVER bridges. See Bridges, Cantilever****CANVAS. See Duck (textile)****CANVASSERS**

- How many prospects should a salesman be allowed? *il Dom Eng 142:63-4 S '33*  
 This plan bolsters salesmen's slipping morale; canvassers precede regular sales force. C. B. Larrabee. *Ptr Ink 162:69-71 F 23 '33*

**CANVASSING**

- Bell-pushers' blues; door-to-door selling, overcrowded before the depression started, has become increasingly difficult since. *Business Week p14-15 F 22 '33*  
 Direct and specialty selling still have their place; developments in electrical field. A. P. Hirose. *Ptr Ink 162:63-6 Ja 26 '33*  
 Door-to-door for the \$200 specialty. H. A. Haring. *il Adv & Sell 20:20-1+ N 10 '32*; Same. *Gas Age 70:575+ N 26 '32*  
 Gadgets gain dignity of company name; Charms candy ornaments lead to organization of new company. L. P. Fisher. *il Adv & Sell 20:15+ F 16 '33*  
 Go-givers displace go-getters in present-day selling. A. Bradbury. *Ptr Ink 163:25-8 My 4 '33*

- Guideposts on the direct-selling road. R. Weinbaum. *il Adv & Sell 21:19+ Ag 3 '33*

- How Indiana gas utilities use planned selling. F. Merish. *Gas Age 70:704-5 D 31 '32*

- How marketers direct personal sales campaigns. E. L. Barringer. *il Nat Pet N 25:26+ Ag 30 '33*

- Nine out of ten say "Yes". H. W. Moore. 132p Moore & Drummond, New Haven, Conn. '33

- Racketeers of direct selling. J. H. R. Arms. *Adv & Sell 20:26+ Ap 13 '33*

- Selling through agents. M. A. Berman. *Adv & Sell 20:19-20+ D 22 '32*; 19-20+ Ja 5 '33

- Ten cents a ring; coin control for door bells. *il Am Bld 55:44 J1 '33*

- Y.O.M.! folder brings results in outside campaign. *Gas Age 70:671 D 24 '32*

**See also**

- Traveling stores

**CAPACITORS. See Condensers (electricity)****CAPILLARITY**

- Capillary action in impregnated paper insulation; abstract. J. B. Whitehead and E. W. Greenfield. *Elec Eng 52:105 F '33*

- Capillary activity and adsorption of soaps. J. Mikumo. *Soc Chem Ind J 52:65T-8T Mr 10 '33*

- Capillary rise of water in fibrous sheets and possible applications. F. A. Simmonds. *Paper Tr J 97:40-2 S 7 '33*

**CAPILLARITY—Continued**

Experiments with capillary jets; abstract. E. Tyler and F. Watkins. *Mech Eng* 55:46-7 Ja '33

See also

Brownian movements  
Hydrostatics  
Surface tension

**CAPILLARY tubes**

Correlation of stream potentials and surface conductance. H. L. White, F. Urban and E. A. Van Atta. *J Phys Chem* 36:3152-6 D '32  
Improved method of sealing the capillary tubes in the Rast modification of the Barger method of molecular weight determination. J. R. Spies. *Am Chem Soc J* 55:250 Ja '33

**CAPITAL**

Buying of bonds as an aid to recovery. A. G. Wilson. *Bankers M* 126:369-73 Ap '33  
Capital flexibility. A. C. Littleton. *J Account* 56:102-8 Ag '33  
Capital issues. Published in monthly numbers of Federal reserve bulletin  
Capital issues in 1932. *Economist* 115:1228-9 D 31 '32  
Capital markets and recovery. *Index* 13:185-92 N '33  
Half-year's new capital. *Economist* 117:117-18 JI 15 '33  
Inexorable readjustment of the capital structure. M. Sykes. *Comm & Fin* 22:191 F 22 '33  
Manufacturing capital and output, 1839-1931; main factors in their changes. J. R. Arnold. *Annalist* 42:8-11 JI 7 '33  
1929-1932: a study in contrasts; monetary factor makes for economic recovery. D. L. Saunders. *Barron's* 12:3+ D 19 '32  
Price of new capital. *Economist* 116:228-9 F 4 '33  
Psychology and the new deal; recovery strategy calls for encouragement to capital. J. S. Lawrence. *Econostat* 1:8-10 S 9 '33  
Quarter's new capital. *Economist* 116:679-80; 117:616-18 Ap 1, S 30 '33  
Two-year plan. G. E. Anderson. *Am Bankers Assn J* 26:20-1+ JI '33  
What the machine has done to us. W. S. Giele. *Iron Age* 131:472-5+ Mr 23 '33

See also

Banks and banking  
Corporations—Finance  
Dividends  
Economics  
Industry  
Interest  
Investments  
Labor and laboring classes  
Profit  
Stockholders  
Trusts, Industrial

**CAPITAL stock tax.** See Corporations—Taxation

**CAPITALISM**

Can business build a great age? W. Kixmiller. 320p \$2.50 Macmillan '33  
Capitalism and communism: a reconciliation. O. Newfang. 278p Putnam '32  
Capitalism and its alternatives. J. E. Johnson, comp. (Handbook ser 4, v 4) 497p \$2.40 Wilson, H.W. '33  
Capitalism has broken down. (In University debaters' annual, 1932-1933). E. M. Phelps, ed. p287-319 [bibliog p313-19] Wilson, H.W. '33  
Coming struggle for power. J. Strachey. 399p \$3 Covici Friede, New York '33  
Democracy in crisis. H. J. Laski. 267p Univ. of North Carolina press, Chapel Hill '33  
Future of science in civilization. H. T. F. Rhodes. *Soc Chem Ind J (Chem & Ind)* 52: 366 Ap 28 '33  
History of the economic institutions of modern Europe. F. L. Nussbaum. 448p \$3.25 F. S. Crofts & co, New York '33  
Mechanics of recovery. H. C. Dickinson. *S A E J* 32:45-53+ F '33  
Peace is impossible under capitalism. (In University debaters' annual, 1932-1933). E. M. Phelps, ed. p330-53 [bibliog p350-3] Wilson, H. W. '33

**CAPITALISTS and financiers**

London buying; England's United States investments. *il Fortune* 8:32-3, 124-7+ S '33  
Mirrors of Wall Street. 268p \$2.50 Putnam '33

**CAPITALS (cities)**

Plan of Boston, Massachusetts; a capital city. A. C. Comey. *il maps Am Soc C E Proc* 59:429-40 Mr '33; Discussion. 59:917-19 My '33

See also

Canberra, Australia

**CAPITOLS**

Louisiana state capitol, Baton Rouge. *il plans Arch Forum* 57:519-34 D '32  
Precast light-weight concrete slabs placed on Illinois state capitol dome. *il Concrete* 40:9 D '32

**CAPPER-KELLY bill.** See Price fixing, Resale

**CAPRIC acid**

Capric acid from the seed fat of the California bay tree. C. R. Noller, I. J. Millner and J. J. Gordon. *Am Chem Soc J* 55:1227-8 Mr '33

**CAPROIC acid**

Preparation of *tert*-butylacetic acid and its derivatives. A. H. Hoyer, F. C. Whitmore and V. H. Wallingford. *bibliog Am Chem Soc J* 55:4209-14 O '33

**CAPRYL alcohol.** See Octyl alcohol

**CAPS**

White caps; they convey a strong merchandising lesson. *Ptr Ink* 163:92 My 11 '33

**CAPSULES****Manufacture**

Air-conditioning in the drug-manufacturing industry; Eli Lilly and company, Indianapolis. W. A. Hanley. *il Ind & Eng Chem* 25: 9-10 Ja '33

**CAR.** See Cars

**CAR axles****Failure**

Extensive study of axle failures. H. Diergarten. *Metal Prog* 23:48-9+ Ja '33

**Manufacture**

Railway axle plant for Russia. *il Engineer* 156:330-2, 334 O 6 '33

**CAR cleaning**

Apparatus for cleaning under sides of cars. H. Korn. *il Transit J* 77:217-18 JI '33  
Carpet-renovating plant for Pullman car carpets. *il Ry Mech Eng* 107:99-100 Mr '33  
Cleaning and deodorizing hide cars. *il Ry Mech Eng* 107:96-8 Mr '33  
Conditioning the Empire Builder. V. A. Tetu. *il Ry Mech Eng* 107:295-6 Ag '33  
Live steam removes grime from car and bus equipment. C. C. Phares. *Transit J* 77:155-6 My '33

**CAR cooling**

Air-conditioning for railway passenger cars. H. K. Williams. *il diags Ind & Eng Chem* 25:13-18 Ja '33  
Air conditioning; Frigidaire enters the railroad market with a lightweight unit. *il Business Week* p6 D 28 '32  
Air conditioning outfits for the Illinois Central railroad. *il Elec J* 30:14 Ja '33  
Air-conditioning requirements; abstracts of four papers presented at the Northeastern district meeting of A.I.E.E. *Ry Age* 94:869 Je 17 '33  
Air-conditioning results with Rock Island diners. *il Ry Age* 94:437-9 Mr 25 '33  
Application of air conditioning to railroad passenger cars. W. C. Goodwin and C. Kerr, Jr. *il Elec Eng* 52:85-8 F '33  
Cooling passenger cars. W. Herdlein. *il diag Refrig Eng* 25:240-3+ My '33  
Frigidaire enters air-conditioning field. *il diags Ry Age* 93:877-9 D 10 '32; Same. *Ry Mech Eng* 107:14-16 Ja '33; Excerpts. *Refrig W* 68:31-2 Ja '33; Heating-Piping 5:151 Mr '33  
General Electric air conditioning for Pennsylvania diner. T. F. Perkinson and F. L. Sahlmann. *il diags Ry Age* 95:402-4 S 16 '33  
Kühlung und Lüftung amerikanischer eisenbahnwagen. E. Metzeltin. *diags Zeit Ver Deutsch Ing* 77:1063-4 S 30 '33  
Passenger car cooling a difficult job. *il Refrig Eng* 25:309-10 Je '33



**CAR cooling—Continued**

Thermo-gravity system of air-conditioning developed by American car & foundry co. il diag Ry Mech Eng 106:449-50 N '32  
Will air conditioning attract more passengers? il Ry Age 95:144-6 JI 22 '33

**Cost**

Air conditioning operating costs; Illinois Central tests. A. R. Walker. Ry Age 94:471+ Ap 1 '33

**CAR couplings**

A.R.A. mechanical division committee report on couplers and draft gears. diags Ry Mech Eng 107:243-4 JI '33  
Reclaiming couplers and follower blocks. il Ry Mech Eng 107:62 F '33

**CAR disinfection. See Car sanitation****CAR ferries. See Train ferries****CAR heating**

General Electric air conditioning for Pennsylvania diner. T. F. Perkinson and F. L. Sahlmann. il diags Ry Age 95:402-4 S 16 '33  
Testing flexible metallic connectors. A. Skinner. il Ry Mech Eng 107:297 Ag '33

**CAR inspection**

Car inspector—or pack mule? H. K. Allen. il Ry Mech Eng 107:216-17 Je '33

**CAR load. See Freight car service—Car load****CAR painting and finishing**

Arbeiten und erfolge der Deutschen reichsbahn auf dem gebiete des korrosionsschutzes durch anstriche. O. Lindermayer. il map Zeit Ver Deutsch Ing 77:385-92 Ap 15 '33  
Modern equipment facilitates painting at Baltimore. il Transit J 77:185 Je '33

**CAR retarders**

Modernizing a large gravity yard, Galesburg, Ill. il plans Ry Age 93:938-42 D 24 '32

**CAR roofs**

Metal roof for open-top cars. diags Ry Age 94:8 Ja 7 '33; Same. Ry Mech Eng 107:44 F '33

**CAR sanitation**

Safe car fumigator; Calcynator. il Ry Age 95:90-1 JI 8 '33

**See also**

Car cleaning  
Car ventilation

**CAR shops**

B. & O. rebuilds surplus box cars. il Ry Mech Eng 107:133-5 Ap '33

Milwaukee passenger car shop. L. B. Jensen. il Ry Mech Eng 107:22-3 Ja '33

**See also**

Cars—Repair	Railroads—Shops
Electric railroads—Shops	Street railroads—Shops

**CAR springs**

Better railway car truck springs. C. J. Holland. diags Ry Mech Eng 107:125-7 Ap '33  
Coil-elliptic spring group for A.R.A. trucks. il Ry Mech Eng 106:484 D '32

Fried. Krupp universal spring mounting for railway carriages and road vehicles. diags Engineering 136:315 S 15 '33

Spring plate developed for freight cars. diag Ry Mech Eng 107:8 Ja '33

**CAR trucks**

Car trucks and steel castings. H. M. Pflager. Ry Age 95:18 JI 1 '33

L.N.E.R. welded wagon underframes. H. N. Gresley. il diags Engineer 155:600 Je 16 '33

National type B truck with graduated spring resistance. il diag Ry Mech Eng 106:487-8 D '32

Notable innovations in Presidents' conference car. il diags Transit J 77:205-9 JI '33

**Repair**

Reclaiming worn tender-truck pedestal. H. W. Payne. il Ry Mech Eng 106:515 D '32

**CAR ventilation**

Centrifugal air cleaners serve railway equipment. M. J. Baldwin. diag Elec Eng 51:869-70 D '32

Noiseless car developed by Interborough rapid transit. il diag Transit J 77:281-2 S '33

**See also****Car cooling****CAR wheels**

Air suspension rail car; pneumatic tires within steel wheel. il diag Rubber Age 33:61-2 My '33; India Rubber W 87:40 Mr '33; Transit J 77:96 Mr '33

A.R.A. mechanical division committee report on wheels. Ry Mech Eng 107:251-2 JI '33  
Amusing the nation with resilient wheels. H. G. West. diags Elec Traction 29:274-6 S '33

Austro-Daimler rail car utilizes wheels-on-air. il diags Ry Mech Eng 107:309-12 S '33  
Clinic on wheels. diag Elec Traction 29:102-4 Ap '33

Gummi in rädern für schienenfahrzeuge. P. Kremer and G. Reutlinger. il diag Zeit Ver Deutsch Ing 77:955-8 S 2 '33

Locomotive and car wheels. C. T. Ripley. diags Ry Age 95:19-20 JI 1 '33

New car with resilient wheels. C. F. Hirshfeld. il diags Elec Traction 29:321-5+ O '33

Other rubber-cushioned wheels undergo tests. diag Transit J 77:154 My '33

Power rail car has aluminum body; rubber-cushioned steel wheels. il diag Ry Age 94:544-7 Ap 15 '33

Proper care of car journals. il diags Ry Mech Eng 107:59-61 F '33

Resilient wheels and noise reduction. diags Aera 23:1399-1403 N '32

La roue pneuacière pour véhicules roulant sur voie ferrée. diag Génie Civil 103:286 S 16 '33

Rubber cushioned wheels evoke wide interest. M. Buck. il diags Transit J 77:117-18 Ap '33

Streamlined aluminum car has rubber-cushion wheels; AutoTram. il Transit J 77:64 F '33; Rubber Age 32:318 F '33

Use of rubber in Autotram cushion wheel. C. W. Bedford. il diag Rubber Age 32:372-3 Mr '33; Abstract. Mach 39:596 My '33

**See also****Car axles****Manufacture**

Precision control features heat treating of wrought steel wheels. il Iron Age 132:24-5+ Ag 17 '33; Same. Steel 93:25-7 Ag 14 '33

**Repair**

Car wheeling up to date. A. T. Kuehner. il plan Am Mach 77:106-9 F 15 '33

Factors influencing the production of wheel lathes. A. T. Kuehner. diags Mach 39:666-7 Je '33

Gaging car wheels. E. C. Edwards. il Ry Mech Eng 107:330-3 S '33

Grinder eliminates wheel turning. F. T. Ward. Transit J 77:410-11 N '33

Grinder increases life of car wheels. W. H. Goodenough. il Transit J 77:315 O '33

Wheel-shop devices. il Ry Mech Eng 107:373-4 O '33

**CARAVANS, Motor. See Motor caravans****CARBAZOLE**

Manufacture of pure carbazole. Chem Age (Lond) 28:31 Ja 14 '33

**CARBAZYL-BENZOIC acid**

Stereochemistry of *n*-phenylpyrroles; preparation and properties of *o*-N-carbazyl- and *o*-N-(3-nitrocarbazyl)-benzoic acid. W. I. Paterson and R. Adams. Am Chem Soc J 55:1069-72 Mr '33

**CARBETHOXYL group**

Constitutional factors controlling prototropic changes in carbonyl compounds; carbethoxyl and allied groups. H. B. Watson and E. D. Yates. Chem Soc J p220-3 Mr '33

**CARBIDE and carbon chemicals corporation**

Award for chemical engineering achievement, Ind & Eng Chem News ed 11:310 N 10 '33; Oil Paint & Drug Rep 124:18 O 30 '33

**CARBIDES****See also**

Calcium carbide  
Tantalum carbide  
Tungsten carbide

## CARBINOLS

Common basis of intramolecular rearrangements; the dehydration of di-*tert*-butylcarbinol and the conversion of the resulting nonenes to trimethylethylene and isobutylene. F. C. Whitmore and E. Stahly. bibliog Am Chem Soc J 55:4153-7 O '33

Dehydration of tertiary alcohols containing a neopentyl system; methylisopropyl-*tert*-butylcarbinol, methyl-di-*tert*-butylcarbinol, and methylethyleneopentylcarbinol. F. C. Whitmore and K. C. Laughlin. Am Chem Soc J 55:3732-8 S '33

Influence of branched chains on optical activity; the configuration of methyl-tertiary-butylcarbinol. P. G. Stevens. Am Chem Soc J 55:4237-40 O '33

Preparation and dehydration of 4,4-dimethylpentanol-2 (methyleneopentylcarbinol). F. C. Whitmore and A. H. Homeyer. bibliog Am Chem Soc J 55:4194-6 O '33

Rotatory dispersion in the visible and the ultraviolet range of configurationally correlated carbinols, halides and acids. P. A. Levene and A. Rothen. Am Chem Soc J 55:429-30 Ja '33

Sterically hindered tertiary carbinols; 2,4,6-tribromotriphenylcarbinol. A. A. Morton and L. V. Peakes, Jr. bibliog Am Chem Soc J 55:2110-12 My '33

Tertiary aliphatic alcohols containing an adjacent tertiary hydrogen, the related chlorides and dehydration products. F. C. Whitmore and W. L. Evers. Am Chem Soc J 55:812-16 F '33

Trialkylethynylcarbinols. D. D. Coffman and others. Am Chem Soc J 55:3792-6 S '33

## Analysis

Microtest for triaryl carbinols. A. A. Morton and L. V. Peakes, Jr. bibliog Ind & Eng Chem Anal ed 5:185 My 15 '33

## CARBOHYDRATES

Carbohydrate constituents of aspergillus fischeri; abstract. A. G. Norman, W. H. Peterson and R. C. Houtz. Soc Chem Ind J (Chem & Ind) 51:980-1 N 25 '32

Determination of the acetyl content of carbohydrate acetates. H. L. Parsons. bibliog diag Textile Inst J 24:T167-73 Ap '33

Holocellulose, total carbohydrate fraction of extractive-free maple wood. G. J. Ritter and E. F. Kurth. bibliog Ind & Eng Chem 25:1250-3 N '33

Methane fermentation of carbohydrates. G. E. Symons and A. M. Buswell. bibliog Am Chem Soc J 55:2028-36 My '33

Neue Gesichtspunkte auf dem gebiete des biologischen kohlenhydratabbaues. R. Nils-son. Angew Chemie 46:647-50 O 14 '33

Relative fatigue recovery value of different carbohydrate blends and mixtures. D. A. Laird. J Ind Hygiene 15:89-97 Mr '33

## See also

Aldehydes	Glucose
Cellulose	Starch
Dextrose	Sugars

## Analysis

Living organisms as chemical reagents. A. I. Kendall. il J Chem Educ 9:2013-25 D '32

## CARBOLOY. See Tungsten carbide

## CARBON

Adhesion tension; pressure of displacement method. F. E. Bartell and H. J. Osterhof. bibliog il diag J Phys Chem 37:543-52 My '33

Charge distributions for the normal atoms from boron to neon. F. W. Brown, J. H. Bartlett, Jr. and C. G. Dunn. Phys R 44: 296-9 Ag 15 '33

Comparison of the densities of carbon monoxide and oxygen, and the atomic weight of carbon. M. Woodhead and R. Whytlaw-Gray. diag Chem Soc J p846-54 Jl '33

Multiplets in the spectra of O III, O IV, O V and C III. P. G. Kruger and W. E. Shoupp. Phys R 44:105-8 Jl 15 '33

## See also

Carbon black	Diamonds
Charcoal	Graphite
Coal	Petroleum coke
Coke	

## Analysis

Combustion train for the determination of total carbon in soils. T. H. Hopper. diags Ind & Eng Chem Anal ed 5:142-3 Mr 15 '33  
Ein halbmikro-apparat zur bestimmung des kohlenstoffes und wasserstoffes nach der methode von Orthner und Reichel. G. Komppa and W. Rohrmann. il diags Chemische Fabrik 6:201-2 My 10 '33; Discussion. L. Lindner. 6:277 Je 21 '33

Zur bestimmung von kohlenstoff und wasserstoff nach dem centigrammverfahren. K. Kuspert. il diags Chemische Fabrik 6:63-4 F 1 '33

## CARBON, Activated

Activated carbon at New Toronto. A. H. R. Thomas. Am Water Works Assn J 25:689-90 My '33

Activated carbon in industrial water purification. A. S. Behrman. bibliog il diags Water Works & Sewerage 80:55-9 F '33

Activated carbon in Missouri. F. E. Turner and C. Haynes. Pub Works 64:36 My '33

Activated carbon in purification of gas; abstract. M. D. Koenigstuhl. diag Am Gas J 133:29 Ag '33

Activated carbon; new absorbent solving water problems. Business Week p13 Ap 19 '33

Adsorption and absorption developments. il Chem & Met Eng 40:259 My '33

Die adsorption von platinmetallen durch A-kohle. H. Wölbling. Angew Chemie 45:720-1 N 12 '32; Abstract (Recovery of platinum). Chem Age (Lond) 27:603 D 24 '32

Behavior of activated carbon with metallic water-purification equipment. A. S. Behrman and H. Gustafson. Ind & Eng Chem 25:59-60 Ja '33

Carbon adsorption process of solvent recovery. H. Griffiths. il Chem Age (Lond) 28:481-2 My 27 '33

Le charbon actif et ses applications industrielles. A. Godel. il Chimie & Ind 29:3-17 Ja '33; Discussion. 30:1038-40 N '33

Dechlorination of water by acticarbon-hydra; improved technique in water purification. Chem Age (Lond) 29:396 O 25 '33

Economics of solvent recovery; Sutcliffe-Speakman system. J. G. M. Bevan. il Chem Age (Lond) 28:485-6 My 27 '33

Evaluation of activated carbon. Water Works & Sewerage 80:220-4 Je '33

Evaluation of powdered activated carbon for water works use. M. E. Flentje. Water Works & Sewerage 80:86-8 Mr '33

Industrial solvent recovery; the activated carbon system of Sutcliffe, Speakman & co. il Chem Age (Lond) 28:351 Ap 22 '33

Latest procedures in the use of activated carbon. il Pub Works 64:15-16 Je '33

Need of a reference laboratory for testing activated carbon. Water Works & Sewerage 79:389-90 N '32

Phenol from crude ammonia liquor; abstract. F. Sierp. diag Am Gas J 138:37-8 Ap '33

Powdered activated carbon in water purification. F. E. Stuart. N E Water Works Assn J 46:312-15 S '32; Same. Can Eng 64:19-21 Ja 3 '33; Discussion. N E Water Works Assn J 46:365-9 D '32

Properties of active charcoal reactivated in oxygen at 400°. I. M. Kolthoff. Am Chem Soc J 54:4473-80 D '32

Recent progress in solvent recovery technique. S. R. Price. il Chem Age (Lond) 28:478-80 My 27 '33

Recovering benzole with activated charcoal; abstracts. A. Engelhardt and H. Rüping. Gas J (Lond) 203:154 Jl 19 '33; Am Gas J 139:32 S '33

Removal of taste and odor from municipal water supplies. D. H. Matheson. Am Water Works Assn J 25:680-2 My '33

Solvent recovery by active carbon; abstract. J. C. Liddle. Chem Age (Lond) 27:512 N 26 '32

Value of carbon catalysis in gas purification. H. L. Olin, V. Scarth and W. L. Starkweather. diag Gas Age 70:561-4 N 26 '32

Vergleichende studien an aktivkohlen des handels; elementaranalyse und entfärbungsvermögen. L. W. Jirak. Angew Chemie 46: 513-17 Ag 5 '33



**CARBON black**

- Acetylene carbon black. C. Kaufmann. *il Can Chem & Met* 17:93-5 My '33; Same. *Chem Markets* 33:217-20 S '33
- Blacks output in 1931. *Oil Paint & Drug Rep* 123:36 Ja 9 '33
- Carbon black makers file competition code. *Oil Paint & Drug Rep* 124:28A+ Ag 28 '33; Same. *Oil & Gas J* 32:70 S 7 '33; Same cond. *Rubber Age* 33:265 S '33
- Carbon black outlook poor. *Chemicals* 38:3 Ja 23 '33
- Carbon black production lower in 1932 while prices decline to new levels. *Oil & Gas J* 31:74 Ap 27 '33
- Dense dustless black. *il India Rubber W* 87:53 D '32; *Rubber Age* 32:137 N 25 '32
- Dispersibility of gas black. R. P. Allen and F. K. Schoenfeld. *bibliog il Ind & Eng Chem* 25:994-7, 1102-6 S-O '33
- Dustless monorex. *India Rubber W* 88:39 My '33
- Economics of carbon black. W. J. Murphy. *il Chem Markets* 32:419-22 My '33
- Les progrès récents de la fabrication du noir de fumée. *diags Génie Civil* 101:610-11 D 17 '32
- Specification carbon black. R. H. Eagles. *Rubber Age* 32:170 D 10 '32
- Spheron carbon black. *India Rubber W* 88:41 Je '33

**CARBON black export, incorporated**

Exporters of carbon black organize to stabilize foreign prices and quotas. *Rubber Age* 33:120 Je '33

**CARBON brushes.** See *Brushes (electric machinery)***CARBON compounds**

- Attempts to prepare some nitrogenous derivatives of divalent carbon. D. Wood, jr. and F. W. Bergstrom. *Am Chem Soc J* 55:3314-19 Ag '33
- Direct carboxylation of carbon compounds. C. R. Kinney and O. W. Ward. *Am Chem Soc J* 55:3796-8 S '33
- Isomorphism and alternation in the melting points of the normal alcohols, acetates, bromides, acids and ethyl esters from  $C_{10}$  to  $C_{18}$ . J. D. Meyer and E. E. Reid. *Am Chem Soc J* 55:1574-84 Ap '33
- Planar forms of large carbon rings. H. D. K. Drew. *diags Soc Chem Ind J (Chem & Ind)* 52:538-40 Je 30 '33
- Spatial configuration of the valences in trivalent carbon compounds. E. S. Wallis and F. H. Adams. *Am Chem Soc J* 55:3838-51 S '33

See also

Carbohydrates  
Chemistry, Organic  
Hydrocarbons

**CARBON dioxide**

- Absorption of carbon dioxide in sodium carbonate-bicarbonate solutions. C. R. Harte, jr., E. M. Baker and H. H. Purcell. *flow sheet Ind & Eng Chem* 25:528-31, 1128-32 My, O '33
- Adsorption of gases on palladium oxide. P. V. McKinney. *Am Chem Soc J* 55:3626-32 S '33
- Apparatus for determining the absorption of carbon dioxide by leaves under natural conditions. A. J. Heinicke and M. B. Hoffman. *diag Science* 77:55-8 Ja 13 '33
- Calorimetric determination of the intrinsic energy of gases as a function of the pressure; data on oxygen and its mixtures with carbon dioxide to 40 atmospheres at 28°C. F. D. Rossini and M. Frandsen. *diags U S Bur Stand J Research* 9:733-47 D '32
- Carbon dioxide as a factor affecting lag in bacterial growth. H. H. Walker. *Science* 76:602-4 D 23 '32
- Carbon dioxide thermodynamics; review of research related to  $CO_2$  and practice with  $CO_2$  in refrigerating engineering. J. C. Goosmann. *Refrig Eng* 26:190-1+, 245-8 O-N '33 (to be cont)

Chemistry of lignin; distillation of alkali lignin in reduced atmosphere of carbon dioxide. M. Phillips and M. J. Goss. *il diag Ind & Eng Chem* 24:1436-41 D '32

Compressibilities of certain gases at low pressures and various temperatures. W. Cawood and H. S. Patterson. *Chem Soc J* p619-24 Je '33

Determination of hydrocyanic acid in air and in air-carbon dioxide mixtures. H. L. Cupples. *il diag Ind & Eng Chem Anal ed* 5:50-2 Ja 15 '33

Discussion of origin, occurrence and the use of natural carbon dioxide in the United States. J. C. Miller. *map Oil & Gas J* 32:19-20 N 9 '33

Effect of carbon dioxide and sodium benzoate on vitamin C content of orange juice. A. F. Morgan, C. I. Langston and A. Field. *bibliog Ind & Eng Chem* 25:1174-6 O '33

Effect of carbon dioxide on the strength of some building materials. G. E. Bessey. *Soc Chem Ind J* 52:288T-93T S 15 '33

Effect of foreign gases upon the relative intensities of the mercury triplet  $2^3P_{012}-2^3S_1$  under conditions of optical excitation. R. T. Macdonald and G. K. Rollefson. *diag Phys R* 43:177-80 F 1 '33

Efficiency of carbon dioxide as a radiochemical catalyst; acetylene polymerization and water synthesis. C. Rosenblum. *bibliog J Phys Chem* 37:53-8 Ja '33

Electro-optical Kerr effect in gases. C. W. Bruce. *diags Phys R* 44:682-6 O 15 '33

Indices of air change and air distribution. F. C. Houghton and J. L. Blackshaw. *il diag Heating-Piping* 5:324-30 Je '33

Influence of carbon dioxide on the rate of multiplication of certain bacteria, as judged by viable counts. R. B. Haines. *diags Soc Chem Ind J* 52:13T-17T Ja 27 '33

Influence of combined oxygen on the adsorption of vapors by porous solids. L. J. Burrage. *bibliog J Phys Chem* 37:505-10, 735-44 Ap, Je '33

Infrared spectrum of carbon dioxide. A. Adel and D. M. Dennison. *bibliog Phys R* 43:716-23; 44:99-104 My 1, J1 15 '33

Initial absorption rates of carbon dioxide by water and by dilute sodium carbonate solutions. H. S. Davis. *diag Ind & Eng Chem* 25:1023-5 S '33

Limits of inflammability of natural gases containing high percentages of carbon dioxide and nitrogen. G. W. Jones and R. E. Kennedy. *tables U S Bur Mines Rep of Invest* 3216:1-23 '33; Same. *Am Gas J* 139:13-15, 46 J1; 21-3 Ag '33; Same *abr. Gas Age* 72:53-6 J1 15 '33

Losses of volatile matter in coal by standard method; water of hydration and carbon dioxide of mineral matter. W. A. Selvig and W. D. Pohle. *Ind & Eng Chem Anal ed* 5:239-41 J1 15 '33

Mechanical equipment for continuous fermentation of fibrous materials. A. M. Buswell and C. S. Boruff. *bibliog diags Ind & Eng Chem* 25:147-9 F '33

Rates of scale formation on iron and a few of its alloys. K. Heindhofer and B. M. Larsen. *il Am Soc Steel Tr Trans* 21:865-95 O '33

Reactivity of cokes at low temperatures to oxygen and carbon dioxide. C. B. Bolland and J. W. Cobb. *diag Soc Chem Ind J* 52:153T-9T Je 2 '33

Relation between volume of respiration chamber and concentration of carbon dioxide in end sample and in composite sample of air. M. Kleiber. *Ind & Eng Chem Anal ed* 5:98-100 Mr 15 '33

Resolution of the two difference bands of  $CO_2$  near 10 $\mu$ . E. F. Barker and A. Adel. *Phys R* 44:185-7 Ag 1 '33

Synthesis of acetylene by pyrolysis of methane. H. H. Storch and P. L. Golden. *bibliog il Ind & Eng Chem* 25:768-71 J1 '33

Thermodynamic ionization constants of carbonic acid. D. A. MacInnes and D. Belcher. *diags Am Chem Soc J* 55:2630-46 J1 '33

CARBON dioxide—*Continued*

## Analysis

- Determination of carbon dioxide in continuous gas streams. W. M. Martin and J. R. Green. bibliog diags Ind & Eng Chem Anal ed 5:114-18 Mr 15 '33
- Exhaust gas analysis as a method of determining carbon content of gasoline. C. C. Minter. diag Nat Pet N 25:33-4+ Je 28 '33
- Precise automatic apparatus for continuous determination of carbon dioxide in air. M. D. Thomas. bibliog il diags Ind & Eng Chem Anal ed 5:193-8 My 15 '33

## Industrial applications

- CO<sub>2</sub> & H<sub>2</sub>O protect Safe-Harbor plant from fire. J. B. Cutler. il diags Power 77:367-9 Jl '33
- Carbon dioxide in industry. C. L. Jones. diag Chem & Met Eng 40:76-9 F '33
- Carbon dioxide makes the welding job safe without steaming or dismantling. Oil & Gas J 32:47 Je 29 '33
- Chemical changes in the fat of frozen and chilled meat; the protective influence of carbon dioxide on the fat of beef stored at 0°. C. H. Lea. Soc Chem Ind J 52:9T-12T Ja 27 '33
- Comparison of the carbonic and ammonia refrigeration cycles. H. J. McIntire. Power 77:412-14 Ag '33
- Effect of carbon dioxide on bacterial growth with special reference to the preservation of fish; gas storage of fresh fish. F. P. Coyne. Soc Chem Ind J 52:19T-24T Ja 27 '33
- Effect of carbon dioxide on the colour changes or bloom of lean meat. J. Brooks. Soc Chem Ind J 52:17T-19T Ja 27 '33
- Effect of solid and gaseous carbon dioxide upon transit diseases of certain fruits and vegetables. C. Brooks and others. U S Agric Tech Bul 318:1-60 [bibliog p58-9] '32
- Inert gas as fire extinguisher. Weekly Underw 128:876-8 My 6 '33
- Piping CO<sub>2</sub> for fire fighting. H. G. Kincaid. il diags Dom Eng 142:34-6 N '33 (to be cont)
- Reducing inflammability of fumigants with carbon dioxide. R. M. Jones. diags Ind & Eng Chem 25:394-6 Ap '33
- Welding of vessels containing explosive gases made safe by carbon dioxide. L. G. E. Big-nell. il Oil & Gas J 31:13 F 16 '33

See also

Carbon dioxide, Solid

## Manufacture

- Modern source of carbon dioxide. il Chem Age (Lond) 28:463 My 20 '33
- New type of kiln produces pure CO<sub>2</sub> and pure lime. E. C. Harsh. il Rock Prod 36:41-2 Ag '33
- Possibility of utilizing carbon dioxide from lime kilns for ice. W. D. Mount; C. L. Jones. Rock Prod 35:18-19 N 19 '32
- Unit converts dry ice into gas; carboverters. il Steel 91:27 N 28 '32

## CARBON dioxide, Liquid

- CO<sub>2</sub> finds new uses. J. H. Pratt. bibliog il Chem Markets 32:124-6 F '33
- Carbon dioxide for blasting; Cardox. Soc Chem Ind J (Chem & Ind) 51:940 N 11 '32
- Vapor pressure of liquid and solid carbon dioxide. C. H. Meyers and M. S. Van Dusen. diags U S Bur Stand J Research 10:381-412 Mr '33

## CARBON dioxide, Solid

- Carbon dioxide in industry. C. L. Jones. diag Chem & Met Eng 40:76-9 F '33
- Chamber for experimentally freezing horticultural products at very low temperatures. H. C. Diehl. Science 78:15-16 Jl 7 '33
- Discussion of origin, occurrence and the use of natural carbon dioxide in the United States. J. C. Miller. map Oil & Gas J 32:19-20 N 9 '33
- Dry ice finds many uses. Refrig W 68:16 Je '33

- Dry ice industry expanding rapidly. C. A. Winder. Min & Met 14:246 My '33
- Dry ice; its uses and possibilities in review. R. H. Dowling. il Refrig Eng 26:121-5 S '33
- Freezing-out method for gasoline analysis of refinery gases. J. L. Oberseider. Nat Pet N 25:35 S 13 '33
- Maiuri cold multiplier; refrigeration control and economizer for solid CO<sub>2</sub>; abstract. G. Maiuri. diag Refrig Eng 25:95 F '33; Discussion. J. C. Goosmann. 25:208 Ap '33; Reply. 25:274 My '33
- Modern source of carbon dioxide; Drikold liquefier. il Chem Age (Lond) 28:463 My 20 '33
- 109° below zero; an ideal temperature for certain metal-working operations. C. O. Herb. il diags Mach 39:305-9 Ja '33
- Production and uses of solid CO<sub>2</sub>. H. G. Littler. il Soc Chem Ind J (Chem & Ind) 52:533-7 Je 30 '33; Abstract. Chem Age (Lond) 28:176 F 25 '33
- Production of vibrations by solid carbon dioxide; abstract. M. D. Waller. Mech Eng 55:504-5 Ag '33
- Solid carbon dioxide as a refrigerant. il Chem Age (Lond) 29:102-3 Jl 29 '33
- Solid carbon dioxide from flue gas by application of Joule-Thomson effect. F. E. E. Germann. bibliog Ind & Eng Chem 25:150-2 F '33
- Unit converts dry ice into gas; carboverters. il Steel 91:27 N 28 '32
- Uses of solid carbon dioxide. C. L. Jones. Refrig Eng 25:331-3 Je '33
- Vapor pressure of liquid and solid carbon dioxide. C. H. Meyers and M. S. Van Dusen. diags U S Bur Stand J Research 10:381-412 Mr '33

## Manufacture

- Byproduct CO<sub>2</sub> builds a new refrigerant business; Michigan alkali co, Wyandotte, Mich. S. T. Orr. il diag Chem & Met Eng 40:250-2 My '33
- Carbon-dioxide ice plant at Dagenham. il plan Engineering 136:162-4, pl 7 Ag 18 '33
- Direct manufacture of carbon dioxide from natural gas. F. B. Taylor, jr. and J. T. Russell. diag Gas Age 71:333-4+ Ap 1 '33
- La fabrication de l'acide carbonique solide-utilisé comme source de froid dans l'alimentation. il diags Génie Civil 103:330-2 S 30 '33
- How to make solid CO<sub>2</sub> from flue gas. W. R. Kitzmiller. il diags Power 77:296-8 Je '33
- New type of kiln produces pure CO<sub>2</sub> and pure lime. E. C. Harsh. il Rock Prod 36:41-2 Ag '33
- Possibility of utilizing carbon dioxide from lime kilns for ice. W. D. Mount; C. L. Jones. Rock Prod 35:18-19 N 19 '32
- Solvent products, Ltd. il Soc Chem Ind J (Chem & Ind) 52:98-100 F 3 '33
- Thermodynamics of CO<sub>2</sub> cycles. A. B. Stickney. diags Refrig Eng 24:334-42 D '32; Abstract. Power 76:355 Mid-D '32

## Transportation

- Development of special rail equipment; solid-carbon-dioxide car. R. C. Pierce. Ry Age 94:63 Ja 21 '33

## CARBON dioxide compressors

- Comparison of the carbonic and ammonia refrigeration cycles. H. J. McIntire. Power 77:412-14 Ag '33
- 300-ton refrigeration plant for New York hospital-Cornell university medical college. W. H. Fisher. il Power 77:482-3 S '33

## CARBON dioxide institute, inc.

- Chartered in New York. Oil Paint & Drug Rep 124:24 O 2 '33

## CARBON dioxide recorders

- Hays flue gas recorder. il Blast F & Steel Pl 21:431 Ag '33
- Leeds & Northrup new indicating recorders. il Heating-Piping 5:106 F '33
- Operation of CO<sub>2</sub> recorder. il diag Chem Age (Lond) 27:454-5 N 12 '32

## CARBON disulfide

- Dispersion of the Kerr electro-optic effect in the short infrared spectrum. L. R. Ingersoll and W. R. Winch. diags Phys R 44:399-405 S 1 '33



**CARBON disulfide—Continued**

- Effect of traces of carbon disulfide on the yields of Grignard reagents. F. C. Whitmore and D. E. Badertscher. *Am Chem Soc J* 55:4158-60 O '33
- Ignition temperatures of mixtures of hydrogen sulphide, carbon disulphide, and air. F. D. Leicester. *diag Soc Chem Ind J* 52:341T-6T O 20 '33
- Industrial poisoning by carbon bisulphide in Italy; abstract. A. Ranelletti. *J Ind Hygiene* 15:sup5 Mr '33
- Intestinal diseases following chronic inhalation of carbon disulfide and hydrogen sulfide; abstract. W. Weise. *J Ind Hygiene* 15:sup32 My '33
- Modern carbon disulphide manufacture. M. Schofield. *il Chem Age (Lond)* 27:504 N 26 '32
- Occurrence of two liquid phases and of a minimum density in the system carbon disulphide-ethylene dichloride. D. L. Hamrick and J. Howard. *Chem Soc J* p2915-16 D '32
- Reducing inflammability of fumigants with carbon dioxide. R. M. Jones. *diags Ind & Eng Chem* 25:394-6 Ap '33
- Über gleichgewichtsmessungen der teilreaktionen bei der umsetzung von schwefelkohlenstoff mit wasserdampf im temperaturgebiet von 350° bis 900° C. E. Terres and H. Wesemann. *diags Angew Chemie* 45:795-802 D 31 '32
- CARBON monoxide**
- Action of carbon monoxide on iron and cobalt complexes of cysteine. M. P. Schubert. *Am Chem Soc J* 55:4563-70 N '33
- Adsorption of gases on palladium oxide. P. V. McKinney. *Am Chem Soc J* 55:3626-32 S '33
- Biological detoxication of coal gas. *Gas J (Lond)* 204:145 O 11 '33
- Carbon monoxide appears in unexpected places; fumes from engine enter diver's air hose. F. Kelton. *il Nat Safety N* 28:30 S '33
- Carbon monoxide distribution in relation to the heating and ventilation of a one-floor garage. F. C. Houghten and P. McDermott. *il diag Heating-Piping* 5:376-80 Jl '33; *Conclusions*. *Heat & Ven* 30:35-6 N '33
- Catalytic activity of chromites for the oxidation of carbon monoxide. E. C. Lory. *J Phys Chem* 37:685-92 Je '33
- Comparison of the densities of carbon monoxide and oxygen, and the atomic weight of carbon. M. Woodhead and R. Whytlaw-Gray. *diag Chem Soc J* p846-54 Jl '33
- Effect of gaseous impurities on the radiochemical combination of carbon monoxide and oxygen. C. Rosenblum. *Am Chem Soc J* 55:220-3 Ja '33
- Experimental determination of the flame temperatures of complex mixtures of combustible gases and a method for calculating them. B. Lewis, H. Seaman and G. W. Jones. *J Fr Inst* 215:149-67 F '33
- Flame phenomena of carbon monoxide. A. R. J. P. Ubbelohde. *diag Chem Soc J* p972-7 Ag '33
- Flame spectrum of carbonic oxide. W. A. Bone. *Soc Chem Ind J (Chem & Ind)* 51:962-2 N 18 '32
- Interaction of carbon monoxide and nitric oxide. F. F. Musgrave and C. N. Hinshelwood. *Chem Soc J* p56-9 Ja '33
- New method for the preparation of oxide catalysts for the carbon monoxide oxidation. C. M. Loane. *bibliog diag J Phys Chem* 37:615-22 My '33
- Nickel carbonyl; a study of the mechanism of its formation from nickel sulfide and carbon monoxide. M. M. Windsor and A. A. Blanchard. *Am Chem Soc J* 55:1877-83 My '33
- Phosgene-sensitized oxidation of carbon monoxide. G. K. Rollefson and C. W. Montgomery. *Am Chem Soc J* 55:4036-43 O '33
- Photochemistry of mixtures of chlorine, oxygen and carbon monoxide. G. K. Rollefson. *Am Chem Soc J* 55:148-52 Ja '33

- Photodissociation of hydrogen peroxide in the presence of hydrogen and carbon monoxide and the recombination of OH radicals. G. von Elbe. *diag Am Chem Soc J* 55:62-9 Ja '33
- Platinized silica gel as an oxidation catalyst in gas analysis; oxidation of hydrogen and carbon monoxide. K. A. Kobe and E. J. Arveson. *Ind & Eng Chem Anal ed* 5:110-12 Mr 15 '33
- Rates of detonation in carbon monoxide-oxygen mixtures. C. Campbell, C. Whitworth and D. W. Woodhead. *Chem Soc J* p59-62 Ja '33
- Reduction of palladium oxide by carbon monoxide. P. V. McKinney. *diag Am Chem Soc J* 54:4498-504 D '32
- Structure of the third positive group of CO bands. G. H. Dieke and J. W. Mauchly. *tables Phys R* 43:12-30 Ja 1 '33
- Synthesis of benzaldehyde from benzene and carbon monoxide under pressure in the presence of aluminum chloride. J. H. Holloway and N. W. Krase. *bibliog il diag Ind & Eng Chem* 25:497-502 My '33
- Zeeman effect of perturbed terms in the CO angstrom bands. W. W. Watson. *il Phys R* 42:509-17 N 15 '32

**Analysis**

- Microanalysis of gases; carbon monoxide, ethylene, and acetylene. F. E. Blacet, G. D. MacDonald and P. A. Leighton. *bibliog il diags Ind & Eng Chem Anal ed* 5:272-4 Jl 15 '33
- CARBON monoxide poisoning**
- Carbon monoxide. A. R. Smith. *Safety Eng* 65:73-4 F '33
- Case of carbon monoxide poisoning from an oil stove. L. F. Barker. *J Ind Hygiene* 15:238-42 [bibliog p242] Jl '33
- Claims from carbon monoxide—difficult to differentiate between accidental death and suicide. F. S. Rossiter. *Weekly Underw* 129:511-12+ S 16 '33
- Effects of exposure to carbon monoxide. *Gas J (Lond)* 201:261-2 F 1 '33
- False remedies for carbon monoxide asphyxia. Y. Henderson. *Science* 78:408-9 N 3 '33
- Further research on the production of carbon monoxide from paint in sealed compartments. S. F. Dudley, F. G. Edmed and R. C. Frederick. *J Ind Hygiene* 15:1-7 Ja '33
- Hazards in connection with natural gas. P. M. Biddison. *Gas Age* 70:681-3 D 24 '32
- Methylene blue as an antidote. *Science* 77:sup 6-7 Ja 20 '33
- Methylene blue as an antidote for cyanide and carbon monoxide. M. M. Brooks. *Nat Safety N* 27:50 Je '33
- Methylene blue as antidote for carbon monoxide and cyanide poisoning. *Safety Eng* 65:229 Je '33
- Methylene blue in cyanide and carbon monoxide poisoning. H. E. Howe. *Textile Col* 55:333 My '33
- Poisoning by industrial gases; compensation not recommended for H<sub>2</sub>S and CO. *Chem Age (Lond)* 29:276 S 23 '33
- Sodium tetrathionate and methylene blue in cyanide and carbon monoxide poisoning. J. H. Draize. *Science* 78:145 Ag 18 '33
- Treatment of asphyxia due to carbon monoxide or cyanide by artificial respiration and methylene blue. S. C. Dickinson. *Am Gas J* 139:22-5 S '33
- CARBON monoxide recorders**
- Gas detection instruments. S. S. Tomkins. *bibliog il Am Gas Assn Proc* 1932:810-25; Same. *Am Gas Assn Mo* 15:511-19 D '33
- Mersey tunnel; details of the carbon monoxide recording apparatus of the ventilating installation. *il diags Electrician* 111:309-10 S 15 '33
- Nachweis und registrierung von geringen mengen kohlenoxyd, insbesondere in reinem kontaktwasserstoff. O. Pfundt. *il diags Chemische Fabrik* 6:69-71 F 8 '33
- Wallach bros. carbon monoxide detector. *Engineer* 155:532 My 26 '33; *il Chem Age (Lond)* 28:463-4 My 20 '33

**CARBON oxides**

Acid soluble oxidizing material from charcoal. M. A. Mayers. *Am Chem Soc J* 55:2435-6 Je '33

Carbon suboxide. C. D. Hurd and F. D. Pilgrim. *Am Chem Soc J* 55:757-9 F '33

See also

Carbon dioxide

Carbon monoxide

**CARBON oxysulfide.** See Carbonyl sulfide**CARBON paper**

Two new designs for carbon paper. Adv & Sell 21:sup[Adv Arts]33 My '33

**CARBON suboxide.** See Carbon oxides**CARBON tetrachloride**

Assay of plant material for its rotenone content. H. A. Jones. *bibliog Ind & Eng Chem Anal ed* 5:23-6 Ja 15 '33

Diamagnetism of carbon tetrachloride, benzene and toluene at different temperatures. G. F. Boeker. *Phys R* 43:756-60 My 1 '33

Formation of phosgene in thermal decomposition of carbon tetrachloride. A. Hamilton. *bibliog Ind & Eng Chem* 25:539-41; Discussion. J. C. Olsen. 541-2 My '33

Free energy of formation of iodine monobromide in carbon tetrachloride solution. D. M. Yost, T. F. Anderson and F. Skoog. *Am Chem Soc J* 55:552-5 F '33

Influence of combined oxygen on the adsorption of vapors by porous solids. L. J. Burrage. *bibliog J Phys Chem* 37:505-10, 735-44 Ap, Je '33

Influence of volatile chlorides on magnesium and on copper. J. D. Grogan and T. H. Schofield. *Engineering* 135:675-6 Je 23 '33

Is carbon tetrachloride a health hazard in the industry? J. N. Shirley. *Rubber Age* 32:165-7 D 10 '32

Photochlorination of tetrachloroethylene in carbon tetrachloride solution. J. A. Leermakers and R. G. Dickinson. *diags Am Chem Soc J* 54:4648-57 D '32

Reaction between atomic hydrogen and carbon tetrachloride. H. F. Smyser and H. M. Smallwood. *Am Chem Soc J* 55:3498-9 Ag '33

Reaction between ethylene and bromine in carbon tetrachloride. D. M. Williams. *Chem Soc J* p2911-15 D '32

Thermodynamic constants of iodine monochloride, iodine monobromide and bromine monochloride in carbon tetrachloride solutions. C. M. Blair, Jr. and D. M. Yost. *Am Chem Soc J* 55:4489-96 N '33

Why use hazardous cleaners? G. M. Briggs. *Nat Safety N* 28:21-2 S '33

**CARBON tetraiodide**

Two reactions of gaseous methyl and ethyl. J. H. Simons and M. F. Dull. *diags Am Chem Soc J* 55:2696-701 J1 '33

**CARBONADO.** See Diamonds, Industrial**CARBONATION**

Preparation of ketones by the carbonation of organolithium compounds. H. Gilman and P. R. Van Ess. *Am Chem Soc J* 55:1258-61 Mr '33

**CARBONEX**

Carbonex—softener and filler. *Rubber Age* 32:379 Mr '33

**CARBONIC acid.** See Carbon dioxide**CARBONYL chloride.** See Phosgene**CARBONYL compounds**

Cleavage of carbonyl compounds by alkalis; phenacylpyridinium salts. S. H. Babcock and R. C. Fuson. *Am Chem Soc J* 55:2946-8 J1 '33

Cleavage of carbonyl compounds by alkalis; the action of hypobromite solutions on beta-diketones. C. F. Woodward and R. C. Fuson. *Am Chem Soc J* 55:3472-5 Ag '33

Cleavage of carbonyl compounds by alkalis; trihalomethylketonic acids. B. A. Bull and R. C. Fuson. *Am Chem Soc J* 55:3424-8 Ag '33

Constitutional factors controlling prototropic changes in carbonyl compounds; a relationship between the polar characters of substituent groups and the activation energies of proton addition. W. S. Nathan and H. B. Watson. *Chem Soc J* p890-5 J1 '33

Constitutional factors controlling prototropic changes in carbonyl compounds; carbethoxyl and allied groups. H. B. Watson and E. D. Yates. *Chem Soc J* p220-3 Mr '33

Constitutional factors controlling prototropic changes in carbonyl compounds; the prototropy of nuclear-substituted acetophenones. W. S. Nathan and H. B. Watson. *Chem Soc J* p217-20 Mr '33

Electron diffraction and molecular structure: carbonyl compounds. R. W. Dornte. *Am Chem Soc J* 55:4126-30 O '33

Studies on unsaturated 1,4-dicarbonyl compounds; aryl unsaturated 1,4-diketones and ketonic acids derived from citraconic and mesaconic acids, with particular reference to the  $\beta$ -[*p*-bromobenzoyl]-methylacrylic acids. R. E. Lutz and R. J. Taylor. *Am Chem Soc J* 55:1168-78 Mr '33

Studies on unsaturated 1,4-dicarbonyl compounds; aryl unsaturated 1,4-diketones and ketonic acids derived from dimethyl maleic and fumaric acids. R. E. Lutz and R. J. Taylor. *Am Chem Soc J* 55:1593-1601 Ap '33

Studies on unsaturated 1,4-dicarbonyl compounds; some new derivatives of dimethylfumaric acid. R. E. Lutz and R. J. Taylor. *Am Chem Soc J* 55:1585-92 Ap '33

**CARBONYL group**

Salt-forming characteristics of doubly and singly-linked elements of the oxygen group; oxonium phosphates of the carbonyl group, and investigations with derivatives of the type  $\text{CH}_2\text{Ph}\cdot\text{COR}$ . J. W. Baker and L. Hey. *Chem Soc J* p2917-23 D '32

**CARBONYL sulfide**

Oxidation of carbonyl sulphide. C. E. H. Bawn. *Chem Soc J* p145-51 F '33

Oxidation of carbonyl sulphide. H. W. Thompson, F. L. Hovde and A. C. H. Cairns. *Chem Soc J* p208-16 F '33

Über gleichgewichtsmessungen der teilreaktionen bei der umsetzung von schwefelkohlenstoff mit wasserdampf im temperaturgebiet von 350° bis 900° C. E. Terres and H. Wesemann. *diags Angew Chemie* 45:795-802 D 31 '32

**CARBORAFFIN**

Die adsorption von platinmetallen durch A-kohle. H. Wöbling. *Angew Chemie* 45:720-1 N 12 '32

**CARBOXYL group**

Reactions of olefinic compounds; the orienting influence of the carboxyl group. G. F. Bloomfield, E. H. Farmer and C. G. B. Hose. *Chem Soc J* p800-6 J1 '33

**CARBOXYLATION**

Autoclave in organic synthesis. G. T. Morgan. *Chem Age (Lond)* 27:572-3 D 17 '32

Direct carboxylation of carbon compounds. C. R. Kinney and O. W. Ward. *Am Chem Soc J* 55:3796-8 S '33

**CARBOXYLIC acids**

Constitution of pyromellitic, mellophanic and prehnitic acids. L. I. Smith and G. D. Byrkit. *bibliog Am Chem Soc J* 55:4305-8 O '33

Distribution coefficients of some monocarboxylic acids and esters between immiscible solvents. H. J. Henriques. *Am Chem Soc J* 55:3284-8 Ag '33

Resolution of *cis*- and *trans*-dl-3-carboxy-1:1-dimethylcyclopropane-2-propionic acids and of *trans*-dl-caronic acid. J. Owen and J. L. Simonsen. *Chem Soc J* p1223-5 S '33

**CARBURETERS**

Down-draught carburization. C. H. Fisher. *Automobile Eng* 23:180-2 My '33

Effect of increased carburetor pressure on engine performance at several compression ratios. O. W. Schey and V. G. Rollin. *bibliog il diag U S Nat Advisory Com for Aeronautics* 1932:113-22 '33

Gassing, its cause and cure. R. D. Fageol. *Bus Transportation* 12:207 My '33

Powerplant improvement trend to downdraft carburetors. *il Automotive Ind* 67:791- D 24 '32

Schwimmerloser vergaser. O. Kurtz. *diags Zeit Ver Deutsch Ing* 77:832-4 J1 29 '33

Stromberg fast idle. *diag Automotive Ind* 68:346 Mr 18 '33



**CARBURETERS** (gas works)

Experience with the ignition arch carburetor. H. M. Riley. *il diags Am Gas J* 139:41-3 S '33

**CARD** catalogs. See Catalogs, Card**CARD** system in business

Canadian National stores control methods stand time test. *il Ry Age* 93:970-3 D 31 '32  
No guessing here! card system employed in gasoline service stations. C. A. Newkirk. *il Pet Age* 26:24-5 N '32  
Tell 'em right; system of keeping rate information, routes and schedules for bus agents and travel bureaus. E. M. Neil. *il Bus Transportation* 12:169-70 Ap '33

**CARDING** machines

Recent developments in sliver roll forming; abstract. T. Woodhouse and A. Brand. *Textile Inst J* 24:A17-18 Ja '33  
Tape condensers. H. T. Godfrey. *Textile World* 83:1086 Je '33

**CARDS**

See also

Bridge (game)

**CAREY**, W. Gibson, jr.

President, Yale & Towne mfg. co. por Steel 92:16 F 27 '33

**CARGO** handling

All departments must co-operate for increased business and profits. H. E. Stocker. *Marine R* 63:32-3 My '33

Cargo handling facilities at Seattle for Grace line steamers. H. E. Stocker. *il Marine R* 63:30-2 Mr '33

Cargo handling facts and principles must be properly applied. H. E. Stocker. *Marine R* 63:30-1 Jl '33

Economies effected by skid shipments point way to other savings. H. E. Stocker. *Marine R* 63:46-8 Ap '33

Established principles and methods will produce better results. H. E. Stocker. *Marine R* 63:30-1 F '33

Handling cargo at Port Allen in the Hawaiian Islands. *Marine R* 63:34 Je '33

Handling of cargo at the docks; abstract. H. A. Reed. *Mech Handling* 20:90 Mr '33

How safety and cost of cargo handling are under supervisory control. A. Banscher. *il Marine R* 63:32-3 Ag '33

How specializing in cargo handling produces efficient results. H. E. Stocker. *Marine R* 63:32-3 Je '33

Improve your cargo handling by closer co-operation. M. Colby. *Marine R* 63:34 S '33

Loading and discharging vessels; improved deck appliances. *Mech Handling* 20:18 Ja '33

Planning cargo handling operations will reduce stevedoring costs. E. Johnson, jr. *il Marine R* 63:32-3 S '33

Portable rail tracks used in loading and discharging. R. C. Hill. *il Marine R* 63:30 O '33

Prejudice and custom must give way to scientific study of facts. H. E. Stocker. *Marine R* 63:32-3 N '33

Scientific management can be applied to cargo handling operations. H. E. Stocker. *Marine R* 62:40-1 D '32

Ship officers and good cargo handling; the mate's point of view. E. Johnson, jr. *Marine R* 63:28-9 Ja '33

Some considerations affecting dock equipment. R. M. Dymond. *il diags Inst Mech Eng Proc* 123:805-17 '32

Useful hints on cargo handling. Published in monthly numbers of *Marine review*

See also

Grain handling Longshoremen

Loading and unloading—Ships

**CARIBBEAN** region

Isthmian links. B. Willis. *Geol Soc Bul* 43:917-53, pl 25-29 D '32

**CARICATURES**

Clayatures add an unusual touch to informal printed matter. *il Inland Ptr* 91:29 Ag '33

**CARILLONS**

Carillon which was hoisted by tractor; illustration. *Sci Am* 148:198 Ap '33

**CARLINA** oxide

Constitution of carlina-oxide. H. Gilman, P. R. Van Ess and R. R. Burtner. *Am Chem Soc J* 55:3461-3 Ag '33

**CARLISLE**, Floyd L.

Carlisle's shadow lengthens. por *Business Week* p20-1 My 3 '33

**CARLSBAD** cavern

Light in the Carlsbad caverns. E. A. Roberts. *il front Elec J* 30:366-7 S '33

**CARMELIZATION**

Determination of inulin and lævulosin applied to the analysis of coffee substitutes and to the question of caramelisation; abstract. C. I. Kruisheer. *Soc Chem Ind J* 52:sup326 Ap 21 '33

**CARNALLITE**

Phasentheoretisch interessante wässrige salzsyste; die gewinnung des rubidiums aus carnallit. J. D'Ans. *Angew Chemie* 46:491-3 Jl 22 '33

**CARNEGIE** corporation

Appropriations of the Carnegie corporation. *Science* 76:484 N 25 '32

**CARNEGIE** institute of technology, Pittsburgh

Review of the Pittsburgh studies into steel manufacture. *Metal Prog* 22:35-7 D '32

**CARNEGIE** steel company

Carnegie warehouses pass to Illinois Scully, under Heggie. *Steel* 91:11 D 19 '32

**CARNUBA** wax

Preparation of paraffins from Carnuba wax by means of catalytic hydrogenation. H. I. Waterman, P. de Kok and A. J. Tulleners. *Inst Pet Tech J* 18:1007-9 D '32

**CAROB**

St. John's bread as raw material for industrial alcohol. M. Neubauer. *Ind & Eng Chem News ed* 11:140 My 10 '33

**CARONIC** acid

Resolution of *cis*- and *trans*-dl-3-carboxy-1:1-dimethylcyclopropane-2-propionic acids and of *trans*-dl-caronic acid. J. Owen and J. L. Simonsen. *Chem Soc J p* 1223-5 S '33

**CAROTENE**

Carrot leaf carotene. G. Mackinney and H. W. Milner. *Am Chem Soc J* 55:4728-9 N '33

Conversion of carotene into vitamin-A in the animal body; abstract. R. J. Macwalter and J. C. Drummond. *Soc Chem Ind J (Chem & Ind)* 52:272 Mr 24 '33

Medical aspects of vitamin A as an anti-infective agent. R. G. Turner. *J Chem Educ* 10: 97-8 F '33

**CARPENTRY**

Carpenter's tool chest. T. Hibben. 209p *Lip-pincott* '33

Money making plans for winter shop work. *diags Am Bld* 54:30-1 D '32

What to make of wood—and how; simple designs for all craftsmen; working drawings. *Am Bld* 55:42-3 Ap; 35 My; 36-7 Jl; 40-1 S '33

See also

Building Floors  
Doors Woodwork

**CARPET** beetles. See Beetles; Black carpet beetle

**CARPET** factories

Power

Making steam do double duty; M. J. Whittall associates, ltd. F. E. Bailey. *il Elec J* 29:555-6 D '32

**CARPETS**

Automobile carpet. *Textile World* 82:1000 N '32

Dyeing carpet yarns; abstract. H. Jackson. *Textile Col* 55:472 Jl '33

See also

Linoleum  
Rugs

Cleaning

Carpet-renovating plant for Pullman car carpets. *il Ry Mech Eng* 107:99-100 Mr '33

## CARPETS—Continued

## Testing

- Comparison of value in soft floor coverings. A. G. Ashcroft. *il Melliland* 4:447-9, 511-13, 573-5, 632-4, 678-80, 721-4 O '32-Mr '33  
 Special testing machines aid research at Bigelow-Sanford carpet co. *il Textile World* 83:1266 J1 '33

## CARPETS, Rubber-backed

- Synthetic carpet; Lea fabrics, inc, General Johnson's plant, no code violator, makes a unique product. *Business Week* p10 S 16 '33

## CARRERAS, limited

- Annual general meeting, 29th, London. *Economist* 115:1208 D 24 '32

## CARRIER current control

- Carrier current for load control. *Elec W* 102:523 O 21 '33  
 Carrier-current relaying simplified. P. Sporn and C. A. Muller. *il diags Elec W* 102:556-60 O 28 '33  
 Remote alarms by carrier current over distribution circuits. F. B. Doolittle. *il diag Elec W* 101:172-3 F 4 '33

## CARRIER current telephone. See Telephone, Carrier current

## CARRIERS

- California commission goes gunning for the wildcat carrier. *Pub Util* 10:643 N 24 '32  
 Coming curb on the contract carriers. J. W. Greenleaf and D. J. Teviotdale. *Pub Util* 11:259-65 Mr 2 '33  
 New curb on the contract carrier; decision of the Supreme court. H. C. Spurr. *Pub Util* 11:106-10 Ja 19 '33  
 Public control of contract motor carriers. J. J. George. *J Land & Pub Util Econ* 9:233-46 Ag '33

## See also

- |                                 |                  |
|---------------------------------|------------------|
| Air lines                       | Postal service   |
| Canals                          | Public utilities |
| Communication and traffic       | Railroad law     |
| Electric railroads              | Railroads        |
| Freight car service             | Shipping         |
| Motor bus lines                 | Steamboat lines  |
| Motor trucks in freight service | Street railroads |
| Pipe lines as common carriers   | Transportation   |
|                                 | Trolley buses    |

## CARS

- Is modern equipment the answer? *il Ry Age* 95:212-15 Ag 5 '33  
 Mechanical department can help sell transportation. *Ry Mech Eng* 107:313-14 S '33  
 Passenger-car developments. P. Parke. *il Ry Age* 95:20-1 J1 1 '33  
 Tourist trains on the London and North-eastern railway. *il Engineering* 136:114-15 Ag 4 '33; *Engineer* 156:112 Ag 4 '33

## See also

- |              |                       |
|--------------|-----------------------|
| Air brakes   | Mine cars             |
| Automobiles  | Motor cars (railroad) |
| Car axles    | Observation cars      |
| Car trucks   | Refrigerator cars     |
| Car wheels   | Sleeping cars         |
| Dining cars  | Street cars           |
| Freight cars | Tank cars             |

## Bearings

- Anti-friction bearings in railway service. J. R. Jackson. *il Ry Age* 95:30-1 J1 1 '33  
 Common conditions causing hot boxes. P. P. Barthelemy. *Ry Mech Eng* 106:464, 505; 107:25-6, 100-1 N '32-Ja, Mr '33  
 Isothermos journal box. *il Elec Traction* 29:150 My '33  
 Journal bearing performance improved by research; Railway service & supply co. *il diags Ry Mech Eng* 107:122-5 Ap '33; Same. *Ry Age* 94:329-32 Mr 4 '33  
 Preparing journal bearings for service. *il Ry Age* 95:303-4 Ag 26 '33; Same. *Ry Mech Eng* 107:323-5 S '33  
 Proper care of car journals. *il diags Ry Mech Eng* 107:59-61 F '33

## Design

- Arc-welded design of passenger car. *il diags plan Ry Mech Eng* 107:113-18 Ap '33

- A.R.A. mechanical division committee report on car construction. *Ry Mech Eng* 107:241-3 J1 '33

- Future design of passenger equipment. C. E. Barba. *il Mech Eng* 55:157-61 Mr '33

- La nouvelle voiture à étage des chemins de fer de l'Etat. *il diags plan Génie Civil* 103:118-19 J1 29 '33

- Pullman aluminum cars mark new era in car construction. *il plan Ry Age* 94:789-93 Je 3 '33

- Schwerpunktsbestimmung und gewichtsausgleich an wagenkästen von drehgestellpersonenwagen. L. Müller. *il diags Zeit Ver Deutsch Ing* 77:591-2 Je 3 '33

- Two aluminum passenger cars on exhibit at Chicago. *il diags Ry Mech Eng* 107:185-91+ Je '33

## Electric equipment

- Air conditioning outfits for the Illinois Central railroad. *il Elec J* 30:14 Ja '33

- Railway-coach batteries; their maintenance in the tropics. J. G. B. Sams. *diag plan Electrician* 110:357 Mr 17 '33

## See also

- Car cooling

## Equipment

- Welded piping on freight and passenger cars. *diags Ry Mech Eng* 106:462-3 N '32

## Interchange

- A.R.A. mechanical division committee report on prices for labor and materials. *Ry Mech Eng* 107:248-9 J1 '33

- Passenger car rules of interchange. *Ry Mech Eng* 107:237-9 J1 '33

## See also

- Freight cars—Interchange

## Lubrication

- A.R.A. mechanical division committee report on lubrication of cars and locomotives. *Ry Mech Eng* 107:247-8 J1 '33

- Isothermos journal box. *il Elec Traction* 29:150 My '33

## Manufacture

- Neuerungen im personenwagenbau der Deutschen reichsbahn unter besonderer berücksichtigung des leichtbaues. G. Wiens. *il diags Zeit Ver Deutsch Ing* 77:339-48 Ap 1 '33

- Research and development in car and locomotive materials. L. H. Fry. *Ry Age* 95:32+ J1 1 '33

## Repair

- Can equipment maintenance costs be reduced? *il Ry Age* 95:604-7 O 28 '33

- Car straightening devices. *diags Ry Mech Eng* 107:369-70 O '33

- Conditioning the Empire Builder. V. A. Tetu. *il Ry Mech Eng* 107:295-6 Ag '33

- Interesting repair job described in pictures; illustrations. *Ry Mech Eng* 107:218 Je '33

- Passenger equipment maintenance drastically cut. *Ry Age* 95:601-3+ O 28 '33

- Proper care of car journals. *il diags Ry Mech Eng* 107:59-61 F '33

- Wagon repairs; notes on progressive system of wagon repairs as introduced in North Western railway workshops at Moghalpura. B. S. Sinhu. *Engineering* 136:473-4 O 27 '33

## Statistics

- Passenger car orders in 1932. G. C. Hudson. *Ry Age* 94:175-6 F 4 '33

- Passenger equipment maintenance drastically cut. *Ry Age* 95:601-3+ O 28 '33

## CARS, Aluminum

- Aluminum, the metal of the present and the future. *il Mach* 40:81-2 O '33

- Aluminum's tenth anniversary on the railroads; a review of the applications of aluminum in the steam and electric railway field. A. H. Woollen. *il Ry Age* 95:147-50 J1 22 '33

- Autotram seats 42, weighs 26,000 lb. net. *il Automotive Ind* 67:737 D 10 '32; *Sci Am* 148:110 F '33; *Transit J* 77:64 F '33; *Iron Age* 131:362 Mr 2 '33



**CARS, Aluminum—Continued**

- Description of Autotram rail car. *il* Rubber Age 32:374+ Mr '33
- Light alloys help make possible the Autotram, latest development in railway cars. *il* Metal Ind 31:135 Ap '33; Mach 39:673-4 Je '33
- Power rail car has aluminum body. *il* diag Ry Age 94:544-7 Ap 15 '33
- Pullman all-aluminum compartment, observation-lounge car. *il* plan Ry Age 94:823-6 Ja 10 '33
- Pullman aluminum cars mark new era in car construction. *il* plan Ry Age 94:789-93 Je 3 '33
- Pullman light-weight rail car designed for high speeds. *il* Ry Age 95:489-90 O 7 '33
- Round and light will be the U.P.'s new high-speed train. *il* diags Fortune 8:64-6 Ag '33
- Two aluminum passenger cars on exhibit at Chicago. *il* diags Ry Mech Eng 107:185-91+ Je '33
- Union Pacific plans high-speed streamlined train. *il* diag Ry Age 94:761-2 My 27 '33; Abstracts. Ry Mech Eng 107:228 Je '33; Sci Am 149:81 Ag '33

**CARS, Articulated**

- Union Pacific plans high-speed streamlined train. *il* diag Ry Age 94:761-2 My 27 '33; Abstracts. Ry Mech Eng 107:228 Je '33; Sci Am 149:81 Ag '33

*See also*

- Cars, Electric railroad—Articulated cars

**CARS, Electric railroad**

- Aluminum's tenth anniversary on the railroads; a review of the applications of aluminum in the steam and electric railway field. A. H. Woollen. *il* Ry Age 95:147-50 Jl 22 '33
- Blackpool stream-lined tramcar. *il* Elec R (Lond) 113:49 Jl 14 '33
- New car equipment permits use of trailers on same schedules; Pennsylvania suburban service. *il* Ry Age 94:277-8 F 25 '33
- Suburban electric traction at Copenhagen. *il* map Engineering 135:476-7 Ap 28 '33; Engineer 155:432-3 Ap 28 '33

*See also*

- Cars, Subway  
Street cars

**Articulated cars**

- More rapid rapid transit; the B.-M.T.'s new elevated train. Business Week p12-13 Jl 8 '33
- Noiseless, high-speed train for Brooklyn elevated. *il* Transit J 77:228-9 Jl '33
- Radical departures in new "L" car; five-section light-weight articulated unit for B.-M. T. *il* diags map Transit J 77:276-9 S '33

**CARS, Inspection**

- Rail flaw detector greatly improved in five years; detector car. *il* Ry Age 95:655-8 N 4 '33

**CARS, Steel**

- Arc-welded design of passenger car. *il* diags plan Ry Mech Eng 107:113-18 Ap '33
- Railroad equipment of high tensile steel. E. G. Budd. Ry Age 95:31-2 Jl 1 '33
- Stainless-steel train delivered to Texas & Pacific; two-car unit for main-line mail-baggage-passenger service. *il* Ry Age 95:692-4 N 11 '33

*See also*

- Freight cars, Steel

**CARS, Subway**

- Development of the Paris metropolitan railway. T. Rich. *il* Engineering 135:428-9 Ap 21 '33
- Noiseless car developed by Interborough rapid transit. *il* diag Transit J 77:281-2 S '33
- Public service co-ordinated transport, Newark. N. J. remodels cars for faster service. *il* Transit J 77:81 Mr '33
- Quiet subways; New York's IRT keeps the noise out by shutting the windows. Business Week p21 Ag 19 '33
- Some features of design in electric rolling stock for intense service. W. S. Groff-Baker. Engineering 135:226 F 24 '33

**CARTAGENA, Colombia****Harbor**

- Terminal facilities under way at port of Cartagena. *il* Marine R 63:34 Ag '33

**CARTOONISTS**

- Funny papers. *il* Fortune 7:44-9+ Ap '33

**CARTOONS**

- Modern illustrating. C. L. Bartholomew and J. Almars, eds. 12v Federal schools, incorporated, Minneapolis, Minn. '31-'32

*See also*

- Advertisements, Pic- Newspapers—Comic  
torial—Cartoons strip

**CARTRIDGE links**

- Progressive die used on dieing machine doubles output of cartridge links; Henry & Wright mfg. co. *il* Iron Age 131:511-12 Mr 30 '33

**CARTY, John Joseph, 1861-1932**

- Appreciation. F. B. Jewett. Science 77:41-3 Ja 13 '33
- Sketch. por Elec Eng 52:131, 139-40 F '33; Elec W 101:80 Ja 14 '33

**CASA GRANDE national monument**

- Building a steel shelter over Casa Grande ruins. F. A. Kittredge and E. A. Nickel. *il* diags Eng N 111:46-8 Jl 13 '33
- Casa Grande ruin shelter. *il* Arch Rec 73:131 F '33

**CASE hardening**

- Carburizing by continuous gas process proves economical. H. M. Heyn. *il* Steel 92:17-19 Ja 9 '33
- Case hardening steel; modern electrical methods. J. Dummelow. *il* Elec R (Lond) 113:115-16 Jl 28 '33
- Factors affecting the inherent hardenability of steel. E. C. Bain. *il* Am Soc Steel Tr Trans 20:385-428 N '32; Abstract. Metal Prog 22:17-21+ N '32
- Gas carburizing process is widely adopted in 1932. *il* Steel 92:92-3 Ja 2 '33
- Hardening and cyaniding of steel gears. E. F. Davis. *il* diag Iron Age 132:26-8+ Ag 3 '33
- Heat treating gears in cyanide pot and drawing oven; Muncie products division, General motors corp. E. M. Kingsley. *il* plan Metal Prog 23:13-18 Ja '33
- New localized hardening process developed; Wearproof. Iron Age 130:782 N 17 '32; Blast F & Steel Pl 20:903 D '32; Mach 39:286 D '32
- Recent progress in carburizing with gas. R. J. Cowan. *il* diag Metal Prog 24:44-8 O '33

**Nitriding process**

- Allowances for growth of nitriding steel. R. Tull. Am Mach 76:1226 D 21 '32
- Are nitrided cutting tools successful? C. E. Greenawalt. *il* Mach 39:753-8 Ag '33
- Cast iron suitable for nitrogen hardening; nitricastiron. J. E. Hurst. *il* Iron Age 131:776-9 My 18 '33
- Nitralloy hardening; a new heat-treatment furnace designed for handling large quantities. *il* Automobile Eng 23:56 F '33
- Nitrided cast iron cylinder liners. F. Giolitti. Metal Prog 24:45 S '33
- Resistance to wear of nitrogen-hardened cast iron. J. E. Hurst. Engineer 156:337-8 O 6 '33
- Rôle of nickel in nitriding steels. H. J. French and V. O. Homerberg. *il* Am Soc Steel Tr Trans 20:481-504 D '32; Abstracts. Iron Age 130:534-5+ O 6 '32; Automotive Ind 67:640-3 N 19 '32; Discussion. L. Guillet; J. Strauss. Am Soc Steel Tr Trans 20:505-6 D '32; Same. (Guillet). Iron Age 130:578 O 13 '32
- Spot softening a nitrided case. H. H. Ashdown. *il* Am Mach 77:330-1 My 24 '33
- Standard steels for nitriding. F. Giolitti. Metal Prog 23:39+ My '33
- Über die dauerfestigkeit von nitrierten proben. R. Mailänder. Zeit Ver Deutsch Ing 77:271-4 Mr 11 '33

**CASE method (in education)**

- Case method in undergraduate teaching. E. H. Schell. J Eng Educ 23:539-42 Mr '33

**CASEIN**

- Casein for paper coating. Paper Tr J 96:27 Ja 26 '33  
 Casein grading plans are being considered. Oil Paint & Drug Rep 123:15+ Ja 23 '33  
 Casein plastics. H. V. Dunham. Plastic Prod 9:101-2 My '33  
 Clay-casein slips for paper coating; causes and prevention of foaming. E. O. Whittier, S. P. Gould and S. A. Hall. il Ind & Eng Chem 25:1213-16 N '33  
 Commercial casein; relationship between laboratory tests and coating quality. E. O. Whittier and others. bibliog il Ind & Eng Chem 25:904-8 Ag '33  
 Development of method for determining foaming tendency of casein. C. W. Richards and L. W. McFail. Paper Tr J 97:29-30 Jl 6 '33  
 Plastics; celluloid and casein types and their uses. F. Sproston. Soc Chem Ind J 52:sup S12+ My 19 '33; Abstract. Chem Age (Lond) 28:428 My 13 '33  
 To distinguish between glue and casein. Textile Col 55:44 Ja '33  
 Why of foamy casein. Paper Tr J 96:11 Mr 9 '33

**Analysis**

- New method for the qualitative detection of casein in woods. T. H. Whitehead. Ind & Eng Chem Anal ed 5:150 Mr 15 '33

**CASH business**

- Cash buying comes back; retail survey. Business Week p8 N 30 '32

**CASH on delivery system**

- Co-op trucks aid collections; automotive parts jobbers of Seattle. Management Methods 62:115-16 Mr '33  
 D.O.D.; decide-on-delivery buying moves department stores to ask deposit on C.O.D. orders. Business Week p15 Je 10 '33  
 Handling C.O.D. mail orders. Management Methods 62:128+ Mr '33  
 New check plan speeds C.O.D. settlement. il Bus Transportation 12:172-3 Ap '33

**CASH registers**

- New Ohmer cash register system for service stations. Pet Age 27:24 Ap '33

**Advertising**

- New-model campaign explained to stockholders. il Ptr Ink 165:40 N 2 '33

**CASKS. See Barrels****CAST iron**

- Add alloys in form of briquets. R. Tull. il Foundry 60:46-7 N '32  
 Adding chromium to cast iron and its effects. F. W. Meyer. il Iron Age 131:392-5 Mr 9 '33  
 Alloy cast iron with titanium. G. F. Comstock. il Foundry 61:32-3+ Jl '33  
 Alloy iron ring carriers reduce cylinder wear and give aluminum pistons longer life. E. Mahle. il diags Automotive Ind 68:578-82 My 13 '33  
 Alloys feature castings progress. il Iron Age 131:42-5 Ja 5 '33  
 American progress in the use of alloys in cast iron; abstract. F. B. Coyle. Engineer 155:658-9 Je 30 '33  
 A.S.T.M. features gray iron; symposium. Foundry 61:30-1+ Jl '33; Same. Steel 93:36+ Jl 3 '33  
 Are cast iron crankshafts coming on high speed engines? T. H. Wickenden. il S A E J 32:sup14-16 Je '33; Same. Automobile Eng 23:419-20 N '33  
 Austenitisches Gusseisen; entwicklung und bedeutung als werkstoff; Niresist. R. Müller and R. Hanel. Chemische Fabrik 5:493-7, 504-5 D 21-28 '32  
 Breaks in cast iron pipe gridiron systems. W. C. Mabee. Am Water Works Assn J 24:1717-23; Discussion. 1723-37 N '32  
 Bullard co. makes small cupola of gray iron castings. diag Foundry 61:48 Ap '33  
 Cast iron, an old metal with new possibilities. il Mach 40:93-5 O '33  
 Cast iron as an engineering material. H. Bornstein. il Metal Prog 23:19-23 My '33  
 Cast-iron pipe joints. M. I. Mix. il diags Am Gas Assn Proc 1932:722-57; Discussion. 757-9

- Cast-iron plates form permanent plant roof. W. G. Nutz. il diag Maintenance Eng 91:52 F '33  
 Cast iron roads. il Engineer 154:571 D 2 '32  
 Cast-iron roof plates. il Eng N 110:423 Mr 30 '33  
 Cast iron suitable for nitrogen hardening; nitricastiron. J. E. Hurst. il Iron Age 131:776-9 My 18 '33  
 Cast iron; symposium at A.S.T.M. annual meeting. Eng N 111:19-20 Jl 6 '33  
 Cast lamp standards; Westinghouse electric & mfg. co. il Foundry 61:42 Ap '33  
 Character of cast iron; abstract. Mech Eng 55:253-4 Ap '33  
 Chemical and physical properties of alloy cast irons; data sheet. G. Phillips. Metal Prog 24:41 S '33  
 Corner effect in castings. J. G. Pearce. diags Engineer 156:sup[Metallurgist] 73-4 O 27 '33  
 Cupola practice for malleable iron. H. H. Farr. Foundry 61:24-5+ Mr '33  
 Design factors for malleable iron. J. H. Lansing. Foundry 61:24-5+ Ja '33  
 Desulphurisation and refinement of cast iron. N. L. Evans. Engineering 135:59-60 Ja 13 '33  
 Development of cast iron for machine construction. O. Smalley and W. W. Kerlin. il Iron Age 132:24-7 O 19 '33  
 Die casting iron and steel; cast-o-matic die casting machine. A. W. Morris and H. R. Simonds. il Iron Age 131:1028-30+ Je 29 '33  
 Diesel engine cylinders; alloyed cast irons and their preparation and use. Automobile Eng 23:346 S '33  
 Duplexing high test gray iron. W. R. Bean. il Foundry 61:23+ My '33  
 Effect of alloys in cast iron. R. C. Good. il Foundry 61:24-5+ F '33  
 Effect of zirconium in white iron mixtures. F. B. Riggan and H. C. Aufderhaar. il Iron Age 131:426-7 Mr 16 '33  
 Elasticity of cast iron under compression. diag Locomotive 39:174-5 Ap '33  
 Electric-furnace cast-iron; application to motor-vehicles. A. E. Hageboeck. S A E J 32:67-8 F '33  
 Electric-furnace cast-iron; automotive-foundry classification. W. R. Jennings. S A E J 32:68-70 F '33  
 Electric-furnace cast-iron; designer's viewpoint. H. T. Woolson. S A E J 32:65-7 F '33  
 Electric furnace cast iron in the jobbing foundry; Atlas foundry co. Detroit. W. B. Crawford and R. E. Crawford. il Iron Age 131:700-2+ My 4 '33; Discussion. C. L. Frear. 131:950 Je 15 '33  
 Electric welded steel plate construction versus cast iron construction. R. N. Conrad. il diag Rock Prod 36:26 Ja '33  
 Europe breaks scrap iron in armored blasting pits. R. Feuchtinger. il Explosives Eng 11:106-7 Ap '33  
 Festigkeitseigenschaften von stahl, stahlguss und gusseisen in der kälte. R. Walle. bibliog il Chemische Fabrik 6:207-11 My 17 '33  
 Fortschritte im giessereiwesen im zweiten halbjahr 1932. H. Jungbluth and P. A. Heller. Stahl & Eisen 53:804-9 Ag 3 '33  
 French chemical industries use cast iron to resist corrosion. A. Matagrín. il Chem & Met Eng 40:480-2 S '33; Excerpts. Chem Ind 33:329, 331 O '33  
 Graphite oxidation. J. G. Pearce. Engineer 155:sup[Metallurgist] 48 Je 30 '33  
 Hardening cast iron by heat treatment. J. E. Hurst. il Iron Age 132:24-7+ O 26 '33  
 Heat and corrosion resistant cast irons having a wide range of expansion properties. T. H. Wickenden. Automotive Ind 69:428-9 O 7 '33  
 Heat-resisting cast irons; abstracts. E. Morgan. Engineer 155:658 Je 30 '33; Iron Age 132:15 Ag 24 '33  
 Heat treatable gray iron castings. Iron Age 131:934-6 Je 15 '33  
 Heat treating gray iron castings. J. W. Bolton. Foundry 61:19-20+ Mr '33  
 Heat treatment of cast iron. H. Bornstein. il Metal Prog 24:31-5 Ag '33  
 Heat treatment of cast iron. C. H. Morken. il Iron Age 132:24-7 S 28 '33



## CAST iron—Continued

- High-alloyed cast irons. Chem & Met Eng 39:600 N '32
- High chromium cast iron for smoke resistance. R. Tull. Iron Age 131:952 Je 15 '33
- High-strength cast iron demonstrates an unusual degree of toughness. Steel 92:23 F 27 '33
- High strength iron control of alloying elements. H. Bornstein. il Metal Prog 23:37-41+ Je '33
- Improved nickel-chromium hardened chilled cast iron; abstracts. J. S. Vanick. Iron Age 131:359 Mr 2 '33; Engineering 135:665 Je 16 '33
- Improvements in cylinder iron. J. B. Fisher. S A E J 31:437 N '32; Same. Automobile Eng 23:6 Ja '33
- Improvements in iron and steel meet the designer's needs. Mach 39:333-4 Ja '33
- Influence of phosphorus on the properties of hardened and tempered cast iron. J. E. Hurst. Iron & Steel Inst J 127:229-51 no 1 '33; Excerpts. Iron Age 132:20-1 S 7 '33; Abstracts. Engineering 135:590 Je 2 '33; Engineer 155:497 My 19 '33; Discussion. Iron & Steel Inst J 127:252-8 no 1 '33; Engineering 135:590 Je 2 '33; Engineer 155:497 My 19 '33
- I. B. F. features alloys in iron. Foundry 61:45-6 Ag '33
- International foundry congress; abstracts of papers. Engineer 154:sup[Metallurgist] 181-2 D 30 '32
- Iron for pressure castings. H. H. Judson. il Foundry 60:24-5+ N '32
- Lake City malleable co., Cleveland, displays malleable castings. il Foundry 61:36-7 Ja '33
- Making drawing and forging dies from gray cast iron. F. B. Coyle. il Steel 92:26-7 Je 19 '33
- Malleabilization of white cast iron. R. Schneidewind and A. E. White. Michigan U Eng Research Bul 24:1-56 [bibliog p55-6], photomicrographs p59-73 '33 (\$1); Abstract. Iron Age 131:sup12 Je 29 '33
- Malleable iron research institute discuss price stabilization and rate setting at annual meeting. Iron Age 130:966 D 22 '32
- Material for crankshafts; abstract. J. B. Fisher. S A E J 31:466 D '32
- Materials for steam turbines. S. D. Scorer. Elec R (Lond) 112:664 My 12 '33
- Melting gray iron in the crucible. W. H. Rother. il Foundry 61:16+ Ap '33
- Melting high test non-shrinking pearlitic iron. H. H. Judson. il Metal Prog 23:20-4 Ap '33
- Messung der viskosität von gusseisen und anderen flüssigen metallen bei hohen temperaturen. A. Wimmer and H. Thielmann. Stahl & Eisen 53:44-5 Ja 12 '33
- Molybdenum additions broaden cast iron's sphere of automotive usefulness. il Automotive Ind 68:618-20 My 20 '33
- Molybdenum aids iron uniformity. Steel 92:27 Je 26 '33
- Nickel cast iron. il Engineer 156:241-2 S 8 '33
- Nickel-chromium-silicon cast irons. A. L. Norbury and E. Morgan. diags table Iron & Steel Inst J 126:301-14, pl 32 no 2 '32; Same, without table. Engineering 134:345-6 S 16 '32; Excerpt. Engineer 154:309-10 S 23 '32; Discussion. Iron & Steel Inst J 126:315-21 no 2 '32
- Nitrided cast iron cylinder liners. F. Giolitti. Metal Prog 24:45 S '33
- Non-rusting and heat-resisting cast iron. E. Houdremont and R. Wasmuth. Engineer 156:sup[Metallurgist] 72-3 O 27 '33
- Phosphorus in cast iron. J. W. Bolton. Foundry 61:16-18+ Ag; 16-18, 52+ S '33
- Piston ring production. J. S. Irving. il Automobile Eng 23:335-6, 385-7 S-O '33
- Produce better castings at greatly reduced costs. il Steel 92:96-7 Ja 2 '33
- Progress made in alloy iron; abstract. M. E. Greenhow. S A E J 32:sup50 F '33
- Report on Bureau of standards study to determine the effect of temperatures on cast iron; abstract. C. M. Saeger, jr. and E. J. Ash. Iron Age 131:1043 Je 29 '33

- Silal and microsilal heat-resisting cast irons; abstract. A. L. Norbury and E. Morgan. Iron Age 131:993 Je 22 '33
- Solved—the manhole cover problem. il Elec W 101:653 My 20 '33
- Study iron melting practice; abstracts of papers at A.F.A. convention. Foundry 61:46-7+ Jl '33
- Suitability of martensitic quenching of irons having a low content of total carbon and a high manganese content; abstract. G. R. Delbart. Iron Age 131:1043 Je 29 '33
- Thermal conductivity and the plate efficiency in a rectifying column; Vitreosil, cast iron and Alpac. C. P. Warden. diags Soc Chem Ind J (Chem & Ind) 51:405T-11T D 23 '32
- Universal cast-iron water pipe. B. H. Lewis. il Can Eng 64:18-19 My 23 '33
- Use of malleable iron for machine parts. E. Touceda. Mach 39:334 Ja '33
- Utilizing cast iron in chemical equipment. W. H. Rother. il Chem & Met Eng 40:350-2 Jl '33
- Wandstärkenempfindlichkeit und treffsicherheit bei unlegiertem und legiertem gusseisen. E. Piwowarsky und E. Söhnchen. bibliog Zeit Ver Deutsch Ing 77:463-8 My 6 '33
- Welding cast iron; Barimar low temperature process. Automobile Eng 23:331 S '33

## See also

- |                               |                 |
|-------------------------------|-----------------|
| Car wheels                    | Iron            |
| Corrosion and anti-corrosives | Iron founding   |
| Foundry practice              | Iron metallurgy |
| Gray iron institute           | Pig iron        |

## Analysis

- Recommended methods for sampling and analysis of cast ferrous metals and alloys; second edition of B.C.I.R.A. report. Electrician 110:488 Ap 14 '33

## Enamels

- Blistering of cast iron enamel; progress report II. E. P. Poste. il Am Cer Soc J 16:277-92 Je '33

## Graphitization

- Transformation in the carbide phase during graphitization. H. A. Schwartz, K. R. Van Horn and C. H. Junge. bibliog Am Soc Steel Tr Trans 21:463-77; Discussion. 477-80 My '33

## Specifications

- Suggestions for classifying gray iron castings. W. W. Kerlin. Iron Age 131:234-5+ F 9 '33

## Standards

- Scan benefits of code adopted by the American society for testing materials. Foundry 60:51 N '32

## Statistics

- Malleable castings, monthly, 1926-1933. Survey of Cur Business 13:20 Ap '33

## Testing

- Cylinder irons; a study of the material in three commercial vehicle engine cylinders. J. E. Hurst. Automobile Eng 23:245-7 Jl '33
- Effect of chromium on cast iron. C. O. Burgess. Foundry 61:43+ Je '33
- Effect of size of specimen on the strength and elastic properties of cast iron. A. H. Dierker. il Ohio State Univ Eng Exp Sta Bul 72:1-16 '32; Abstract. Mech Eng 55:253 Ap '33
- Growth of gray cast irons. T. J. Wood. il Iron Age 132:12-13 Jl 13; 12-14 Jl 27; 30-2 [bibliog p32] Ag 3 '33
- How casting conditions affect cast iron. Automotive Ind 69:187 Ag 12 '33
- Permanent set in certain cast non-ferrous alloys and autentic cast irons. J. E. Hurst. Engineering 136:431 O 20 '33
- Resistance of iron to corrosion. H. Nipper and E. Piwowarsky. Foundry 60:36-7 D '32
- Resistance to wear of nitrogen-hardened cast iron. J. E. Hurst. Engineer 156:337-8 O 6 '33
- Some notes on mechanism of deformations in gray iron. J. W. Bolton. il Am Soc T M Proc 32 pt 2:477-87; Discussion. 488-91 '32

**CAST iron—Testing—Continued**

- Stand der Kenntnisse über die zerspanbarkeit von stahl und gusseisen. F. Rapatz. *il diags Stahl & Eisen* 52:1037-45 O 27 '32; Abstract (Machinability of iron and steel). Engineer 155:sup[Metallurgist] 4-5 F 24 '33; Discussion. *Stahl & Eisen* 53:404-5 Ap 20 '33
- Suggestions for classifying gray iron castings. W. W. Kerlin. *Iron Age* 131:234-5+ F 9 '33
- Test pieces for irregular castings. R. Mitsche. *Metal Prog* 24:58+ O '33
- Titanium in gray cast iron. G. F. Comstock. *il Iron Age* 131:857-9+, 897-900 Je 1-8 '33
- Wear resistance of malleable iron. R. Hall. *il Foundry* 61:28-9+ Jl '33; Abstract. *Iron Age* 131:992 Je 22 '33
- Wear tests and value of hardness testing for control of product; abstract. A. L. Boegehold. *Iron Age* 131:1040 Je 29 '33

**CASTER, Herbert O.**

Portrait. *Am Gas Assn Mo* 15:398 O '33

**CASTERS**

Mathews compensating swivel caster. *diag Automotive Ind* 69:522 O 28 '33

**CASTILE soap**

Castile not limited to olive oil soap; Supreme court refuses review of reversal of F.T.C. in Kirk case. *Oil Paint & Drug Rep* 122:16 D 12 '32

**CASTING, Centrifugal**

- Cast electric steel centrifugally. *il Foundry* 61:84 Je '33
- Centrifugal bronze gear blanks. F. W. Rowe. *il Metal Prog* 23:14-19 Je '33
- Centrifugal tube casting. W. Saran. *diags Engineer* 155:sup[Metallurgist] 3-4 F 24 '33
- Electric steel, rotary cast, bypasses semi-fining mills. J. D. Knox. *il Steel* 92:11-12+ Mr 13 '33
- Manufacture of centrifugally cast piston rings; abstract. *Mech Eng* 55:576 S '33
- Manufacture of sand-spun pipes; Staveley coal and iron company. *Gas J (Lond)* 201:677-8 Mr 15 '33
- No rolling; new steel mill to make billets and bars by centrifugal casting; Naugle & Townsend, Inc. Detroit. *Business Week* p12 Mr 15 '33
- Piston ring production. J. S. Irving. *il Automobile Eng* 23:335-6, 385-7 S-O '33

**CASTING machines**

- Cast electric steel centrifugally. *il Foundry* 61:84 Je '33
- Electric steel, rotary cast, bypasses semi-fining mills. J. D. Knox. *il Steel* 92:11-12+ Mr 13 '33
- Permanent molds in production of crankshafts; methods developed by A. W. Morris. *il diag Iron Age* 131:665-6 Ap 27 '33

*See also*

Die casting machines

**CASTINGS**

- Casting beryllium-copper alloys. E. F. Cone. *Foundry* 61:20-1, 59-60 S '33; Abstract. *Iron Age* 131:1027+ Je 29 '33
- Castings of beryllium alloys win several different uses. H. J. Noble. *Iron Age* 131:786 My 18 '33
- Castings speed fastest cabin liner. T. S. S. Manhattan. *il Foundry* 60:48+ N '32
- Castings speed transport planes. R. E. Johnson. *il Foundry* 61:21 Ag '33
- Century's debt to castings. R. C. Dawes. *il Foundry* 61:22-6+ Je '33
- Design and the foundry. F. W. Rowe. *Can Chem & Met* 17:148-50 Jl '33
- Design of heat-resisting alloy members and their performance in the field. R. S. Cochran. *Iron Age* 130:804 N 24 '32
- Design of nonferrous castings. *diags Foundry* 61:16-17+ My '33
- Experiments on the effects of variations in mould and pouring temperatures on the macro- and microstructures of some low melting-point metals and alloys; abstracts and discussion. F. D. Weaver. *Engineering* 135:311-12 Mr 17 '33; *Engineer* 155:266-7 Mr 17 '33; *Metal Ind* 31:125 Ap '33
- Foundry progress during the depression. *Iron Age* 131:934-8 Je 15 '33

- High alloy castings; their foundry problems. R. D. Alger and G. C. McCormick. *il Metal Prog* 24:15-19 Jl '33
- Imprisoned air and the failure of castings. J. G. Kennedy. *Engineer* 134:520-1 N 18 '32
- Reclaiming leaky castings; abstract. W. M. Corse. *Mech Eng* 55:184-5 Mr '33

*See also*

Cast iron  
Foundry practice  
Steel castings

**Testing**

- Permanent set in certain cast non-ferrous alloys and austenitic cast irons. J. E. Hurst. *Engineering* 136:429-31 O 20 '33
- Prevent losses with proper gates and risers. P. Dwyer. *diags Foundry* 61:34+ O '33

**Weight**

- Estimating weights from blue prints. J. H. Hill. *diags Foundry* 61:36-7+ Je '33

**CASTLES**

- Vehicular ramps in the Chateau d'Amboise. W. Atlee. *il plan Civil Eng* 3:595-7 N '33

**CASUALTY actuarial society**

- Annual meeting, 19th, New York. *East Underw* 33:38 N 25 '32
- Compiling and interpreting the figures. T. F. Tarbell. *Spectator* 129:31 sec 2 D 8 '32
- Semi-annual meeting, 40th, New York. *East Underw* 34:32 Je 2 '33; *Weekly Underw* 128:1072 Je 3 '33

CASUALTY insurance. *See Insurance, Casualty*

**CATALOGING**

- Catalog from a cataloger's viewpoint. C. Pettus. *Lib J* 58:396-9 My 1 '33
- Catalogers' and classifiers' yearbook, number three, 1932. 141p American library assn, Chicago '33
- Manual of cataloguing and indexing. J. H. Quinn and H. W. Acomb. 286p \$3 Scribner '33
- New opportunity for librarians; cataloguing visual aid material. G. I. Dick. *Lib J* 58:772-3 O 1 '33
- Phonograph records in the library. R. E. Ellsworth. *Lib J* 58:529-31 Je 15 '33
- Simple library cataloging. S. G. Akers. 2d ed rewritten 173p \$1.50 American library assn, Chicago '33

*See also*

Classification  
Subject headings

**Mechanical aids**

- Labor and money saving devices in the catalog department. F. C. Fuchs. *Lib J* 58:573-7 Jl '33

**CATALOGING, Cooperative**

- Cooperative cataloging: activities in 1932 and plans for 1933. K. D. Metcalf. *Lib J* 58:107-10 F 1 '33
- Our duty to the Union catalogs. H. S. Leach. *Lib J* 57:987-9 D 1 '32
- What may cooperative cataloging offer to the small or medium sized college and public library? N. Tashjian. *Lib J* 58:111-13 F 1 '33

**CATALOGS**

- Catalog as a member of the sales force. J. C. Gries. *Ptd Salesmanship* 61:86-7+ Ap '33
- Catalog is coming—back! R. E. Ramsay. *Ptd Salesmanship* 61:106-7+ Ap '33
- Dealer catalog is kept up to the minute; new designs, on gummed paper, and semi-annual supplement; Mohawk rugs. *il Ptr Ink* 163:52-3 Je 15 '33
- Eight catalogs are cheaper than one; Wilson-Jones company. E. Whitmore. *il Ptd Salesmanship* 61:104-5 Ap '33
- How can testimonial letters be used in catalogs? A. D. Luse. *il Ptd Salesmanship* 61:178-9 My '33
- Human interest in the catalog; Ward spring and summer book has full page pictures emphasizing thrift idea. *il Ptr Ink* 162:36 Ja 19 '33
- Latest trends and tendencies in catalog selling; a Dartnell survey. *il Ptd Salesmanship* 61:75-7 Ap '33



CATALOGS—*Continued*

- Letters that back up the catalog. C. McPherson. *il Ptd Salesmanship* 61:80-3+ Ap '33
- Mail-order copy that sells overalls, seeds and prunes. J. L. Scott. *il Ptd Salesmanship* 60:226-9+ N '32
- Merchandise first; Wilson-Western sporting goods company. *il Ptr Ink* 162:64-5 Mr 2 '33
- Modern catalog design and typography. P. T. Haagen. *il Ptd Salesmanship* 61:94-7 Ap '33
- Photographs as catalog illustrations. A. Barkley. *il Ptd Salesmanship* 61:78-9 Ap '33
- R.F.D. loses a job; Sears, Roebuck and Montgomery Ward hire R. H. Donnelley to deliver catalogs. *Business Week* p8 Mr 1 '33
- Sears and Ward join to deliver catalogs by hand. *Ptr Ink* 162:45 F 9 '33
- Use of similar selling methods not unfair competition; where catalogs are unlike in most respects, use of certain like cuts does not constitute infringement. *Ptr Ink* 163:56 Je 8 '33
- What the purchasing agent likes in catalogs; seventeen ways to make them more helpful and more efficient sales builders. V. D. Reed. *Ptr Ink* 161:24-5+ N 24 '32
- Whipped cream and red cherries and catalogs; Nunn, Bush & Weldon shoe co. *il Ptr Ink* Mo 26:26 Ap '33
- Will there be a new deal for catalogs, too? C. Norton. *il Ptd Salesmanship* 62:103-5 O '33
- Covers**
- Five requirements of a catalog cover. A. D. Luse. *il Ptd Salesmanship* 61:88-9 Ap '33
- CATALOGS, Card**
- Adapting equipment to the making of an official library order catalog. L. M. Lewis. *il Lib J* 58:302-5 Ap 1 '33
- CATALOGS, College**
- New kind of catalog for a business college. A. D. Luse. *pl Ptd Salesmanship* 61:294 JI '33
- CATALOGS, Jobbers'**
- This one catalog serves an entire industry; Motor and equipment wholesalers association combined the catalogs of 300 manufacturers. B. W. Schenker. *il Ptd Salesmanship* 62:114-15+ O '33
- CATALOGS, Library**
- As a cataloger sees it. B. K. Krauss. *Lib J* 58:160-2 F 15 '33
- Catalog from a reader's viewpoint. W. O. Mishoff. *Lib J* 57:1035-8 D 15 '32
- See also*  
Catalogs, Card
- Union catalogs**
- See* Cataloging, Cooperative
- CATALOGS, Loose-leaf**
- Catalog plan that solves the merger tangle. R. W. Johnson. *il Ptd Salesmanship* 61:108-9+ Ap '33
- CATALOGS, Subject**
- Subject index of books published before 1880. A-Z. R. A. Peddie. 745p Grafton & co, London '33
- CATALYSIS**
- Autooxidation of stannous chloride; a survey of certain factors affecting this reaction. R. C. Haring and J. H. Walton. *bibliog J Phys Chem* 37:133-45 Ja '33
- Bisulphate-ion catalysis in the hydrolysis of esters. H. M. Dawson, E. R. Pycock and E. Spivey. *Chem Soc J* p291-6 Mr '33
- Catalysis and its industrial applications. E. Maxted. 529p 36s J. & A. Churchill, London '33
- Catalysis of air oxidations by iron salts, phosphates and pyrophosphates. E. J. Theriault, C. T. Butterfield and P. D. McNamee. *bibliog Am Chem Soc J* 55:2012-24 My '33
- Catalysis of Eder's reaction by cobalt compounds. G. H. Cartledge and T. G. Djang. *Am Chem Soc J* 55:3214-21 Ag '33
- Catalysis of polymerization by ozonides. R. C. Houtz and H. Adkins. *Am Chem Soc J* 55:1609-17 Ap '33
- Catalytic high pressure hydrogenation of aromatic hydrocarbons and catalytic high pressure destruction of the corresponding hydrogenated products. A. Dros, A. J. Tuleners and H. I. Waterman. *diags Inst Pet Tech J* 19:784-99 S '33
- Catalytic hydrogenation of unsaturated compounds; additive mode in relation to selectivity of attack and catalyst activity. E. H. Farmer and R. A. E. Galley. *Chem Soc J* p687-96 Je '33
- Catalytic oxidation of organic compounds in the vapor phase. L. F. Marek and D. A. Hahn. 486p Chemical catalog co. '32
- Catalytic partial oxidation of ethyl alcohol in the vapor phase; use of a liquid salt bath for temperature control. D. B. Keyes and W. L. Faith. *Ill U Eng Exp Sta Bul* 252:1-12 '32
- Catalytic reduction of aromatic nitro-compounds. S. J. Green. *Soc Chem Ind J* 52:52T-6T, 172T-3T F 24, Je 16 '33
- Catalytic vapor-phase hydration of 2-butene under high pressures. L. F. Marek and R. K. Flege. *il diag Ind & Eng Chem* 24:1428-31 D '32
- Decomposition of dimethyl ether on the surface of platinum. E. W. R. Steacie and H. A. Reeve. *J Phys Chem* 36:3074-84 D '32
- Energetics of catalysis; the energetic homogeneity of a platinum surface. E. B. Maxted and G. J. Lewis. *Chem Soc J* p502-4 My '33
- Homogeneous catalysis of gaseous reactions. S. Bairstow and C. N. Hinshelwood. *Chem Soc J* p1147-60 S '33
- Mechanism of heterogeneous catalytic organic reactions. O. Schmidt. *Chem R* 12:363-417 [bibliog p413-17] Je '33
- Ninth report of the committee on contact catalysis, National research council. J. N. Pearce. *Nat Research Council Reprint & Circ Ser* 103:1969-2010 '32 (Reprinted from *Journal of physical chemistry*)
- Preparation of amines by catalytic hydrogenation of derivatives of aldehydes and ketones. C. F. Winans and H. Adkins. *bibliog Am Chem Soc J* 55:2051-8 My '33
- Promoter action in the catalytic decomposition of sodium hypochlorite solutions. J. R. Lewis and F. Seegmiller. *J Phys Chem* 37:917-21 O '33
- Simultaneous reduction of vanadic acid and oxygen by iodide; induced catalysis of oxygen reactions. W. C. Bray and J. B. Ramsey. *bibliog Am Chem Soc J* 55:2279-88 Je '33
- Some aspects of catalysis. J. Alexander. *J Chem Educ* 9:2026-31 D '32
- Synthesis and reactions of certain nitrogen ring compounds over nickel. C. F. Winans and H. Adkins. *bibliog Am Chem Soc J* 55:4167-76 O '33
- Value of carbon catalysis in gas purification. H. L. Olin, V. Scarth and W. L. Starkweather. *diag Gas Age* 70:561-4 N 26 '32
- CATALYSTS**
- Amination by ammonolysis; effect of inorganic salts. P. H. Groggins and A. J. Stirton. *il plan Ind & Eng Chem* 25:169-75 F '33
- Amination by ammonolysis; effect of metal catalysts in ammonolysis. P. H. Groggins and A. J. Stirton. *Ind & Eng Chem* 25:46-9 Ja '33
- Catalytic activity of chromites for the oxidation of carbon monoxide. E. C. Lory. *J Phys Chem* 37:685-92 Je '33
- Catalytic hydrogenation of esters to alcohols. H. Adkins, B. Wojcik and L. W. Covert. *Am Chem Soc J* 55:1669-76 Ap '33
- Catalytic oxidation of ethylbenzene in the liquid phase with manganese dioxide. C. E. Senseman and J. J. Stubbs. *Ind & Eng Chem* 25:1286-7 N '33
- Catalytic polymerization of propylene. F. H. Gayer. *bibliog Ind & Eng Chem* 25:1122-7 O '33
- Efficiency of carbon dioxide as a radiochemical catalyst; acetylene polymerization and water synthesis. C. Rosenblum. *bibliog J Phys Chem* 37:53-8 Ja '33

**CATALYSTS—Continued**

- Equilibrium dehydrogenation of ethane, propane, and the butanes; catalyst from air-dried chromic oxide gel. F. E. Frey and W. F. Huppke. bibliog diag Ind & Eng Chem 25:54-9 Ja '33
- Hydrogenation of aromatic compounds at temperatures close to their decomposition in the presence of catalysts. V. Ipatieff. Am Chem Soc J 55:3696-701 S '33
- New method for the preparation of oxide catalysts for the carbon monoxide oxidation. C. M. Loane. bibliog diag J Phys Chem 37: 615-22 My '33
- Platinized silica gel as an oxidation catalyst in gas analysis; oxidation of hydrogen and carbon monoxide. K. A. Kobe and E. J. Arveson. Ind & Eng Chem Anal ed 5:110-12 Mr '33
- Rapeseed oil; air-blowing in presence of catalysts. B. P. Caldwell and G. H. Dye. Ind & Eng Chem 25:338-42 Mr '33
- Reduction by hydrogen and the thermal decomposition of nitrides made by the reaction of ammonia with various promoted and unpromoted iron synthetic ammonia catalysts. P. H. Emmett and K. S. Love. Am Chem Soc J 55:4043-50 O '33
- Removal of thiophene from benzene by catalytic hydrogenation. R. N. Pease, W. B. Keighton, jr. and W. C. Munro. Ind & Eng Chem 25:1012-13 S '33
- Resinification of glycerol; sulfates and sulfites as catalysts. S. N. Ushakov and E. M. Obriadina. Ind & Eng Chem 25:997-1001 S '33
- Sorption of oxygen by nickel catalysts. W. W. Russell and L. G. Ghering. diag Am Chem Soc J 55:4468-74 N '33
- Study of the catalytic properties of bright platinum and iridium deposits in the activation of hydrogen. L. P. Hammett and A. E. Lorch. diag Am Chem Soc J 55:70-80 Ja '33
- Über katalytische einflüsse bei selbstzündungsvorgängen. C. Zerbe, F. Eckert and H. Jentzsch. Angew Chemie 46:659-62 O 21 '33

See also

Enzymes

- CATAPHORESIS.** See Electrophoresis
- CATERPILLAR tractor company**
- Caterpillar's Russian prospects should turn quick profit with new trade. Econostat 1:12, 32 N 4 '33

Opportunities in stocks that have not yet discounted their earnings recovery. Mag of Wall St 52:233 Je 24 '33

**CATHEDRALS**

- Cathedral of Palma de Mallorca; an architectural study. R. A. Cram. 16p, 24pl \$5 Mediaeval academy of America, Cambridge, Mass. '32
- Lost tower of Beauvais. R. K. Fletcher. il plan Am Arch 143:10-16 My '33

See also

Church architecture

**CATHODE ray tube**

- Applications of the cathode ray oscillograph. R. R. Batcher. bibliog il Inst Radio Eng Proc 20:1878-91 D '32
- Cathode-ray oscillograph for television. R. Hardy. il diags Electrician 110:854-6 Je 30 '33
- Cathode ray oscillography. R. A. W. Watt. Electrician 110:160 F 3 '33
- Cathode ray tubes for television and other uses. J. M. Hollywood and M. P. Wilder. il diags Radio N 15:268-70+ N '33
- How to build a cathode ray oscillograph. J. M. Hollywood and M. P. Wilder. il diags Radio N 15:338-40+ D '33
- Investigation of various electrode structures of cathode ray tubes suitable for television reception. A. B. Du Mont. il diags Inst Radio Eng Proc 20:1863-77 D '32
- Lightning transients; measurement by cathode-ray oscillograph. J. J. Miller. il Electrician 109:805-7 D 23 '32
- Linear timing axis for cathode-ray oscillographs. C. E. Haller. diags R Sci Instr 4: 385-6 Jl '33

New high efficiency cathode-ray tube; applications as a projecting oscillograph. M. von Ardenne. il diags Wireless Eng 10:592-5 N '33

Some aspects of luminous discharge tube lighting. J. T. Randall. Electrician 111:44-5 Jl 14 '33

Technique of the high-speed cathode-ray oscillograph. F. P. Burch and R. V. Whelpton. bibliog il diags Inst E E J 71:380-8 Ag '32; Abstract. Elec R (Lond) 111:816 D 2 '32; Discussion. Inst E E J 71:832-4; 72:353-7 N '32, Ap '33

Television with cathode-ray tubes. V. K. Zworykin. il diags Inst E E J 73:437-51 O '33

Use of the cathode-ray oscillograph. L. A. Wood. il diag Sibley J 47:70-2+ Ap '33

Use of the cathode-ray oscillograph at ultra-high frequencies. H. E. Hollmann. Wireless Eng 10:430-3, 484-6 Ag-S '33

**CATHODE rays**

Probabilities of K-electron ionization of silver by cathode rays. D. L. Webster, W. W. Hansen and F. B. Duveneck. diags Phys R 43:839-58 Je 1 '33

X-ray line intensities and cathode-ray retardation in thick targets of silver. D. L. Webster, W. W. Hansen and F. B. Duveneck. bibliog Phys R 44:258-64 Ag 15 '33

**CATHODES**

Breakdown of glass under cold cathode discharge; abstract. W. H. Bennett. Elec Eng 52:102 F '33

Cathodic disintegration of platinum by mercury ions. J. E. Henderson and E. Gideon. diag Phys R 43:601-4 Ap 15 '33

Electrochemical behavior of iron in corrosion cells; the cathode. H. L. Lochte. Electrochem Soc Trans 64 (preprint 4):41-7 S '33

High-velocity vapor stream in the vacuum arc. R. C. Mason. bibliog diags Elec Eng 52:702-5 O '33

Interpretation of phenomena due to accommodation coefficient of ions at cathode surfaces; abstract. K. T. Compton. Science 76: 518-19 D 2 '32

Momentum transfer to cathode surfaces by impinging positive ions in a helium arc. E. S. Lamar. diag Phys R 43:169-76 F 1 '33

Positive ion current at the cathode in the glow discharge. A. K. Brewer and R. R. Miller. diag Phys R 42:786-94 D 15 '32

Tantalum and columbium cathodes vs. platinum cathodes for electro-analysis. D. F. Calhane and C. M. Alber. Electrochem Soc Trans 63 (preprint 7):61-7 My '33

Test of the classical momentum transfer theory of accommodation coefficients of ions at cathodes. K. T. Compton and E. S. Lamar. Phys R 44:338-44 S 1 '33

Test of the momentum transfer theory of accommodation coefficients of ions at cathodes; abstract. K. T. Compton and E. S. Lamar. Science 77:496 My 19 '33

See also

Electrodes

**CATSKILL (term)**

Catskill as a geologic name. G. H. Chadwick. bibliog Am J Sci 5th ser 26:479-84 N '33

**CAUSTIC soda.** See Sodium hydroxide**CAVES**

Caverns in Loess. K. K. Landes. map Am J Sci 5th ser 25:137-9 F '33

Limestone caverns. P. E. James. Science 76: 567 D 16 '32

Origin of limestone caverns. A. C. Swinnerton. Geol Soc Bul 43:663-93 S '32

See also

Gypsum cave, Nevada

**Lighting**

Light in the Carlsbad caverns. E. A. Roberts. il front Elec J 30:366-7 S '33

**CAYLEY, Sir George**

Extracts from the aeronautical and miscellaneous note-book (ca. 1799-1826). il diags Roy Aeronautical Soc J 37:547-68 Je '33



**CEDAR**

Dehydroperillic acid, an acid from western red cedar (*Thuja plicata* don). A. B. Anderson and E. C. Sherrard. *Am Chem Soc J* 55: 3813-19 S '33

**CEDAR RAPIDS, Iowa****Water supply**

Operation experience at the Cedar Rapids water purification plant. H. F. Blomquist. *Am Water Works Assn J* 25:711-17 My '33

**CEILINGS, Metal**

Metal ceiling, roof and cornice after 40 years. *il Sheet Metal Worker* 24:103-4 Ap '33

**CEILINGS, Steel**

Metal forms for floor become finished ceiling. *il Iron Age* 132:27 S 14 '33

More selling help on ceilings. *il Sheet Metal Worker* 24:138-4 My '33

Not just another steel ceiling; details of fastening ceiling to hollow tile. *il diag Sheet Metal Worker* 23:525-6 D '32

School days; selling steel ceilings for school buildings. N. O. Hexamer. *il Sheet Metal Worker* 24:174-5 Je '33

Steel ceilings help landlord. *il Sheet Metal Worker* 23:481-2 N '32

**CELANESE. See Silk, Artificial****CELANESE corporation of America**

Swiss family Dreyfus. *il Fortune* 8:50-5, 139-45 O '33

**CELERY**

A & P sells packaged celery. *il Ptr Ink* 162: 108 Ja 19 '33

**CELLOPHANE**

Cellophane and three-color photography. R. M. Reeve. *Science* 77:sup9 Ap 28 '33

Cellophane cloth. *Business Week* p25 My 17 '33

Cellophane-faced fabrics open new markets to textiles. *il Textile World* 83:927 My '33

Cellophane industry of Japan. S. Nakane. *Paper Tr J* 96:21-2 F 23 '33

Cellophane membranes for tambours. H. Schlosberg. *Science* 78:16 JI 7 '33

Cellophane roll films and the fixing of carbon paper typing on cellophane. R. Bonar, F. Bonar and E. C. H. Davies. *Science* 77:217 F 24 '33

Cellophane roll films for slide lanterns. R. Bonar, F. Bonar, and E. C. H. Davies. *diags J Chem Educ* 10:92-4 F '33

Consumer looks at cellophane. *Plastics* 8:471-4 Ja '33

Du Pont cellophane co. sues on cellophane patents. *Paper Tr J* 96:9 F 9 '33; *Chem & Met Eng* 40:100 F '33

Eye appeal sells the product; cellophane wrapping. O. F. Benz. *il Manuf Rec* 102: 50 N '33

Improved kymograph recording; use of cellophane. F. F. Yonkman. *Science* 77:172 F 10 '33

Knitting cellophane; producing imitation-straw fabrics on circular latch-needle machines. J. H. Lepperhoff. *il diags Textile World* 83:1084-5 Je '33

New use for cellophane. K. L. Warren. *Science* 76:573 D 16 '32

No. 1 threat to du Pont's cellophane is Protectoid, made by a Celanese subsidiary, the reborn Celluloid co. *Fortune* 8:144-5 O '33

Projection of quiz questions. F. B. Dutton. *il diag J Chem Educ* 10:376 Je '33

Retention of glycerol and glycols by cellophane and cotton cellulose. R. S. Shutt and E. Mack, jr. *bibliog Ind & Eng Chem* 25: 687-92 Je '33

**CELLS**

Cellular reactions to lipoids from acidfast organisms; abstract. F. R. Sabin and K. C. Smithburn. *Science* 77:496 My 19 '33

Demonstration of the central body in the living cell. A. F. Huettner and M. Rabinowitz. *Science* 78:367-8 O 20 '33

Fluorescence of cells in the ultra-violet. A. C. Giese and P. A. Leighton. *Science* 77:509 My 26 '33

Investigation of mitogenetic radiation by means of a photoelectric counter tube. E. Lorenz. *bibliog diag Pub Health Rep* 48: 1311-18 O 27 '33

Selection with the magnet and cultivation of reticulo-endothelial cells. P. Rous and J. W. Beard. *Science* 77:92 Ja 20 '33

*See also*

Chromatophores

Chromosomes

Genes

Plant cells and tissues

Protozoa

Tissues

**CELLS, Electric.** *See* Electric batteries; Electrolytic cells; Photoelectric cells; Storage batteries

**CELLULOID**

Absorption and dispersion of celluloid between 300A and 1000A. H. M. O'Bryan. *diag Opt Soc Am J* 22:739-48 D '32

Das celluloid und seine ersatzstoffe. G. Bonwitt. 813p Union deutsche verlagsgesellschaft, Berlin '33

Fire risks with celluloid. *Engineering* 135:654 Je 16 '33

New pyroxylin finishes. E. W. Ward. *il Plastic Prod* 9:272 S '33

Plastics; celluloid and casein types and their uses. F. Sproxton. *Soc Chem Ind J* 52:sup S12+ My 19 '33; *Abstract. Chem Age (Lond)* 28:428 My 13 '33

Safety in the manufacture and use of celluloid. 159p [bibliog p163] World peace foundation '33

Transparent paper manufacture from scrap celluloid. J. Eggert. *Chem Age (Lond)* 28: 575 Je 24 '33

**Manufacture**

Importance of celluloid in industry. *Chem Age (Lond)* 29:31 JI 8 '33; *Same. Plastic Prod* 9:227 Ag '33

**CELLULOSE**

Der abbau der cellulose durch fluorwasserstoff und ein neues verfahren der holzverzuckerung durch hochkonzentrierten fluorwasserstoff. K. Fredenhagen and G. Cadenbach. *Angew Chemie* 46:113-17 F 18 '33

Absorption of barium hydroxide, sodium hydroxide and water by cellulose, from aqueous barium hydroxide and from mixed solutions. S. M. Neale and W. A. Stringfellow. *Textile Inst J* 24:T30-4 Ja '33

Absorption of direct dyestuffs by cellulose. S. M. Neale and W. A. Stringfellow. *Chem Age (Lond)* 29:5-6 JI 1 '33; *Same. Textile Inst J* 24:P145-9 JI '33

Action of potassium permanganate solutions of graded hydrogen ion concentration on cotton cellulose. C. Dorée and A. C. Healey. *Soc Dyers & Col J* 49:290-5 S '33

Action of salt solutions on wood cellulose. E. Richter. *Ind & Eng Chem* 25:316-18 Mr '33

Action of sulphurous acid on cellulose. L. P. Moore and H. Hibbert. *bibliog Pulp & Pa of Can (Convention no)* 34:103-7 [F] '33

Advertising leads new product into many uses; a depression-born cellulose fiber, Solka. *il Ptr Ink Mo* 27:44 O '33

Alpha-celluloses from different wood sources. R. A. Gortner and J. J. McNair. *bibliog Ind & Eng Chem* 25:505-10 My '33

Cameron-Dockery proposal for utilization of the whole cotton plant as a source of cellulose for papermaking. H. R. Murdock. *bibliog Paper Tr J* 96:41-2 Ap 6 '33

Cellulose and its place in industry. P. C. Scherer, jr. *bibliog il J Chem Educ* 10:131-40 Mr '33

Cellulose and its uses; abstracts. W. J. Jenkins. *Soc Chem Ind J (Chem & Ind)* 52:501-2 Je 16 '33; *Chem Age (Lond)* 28:513 Je 3 '33

Cellulose fermentation. H. Langwell. *Soc Chem Ind J (Chem & Ind)* 51:988-93 D 2 '32; *Abstracts. Chem Age (Lond)* 27:457 N 12 '32; *Soc Dyers & Col J* 49:67 F '33; *Discussion. Soc Chem Ind J (Chem & Ind)* 51: 993-4 D 2 '32

Cellulose methylene ether. F. C. Wood. *Soc Chem Ind J* 52:33T-4T F 3 '33

Cellulose specifications; preparation and uses of commercial grades of chemical cotton. L. Kitchel. *il Chem Markets* 32:499-503 Je '33

Cellulose-water relationship in paper-making. W. B. Campbell. *il diags Canada Forest Service Bul* 84:1-52 '33

## CELLULOSE—Continued

- Chemical delinting of cottonseed and industrial utilization of the lint. B. T. Ardashev. bibliog diag Ind & Eng Chem 25:575-81 My '33
- Chemistry of cellulose and wood; a five-year review of investigations. H. Hibbert. Pulp & Pa of Can (Convention no) 34:100-2 [bibliog p101-2] [F] '33
- Chlorine use increasing for cellulose extraction; Pomilio process. Oil Paint & Drug Rep 122:23 D 5 '32
- Coloration des dérivés celluloseux par les solutions aqueuses d'iode. L. Clément, C. Rivière and A. Beck. Chimie & Ind 29:1283-6 Je '33
- Cooking process; cooking wood with sodium sulfate. S. I. Aronovsky and R. A. Gortner. il Ind & Eng Chem 25:305-10 Mr '33
- Cooking process; cooking wood with sodium thiosulfate. S. I. Aronovsky and R. A. Gortner. il Ind & Eng Chem 25:1260-5 N '33
- Durchsichtige druckapparat für zellstoffuntersuchungen. S. Hilpert and H. Hofmeier. diag Chemische Fabrik 6:5 Ja 4 '33
- Dyeing cellulose materials with reference to the structure of cellulose. R. E. Rose. Ind & Eng Chem 25:1265-8 N '33
- Effects of beating on fibrous cellulose. J. H. B. Bell. bibliog Soc Chem Ind J 52:109T-16T, 119T-30T Ap 28-May 5 '33
- La fabrication du la cellulose au moyen du chlore gazeux, procédé Pomilio. Génie Civil 102:113-14 F 4 '33
- Formaldehyde in the treatment of textile materials. A. J. Hall. Am Dyestuff Rep 22:379-81, 399-401 Je 19 '33
- Gases from thermal decomposition of common combustible materials. J. C. Olsen, G. E. Ferguson and L. Scheffan. il Ind & Eng Chem 25:599-603 Je '33
- Glass spheres for viscosity determination of cuprammonium solutions of cellulose. L. S. Grant, Jr. and W. M. Billing. Ind & Eng Chem Anal ed 5:270-1 J1 15 '33
- Holocellulose, total carbohydrate fraction of extractive-free maple wood. G. J. Ritter and E. F. Kurth. bibliog Ind & Eng Chem 25:1250-3 N '33
- How cellulose absorbs moisture. Textile Col 55:164 Mr '33
- pH control in bleaching and finishing cotton. C. E. Mullin. Textile Col 55:81-4+ F '33
- Linen cellulose complex; the effects of alkaline hydrolysis. E. Butterworth and H. A. Elkin. bibliog diag Textile Inst J 24:T10-29 Ja '33
- Mechanical equipment for continuous fermentation of fibrous materials. A. M. Buswell and C. S. Boruff. bibliog diags Ind & Eng Chem 25:147-9 F '33
- Methods of cellulose chemistry, including methods for the investigation of the compound celluloses. C. Dorée. 499p Van Nostrand '33
- Modern ideas concerning the direct dyes and cellulose from the viewpoint of substantivity. S. M. Neale and L. H. Griffiths. bibliog Am Dyestuff Rep 22:651-4 N 6 '33
- Modern ideas on the structure of cellulose. J. H. Skinkle. Am Dyestuff Rep 22:267-8+ Ap 24 '33
- Neuere untersuchungen auf dem gebiete der cellulosefasern. W. Weltzien. Angew Chemie 46:167-8 Mr 18 '33
- New cellulosic materials for coatings formulation. Plastic Prod 9:278 S '33
- New fiber with cellulose base; Solka. Paper Tr J 96:44 Je 15 '33
- Oxycellulose and hydrocellulose; their detection, properties, and probable differences in constitution. H. A. Thomas. Soc Chem Ind J 52:79T-86T Mr 31 '33; Same. Am Dyestuff Rep 22:355-6, 371-7 Je 5 '33
- Peace time artillery; guns for explosive treatment of starch and cellulosic materials; patents. F. J. Hopkinson. Plastics 8:419-20+ N '32
- Phenol supplies and cellulose. H. Levinstein. Soc Chem Ind J (Chem & Ind) 52:650-4 Ag 11 '33; Abstract. Chem Age (Lond) 29:50-1 J1 15 '33; Discussion. Soc Chem Ind J (Chem & Ind) 52:654-5 Ag 11 '33
- Plastics—cellulose esters and ethers and their uses. W. J. Jenkins. Soc Chem Ind J (Chem & Ind) 52:705-8 S 1 '33; Abstract. Chem Age (Lond) 28:567 Je 24 '33
- Plastics with special reference to cellulose materials. W. J. Jenkins. Soc Chem Ind J (Chem & Ind) 52:241-5 Mr 17 '33; Excerpt. Plastic Prod 9:104-5 My '33; Abstract. Chem Age (Lond) 28:212 Mr 11 '33; Discussion. Soc Chem Ind J (Chem & Ind) 52:245 Mr 17 '33; Chem Age (Lond) 28:212-13 Mr 11 '33
- Recent developments relating to surface properties of cellulose fibers; report of Faraday Society meeting. H. DeW. Smith. bibliog Am Dyestuff Rep 22:515-18+ Ag 28 '33
- Relation between hydration capacity and pentosan content of soft wood pulps. G. H. Young and B. N. Rowland. bibliog Paper Tr J 97:44-6 O 12 '33
- Retention of glycerol and glycols by cellophane and cotton cellulose. R. S. Shutt and E. Mack, jr. bibliog diag Ind & Eng Chem 25:687-92 Je '33
- Solka; a new material for textiles and plastics, shoes and shingles. Business Week p11 Ag 5 '33
- Some factors that influence the conversion of cellulosic materials to sugar. G. J. Ritter, R. L. Mitchell and R. M. Seborg. bibliog Am Chem Soc J 55:2989-91 J1 '33
- Some of the newer things about cellulose. G. J. Esselen. bibliog J Chem Educ 10:585-9 O '33
- Sorption of sodium hydroxide on cellulose and wood. R. Richardson and O. Maass. J Phys Chem 36:3064-73 D '32
- Sorption of vapors on wood and cellulose. N. H. Grace and O. Maass. diag J Phys Chem 36:3046-63 D '32
- Sugar and alcohol from cellulose; a comparison of the Bergius and Scholler processes. Chem Age (Lond) 28:521-2 Je 10 '33
- Sugar and alcohol from wood. A. Hurter. diag Can Chem & Met 17:48-9+ Mr '33; Same. Paper Tr J 96:20-2 Mr 16 '33
- Technology of cellulose ethers. E. C. Worden. 5v Worden laboratory and library, Milburn, N. J. '33
- Tendering of cellulose. C. M. Whittaker. Chem Age (Lond) 27:511 N 26 '32
- Über den aufschluss von stroh mit schwefeliger säure und sauren sulfiten. S. Hilpert and F. Jordan. Angew Chemie 46:73-6 Ja 28 '33
- Über den mechanismus der quellungs- und lösungsvorgänge bei cellulose und stärke und seine bedeutung für konstitutionsfragen. K. Hess. Angew Chemie 46:453-4 J1 1 '33
- Über niedrig acetylierte faser-cellulosen. A. Rheiner. il Angew Chemie 46:675-81 O 28 '33
- Verein der zellstoff- und papier-chemiker und -ingenieure, Berlin, 2. und 3. Dezember 1932. Angew Chemie 46:93-6 F 4 '33
- Viscosity of cellulose acetate solutions. T. E. Ellison. Soc Chem Ind J (Chem & Ind) 52:134-6 F 17 '33
- Viscosity of cellulose solutions. Engineering 136:115-16 Ag 4 '33
- X-ray method for quantitative comparison of crystallite orientation in cellulose fibers. W. A. Sisson and G. L. Clark. bibliog il Ind & Eng Chem Anal ed 5:296-300 S 15 '33
- Zur technologie der cellulosederivate (auszug). K. Mienes and G. von Frank. Angew Chemie 46:583-4 S 16 '33

See also

Benzyl cellulose	Oxycellulose
Cotton	Paper
Hemicellulose	Pyroxylin
Lignin	Silk, Artificial
Nitrocellulose	

## Analysis

- Alpha cellulose in pulp; comments on the official TAPPI standard testing method. W. R. Willets. Paper Tr J 96:35-6 Mr 16 '33
- Analysis of alpha-cellulose. W. M. Billing. Plastic Prod 9:277 S '33
- Tests for cellulose; standard methods of analysis. W. M. Billing. Plastic Prod 9:139-41 Je '33



**CELLULOSE acetate**

Acetyl-cellulose; determination of quality by fractional precipitation. F. Ohl. *Am Dyestuff Rep* 22:28-9 Ja 2 '33

Building an integrated industry in times of depression; Tennessee Eastman at Kingsport. S. D. Kirkpatrick. *Il Chem & Met Eng* 40:236-40 My '33

Cellulose acetate in sheets. F. Ohl. *Am Dyestuff Rep* 22:347-9 My 22 '33

Cellulose acetate, its manufacture and applications. A. G. Lipscomb. 308p Ernest Benn, Ltd, London '33

Cellulose acetate plastic improves laminated safety glass; comparison with cellulose nitrate plastics. G. B. Watkins and J. D. Ryan. *Il Ind & Eng Chem* 25:1192-5 N '33

Cellulose derivatives; uses in the electrical industries. J. S. Gourlay. *Electrician* 109:602-3 N 11 '32

Cellulose nitrate vs. cellulose acetate in plastics. E. C. Atwell. *Plastic Prod* 9:356-9 N '33

Coating wire with cellulose acetate. W. S. Magill. *Il diag Nat Safety N* 27:25-6 Je '33

Heats of wetting of cellulose acetate by aliphatic alcohols and aromatic hydrocarbons. S. E. Sheppard and P. T. Newsome. *bibliog J Phys Chem* 37:389-95 Mr '33

Manufacture of cellulose acetate foils. *Chem Age (Lond)* 28:361 Ap 22 '33; Same *abr. Chem Markets* 33:135 Ag '33

Plastics; celluloid and casein types and their uses. F. Sproston. *Soc Chem Ind J* 52:sup S12+ My 19 '33; *Abstract. Chem Age (Lond)* 28:428 My 13 '33

Production of strong, cellulose acetate films. L. Harris and E. A. Johnson. *R Sci Instr* 4: 454-5 Ag '33

Sorption of organic vapors by resinous and cellulosic materials. C. H. Winning and J. W. Williams. *Am Chem Soc J* 55:3560-9 S '33

Über niedrig acetylierte faserzellulosen. A. Kheiner. *Il Angew Chemie* 46:675-81 O 28 '33

Viscosity of cellulose acetate solutions. T. E. Ellison. *Soc Chem Ind J (Chem & Ind)* 52: 134-6 F 17 '33

*See also*

Lacquer and lacquer-  
ing  
Protectoid  
Silk, Artificial  
Varnish and varnishing

**Analysis**

Determination of plasticizers in organic cellulosic plastics. J. D. Ryan and G. B. Watkins. *Ind & Eng Chem Anal* 5:191-2 My 15 '33

Determination of the acetyl content of carbohydrate acetates. H. L. Parsons. *bibliog diag Textile Inst J* 24:T167-73 Ap '33

**CELLULOSE esters**

Isolierstoffe der kabelindustrie unter besonderer berücksichtigung der celluloseester. P. Nowak. *Angew Chemie* 46:584-7 S 16 '33

**CELLULOSE nitrate. See Nitrocellulose****CELLULOSE xanthates**

Cellulose xanthate derivatives; preparation; abstract. L. Lilienfeld. *Textile Inst J* 24: A439 S '33

**CELOTEX**

Masonite-celotex patent appeal decision. *Paper Tr J* 97:39 N 9 '32

Masonite-Celotex patent suit. *Paper Tr J* 95:25 D 1 '32

**CEMENT**

Aus untersuchungen mit zement, zementmörtel und beton. O. Graf. *Il Zeit Ver Deutsch Ing* 77:813-19 JI 29 '33

Bituminized cements; abstract. W. Dyckerhoff. *Rock Prod* 36:47 S '33

Bonds sand molds with cement; French foundry steel castings. V. Delport. *Il Foundry* 61:44-5+ Je '33

Cement composition. I. Paul. *Eng N* 111:112-13 JI 27 '33

Chemistry and the cement industry. J. C. Witt. 48p Universal atlas cement co, Chicago '33

Chemistry of Portland cement; abstract. L. Forsen. *Rock Prod* 36:40 My '33

Concrete pavement failures due to high-lime cement. I. Paul. *Eng N* 110:212-13 F 16 '33

Exothermic reaction in formation of clinker from clay, slag and limestone; abstract. Elsnor. *Rock Prod* 36:50 F '33

High early strength cements. *J Fr Inst* 215: 608 My '33

Masonry cements must be pre-mixed; California earthquake discloses need for control. R. E. Davis. *Concrete* 41:5-6 N '33

Moler cement. I. Lyse. *Am Concrete Inst J* 4:sup[news letter]7-8 F '33

Particle analysis of cement and gypsum by sedimentation. W. C. Riddell. *Il diag Rock Prod* 36:30-1 O '33

Physical properties of mixtures of bitumen and finely divided mineral matter. A. Evans. *Inst Pet Tech J* 18:957-91 D '32

Portland cement pipe coatings. F. N. Speller. *Water Works & Sewerage* 80:380 O '33

Problems in the application of paint to plaster and cement. H. M. Llewellyn. *Chem Age (Lond)* 27:595; Discussion. 595-6 D 24 '32

Puzzolan admixture to cement aids resistance of concrete. E. W. Lazell. *Concrete (mill sec)* 41:30 Ap '33

Some new cements; their manufacture and their special uses. A. J. Blank. *Il diag plan Rock Prod* 36:54-7 Ag '33

Studies of masonry cement—freezing, thawing. *J Fr Inst* 215:738 Je '33

Sulfoaluminous cements; abstract. S. Klein. *Rock Prod* 36:47 S '33

Urges different types of cement for special service conditions. P. H. Bates. *Concrete* 41:3-4 Ag '33

Die verhinderung und beseitigung von bauschäden durch erzement; abstract. C. Prüssing. *Angew Chemie* 46:34 Ja 7 '33

Viscosity of cement during setting; abstract. K. E. Dorsch. *Rock Prod* 36:40 Ap '33

*See also*

Cements  
Concrete  
Grouting  
Gunite  
Mortar  
Roads, Macadamized  
—Cement grouting  
Trass

**Analysis**

Free lime in Portland cement. G. E. Bessey. *Soc Chem Ind J* 52:219T-22T JI 21 '33

Manufacture of Portland cement. S. E. Hut-ton. *Rock Prod* 35:12-13 N 19 '32

Portland cement today and twenty years ago. P. H. Bates. *Eng N* 110:492-4 Ap 20 '33

Precipitation and titration of magnesium oxyquinolate in the presence of calcium oxalate, and its application in the analysis of Portland cement and similar silicates. J. C. Redmond. *U S Bur Stand J Research* 10:823-6 Je '33; *Abstract. Concrete (mill sec)* 41:30 D '33

Recast analysis and its relation to the chemistry of Portland cement. L. A. Dahl. *Rock Prod* 35:31-3 Je 18; 26-7 JI 16; 32-5 Ag 13; 40-2 S 10; 26-9 O 8; 28-9 N 5; 26-7 D 10 '32; 36:38-9 F; 32-3 Mr; 28-9 Ap; 24-6 My '33

Separating the ingredients of commercial cement-trass mixture. *Concrete (mill sec)* 41:46 Mr '33

**Expansion and contraction**

Volume changes of an early-strength concrete. E. R. Dawley. *Kansas State College Eng Exp Sta Bul* 31:1-21 '32; Same. *Am Soc T M Proc* 32 pt 2:642-53 '32

Volumetric changes in neat cements and mortars. R. E. Mills. *Am Concrete Inst J* 4:344-50 Mr '33

**Fineness**

Air separator for determining fineness of cement; abstract. *diags Rock Prod* 36:45 Mr '33

Available devices for determining particle size distribution. J. C. Pearson. *Concrete (mill sec)* 41:28 Je '33

Determines sub-sieve fineness of Portland cement. E. W. Reed-Lewis. *Il diag Concrete* 41:14-16 F '33

How fineness of cement affects strength of concrete. W. E. Corbett. *Concrete* 41:8-9 Je '33

**CEMENT—Fineness—Continued**

Measurement of particle size with an accurate air analyzer; the fineness and particle size distribution of Portland cement. P. S. Roller. *il diags Am Soc T M Proc* 32 pt 2: 607-25; Discussion, 626-8 '32

Rational expression for fineness of Portland cement. E. W. Reed-Lewis. *Concrete* 41: 11-12 Mr '33

Steam test of Portland cement mortar briquettes. A. E. Hiscox. *Rock Prod* 36: 34-6 S '33

Super cement fineness analyzer. S. Rordam. *diag Concrete* 41:9-10 O '33

**Hydration**

Less shrinkage, better workability, with pre-hydrated mortar. E. Y. Bragger. *Concrete* 41:14-15 N '33

**Magnesium oxychloride cement**

Development and use of a Canadian plastic magnesia. A. F. Gill. *il Can Chem & Met* 17:200-3+ O '33

System magnesium chloride-lime-water. C. R. Bury and E. R. H. Davies. *Chem Soc J* p701-5 Je '33

**Manufacture**

Action of  $\text{CaSO}_4$  compounds on clinker; abstracts. P. Schachtschabel. *Rock Prod* 35: 40 D 10 '32; 36:38 Ja '33

Available devices for determining particle size distribution. J. C. Pearson. *Concrete (mill sec)* 41:28 Je '33

Can cement be overground? L. R. Davies-Graham. *Rock Prod* 36:24-5 Ja '33

Constant-weight feeder regulates flow of dry materials. *il diags Concrete (mill sec)* 41:26-7 Je '33

Efficient cement clinker making. R. R. Coghlan. *Rock Prod* 36:30-2 Jl '33

Exothermic effect in formation of cement clinker; abstract. H. E. Schwiete and H. E. v. Gronow. *Rock Prod* 35:30 N 19 '32

Facility of burning Portland cement depends on its hydraulic modulus, silica ratio and iron modulus; abstract. K. Akiyama. *Concrete (mill sec)* 41:44 Mr '33

Filtration plant in cement manufacture. *il Chem Age (Lond)* 27:600 D 24 '32

Free lime in cement clinker; abstract. D. Steiner and B. Bartos. *Rock Prod* 35:40 D 10 '32

Grind cement clinker and lime-clay to produce new cements. *Concrete (mill sec)* 41: 27-30 S '33

Landa Portland takes new departure in cement industry. *il Concrete (mill sec)* 41:27-30 Jl '33

Making cement with less heat; abstract. V. G. Lepine. *diag Rock Prod* 36:41 My '33

New clinker coolers save kiln fuel and improve grindability. *il diags Concrete (mill sec)* 41:35-40 Mr '33

Nomogram aids mixing of raw meal where composition varies. F. Wenzel. *Concrete (mill sec)* 41:33 S '33

Portland cement today and twenty years ago. P. H. Bates. *Eng N* 110:492-4 Ap 20 '33

Possible grinding economies would save 25% in power cost of Portland cement; B&W type B pulverizer. N. C. Rockwood. *il Rock Prod* 36:42-4 Ap '33

Quartz silica in the cement raw mix; abstract. H. Kuehl. *Rock Prod* 36:40 My '33

Recast analysis and its relation to the chemistry of Portland cement. L. A. Dahl. *Rock Prod* 35:31-3 Je 18; 26-7 Jl 16; 32-5 Ag 13; 40-2 S 10; 26-9 O 8; 28-9 N 5; 26-7 D 10 '32; 36:38-9 F; 32-3 Mr; 28-9 Ap; 24-6 My '33

Some new cements; their manufacture and their special uses. A. J. Blank. *il diag plan Rock Prod* 36:54-7 Ag '33

Tennessee cement industry sees bright future. G. I. Whitlatch. *il map Rock Prod* 36:28-33 S '33

Two short rotary kilns comprise new burning system. E. J. Wechter. *diag Concrete (mill sec)* 41:30-1 Ag '33

Upper lime limit in Portland cement; abstract. E. Spohn. *Rock Prod* 36:44-5 Mr '33

What is ahead for Portland cement? R. S. Schultz, jr. *Rock Prod* 36:50-3 Ag '33

*See also*  
Cement kilns  
Cement plants

**By-products**

Cement industry looks toward byproduct potash recovery; comparison of Multiclone collectors and Cottrell precipitators. P. E. Landolt. *il Chem & Met Eng* 40:345-9 Jl '33

Valuable dust; new process turns a nuisance of the cement industry into profits. *Business Week* p23 Ag 12 '33

**Moisture content**

Water content of certain fire-protective media. M. G. Mellon and J. E. Heck. *Ind & Eng Chem* 25:94-5 Ja '33

**Prices**

Price of Portland cement defended. F. E. Walter. *Concrete (mill sec)* 41:31-2 Jl '33

Report of the Federal trade commission on price bases inquiry. 218p U.S. Federal trade commission, Washington '32

Why bidding prices on Portland cement are uniform. H. P. Gillette. *Water Works & Sewerage* 80:101-2 Mr '33; Same. *Roads & Svs* 76:144-5 Ap '33

Why is cement sold f.o.b. destination? H. P. Gillette. *Roads & Svs* 76:361-4 O '33

**Setting**

Cements and well cementing; effect of chlorides on the setting and hardening of cement. A. Reid and J. T. Evans. *Inst Pet Tech J* 18:992-1006 D '32

Distinction entre la prise et le durcissement des ciments et des mortiers. E. Marcotte. *diag Génie Civil* 102:86-7 Ja 28 '33

Hardening and corrosion of cement; abstract. K. E. Dorsch. *Rock Prod* 36:42-3 Je '33

Heat evolved by cement in relation to strength. H. Woods, H. H. Steinour and H. R. Starke. *Eng N* 110:431-3 Ap 6 '33

Relation entre la chaleur dégagée par les ciments et leur résistance. *diag Génie Civil* 103:182-5 Ag 19 '33

Variations in setting time of Portland cement; abstract. P. Schachtschabel. *Rock Prod* 36: 38 Ja '33

**Specifications**

New cement specifications proposed in France. *Eng N* 111:562 N 9 '33

Status of specifications for hydraulic cements in the United States. P. H. Bates. *Rock Prod* 36:42 Jl '33

**Strength**

Progress in cement strength revealed by long-time tests. *Eng N* 110:494 Ap 20 '33

Steam test of Portland cement mortar briquettes. A. E. Hiscox. *Rock Prod* 36:34-6 S '33

**Testing**

Available devices for determining particle size distribution. J. C. Pearson. *Concrete (mill sec)* 41:28 Je '33

Blend of silica and Portland cement modifies quality of concrete. *Concrete* 41:5-6 O '33

Comparative tests of permeability of five cement mortars. W. A. Carlson. *diag Concrete* 40:5-7 D '32

Comparison of selected Portland cements in mass concrete tests. R. F. Blanks. *Am Concrete Inst J* 5:9-20 S '33

Effect of carbon dioxide on the strength of some building materials. G. E. Bessey. *Soc Chem Ind J* 52:288T-93T S 15 '33

Effect of composition of Portland cement on length and weight changes of mortars. H. Woods, H. R. Starke and H. H. Steinour. *diag Rock Prod* 36:24-9 Je '33

Effect of curing conditions on the strength of cement mortar. D. O. Woolf and K. F. Shippey. *Pub Roads* 14:106-8 Ag '33

Effect of sugar in mortars; abstract. J. B. Oliva. *Rock Prod* 36:40 Ap '33

L'essai rapide des chaux et ciments sur les chantiers. E. Marcotte. *Génie Civil* 103:430-2 O 28 '33



**CEMENT—Testing—Continued**

- Heat evolved by cement in relation to strength. H. Woods, H. H. Steinour and H. R. Starke. Eng N 110:431-3 Ap 6 '33
- Progress in cement strength revealed by long-time tests. Eng N 110:494 Ap 20 '33
- Relation entre la chaleur dégagée par les ciments et leur résistance. diag Génie Civil 103:182-5 Ag 19 '33
- Special low-heat cement for mass concrete dams. S. B. Morris. Am Water Works Assn J 25:1350-8; Discussion. T. Merriman. 1358-61 O '33
- Standard cement and concrete tests. J. M. Portugais. il Can Eng 64:9-10 My 16 '33
- Steam test of Portland cement mortar briquettes. A. E. Hiscocx. Rock Prod 36:34-6 S '33
- Strength tests of cement require changes in methods. E. W. Reed-Lewis. Concrete (mill sec) 41:26-9 Ag '33
- Untersuchungen über das Verhalten von erhärtetem hochofenzement gegen sulfatlösungen und salzarmes wasser. R. Grün and H. Beckmann. Angew Chemie 45:739-43 N 26 '32

**Transportation**

- Convenient shipment of bulk cement in new railway hopper car. il Concrete (mill sec) 41:32-3 Ap '33
- D. & H. rebuilds cars for handling cement. il Ry Mech Eng 107:314+ S '33
- Gravity-unloading railway car transports bulk cement. il Concrete (mill sec) 41:26-7 O '33
- Inland waterways offer big saving to cement industry; detailed cost analysis. J. A. Harman. il diags Concrete (mill sec) 41:35-9 F '33
- Lackawanna develops self-clearing hopper car for cement. diags Ry Mech Eng 107:282-3 Ag '33
- Shipping loaded trucks and trailers on railway freight cars. Concrete (mill sec) 40:35-7 D '32
- Transporting and handling bulk commodities. R. F. Bergmann. il diags Rock Prod 35:46-50 N 19 '32

**CEMENT, Effect of chlorides on**

- Cements and well cementing; effect of chlorides on the setting and hardening of cement. A. Reid and J. T. Evans. Inst Pet Tech J 18:992-1006 D '32

**CEMENT, Effect of sea water on**

- Decomposition of cements in sea water. H. Le Chatelier. Rock Prod 36:26 My '33

**CEMENT, Effect of sulfates on**

- Untersuchungen über das Verhalten von erhärtetem hochofenzement gegen sulfatlösungen und salzarmes wasser. R. Grün and H. Beckmann. Angew Chemie 45:739-43 N 26 '32

**CEMENT, Refractory**

- Cements for furnace settings. Chem Age (Lond) 28:234 Mr 18 '33
- Highly refractory cements for electric furnaces. Comp Air M 38:4109 Ap '33
- Tentative German standard specifications for coke-oven jointing cements. Gas J (Lond) 202:912 Je 28 '33

**CEMENT dust**

- Cloth filters collect stone dust in raw grinding department. il diag Concrete (mill sec) 41:37-9 Ja '33
- Menace of silicosis on increase. il Concrete (mill sec) 41:28-9 O '33

**CEMENT handling**

- Conveying cement through steel pipes. il Mech Handling 20:257 Ag '33
- Demoistured air aids Madden Dam cement. A. J. Ackerman. il diags Eng N 111:11-13 JI 6 '33
- Low consumption of power is feature of portable cement pump. il diags Concrete (mill sec) 41:26-9 Ap '33
- New pumping equipment conveys bulk cement at low cost. il diag Concrete (mill sec) 41:42-3 F '33
- Record cement-pumping lift used at Pine Canyon dam. diags Eng N 110:241 F 23 '33
- Sprout, Waldron & co. bulk cement handling equipment. il Roads & Sts 75:512-13 D '32; Same. Eng & Contr 71:280 D '32

Transporting and handling bulk commodities. R. F. Bergmann. il diags Rock Prod 35:46-50 N 19 '32

See also

Cement—Transportation

**CEMENT industry and trade**

- Future costs and prices are problem for cement industry. E. C. Eckel. Concrete (mill sec) 41:33 Ag '33
- Inland waterways offer big saving to cement industry; detailed cost analysis. J. A. Harman. il diags Concrete (mill sec) 41:35-9 F '33
- Prospects for cement products improved by developments of 1932. Rock Prod 35:83-4 D 31 '32

See also

Cement—Prices

**Advertising**

- What is the secret of a good dealer letter? Nebraska cement company. A. R. Hahn. Sales Management 32:110 F 1 '33

**Statistics**

- Cement industry of New York state from 1902 to 1930. E. C. Eckel. map Concrete (mill sec) 40:38-41 D '32
- Portland cement production in the United States, monthly, 1919-1932. Bradstreet's 61:234 Ja 28 '33
- Value and tonnage of concrete materials and highway and building construction, 1918-1932: chart. Rock Prod 36:25 F '33

**Germany**

- Effects of compulsory cartel law on German cement industry. Rock Prod 36:33 S '33

**Mexico**

- Mexican cement industry in 1932. Rock Prod 35:45 D 31 '32

**New York (state)**

- Cement industry of New York state from 1902 to 1930. E. C. Eckel. map Concrete (mill sec) 40:38-41 D '32

**Pacific coast**

- Pacific Coast cement merger pending. H. C. Hendee. Rock Prod 35:79 D 31 '32

**South Dakota**

- State business ventures under fire in South Dakota. Concrete (mill sec) 41:44-5 F '33

**Tennessee**

- Tennessee cement industry sees bright future. G. I. Whitlatch. il map Rock Prod 36:28-33 S '33

**United States**

- Bids rejected on special cement for Hoover dam. Eng N 110:602+ My 11 '33
- Boost for cement; raise in cement prices to raise workers' wages. Business Week p22-3 Ap 5 '33
- Cement industry and mineral aggregates code hearings. il Rock Prod 36:42-6 S '33
- Cement industry cleared for action. Concrete (mill sec) 41:35-6 Ja '33
- Cement industry code. Concrete (mill sec) 41:31-2 N '33
- Cement industry is made victim of political arithmetic. Concrete (mill sec) 41:34-5 Je '33
- Federal threats worry cement industry. Forbes 31:9-10 My 15 '33
- Hoover Dam cement. Business Week p2-3; Editorial comment. 32 My 17 '33
- Ickes vs. cement. il Business Week p7-8 Je 17; 21 Je 24 '33
- Iron and cement output. E. C. Eckel. Manuf Rec 102:15+ Mr '33
- Mergers likely in the cement industry. Barron's 13:25 Ja 16 '33
- Up goes cement. il Business Week p7-8 Ja 18 '33
- What is ahead for Portland cement? R. S. Schultz, jr. Rock Prod 36:50-3 Ag '33

**CEMENT kilns**

- Efficient cement clinker making. R. R. Coghlan. Rock Prod 36:30-2 J1 '33  
 Electric welded steel plate construction versus cast iron construction. R. N. Conrad. il diag Rock Prod 36:26 Ja '33  
 Experimental cement plant at University of California. J. W. Kelly. il Eng N 111:519-20 N 2 '33  
 Heat transmission in rotary kilns; abstract. W. Gilbert. Rock Prod 36:50 F '33  
 New clinker coolers save kiln fuel and improve grindability. il diags Concrete (mill sec) 41:35-40 Mr '33  
 Refractory material for cement rotary kilns; abstract. J. Fauner. Rock Prod 36:42 Je '33  
 Waste heat boilers for wet-process cement kilns. diags Engineering 135:616-17 Je 9 '33

*See also*

Cement plants

**Firing**

- Utilization of heat from clinker for preheating secondary air. R. R. Coghlan. Concrete (mill sec) 41:27-30 My '33

**Repair**

- Arc welded crack in rotary kiln holds after three years. Concrete (mill sec) 41:30-1 S '33  
 Bronze-welding of damaged kiln blocks avoids replacement expense. il Concrete (mill sec) 41:34-5 My '33

**CEMENT lined pipe**

- Cement lined cast iron pipe; discussion. Am Water Works Assn J 24:1861-6 D '32  
 Cement lined water mains; symposium at American water works association convention. Water Works & Sewerage 80:339-41 S '33  
 Economic significance of pipe linings. E. T. Killam. Water Works & Sewerage 80:73-6 Mr '33  
 National tube co. perfects improved type of cement-lined steel pipe. il Steel 92:27-8 My 15 '33; Iron Age 131:747 My 11 '33; Marine Eng 38:289 Ag '33

**CEMENT plants**

- Extension of the Ketton cement works. Engineering 136:463 O 27 '33  
 International's new plant in Brazil operates under wet process. il plan Concrete (mill sec) 41:27-30 N '33  
 Rehabilitation work of the Missouri Portland cement co. Rock Prod 35:45 D 31 '32  
 Tennessee cement industry sees bright future. G. I. Whitlatch. il map Rock Prod 36:28-33 S '33  
 When is a cement plant obsolete? A. Moore. Rock Prod 35:42-4 D 31 '32

*See also*

Cement—Manufacture  
 Cement kilns

**Accidents**

- Accidents in cement manufacturing in 1932. Monthly Labor R 37:583-4 S '33  
 Low accident record for cement industry over nine-year period. Eng N 111:258 Ag 31 '33

**Employees**

- Wages and hours of labor in the Portland cement industry, 1929 and 1932. Monthly Labor R 36:595-606 Mr '33

**Equipment**

- Cement mill equipment. Rock Prod 35:74 D 31 '32  
 Cloth filters collect stone dust in raw grinding department. il diag Concrete (mill sec) 41:37-9 Ja '33  
 Constant-weight feeder regulates flow of dry materials. il diags Concrete (mill sec) 41:26-7 Je '33  
 Design of new grinding unit for closed-circuit application. il diag Concrete (mill sec) 40:47 D '32  
 Improvements and developments reviewed by Allis-Chalmers mfg. co. il Concrete (mill sec) 41:47 Ja '33

Low consumption of power is feature of portable cement pump. il diags Concrete (mill sec) 41:26-9 Ap '33

New process dries raw materials prior to calcination. diag Concrete (mill sec) 41:31 S '33

Possible grinding economies would save 25% in power cost of Portland cement; B&W type B pulverizer. N. C. Rockwood. il Rock Prod 36:42-4 Ap '33

Refinement in design feature of new Brazilian cement plant, Guaxindiba. il plan Rock Prod 36:20-4 O '33

Sampling and blending cement raw mix. flow sheet Rock Prod 36:33 J1 '33

Screw conveyor and bucket elevator drives. T. N. Haffner. il diag Rock Prod 36:25-7 O '33

*See also*

Cement kilns

**Government ownership**

- Taxpayers want no public-operated plants. Rock Prod 36:24-5 Ap '33

**Layout**

- Flow in Portland cement plant. diag Rock Prod 35:30 N 19 '32

**Safety devices and measures**

- Cement mills maintain safety pace. Safety Eng 65:90 Mr '33  
 Trophies have been won by 92 cement plants. Nat Safety N 28:20 S '33

**CEMENT research**

- Application of the Rankin diagram to cement burning; abstract. S. Solacodu. Rock Prod 36:40-1 Ap '33  
 Cement investigations for the Hoover dam. R. E. Davis and others. Am Concrete Inst J 4:413-31 Je '33; Abstract. Concrete 41:14 Ag '33  
 Experimental cement plant at University of California. J. W. Kelly. il diag Eng N 111:519-21 N 2 '33  
 Grind cement clinker and lime-clay to produce new cements. Concrete (mill sec) 41:27-30 S '33  
 Hardening and corrosion of Portland cement; abstract. K. E. Dorsch. Rock Prod 36:42-3 Je '33  
 Heat evolved by cement in relation to strength. H. Woods, H. H. Steinour and H. R. Starke. Eng N 110:431-3 Ap 6 '33  
 Hydration of tricalcium aluminate. W. D. Foster. bibliog il Am Concrete Inst J 4:189-200 D '32; Excerpts. Concrete (mill sec) 41:29-30 Je '33  
 Influence of the addition of trass on shrinkage of cements. A. Steopoe. Concrete (mill sec) 41:31 Ag '33  
 New facts about cement and concrete. il diag Eng N 110:322-5, 350-2 Mr 9-16 '33  
 Newly acquired knowledge of cement and concrete aggregates. F. O. Anderegg. bibliog Rock Prod 36:62-4 Ag '33  
 Relation entre la chaleur dégagée par les ciments et leur résistance. diag Génie Civil 103:182-5 Ag 19 '33  
 Steam pressure measurements of Portland cement; abstract. F. Krauss, G. Joerns and W. Schriever. Rock Prod 35:30 N 19 '32  
 System: CaO-B<sub>2</sub>O<sub>3</sub>. E. T. Carlson. U S Bur Stand J Research 9:825-32 D '32; Excerpts. Concrete (mill sec) 41:41-2 Mr '33  
 System magnesium chloride-lime-water. C. R. Bury and E. R. H. Davies. Chem Soc J p701-5 Je '33

**CEMENTING**

- Chemische bodenverfestigung und -abdichtung im tunnelbau. W. Schardt. il diags Zeit Ver Deutsch Ing 77:905-7 Ag 19 '33

**CEMENTITE**

- Transformation in the carbide phase during graphitization. H. A. Schwartz, K. R. Van Horn and C. H. Junge. bibliog Am Soc Steel Tr Trans 21:463-77; Discussion. 477-80 My '33

**CEMENTS**

- Alkyd resins as bonding materials. A. G. Hovey. bibliog Ind & Eng Chem 25:613-15 Je '33



**CEMENTS—Continued**

New thermoplastic adhesives. Plastic Prod 9:369 N '33; Ind & Eng Chem News ed 11:322 N 10 '33

Vapor pressure of vacuum cements. R. M. Zabel. R Sci Instr 4:233-4 Ap '33

Versuche über die carbonatbildung bei bleiglätte-glycerin-kitt. Typke. Angew Chemie 46:20-1 Ja 7 '33

See also

Cement

**CEMETERIES**

State law and county ordinance regulating establishment of cemeteries held valid. Pub Health Rep 48:980-1 Ag 11 '33

**CENSORSHIP**

Civilization outgrows censorship. M. Sykes. Comm & Fin 21:1479 D 28 '32

**CENSUS**

Population censuses before 1790. A. B. Wolfe. Am Statis Assn J 27:357-70 D '32

Use of census tracts in analyzing the population of a metropolitan community. H. W. Green. Am Statis Assn J 28:sup147-53 Mr '33

**Great Britain**

Our changing population; United Kingdom, 1921 and 1931. Economist 117:442-4 S 2 '33

**United States**

Census of unemployment. G. B. L. Arner. Am Statis Assn J 28:sup48-53 Mr '33

Discussion of the accuracy of agricultural census enumeration in the Northeast. I. G. Davis. Am Statis Assn J 28:272-85 S '33

Fifteenth census reports on population. L. E. Truesdell. Am Statis Assn J 28:334-6 S '33

How the census may help you; a condensed interpretation for the advertiser of the 1930 survey. E. Katz. il Adv & Sell 20:16-17+ Ja 19 '33

New family statistics for 1930. L. E. Truesdell. Am Statis Assn J 28:sup154-8 Mr '33

Progress of work in the Census bureau. Am Statis Assn J 28:91-3 Mr '33

Progress of work in the Census bureau; economy program. Am Statis Assn J 28:345-6 S '33

Summary of United States censuses of manufactures, 1899 to 1931. Monthly Labor R 36:307-8 F '33

See also

Distribution (economics)—Census, 1930

**CENSUS of distribution.** See Distribution (economics)—Census, 1930

**CENTERING (machine work)**

Device for centering bars in press tools. W. Aalrep. diags Am Mach 77:314 My 10 '33

Drilling and reaming holes at accurate center distances. G. J. Murdock. diag Am Mach 77:541 Ag 16 '33

Self-equalizing chuck for work with irregular bores. N. P. Darash. diag Mach 39:394-5 F '33

Stevens three-spindle adjustable-angle spiral index centers. diag Am Mach 77:514-15 Ag 2 '33

**CENTERING machines**

Fay automatic double-end milling and centering machine. il Am Mach 77:287 Ap 26 '33

Jones & Lamson double-end milling and centering machine. il Mach 39:608-9 My '33

**CENTRAL Aguirre associates**

Profits in sugar. T. M. Foristall. il Barron's 13:16-17 Ap 10 '33

**CENTRAL AMERICA****Economic conditions**

Depression in Central America. Chem Age (Lond) 28:536 Je 10 '33

**CENTRAL banks.** See Banks and banking—Central banks

**CENTRAL index bureau.** See Insurance, Casualty—Fraudulent claims

**CENTRAL life assurance society (mutual)**

Illinois Life taken by Central of Iowa. Ins Field (Life ed) 62:5+ J1 28 '33; Spectator 131:15+ J1 27 '33

Reinsurance of Illinois Life approved; text of contract. East Underw 34:4, 12-13, 32-3 J1 21 '33

**CENTRAL mining and investment corporation**  
Ordinary general meeting, 28th, London. Economist 116:1154-7 My 27 '33

**CENTRAL of Georgia railroad**  
Receiver appointed. Ry Age 93:950-1 D 24 '32

**CENTRAL public service corporation**  
Central Public Service restores stock and control of Peppo to Oregon investors. Elec West 70:28 Ja '33

**CENTRAL railroad of New Jersey**  
Annual report, year ended Dec. 31, 1932. Ry Age 94:684 My 6 '33

Central of New Jersey; operating statistics. Ry Age 95:68 J1 1 '33

**CENTRAL states life insurance company**  
George Graham heads Central States Life. East Underw 34:5+ J1 14 '33

Merger with American national assurance co. approved. Ins Field (Life ed) 62:5 Je 30 '33

**CENTRAL states sewage works association**  
Meeting, Indianapolis, Oct. 12-13. Eng N 111:514-15 O 26 '33

**CENTRAL statistical board.** See United States—Central statistical board

**CENTRAL surety and insurance corporation**  
Made fine showing in 1932. Weekly Underw 128:323 F 11 '33

**CENTRAL transit equipment association**  
Annual meeting, Indianapolis, April 5-6. Elec Traction 29:117-18 Ap '33

Meeting, Milwaukee, Sept. 6-7. Elec Traction 29:301-2 S '33; Transit J 77:325-6 O '33

**CENTRAL Vermont railroad**

Central Vermont co-ordinated service an effective traffic developer. il Ry Age 94:775-6 My 27 '33

**CENTRAL West casualty company**  
Custodian named. Nat Underw 37:23+ Ap 6 '33

Great Lakes Casualty takes Central west casualty co. Weekly Underw 128:1200 Je 24 '33; Nat Underw 37:23+ Je 22 '33

Reinsurance for Central West and Wayne Surety is being considered. Spectator 130:33 Ap 13 '33

**CENTRAL western wholesalers association**  
Organization. Dom Eng 142:96 O '33

**CENTRALITE**

Etude des combinaisons moléculaires de la centralite. M. L. Medard. Chimie & Ind 28:1143-4 N '32

Le liquides du système diphénylamine-centralite. L. Médard. Chimie & Ind 30:277-80 Ag '33

Sur les stabilisants et gélatinisants dans les poudres sans fumée. M. Giua and G. Guastalla. Chimie & Ind 29:268-77 F '33

**CENTRIFUGAL casting.** See Casting, Centrifugal

**CENTRIFUGAL machines**

Basket centrifuge inclosed by novel means. diag Chem & Met Eng 40:430 Ag '33

Brosius slag granulating machine recovers the iron. il Iron Age 130:993 D 29 '32; Steel 92:24 F 20 '33

Centrifugal in the chemical works. il diags Chem Age (Lond) 28:305-7 Ap 8 '33

Centrifugal screen for paper pulp. il Engineering 134:780-1 D 30 '32

Centrifugal separation and decantation. il diags Chem Age (Lond) 28:326-7 Ap 15 '33

Centrifugal separator for recovery of placer gold. J. B. Girard. Min Cong J 19:23-4 F '33

Centrifuge dewaxing with trichlorethylene. C. F. Pester. Am Pet Inst Proc 14M(3):4-6 My '33; Same. Oil & Gas J 32:52+ My 25 '33

Dehydration of tars by means of centrifuges. Gas J (Lond) 202:912 Je 28 '33; Same. Am Gas J 139:28 Ag '33

Fabriform centrifugal amalgamator. il Min & Met 14:74 Ja '33

Fitting motors and clutches to high-inertia loads. R. S. Elberty. il Elec W 101:92-4 Ja 21 '33

Grossleistungszentrifugen. C. G. Haubold. il Chemische Fabrik 6:sup5 Ja 4 '33

**CENTRIFUGAL machines—Continued**

- Low steam turbine centrifugal fat extractor. *il diag Chem Age (Lond)* 27:579 D 17 '32  
 Oil purification plant. H. E. Hutter. *il diag Elec R (Lond)* 112:737 My 26 '33  
 Ridding tomato pulp of black spots and grit. C. M. Ambler. *il Food Ind* 5:254 J1 '33  
 Rotojector, centrifugal separator. *il Sci Am* 148:49+ Ja '33; *Iron Age* 131:203 F 2 '33  
 Sharples perfects new rotojector centrifugal. *il Oil Paint & Drug Rep* 123:40 Mr 20 '33  
 Stone-Empson oil-purification plant. *il diag Engineering* 136:328-9 S 22 '33; *Engineer* 156:276-7 S 22 '33

Study of the high-speed centrifuge. W. DeW. Garman. *il diags R Sci Instr* 4:450-3 Ag '33

Super-centrifugal engineers horizontal bulk centrifuge. *il diag Engineering* 136:294-5 S 15 '33

Ultracentrifuge. J. W. Beams, A. J. Weed and E. G. Pickels. *diag Science* 78:338-40 O 13 '33

Use of Ter Meer type centrifugal separators in salt works. R. W. Miller. *il diag Soc Chem Ind J (Chem & Ind)* 52:368-70 Ap 28 '33

**CENTURY of progress exposition.** See Chicago—World's fair, 1933

**CEPHALOPODA, Fossil**

- Earliest known cephalopods. E. O. Ulrich and A. F. Foerste. *Science* 78:288-9 S 29 '33  
 Mixochoanitic cephalopod from Iowa. A. K. Miller. *il Am J Sci* 5th ser 26:178-82 Ag '33

See also  
 Ammonoidea

**CERAMIC industries**

American ceramic society; report of general secretary Ross C. Purdy. *Am Cer Soc J (Bul)* 16:59-67 Mr '33

Basic structure of the ceramic industries. A. V. Bleininger. *Am Cer Soc Bul* 12:214-20 J1 '33

Review progress made in ceramics at first annual Mineral industries conference, Urbana, March 4. *Brick & Clay Rec* 82:104 Mr '33

See also

- |                           |                      |
|---------------------------|----------------------|
| Brick industry and trade  | Fire brick           |
| Cement industry and trade | Glass trade          |
| Clay industries           | Kilns                |
| Enamel and enameling      | Pottery              |
|                           | Refractory materials |
|                           | Terra cotta          |

**Japan**

Ceramics in Japan. C. E. Mullin. *il Chem Markets* 32:39-42 Ja '33

**CERAMIC materials**

Effect of mechanical pressure on the imbibitional and drying properties of some ceramic clays. A. E. R. Westman. *diags Am Cer Soc J* 15:552-63; 16:256-64 O '32, Je '33

Effect of organic grinding media on water-soluble silica frits. H. B. Barlett and K. Schwartzwalder. *Am Cer Soc J* 16:452-4 S '33

Effect of various gaseous atmospheres on the vitrification of ceramic bodies. A. E. Badger. *diag Am Cer Soc J* 16:107-17 F '33

Fortschritte auf dem gebiete der keramischen werkstoffe. W. Steger. *Zeit Ver Deutsch Ing* 77:81-7 Ja 28 '33

Investigations in ceramics and road materials (testing and research laboratories) 1930 and 1931. 175p [biblog pl65-70] Canada. Dept. of mines, Ottawa '33

Low-temperature comparator for coefficient of expansion of ceramic bodies. H. E. Davis. *diag Am Cer Soc J* 16:229-31 My '33

Nouveaux gisements français de matières premières pour l'industrie céramique. V. Charrin. *il diags maps Génie Civil* 102:6-9 Ja 7 '33

Potash-soda-lime feldspar eutectic study. J. A. Martz. *Am Cer Soc J* 16:299-304 J1 '33

Thermal expansion of low-fired, lime-containing ceramic bodies. W. Steger. *Am Cer Soc J* 16 (Cer A 12):34-5 Ja '33

See also

- |                    |                      |
|--------------------|----------------------|
| Aluminum silicates | Fire clay            |
| Clay               | Kaolin               |
| Diatomaceous earth | Refractory materials |
| Feldspar           | Silicates            |

**CERAMIC research**

Canadian ceramic research; Ontario meeting reviews progress in processing and applications of clays and enamels. *Can Chem & Met* 17:50-2 Mr '33

Organization and functions of the research committees of the American ceramic society. R. Twells. *Am Cer Soc J (Bul)* 16:92-4 Ap '33

Proposal for correlation of ceramic research. J. M. McKinley. *Am Cer Soc J (Bul)* 16:89-91 Ap '33

Research in clay industry reviewed for Ohio association members at annual meeting. *Brick & Clay Rec* 81:171-2 N '32

**CERAMIC society**

Building materials section autumn meeting, Exeter, Sept. 14-15. *Engineering* 136:408 O 13 '33

Spring meeting, May 4-6. *Engineering* 135:610 Je 2 '33

**CERAMICS**

Calit und Calan, zwei neue keramische isolierstoffe. J. Wallich. *il Zeit Ver Deutsch Ing* 77:483-4 My 6 '33

Century of progress in ceramics. J. C. Hostetter. *Am Cer Soc Bul* 12:265-75 S '33

Compilation of phase-rule diagrams of interest to the ceramist and silicate technologist. F. P. Hall and H. Insley. *bibliog diags Am Cer Soc J* 16:459-567 O '33

Fusion study of the high feldspar area in the feldspar-kaolin-quartz system. M. H. Waldschmidt. *Am Cer Soc J* 16:199-203 Ap '33

Hauptversammlung der Deutschen keramischen gesellschaft vom 24. bis 26. September 1933 in Jena. *Angew Chemie* 46:685-8 O 28 '33

Is ceramics physics or chemistry? *Am Cer Soc Bul* 12:295 O '33

Wärme in der silikathüttenindustrie. E. Zschimmer. *Zeit Ver Deutsch Ing* 77:252-3 Mr 4 '33

See also

- |                      |                      |
|----------------------|----------------------|
| Brickmaking          | Glazes               |
| Cement               | Kilns                |
| Cement, Refractory   | Porcelain            |
| Clay                 | Pottery              |
| Clay industries      | Refractory materials |
| Clay products        | Slips (ceramics)     |
| Enamel and enameling | Stoneware            |
| Fire brick           | Terra cotta          |
| Glass                | Tiles                |

**Bibliography**

Ceramic abstracts. Published in monthly numbers of American ceramic society journal

Ceramic abstracts; author and subject index to v 11, 1932. *Am Cer Soc J* 15 (Cer A 11):643-797 D '32

**Definition**

Position taken by Patent office that siliceous compositions fired to 1500°F are not ceramic. *Am Cer Soc Bul* 12:220 J1 '33

**Study and teaching**

See also

Alfred university—New York state college of ceramics

**CEREAL food**

Wheat, flour and cereals; wheat and flour trends. *Food Ind* 5:46-7 F '33

**CEREALS, Prepared**

Curled or flat—smooth or blistered. R. Sunderman. *diag Food Ind* 5:302+ Ag '33

Sample-with-sale plan wins 60,000 outlets for Sunshine cereal in first 4 months. *il Sales Management* 33:78 J1 15 '33

Sterilizing packaged cereal with corona discharge. *il diag Elec W* 101:231 F 18 '33



**CEREALS, Prepared—Continued**

Wholesale distribution of breakfast cereals in southern Michigan. E. H. Gault and R. F. Smith. Michigan U Bur of Business Research Business Studies v 5, no41:4-7 '33

**Advertising**

Force in \$10,000 contest jingles its way back toward popularity. Sales Management 32: 526 My 15 '33

Hot cereal; Carnation wheat offers dri-a-dish towel. Il Ptr Ink 161:46 D 1 '32

How advertising helped change the American breakfast. H. J. Thornton. Ptr Ink 162:63-4+ Mr 23 '33

Quaker Oats returns Hopkins copy to the firing line. Il Ptr Ink 164:20+ Ag 31 '33

Sunny Jim brings back jingles. Il Ptr Ink 163: 74 My 11 '33

Sunny Jim is back. Il Ptr Ink 162:75 Mr 30 '33

Tom Mix in new adventures for Ralston Purina. Il Ptr Ink 165:87 N 9 '33

**CERIUM sulfate**

Ceric sulfate as a volumetric oxidizing agent; indicator methods for the standardization and use of ceric sulfate. H. H. Willard and P. Young. Am Chem Soc J 55:3260-9 Ag '33

Phenanthroline-ferrous ion; a reversible oxidation-reduction indicator of high potential and its use in oxidimetric titrations. G. H. Walden, jr., L. P. Hammett and R. P. Chapman. Am Chem Soc J 55:2649-54 Jl '33

**CERTIFICATION of products.** See Products, Certification of**CERUSSITE**

Identification of cerussite and anglesite, and flotation with galena. F. D. DeVaney and R. E. Evans. Il U S Bur Mines Rep of Invest 3214:1-9 '33

**CESIUM**

Adsorption von cäsiumatomen auf wolfram; abstract. I. Langmuir. Angew Chemie 46: 131 F 25 '33

Atomic weight of cesium. G. P. Baxter and J. S. Thomas. Am Chem Soc J 55:858-9 F '33

Evaporation of atoms, ions and electrons from caesium films on tungsten. J. B. Taylor and I. Langmuir. diags Phys R 44:423-58 S 15 '33

Extension of the first spark spectrum of caesium (Cs II). J. Olthoff and R. A. Sawyer. Phys R 42:766-76 D 15 '32

Fortschritte 1930-1932 auf dem gebiete der freien alkalimetalle. H. Alterthum and R. Rompe. bibliog Angew Chemie 46:548-51 Ag 26 '33

Isotopes of sodium and cesium. C. B. Dollins and E. R. Bishop. Am Chem Soc J 55: 4372-4 N '33

Magnetic interaction of a valence electron with inner shells. M. H. Johnson, jr. and G. Breit. Phys R 44:77-83 Jl 15 '33

Nature of adsorbed films of caesium on tungsten; the space charge sheath and the image force. I. Langmuir. bibliog Phys R 43:224-51 F 15 '33

Recombination radiation in the cesium positive column. F. L. Mohler. U S Bur Stand J Research 10:771-80 Je '33

Scattering of electrons by ions and the mobility of electrons in a cesium discharge. C. Boeckner and F. L. Mohler. U S Bur Stand J Research 10:357-63 Mr '33

**CESIUM bromides**

Cesium polybromides. I. W. H. Harris. Chem Soc J p2709-13 N '32

**CESIUM iodides**

Solid polyiodides of cesium. H. W. Foote, W. M. Bradley and M. Fleischer. J Phys Chem 37:21-7 Ja '33

Solid polyiodides of the alkali metals. N. S. Grace. bibliog J Phys Chem 37:347-60 Mr '33

**CETENE**

Indice d'isooctane pour les carburants et indice de cétene pour les huiles combustibles. A. Grebel. Soc Ing Civils Bul 86:41-71 Ja '33; Abstract. Génie Civil 102:207-8 Mr 4 '33

**CETYL sulfonic acid.** See Hexadecane sulfonic acid

**CEYLON**

See also

Labor and laboring classes—Ceylon

**CHACO Canyon national monument**

Cliff-dwellers of 1000 A.D. as underpinning experts; what the inhabitants of Pueblo Bonito did to prevent destruction of their city by a great rock. J. B. Hamilton and F. A. Kittredge. Il diags Eng N 110:774-5 Je 15 '33

**CHAETETES**

Chaetetes milleporaceus M.E.H. F. Heritsch. Il Am J Sci 5th ser 25:257-60 Mr '33

**CHAIN gear**

Brooke marine motors, ltd. new vee drive. Il Engineer 156:43 Jl 14 '33

Chain drives on printing machines offer worthwhile economies. F. A. Westbrook. Il Inland Ptr 91:32-3 My '33

Choosing the right drive. W. Staniar. Il Iron Age 132:10-13 Ag 17 '33

Endless chain haulage gears in quarries and brickworks. A. C. Farren. diags Mech Handling 20:151-4 My '33

Ingenious design in variable speed transmission; P. I. V. (positive infinitely variable) transmission. Il Sci Am 149:232+ N '33

Intricate drive problem ingeniously solved. Il Mach 39:271 D '32

Screw conveyor and bucket elevator drives. T. N. Haffner. Il diag Rock Prod 36:25-7 O '33

Silverlink roller chain announced by Link-Belt. Eng & Contr 71:282 D '32

**Manufacture**

Automatic machines speed roller chain production; Baldwin-Duckworth mfg. co. H. R. Simonds. Il Iron Age 130:758-60 N 17 '32

**CHAIN selling.** See Endless chain selling**CHAIN stores**

A.F.L. joins retailers to combat cigarette price-cutting by chains. Sales Management 32:442-3 Ap 20 '33

A&P from A to Z; combination stores carrying more lines and better ones. Business Week p9 N 30 '32

Bankruptcy without receiver; John David effects lease revisions. Business Week p10 Mr 22 '33

Centrally owned chains enter a new era. Food Ind 5:11-13 Ja '33

Chain association dissolves. Ptr Ink 164:94 S 28 '33

Chain store industry under the National industrial recovery act. J. P. Nichols, ed. 77p National chain store assn, 205 E. 42d st, New York '33

Chain-store system helps make farm surplus market; Safeway stores, inc. Ptr Ink 162: 48-9 Ja 12 '33

Chain stores. 81p U. S. Federal trade commission, Washington '32

Chain stores. Cooperative drug and hardware chains. 28p U.S. Federal trade commission, Washington '32

Chain stores. Gross profit and average sales per store of retail chains. 75p U.S. Federal trade commission, Washington '33

Chain stores; quality of canned vegetables and fruits (under brands of manufacturers, chains and other distributors). 53p U.S. Federal trade commission, Washington '33

Chain stores; sales, costs, and profits of retail chains. 120p U S Federal trade commission, Washington '33

Chain stores; short weighing and over weighing in chain and independent grocery stores. 42p U.S. Federal trade commission, Washington '33

Chain stores; sizes of stores of retail chains. 50p U.S. Federal trade commission, Washington '33

Deal strangles chain good-will for branded lines; makes featuring of private brands essential to profits. R. I. Harry. Ptr Ink 161: 25-8 D 8 '32

Drug chain bankruptcy case; Louis K. Liggett co. Business Week p7-8 Ap 12 '33

**CHAIN stores—Continued**

- F.T.C. reports on chain prices, profits, and allowances. *Adv & Sell* 22:42 N 9 '33
- Fifteenth census of the United States, 1930: census of distribution, retail distribution, retail chains. 270p Census bureau, Washington, D.C. '33
- Good merchandising is answer to profitless selling; Safeway stores. *R. W. Doe. Ptr Ink* 164:56-7, 60-1 J1 20 '33
- How chain stores are weathering the storm. *M. M. Zimmerman. il Adv & Sell* 20:13-15+ Mr 2 '33
- Liggett lease problem. *Barron's* 12:14 D 12 '32
- Liggett plan may become standard for adjusting chain store leases. *Arch Forum* 58:340-1 Ap '33
- Price practices of chain stores. *Ptr Ink* 165: 65+ N 2 '33; *Reply* (Mr Lebharr disagrees). 165:47-8 N 9 '33
- Receiver control; Supreme court's move to cut the cost of chain bankruptcies. *Business Week* p8-9 My 24 '33
- Rent strike; Liggett's landlords set the pattern for meeting the chains' challenge of "lease adjustments or bankruptcy." *Business Week* p5 Ja 11 '33
- Short-weights; Federal trade commission finds them in chain stores, also in other stores. *Business Week* p10 D 28 '32
- Variety chains face growing problems; keener competition, high rents, major profit obstacles. *Bradstreet's* 60:1732 D 31 '32
- What can national advertisers do about profitless selling? *M. M. Zimmerman. Adv & Sell* 20:17-18+ Ap 27 '33

**See also**

- |  |                                   |
|--|-----------------------------------|
| First national stores, inc.            | Kroger grocery and baking company |
| Five- and ten-cent stores              | Voluntary chain movement          |
| Great Atlantic and Pacific tea company | Woolworth, F. W., company         |

**Accounting**

- Simplifying office detail in the chain store organization; abstract. *J. J. Kaufman. Management R* 22:340 N '33
- Standard financial ratios, today's guide posts of business. *W. M. Halbrooks. Management Methods* 61:670-4+ D '32

**Advertising**

- F.T.C. finds newspapers carry bulk of chain advertising. *Adv & Sell* 21:36 O 26 '33
- Kroger personalizes copy. *il Adv & Sell* 21:40 Ag 31 '33
- National copy for jewelry chain. *il Ptr Ink* 161:82 D 15 '32

**Definition**

- Two or more stores—then you have a chain. *Ptr Ink* 164:62-3 Ag 3 '33

**Directories**

- Classified chain store directory; semi-annual. *W. E. Douglass, comp. 153p \$5 Chain store directory co, 156 Chambers st, New York '32*

**Employees**

- Comparative wages in chain and independent stores, 1929 and 1931. *Monthly Labor R* 37: 943-5 O '33

**Finance**

- Big chains, big costs; Trade commission's study of chain stores' gross profits. *Business Week* p10 F 15 '33
- Expenses and profits of variety chains in 1931 compared with 1929; abstract. *M. P. McNair. Management R* 22:283 S '33
- Gross profits made by chains. *Ptr Ink* 162:42 F 16 '33

**History**

- Early history of the Great Atlantic & Pacific tea company. *R. J. Bullock. Harvard Business R* 11:289-98 Ap '33
- History of the Great Atlantic & Pacific tea company since 1878. *R. J. Bullock. Harvard Business R* 12:59-69 O '33

**Mail order stores**

- Mail-order automobiles. *Ptr Ink* 161:20 D 15 '32
- Mail-order basement; agency sales plan by Sears, Roebuck & company. *Business Week* p12 S 30 '33

**Management**

- This chain invites manufacturers to co-operate; Sheffield Farms stores. *J. Burlinson. il Ptr Ink* Mo 27:40+ O '33
- Woolworth's \$250,000,000 trick depends upon catching them young. *il Fortune* 8:62-70+ N '33

**Public relations**

- Chain stores and cooperation. *Nation's Business* 21:55 Ja '33

**Purchasing**

- Purchasing policies and practices of chain drug companies. *E. F. Witte. J of Business* 6:1-95 pt 2 Ja '33

**Records**

- Order routine that reduced costs and errors; Jewel food stores. *C. B. Allyn. il Management Methods* 62:258-60+ Je '33

**Statistics**

- Chain-store sales for January. *Ptr Ink* 162: 70 Mr 9 '33 [cont monthly]

**Stock**

- Why this chain's operators prefer advertised brands; Piggly Wiggly corporation. *Ptr Ink* 164:91-3 S 28 '33

**Taxation**

- Chain stores voted down. *Business Week* p11-12 N 30 '32
- Chain tax; Michigan raps the chains but without much enthusiasm. *Business Week* p10 Ag 5 '33
- Chain tax snapped; Michigan decision. *Business Week* p5-6 Ja 11 '33
- Cold comfort for chain stores; Supreme court knocks out the Florida chain tax, but intimates all it needs is a little revision. *Business Week* p11-12 Mr 22 '33
- Menace of anti-chain legislation; state tax measures threaten higher distribution costs, lower advertising appropriations. *D. E. Mowry. il Adv & Sell* 21:24+ J1 20 '33
- Rules against chain-store tax. *Ptr Ink* 162: 74 Ja 19 '33
- Taxation threatens the chain store. *H. Minngos. Mag of Wall St* 52:160-1+ Je 10 '33

**CHAINS**

- Dimensions, weights, and test and safe loads for wrought-iron crane chain; data sheet. *Mach* 39:632A Je '33
- Iron load chains for hand-operated pulley blocks; British standard specifications. *Mech Handling* 19:411+ D '32
- Kirkham lubricator for conveyor chains. *il Mech Handling* 20:247 Ag '33

**See also**

Chain gear

**Manufacture**

- Chrome-nickel steel for navy cast steel anchor chain. *T. N. Armstrong. il Iron Age* 131:100-1+ Ja 12 '33
- Milling fixture of swivel type for rounding the ends of chain links. *E. E. Burke. il Mach* 39:528 Ap '33
- One pass through the press cuts the cost of chain. *il Am Mach* 77:372 Je 7 '33

**Testing**

- Avery 750-ton chain-cable and anchor testing machine. *il diag Engineering* 134:621-3 N 25 '32; *Engineer* 154:538, 542-3 N 25 '32
- 750-ton chain cable and anchor testing machine; abstract. *Mech Eng* 55:703-4 N '33

**CHAINS, Chemical**

- Anomalies in the reactivities of side-chain halogens with special reference to reaction mechanism. *J. W. Baker. Chem Soc J* p1128-33 S '33



**CHAINS, Chemical—Continued**

- Branched chain aliphatic acids; isomeric, isopalmitic and isostearic acids. C. R. Forde and J. R. Johnson. *Am Chem Soc J* 55:3368-72 Ag '33
- Effect of nuclear halogen substituents on triad prototropic systems in relation to aromatic side-chain reactions. C. W. Shoppee. *Chem Soc J* p1117-20 S '33
- Influence of nuclear halogens on aromatic side-chain reactivity. G. M. Bennett. *Chem Soc J* p1112-14 S '33
- Influence of nuclear substituents upon side-chain reactions. W. S. Nathan and H. B. Watson. *Chem Soc J* p1245-52 S '33

**CHAIRS**

- Library chairs and reading tables. T. W. Koch. *il Lib J* 58:293-300 Ap 1 '33

**CHALCOCITE**

- Chalcocite and native copper types of ore deposits. E. S. Bastin. *maps Econ Geol* 28: 407-46 [bibliog p444-6] Ag '33
- Chalcocite deposit, Great Bear Lake, Canada. C. Riley. *Econ Geol* 28:496-501 Ag '33

**CHALCONE**

- Course of addition of the sodium enolates of malonic and methylmalonic esters to benzalacetophenone and to crotonic ester. A. Michael and J. Ross. *Am Chem Soc J* 55: 1632-46 Ap '33
- Nitration of chalkone. R. J. W. Le Fèvre, P. J. Markham and J. Pearson. *Chem Soc J* p344-6 Ap '33

**CHALCOPYRITE**

- Origin of the Frood ore deposit. B. C. Freeman. *il map Econ Geol* 28:276-88 My '33

**CHAMBER of commerce of the United States**

- Business agrees to regulate itself; proposals at the annual meeting of the Chamber are well received. *Nation's Business* 21:13-18 Je '33
- Chamber for change. *Business Week* p3 My 17 '33
- Meeting, Washington, D.C. May 2-5. *Eng N* 110:604 My 11 '33
- Members approve railway program. *Ry Age* 93:957+ D 24 '32
- Resolutions adopted at the annual meeting, May 5. *Ry Age* 94:705-6 My 13 '33
- What the U. S. chamber is doing. *Nation's Business* 21:16+ Ja; 52+ Mr; 38+ My '33

**Insurance department**

- Active year ahead. *East Underw* 34:33 J1 14 '33; *Ins Field* (Fire ed) 62:9 J1 13 '33; *Spectator* 131:27+ J1 13 '33

**CHAMBERLAIN, Oscar Pearl, 1870-1932**

- Sketch. J. W. Alvord, H. R. Abbott and F. E. Morrow. *W Soc E J* 38:51-3 F '33

**CHAMBERS of commerce**

- Chain stores and cooperation. *Nation's Business* 21:55 Ja '33
- Laying the groundwork for progress. W. J. Fielder. *Manuf Rec* 102:19 Mr '33
- Local chamber whips disaster; while an earthquake was destroying the business district of Compton, Cal., the chamber of commerce got busy. *il Nation's Business* 21:42-3 Ag '33
- Local chamber's job in recovery. R. H. Goddard. *Nation's Business* 21:16+ J1 '33
- What ails chambers of commerce? E. A. Filene. *il Nation's Business* 21:37-8+ O '33
- What the chambers are doing. *Nation's Business* 21:37-8 S '33

**See also**

- International chamber of commerce

**India**

- Development of employers' organisations in India. A. H. Maru. *Int Labour R* 27:220-36 F '33

**CHAMFERING**

- Attachment for scarfing pipe. A. L. Hartley. *diags Am Mach* 77:557 Ag 30 '33
- Device for grinding chamfers on cylindrical work. J. E. Hyler. *diag Am Mach* 77:698 O 25 '33

**CHAMFERING machines**

- Bilgram gear chamfering machine. *il Mach* 39: 612 My '33

**CHAMOT, Emile Monnin, 1868-**

- American contemporaries. G. W. Cavanaugh. *por Ind & Eng Chem* 25:826-7 J1 '33

**CHAMPAIGN, Illinois****Water supply**

- Ammonia-chlorine treatment at Champaign-Urbana, Illinois. F. C. Amsbary, jr. *Am Water Works Assn J* 25:1251-6 S '33

**CHAMPIGNY, France****Bridges**

- La reconstruction du pont de Champigny, sur la Marne; serrage du béton armé par des appareils de pervibration. L. Roussel. *il diags Génie Civil* 103:365-9 O 14 '33

**CHAMPION fibre company, Canton, North Carolina**

- Champion Fibre adapts itself to changing conditions. H. R. Murdock. *il diag Chem & Met Eng* 40:244-7 My '33

**CHAMPLAIN, C. H.**

- General works manager, Westinghouse electric & mfg. co. *por Steel* 92:15 F 20 '33

**CHANCE, Kenneth Macomb, 1879-**

- Sketch. *por Soc Chem Ind J* 52:supS25 My 19 '33

**CHANDLER medal**

- Curme is presented 1933 Chandler medal. *Oil Paint & Drug Rep* 123:15+ Mr 20 '33

**CHANNELS**

- Blasting channels for flood control. *Manuf Rec* 102:46 Ap '33

**CHAPELS**

- Electro-acoustical system in the Girard college chapel. T. F. Bludworth. *plan Arch Rec* 73:385-6 Je '33
- Girard college chapel, Philadelphia. W. H. Thomas and S. E. Martin. *plans Arch Rec* 73:381-4 Je '33
- Girard college chapel, Philadelphia; views. *Arch Rec* 73:387-422 Je '33
- Knowles memorial chapel, Rollins college, Winter Park, Florida; views and plans. *Am Arch* 143:55-60 My '33

**See also**

- Church architecture
- Mortuary chapels

**CHARACTER**

- Character in human relations. H. Hartshorne. 367p [bibliog p353-7] \$2.50 Scribner '32

**CHARACTER analysis**

- How to study men by types to improve banking relations. C. O. Lee. *il Bankers Mo* 50: 84-6+ F '33
- Measuring our capabilities; work of Human engineering laboratories at Stevens institute of technology, Hoboken, N.J. and at Boston, Mass. C. W. Squier. *Mech Eng* 55: 603-7 O '33

**CHARCOAL**

- Acid soluble oxidizing material from charcoal. M. A. Mayers. *Am Chem Soc J* 55: 2435-6 Je '33
- Adsorption of electrolytes by ash-free charcoal; a brief survey of the present status of the subject. E. J. Miller. *bibliog J Phys Chem* 36:2967-80 D '32
- Adsorption of simple amino-acids by purified charcoals; abstract. H. J. Phelps and R. B. Vallender. *Soc Chem Ind J* (Chem & Ind) 52:270 Mr 24 '33
- Charcoal fuel for motor trucks. *Sci Am* 148: 177 Mr '33

- Discontinuities in the sorption process. L. J. Burrage. *J Phys Chem* 37:41-5 Ja '33

- Experiment with charcoal gas in operating trucks. J. Arnold. *Oil & Gas J* 31:41 N 17 '32

- Experimental evidence for activated adsorption of hydrogen by charcoal. R. Burstein, A. Frumkin and N. Fedotow. *Am Chem Soc J* 55:3052-3 J1 '33

- Improved method for the determination of isothermals by the retentivity technique. L. J. Burrage. *J Phys Chem* 37:33-9 Ja '33

**CHARCOAL**—*Continued*

- Influence of combined oxygen on the adsorption of vapors by porous solids. L. J. Burrage. *bibliog J Phys Chem* 37:505-10, 735-44 Ap '33
- Marketing and industrial uses of charcoal. R. S. McBride. *il Chem & Met Eng* 39:664-7 D '32
- Nature of the sorption of water by charcoal. J. W. McBain, J. L. Porter and R. F. Sessions. *bibliog diag Am Chem Soc J* 55:2294-304 Je '33
- Running buses on wood; Imbert gas generator uses charcoal. J. Hoffmann. *il Elec Traction* 29:236-7 Ag '33
- Studies in chemisorption on charcoal; the acid constituent of charcoal. A. King. *Chem Soc J* p842-6 Jl '33

**CHARCOAL, Activated.** See Carbon, Activated**CHARGE accounts (retail trade).**

- Credit and the retailer. J. V. Day. *Credit & Fin Management* 35:14+ O '33
- Daily review that builds up buying power of desirable charge accounts. E. J. Dollard. *Management Methods* 61:668-9 D '32
- Fraudulent buying reduced; Denver dry goods co. *Management Methods* 62:215 My '33

**CHARGING machines**

- Enfourneuse pour fours à cuivre, système Demag. *il diag Génie Civil* 103:17 Jl 1 '33

**CHARITIES**

- Lotería nacional para la beneficencia pública; the tale of a lottery which is sober, respectable and philanthropic. *il Fortune* 6:80-4+ D '32
- No one need give; an examination of the conscience of the great American contributor. *il Fortune* 8:58-61+ N '33

*See also*

- |   |             |
|---|-------------|
| Community trusts                        | Poor relief |
| Foundations, Charitable and educational | Social work |

**Advertising***See Money raising campaigns***CHARLESTON, South Carolina**

- Charleston, South Carolina. maps *Fortune* 7:78, 80-1, 83 Mr '33

**CHARLTON, Harry Hayward, 1887-1933**

- Sketch. E. Allen, D. B. Calvin and M. D. Overholser. *Science* 77:598-9 Je 23 '33

**CHARTERED bank of India, Australia and China**

- Ordinary general meeting, 79th, London, March 29. *Economist* 116:711-12 Ap 1 '33

**CHARTS (calculating)**

- Alignment chart for plant dilution problems. N. M. Wickstand. *Chem & Met Eng* 40:487 S '33
- Alignment charts solve flat belt problems. E. Cowan. *Power* 77:586-8 N '33
- Calculating heating surface for buildings. P. L. Rogers. *Heating-Piping* 5:203-4, 261, 306, 363, 417, 470, 517, 569 Ap-N '33
- Calculating radiation by use of charts. L. Corlett. *Heat & Ven* 29:17-19 D '32
- Chart aids plant operator to properly adjust circulation through absorber. W. A. Stover. *Oil & Gas J* 32:23 Jl 20 '33
- Chart determines hauling costs and number of trucks required. E. D. Gladding. *Eng N* 111:199 Ag 17 '33
- Chart for determining air density. H. C. Oatley. *Power* 77:40 Ja '33
- Chart for estimating cost of units of plant. R. H. Kirkwood. *Elec Eng* 52:175-7 Mr '33
- Chart for finding mean specific heat of air and water vapor. J. W. May. *Heating-Piping* 5:475-6 S '33
- Chart simplifies design problem of pipe lines in the natural gasoline plants. W. A. Stover. *Oil & Gas J* 31:24+ Mr 30 '33
- Charts for selecting machines of correct size for milling and turning operations. A. E. Gutzwiller. *Mach* 39:724-6 Jl '33
- Charts to simplify flow and pressure-drop calculations for process piping. E. Kemler. *Heating-Piping* 5:513-16, 554-5 O-N '33
- Coal, oil, gas; cost of heating with each. J. D. Kroeker. *Dom Eng* 142:70-1+ O '33

- Consolidated air conditioning chart. S. R. Dows. *Elec West* 70:99-100 Mr '33
- Design of circular tanks; chart for solution of Janssen's formula. E. Cowan. *Concrete* 41:16 N '33
- Estimating oil requirements. B. E. Shaw. *Heat & Ven* 30:37-9 Ap '33
- Estimating time for cutting internal keyways; reference book sheet. C. W. Willits. *Am Mach* 76:1229 D 21 '32
- Flue gas heat losses when oil is the fuel. N. C. Ebaugh. *Power* 77:128-9 Mr '33
- How to select a helical spring. G. P. Pearce. *Am Mach* 77:588-9 S 13 '33
- Layout charts for pipe cutting and welding are found to be very useful in oil industry. W. A. Stover. *Oil & Gas J* 31:10 Ja 12 '33
- Length of pavement required for a car to pass a truck of maximum length; chart for determining location of highway markers. J. N. Arnold. *Eng N* 111:191 Ag 17 '33
- Linograph for flow of water in pipes; data sheet. E. W. Ritchie. *Power* 76:304 D '32
- Modern radio practice in using graphs and charts. J. M. Borst. *chart Radio N* 14:666-7+ My '33
- Modified reactance-frequency chart. J. R. Tolmie. *Inst Radio Eng Proc* 21:1364-6 S '33
- New abac for single-layer coils. H. Seki. *Wireless Eng* 10:12-13 Ja '33
- New combustion chart insures speed—case—accuracy. E. Therkelsen. *Power* 77:600-1 N '33
- Operator may determine efficiency of plant by using a convenient chart. W. A. Stover. *Oil & Gas J* 31:29-30 Mr 9 '33
- Pipe design made easy by a new system of charts. E. A. Wert, S. Smith and E. T. Cope. *diags Power* 77:198-9 Ap '33
- Production chart for centerless grinding, through-feed method. C. W. Hopkins. *Am Mach* 77:278 Ap 26 '33
- Quick estimating charts for three-phase 60-cycle transmission lines. C. C. Whelchel, E. Clarke and R. N. Slinger. *charts Gen Elec R* 36:139-49 Mr '33
- Regulation chart for automatic voltage regulators. C. Heyel and W. R. Weise. *Elec J* 30:250-2 Je '33
- Road-tar consistency conversion chart. E. O. Rhodes. *Eng N* 111:474-5 O 19 '33
- Speed-torque curves—how they picture crane performance. A. A. Merrill. *il diags Steel* 93:25-8 Jl 31; 23-6 Ag 21; 27-30 S 4 '33
- Steam savings vs. investment; data sheet. *Power* 77:248 My '33
- Transformer efficiency. S. A. Stigant. *chart Electrician* 110:794-5 Je 16 '33
- Turning time for shafts of various diameters and lengths. C. F. Scribner. *Mach* 39:284-6 D '32
- Vertical distances charted from stadia measurements. J. R. McComas. *chart Eng N* 111:347 S 21 '33
- Weighted per cent equation aids chemical calculations. H. G. Nevitt. *Chem & Met Eng* 39:673-5 D '32
- Working-barrel capacity chart of advantage in making estimates of operating conditions. *Oil & Gas J* 32:51 Je 22 '33

**CHARTS, Business.** See Business charts**CHASE, Charles Edward, 1857-1933**

- Sketch. *East Underw* 34:18+ Ag 11 '33

**CHASE national bank of New York**

- Chase bank formally drops its security affiliate. *Barron's* 13:4 Ap 10 '33
- Chase bank interests queried. *Barron's* 13:4 O 23 '33
- Chase bank's new chief, Winthrop Williams Aldrich. *Business Week* p13-14 Ja 4 '33
- Cuban loans' circumstances revealed. *Barron's* 13:13 O 30 '33
- Important changes in the Chase national bank organization become effective. *Trust Companies* 56:589 My '33
- Plans to divest itself of securities affiliates. *Trust Companies* 56:473 Ap '33
- Wiggin retires as Chase head. *Barron's* 12:2 D 26 '32

**CHASERS.** See Thread cutting**CHATEAUX.** See Castles



**CHATTEL mortgages**

- Chattel mortgage void because of defective affidavit; suit. Bankers M 127:67-9 J1 '33  
 Law of chattel mortgages and conditional sales. L. A. Jones. 6th ed rev & enl 3v Bobbs '33  
 Law of chattel mortgages in Illinois, with forms. H. S. Waller. 720p Callaghan '33

**CHAULMOOGRIC acid**

- Racemization of chaulmoogric and hydnocarpic acids. W. S. Hinegardner. Am Chem Soc J 55:2831-4 J1 '33

**CHAVICOL**

- Crystallizable chavicol and eugenol from the oil of bay. S. Palkin and P. A. Wells. Am Chem Soc J 55:1556-8 Ap '33

**CHECK books**

- Less trouble with balances with this stubless check book. A. F. Brunkow. Il Rand McNally Bankers Mo 50:265 Je '33

**CHECKER brick.** See Fire brick**CHECKING accounts.** See Banks and banking —Checking accounts**CHECKS**

- Gentle art of paper-hanging, or How to forge a check and how to check a forger. D. J. Johnston. Credit & Fin Management 35:18-19+ O '33  
 Improved check procedure; National life insurance company. System and Management Methods 62:354-5 Ag '33  
 Mad scramble for cash. Barron's 13:20 Mr 6 '33  
 Promptness in presenting checks for payment. Trust Companies 55:724 D '32

**Collection**

- Convenient way to collect float. L. D. Kelly. Am Bankers Assn J 25:32+ Ap '33  
 Giro system in Germany; a method of handling checks that has great possibilities for American banks. O. Schoele. Bankers M 127:44-7 J1 '33  
 Metered charges for bank service. L. D. Kelly. Burroughs Clearing House 17:6-8+ Ap '33  
 Problem of uncollected funds. R. H. Brunkhorst. Burroughs Clearing House 17:12-14 Je '33

**Law**

- Bank liable in paying on forged indorsement; suit. Bankers M 126:481-3 My '33  
 Bank not liable in paying check on forged indorsement made by insurance agent; suit. Bankers M 126:381-3 Ap '33  
 Bank not liable in paying checks indorsed by corporation officer; suit. Bankers M 126:58-9 Ja '33  
 Bank not liable on check certified by mistake; suit. Bankers M 125:619-21 D '32  
 Checks deposited in insolvent bank; suit. Bankers M 125:621-5 D '32  
 Liability of bank paying checks wrongfully obtained by depositor's employee; suit. Bankers M 126:483-5 My '33  
 Payee liable where his indorsement obtained by fraud; suit. Bankers M 126:586-8 Je '33  
 Payment of check lacking payee's indorsement; suit. Bankers M 127:177-8 Ag '33  
 When the correspondent defaults. C. R. Rosenberg, jr. Burroughs Clearing House 17:16-17+ My '33

**Standards**

- Check standardization. Am Bankers Assn J 26:56 Ag '33

**Taxation**

- Check tax; findings. Am Bankers Assn J 25:28-9+ Ja '33  
 Check tax savings. Management Methods 62:226 My '33  
 Three-cent postage picks printers' pockets; "take" is millions. A. G. Fegert. Inland Ptr 90:21-3 Ja '33

**CHECKS, Travelers'. See Travelers' checks****CHEESE**

- Cheese; a treatise on the manufacture of American Cheddar cheese and some other varieties. L. L. Van Slyke and W. V. Price. rev & enl 387p Orange Judd pub. co, New York '32

- From bulk to brand by the canning route; Sodus cooperative creamery company, Wolcott, New York. R. S. McFadden. Il Sales Management 32:162+ F 15 '33  
 How Borden unified a family of packages. L. G. Stevens. Il Ptr Ink Mo 26:32+ My '33  
 Mass display increases Kraft-Phenix sales. Il Adv & Sell 20:34 D 8 '32  
 Refill package for steady buyers; Phenix Cheese refill jar. Il Ptr Ink 164:68 J1 6 '33

**Advertising**

- Kraft-Phenix 1933 advertising is largest ever. Ptr Ink 162:45 Ja 12 '33  
 Kraft's largest campaign; new product, processes and packages to be featured in newspapers and magazines. Il Ptr Ink 162:54 F 9 '33

**Statistics**

- Cheese, cold storage holdings, monthly, 1927-1931. Survey of Cur Business 13:19 Ap '33

**CHEMICAL abstracts, British**

- Efficiency with economy in chemical abstracting. J. C. Philip. Assn of Sp Lib & Inf Bur Proc 1933:74-7

**CHEMICAL affinity**

- Affinity constant of aniline in acetone-water mixtures. A. N. Campbell and E. M. Brown. Electrochem Soc Trans 63 (preprint 23):291-5 My '33  
 Beziehungen zwischen Affinität und reaktionsgeschwindigkeit. O. Dimroth. Angew Chemie 46:571-6 S 9 '33

**See also****Valence****CHEMICAL alliance, inc.**

- Chemical alliance revived to serve industry in N.I.R.A. requirements. Oil Paint & Drug Rep 124:15, 28A J1 31; 17, 32A Ag 7 '33; Chemicals 38:1+ Ag 7 '33  
 Revised constitution. Oil Paint & Drug Rep 124:17+ O 2 '33

**CHEMICAL and metallurgical corporation**

- New deal by I.C.I.; offer to Chemical and metallurgical corporation. Chem Age (Lond) 29:113 J1 29 '33

**CHEMICAL apparatus**

- Apparatus for chemical research at high pressures. Il diag Engineering 136:32 J1 14 '33  
 Apparatus for the separation of isohydrogen (deuterium) oxide by electrolysis. W. D. Harkins and C. Doede. diag Am Chem Soc J 55:4330-1 O '33  
 Constant-level device for constant-temperature water baths. J. H. Robertson. diag J Chem Educ 10:377 Je '33  
 Divided titration pipet-stirring rod. R. Richardson. diag Am Chem Soc J 55:2794-5 J1 '33  
 Improved apparatus for demonstration of fixation of atmospheric nitrogen. G. W. Thiesen. Il J Chem Educ 10:498 Ag '33  
 Interchangeable ground glass joints. Il Chem Age (Lond) 27:478 N 19 '32  
 Loading combustion tube in carbon and hydrogen determination on liquids. J. R. Bailey. diags Ind & Eng Chem Anal ed 5:171 My 15 '33  
 Mechanical device to agitate analytical solutions by swirling. A. F. Scott and E. F. Reid, jr. diags Ind & Eng Chem Anal ed 5:92 Mr 15 '33  
 Mechanically operated buret. C. H. Whitnah. diags Ind & Eng Chem Anal ed 5:352-4 S 15 '33  
 Modification of the Backlin-Kirk combustion chamber for micro-determination of carbon and lipoids. W. L. Doyle. diag Science 77:173 F 10 '33  
 Modified combustion apparatus. R. N. Evans. Il Ind & Eng Chem Anal ed 5:61 Ja 15 '33  
 Multiple steam bath. W. L. Beuschlein and W. M. Dehn. diag Ind & Eng Chem Anal ed 5:327 S 15 '33  
 Eine neue katalytische bestimmung des wasserstoffs mit hilfe von kontaktkerzen. E. Biesalski and H. Giehmman. diag Angew Chemie 45:767-9 D 10 '32  
 Nickel tubes in organic combustions. F. E. Ray. Ind & Eng Chem Anal ed 5:220 My 15 '33

**CHEMICAL apparatus—Continued**

- Rubber beaker rings for accelerating evaporation on steam bath. J. A. Scherrer, *diag Ind & Eng Chem Anal* ed 5:22 Ja 15 '33
- Simple time-savers in the preparation of solutions. L. A. Munro. *J Chem Educ* 10:120 F '33
- Study of Bunsen's method; a new apparatus. K. Braddock-Rogers and K. A. Krieger. *bibliog diag Ind & Eng Chem Anal* ed 5:342-4 S 15 '33
- Technique of modern analysis; some recent developments in instruments and equipment. *il Chem Age (Lond)* 28:545-8 Je 17 '33
- Use of Kohlrausch sugar flasks in determinations of biochemical oxygen demand. I. C. Hall, *diag Ind & Eng Chem Anal* ed 5:76 Ja 15 '33

*See also*

- |                            |                         |
|----------------------------|-------------------------|
| Absorption apparatus       | Drying apparatus        |
| Autoclaves                 | Evaporators             |
| Bombs (chemical apparatus) | Extraction apparatus    |
| Burets                     | Filters and filtration  |
| Centrifugal machines       | (technical chemistry)   |
| Chemical engineering       | Gases—Apparatus         |
| —Apparatus and supplies    | Pipets                  |
| Chemical laboratories      | Sedimentation apparatus |
| —Equipment                 | Stopcocks               |
| Chemical plants—Equipment  | Viscosimeters           |
| Distillation apparatus     | Volumetric apparatus    |

**History**

- History of the chemical apparatus industry. F. Kraissl. *il J Chem Educ* 10:519-23 S '33

**Standards**

- Rationalisierung in der chemischen fabrik; neue ergebnisse der glasgeräte-normung. H. H. Franck, *diags Chemische Fabrik* 6:148-9 Mr 29 '33

**CHEMICAL bonds**

- Single electron linkage. R. F. Hunter. *Soc Chem Ind J (Chem & Ind)* 51:939 N 11 '32

*See also*

- Double bonds

**CHEMICAL education**

- Facilitating the study of German for chemists. R. N. Shreve and J. T. Fotos. *J Chem Educ* 10:33-4 Ja '33
- Institutes of chemistry. H. E. Armstrong. *Chem Age (Lond)* 27:449-50, 471-2, 543-4, 567 N 12-19, D 10-17 '32
- Technical education and the chemist. G. M. Dyson. *Chem Age (Lond)* 29:107 Jl 29 '33

*See also*

- |   |  |
|---|--|
| Chemical engineering—Study and teaching | Chemical laboratories—Chemistry—Study and teaching |
|---|--|

**Bibliography**

- Abstracts. Published in monthly numbers of *Journal of chemical education*

**Inspection trips**

- Studies in the mineral and chemical resources of the Mohave desert; the inspection trip. L. L. Turrill. *il J Chem Educ* 9:2040-64 D '32

**CHEMICAL elements**

- Concerning matter and chemical entities. C. T. Kingzett. *Soc Chem Ind J (Chem & Ind)* 52:115-17 F 10 '33
- Derivations of the names of the elements. S. S. Hauben. *J Chem Educ* 10:227-34 Ap '33
- Discovery of the elements. M. E. Weeks. *bibliog il J Chem Educ* 9:3-30, 215-35, 459-85, 863-84, 1017-57, 1231-43, 1386-1434, 1593-1619, 1751-73, 1915-39, 2065-78; 10:79-90, 161-70, 223-7, 302-6 Ja-Mr, My-D '32, F-My '33
- Discovery of the elements. M. E. Weeks. 363p Mack ptg. co, Easton, Pa. '33
- Electrical theory of matter. W. A. Gallon. *Inst E E J* 72:72-4 Ja '33
- Magneto-optic method of analysis; with particular reference to the detection of elements 85 (alabamine) and 87 (virginium) and the

- heavy isotope of hydrogen. F. Allison. *il J Chem Educ* 10:71-8 F '33
- New diagram of the periodic table. F. W. Rixon. *Soc Chem Ind J (Chem & Ind)* 52:260-1 Mr 24 '33
- Relative abundances of elements of even and odd mass number and atomic number. T. E. Sterne. *Phys R* 44:238-9 Ag 1 '33

*See also***Atomic weights****Atoms**

- also names of elements, e.g. Arsenic; Carbon; Oxygen; Sulfur

**CHEMICAL engineering**

- Aircraft industry and chemical engineering. H. T. Tizard. *Chem Age (Lond)* 27:430 N 5 '32
- Award for chemical engineering achievement. *Chem & Met Eng* 40:226-9 My '33
- Chemical engineering achievements in petroleum refining. *il Chem & Met Eng* 40:288-90 Je '33
- Chemical engineering and insurance. R. C. Stratton and J. E. Ficklen. *il Sci Am* 149:26-7 Jl '33
- Chemical engineering as a basic factor in modern industry. W. E. Gibbs. *Engineering* 136:102-3 Jl 28 '33
- Chemical engineering impressions of a Century of progress. *il Chem & Met Eng* 40:339-44 Jl '33
- Chemical engineering in chemical design. R. L. Holliday. *Chem Markets* 33:141-2 Ag '33
- Chemical engineering marches on! *il Chem & Met Eng* 40:230-5 My '33
- Chemical engineering now recognized with a medal; first award to the Carbide & carbon chemicals corporation. *Oil Paint & Drug Rep* 124:18 O 30 '33
- Chemical engineering problems in hardwood distillation. R. S. McBride. *flow sheet il diags Chem & Met Eng* 39:604-8 N '32
- Chemical engineering progress during the year. A. J. V. Underwood. *Chem Age (Lond)* 27:619-20 D 31 '32
- Coding chemical engineering. *Chem & Met Eng* 40:451-3 S '33
- Construction challenges chemical engineering talents. F. E. Schmitt. *Chem & Met Eng* 40:23-6 Ja '33
- Cooperative research in chemical engineering. D. B. Keyes. *il Chem & Met Eng* 40:402-4 Ag '33
- The half-way house. D. E. Pierce. *Chem & Met Eng* 40:424-6 Ag '33
- Inventive design in chemical engineering. J. H. West. *Chem Age (Lond)* 27:429 N 5 '32
- Management's part in chemical engineering achievement; Monsanto chemical company. *Chem & Met Eng* 40:478-9 S '33
- Metallurgy from the standpoint of the chemical engineer. L. S. Ward. *Chem Age (Lond)* 28:162-3; Discussion. 163 F 25 '33
- New fields of opportunity for chemical engineers; symposium. *Chem & Met Eng* 40:27-9 Ja '33
- Present trend of chemical engineering. R. Lessing. *Chem Age (Lond)* 28:112 F 11 '33
- Twenty five years of chemical engineering progress; silver anniversary volume. *Am. inst. of chemical engineers*. S. Kirkpatrick, ed. 373p \$4 Van Nostrand '33
- Über eine technologische einteilung der chemischen reaktionen und ihre bedeutung für den chemisch-technischen unterricht. W. J. Müller. *Chemische Fabrik* 6:333-6 Ag 9 '33

*See also*

- |  |   |
|--|---|
| Acid handling                                | Metallurgy                                |
| Chemical plants                              | Petroleum refineries                      |
| Chemistry. Technical                         | Refrigeration and refrigerating machinery |
| Distillation                                 | Sewage disposal                           |
| Filters and filtration (technical chemistry) | Water purification                        |

**Apparatus and supplies**

- Beständigkeit des hartgummis gegen aggressive flüssigkeiten. St Reiner. *Chemische Fabrik* 6:375-6 S 6 '33



# **CHEMICAL engineering—Apparatus and supplies—Continued**

- Choosing pipe line sizes for maximum economy. M. Funder. *Chem & Met Eng* 39:602-3 N '32
- Eliminating guesswork in materials of construction. H. Miller. *il Chem & Met Eng* 39:646-50 D '32
- Handling high pressures in chemical synthesis. R. V. Kleinschmidt. *il diags Chem & Met Eng* 40:361-4 JI '33
- Manlove, Alliott & co., ltd. *il Soc Chem Ind J (Chem & Ind)* 52:370-1 Ap 28 '33
- Modern materials other than metals and alloys for the construction of chemical engineering equipment. *Chem & Met Eng* 39:651-8 D '32
- National exposition of power and mechanical engineering, 10th, New York. *Chem & Met Eng* 39:680-1 D '32
- Symposium on the design, construction, and operation of reaction equipment. *il diags Ind & Eng Chem* 24:1091-1109, 1255-75, 1344-68 O-D '32
- Welded plant in the chemical industry. H. Seymour. *Chem Age (Lond)* 28:237-8 Mr 18 '33

See also

- |                          |                      |
|--------------------------|----------------------|
| Absorption apparatus     | Chemical plants—     |
| Acid-resisting materials | Equipment            |
|                          | Extraction apparatus |

## **Bibliography**

- Chemical engineering library; minimum list of chemical engineering books and journals, recommended by the committee of American institute of chemical engineers. *Ind & Eng Chem News* ed 11:165-6 My 20 '33

## **Classification**

- Cataloging of chemical engineering trade literature according to unit operations. F. C. Vilbrandt. *J Chem Educ* 10:354-5 Je '33

## **Examinations**

- Institution of chemical engineers examination for associate membership. *Soc Chem Ind J (Chem & Ind)* 52:691-4 Ag 25 '33; Same. *Chem Age (Lond)* 29:190, 192-3 Ag 26 '33

## **History**

- Twenty-five years of chemical engineering progress; silver anniversary volume. American institute of chemical engineers. S. D. Kirkpatrick, ed. 373p \$4 Pub. by the Institute and for sale by Van Nostrand '33

## **Study and teaching**

- Economics and chemical engineering. C. A. Basore. *J Chem Educ* 10:282-4 My '33
- Functions and training of a chemical engineer. W. E. Gibbs. *Chem Age (Lond)* 28:67-9 Ja 28 '33; *Excerpt. Soc Chem Ind J (Chem & Ind)* 52:79 Ja 27 '33
- Functions and training of a chemical engineer; reply to W. E. Gibbs. J. H. West. *Chem Age (Lond)* 28:94-5 F 4 '33
- Objectives of a course in chemical engineering. W. R. Veazey. *il Chem & Met Eng* 40:193-6 Ap '33
- Organic technology. R. N. Shreve. flow sheets *J Chem Educ* 10:181-4 Mr '33
- Training of the chemical engineer. H. W. Cremer. *Chem Age (Lond)* 28:136 F 18 '33

## **Tables, calculations, etc.**

- Method for interpolating data, based on Dühring's rule. J. H. Perry and E. R. Smith. *bibliog Ind & Eng Chem* 25:195-9 F '33; Abstract. *Mech Eng* 55:310-11 My '33
- Weighted per cent equation aids chemical calculations. H. G. Nevitt. *Chem & Met Eng* 39:673-5 D '32

# **CHEMICAL engineering equipment institute**

Equipment makers organize. *Chem Markets* 33:233-5 S '33; *Ind & Eng Chem News* ed 11:253-4 S 10 '33

# **CHEMICAL engineers**

- Cost accounting and the chemical engineer. A. G. Peterkin and H. W. Jones. *Chem & Met Eng* 40:86-8, 133-5 F-Mr '33

- Functions and training of a chemical engineer. W. E. Gibbs. *Chem Age (Lond)* 28:67-9 Ja 28 '33; *Excerpt. Soc Chem Ind J (Chem & Ind)* 52:79 Ja 27 '33
- Functions and training of a chemical engineer; reply to W. E. Gibbs. J. H. West. *Chem Age (Lond)* 28:94-5 F 4 '33
- Training of the chemical engineer. H. W. Cremer. *Chem Age (Lond)* 28:136 F 18 '33
- Unemployed chemists in New York city. *Science* 76:561-2 D 16 '32

## **CHEMICAL equations**

- General chemical equation. W. Harrison. *Soc Chem Ind J (Chem & Ind)* 52:370 Ap 28 '33

## **CHEMICAL equilibrium**

- Determination of the heat of reaction of  $2\text{Fe}(\text{ClO}_4)_3 + 2\text{Hg} = 2\text{Fe}(\text{ClO}_4)_2 + \text{Hg}_2(\text{ClO}_4)_2$  from equilibrium data. V. B. Fleharty. *Am Chem Soc J* 55:2646-9 JI '33

- Equilibria in the system alumina-silica. R. B. Sosman. *Am Cer Soc J* 16:60-8 Ja '33

- Equilibria in the systems  $(\text{NH}_4)_2\text{SO}_4\text{-NiSO}_4\text{-H}_2\text{O}$ ,  $(\text{NH}_4)_2\text{SO}_4\text{-ZnSO}_4\text{-H}_2\text{O}$ ,  $\text{Na}_2\text{SO}_4\text{-NiSO}_4\text{-H}_2\text{O}$ , and  $\text{Na}_2\text{SO}_4\text{-CoSO}_4\text{-H}_2\text{O}$ , at 25°. R. M. Caven and W. K. Gardner. *Chem Soc J* p945-6 Ag '33

- Equilibrium constants in terms of activities derived from cryoscopic data: the dissociation pyridine *o*-chlorophenoxide in benzene. H. M. Glass and W. M. Madgin. *Chem Soc J* p193-8 F '33

- Equilibrium experiment. E. H. Brown. *diag J Chem Educ* 10:119 F '33

- Equilibrium in binary systems under pressure; the influence of pressure on the solubility of ammonium nitrate in water at 25°. L. H. Adams and R. E. Gibson. *Am Chem Soc J* 54:4520-37 D '32

- Equilibrium in liquid systems of three components. W. T. Reburn and W. N. Shearer. *Am Chem Soc J* 55:1774-9 My '33

- Equilibrium in the system cyclohexane-benzene-hydrogen. R. B. Purdum and R. N. Pease. *diag Am Chem Soc J* 55:3109-11 Ag '33

- Equilibrium in the system  $\text{SnO}_2\text{-H}_2\text{-Sn-H}_2\text{O}$ ; indirect calculation of the values of the water gas equilibrium constants. P. H. Emmett and J. F. Shultz. *Am Chem Soc J* 55:1390-5 Ap '33

- Equilibrium in the system, sodium phthalate, phthalic acid and water. S. B. Smith and W. A. Sturm. *Am Chem Soc J* 55:2414-19 Je '33

- Gaseous thermal diffusion—the principal cause of discrepancies among equilibrium measurements on the systems  $\text{Fe}_3\text{O}_4\text{-H}_2\text{-Fe-H}_2\text{O}$ ,  $\text{Fe}_3\text{O}_4\text{-H}_2\text{-FeO-H}_2\text{O}$  and  $\text{FeO-H}_2\text{-Fe-H}_2\text{O}$ . P. H. Emmett and J. F. Shultz. *diag Am Chem Soc J* 55:1376-89 Ap '33

- Phase equilibrium relationships determining glass compositions. G. W. Morey. *Ind & Eng Chem* 25:742-8 JI '33

- Phase rule equilibria of acid soaps; anhydrous acid potassium laurate. J. W. McBain and M. C. Field. *bibliog diag J Phys Chem* 37:675-84 Je '33

- Phase-rule equilibria of acid soaps; anhydrous acid potassium oleate. J. W. McBain and A. Stewart. *Chem Soc J* p924-8 Ag '33

- Phase-rule equilibria of acid soaps; anhydrous acid sodium palmitates. J. W. McBain and M. C. Field. *pl Chem Soc J* p920-4 Ag '33

- Physico-chemical factors in high-pressure design. B. F. Dodge. *bibliog Ind & Eng Chem* 24:1353-63 D '32

- Reaction between osmium tetroxide and hydrobromic acid; equilibrium study. H. D. Kirschman and W. R. Crowell. *Am Chem Soc J* 55:488-95 F '33

- Simple phase equilibrium experiment. H. S. Van Klooster. *diag J Chem Educ* 10:438-9 JI '33

- Usable analogies in teaching fundamentals of chemical equilibrium. W. E. Caldwell. *J Chem Educ* 9:2079-80 D '32

See also

- Donnan equilibrium

- Phase rule

**CHEMICAL formulas**

Calculation of simplest formula from percentage composition. C. W. Griffin. *J Chem Educ* 10:575 S '33

**CHEMICAL industries**

Chemical economics. W. Haynes. 310p \$3.25  
Van Nostrand '33

La chimie économique, son origine, sa nécessité. L. M. Bernard. *Chimie & Ind* 29:961-77 Ap '33; Abstract (Chemical business from the economic point of view). *Chem Ind* 33:316-18 O '33

Discounting the chemical future. W. Haynes. *J Chem Educ* 10:399-402 Jl '33

Influence of agricultural prospects on chemical industry. C. J. Brand. *Chem & Met Eng* 40:18-22 Ja '33

Process industries as purveyors to the motor car. T. A. Boyd. *Chem & Met Eng* 40:15-17 Ja '33

Relation of chemical industry to the state. H. L. Derby. *Ind & Eng Chem* 25:481-4 My '33

Relation of chemical to other industry. C. M. A. Stine. *il charts Ind & Eng Chem* 25:487-95 My '33

Research creates new markets for sulphonated oils; National oil products co. Harrison, N.J. R. Wechsler. *il Chem & Met Eng* 40:241-3 My '33

World problems of the chemical industry. H. Levinstein. *Chem Age (Lond)* 27:434 N 5 '32; Abstract. *Soc Dyers & Col J* 49:19 Ja '33

*See also*

Abbott laboratories  
Alcohol industry  
Bleaching  
Ceramics  
Chemical engineers  
Chemical plants  
Chemical research  
Chemicals  
Chemistry  
Chemistry, Technical  
Clay industries  
Coal tar products  
Drug trade  
Drugs—Manufacture  
Dye industry  
Electrochemical industries  
Electrochemistry  
Fertilizer industry  
Gas industry  
Glass  
Lime industry  
Metallurgy

Oil industries  
Paint industry and trade  
Paper  
Paper industry and trade  
Plastic industries  
Porcelain  
Potash  
Pottery  
Rubber  
Rubber industry and trade  
Salt  
Soap  
Sodium nitrate  
Solvents  
Sugar industry and trade  
Tanning  
Tanning materials  
Textile industry

**Accounting**

Chemical engineering overhead charges. S. H. Withey. *Chem Age (Lond)* 28:323 Ap 15 '33

Depreciation of chemical plant: financial accounting. S. H. Withey. *Chem Age (Lond)* 28:72-4 Ja 28 '33

Effective book-keeping for chemical manufacturers. S. H. Withey. *Chem Age (Lond)* 29:370-1 O 21 '33

**Advertising**

Picturing an intangible; Monsanto chemical works, St Louis. *il Ptr Ink* 162:28 F 23 '33

**Exhibitions**

British industries fair, London and Birmingham, February 20 to March 3, 1933. *Soc Chem Ind J* 52:sup S2-44 F 17 '33; *Chem Age (Lond)* 28:143-6, 170-5 F 18-25 '33

*See also*

Chicago—World's fair, 1933—Chemical exhibits

**Finance**

Chemical corporations incomes in 1931. *Oil Paint & Drug Rep* 123:15 Ja 2 '33

Financial position in the chemical industry. S. H. Withey. *Chem Age (Lond)* 29:166-7 Ag 19 '33

**Securities**

As a hedge against inflation; E. I. duPont de Nemours & co. and Hercules powder co. J. C. Clifford. *Mag of Wall St* 52:635-6+ O 14 '33

Chemical companies, 1930-1932. *Mag of Wall St Manual* p50 Mr 6 '33

Further gains expected in chemicals. H. C. Slater. *Mag of Wall St* 52:382-3+ Ag 5 '33

Position of leading chemical stocks. *Mag of Wall St* 51:489; 52:431 F 18, Ag 19 '33

**Statistics**

Chemical economics. Published in monthly numbers of *Chemical & metallurgical engineering*

Chemical industry carries on; effect of two years of depression as revealed by government statistics. O. Wilson. *Ind & Eng Chem* 25:225-8 F '33

Chemical industry resists the depression. C. C. Concannon and A. H. Swift. *Chem & Met Eng* 40:459-62 S '33

Chemical statistics. Published in monthly numbers of *Survey of current business*  
*Chemicals, 1932. Economist* 116:sup47-8 F 18 '33

Drugs and fine chemicals. Published in weekly numbers of *Oil, paint and drug reporter*

Heavy chemicals. Published in weekly numbers of *Oil, paint and drug reporter*

Looking forward into 1933 with process industries; an editorial interpretation and summary. *Chem & Met Eng* 40:3-6 Ja '33

Organic chemicals in 1931. *Chem & Met Eng* 40:37 Ja '33

Post-war progress in various industries. O. Wilson. *Ind & Eng Chem* 25:104-9 Ja '33

Process industries attain higher rating among manufactures. *Chem & Met Eng* 40:30-1 Ja '33

Seasonal variation; how it is measured and what it means in the chemical industries. J. Kalish. *Chem Markets* 33:27-9 Jl '33

Wood chemicals respond to changing market trends. R. S. McBride. *Chem & Met Eng* 40:40-1 Ja '33

**Argentina**

Chemical industry of Argentina. *Chem Age (Lond)* 29:230 S 9 '33

**Australia**

Chemical trade situation in Australia. *Chem Age (Lond)* 29:87-8 Jl 22 '33

**Belgium**

Economic conditions in Belgium, 1932. *Chem Age (Lond)* 28:531-2 Je 10 '33

World-wide chemistry. C. Mathy. *Ind & Eng Chem News ed* 11:53, 132, 158, 223, 291-2 F 20, Ap 20, My 20, Ag 10, O 10 '33

**Canada**

Canada's most important synthetic organic chemical industry; Shawinigan chemicals, Ltd. A. F. G. Cadenhead. *il Chem & Met Eng* 40:184-8 Ap '33

Canada's production and trade in chemicals. W. H. Losee and H. McLeod. *Can Chem & Met* 17:86-92 My '33

Chemical exports to Canada reflect slower industrial operations. *Chem & Met Eng* 39:635 N '32

Chemical industry of Canada; production and trade during 1932. *Chem Age (Lond)* 29:65-6 Jl 15 '33

World-wide chemistry. S. J. Cook. *Ind & Eng Chem News ed* 11:313 N 10 '33

**Czechoslovakia**

World-wide chemistry. L. A. Helwich. *Ind & Eng Chem News ed* 10:291-2; 11:90-1, 190-1 D 10 '32, Mr 20, Je 20 '33

**Dutch East Indies**

Chemical trade. *Chem Age (Lond)* 29:255-6 S 16 '33

**Egypt**

Industrial notes from Egypt. *Soc Chem Ind J (Chem & Ind)* 52:53-5 Ja 20 '33

**Europe**

European chemical industry in 1932. U S Bur For & Dom Com Trade Information Bul 813: 1-72 '33; Excerpt (General review). *Oil Paint & Drug Rep* 123:15+ Ap 24 '33



## CHEMICAL industries—Continued

## Far East

Chemist in the Far East. A. Marcan. Chem Age (Lond) 28:503-4 Je 3 '33

## France

Bird's-eye view of French chemical industry. P. Gounod. Oil Paint & Drug Rep 123:14+ Ap 10 '33  
French chemical capacities and capitalization. J. M. Erwin. Chem Markets 32:425-6 My '33  
From abroad. Published in monthly numbers of Chemical and metallurgical engineering Le Nord, marché international des produits chimiques. A. Nicodème. Chimie & Ind 30: 730-2 S '33

## Germany

Conditions in the German chemical industry. Chem Age (Lond) 28:25-6 Ja 14 '33  
Dye and chemical trade of Germany off in 1933. Chemicals 38:9 S 4 '33  
From abroad. Published in monthly numbers of Chemical and metallurgical engineering German chemical export trade. Chem Age (Lond) 28:262 Mr 25 '33; Same. Chem Markets 32:508 Je '33  
German chemical export trade declining. Oil Paint & Drug Rep 122:33 D 19 '32  
German chemical industry in 1932-1933. Chem Age (Lond) 29:271-2 S 23 '33  
German review of the year 1932. W. Roth. Chem Markets 32:138-40 F '33  
German survey. W. T. Daugherty. Chem Markets 32:436 My '33  
I.G. report for third quarter indicates improvement in trade. Oil Paint & Drug Rep 122:17+ D 5 '32  
New products and new processes are prominent in Germany. Chem & Met Eng 40:214 Ap '33  
World-wide chemistry. W. Roth. Ind & Eng Chem News ed 10:309; 11:131-2, 246-7 D 20 '32, Ap 20, Ag 20 '33

## Great Britain

Alkali manufacture in Great Britain in 1932; annual report. Chem Age (Lond) 29:27-9 Jl 8 '33  
Annual survey supplement. Soc Chem Ind J 51:sup S2-24 D 9 '32  
Association of British chemical manufacturers annual report for 1932. Soc Dyers & Col J 48:302-4 N '32  
Association of British chemical manufacturers 17th annual meeting. London. Chem Age (Lond) 29:341-2 O 14 '33; Soc Chem Ind J (Chem & Ind) 52:876-8 O 27 '33  
British chemical and dyestuffs traders' association 10th annual general meetings. Chem Age (Lond) 28:487-8 My 27 '33  
British chemical industry in 1932. M. D. Gurwen. Chem Markets 32:135-7 F '33  
British chemical industry will organize to go after the Canadian market. Business Week p18 N 30 '32  
British chemical trade mark law; the joint committee's memorandum. Chem Age (Lond) 29:141-2 Ag 12 '33  
Chemical industry in the London area. J. H. West. Chem Age (Lond) 29:292-3 S 30 '33  
Chemical industry trade literature supplement. Soc Chem Ind J 52:sup S2-S16 Je 2 '33  
Dartford's charter; Wellcome chemical works. Soc Chem Ind J (Chem & Ind) 52:761 S 22 '33  
Financial position of the chemical industry. S. H. Withey. Chem Age (Lond) 27:628; 28: 216-17, 451-2; 29:166-7 D 31 '32, Mr 11, My 20, Ag 19 '33  
Heavy chemical industry in 1932. Soc Chem Ind J (Chem & Ind) 51:1019-21 D 9 '32  
Johnson & sons, manufacturing chemists, Ltd. II Soc Chem Ind J (Chem & Ind) 52:55-6 Ja 20 '33  
Luton's chemical industry; how straw hat making fostered Alcock (peroxide), Ltd. and B. Laporte, Ltd. Chem Age (Lond) 29:256 S 16 '33

Ottawa agreements. E. F. Armstrong. Soc Chem Ind J (Chem & Ind) 51:1014-15 D 9 '32  
Ottawa and after from the chemical point of view. E. F. Armstrong. Chem Age (Lond) 27:636-7 D 31 '32  
Progress in the British chemical industry. J. D. Pratt. Can Chem & Met 17:140-3+ Jl '33  
Recent progress in fine chemicals. F. H. Carr. Chem Age (Lond) 27:624-5 D 31 '32  
Wider utilisation of Empire products; activities of the Imperial institute during 1932. Chem Age (Lond) 28:549-50 Je 17 '33  
World-wide chemistry. F. E. Hamer. Ind & Eng Chem News ed 11:158-9 My 20 '33

## See also

Dye industry—Great Britain  
Imperial chemical industries, limited

## Hungary

Hungarian chemical industry. Chem Age (Lond) 28:363 Ap 22 '33  
World-wide chemistry. S. S. de Finály. Ind & Eng Chem News ed 11:54-5, 109-10, 257-8 F 20, Ap 10, S 10 '33

## India

Indian chemical imports. Chem Age (Lond) 28:53, 334 Ja 21, Ap 15 '33  
Trade conditions in India. Chem Age (Lond) 29:88 Jl 22 '33

## Italy

Chemical trade conditions in Italy. Chem Age (Lond) 28:34-5 Ja 14 '33  
Italian chemical industries. Chem Age (Lond) 29:209-10 S 2 '33; Chemicals 38:9 S 18 '33  
Italian chemical industries reviewed. Oil Paint & Drug Rep 124:26+ Ag 14 '33  
Italian chemical industry and production, 1932. M. Treves. Chem Markets 32:141-4 F '33  
World-wide chemistry. R. Sansone. Ind & Eng Chem News ed 11:21-4, 107-9, 175-6, 245-6, 301-2 Ja 20, Ap 10, Je 10, Ag 20, O 20 '33

## Japan

Chemical process industries in Japan. C. E. Mullin. Chem Markets 32:129-31 F '33  
Chemical production in Japan. Chem Age (Lond) 28:458 My 20 '33  
Coal-tar chemicals in Japan; remarkable growth in dyeing industry. K. Kasai. Chemicals 38:12 My 15 '33  
How Japan's chemical industry has developed. Chemicals 38:12 Jl 10 '33  
Japan as a production centre. Chem Age (Lond) 29:210 S 2 '33

## Mexico

World-wide chemistry. G. G. Colin. Ind & Eng Chem News ed 11:89 Mr 20 '33

## Netherlands

Chemical trade in the Netherlands. Chem Age (Lond) 29:255 S 16 '33

## Russia

Chemical progress in the U.S.S.R. A. Hirsch. II map Chem & Met Eng 39:590-3 N '32  
Chemicals and the second five-year plan. II Chem Markets 32:328-30 Ap '33  
Nitrogen industry in U.S.S.R. N. Almoian. Ind & Eng Chem News ed 11:201-2 Jl 10 '33  
Soviet chemical industry. Chem Age (Lond) 28:98 F 4 '33  
Soviet Union foreign trade, 1930-1931. Chem Age (Lond) 27:513 N 26 '32

## Scandinavia

World-wide chemistry. C. A. Robak. Ind & Eng Chem News ed 10:291; 11:7, 89-90, 147, 285, 313-14 D 10 '32, Ja 10, Mr 20, My 10, S 20, N 10 '33

## Scotland

Acid and alkali manufacture in Scotland. Chem Age (Lond) 29:85-6 Jl 22 '33  
Chemical industry in Scotland. Chem Age (Lond) 29:339-40, 365-7 O 14-21 '33

## CHEMICAL industries—Continued

## South Africa

- Chemicals in South Africa. Chem Age (Lond) 29:154 Ag 12 '33  
 South African chemical business. Soc Chem Ind J (Chem & Ind) 52:540-1 Je 30 '33

## Southern states

- Chemical industry turns to the South; Tennessee Valley project offers advantages. E. M. Queeny. il Manuf Rec 102:18-19 Ag '33

## Sweden

- Export of chemicals from Sweden. Chem Age (Lond) 28:267-8 Mr 25 '33

## United States

- Business betterment begins; industrial leaders and trade association executives give facts on current conditions. Oil Paint & Drug Rep 123:13-16B My 22 '33  
 Business improvement becomes definite; survey of second quarter. Oil Paint & Drug Rep 124:15-16 Ag 7 '33  
 Business in chemicals, oils, and drugs in 1932. Oil Paint & Drug Rep 123:13-14 F 6 '33  
 Business made good gains in third quarter. Oil Paint & Drug Rep 124:13-14 O 30 '33  
 Business severely punished in first quarter. Oil Paint & Drug Rep 123:13-14 My 1 '33  
 Chemical Alliance basic code ready; text. Oil Paint & Drug Rep 124:17+ Ag 14 '33; Same. Chem & Met Eng 40:396-7 Ag '33; Same. Chem Markets 33:114 Ag '33  
 Chemical alliance revises its code; text. Oil Paint & Drug Rep 124:17+ S 4 '33  
 Chemical imports at New York in 1932 analyzed. Oil Paint & Drug Rep 123:17, 24 My 22 '33  
 Chemical industry in unique position. W. W. Hay. Mag. of Wall St 53:29-30+ O 28 '33  
 Chemical, oil, and drug foreign trade of U.S. in 1931 and 1932. Oil Paint & Drug Rep 123:16 F 13 '33  
 Chemical production data in U.S. census; preliminary tabulation for 1931. Oil Paint & Drug Rep 123:15+ Ja 2 '33  
 Chemical production off says American chemical society in analysis. O. Wilson. Chemicals 38:1+ F 6 '33  
 Chemical trade status; report by Drug, chemical and allied trades section of the New York Board of trade. Oil Paint & Drug Rep 122:20 D 26 '32; Same. Chemicals 38:1+ Ja 9 '33  
 Chemicals in United States foreign trade in 1932. O. Wilson. Ind & Eng Chem 25:350-5 Mr '33  
 Chemistry and the National recovery administration. Ind & Eng Chem News ed 11:217-19 Ag 10 '33  
 Coding the chemical industries. Chem Markets 33:115-20 Ag '33  
 Developments during depression in chemical field. Chem Markets 32:132-4 F '33  
 Government dependence on chemical industry emphasized at code hearing. Oil Paint & Drug Rep 124:15+ S 18 '33  
 How depression affected U. S. chemical industry. O. Wilson. Chemicals 38:1+ Mr 20 '33  
 Imports at port of New York. Published in bi-weekly numbers of Chemicals  
 Imports, exports, and charters; U. S. ports. Published in weekly numbers of Oil, paint and drug reporter  
 Imports of chemicals n.s.p.f. during 1932. Chemicals 38:3 My 1 '33  
 Lauds Congress for aid to chemistry. F. P. Garvan. Oil Paint & Drug Rep 123:15+ Ja 9 '33  
 NRA and the chemical industries. Chem Markets 33:211-16 S '33  
 S.O.C.M.A. approves Alliance basic code; text of aromatics group code. Oil Paint & Drug Rep 124:17+ Ag 14 '33  
 Transportation changes affecting chemical industry. H. M. Mabey. Chem Markets 32:517-19 Je '33

- United States exports of chemical products. Chem Age (Lond) 28:527-8 Je 10 '33

See also

- Dye industry—United States

## Western states

- How process industries face 1933 in the Far West. P. D. V. Manning. Chem & Met Eng 40:45 Ja '33

## CHEMICAL industry medal

- Chemical industry medal awarded James G. Vail. Oil Paint & Drug Rep 124:17 O 30 '33; Paper Tr J 97:22 N 9 '33

## CHEMICAL laboratories

- Bridging the gap between laboratory and works. J. H. West. Chem Age (Lond) 28:380 Ap 29 '33

- Notable German research centre; the Metallgesellschaft physico-chemical and metal laboratories. H. von Halban. il Chem Age (Lond) 28:407-9 My 6 '33

- Small laboratory for chemical microscopy. R. D. Cool. bibliog il J Chem Educ 9:2084-9 D '32

- Work of the Government laboratory. Chem Age (Lond) 27:475-6; 29:364 N 19 '32, O 21 '33

See also Massachusetts institute of technology—George Eastman research laboratories

## Accidents

- Public liability and chemical education. P. L. Turrill. J Chem Educ 10:552-5 S '33

## Equipment and supplies

- Aluminum oven for chemical laboratory. il Sci Am 149:173 O '33

- Design of high pressure laboratory equipment. E. H. Boomer. Can Chem & Met 17:136-9 Jl '33

- Laboratory scale industrial apparatus in the National research laboratories. F. G. Green. il Can Chem & Met 17:163-6 Ag '33

- Some points on general laboratory equipment; how the laboratory furnishes are assisting the chemist. il Chem Age (Lond) 28:377-9 Ap 29 '33

- Undergraduate organic laboratory chemistry. E. F. Degering. il J Chem Educ 10:350-3 Je '33

## CHEMICAL libraries

- Some incidents in the collection of the Edgar Fahs Smith memorial library. E. V. Armstrong. il J Chem Educ 10:356-8 Je '33

## CHEMICAL literature

- Class exercises in the industrial chemistry course; topic reports on literature surveys. K. A. Kobe. J Chem Educ 10:679-81 N '33

- International conference on chemical records. Science 78:183-4 S 1 '33; Electrician 111:187 Ag 11 '33

- Time-lag in chemical literature. M. G. Mellon. J Chem Educ 10:284-7 My '33

See also

- Chemistry—Bibliography

## CHEMICAL news (periodical)

- Chemical news. G. Druce. Soc Chem Ind J (Chem & Ind) 51:1031-2 D 16 '32

## CHEMICAL patents

- Camphor substitutes; with a check-list of patents. I. Mellon. il Plastic Prod 9:323, 325 O '33

- Chemical invention in 1932. Chem Age (Lond) 28:528 Je 10 '33

- Demandes de brevets. Published in monthly numbers of Chimie & industrie

- Fortschritte in der technischen herstellung und verwertung der kunstwachse. R. Strauss. Angew Chemie 46:521-5 Ag 12 '33

- Inventions in the chemical industry. Published in weekly numbers of Chemical age

- Patents and designs act, 1932, and chemical industry. C. Hollins. Soc Chem Ind J (Chem & Ind) 52:31-6; Discussion. 36 Ja 13 '33; Abstract. Chem Age (Lond) 28:21-2 Ja 14 '33

- Survey of synthetic camphor with check-list of patents. I. Mellon. bibliog Plastic Prod 9:363-6 N '33



**CHEMICAL patents—Continued**

What is patentable in chemistry? R. E. Sadtler. Chem Markets 32:120-3 F '33

See also

Chromium plating— Patents	Plastic materials— Patents
Dye patents	Rubber—Patents
Petroleum refining— Patents	

**CHEMICAL plants**

Alkali manufacture in Great Britain in 1932; annual report. Chem Age (Lond) 29:27-9 J1 8 '33

Billingham factory of I.C.I. il Chem Age (Lond) 29:57-8 J1 15 '33

Bridging the gap between laboratory and works. J. H. West. Chem Age (Lond) 28:380 Ap 29 '33

Building an integrated industry in times of depression; Tennessee Eastman at Kingsport. S. D. Kirkpatrick. il Chem & Met Eng 40:236-40 My '33

Canada's most important synthetic organic chemical industry; Shawinigan chemicals, ltd. A. F. G. Cadenhead. il Chem & Met Eng 40:184-8 Ap '33

Modern chemical plant. J. A. Reavell. il diags Soc Chem Ind J 52:133T-9T My 19 '33

Modern factory design in England; Boots pure drug co. E. O. Williams. il diags Eng N 110:675-6 My 25 '33

Ounces to tons. G. C. McCarten. Chem Markets 32:523-5 Je '33

Prince George opens new Monsanto power plant. il Chem Age (Lond) 29:326-7 O 7 '33

Re-inforced Dexonite. Chem Age (Lond) 29:174 Ag 19 '33

Rhodes Marsh yields its sodium sulphate. P. C. Rich. il Chem & Met Eng 40:304-5 Je '33

Serving the Northwest with alkalis; Tacoma electrochemical co. J. H. Baker. il Chem & Met Eng 40:177-9 Ap '33

See also

Ammonia—Manu- facture	Paper mills
Bleacheries	Petroleum refineries
Canneries	Potteries
Cement plants	Rubber factories
Clay products plants	Sugar factories
Dye factories	Sulfuric acid—Manu- facture
Metallurgical plants	

**Accidents**

Accidents in factories and workshops; annual report of the Chief inspector for 1932. Chem Age (Lond) 29:164-5 Ag 19 '33

Lower accident tolls in the chemical industry; 1932 report. Chem Markets 32:504-6 Je '33;

Abstract. Chem Age (Lond) 28:532 Je 10 '33

Mitcham chemical works explosion. il Chem Age (Lond) 28:313-15 Ap 8 '33

**Accounting**

See Chemical industries—Accounting

**Design**

Chemical engineering in chemical design. -R. L. Holliday. Chem Markets 33:141-2 Ag '33

**Electric equipment**

Inductive electric heating in chemical plants. R. D. Center. diags Chem & Met Eng 39:617-19 N '32

Industrial installation planned for maximum economy; Shell chemical company. J. G. Carriere and C. F. Henderson. il Elec W 101:392-5 Mr 25 '33

**Employees**

See Chemical workers

**Equipment**

Acid-resisting pumps. C. H. S. Tupholme. diags Chem Markets 33:40-2 J1 '33

Amination by ammonolysis; design and construction of equipment. P. H. Groggins. diags Ind & Eng Chem 25:274-7 Mr '33

Annual survey supplement. Soc Chem Ind J 51:sup S2-24 D 9 '32

Bennett sons & Shears, ltd. il Soc Chem Ind J (Chem & Ind) 52:542-3 Je 30 '33

Centrifugal in the chemical works. il diags Chem Age (Lond) 28:305-7 Ap 8 '33

Centrifugal separation and decantation. il diags Chem Age (Lond) 28:326-7 Ap 15 '33

Chemical plant repairs by scientific welding. C. W. Brett. il Chem Age (Lond) 28:525-6 Je 10 '33

Closer control becomes requisite in chemical processing. Chem & Met Eng 40:267-8 My '33

Conveyor plant in a drug factory; Boots pure drug company. il diag Engineer 155:366-8, 376 Ap 14 '33

Co-operative selling in overseas markets; views of chemical plant manufacturers. Chem Age (Lond) 28:91-3 F 4 '33

Coordinated effort solves Dow's control problems. T. R. Olive. il diags Chem & Met Eng 40:520-5 O '33

Craftsmanship in chemical stoneware. T. R. Olive. il Chem & Met Eng 40:369-71 J1 '33

Eliminating guesswork in materials of construction. H. Miller. il Chem & Met Eng 39:646-50 D '32

French chemical industries use cast iron to resist corrosion. A. Matagrín. il Chem & Met Eng 40:480-2 S '33; Excerpts. Chem Ind 33:329, 331 O '33

From 10 ft. vat to 1 in. pipe; new phenolic-asbestos plastic for chemical resistant apparatus. il Plastic Prod 9:19-21 Mr '33

Glass-lined steel equipment in chemical industry. P. S. Barnes. il Ind & Eng Chem 25:1080-3 O '33

Glucose industry. A. E. Williams. il Engineering 135:237-8, 397-9 Mr 3, Ap 14 '33

Handling of corrosive liquids; a portable carboy discharger. il Chem Age (Lond) 28:365 Ap 22 '33

Hathern chemical stoneware. il Chem Age (Lond) 28:169 F 25 '33

Hochlegierter chromguss als werkstoff im chemischen apparatebau. K. Roesch and A. Clauberg. il Chemische Fabrik 6:317-20 J1 26 '33

Hochsäurefestes email in der chemischen technik. L. Stuckert. Chemische Fabrik 6:245-8 Je 7 '33; Abstracts (Acid-resisting enamels). Chem Markets 33:238-9 S '33; Chem & Met Eng 40:482 S '33

How manufacturers have served the industry in 1932. il Chem Age (Lond) 27:641-8 D 31 '32

Improving automatic control by recorder chart interpretation. W. R. Clendinning. diags Chem & Met Eng 40:123-5 Mr '33

Lead-lined plant and chemical stoneware. Soc Chem Ind J (Chem & Ind) 52:759-61 S 22 '33; Same cond. Chem Age (Lond) 29:249 S 16 '33; Discussion. Soc Chem Ind J (Chem & Ind) 52:782, 822, 879 S 29, O 13, 27 '33

Lines from a draftsman's notebook. A. Osbourne. Chem & Met Eng 40:431 Ag '33

Maschinentechnisches in der chemischen fabrik. F. A. M. Wülfinghoff and G. Jungnitz. il diags Chemische Fabrik 6:8-17 Ja 4 '33

Mechanical handling in a sulphate factory in Holland. F. Isermann. diags Mech Handling 20:146-8 My '33

Metallurgy from the standpoint of the chemical engineer. L. S. Ward. Chem Age (Lond) 28:162-3; Discussion. 163 F 25 '33

Modern materials other than metals and alloys for the construction of chemical engineering equipment. Chem & Met Eng 39:651-8 D '32

Modern trends apparent in process equipment. il diags Chem & Met Eng 40:269-71 My '33

Monel metal and pure nickel; their properties with reference to chemical plant. il Chem Age (Lond) 28:sup15-16 Mr 4 '33

National grain yeast corp. reequips for profit and quality. H. L. King. il Food Ind 5:134-7 Ap '33

Nickel-clad steel plate and sheet a useful material for chemical plant construction. il Chem Age (Lond) 27:sup27-8 N 5 '32

Oxy-acetylene welding and metal cutting. Chem Age (Lond) 28:239 Mr 18 '33

Plant equipment from synthetic resins. D. H. Killeffer. il Ind & Eng Chem 25:1217-19 N '33

**CHEMICAL plants—Equipment—Continued**

- Purchasing chemical plant; tests and guarantees. J. H. West. *Chem Age (Lond)* 28:3-4 Ja 7 '33
- Recent practical adaptations of rubber lining for high temperature service. H. E. Fritz. *diags Chem Markets* 33:236-7 S '33
- Resinous equipment solves corrosion problems. *il diags Chem & Met Eng* 40:201-3 Ap '33
- Rubber in the chemical trade; abstract. N. Swindin. *Chem Age (Lond)* 28:14 Ja 7 '33
- Safety in the pumping of chemicals; abstracts. J. C. Lawrence. *Chem Age (Lond)* 27:526 D 3 '32; *Chem & Met Eng* 39:619 N '32
- Some properties and applications of timber. A. H. Loveless. *Soc Chem Ind J (Chem & Ind)* 51:1052-4 D 23 '32
- Some reflections on repairs and maintenance. *Chem Age (Lond)* 28:233-4 Mr 18 '33
- Stainless steel linings for vessels used in chemical processes. W. E. Jominy and R. S. Archer. *il Paper Tr J* 96:28-35 Ap 20 '33
- Stainless steels for chemical plant. *il Chem Age (Lond)* 28:235-6 Mr 18 '33
- Symposium on the design, construction, and operation of reaction equipment. *il diags Ind & Eng Chem* 24:1091-1109, 1255-75, 1344-68 O-D '32
- Über die entwicklung der chemischen hochdrucktechnik bei dem aufbau der neuen ammoniakindustrie. C. Bosch. *il diags Zeit Ver Deutsch Ing* 77:305-17 Mr 25 '33; Same. *Chemische Fabrik* 6:127-42 Mr 22 '33
- Useful range of acid-resisting materials. *il Chem Age (Lond)* 27:433 N 5 '32
- Uses of phenolic laminated and plastic molded products. H. M. Richardson. *il Chem & Met Eng* 39:597-8 N '32
- Utilizing cast iron in chemical equipment. W. H. Rother. *il Chem & Met Eng* 40:350-2 Jl '33
- Welded plant in the chemical industry. H. Seymour. *Chem Age (Lond)* 28:237-8 Mr 18 '33
- Welded tank in modern chemical plant. *il Chem Age (Lond)* 28:28-9 Ja 14 '33
- Welding aluminum. W. Froelich. *Can Chem & Met* 17:56, 58, 79-80 Mr-Apr '33
- Wood vats in the chemical using trades; a wide range of uses and general adaptability. *il Chem Age (Lond)* 27:496-8 N 26 '32

**Bibliography**

Manufacturers' latest publications. Published in monthly numbers of Chemical & metallurgical engineering

**Fires and fire protection**

Chemical processes found not unusually hazardous. J. G. Hubbell. *Nat Underw* 37:5 Ja 26 '33

**Management**

- Chemical plant examines its maintenance policy. F. D. Hartford. *il Chem & Met Eng* 40:64-6 F '33
- Chemical plant maintenance. F. D. Hartford. *Chem Markets* 32:219-20 Mr '33
- Cost accounting and the chemical engineer. A. G. Peterkin and H. W. Jones. *Chem & Met Eng* 40:86-8, 133-5 F-Mr '33
- Economy in the small plant. D. W. Beesley. *Chem Markets* 33:37-9 Jl '33
- Effective book-keeping for chemical manufacturers. S. H. Withey. *Chem Age (Lond)* 29:370-1 O 21 '33
- Management's part in chemical engineering achievement; Monsanto chemical company. *Chem & Met Eng* 40:478-9 S '33

**Power**

- Natural steam springs of Tuscany; their industrial exploitation. G. Ginori-Conti. *Chem Age (Lond)* 28:431-2 My 13 '33
- Putting a volcano to work. G. Ginori-Conti. *il Chem Markets* 32:520-2 Je '33
- Small high efficiency boiler for Isco chemical co. *diag Power Pl Eng* 37:348 Ag '33

**Records**

Costing in the chemical industry; extracting useful facts from the available plant data. L. Staniforth. *Chem Age (Lond)* 28:133-4 F 18 '33

Maintenance records and costs. J. H. West. *Chem Age (Lond)* 29:3 Jl 1 '33

**Safety devices and measures**

- Device to isolate explosions occurring in chemical plants. T. J. Dixon. *il Soc Chem Ind J* 51:433T D 30 '32
- Engineering principles of industrial hygiene. A. Zimmerman. *il diags W Soc E J* 38:77-96 Ap '33; Same abr. *Chem Markets* 33:43-7 Jl '33
- Safety for chemical works machinery. E. J. Wallace. *Chem Age (Lond)* 29:399 O 28 '33
- Make your plant safer for workers. J. V. Alfriend, jr. *il Chem & Met Eng* 40:532-5 O '33
- Safety in chemical plants; developments in pressure and electrical equipment. *Can Chem & Met* 17:208 O '33
- Unfallverhütung in der chemischen industrie. Rheinfels. *Chemische Fabrik* 6:51-5 Ja 25 '33

**Testing**

Functional testing of chemical plant. A. L. Bloomfield. *Chem Age (Lond)* 27:591-2; Discussion. 592 D 24 '32

**CHEMICAL reaction**

- Atomic reactions. M. Polanyi. 63p Williams & Norgate Ltd, London '32
- Comparison of organic inhibitors in chain reactions; photo-polymerization of vinyl acetate; the autoxidation of sodium sulfite; photolysis of hydrogen peroxide. K. Jeu and H. N. Aleya. *Am Chem Soc J* 55:575-88 F '33
- Energy exchange in unimolecular gas reactions. O. K. Rice. *Am Chem Soc J* 54:4558-81 D '32
- Fundamentals in the problem of resistance to deterioration. H. S. Taylor. *Am Soc T M Proc* 32 pt 2:9-42 '32
- Influence of poles and polar linkings on the course pursued by elimination reactions. C. K. Ingold and others. *Chem Soc J* p66-77 Ja; p523-37 My '33
- Influence of the sulphur atom on the reactivity of adjacent atoms or groups; aromatic side-chain and nuclear reactivity. G. Baddeley and G. M. Bennett. *Chem Soc J* p261-8 Mr '33
- Invertase action as a heterogeneous reaction. T. A. White. *Am Chem Soc J* 55:556-68 F '33
- Isothermal calorimeter for slow reactions. E. D. Coon and F. Daniels. *bibliog diags J Phys Chem* 37:1-12 Ja '33
- Kinetics of chemical change in gaseous systems. C. N. Hinshelwood. 3d ed 392p \$4.25 Oxford '33
- Kinetics of reactions in solution; the interaction of potassium hydroxide and the alkyl halides in ethyl alcohol. G. H. Grant and C. N. Hinshelwood. *Chem Soc J* p258-61 Mr '33
- Kinetics of the addition of iodine to  $\beta$ -phenylpropionic acid. E. A. Moelwyn-Hughes and A. R. Legard. *Chem Soc J* p424-9 Ap '33
- Kinetics of the unimolecular dissociation of gaseous ethyl bromide. E. L. Vernon and F. Daniels. *Am Chem Soc J* 55:922-34 Mr '33
- Photochemical reaction between guanine and dichromic acid; kinetics of the reaction. G. S. Forbes, L. J. Heidt and F. P. Brackett, jr. *Am Chem Soc J* 55:588-96 F '33
- Proposed encyclopaedia of chemical reactions. C. A. Jacobson. *J Chem Educ* 10:614-18 O '33
- Quantum mechanics and chemistry with particular reference to reactions involving conjugate double bonds. H. Eyring. *Science* 77:158-60 F 10 '33
- Role of gaseous oxygen in the thermal reaction between manganic ion and oxalate ion. H. F. Launer. *Am Chem Soc J* 55:865-74 Mr '33
- Structure of reactants and the extent of acetal formation. N. Minné and H. Adkins. *Am Chem Soc J* 55:299-309 Ja '33
- Thermal decomposition of ethyl azide; a homogeneous unimolecular reaction. J. A. Leermakers. *Am Chem Soc J* 55:2719-29 Jl '33



CHEMICAL reaction—*Continued*

- Two lectures on an outline of an electrochemical (electronic) theory of the course of organic reactions. R. Robinson. 52p Institute of chemistry of Great Britain and Ireland, 30, Russell square, London, W.C.1 '32
- Two lectures on the nature of simple molecules and of elementary processes. A. J. Allmand. 57p Institute of chemistry of Great Britain and Ireland, 30 Russell square, London, W.C.1 '32
- Types of chemical reactions. W. A. Noyes. Am Chem Soc J 55:656-61 F '33
- Über eine technologische einteilung der chemischen reaktionen und ihre bedeutung für den chemisch-technischen unterricht. W. J. Müller, Chemische Fabrik 6:333-6 Ag 9 '33
- Value of the determination of free energy change for organic reactions. D. B. Keyes. Science 77:202-4 F 24 '33
- See also*
- |                         |                          |
|-------------------------|--------------------------|
| Catalysis               | Hydration                |
| Chemical reagents       | Hydrogenation            |
| Chlorination            | Hydrolysis               |
| Condensation, Chemical  | Michael's reaction       |
| Decomposition           | Nitration                |
| Electrolysis            | Oxidation                |
| Friedel-Crafts reaction | Photochemistry           |
| Grignard reagents       | Reduction, Chemical      |
|                         | Substitution (chemistry) |
|                         | Synthesis                |
- Velocity**
- Anomalies in the reactivities of side-chain halogens with special reference to reaction mechanism. J. W. Baker. Chem Soc J p1128-33 S '33
- Beziehungen zwischen affinität und reaktionsgeschwindigkeit. O. Dimroth. Angew Chemie 46:571-6 S 9 '33
- Constitutional factors controlling prototropic changes in carbonyl compounds. W. S. Nathan and H. B. Watson. Chem Soc J p890-5 J1 '33
- Halogenation reactions; some regularities of relative rates of reaction in liquid media. E. A. Flood and L. Horvitz. Am Chem Soc J 55:2534-9 Je '33
- Influence of adsorbed ions on the dissolution of colloidal aluminum hydroxide in hydrochloric acid. H. V. Tartar, C. C. Bryan and H. Shinn. bibliog Am Chem Soc J 55:2266-72 Je '33
- Influence of nuclear halogens on aromatic side-chain reactivity. G. M. Bennett. Chem Soc J p1112-14 S '33
- Influence of nuclear substituents upon side-chain reactions. W. S. Nathan and H. B. Watson. Chem Soc J p1248-52 S '33
- Kinetics of the reduction, in acid solution, of hydrogen peroxide by iodide ion. H. A. Liebhafsky and A. Mohammad. bibliog Am Chem Soc J 55:3977-86 O '33
- Mechanism of bimolecular reactions in solution; the addition of methyl iodide to pyridine in several solvents. H. W. Thompson and E. E. Blandon. Chem Soc J p1237-40 S '33
- Primary salt effects in reactions in which the substrate is neutral. N. N. T. Samaras. bibliog J Phys Chem 37:437-41 Ap '33
- Rate of reaction between chlorate and sulfur dioxide in acid solution. A. C. Nixon and K. B. Krauskopf. Am Chem Soc J 54:4606-8 D '32
- Reaction velocity and the equi-valence-change principle. P. A. Shaffer. Am Chem Soc J 55:2169-70 My '33
- Relation of electromeric effects and relative polarisabilities of the halogens. R. Robinson. Chem Soc J p1114-17 S '33
- Structure of dicarboxy compounds from dissociation and reaction velocity data. J. Greenspan. Chem R 12:339-61 [bibliog p360-1] Ap '33
- Studies in the reactivity of aromatic hydroxyl groups. H. L. Bassett and A. O'Leary. Chem Soc J p2945-6 D '32
- Trypanocidal action and chemical constitution; the relative velocity of oxidation of arylarsenoxides. A. Cohen, H. King and W. I. Strangeways. Chem Soc J p2866-72 D '32
- Velocity of bromination of acetoacetic ethyl ester. K. J. Pedersen. J Phys Chem 37:751-64 Je '33
- CHEMICAL reagents**
- First chemical reagent; extract of gall nuts. Textile Col 55:170 Mr '33
- Living organisms as chemical reagents. A. I. Kendall. Il J Chem Educ 9:2013-25 D '32
- Organic reagents in qualitative analysis; the separation of iron, chromium and aluminum. L. Lehrman, E. A. Kabat and H. Weisberg. Am Chem Soc J 55:3509-11 S '33
- Recommended specifications for analytical reagent chemicals. W. D. Collins and others. Ind & Eng Chem Anal ed 5:289-92 J1 15 '33
- Special reagents for the analytical laboratory; some new products. Chem Age (Lond) 28:411 My 6 '33; Abstract. Can Min J 54:389 O '33
- Use of Agulhon's reagent in the analysis of solvents. E. C. Craven. Soc Chem Ind J 52:239T-42T Ag 11 '33
- Zur kenntnis der dithizon-reaktionen. H. Wölbling and B. Steiger. Angew Chemie 46: 279-81 My 20 '33; Discussion. 46:517 Ag 5 '33
- See also*
- Grignard reagents      Wijs solution
- Nessler reagent
- CHEMICAL research**
- Aus der tätigkeit der Chemisch-technischen reichsanstalt 1930 und 1931/32. L. Metz. Zeit Ver Deutsch Ing 76:1131-2 N 12 '32
- Century of progress in chemistry. A. B. Lamb. Science 78:371-6 O 27 '33
- Chemical research; a factor of prime importance in American industry. C. M. A. Stine. J Chem Educ 9:2032-9 D '32
- Chemist in industry. Chem Age (Lond) 28:283-4 Ap 1 '33
- Chemistry in 1932. Ind & Eng Chem 25:5-8 Ja '33; Abstract. Chemicals 38:12 Ja 9 '33
- Conquest of the physical world. B. Davis. Science 76:613-17 D 30 '32
- Cooperative research in chemical engineering. D. B. Keyes. Il Chem & Met Eng 40:402-4 Ag '33
- Co-ordination in national research; abstract. F. E. Lathe. Can Chem & Met 17:11 Ja '33; Same. Soc Chem Ind J (Chem & Ind) 52:10 Ja 6 '33
- Department of scientific and industrial research; chemical research in 1932. Chem Age (Lond) 27:634-5 D 31 '32
- Government economy and chemical research in Washington. O. Wilson. Ind & Eng Chem News ed 11:315-18 N 10 '33
- Graduate course in laboratory technic. H. B. Hass and F. D. Martin. J Chem Educ 10: 29-31 Ja '33
- History of the National research council, 1919-1933; Division of chemistry and chemical technology. C. A. Kraus. Science 77:552-4 Je 9 '33
- Institutes of chemistry. H. E. Armstrong. Chem Age (Lond) 27:449-50 N 12 '32
- Merck new research laboratory at Rahway, N.J. dedicated. Oil Paint & Drug Rep 123: 17+ My 1 '33
- Ninth census of graduate research students in chemistry, 1932. C. Hull and C. J. West. J Chem Educ 10:499-503 Ag '33
- Nobel prize award in chemistry. W. D. Coolidge. Science 76:sup8 N 18 '32
- Post-graduate scholarships. Soc Chem Ind J (Chem & Ind) 52:513-17 Je 23 '33
- Science is necessary. P. Walden. Ind & Eng Chem News ed 11:88+ Mr 20 '33
- Scientific research of a fine chemicals and pharmaceuticals company; Merck & co.; abstract. R. T. Major. Management R 22: 345 N '33
- Sixth Mendeleev congress at Kharkov. V. Coffman. Science 77:286 Mr 17 '33
- Supplementing natural resources. H. E. Howe. Elec Eng 52:188-9 Mr '33
- Surface chemistry. I. Langmuir. Science 76: sup8 N 18 '32

**CHEMICAL research—Continued**

Why chemists fail in industry. J. E. G. Harris. Chem Markets 33:30-2 J1 '33

See also

Ceramic research	Metallurgical re-
Chemical laboratories	search
Dye research	Petroleum research
Gas research	Textile research

**CHEMICAL societies**

Institutes of chemistry. H. E. Armstrong. Chem Age (Lond) 27:401-2, 449-50, 471-2, 543-4, 567; 28:4-6 O 29, N 12-19, D 10-17 '32, Ja 7 '33

See also

American chemical society

**CHEMICAL society, London**

Annual meeting, 92d. Chem Age (Lond) 28: 301-4 Ap 8 '33; Soc Chem Ind J (Chem & Ind) 52:304-5 Ap 7 '33

Chemical society widens its scope. Chem Age (Lond) 27:627 D 31 '32

Present position and the future of the Chemical society. G. G. Henderson. Chem Soc J p463-7 Ap '33; Excerpt. Soc Chem Ind J (Chem & Ind) 52:304-5 Ap 7 '33

**CHEMICAL stability**

Migration studies with colloids. F. Hazel and D. M. McQueen. J Phys Chem 37:553-82 [bibliog p570, 582] My '33

Relative stability of copper derivatives of  $\beta$ -diketo-compounds. T. S. Moore and M. W. Young. Chem Soc J p2694-709 N '32

Relative stability of penta-arylethanes; reactions of penta-arylethanes. W. E. Bachmann. Am Chem Soc J 55:3005-10 J1 '33

Stability of cyclic compounds. F. J. F. Dippy. Soc Chem Ind J (Chem & Ind) 52:179 Mr 3 '33; Same. Chem Age (Lond) 28:190 Mr 4 '33

**CHEMICAL tests**

Spot tests for organic compounds; abstract. I. M. Korenman. Soc Dyers & Col J 49:340-1 O '33

**CHEMICAL warfare**

Chemical warfare. Soc Chem Ind J (Chem & Ind) 52:23 Ja 13 '33; Same. Ind & Eng Chem News ed 11:92 Mr 20 '33

Chemical warfare in mob and crime control. K. A. Kobe. Il Chem & Met Eng 40:60-1 F '33

Use of chemicals in modern warfare. Chem Age (Lond) 28:28 Ja 14 '33

See also

Gases, Asphyxiating and poisonous	United States— Chemical warfare service
-----------------------------------	--

**CHEMICAL warfare service. See United States—Chemical warfare service****CHEMICAL workers**

Chemical haematuria from handling 5-chloro-ortho-toluidine. A. N. Currie. J Ind Hygiene 15:205-13 J1 '33

Chemical industry employment and payrolls; tabulation and charts. Oil Paint & Drug Rep 124:41 S 18; 18 S 25 '33

Chemical industry in the London area. J. H. West. Chem Age (Lond) 29:292-3 S 30 '33

Chemical workers' demands; forty-hour week and higher wages. Chem Age (Lond) 29:237 S 9 '33

Recent official enquiries into wages and hours of work in various industries in Germany. Int Labour R 28:531-3 O '33

Wages of workers in the chemical industry. Chem Age (Lond) 28:315 Ap 8 '33

**CHEMICALS**

Better prospects for synthetic organic chemicals. Chem & Met Eng 40:51 Ja '33

Chemicals for analysis, research and industry. Chem Age (Lond) 28:332 Ap 15 '33

Heavy chemicals; their manufacture and use. J. Healy, jr. Am Dyestuff Rep 22:92-7 Ja 30 '33

Recent progress in fine chemicals. F. H. Carr. Chem Age (Lond) 27:624-5 D 31 '32

Safe handling of chemicals. W. N. Watson. Chem Markets 31:325-7 O '32; Excerpt. Safety Eng 64:188 O '32; Chem Age (Lond) 27:551-2 D 10 '32

Wood chemicals respond to changing market trends. R. S. McBride. Chem & Met Eng 40:40-1 Ja '33

See also

Bleaching materials	Drying agents
Catalysts	Dyes and dyeing—
Chemical industries	Chemistry
Chemical reagents	Insecticides
Chemistry, Medical	Refrigerants
and pharmaceutical	Solvents
Chemistry, Technical	Tanning materials
Drugs	Wetting agents

**Prices**

Agency and consignment plans of maintaining chemical prices. Chem Markets 32:507-8 Je '33

Canadian market quotations. Published in monthly numbers of Canadian chemistry and metallurgy

Current market quotations (listed alphabetically by name of product). Published in weekly numbers of Oil, paint and drug reporter

Current prices. Published in monthly numbers of Chemical & metallurgical engineering Market report. Published in monthly numbers of Industrial and engineering chemistry Market report. Published in weekly numbers of the Journal of the Society of chemical industry

Moderate drop in chemical prices last year. Chem & Met Eng 40:52 Ja '33

Price changes this week. Published in bi-weekly numbers of Chemicals

Price trend and markets. Published in bi-weekly numbers of Chemicals

Prices current. Published in monthly numbers of Chemical industries

Weekly prices of British chemical products. Published in weekly numbers of Chemical age

Would the Capper-Kelly bill maintain chemical prices? Chem Markets 32:403-5 My '33

**Statistics**

Production of miscellaneous chemicals, 1929 and 1931. O. Wilson. Ind & Eng Chem 25: 228 F '33

United States imports of chemicals and allied products, entered for consumption, November, 1932. Ind & Eng Chem News ed 11:36-8 F 10 '33

**Testing**

Examination of chemical auxiliaries in the textile trades. A. H. Pettinger. Textile Col 55:334-5 My '33

Testing of dyes and chemicals for mill use. B. S. Hillman. Textile Col 55:228-31, 307-10 Ap-My '33

**Transportation**

Costs of tank car service. H. M. Mabey. Chem Markets 32:331-2 Ap '33

Transporting and handling bulk chemicals. R. F. Bergmann. Il diags Chem & Met Eng 40:474-7 S '33

What cost 1/c/l chemical distribution? G. S. Robins. Chem Markets 31:512 D '32

What's ahead in the transportation of chemicals? L. A. Belding. Chem & Met Eng 40: 26 Ja '33

**Uses**

Chemicals used in metal winning and treatment. Chem & Met Eng 40:14 Ja '33

Process industries as purveyors to the motor car. T. A. Boyd. Chem & Met Eng 40:15-17 Ja '33

Where you can sell. Published in weekly numbers of Oil, paint and drug reporter

**CHEMISTRY**

A B C of chemistry. J. G. Crowther. 248p K. Paul, Trench, Trubner & co, Ltd, London '32  
American chemical society; abstracts of papers presented at Washington meeting. Science 77:sup5-7 Mr 31 '33

American chemical society discusses economic relationships of science at annual meeting. Oil Paint & Drug Rep 123:17 Ap 3 '33

Century of progress in chemistry. A. B. Lamb. Science 78:371-6 O 27 '33

Chemische wirkungen von Röntgenstrahlen. P. Günther. Angew Chemie 46:627-31 O 7 '33



## CHEMISTRY—Continued

- Chemistry and Grecian archaeology. W. Foster. il J Chem Educ 10:270-7 My '33
- Chemistry and world politics; American chemical society meeting. Comm & Fin 22:311 Ap 5 '33
- Chemistry in 1932. Ind & Eng Chem 25:5-8 Ja '33; Abstract. Chemicals 38:12 Ja 9 '33
- Chemistry in the service of Egyptology. L. C. Newell. il J Chem Educ 10:259-66 My '33
- Chemistry; its interrelations with other sciences. H. S. Taylor. Ind & Eng Chem 25:495-7 My '33
- Course in general chemistry. W. McPherson and W. E. Henderson. 4th ed 751p \$3.40 Ginn '33
- Elementary study of chemistry. W. McPherson and W. E. Henderson. rev ed 729p Ginn '33
- Essentials of chemistry, a textbook for nurses with laboratory manual. G. O. Luros. 2d ed rewritten 417p Lippincott '33
- Faraday's diary. 7v v 1-2 G. Bell and sons, Ltd, London '32
- Fundamentals of chemistry. L. J. Bogert. 3d ed rev 365p \$2.75 W. B. Saunders co, Philadelphia '33
- General college chemistry. A. Joseph. 437p Al-lerton press, inc, New York '32
- Introduction to chemistry. E. B. Kenrick. 434p University of Toronto press, Toronto '33
- Introductory chemistry with household applications. N. M. Naylor and A. Le Vesconte. 367p Century co. '33
- Introductory college chemistry. H. G. Deming. 590p \$3 Wiley '33
- Principles of chemistry. J. H. Hildebrand. 3d ed 328p \$2.25 Macmillan '32
- Principles of general chemistry. S. R. Brinkley. rev ed 585p Macmillan '33
- Relation of chemistry to the individual. C. F. Kettering. Ind & Eng Chem 25:484-6 My '33
- Some thoughts on 1932. H. E. Armstrong. Chem Age (Lond) 27:617-18 D 31 '32

## See also

- |                      |                       |
|----------------------|-----------------------|
| Acids                | Hydrolysis            |
| Agricultural chemis- | Ions                  |
| try                  | Liquids               |
| Air                  | Metallurgy            |
| Alkalies             | Metals                |
| Atomic weights       | Microchemistry        |
| Atoms                | Mineralogy            |
| Biological chemistry | Mixtures              |
| Catalysis            | Molecules             |
| Chemical elements    | Oxidation             |
| Chemical reaction    | Photochemistry        |
| Chemicals            | Photographic chemis-  |
| Chemists             | try                   |
| Colloids             | Physiological chemis- |
| Color                | try                   |
| Combustion           | Poisons, Industrial   |
| Condensation, Chem-  | Radioactive sub-      |
| ical                 | stances               |
| Crystallization      | Reduction, Chemical   |
| Crystallography      | Rubber—Chemistry      |
| Dissociation         | Salt                  |
| Dyes and dyeing—     | Salts                 |
| Chemistry            | Solids                |
| Electrochemistry     | Solution (chemistry)  |
| Electrolysis         | Solvents              |
| Electrolytes         | Spectrum              |
| Electrons            | Stereochemistry       |
| Explosives           | Synthesis             |
| Fermentation         | Textile chemistry     |
| Foundry chemistry    | Thermochemistry       |
| Gases                | Waxes                 |
| Halogens             |                       |

## Bibliography

- Book reviews. Published in monthly numbers of Industrial and engineering chemistry
- British chemical abstracts. Published in Journal of the Society of chemical industry
- British chemical abstracts, index 1932. 578p Bur. of chemical abstracts, 46 Finsbury Sq, London, E.C. 2 '33
- Doctorates in chemistry and related fields conferred by American universities, 1932-33. C. J. West and C. Hull. J Chem Educ 10:693-703 N '33
- Documentation. Published in monthly numbers of Chimie & industrie

- Non-chemical publications important in chemistry. M. G. Mellon. J Chem Educ 10:619-21 O '33
- Reviews. Soc Chem Ind J (Chem & Ind) 51: 1066-9; 52:381-99, 851-72 D 23 '32, My 5, O 27 '33

## Dictionaries and encyclopedias

- Proposed encyclopaedia of chemical reactions. C. A. Jacobson. J Chem Educ 10:614-18 O '33
- Wörterbuch der kolloidchemie. A. Kuhn. 179p [bibliog p177-9] T. Steinkopff, Dresden and Leipzig '32

## Exhibitions

- Chemistry—economic dictator of the future; World's fair exhibits. il Power Pl Eng 37: 252-5 Je '33

## Experiments

- Lecture experiments in general chemistry; the rusting of iron, spontaneous combustion, the halogens. S. Morris and A. J. W. Headlee. diags J Chem Educ 10:637-8 O '33

## History

- Chemistry triumphant. W. J. Hale. 151p Williams & Wilkins '32
- Discovery of the elements. M. E. Weeks. bibliog il J Chem Educ 9:3-30, 215-35, 459-85, 863-84, 1017-57, 1231-43, 1386-1434, 1593-1619, 1751-73, 1915-39, 2065-78; 10:79-90, 161-70, 223-7, 302-6 Ja-Mr, My-D '32, F-My '33
- Discovery of the elements. M. E. Weeks. 363p Mack ptg. co, Easton, Pa. '33
- History of the phlogiston theory. J. H. White. 192p E. Arnold, London '32
- Manchester scientists of former days; chemists. J. R. Partington. Soc Chem Ind J (Chem & Ind) 52:478-82 Je 9 '33
- Modern alchemy. W. A. Noyes and W. A. Noyes, jr. 207p C. C. Thomas, Springfield, Ill.; Baltimore, Md. '32

## See also

- Bathurst, Ralph

## Laboratory manuals

- Chemical laboratory manual, prepared to accompany Bogert's Fundamentals of chemistry. L. J. Bogert. 2d ed rev 142p W. B. Saunders co, Philadelphia '33
- Laboratory studies in general chemistry. W. F. Ehret. 312p Appleton-Century '33

## Periodicals

- Comparative costs to subscribers of some journals much read by chemists. E. J. Crane. Ind & Eng Chem News ed 11:141 My 10 '33

## Study and teaching

- Analogies in teaching freshman chemistry. J. R. Lewis. bibliog J Chem Educ 10:627-30 O '33
- Characteristics of the ideal numerical problem. A. C. Burr. J Chem Educ 10:490-1 Ag '33
- Conference on recent developments in chemistry at the Johns Hopkins university. Science 77:320-1 Mr 31 '33
- Contract plan in high-school chemistry. J. O. Frank. J Chem Educ 10:556-9 S '33
- Cultural, or pandemic, chemistry course after six years of trial. J. A. Timm. J Chem Educ 10:428-9 Jl '33
- Quantitative balance in general chemistry. M. A. Goff. J Chem Educ 10:608 O '33
- Residue of high-school knowledge utilizable in college chemistry. P. M. Glasoe. J Chem Educ 10:571-4 S '33
- Special exercises for students in general chemistry. G. B. Bachman and J. K. Farrell. il diags J Chem Educ 10:241-2 Ap; 689-90 N '33
- Symposium on laboratory notebooks, records, and reports. W. Segerblom and others. J Chem Educ 10:403-14 Jl '33
- Unit of study for elementary chemistry. A. Boelke. J Chem Educ 10:349 Je '33
- Usable analogies in teaching fundamentals of chemical equilibrium. W. E. Caldwell. J Chem Educ 9:2079-80 D '32

**CHEMISTRY**—Study and teaching—*Continued*  
Valuable by-products of qualitative chemical analyses. G. G. Town. *J Chem Educ* 10:439-40 J1 '33

See also

Chemical education	Chemistry, Technical
Chemistry, Inorganic	—Study and teaching
—Study and teaching	Chemistry teachers
Chemistry, Organic—	
Study and teaching	

#### Bibliography

Abstracts. Published in monthly numbers of *Journal of chemical education*

#### Tables, calculations, etc.

Electromotive force table and oxidation-reduction reactions. H. L. Lochte. *J Chem Educ* 10:373-4 Je '33

#### Terminology

Derivations of the names of the elements. S. S. Hauben. *J Chem Educ* 10:227-34 Ap '33

**CHEMISTRY, Agricultural.** See Agricultural chemistry

#### CHEMISTRY, Analytic

Analysis of mixtures of fats and waxes. H. D. Murray. *Soc Chem Ind J* 51:393T-4T D 9 '32

Analytical uses of ethanol. G. W. Ferner and M. G. Mellon. *J Chem Educ* 10:243-5 [bibliog p245] Ap '33

Apparatus and methods for precise fractional-distillation analysis. W. J. Podbielniak. *bibliog diags Ind & Eng Chem Anal ed* 5:119-35, 172-8 Mr 15-My 15 '33

Chemical analysis of things as they are. G. E. F. Lundell. *Ind & Eng Chem Anal ed* 5:221-5 J1 15 '33

From the ponderable to the imponderable. O. Hahn. *Science* 77:397-403 Ap 28 '33

Hauptversammlung des Vereins deutscher chemiker in Würzburg fachgruppensitzungen. *Angew Chemie* 46:386-8 Je 24 '33

Magneto-optic method of analysis and some recent applications; abstract. F. Allison. *Science* 77:494-5 My 19 '33

Magneto-optic method of analysis; with particular reference to the detection of elements 85 (alabamine) and 87 (virginium) and the heavy isotope of hydrogen. F. Allison. *il J Chem Educ* 10:71-8 F '33

Microfractionating column for liquids having low heat of vaporization. P. E. Weston. *diag Ind & Eng Chem Anal ed* 5:179-80 My 15 '33

Neuere analytische verfahren im eisenhüttenwesen. W. Böttger. *Angew Chemie* 46:48-51 Ja 14 '33

Study of Bunsen's method; a new apparatus. K. Braddock-Rogers and K. A. Krieger. *bibliog diag Ind & Eng Chem Anal ed* 5:342-4 S 15 '33

Technique of modern analysis; some recent developments in instruments and equipment. *il Chem Age (Lond)* 28:545-8 Je 17 '33

Die wichtigsten fortschritte der analytischen chemie im letzten jahre. R. Fresenius. *Angew Chemie* 46:615-18 S 30 '33

See also

Chemical reagents	Microanalysis
Colorimetric analysis	Oil analysis
Dye analysis	Plants—Chemical
Electrochemical analysis	analysis
Gas analysis	Spectrum analysis
Gravimetric analysis	Sugar analysis
Metallurgical analysis	Textile analysis
	Volumetric analysis

also subdivision Analysis under names of substances, e.g.

Acids—Analysis	Petroleum—Analysis
Air—Analysis	Steel—Analysis
Coal—Analysis	Water—Analysis

#### Qualitative

Calculations of qualitative analysis. C. J. Engelder. 174p \$2 Wiley '33

Improved qualitative separation of the iron group in the presence of phosphate. T. B. Smith. *Chem Soc J* p253-7 Mr '33

Modified method for cation group 1. R. W. Gelbach. *J Chem Educ* 10:621 O '33

New method of approach for qualitative analysis. D. J. Brown and H. A. Pagel. *J Chem Educ* 10:94-6 F '33

Organic reagents in qualitative analysis; the separation of iron, chromium and aluminum. L. Lehrman, E. A. Kabat and H. Weisberg. *Am Chem Soc J* 55:3509-11 S '33

Qualitative analysis. J. S. Long, H. V. Anderson and T. H. Hazlehurst, jr. rev ed 266p \$2.25 Prentice-Hall, inc. '33

Qualitative chemical analysis. R. K. McAlpine and B. A. Soule. 696p \$4.50 Van Nostrand '33

Textbook of elementary qualitative analysis. C. J. Engelder. 2d ed 243p \$2.25 Wiley '33

Valuable by-products of qualitative chemical analyses. G. G. Town. *J Chem Educ* 10:439-40 J1 '33

#### Quantitative

Analytical methods for the determination of levulose in crude products. R. F. Jackson, J. A. Mathews and W. D. Chase. *U S Bur Stand J Research* 9:597-613 N '32

Elementary quantitative analysis. H. H. Willard and N. H. Furman. 406p [bibliog p8-13] \$3.25 Van Nostrand '33

Improved method for the analysis of spent black liquors from the soda and the sulphate pulping processes. M. A. Heath. *diag Paper Tr J* 96:33-6 F 23 '33

Introducing organic chemistry in the laboratory. J. B. Entikrin. *J Chem Educ* 10:31-2 Ja '33

Magneto-optic nicol rotation method for quantitative analysis of calcium. E. R. Bishop, C. B. Dollins and I. G. Otto. *Am Chem Soc J* 55:4365-70 N '33

New procedure for the Duclaux method. J. B. McNair. *Am Chem Soc J* 55:1470-4 Ap '33

Quantitative analysis by spectroscopic methods. O. S. Duffendack, R. A. Wolfe and R. W. Smith. *bibliog Ind & Eng Chem Anal ed* 5:226-9 J1 15 '33

Quantitative analysis of calcite-aragonite mixtures by X-rays. E. G. Cox and T. H. Goodwin. *Soc Chem Ind J (Chem & Ind)* 52:172 Mr 3 '33

Quantitative bestimmung von CaO, 3CaO.SiO<sub>2</sub>, 2CaO.SiO<sub>2</sub>, 3CaO.2SiO<sub>2</sub>, CaO.SiO<sub>2</sub> und SiO<sub>2</sub> nebeneinander. W. Jander and E. Hoffmann. *Angew Chemie* 46:76-80 Ja 28 '33

Die quantitative bestimmung von schwefel und halogenen in verbrennlichen stoffen. W. Grote and H. Krekeler. *diags Angew Chemie* 46:106-9 F 11 '33

Quantitative chemical analysis for beginning students. G. M. Smith. 3d ed rev & enl 199p Macmillan '33

Quantitative determination of calcium by the magneto-optic method. E. R. Bishop and C. B. Dollins. *Am Chem Soc J* 54:4585-8 D '32

Quantitative determination of formaldehyde and benzaldehyde and their bisulfite addition products. L. H. Donnally. *Ind & Eng Chem Anal ed* 5:91-2 Mr 15 '33

Quantitative determination of small amounts of hydrocyanic acid. N. Gales and A. J. Pensa. *Ind & Eng Chem Anal ed* 5:80-1 Mr 15 '33

Quantitative isolation of ether from dilute solutions. A. A. Benedetti-Pichler and F. Schneider. *diags Ind & Eng Chem Anal ed* 5:255-7 J1 15 '33

Quantitative spectrographic studies of coprecipitation; group II elements with barium sulfate. L. Waldbauer and E. St C. Gantz. *il Ind & Eng Chem Anal ed* 5:311-13 S 15 '33

Rapid quantitative determination of mercaptans. G. R. Bond, jr. *Ind & Eng Chem Anal ed* 5:257-60 J1 15 '33

See also

Colorimetric analysis	Gravimetric analysis
Electrochemical analysis	Iodine number
	Volumetric analysis

#### Standards

Case against standardisation of chemical analysis. P. F. Thompson. *Chem Age (Lond)* 27:523 D 3 '32



CHEMISTRY, Analytic—*Continued*

## Study and teaching

Exercise in indirect analysis. M. G. Mellon. J Chem Educ 10:493 Ag '33

CHEMISTRY, Biological. See Biological chemistry

CHEMISTRY, Industrial. See Chemistry, Technical

## CHEMISTRY, Inorganic

Comprehensive treatise on inorganic and theoretical chemistry. J. W. Mellor. v 12 944p \$20 Longmans '32

Three lectures embodying a survey of modern inorganic chemistry. G. T. Morgan. 106p Institute of chemistry of Great Britain and Ireland, 30 Russell square, London, W.C.1 '33

Die wichtigsten neuerungen auf dem gebiete der anorganisch-chemischen industrie in den jahren 1927-1931. A. Bräuer, J. Reitstötter und H. Siebeneicher. bibliog Angew Chemie 45:727-38; 46:7-15, 137-41, 596-610 N 19 '32, Ja 7, Mr 4, S 23 '33

## Laboratory manuals

Experiments in inorganic chemistry. J. S. Long and R. D. Billinger. 298p Times pub. co, Bethlehem, Pa. '32

## Study and teaching

Theoretical point of view in the teaching of inorganic chemistry. G. W. Sears. J Chem Educ 10:430-2 Jl '33

## CHEMISTRY, Medical and pharmaceutical

American chemical society papers. Oil Paint & Drug Rep 123:14+ Ap 24 '33

Award of the Philip A. Conné medal to Professor Abel. Science 76:620-1 D 30 '32

Chemical constitution of oil-soluble basic bismuth salts. A. P. T. Easson and F. L. Pyman. Soc Chem Ind J 52:97T-9T Ap 7 '33

Derivatives of dihydroeugenol and certain pharmacological properties of some of the compounds. D. E. Levin and A. Lowy. Am Chem Soc J 55:1995-2000 My '33

Molecular dissymmetry and physiological activity. L. H. Easson and E. Stedman. Chem Soc J p1094-8 Ag '33

Synthetic organic chemistry in industry. G. O. Curme, jr. Ind & Eng Chem 25:583-4 My '33

Therapeutic agents of the quinoline group, cinchophen, plasmoquine, nupercaine, quinine and acridine dyes. W. F. von Oettingen. 310p Chemical catalog co. '33

Über neue synthetische arzneimittel. O. von Schickh. bibliog Angew Chemie 46:485-90 Jl 22 '33

## See also

Anesthetics

Anesthetics, Local

Chemotherapy

Disinfection and disinfectants

Drugs

Hypnotics

Narcotics

Poisons

Trypanocides

## CHEMISTRY, Organic

Award of the Willard Gibbs medal to Dr Richard Willstaetter. Science 77:385-6 Ap 21 '33

Carbon compounds; a textbook of organic chemistry. C. W. Porter. 2d rev ed 469p Ginn '33

Chemistry of organic compounds, a year's course in organic chemistry. J. B. Conant. 623p Macmillan '33

Chemist's retrospects and perspectives. R. Willstätter. il Ind & Eng Chem News ed 11:275-6 S 20 '33; Same. Science 78:271-4 S 29 '33

Cotton, and the dye chemist. W. S. Calcott. il Textile Col 55:165-8 Mr '33

Decade of advance in organic chemical manufacture. W. J. Hale. J Chem Educ 10:464-8 Ag '33

Fortschritte der organischen chemie 1929-1931; organoverbindungen. W. Schlenk, jr. Angew Chemie 45:779-82 D 17 '32

Die fortschritte in der organischen chemie 1929-1931, heterocyclische reihe. R. Oppenauer und T. Reichstein. Angew Chemie 45:751-8 D 3 '32

Die fortschritte in der organischen chemie 1929-1931; naturstoffe meist unbekannter constitution. W. Karrer. bibliog Angew Chemie 46:37-45 Ja 14 '33

Hydrogenolysis of oxygenated organic compounds. R. Connor and H. Adkins. Am Chem Soc J 54:4678-90 D '32

Liaison in organic-inorganic chemistry. G. W. Bennett. bibliog J Chem Educ 10:20-4 Ja '33

Mechanism of heterogeneous catalytic organic reactions. O. Schmidt. Chem R 12:363-417 [bibliog p413-17] Je '33

Organic chemistry for medical students. G. Barger. 249p 12s 6d Gurney and Jackson, London '32

Organic syntheses. W. H. Carothers and others. v13 112p \$1.75 Wiley '33

Some newer industrial organic chemicals. C. F. H. Allen. Can Chem & Met 16:288-91 D '32

Some post-war developments in pure and applied organic chemistry. G. R. Clemo. Soc Chem Ind J (Chem & Ind) 51:1049-52 D 23 '32

Synthetic organic chemistry in industry. G. O. Curme, jr. il Ind & Eng Chem 25:582-9 My '33; Abstract, Chemicals 38:12 Ap 3 '33; Same. Oil Paint & Drug Rep 123:22 Mr 20 '33

Thermal data on organic compounds; the heat capacities, entropies and free energies of ten compounds containing oxygen or nitrogen. G. S. Parks, H. M. Huffman and M. Barmore. Am Chem Soc J 55:2733-40 Jl '33

Value of the determination of free energy change for organic reactions. D. B. Keyes. Science 77:202-4 F 24 '33

## See also

Acids, Fatty

Acids, Organic

Alcohols

Aldehydes

Alkaloids

Amines

Aromatic compounds

Carbohydrates

Carbon

Carbon compounds

Cellulose

Condensation, Chemical

Cyclic compounds

Diazo compounds

Esters

Ethers

Hydrocarbons

Ketones

Nitro compounds

Sugars

## Experiments

New laboratory preparations for the course in organic chemistry. G. R. Yohe; H. U. Louder and G. A. Smith. J Chem Educ 10:374-5 Je '33

Some student experiments in and out of the cycloparaffin series. E. C. Wagner. bibliog J Chem Educ 10:113-17 F '33

## History

Early history of acetaldehyde and formaldehyde. F. Walker. J Chem Educ 10:546-51 S '33

## Laboratory manuals

Elementary laboratory experiments in organic chemistry. R. Adams and J. R. Johnson. rev ed 363p Macmillan '33

Experimental organic chemistry. J. F. Norris. 3d ed 233p McGraw-Hill '33

Introduction to the practice of organic chemistry in the laboratory. H. Adkins and S. M. McElvain. 2d ed 224p \$2.25 McGraw-Hill '33

Laboratory methods of organic chemistry. L. Gattermann. rev ed 416p \$3.50 Macmillan '32

Laboratory technique of organic chemistry. J. C. Colbert. 341p Century co. '33

## Nomenclature

Definitive report of the Commission on the reform of the nomenclature of organic chemistry. A. M. Patterson. Am Chem Soc J 55:3905-25 O '33

## Study and teaching

Introducing organic chemistry in the laboratory. J. B. Entrikin. J Chem Educ 10:31-2 Ja '33

Undergraduate organic laboratory chemistry. E. F. Degering. il J Chem Educ 10:350-3, 432-5 Je-Jl '33

**CHEMISTRY, Physical and theoretical**

Chemical composition. A. K. Goard. 304p Sidgwick & Jackson, Ltd, London '31

Comprehensive treatise on inorganic and theoretical chemistry. J. W. Mellor. v 12 944p \$20 Longmans '32

Conquest of the physical world. B. Davis. Science 76:615-17 D 30 '32

Difference quotients and their application to certain types of empirical equations in physical chemistry. T. De Vries. J Chem Educ 9:2094-5+ D '32

Journal of chemical physics. Published monthly by the American institute of physics

Physical chemistry. J. Eggert. 632p [bibliog p593-7] Constable & Co, Ltd, London '32

Physical chemistry for students of biology and medicine. D. I. Hitchcock. 182p [bibliog p171-6] C. C. Thomas, Springfield, Ill. '32

Physical chemistry of flotation. I. W. Wark and others. bibliog J Phys Chem 37:623-44, 797-819 My-Je '33

Physico-chemical methods. J. Reilly and W. N. Rae. 2d ed rev 822p \$8 Van Nostrand '33

Quantum mechanics and chemistry with particular reference to reactions involving conjugate double bonds. H. Eyring. Science 77:158-60 F 10 '33

Recent advances in the physical chemistry of dyestuff solutions. S. M. Neale. Am Dyestuff Rep 22:237-8 Ap 10 '33

Second year college chemistry. W. H. Chapin. 3d ed 374p \$3 Wiley '33

Text-book of physical chemistry. v 1, General properties of elements and compounds. J. N. Friend. 501p Lippincott '33

*See also*

Absorption  
Activation  
Addition compounds  
Adsorption  
Agitation  
Atomic weights  
Atoms  
Boiling points  
Catalysis  
Catalysts  
Chemical equilibrium  
Chemical reaction  
Colloids  
Condensation, Chemical  
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Crystallography  
Dissociation  
Electrochemistry  
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Equation of state  
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Fluorescence  
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Freezing points

Ionization  
Ions  
Isomerism  
Isotopes  
Matter  
Melting points  
Mixtures  
Molecular rearrangements  
Molecular weights  
Molecules  
Optical rotation  
Phase rule  
Photochemistry  
Quantum theory  
Solids  
Solubility  
Solution (chemistry)  
Stereochemistry  
Surface phenomena  
Surface tension  
Thermochemistry  
Thermodynamics  
Transition points  
Valence  
Vapor pressure  
Wave mechanics

**CHEMISTRY, Technical**

Advances in the applications of chemistry reported to the Chicago meeting of the American chemical society. Science 78:sup4 S 22 '33

American chemical society Washington meeting; abstracts of papers. Oil Paint & Drug Rep 123:17+ Ap 3; 14+ Ap 10; 30C-30D Ap 17; 14+ Ap 24; 16 My 1; 16 My 8; 16 My 15; 40 My 22 '33

American chemical society Chicago meeting; abstracts of papers. Oil Paint & Drug Rep 124:19 O 2; 28D O 23; 30A N 6 '33

Applied chemistry a major factor in industry upswing. G. O. Curme, jr. Chemicals 38:1-2 Mr 6 '33

Aus der tätigkeit der Chemisch-technischen reichsanstalt 1930 und 1931/32. L. Metz. Zeit Ver Deutsch Ing 76:1131-2 N 12 '32

Chemical engineering marches on! il Chem & Met Eng 40:230-5 My '33

Chimie und automobiltechnik. Chemische Fabrik 6:172-4 Ap 19 '33

Chemistry in 1932. Ind & Eng Chem 25:7-8 Ja '33

Conditions in the heavy chemical industry. P. Parrish. il Chem Age (Lond) 27:621-3 D 31 '32

Construction challenges chemical engineering talents. F. E. Schmitt. Chem & Met Eng 40:23-6 Ja '33

Le XII<sup>e</sup> Congrès international de chimie industrielle (Prague, 25-29 septembre 1932). Génie Civil 101:624-6 D 24 '32

Industrial chemistry. W. T. Read. 576p \$5 Wiley '33

Industrial chemistry, an elementary treatise for the student and general reader. E. R. Riegel. 2d ed 784p \$6 Chemical catalog co. '33

New tools for industry. N. D. Harvey, jr. Am Dyestuff Rep 22:241-7 Ap 10 '33

Photo-eye controls chemical operations. J. V. Alfriend, jr. diags Chem Markets 32:233-6 Mr '33; Same. Elec Eng 52:601-4 S '33

Recent advances in the application of chemistry to engineering; abstract. H. B. Hartley. Chem Age (Lond) 28:432 My 13 '33

Science is necessary. P. Walden. Ind & Eng Chem News ed 11:88+ Mr 20 '33

Some newer industrial organic chemicals. C. F. H. Allen. Can Chem & Met 16:288-91 D '32

Some post-war developments in pure and applied organic chemistry. G. R. Clemon. Soc Chem Ind J (Chem & Ind) 51:1049-52 D 23 '32

Synthetic organic chemistry in industry. G. O. Curme, jr. Ind & Eng Chem 25:582-9 My '33; Abstract. Chemicals 38:12 Ap 3 '33; Same. Oil Paint & Drug Rep 123:22 Mr 20 '33

Über eine technologische einteilung der chemischen reaktionen und ihre bedeutung für den chemisch-technischen unterricht. W. J. Müller. Chemische Fabrik 6:333-6 Ag 9 '33

*See also*

Acetylene  
Acid-resisting materials  
Alcohol  
Alkalies  
Alloys  
Ammonia  
Beverages  
Blast furnace gas  
Bleaching  
Canning and preserving  
Celluloid  
Cellulose  
Cement  
Ceramics  
Chemical engineering  
Chemical industries  
Chemical patents  
Chemicals  
Clay  
Clay industries  
Clay products  
Coal distillation  
Coal tar  
Coal tar products  
Coke-oven gas  
Corrosion and anti-corrosives  
Cyanide process  
Dehydration  
Distillation  
Dyes and dyeing—Chemistry  
Electrochemistry  
Explosives  
Fertilizers  
Filters and filtration (technical chemistry)

Food—Chemistry  
Foundry chemistry  
Fuel  
Gas  
Gas manufacture  
Glass manufacture  
Lacquer and lacquering  
Leather  
Metallurgy  
Oils and fats  
Ore treatment  
Paint  
Paper  
Paper making  
Paper making materials  
Petroleum—Chemistry  
Petroleum distillation  
Petroleum refining  
Porcelain  
Pottery  
Refractory materials  
Refrigerants  
Rubber  
Silk, Artificial  
Soap  
Solvents  
Sugar  
Sulfuric acid  
Synthesis  
Tanning  
Textile chemistry  
Vulcanization  
Waste products  
Water purification  
Wood distillation  
Wood preservation

**Bibliography**

British chemical abstracts. Published in Journal of the Society of chemical industry

Index de chimie industrielle; tables alphabétiques et systématiques des publications de Chimie et industrie, 2<sup>e</sup> semestre, 1932. 256p Société de chimie industrielle, 49, Rue des Mathurins, Paris, France '33

**History**

Chemistry triumphant. W. J. Hale. 151p Williams & Wilkins '32



**CHEMISTRY, Technical—Continued****Study and teaching**

Class exercises in the industrial chemistry course. K. A. Kobe. *J Chem Educ* 10: 679-81 N '33

Organic technology. R. N. Shreve. flow sheets *J Chem Educ* 10:181-4 Mr '33

**CHEMISTRY clubs**

History and operation of a chemistry club. W. Q. Bunderman. *J Chem Educ* 10:40-3 Ja '33

**CHEMISTRY teachers**

Report of the committee on the teaching load for chemistry teachers. *J Chem Educ* 9: 211-26 D '32

**CHEMISTS**

American chemical society at the World's fair, 1893-1933. *Ind & Eng Chem News* ed 11:185-6 Je 20 '33; *Abstract. Science* 78:31-2 J1 14 '33

Chemical necrology, 1932. *pers Chem Markets* 32:24 Ja '33

Chemist in industry. *Chem Age (Lond)* 28: 283-4 Ap 1 '33

Chemist in the Far East. A. Marcan. *Chem Age (Lond)* 28:503-4 Je 3 '33

Chemists and the next war. H. G. Corr. *Chem Age (Lond)* 28:161 F 25 '33

Chemists in the centenaries of 1933. *Chem Age (Lond)* 28:75-6 Ja 28 '33

Dinner in honor of forty-two distinguished chemists. *Science* 78:163-4 Ag 25 '33

Discounting the chemical future. W. Haynes. *J Chem Educ* 10:399-402 J1 '33

Doctorates in chemistry and related fields conferred by American universities, 1932-33. C. J. West and C. Hull. *J Chem Educ* 10:693-703 N '33

Future of chemical employment. D. H. Killefer. *Chem Markets* 33:23 J1 '33

Manchester scientists of former days; chemists. J. R. Partington. *Soc Chem Ind J (Chem & Ind)* 52:478-82 Je 9 '33

Midland chemists; abstract. R. H. Pickard. *Soc Chem Ind J (Chem & Ind)* 52:129-30 F 10 '33

Occupations and earnings of women in chemistry; with special reference to academic degrees. H. L. Wikoff. *Ind & Eng Chem* 25: 467-72 Ap '33

Presidents of the American chemical society. H. Hale and E. L. Nelson. *pers Ind & Eng Chem* 25:110-18 Ja '33

Unemployed chemists in New York city. *Science* 76:561-2 D 16 '32

Why chemists fail in industry. J. E. G. Harris. *Chem Markets* 33:30-2 J1 '33

*See also*

Chemical education

Chemical engineers

*also* names of chemists, e.g.

Bathurst, Ralph

Munroe, Charles E.

Ostwald, Wilhelm

Willstaetter, Richard

**Germany**

Statistik der chemiker, chemiestudierenden, usw. *Angew Chemie* 46:379-83 Je 24 '33

Verband selbständiger öffentlicher chemiker Deutschlands. Milczewsky. *Angew Chemie* 46:541-4 Ag 19 '33

**CHEMISTS as witnesses**

Boston chemists help Germany in famous \$40,-000,000 Black Tom case. *Paper Tr J* 95:41-2 D 22 '32

**CHEMOTHERAPY**

Beziehungen zwischen chemischer konstitution und wirkung der chemotherapeutika. L. Benda. *Angew Chemie* 46:85-7 F 4 '33

Some salts of levulinic acid. A. Proskouriakoff. *bibliog Am Chem Soc J* 55:2132-4 My '33

*See also*

Trypanocides

**CHENILLE**

Skein dyeing and finishing of cotton chenille yarns. A. H. Leonard. *Am Dyestuff Rep* 22: 417-18, 422 J1 3 '33

**Advertising**

Winning the ex-customers of a defunct rival; Whittall chenille. *il Ptr Ink Mo* 25:25+ D '32

**CHERBOURG, France**

La nouvelle gare maritime de Cherbourg. R. Fleury. *il diags plans map Génie Civil* 103:125-33 Ag 5 '33

**Harbor**

Cherbourg develops port facilities for docking transatlantic liners. V. Delpont. *il Marine R* 63:12-14 O '33

New passenger quay and maritime station at the port of Cherbourg. B. Cunningham. *il diags map Engineering* 136:427-9, 440, 481, 482, 483 O 20, N 3 '33

**CHERRIES**

Improved method of processing glacé and maraschino cherries. S. Blumenthal. *il Food Ind* 5:398-9 O '33

**CHERT**

Chert and flint, concretions, and cone-in-cone. W. A. Tarr. *Nat Research Council Bul* 89: 90-9 '32

Miami-Picher zinc-lead district. W. A. Tarr. *Econ Geol* 28:463-79 Ag '33

**CHESAPEAKE & Ohio railway**

Better water service pays large returns on Chesapeake & Ohio. *il map Ry Age* 93:865-9 D 10 '32

Earnings position unique. N. T. Calhoun. *il Mag of Wall St* 51:212-13+ D 10 '32

Opportunities for income and profit. *Mag of Wall St* 52:433 Ag 19 '33

Prosperous soft-coal carrier. D. Hovey. *il map Barron's* 13:3, 6-7 Ap 24 '33

**CHESAPEAKE corporation**

Chesapeake corp. improves position. *Econostat* 1:14-15 Ap 15 '33

**CHESBROUGH, Ellis Sylvester, 1813-1888**

Chicago's waterworks—a century of accomplishment. A. E. Gorman. *por Eng N* 110: 734, 735 Je 8 '33

Dedication of memorial. J. W. Alvord. *W Soc E J* 38:204-7 Ag '33

**CHESEBROUGH, Robert Augustus, 1837-1933**

Sketch. *por Oil Paint & Drug Rep* 124:14 S 18 '33

**CHESTER, England****Water supply**

Boughton reservoir of the Chester waterworks company. *il Engineering* 135:576-8 My 26 '33

**CHESTER, Pennsylvania****Water supply**

Bleaching clay in water purification. G. D. Norcom. *il Water Works & Sewerage* 80: 53-4 F '33

**CHICAGO**

Chicago; growth and development. H. Manchester. *il Am Bankers Assn J* 25:32-4+ F '33

Population and subdividing activity in the region of Chicago: 1871-1930. H. C. Monchow. *map J Land & Pub Util Econ* 9:192-206 My '33

Value of planned city development. H. E. Young. *il Civil Eng* 3:503-5 S '33

**Architecture**

Where is there to go from here? World's Columbian exposition and a Century of progress. A. R. Barkley. *il Ptd Salesmanship* 61:224-5+ Je '33

*See also*

Housing—Chicago

**Bridges**

Chicago terminus of Lakes-to-Gulf waterway. D. I. Sultan and D. A. D. Ogden. *il maps Civil Eng* 3:413-16 Ag '33

**Commerce**

Chicago terminus of Lakes-to-Gulf waterway. D. I. Sultan and D. A. D. Ogden. *il maps Civil Eng* 3:413-16 Ag '33

## CHICAGO—Continued

## Description and travel

As others see Chicago; impressions of visitors, 1673-1933. B. L. Pierce, comp. 540p \$3 Univ. of Chicago press '33

## Galleries and museums

## See also

Field museum of natural history, Chicago  
Museum of science and industry, Chicago

## Libraries

Directory of libraries of the Chicago area, including historical sketches of the four local library organizations. 160p Chicago library club, Chicago '33

## Lighting

Costs of municipal street lighting in Chicago in 1932; tabulation. Elec W 102:350-1 S 9 '33

## Metropolitan district

Collection and disposal of municipal wastes in the Chicago area; a report to the Civic affairs council. W Soc E J 38:107-13 Ap '33

Government of the metropolitan region of Chicago. C. E. Merriam, S. D. Parratt and A. Lepawsky. 193p \$2 Univ. of Chicago press '33

Intensive street-traffic studies in Chicago. map Eng N 109:612-13 N 24 '32

Pollution of Lake Michigan. A. E. Gorman; J. R. Baylis. il diags map Civil Eng 3: 519-24 S '33

Report on parks and playgrounds in metropolitan Chicago. W Soc E J 38:47-51 F '33

Water supply, sewerage and sewage disposal in the Chicago metropolitan area; a report to the Civic affairs council. W Soc E J 38: 102-6 Ap '33

## Parks

Report on parks and playgrounds in metropolitan Chicago. W Soc E J 38:47-51 F '33

## Population

Census data of the city of Chicago, 1930. E. W. Burgess and C. Newcomb, eds. 687p Univ. of Chicago press '33

## Post office

Some problems on big job; double heating system uses steam and hot water. W. W. Stevens. il diags Dom Eng 141:29-33+ Ap '33

## Railroads

Operate passenger terminal under mammoth building project; construct new Chicago postoffice over Chicago union station tracks without interfering with train service. il plan Ry Age 94:71-4 Ja 21 '33

## Rapid transit

"L" receivership delays merger. Barron's 13:6 Ja 2 '33

Moving fifty million to Century of progress exposition. il Elec Traction 29:133-5+ My '33

Report on local passenger transportation. W Soc E J 38:26-8 F '33

Taking people to the fair. il map Transit J 77:269-72 S '33

Transport system planned for fifty million visitors to Chicago World's fair. E. S. J. Irvine. il maps Eng N 110:286-9 Mr 2 '33

## See also

Chicago—World's fair, 1933—Transportation problems

## Sanitary affairs

Collection and disposal of municipal wastes in the Chicago area; a report to the Civic affairs council. W Soc E J 38:107-13 Ap '33

Sanitary district blames delay on Chicago tax tangle. Eng N 109:602-3 N 17 '32

Water supply, sewerage and sewage disposal in the Chicago metropolitan area; a report to the Civic affairs council. W Soc E J 38: 102-6 Ap '33

## Sewerage

Chicago sanitary district costs reduced under changed plans. Eng N 110:847 Je 29 '33

Sanitary district of Chicago and the depression. Pub Works 64:22 Je '33

Sewage disposal by way of the Illinois river. L. Pearse. il map Civil Eng 3:485-9 S '33

State held responsible; Supreme court decision in case of sanitary district of Chicago. Eng N 111:55 Jl 13 '33

## Streets

Elevated highways proposed for Chicago. Eng N 110:535-6; 111:513 Ap 27, O 26 '33

Intensive street-traffic studies in Chicago. map Eng N 109:612-13 N 24 '32

Wide boulevard; its design and control. J. R. Bibbins. diags Eng N 110:808-10 Je 22 '33

## Water supply

Chicago to build 300-m.g.d. pumping plant. L. D. Gayton. plan Eng N 110:752-4 Je 8 '33

Chicago's waterworks—a century of accomplishment. A. E. Gorman. il Eng N 110:733-7 Je 8 '33

Concrete water tunnel inspected after 25 years; Blue Island Ave. tunnel in Chicago. il map Eng N 110:374-6 Mr 23 '33

Dedication of memorial to Ellis S. Chesbrough. De Witt C. Cregier, John Ericson, June 12, 1933. W Soc E J 38:202-13 Ag '33

Effect of sizes and maintenance of meters on revenues. L. D. Gayton. Am Water Works Assn J 24:1983-93 D '32

Locating and eliminating underground street leakage in Chicago distribution system. J. B. Eddy and B. Phillips. Am Water Works Assn J 25:1339-45; Discussion. F. B. Nelson. 1345-9 O '33

Pollution of Lake Michigan. A. E. Gorman; J. R. Baylis. il diags map Civil Eng 3:519-24 S '33

Progress in intake design revealed by Chicago crib. M. B. Reynolds. il Eng N 110:737-9 Je 8 '33

Some interesting phases of Chicago's water works activities. M. B. Reynolds. Am Water Works Assn J 25:1321-38 O '33; Abstracts. Eng N 110:811-12 Je 22 '33; Water Works & Sewerage 80:252-3 Jl '33

Some water works lessons Chicago has learned from the depression. M. B. Reynolds. Water Works & Sewerage 79:387-8 N '32

## World's fair, 1933

Forty years of lighting progress. S. G. Hibben. Illum Eng Soc Trans 28:640-2 S '33

Foundry views the 1893 fair. il Foundry 61: 27+ Je '33

Worked 24 hours a day and liked it; J. A. Russell, superintendent of plant which did most of 1893 Columbian exposition printing. il Inland Ptr 91:25-6 Ap '33

## World's fair, 1933

Advertisers to strut their stuff to 40,000,000 at Chicago fair. il Sales Management 32:444 Ap 20 '33

Air conditioning at the Chicago fair. il Heating-Piping 5:558-60 N '33

Building tells the story of progress. R. Willoughby. il Nation's Business 21:22-4 Je '33

Carnival architecture. A. F. Woltersdorf. il Am Arch 143:10-21 Jl '33

Century of progress. il diags map plans Arch Rec 73:342-74, sup26; 74:72, sup24 My, Jl '33

Century of progress—Chicago's exposition. R. G. Nichols. Special Lib 24:123-6 Jl '33

Century of progress; contributions of science and engineering to human welfare. H. C. Parmelee. il Eng & Min J 134:290-2 Jl '33

Century of progress; description of industrial exhibits. il plan Am Mach 77:390-404 Je 21 '33

Century of progress exposition. il Heating-Piping 5:289-91+ Je '33

Century of progress exposition. H. H. Saylor. il Architecture 68:63-8 Ag '33

Century of progress exposition will open promptly June 1. C. W. Person. il Gas Age 71:435-7+ Ap 29 '33; Same. Am Gas Assn Mo 15:191-5 My '33



CHICAGO—World's fair, 1933—*Continued*

- Century of progress in transportation. *il Elec Traction* 29:129-32+ *My* '33
- Century of progress installing plumbing to serve million persons daily. *il Dom Eng* 141:34-5 *Mr* '33
- Century of progress international exposition. G. A. Barclay. *il Bankers M* 127:49-54 *Jl* '33
- Century of progress; review of various industrial, engineering and scientific exhibits. *il Power Pl Eng* 37:238-62 *Je* '33
- Century of progress visitors drink super purified water. *il Water Works & Sewerage* 80:303 *Ag* '33
- Century of progress—what next? K. T. Compton. *W Soc E J* 38:197-202 *Ag* '33; Same cond. *il Mech Eng* 55:478-80 *Ag* '33
- Century's debt to castings. R. C. Dawes. *il Foundry* 61:22-6+ *Je* '33
- Chicago bids the world come. C. W. Person. *il Gas Age* 71:243-6+ *Mr* 11 '33
- Chicago exhibition; some notable buildings. *il diags Engineer* 155:315-17 *Mr* 31 '33
- Chicago stages its second World's fair; scheme for planning, building and operating. L. R. Lohr and others. *il diags maps Eng N* 110:269-93 *Mr* 2 '33
- Chicago World's fair proves air conditioning attracts the public. *il Heating-Piping* 5:360-2 *Jl* '33
- Close-up comments on the Fair. E. J. Kahn and others. *Arch Forum* 59:23-8 *Jl* '33
- Color of the exposition. W. Muschenheim. *il Arch Forum* 59:2-4 *Jl* '33
- Demonstrating geophysical science and petroleum engineering to the public. C. A. Heiland. *il Min & Met* 14:455-8 *N* '33
- 1893; World's fair: 1933. W. D. Teague. *il Adv & Sell* 20:sup[Adv Arts] 12-14 *Ja* '33
- Electricity aids surgery; World's fair exhibit model hospital operating room. *Pub Serv M* 55:86 *S* '33
- Engineering research and building construction. B. M. Thorud. *diags Arch Forum* 59:65-9 *Jl* '33
- Exhibition buildings of various countries and corporations; views. *Arch Forum* 59:33-46 *Jl* '33
- L'exposition du centenaire de Chicago (juin-novembre 1933). P. Calfas. *il diag plan Génie Civil* 102:389-93 *Ap* 29 '33
- Flotation—basic science at the World's fair. *il Can Min J* 54:352-3 *S* '33
- Fraud, foliage and free samples: reporter finds tastes of masses unjaded at Chicago exposition. R. B. Donnelly. *il Sales Management* 33:222+, 278+ *S* 1-15 '33
- The gate: 350,000 people a day. *Fortune* 7:40-3 *My* '33
- Iron, steel record progress at Chicago fair. *il Steel* 92:13-16+ *Je* 5 '33
- Large air volume exhausted from "Century of progress" buildings. *il plan Heating-Piping* 5:256-7 *My* '33
- Looking over a Century of progress. C. T. Fish. *il Nat Safety N* 23:33-40 *S* '33
- Low cost, rapid work, feature construction of Fair buildings. B. M. Thorud. *il plans Am Bld* 55:50-3+ *Je* '33
- Marchese Marconi at Chicago. *Science* 78:305 *O* 6 '33
- New architecture significant of the new typography; Century of progress exposition. D. C. McMurtrie. *il Inland Ptr* 91:13-17 *Je* '33
- New impressions of industry to be had from exposition exhibits. E. C. Baker. *il Rand McNally Bankers Mo* 50:400-3 *Ag* '33
- Nine major buildings; views and plans. front *Arch Forum* 59:7-22 *Jl* '33
- Official book of the fair, giving pre-exposition information, 1932-1933, of a Century of progress international exposition, Chicago, 1933. 96p Century of progress, inc, Chicago '32
- Oil at the Fair. *il Pet Age* 27:22+ *S* '33
- Opening of Century of progress marks peak of modernism; architecture, art, design and typography. P. T. Haagen. *il Ptd Salesmanship* 61:208-11+ *Je* '33
- Planning and planners. L. Skidmore. *il Arch Forum* 59:29-32 *Jl* '33
- Refrigeration at the Chicago fair. *il Refrig Eng* 25:339-40+ *Je* '33
- Revelation of the industrial future. T. M. Knappen. *il Mag of Wall St* 52:268-9+ *Jl* 8 '33
- Significance of the exposition. H. W. Corbett. *Arch Forum* 59:1 *Jl* '33
- Some advertising slants at a Century of progress; company exhibits. P. H. Erbes, jr. *Ptr Ink* 163:47-50 *Je* 15 '33
- Story of food manufacturing to be told at World's fair. *il Food Ind* 5:37 *Ja* '33
- Synthetic coatings at the Century of progress. C. E. Fawkes. *il Plastic Prod* 9:222-7 *Ag* '33
- What! No gold medals? *Ptr Ink* 161:28 *D* 15 '32
- Where is there to go from here? World's Columbian exposition and a Century of progress. A. R. Barkley. *il Ptd Salesmanship* 61:224-5+ *Je* '33
- Whys and wherefores of the exposition architecture. L. Skidmore. *il Am Bld* 55:26-8 *Je* '33
- World's fair exhibits of special interest to operating bankers. C. A. Benson. *il Rand McNally Bankers Mo* 50:410-11 *Ag* '33
- World's fair in the making; illustrations. *Sci Am* 148:83 *F* '33

*Advertising*

- Some ideas on selling \$25,000,000 worth of exposition. *il Ptr Ink* 162:49-50 *Mr* 2 '33
- Where have modern typography and type design taken us? pls *Ptd Salesmanship* 61:279-88 *Jl* '33

*Advertising exhibits*

- Fair to have advertising exhibit, three-reel motion picture. *Ptr Ink* 163:50 *Je* 15; 10+ *Je* 29 '33

*Automotive exhibits*

- Glimpsing automotive achievements at the Century of progress exposition. *il S A E J* 33:sup40-7 *S* '33
- Our industry's contribution to a Century of progress. *il Automotive Ind* 68:606-8+ *My* 20 '33

*Business aspects*

- Big bad wolf takes a licking; Chicago business men lick the depression. *il System* 62:490-1+ *N* '33
- Business and the Fair. *il Adv Arts* p14-20 *Jl* '33
- Business and "the Fair." *il map Business Week* p11-14 *My* 31 '33
- Fair profits; Chicago will feel effect of Century of progress long after the big show closes down. *Business Week* p11-12 *O* 7 '33
- Profits of "a Century." *Business Week* p14 *Jl* 22 '33

*Chemical exhibits*

- Applied chemistry at the Century of progress. *il Ind & Eng Chem News* ed 11:197-9 *Jl* 10 '33
- Chemical engineering impressions of a Century of progress. *il Chem & Met Eng* 40:339-44 *Jl* '33
- Chemical exhibits at a Century of progress. I. E. Muskat. *il J Chem Educ* 10:387-90 *Jl* '33
- Exhibits exceptionally interesting. *il Oil Paint & Drug Rep* 124:19-20 *S* 25; 44 *O* 2 '33

*Electric exhibits and equipment*

- Century of progress; electric exhibits, lighting of buildings and grounds, etc. *il plan Elec J* 30:226-44 *Je* '33
- Century of progress exhibition; electricity at the forthcoming Chicago show. *il Electrician* 110:134 *Ja* 27 '33
- Century of progress exposition and the electrical industry. G. B. Cortelyou. *il Edison Elec Inst Bul* 1:167-9 *S* '33
- Electric apparatus exhibits, lighting and equipment. *il Elec W* 101:673-704 *My* 27 '33
- Electric power and light for a Century of progress. *il diags plan Power Pl Eng* 37:292-4 *Jl* '33
- Electrical progress; exhibits in the electrical building. *Elec J* 30:238-43 *Je* '33
- Electricity at work in a world of wonders. *il Pub Serv M* 54:171-3 *Je* '33

**CHICAGO**—World's fair, 1933—Electric exhibits and equipment—*Continued*

Oil electric sets at World's fair. *il* Power Pl Eng 37:481 N '33  
Turning the electric eye on a Century of progress; illustrations. *Elec West* 71:19-26 Ag '33

*Finance*

Hats off to Chicago—and its financing of the 1933 World's fair. B. Krog. *il* System and Management Methods 62:298-9+ J1 '33

*Gas exhibits and equipment*

Additional views of gas industry exhibit at Chicago and key to exposition buildings. *Am Gas Assn Mo* 15:328-9 Ag '33  
All roads at Fair lead to gas industry hall. C. W. Person. *il* *Am Gas Assn Mo* 15:227-33 Je '33  
Almost five miles of steel gas main is Dresser-coupled for World's fair. *il* Oil & Gas J 32:37 Je 15 '33  
Century of progress an all-gas show! *il* *Am Gas J* 139:15-16+ S '33  
Century of progress exposition another milestone for gas. *il* *Gas Age* 71:614-26+ Je 17 '33  
Gas cooked foods will tickle the palates of millions at the Chicago exposition. *il* *Am Gas J* 138:30-1 Ap '33; Same *abr.* *Gas Age* 71:346 Ap 1 '33  
Gas fuel is used throughout popular resort at World's fair. *il* *Am Gas Assn Mo* 15:327 Ag '33  
Gas industry at a Century of progress. C. W. Person. *il* *Am Gas Assn Mo* 15:119-24 Ap '33  
Gas industry at Chicago's 1933 World's fair. *il* *Gas Age* 71:305+ Mr 25 '33  
100 gas executives attend Chicago ceremony; dedication of Fountain of flame. C. W. Person. *il* *Am Gas Assn Mo* 15:266-70+ J1 '33; *Excerpt.* *Am Gas J* 138:7-8 Je '33  
Then and now; sidelights on gas exhibits at the World's Columbian and Century of progress expositions. *Am Gas J* 139:7-8 J1 '33

*Housing exhibits*

Factory-built houses—industry's potential market. *il* *Factory Management* 91:320-2 Ag '33  
Housing exhibit. *il* plans *Am Bld* 55:29-48, 66-7 Je '33  
How did you like the brick house at the World's fair? *Brick & Clay Rec* 83:93-4 S '33  
Modern houses of the Century of progress exposition. *il* diags plans *map Arch Forum* 59:51-62 J1 '33  
Newest ideas in home building at a Century of progress. *il* *Brick & Clay Rec* 82:158-9, 198-9 My-Je '33  
Synthetic houses; house that chemistry built at the Century of progress exposition. *il* *Sci Am* 149:180 O '33  
Trend of progress in house design; demonstration houses at a Century of progress. *il* plans *Am Arch* 143:22-9 J1 '33

*Insurance exhibits*

Insurance exhibit at World's fair in Chicago. *il* *East Underw* 34:3 My 19; 3 J1 7 '33; *Weekly Underw* 129:63-4, 66 J1 8 '33

*Lighting*

Century of progress exposition at Chicago, 1933. *il* *lum Engr* 26:189-90 Ag '33  
Exposition lighting. C. J. Stahl. *il* *Elec J* 30:229-33 Je '33  
Lighting an exposition; World's fair. W. d'A. Ryan. *il* *Elec W* 101:687-8, 697-8 My 27 '33  
Lighting heads the list of special facilities; World's fair, Chicago. J. L. McConnell. *il* diags *Eng N* 110:283-5 Mr 2 '33  
Lighting the exposition. W. d'A. Ryan. *il* diags *Arch Forum* 59:47-50 J1 '33

*Paper exhibits*

Paper exhibit opens at Chicago's World fair. *Paper Tr J* 96:13+ Je 8 '33  
Support for paper palace at Chicago's 1933 Century of progress exposition. W. B. Wheelright. *Paper Tr J* 95:18, 26+ D 8 '32

*Plumbing exhibits*

Fair buildings show heating and plumbing. *il* *Dom Eng* 142:40-3 J1 '33  
Fair reveals progress in bathrooms. *il* *Dom Eng* 141:30-1 Je '33  
What 10,000 daily sales talks reveal. *il* *Dom Eng* 142:38-9+ O '33

*Railroad exhibits*

Railroads an important feature at World's fair. *il* *Ry Age* 94:754-60 My 27 '33

*Rubber exhibits*

Making tires at World's fair; Firestone exhibit. *il* *Rubber Age* 33:207-8 Ag '33  
Rubber tires made by gas at Chicago fair. J. B. Nealey. *il* *Am Gas Assn Mo* 15:321-2+ Ag '33

*Safety provisions*

Fire protection for Chicago fair altered. J. A. Neale. *Weekly Underw* 128:997 My 27 '33  
Previewing the Century of progress. R. H. Ferguson. *il* *Nat Safety N* 27:13-14+ Je '33

*Scientific exhibits*

Physics as demonstrated at the World's fair. G. S. Fulcher. *R Sci Instr* 4:329-31 Je '33  
Science at the Century of progress exposition. *Science* 77:sup8-10 Je 2 '33

*Shipping board exhibit*

Shipping board exhibits at Century of progress. H. M. Wick. *il* *Marine Eng* 38:303-4 Ag '33

*Sky Ride*

Design of Skyway and observation towers. W. G. Grove. *il* *Civil Eng* 3:513-15 S '33  
1850-foot sky ride at World's fair embodies spectacular design. *il* *Steel* 92:17-18 Ja 23 '33  
Fabrication of steel for the Sky Ride. E. T. Blix. diags *W Soc E J* 38:182-92 Ag '33  
Sky Ride, a new type of long-span bridge. *il* *Iron Age* 131:619 Ap 20 '33  
Special elevator cars for Skyway towers at World's fair. *il* *Eng N* 110:352 Mr 16 '33

*Steel exhibits*

Century of progress; illustrations of steel and steel products exhibits. *Iron Age* 132:28-9 O 26 '33

*Textile exhibits*

1893-1933, Chicago fair focuses attention on 40 years of textile progress. *il* *Textile World* 83:1113-16 Je '33

*Transportation problems*

Bus serves the fair. *il* plan *Elec Traction* 29:136-8 My '33  
Century of progress fair stimulates train travel. *Ry Age* 94:912 Je 24 '33  
Complete World's fair track construction in record time. *il* map *Elec Traction* 29:164-5 Je '33  
Covering the Fair by bus. *il* map *Bus Transportation* 12:279-83 J1 '33  
Get your share of this business; motor bus line travel to the World's fair. *Bus Transportation* 12:209 My '33  
Moving fifty million to Century of progress exposition. *il* *Elec Traction* 20:133-5+ My '33  
No restrictions on motoring to the Fair, big increase in automobile travel. R. C. Conine. *Oil & Gas J* 32:16 J1 6 '33  
Taking people to the fair. *il* map *Transit J* 77:269-72 S '33  
**CHICAGO and Eastern Illinois railroad**  
To reorganize under new bankruptcy law. *Ry Age* 94:624 Ap 29 '33  
**CHICAGO and north western railway**  
After 95 years—the C. & N. W. still pioneers. *il* map *Ry Age* 93:sup155-7 D 3 '32  
19-year comparison. *Barron's* 13:6 Ja 23 '33  
**CHICAGO art institute**

*Burnham library*

Holographs of famous architects. T. E. Tallmadge. *il* *Am Arch* 143:8-12 Mr '33



- CHICAGO, Burlington & Quincy railroad**  
Burlington net income lowest since 1898. *Il map Ry Age* 93:sup177-80 D 3 '32  
Prospects for the Hill roads; Great Northern, Northern Pacific, and Burlington. D. Hovey. *il Barron's* 13:8-9, *11 Ag* 7 '33
- CHICAGO clearing house**  
Chicago clearing house. *Am Bankers Assn J* 26:38-41 S '33
- CHICAGO Daily news**  
Sunday News sale hits 2,000,000; Tribune's baby is growing up. *Sales Management* 33:448+ N 1 '33
- CHICAGO, Milwaukee, St Paul & Pacific railroad**  
Investor pays. M. Lowenthal. 406p \$2.50 Knopf '33  
Milwaukee road—aid to agriculture and industry in the great Northwest. *il map Ry Age* 93:sup119-21 D 3 '32
- CHICAGO, Rock Island & Pacific railway**  
Rock Island seeks further R.F.C. aid. *Barron's* 13:6 F 13 '33  
Rock Island to reorganize. *Ry Age* 94:871 Je 17 '33
- CHICAGO stock exchange**  
Rules  
Chicago stock exchange requires certified statements. *J Account* 55:321-2 My '33
- CHICAGO surface lines**  
\$242,000 surface line extension in Chicago. *Transit J* 77:229 Jl '33
- CHICAGO tunnel terminal corporation**  
Chicago's tunnel company seeks \$9,000,000 with which to enter the steam business. *il Arch Forum* 59:241 S '33
- CHICAGO university**  
University plant facilities. F. W. Reeves, F. J. Kelly and J. D. Russell. 154p Univ. of Chicago press '33  
Department of police administration  
Department of police administration of the University of Chicago. O. T. Schultz. *Nat Research Council Bul* 87:124-7 '32
- CHILD, Clement Dexter**, 1868-1933  
Sketch. E. Merritt. *Science* 78:377 O 27 '33
- CHILD labor**  
Child labor facts. 28p pa 25c National child labor com, 419 Fourth av, New York '32  
Junior employment problems under present industrial conditions. C. L. Lewis. *Monthly Labor R* 35:1269-72 D '32  
When children are injured in industry. 43p National child labor committee, 419 Fourth av, N.Y. '33  
Work records of minors out of school. *Monthly Labor R* 35:1080-2 N '32
- Great Britain**  
Hours of minors in unregulated occupations in Great Britain. *Monthly Labor R* 37:557-9 S '33  
Local committees for juvenile employment in Great Britain. *Int Labour R* 27:74-80 Ja '33  
Report of English committees on juvenile employment. *Monthly Labor R* 36:106 Ja '33  
Unemployment among English boys and girls. *Monthly Labor R* 35:1062-5 N '32
- New York (state)**  
Employed boys and girls in Rochester and Utica, New York. A. Channing. *U S Children's Bur Pub* 218:1-74 [bibliog p73-4] '33
- United States**  
Child labor shows increase. *Management Methods* 62:173 Ap '33  
Child workers in the United States, 1930. *Monthly Labor R* 35:1334-6 D '32  
Fifteenth census of United States, 1930; occupation statistics, children in gainful occupations. 61p Census bureau, Washington, D. C. '33  
Illegally employed minor and the workmen's compensation law. E. N. Matthews. *U S Children's Bur Pub* 214:1-226 '32
- Report of advisory committee on employment of minors in hazardous occupations. *Monthly Labor R* 35:1315-22 D '32  
Tangle on child labor. *Nation's Business* 21:82 N '33  
Trend of child labor in the United States, 1920 to 1931. *Monthly Labor R* 35:1322-33 D '32
- CHILD labor laws**  
Draft convention fixing the minimum age for admission of children to industrial employment. *Ann Am Acad* 166:202-4 Mr '33  
Lost amendment turns up again. *Forbes* 32:12-13 Jl 1 '33  
Status of proposed federal child-labor amendment. *Monthly Labor R* 37:556-7 S '33
- CHILD welfare**  
Kentucky White House conference on child health and protection (the ninth annual educational conference). Kentucky Univ Bureau of School Service *Bul v* 5, no 2:1-215 '32
- CHILDBIRTH**  
Maternal, fetal, and neonatal mortality among 1,815 hospitalized American Indians. E. B. Sterling. *Pub Health Rep* 48:522-35 My 19 '33
- CHILDREN**  
Normal absorption and excretion of lead; lead absorption and excretion in infants and children. R. A. Kehoe, F. Thamann and J. Cholak. *bibliog J Ind Hygiene* 15:301-5 S '33  
*See also*  
Child labor  
School children
- Care and hygiene**  
Effect of tropical sunlight on the development of bones of children in Puerto Rico. M. M. Eliot. *U S Children's Bur Pub* 217:1-122 '33
- CHILDREN'S libraries**  
Children's library; the Mary Richardson Hawley memorial library, New Britain, Conn.; views and plan. *Architecture* 68:45-6 Jl '33
- CHILDREN'S rooms**  
Houses are for children, too; with details of children's requirements. R. Leigh. *Am Arch* 142:39-42, 96 N '32
- CHILE**  
**Commerce**  
Chilean trade in nitrate and copper; the result of bad business policies. *Chem Age (Lond)* 28:51 Ja 21 '33  
Chile's trade decline. *Economist* 116:858 Ap 22 '33  
**Economic conditions**  
Chile in 1932. *Economist* 116:sup33 F 18 '33  
Chile's doubtful prospects; export surplus far below debt-service requirements. R. K. Martin. *Barron's* 12:11 N 28 '32  
Economic conditions in Chile; abstract of report. A. J. Pack. *Engineering* 135:466 Ap 28 '33  
Recovery in Chile? *Economist* 116:1179-80 Je 3 '33  
**Economic policy**  
Chilean government policy. *Economist* 116:176 Ja 28 '33
- CHILE saltpeter**. *See* Sodium nitrate
- CHIMNEYS**  
Chimney troubles and remedies. *diags Sheet Metal Worker* 24:213-14 Jl '33  
Correcting bad practice in chimney construction. F. D. Hartford. *diags Chem & Met Eng* 40:487 S '33  
Deterioration of domestic chimneys. J. E. Maconachie. *il Can Chem & Met* 16:270-4, 292-5 N-D '32  
Fire hazard of domestic heating installations. G. Q. Voigt. *pls U S Bur Stand J Research* 11:353-72 S '33  
Investigation of chimney performance. J. R. Moynihan. *il diags Sibley J* 47:3-15+, 27-32+, 43-60+ Ja-Mr '33  
*See also*  
Draft  
Heating  
Smoke prevention

**CHIMNEYS—Continued****Tables, calculations, etc.**

- Analysis of chimney-draft equations. J. C. Smallwood. *Mech Eng* 55:32-4 Ja '33  
 Chimney sizes; charts. Heat & Ven 30:42A-42B S '33

**Wrecking**

- Explosives demolish stack after other methods fail. E. F. Ward. *il Explosives Eng* 11:266-7 S '33  
 Smokestack brought to the ground by explosives. J. K. Walsh. *il Explosives Eng* 11:75 Mr '33  
 Stack felled by daring method; Hibernia works in Gelsenkirchen, Germany. *il Comp Air M* 38:4065 F '33

**CHIMNEYS, Brick**

- Collapsing brick stack damages power plant. *il Locomotive* 39:215-16 Jl '33  
 New unit for earthquake-proof reinforced brick masonry. *il Brick & Clay Rec* 82:127-8 Ap '33

**CHIMNEYS, Concrete**

- Reinforced concrete chimneys. J. Fertik. *Civil Eng* 3:577-8 O '33

**CHIMYL alcohol**

- Evidence from surface films on the constitution of batyl and chimyl alcohols. N. K. Adam. *Chem Soc J* p164-5 F '33

**CHINA**

- Chinese destinies. A. Smedley. 315p \$3 Vanguard press, New York '33  
 Some observations on the situation in China. R. M. Story. *Ann Am Acad* 168:110-17 Jl '33

**See also**

- Labor laws and leg- Railroads—China  
 islation—China Wages—China  
 Manchuria

**Commerce**

- China trade act, 1922 with regulations and forms. 27p U S Bur of foreign and domestic commerce, Washington '33  
 Monograph on some phases of the trade between the United States and China, 1880-1910. H. Ayres. 10p Chamber of commerce of the state of New York, 65 Liberty st, New York '32

**Economic conditions**

- China through the American window. J. Arnold, comp. 85p [bibliog p83-5] American chamber of commerce, Shanghai '32  
 China's economic emergence. G. Clark. *Ann Am Acad* 168:84-94 Jl '33  
 Foreign investments in China. C. F. Remer. 708p \$5 Macmillan '33  
 Land and labour in China. R. H. Tawney. 207p \$2.50 Harcourt '32  
 Western responsibility for the economic future of China and Japan. T. A. Bisson. *Ann Am Acad* 168:104-9 Jl '33

**Foreign relations**

- China and the West. P. S. Buck. *Ann Am Acad* 168:118-31 Jl '33  
 China's foreign relations, 1917-1931. R. T. Pollard. 416p \$3.50 Macmillan '33

**History**

- Huang Cheng; political measures taken to relieve a depression in ancient China. *Fortune* 8:16 S '33; Same. *Bankers M* 127:245-6 S '33

**Industries and resources**

- British engineers in China. C. A. M. Smith. *Elec R (Lond)* 113:551-2 O 20 '33

**Politics and government**

- Political movements in China. G. E. Sokolsky. *Ann Am Acad* 168:18-22 Jl '33

**CHINA clay. See Kaolin****CHINA grass. See Ramie****CHINA wood oil. See Tung oil****CHIRONOMIDAE**

- Experiences with well water in an uncovered reservoir. K. W. Brown. *Am Water Works Assn J* 25:327-40 Mr '33

**CHISELER (term)**

- Word "chiseler." *Comm & Fin* 22:741 Ag 23 '33

**CHLADNI plates**

- Diagonal symmetry in Chladni plates. R. C. Colwell. *il J Fr Inst* 215:169-77 F '33  
 Vacuum tube oscillator for Chladni plates. R. C. Colwell. *il Science* 76:547-8 D 9 '32

**CHLAMYDOMONAS**

- Chlamydomonas in storage reservoirs. S. Thomas and J. W. Burger. *Am Water Works Assn J* 25:991-9 Jl '33

**CHLORAL**

- Condensation of chloral with tolyl- and nitrophenyl-ureas. F. D. Chattaway, G. M. T. Kerr and C. G. Lawrence. *Chem Soc J* p30-2 Ja '33

**CHLORALOSES**

- Structure of the chloraloses, alpha and beta-glucochloraloses. A. White and R. M. Hixon. *Am Chem Soc J* 55:2438-44 Je '33

**CHLORAMINE**

- Chloramine treatment at the Chatham filtration plant. J. W. Mustard. *Am Water Works Assn J* 25:686-8 My '33

**CHLORAMINES**

- Study of the flax chloramines. M. M. Tschilkin. *il Melland* 5:249-51 N '33 (to be cont)

**CHLORANIL**

- Effect of the solvent on the potential of the chloranil electrode. B. O. Heston and N. F. Hall. *bibliog Am Chem Soc J* 55:4729-30 N '33

**CHLORATES**

- Rate of reaction between chlorate and sulfur dioxide in acid solution. A. C. Nixon and K. B. Krauskopf. *Am Chem Soc J* 54:4606-8 D '32

**CHLOREX. See Dichloroethyl ether****CHLORIDE of lime. See Bleaching powder****CHLORIDES**

- Aliphatic tertiary alcohols and chlorides containing the normal amyl group and the related olefins and their ozonolysis. F. C. Whitmore and F. E. Williams. *Am Chem Soc J* 55:406-11 Ja '33

- Chloride and sulfate in rain water. W. D. Collins and K. T. Williams. *bibliog Ind & Eng Chem* 25:944-5 Ag '33

- Liquid baths for heat treating—medium-temperature salt baths. W. P. Eddy, jr. *Iron Age* 130:721+, 882-3 N 10, D 8 '32

- Molten-salt method of heat storage and heat exchange; abstract. D. Brownlie. *Mech Eng* 55:49-50 Ja '33

- Reaction between acid chlorides and ethers in the presence of zinc chloride. L. P. Kyrides. *Am Chem Soc J* 55:1209-12 Mr '33

- Reaction between some acid chlorides and esters. L. P. Kyrides and M. N. Dvornikoff. *Am Chem Soc J* 55:4630-2 N '33

- Stability of diazo chlorides; influence of various substituents, temperature, and concentration. C. C. Snow. *bibliog Ind & Eng Chem* 24:1420-3 D '32

- Ternary systems constituted by mercuric chloride, water, and an alkaline-earth chloride or cupric chloride. H. Bassett and others. *Chem Soc J* p151-64 F '33

- Tertiary aliphatic alcohols and chlorides containing normal butyl groups. F. C. Whitmore and H. M. Woodburn. *Am Chem Soc J* 55:361-5 Ja '33

**See also**

- |                        |                    |
|------------------------|--------------------|
| Alkali metal chlorides | Magnesium chloride |
| Ammonium chloride      | Phosgene           |
| Calcium chloride       | Potassium chloride |
| Hydrochloric acid      | Salt               |
| Lead chloride          |                    |

**Analysis**

- Nephelometric determination of chloride. I. M. Koltzoff and H. Yutzy. *bibliog Am Chem Soc J* 55:1915-22 My '33

- Rapid micro method for the determination of chlorides in fluids. L. T. Fairhall and J. W. Heim. *Am Chem Soc J* 55:968-70 Mr '33



**CHLORIMINES**

Researches on chlorimines; a study of the reactions of certain ald-chlorimines with bases. C. R. Hauser and E. Moore. *Am Chem Soc J* 55:4526-30 N '33

**CHLORIN.** See Chlorines**CHLORINATION**

Acetylene polymers and their derivatives; the action of chlorine on divinylacetylene. D. D. Coffman and W. H. Carothers. *Am Chem Soc J* 55:2040-7 My '33

Acetylene polymers and their derivatives; the chlorination of the hydrochlorides of vinylacetylene. W. H. Carothers and G. J. Berchet. *Am Chem Soc J* 55:1628-31 Ap '33

Action of chlorine on *p*-tolueneearsonic acid under the influence of ultraviolet light and its chlorination with hypochlorous acid. C. S. Hamilton and W. N. King. *Am Chem Soc J* 55:1639-92 Ap '33

Action of chlorine upon the nitrophenylazoacetates. F. D. Chattaway and D. R. Ashworth. *Chem Soc J* p1143-6 S '33

Anisohydroxamyl chloride. C. R. Kinney and others. *Am Chem Soc J* 55:3418-24 Ag '33

Chlorinated paraffin. F. T. Gardner. *bibliog Ind & Eng Chem* 25:1211-12 N '33

Chlorination of iodophenols; *m*-iodophenol. S. Buchan and H. McCombie. *Chem Soc J* p2857-60 D '32

Chlorination of sodium benzoate; abstract, with discussion. J. C. Smith. *Soc Chem Ind J* (Chem & Ind) 52:467-8 Je 2 '33

Constitution of chlorinated coal; some notes on solvent extraction and coke formation. H. Kay and A. McCulloch. *il Soc Chem Ind J* 52:477-9T F 24 '33

Constitution of the chlorination products of benzanthrone. R. S. Cahn, W. O. Jones and J. L. Simonsen. *Chem Soc J* p444-9 Ap '33

Derivatives of dioxane. J. Böeseken, F. Tellegen and P. C. Henriquez. *Am Chem Soc J* 55:1284-8 Mr '33

Dielectric properties of chlorinated diphenyls. A. H. White and S. O. Morgan. *J Fr Inst* 216:635-44 N '33

Experiments on the Walden inversion; the displacement of hydroxyl by chlorine in the optically active ethyl  $\alpha$ -naphthylglycolates. A. McKenzie and E. R. L. Gow. *Chem Soc J* p705-14 Je '33

Monochlorination of *m*-nitrotoluene. W. E. Evison. *Soc Chem Ind J* 52:275T-6T Ag 25 '33

Naphthol studies; the chlorination of 1,5-dihydroxynaphthalene. A. S. Wheeler and W. J. Mattox. *Am Chem Soc J* 55:686-90 F '33

Photochemical studies; a further study of the chlorination of benzene. H. P. Smith, W. A. Noyes, Jr. and E. J. Hart. *bibliog diags Am Chem Soc J* 55:4444-59 N '33

Photochlorination of tetrachloroethylene in carbon tetrachloride solution. J. A. Leermakers and R. G. Dickinson. *diags Am Chem Soc J* 54:4648-57 D '32

Sterilizing mains; discussion. *Am Water Works Assn J* 24:1837-48 D '32

Study of the factors influencing the chlorination of Mitscherlich sulphite pulp. O. Kress and E. H. Voigtman. *bibliog diags Paper Tr J* 97:29-44 Ag 17 '33

See also

Coal—Chlorination

Rubber—Chlorination

Sewage disposal—

Chlorination

Water purification—

Chlorination

Wool—Chlorination

**CHLORINE**

Anomalous decomposition of ozone in the presence of chlorine. L. J. Heidt, G. B. Kistiakowsky and G. S. Forbes. *bibliog diag Am Chem Soc J* 55:223-31 Ja '33

Atomic chlorine and its reaction with hydrogen. W. H. Rodebush and W. C. Klingelhofer, Jr. *diags Am Chem Soc J* 55:130-42 Ja '33

Chlorine use increasing for cellulose extraction; Pomilio process. *Oil Paint & Drug Rep* 122:23 D 5 '32

Germicidal effectiveness of chlorine, bromine and iodine. T. D. Beckwith and J. R. Moser. *Am Water Works Assn J* 25:367-74 Mr '33

Isotopes of chlorine. E. R. Bishop and F. Allison. *Phys R* 44:419-20 S 1 '33

Modernization in chlorine handling. C. Leipold. *il Water Works & Sewerage* 80:322 S '33

New description and analysis of the arc spectrum of chlorine. C. C. Kiess. *U S Bur Stand J Research* 10:827-39 Je '33

Photochemical union of chlorine and hydrogen in the presence of oxygen, and the relative rates of formation of water and hydrogen chloride in illuminated mixtures of the three gases rich in oxygen. D. L. Chapman and J. S. Watkins. *Chem Soc J* p743-5 Jl '33

Photochemistry of mixtures of chlorine, oxygen and carbon monoxide. G. K. Rollefson. *Am Chem Soc J* 55:148-52 Ja '33

Use of aqueous solutions of chlorine and bromine for the production of the unshrinkable finish on knitted woolen goods. S. R. Trotman. *Soc Chem Ind J* 52:159T-63T Je 2 '33; Discussion. 52:164T, 544 Je 2, 30 '33

Variation with temperature of the continuous absorption spectrum of diatomic molecules. G. E. Gibson, N. S. Bayliss and O. K. Rice. *Phys R* 44:188-200 Ag 1 '33

See also

Bleaching

Chlorination

Halogens

Sewage disposal—

Chlorination

Water purification—

Chlorination

**Analysis**

Chlorine determination in coal. W. A. Selvig and F. H. Gibson. *Ind & Eng Chem Anal ed* 5:189-91 My 15 '33

Determination of sulfur and chlorine in gasoline. C. Wirth and M. J. Stross. *Ind & Eng Chem Anal ed* 5:85-7 Mr 15 '33

Ortho-tolidine test for chlorine. H. W. Adams and A. M. Buswell. *bibliog Am Water Works Assn J* 25:1118-36; Discussion. L. H. Enslow. 1136-9 Ag '33

**Manufacture**

Inception and development of electrolytic alkali manufacture. E. A. LeSueur. *Electrochem Soc Trans* 63 (preprint 30):315-22 My '33

**CHLORINE, Liquid****Manufacture**

Flowsheet of the electrolytic process for liquid chlorine, caustic soda and synthetic muriatic acid. *Chem & Met Eng* 40:466 S '33

Serving the Northwest with alkalis; Tacoma electrochemical co. J. H. Baker. *il Chem & Met Eng* 40:177-9 Ap '33

**Transportation**

Transport and fire hazards of liquefied gases. A. M. Cameron. *Soc Chem Ind J* (Chem & Ind) 52:789-91; Discussion. T. J. Dixon. 791-2 O 6 '33

**CHLORINE compounds**

Germanium; action of ammonia upon monochloromonomergermane and dichloromonomergermane. L. M. Dennis and R. W. Work. *Am Chem Soc J* 55:4486-9 N '33

**CHLORINE oxides**

Absorption spectrum of chlorine dioxide. Z. W. Ku. *il Phys R* 44:376-82 S 1 '33

Bromine sensitized photo-decomposition of chlorine dioxide. J. W. T. Spinks. *Am Chem Soc J* 55:428-9 Ja '33

Intensity distribution in a band system of symmetrical triatomic molecules. Z. W. Ku. *Phys R* 44:383-90 S 1 '33

**CHLORINS**

Studies in the chlorophyll series; the esters of chlorin *c*. J. B. Conant and K. F. Armstrong. *Am Chem Soc J* 55:829-39 F '33

Studies in the chlorophyll series; transformations establishing the nature of the nucleus. J. B. Conant and C. F. Bailey. *Am Chem Soc J* 55:795-800 F '33

**CHLORITES**

New bleaching agent. A. J. Hall. Textile Col 55:40 Ja '33

See also

Hypochlorites

**CHLOROACETANILIDE**

Photo-change of *N*-chloroacetanilide in various solvents. F. W. Hodges. Chem Soc J p240-6 Mr '33

**CHLOROACETIC acid**

Ionization constant of monochloroacetic acid, at 25°, from conductance measurements. B. Saxton and T. W. Langer. diag Am Chem Soc J 55:3638-45 S '33

**CHLOROACETYL iodide**

Studies on acid iodides; the cleavage of aliphatic ethers by acid iodides. E. L. Gustus and P. G. Stevens. Am Chem Soc J 55:378-86 Ja '33

**CHLOROAMINES.** See Amines; Chloramine**CHLOROANTHRAQUINONE**

Amination by ammonolysis; effect of inorganic salts. P. H. Groggins and A. J. Stirton. il plan Ind & Eng Chem 25:169-75 F '33

Amination by ammonolysis; effect of metal catalysts in ammonolysis. P. H. Groggins and A. J. Stirton. Ind & Eng Chem 25:46-9 Ja '33

**CHLOROBENZALDEHYDE**

Betti condensation; effect of substituents on the stability and optical rotation of the resulting amines. F. E. Ray and W. A. Moormaw. Am Chem Soc J 55:749-52 F '33

**CHLOROBENZALQUINALDINE**

Reversible addition of aromatic compounds to conjugated systems. R. C. Fuson, A. P. Kozacik and J. T. Eaton. Am Chem Soc J 55:3799-803 S '33

**CHLOROBENZANISOIN**

Benzoin reduction; the mechanism of ketone formation; the case of *m*-chlorobenzanisoins. S. S. Jenkins and E. M. Richardson. Am Chem Soc J 55:3874-9 S '33

**CHLOROBENZANTHRONE**

Constitution of the chlorination products of benzanthrone. R. S. Cahn, W. O. Jones and J. L. Simonsen. Chem Soc J p444-9 Ap '33

**CHLOROBENZENE**

Dispersion of the Kerr electro-optic effect in the short infrared spectrum. L. R. Ingersoll and W. R. Winch. diags Phys R 44:399-405 S 1 '33

**CHLOROBENZOIC acid**

Salting-out and salting-in of weak acids; the activity coefficients of the molecules of ortho, meta and para chlorobenzoic acids in aqueous salt solutions. A. Osol and M. Kilpatrick. Am Chem Soc J 55:4430-40 N '33

**CHLOROBENZOYL BENZOIC acid**

Studies in the Friedel and Crafts reaction; effect of size of aluminum chloride particles in the preparation of some keto acids. P. H. Groggins and R. H. Nagel. il Ind & Eng Chem 25:1083-5 O '33

**CHLOROBENZYL chloride**

Dipole moment and group rotation; the moments of the chloro- and nitrobenzyl chlorides and the effect of group separation. J. M. A. de Bruyne, R. M. Davis and P. M. Gross. bibliog Am Chem Soc J 55:3936-44 O '33

**CHLOROBENZYL phenols**

Chloro derivatives of benzyl phenols; some monochloro, dichloro and trichloro derivatives of ortho and para benzyl phenols. R. C. Huston and others. Am Chem Soc J 55:4639-43 N '33

**CHLOROBUTADIENE**

Acetylene polymers and their derivatives; dichloro-2,3-butadiene-1,3 and trichloro-1,2,3-butadiene-1,3. G. J. Berchet and W. H. Carothers. Am Chem Soc J 55:2004-8 My '33

Acetylene polymers and their derivatives; the preparation of orthoprenes by the action of Grignard reagents on chloro-4-butadiene-1,2. W. H. Carothers and G. J. Berchet. Am Chem Soc J 55:2813-17 Jl '33

**CHLOROBUTANE.** See Butyl chloride**CHLOROBUTYLBENZENE**

Action of aromatic alcohols on aromatic compounds in the presence of aluminum chloride; condensation of phenylpropylcarbinol and  $\alpha$ -chlorobutylbenzene with phenol. R. C. Huston and H. W. Strickler. Am Chem Soc J 55:4317-18 O '33

**CHLOROCINNAMIC acid**

Reversible addition of aromatic compounds to conjugated systems. R. C. Fuson, A. P. Kozacik and J. T. Eaton. Am Chem Soc J 55:3799-803 S '33

**CHLOROCRESOLS**

Bactericidal efficiency of chlorocresol and chloroxylenol. N. F. Rapps. Soc Chem Ind J 52:175T-6T Je 16 '33

Chloro derivatives of *m*-cresol. R. C. Huston and P. S. Chen. bibliog Am Chem Soc J 55:4214-18 O '33

**CHLOROCROTONIC acid**

Some errors inherent in the usual determination of the binary freezing point diagram. E. L. Skau and B. Saxton. bibliog J Phys Chem 37:183-96 F '33

**CHLORODESOXYBENZOLINS**

Grignard reaction in the synthesis of ketones; the preparation and characterization of a series of mono- and dichlorodesoxybenzols. S. S. Jenkins. Am Chem Soc J 55:2896-9 Jl '33

Grignard reaction in the synthesis of ketones; the preparation of a series of mono- and di-chlorodesoxybenzols. S. S. Jenkins and E. M. Richardson. Am Chem Soc J 55:1618-21 Ap '33

**CHLOROETHYL sulfides**

Influence of the sulphur atom on the reactivity of adjacent atoms or groups; aromatic side-chain and nuclear reactivity. G. Baddeley and G. M. Bennett. Chem Soc J p261-8 Mr '33

**CHLOROFORM**

Distribution of methylamine between water and chloroform and the existence of methylamine complexes of the metal-amine type. W. A. Felsing and S. E. Buckley. bibliog J Phys Chem 37:779-86 Je '33

Kerr's law at high field strengths. J. A. Hootman. diags Phys R 43:749-55 My 1 '33

Sorption of organic vapors by resinous and cellulosic materials. C. H. Winning and J. W. Williams. Am Chem Soc J 55:3560-9 S '33

**CHLOROFORMATES**

Rotatory powers of the chlorides produced by heating certain chloroformates in solvents. M. B. Harford, J. Kenyon and H. Phillips. Chem Soc J p179-81 F '33

**CHLOROIODOMETHANESULFONIC acid**

Complete optical resolution of chloroiodomethanesulphonic acid. J. Read and A. M. McMath. Chem Soc J p2723-7 N '32

**CHLOROISOCROTONIC acid**

Some errors inherent in the usual determination of the binary freezing point diagram. E. L. Skau and B. Saxton. bibliog J Phys Chem 37:183-96 F '33

**CHLOROLEPIDINE**

Condensation of anthranilic acid with 4-chloroquinoline and with 2-chlorolepidine. O. G. Backeberg. Chem Soc J p390-1 Ap '33

**CHLOROMETHANE.** See Methyl chloride**CHLOROMETHYLNAPHTHALENE**

Preparation of chloromethylnaphthalenes and 1:5-dimethylnaphthalene. A. R. Anderson and W. F. Short. Chem Soc J p485 My '33

**CHLOROMORPHIDE**

Catalytic hydrogenation of the halogenomorphides: dihydrodesoxymorphine-D. L. F. Small, K. C. Yuen and L. K. Eilers. Am Chem Soc J 55:3863-70 S '33

**CHLORONAPHTHALENE sulfonyl chlorides**

Certain dichloronaphthalenes and related intermediates. R. W. Beattie and F. C. Whitmore. Am Chem Soc J 55:1546-8 Ap '33

**CHLOROPHENOL**

Alkyl derivatives of halogen phenols and their bactericidal action; chlorophenols. E. Klarman, V. A. Shternov and L. W. Gates. bibliog Am Chem Soc J 55:2576-89 Je '33



**CHLOROPHENYL acetophenone**

Reactions of halogenated ketones; the action of potassium cyanide on desyl chloride. E. P. Kohler and F. W. Brown. *Am Chem Soc J* 55:4299-304 O '33

**CHLOROPHYLL**

Chemistry of chlorophyll. K. F. Armstrong. *Soc Chem Ind J (Chem & Ind)* 52:809-16 [bibliog p816] O 13 '33

Occurrence of decomposition products of chlorophyll; decomposition of chlorophyll in the digestive system of the cow. P. Rothenmund and O. L. Inman. *Am Chem Soc J* 54:4702-6 D '32

Studies in the chlorophyll series; the esters of chlorin e. J. B. Conant and K. F. Armstrong. *Am Chem Soc J* 55:829-39 F '33

Studies in the chlorophyll series; the position of the methoxyl group. J. B. Conant and E. M. Dietz. *Am Chem Soc J* 55:839-49 F '33

Studies in the chlorophyll series; transformations establishing the nature of the nucleus. J. B. Conant and C. F. Bailey. *Am Chem Soc J* 55:795-800 F '33

Über chlorophyll. H. Fischer. *Angew Chemie* 46:368 Je 24 '33

Why plants are green. *Sci Am* 148:332 Je '33

**CHLOROPICRIN**

Chlorpicrin injurious to greenhouse plants. G. H. Godfrey. *Science* 77:583 Je 16 '33

**CHLOROPLATINIC acid**

Separation and determination of the alkali metals using perchloric acid; perchloric acid and chloroplatinic acid in the determination of small amounts of potassium in the presence of large amounts of sodium. G. F. Smith and J. L. Gring. *Am Chem Soc J* 55:3957-61 O '33

**CHLOROPRENE**

Acetylene polymers and their derivatives; 1-alkyl-2-chloro-1,3-butadienes and their polymers. R. A. Jacobson and W. H. Carothers. *Am Chem Soc J* 55:1624-7 Ap '33

Effect of oxygen and water on polymerization of chloroprene. I. Williams and H. W. Walker. *diag Ind & Eng Chem* 25:199-202 F '33

Factors affecting rate of vulcanization of chloroprene plastic polymers. E. E. Bridgwater and E. H. Krissmann. *Ind & Eng Chem* 25:280-3 Mr '33

**CHLOROPROPYLDIMETHYLAMINE**

Quaternary ammonium salts from halogenated alkyl dimethylamines; the polymerization of gamma-halogenopropyl dimethylamines. C. F. Gibbs, E. R. Littmann and C. S. Marvel. *Am Chem Soc J* 55:753-7 F '33

**CHLOROQUINALDINE**

Condensation of anthranilic acid with 4-chloroquinaldine and with 2-chlorolepidine. O. G. Backeberg. *Chem Soc J* p390-1 Ap '33

**CHLORORESORCINOL**

Structure of x-chlororesorcinol. B. F. Clark. *Am Chem Soc J* 55:319-20 Ja '33

**CHLOROSULFIDES**

Monothioethylene glycol; aryl  $\beta$ -hydroxy- and  $\beta$ -chloro-ethyl sulphides. G. Baddeley and G. M. Bennett. *Chem Soc J* p46-8 Ja '33

**CHLOROSULFONIC acid**

Action of chlorosulphonic acid on phenol and p-cresol at low temperatures. G. N. Burkhardt. *Chem Soc J* p337-8 Ap '33

**CHLOROTOLUENE**

Benzyl chloride; precautions necessary in manufacture. P. Sors. *Chem Age (Lond)* 28:522 Je 10 '33

Certain factors concerning the preparation of benzyl chloride; abstract. H. S. King. *Can Chem & Met* 17:206 O '33

**CHLOROTOLUIDINE**

Chemical haematuria from handling 5-chloro-ortho-toluidine. A. N. Currie. *J Ind Hygiene* 15:205-13 Jl '33

**CHLOROTRIFLUOROMETHANE**

Behavior of dichlorodifluoromethane and of chlorotrifluoromethane in the electric discharge. N. V. Thornton, A. E. Burg and H. I. Schlesinger. *diag Am Chem Soc J* 55:3177-82 Ag '33

**CHLOROXYLENOL**

Bactericidal efficiency of chlorocresol and chloroxylenol. N. F. Rapps. *Soc Chem Ind J* 52:175T-6T Je 16 '33

**CHLORPICRIN**. See Chloropicrin**CHOCOLATE**

Chocolate and cocoa products, 1929 and 1931. *Food Ind* 5:51 F '33

See also

Cacao

**Manufacture**

Cocoa moth in its chemical aspects. L. E. Campbell. *Soc Chem Ind J (Chem & Ind)* 51:1058-9 D 23 '32; Abstract. *Chem Age (Lond)* 27:549-50 D 10 '32; Discussion. *Soc Chem Ind J (Chem & Ind)* 51:1059-60 D 23 '32; *Chem Age (Lond)* 27:550 D 10 '32

Hershey—the home of chocolate. C. H. Vivian. *il map Comp Air M* 38:4181-90 Ag '33

**CHOLESTEROL**

Chemistry of the sterols and bile acids. I. M. Heilbron and others. *Soc Chem Ind J (Chem & Ind)* 51:1061-3; 52:10-13 D 23 '32, Ja 6 '33

Cholesterol as soil for the growth of cancer. A. H. Roffo. *Science* 77:sup10 Ja 27 '33

Dehydrogenation of cholesterol. J. W. Cook and C. L. Hewett. *Soc Chem Ind J (Chem & Ind)* 52:451-2 My 26 '33

Factors giving rise to the abnormal iodine absorption number of cholesterol. J. O. Ralls. *bibliog Am Chem Soc J* 55:2083-94 My '33

Synthesis of compounds related to the sterols, bile acids, and oestrus-producing hormones; 1:2-cyclopentenophenanthrene. J. W. Cook and C. L. Hewett. *Chem Soc J* p1098-1111 Ag '33

**CHOLINE**

Basis for the physiological activity of -onium compounds; aryl ethers of choline. R. R. Renshaw and C. Y. Hopkins. *Am Chem Soc J* 55:1524-8 Ap '33

**CHOLINES**

Preparation and properties of n-alkyl ethers of  $\beta$ -n-alkylcholine salts. R. T. Major and J. K. Cline. *bibliog Am Chem Soc J* 55:2504-9 Je '33

**CHRISTIAN science publishing society**

Publications on Christian science move into new, modern plant. *il Inland Ptr* 91:63-4 S '33

**Library**

Planning the new library. B. L. Davenport. *Special Lib* 23:426-7 D '32

**CHRISTMAS**

Hazards of the holiday season. *Safety Eng* 64:264 D '32

**CHRISTMAS business**

Christmas stocking—and selling. *Business Week* p9-10 D 14 '32

Santa Claus comes down to earth. L. Dale. *Comm & Fin* 21:1453 D 21 '32

What Christmas means to next year's business. C. Hoskins. *Forbes* 30:6-7 D 1 '32

What the ice man can do to take advantage of the holiday season. L. S. Flint. *Refriger W* 67:12-14 D '32

See also

Christmas lighting

**CHRISTMAS clubs**

Christmas clubs have few members, but they can still release \$440 millions of purchasing power. *Business Week* p4 N 23 '32

See also

Consumers Christmas fund

**CHRISTMAS gifts**

For Fido's Christmas. *il Ptr Ink* 161:54 D 22 '32

No fancy cover for Mennen gift box. *il Ptr Ink* 165:98 N 2 '33

**Advertising**

For puzzled husbands; Westinghouse refrigerator Christmas campaign. *il Ptr Ink* 161:48-9 D 8 '32

**CHRISTMAS gifts—Advertising—Continued**

Messenger boys were the postmen in this direct-mail campaign; L. C. Smith & Corona typewriters, inc. T. Swanson. *il Ptd Salesmanship* 60:380-1+ *Ja* '33

**CHRISTMAS lighting**

Christmas lighting at Nela park. *Illum Eng Soc Trans* 28:100-1 *F* '33

Christmas lighting puts dollars into the electrical stocking. A. Paulus. *il N E L A Bul* 19:677-80 *N* '32

Make it a Merrie Xmas with electric lights; illustrations. *Elec W* 100:729 *N* 26 '32

**CHRISTMAS printing**

Typographic oddities; illustrations. *Inland Ptr* 90:50 *D* '32

**CHROMATOPHORES**

Why do we persist in talking about the expansion and contraction of chromatophores? F. B. Sumner. *Science* 78:283-4 *S* 29 '33

**CHROME dyes**

Fast chrome colors in wool printing. *Textile Col* 55:624-5 *S* '33

Improvements in the printing of chrome colors. G. von Niederhäusern. *Textile Col* 55:768-9 *N* '33

**CHROMITE**

British rustless steels from California ore, Darlington rustless steel & iron co. *il Iron Age* 132:18-19 *Ag* 10 '33

Le nickel et le chrome dans les colonies françaises. C. Berthelot. *il map Chimie & Ind* 29:718-23 *Mr* '33

Study of a group of typical spinels. C. W. Parmelee, A. E. Badger and G. A. Ballam. *diags Ill U Eng Exp Sta Bul* 248:1-54 '32

**CHROMITES**

Catalytic activity of chromites for the oxidation of carbon monoxide. E. C. Lory. *J Phys Chem* 37:685-92 *Je* '33

**CHROMIUM**

Half-dozen minerals used in chemical industry. F. L. Hess. *J Chem Educ* 10:560-4 *S* '33

Influence of crystalline fields on the susceptibilities of salts of paramagnetic ions; the iron group, especially Ni, Cr and Co. R. Schlapp and W. G. Penney. *Phys R* 42:666-86 *D* 1 '32

Selecting the right chrome ore. A. De Macedo. *Blast F & Steel Pl* 21:279-80, 335-6 *My-Je* '33

Wave-lengths of the silver, molybdenum, copper, iron and chromium K $\alpha$  lines. J. A. Bearden. *Phys R* 43:92-7 *Ja* 15 '33

**Analysis**

Indicators for determining chromium and vanadium in alloy steels; oxidized diphenylamine sulfonic acid and oxidized diphenylamine. H. H. Willard and P. Young. *bibliog Ind & Eng Chem Anal ed* 5:154-8 *My* 15 '33

New procedures for chromium and vanadium in alloy steels. H. H. Willard and P. Young. *Ind & Eng Chem Anal ed* 5:158-62 *My* 15 '33

Spectroscopic estimation of nickel, manganese and chromium in steels. F. Twyman and A. Harvey. *Iron & Steel Inst J* 126:397-407 *no* 2 '32; Same. *Engineering* 134:487-8 *O* 21 '32; Discussion. *Iron & Steel Inst J* 126:408-12 *no* 2 '32

**CHROMIUM alloys**

Many uses for chromium metal. *il Sci Am* 148:112-13 *F* '33

Wire for resistance furnaces. A. G. Arend. *Elec R (Lond)* 113:248 *Ag* 25 '33

*See also*

**Chromium steel** Iron alloys—Chromium alloys  
**Illium** Stellite

**CHROMIUM chlorides**

Ammines of chromous chloride. H. I. Schlesinger and E. S. Hammond. *Am Chem Soc J* 55:3971-6 *O* '33

Some new co-ordination compounds of chromic chloride. D. R. Chesterman. *Chem Soc J* p796-8 *Jl* '33

**CHROMIUM compounds**

Researches on ammines; dihydroxotetraminochromic hydroxide and its derivatives. H. J. S. King. *Chem Soc J* p520-3 *My* '33

**CHROMIUM manganese silicon steel**

Rivets have high tensile strength without excessive hardness; cromansil steels. A. E. Gibson. *il diags Steel* 93:27-9+ *O* 2 '33; Abstract. *Mech Eng* 55:639 *N* '33

**CHROMIUM molybdenum steel**

Abrasion-resistant castings. W. C. Hartmann. *Iron Age* 132:20-1 *Jl* 20 '33

Welding quality control in aircraft manufacture. P. N. Jansen and T. H. Speller. *il diags Am Mach* 77:651-5 *O* 11 '33

**CHROMIUM nickel steel**

Alloy modifications of 18-8. J. A. Mathews. *il Metal Prog* 24:13-17 *S* '33

Beer rumblings awaken interest in chrome-nickel steel for breweries. *Steel* 91:21 *D* 26 '32

Beer—what will it mean for steel? A. H. Allen. *il Steel* 92:11-12, 24-6 *Mr* 27 '33

Beitrag zur kenntnis der mechanischen eigenschaften grösster schmiedestücke. E. Maurer and H. Korsch. *il Stahl & Eisen* 53:271-5 *Mr* 16 '33

Cap of Peary monument made of 18-8 steel to withstand arctic exposure. *il Steel* 92:34 *Je* 5 '33

Chromium-nickel-iron castings from sulphite service. G. L. Cox and F. L. LaQue. *bibliog il Paper Tr J* 96:30-6 *My* 4 '33

Chromium steel for brewery equipment. H. D. Edwards. *il Refrig Eng* 26:192-4+ *O* '33

Chromium steels improved by nitrogen. R. Franks. *il Iron Age* 132:10-13 *S* 7 '33

Contribution to the study of the properties of austenitic steels. L. B. Pfeil and D. G. Jones. *Iron & Steel Inst J* 127:337-78 [bibliog p376-8] *pl* 25-26 *no* 1 '33; Same cond. *Engineering* 136:50-2 *Jl* 14 '33; Discussion. *Iron & Steel Inst J* 127:379-89 *no* 1 '33

Controlling nitric acid corrosion. R. Tull. *il Chem Markets* 32:43-4 *Ja* '33

Corrosion-resisting steel sinks formed in one operation. *il Steel* 92:26 *Ja* 30 '33

Corrosive resistance of stainless aircraft steels. E. L. Jacob. *il Aviation Eng* 8:8-10+ *My* '33

Cutting risers from chrome-nickel steel castings. R. B. Aitchison. *Mach* 39:479 *Mr* '33

Fabrication of 18-8 (and 15-10 in England). J. A. McWilliam. *il Metal Prog* 23:33-6 *Ja* '33

Metallic linings for digesters. W. C. Johnson. *il Paper Tr J* 96:33-5 *Mr* 9 '33

Milk station tanks, oxyacetylene welded, are of 18-8 steel. *il Steel* 93:25 *Jl* 10 '33

Nature and prevention of intergranular corrosion in austenitic stainless steels. E. C. Bain, R. H. Aborn and J. J. B. Rutherford. *bibliog il diags Am Soc Steel Tr Trans* 21:481-509 *Je* '33; Excerpts. *Steel* 92:21-3+ *Ap* 17 '33

Pulp and paper industry assumes leadership in use of alloys; chromium-nickel alloy castings. *Chem & Met Eng* 40:80-1 *F* '33

Rivets of 18-8 chrome-nickel steel finding use in hull construction. *Steel* 92:27 *Mr* 20 '33

Rustless steels in the German brewing industry. M. H. Sommer. *il Iron Age* 131:984-7 *Je* 22 '33

Some factors affecting the physical properties and corrosion resistance of 18-8 Cr-Ni steel wire; abstract. W. H. Wills and J. H. Findley. *Iron Age* 132:29 *O* 12 '33

To weld 18-8. E. J. W. Ragsdale. *il Metal Prog* 24:25-8 *Jl* '33

Über die ausscheidungshärtung von chrom-nickelstählen. *Zeit Ver Deutsch Ing* 76:1217 *D* 10 '32

Unusual applications of stainless alloys. C. C. Snyder. *il Iron Age* 131:895-6 *Je* 8 '33

*See also*

**Steel, Stainless**

**Testing**

Does the Krupp test forecast the life of 18-8? V. B. Browne. *il Metal Prog* 24:35-40+ *Jl* '33; Same. *Steel* 93:23-6 *Jl* 17 '33



**CHROMIUM nickel steel—Testing—Continued**

Effect of sulphur dioxide gas on alloys; chrome-nickel steels compared with brass, bronze, cast iron, and soft steel. G. H. McGregor and J. W. Stevens. Paper Tr J 97:40-1 N 2 '33

Einfluss eines geringen titanzusatzes auf baustähle. J. Arend and M. Lobe. *Il Stahl & Eisen* 53:604-6 Je 8 '33

Further studies on chromium-nickel-iron and related alloys. V. N. Krivobok and others. *Il Am Soc Steel Tr Trans* 21:22-60; Discussion. 60-72 Ja '33

Intergranular corrosion of 18/8 austenitic stainless steels. E. C. Rollason. bibliog diags *Iron & Steel Inst J* 127:391-414, pl 27-30 no 1 '33; Same cond. *Engineering* 135:689-91 Je 23 '33; Discussion. *Iron & Steel Inst J* 127:415-23 no 1 '33

Tests of regular and stabilized 18-8 alloy welds in sulphite liquor. bibliog *Il Paper Tr J* 97:29-34 Ag 31 '33

**CHROMIUM oxides**

Effect of hydrogen-ion concentration on the flocculation values of chromic and aluminum oxide sols. M. H. Bedford, W. H. Keller and J. L. Gabbard. bibliog *Am Chem Soc J* 55:3953-6 O '33

Equilibrium dehydrogenation of ethane, propane, and the butanes; catalyst from air-dried chromic oxide gel. F. E. Frey and W. F. Huppke. bibliog *diag Ind & Eng Chem* 25:54-9 Ja '33

See also

Chromite

**Analysis**

Determining aluminum, silicon and chromium oxides in corrosion-resisting steels. C. M. Johnson. *Iron Age* 132:24-5+ S 21 '33

**CHROMIUM platers guild of America**

New organization of chromium platers. *Metal Ind* 31:267 Ag '33; Same. *Platers' Guide* 29:10-11 Ag '33

**CHROMIUM plating**

Chromium plated screen plates and suction box covers. A. F. Francis. Paper Tr J 96:35-6 Je 8 '33

Chromium-plating; a new portable equipment for the electro-deposition of metals. *Il Soc Chem Ind J (Chem & Ind)* 52:837-8 O 20 '33

Chromium plating bath with the fluoride ion. A. Perlenfein. (*Engineering and science ser no. 39*) bibliog p27-9] Rensselaer polytechnic institute, Troy, N.Y. '33

Chromium plating finds new applications in the machine shop. N. H. McKay and C. F. Bonnet. *Il Mach* 39:576-9 My '33

Chromium plating from ammonium-chromate-sulfate baths. R. R. Rogers and J. F. Conlon. *Electrochem Soc Trans* 64 (preprint 27):319-24 S '33

Chromium plating on zinc; abstract. M. deK. Thompson and F. C. Jelen. *Metal Ind* 31:206 Je '33

Johnson tries chrome plated tools. J. R. Godfrey. *Am Mach* 77:20 Ja 4 '33

Über eine neue form von elektrolytisch abgeschiedenem chrom. B. Rassow and L. Wolf. *Angew Chemie* 46:141-2 Mr 4 '33

Utility of chromium plating in calico printing. J. B. Dick. *Am Dyestuff Rep* 22:305-9; Discussion. 309-10 My 8 '33

**Bibliography**

Chromium plating literature; abstracts of articles and reviews of books from 1920 to present time. L. H. Decke. *Brass W* 28:23-4, 47-8, 74-5, 100, 118-19, 184, 226, 245-6 F-Je, S, N-D '32 [cont as] *Platers' Guide* 29:19-20 Ja; 19-20 F; 19-20 Mr; 13-14 Ap; 9-10 My; 17- Je; 17, 20-1 JI; 12-14 Ag; 10-11 S; 13-14 O; 13-14 N '33 (to be cont)

**Patents**

Chromium; Fink patents pass final tests. *Business Week* p7 F 8 '33

Deny petition for rehearing in Fink chromium patent case. *Brass W* 28:222 N '32; Same. *Metal Ind* 30:474 D '32

Supreme court denies writ against United Chromium. *Metal Ind* 31:60 F '33

**CHROMIUM poisoning**

Health of chromium plating workers; abstract. H. B. Trumper. *J Ind Hygiene* 15:sup31 My '33

**CHROMIUM steel**

Chromium in steel castings; abstract. J. H. Critchett. *Iron Age* 131:991-2 Je 22 '33

Chromium steels improved by nitrogen. R. Franks. *Il Iron Age* 132:10-13 S 7 '33

Controlling nitric acid corrosion. R. Tull. *Il Chem Markets* 32:43-4 Ja '33

Heat-resisting steels of the present day. F. M. Becket. *Iron Age* 132:29+ Ag 3 '33

Low chrome steels with molybdenum and tungsten solving worst refinery problems. G. W. Johnson. *Nat Pet N* 24:29+ N 16 '32

Manufacture of stainless iron from ferrochromium, from scrap, or from ore. A. L. Feild. *Il Metal Prog* 23:13-17 F '33

New structural steel; Chromador. *Il Engineer* 155:188-9 F 24 '33; Abstract. *Steel* 92:24 Ap 10 '33

Performance of stainless steels; seamless tubes and architectural uses. M. A. Grossmann. *Iron Age* 132:19+ JI 20 '33

Properties of low-carbon medium-chromium steels of the air-hardening type; abstract and discussion. E. C. Wright and P. F. Numma. *Iron Age* 131:359+ Mr 2 '33

Stainless steel; lower court declares basic patent on chrome alloys invalid. *Business Week* p12 Mr 15 '33

Three per cent chromium steel castings combine toughness and hardness. *Steel* 92:20 Ja 9 '33

Titanium and columbium in plain high-chromium steels. F. M. Becket and R. Franks. *Iron Age* 132:20-2 O 26 '33; Excerpt. *Steel* 93:30 O 16 '33

See also

Chromium molybde-	Chromium nickel
num steel	steel
	Steel, Stainless

**Testing**

Corrosion resistance of iron-chromium alloys in various media; the salt spray test. W. B. Arness and J. N. Ostrofsky. *Il diag Am Soc Steel Tr Trans* 20:429-58 N '32; Abstract. *Iron Age* 130:837+ D 1 '32; Discussion. *Am Soc Steel Tr Trans* 20:458-63 N '32

Einfluss eines geringen titanzusatzes auf baustähle. J. Arend and M. Lobe. *Il Stahl & Eisen* 53:604-6 Je 8 '33

Hochlegierter chromguss als werkstoff im chemischen apparatebau. K. Roesch and A. Clauberger. *Il Chemische Fabrik* 6:317-20 JI 26 '33

**CHROMONE**

Synthetical experiments in the chromone group; a synthesis of 5:7:4'-trihydroxy-3':5'-dimethoxyflavone, believed to be identical with tricin. K. C. Gulati and K. Venkataraman. *Chem Soc J* p942-3 Ag '33

Synthetical experiments in the chromone group; derivatives of o-hydroxy-, 2:5-dihydroxy-, and 2:4:5-trihydroxyacetophenone. T. C. Chadha and K. Venkataraman. *Chem Soc J* p1073-6 Ag '33

**CHROMOSOMES**

Chromosome numbers in flax (linum). A. C. Dillman. *Science* 78:409 N 3 '33

Chromosomes of xiphophorus, platypoecilus and their hybrids during maturation stages. E. M. Ralston. *Science* 78:124-5 Ag 11 '33

Double staining by the Cajal-Brozek method. K. Hruby. *Science* 77:352 Ap 7 '33

Internal chromosomal variation and its probable cause. E. C. Jeffrey. *Science* 78:34-5 JI 14 '33

Methods of synthesizing pure-breeding types with predicted characters in the jimson weed; abstract. A. F. Blakeslee and A. D. Bergner. *Science* 76:571-2 D 16 '32

Primary and secondary 1n + 1 types, a new unbalance in the jimson weed; abstract. A. F. Blakeslee and others. *Science* 77:518 My 26 '33

Vicious circle in cytology. E. C. Jeffrey. *Science* 77:49-50 Ja 13 '33; Discussion. 77:260, 325-6 Mr 10, 31 '33

**CHRONOMETERS**

Harrison's first marine timekeepers. Engineering 135:306 Mr 17 '33  
 Keeping correct time on board ship, a vital factor in navigation. J. G. Bisset. il Marine R 63:41+ Ap '33

**CHRYSANTHEMUMS**

Photoperiodism and chrysanthemum production. E. J. Starkey. Science 76:594-5 D 23 '32

**CHRYSENE**

Experiments on the synthesis of substances related to the sterols; some derivatives of chrysene. G. R. Ramage and R. Robinson. Chem Soc J p607-10 Je '33  
 New route to chrysene and 1:2-benzanthracene. R. D. Haworth and C. R. Mavin. Chem Soc J p1012-16 Ag '33

**CHRYSLER corporation**

Advances at heavy cost. Econostat 1:14-15 Mr 25 '33  
 Overlooked improvement in sound companies. Mag of Wall St 52:386 Ag 5 '33  
 Spectacular Chrysler. Business Week p11-12 Jl 22 '33  
 Speculative audit; favorable and unfavorable factors affecting common-stock values. Barron's 13:14 O 30 '33

**CHRYSOTILE**

Cause of brittleness in chrysotile asbestos. N. D. Soboleff and M. V. Tatarinoff. bibliog Econ Geol 28:171-7 Mr '33  
 Chrysotile asbestos in the Bajenova district, U.S.S.R. W. A. RuKeyser. il maps Eng & Min J 134:335-9, 415-19 Ag, O '33  
 Mechanical cobbing of chrysotile asbestos. W. A. RuKeyser. flow sheet il Eng & Min J 134:235-7 Je '33  
 Problem of serpentinization and the origin of certain chrysotile asbestos, talc and soapstone deposits. H. H. Hess. il diags Econ Geol 28:634-57 N '33

**CHUCKING machines**

Cleveland model M six-spindle bar and chucking machines. il Am Mach 76:1205-6 D 7 '32

**CHUCKS**

Air-operated indexing chuck that cuts costs. I. F. Yeoman. il diags Mach 39:321-2 Ja '33  
 Brooke maxi-grip drill chuck. il Automobile Eng 23:301 Ag '33  
 Chuck for ring-gear blanks. A. L. Hartley. diag Am Mach 77:316-17 My 10 '33  
 Design and application of elliptic chucks. W. P. Willett. diags Mach 39:658-60 Je '33  
 Dual clamping collet chuck for precision work. A. L. Hartley. diag Mach 39:649 Je '33  
 Four-jaw pneumatic chuck with equalizing arrangement. G. L. Pyritz. diags Mach 39:316-17 Ja '33  
 Increasing the capacity of a lathe chuck. D. W. Allis. diag Am Mach 77:120-1 F 15 '33  
 Monarch centrodie device and oval chuck. il Am Mach 77:162-3 Mr 1 '33; Iron Age 131:439 Mr 16 '33  
 Pot chuck with combined centralizing and clamping feature. D. L. Brown. diag Mach 39:256 D '32  
 Replacing a faulty chuck. A. M. Wasbauer. diags Am Mach 77:731 N 8 '33  
 Self-equalizing chuck for work with irregular bores. N. P. Darash. diag Mach 39:394-5 F '33  
 Special spring chuck. C. F. Kraut. diag Am Mach 77:315-16 My 10 '33

**CHURCH, J. E. Jr.**

Snow-surveyor of the Sierras. S. Paine. por Sci Am 148:26-7 Ja '33

**CHURCH advertising**

Urges church to advertise. J. F. E. Nickelburg. Ptr Ink 164:93 Jl 27 '33

**CHURCH and labor**

Church in relation to the worker. W. Williams. Ann Am Acad 165:57-63 Ja '33  
 Protestant churches and the industrial crisis. E. B. Chaffee. 243p \$2 Macmillan '33

**CHURCH and social problems**

Catholic church and social questions. J. A. Ryan. Ann Am Acad 165:48-56 Ja '33  
 Functions of the church. W. H. Fineshriber. Ann Am Acad 165:64-71 Ja '33  
 Responsibility of the church in our new age. J. G. Machen. Ann Am Acad 165:38-47 Ja '33

**CHURCH architecture**

All Souls Unitarian church, New York city; views and plan. Arch Rec 73:24-8 Ja '33  
 Church architecture assumes new beauty in all-brick structure; St Matthew's Roman Catholic church, Auburn, R.I. il Brick & Clay Rec 82:90-1 Mr '33  
 Church of the Most Precious Blood, Astoria, New York city; views and plans. Am Arch 142:59-68 D '32  
 Clay products developing new trend in church architecture. il Brick & Clay Rec 82:166-7 My '33  
 Mathäi church at Düsseldorf; views and plans. Arch Forum 58:137-9 F '33  
 Methodist-Episcopal church, Knoxville, Tennessee; views and plans. Am Arch 143:73-8 Mr '33  
 Modern spirit enters contemporary church architecture. J. Hudnut. il Am Arch 142:12-17+ D '32  
 Portfolio of Gothic niches. il Architecture 68:301-16 N '33

See also

Cathedrals	Mortuary chapels
Chapels	Synagoges

**CHURCH building**

Tubular steel towers 52-ft. high carry stiff-leg derrick; stone-handling rig for erecting of Pittsburgh church. C. P. Streithof. il diags Eng N 110:521-2 Ap 27 '33

**CHURCH decoration and ornament**

Buff-colored concrete units produce beautiful church interior; used with monolithic concrete and rough quarry stone for economical exterior walls. il Concrete 41:7-8 F '33  
 Church of St Martin de Bichancourt, Alsne, France; decorations, walls and windows; views. Am Arch 142:28-9 N '32

See also

Pews  
 Reredos  
 Stained glass

**CHURCH kitchens. See Kitchens****CHURCH lighting**

Church of St John, Jersey City, N.J. il Illum Eng Soc Trans 28:221 Mr '33  
 Church of the nativity Blessed Virgin Mary, Philadelphia. il Illum Eng Soc Trans 28:478 Je '33  
 Gas floodlighting of parish church, Rothwell. il Gas J (Lond) 200:563 N 23 '32  
 Riverside church. il Illum Eng Soc Trans 27:688-9 N '32

**CHURCHES**

See also

Church architecture

**Heating and ventilation**

District steam heats First church of Christ, scientist, in Boston. R. M. Nee. diags plan Heat & Ven 30:36-8 Je '33

**Insurance requirements**

Committee reports on church cover in Rochester diocese. Nat Underw 37:1+ F 2 '33

**CHURCHILL, Manitoba**

Hudson Bay port; Churchill has failed to attract Canadian wheat shipments. Business Week p27-8 O 14 '33  
 Insurance a factor in Churchill crisis. Weekly Underw 129:890-1 N 11 '33

**CHUTES**

Conveying difficulties in a textile mill; uses of chutes and power scutes. G. L. Atkinson. diag Mech Handling 20:319-21 O '33  
 What metals to use in anthracite-breaker chutes. W. L. Keene and D. F. McFarland. il diag Coal Age 38:335-6+ O '33

**CIBA yellow**

Benzoyl derivatives of indigotin. E. Hope and D. Richter. Chem Soc J p2783-7 N '32



**CIDER**

Five ways to make better 3.2 cider. W. L. Marston. *il Food Ind* 5:358-9 S '33  
Problems of the cider maker. P. T. H. Pickford; V. L. S. Charley. *Soc Chem Ind J (Chem & Ind)* 52:742-5 S 15 '33

**CIENFUEGOS, Cuba**

Cienfuegos harbor has peculiar oddities. *Weekly Underw* 128:155 Ja 21 '33

**CIERVA, Juan de la, 1895-**

Presentation of 1932 Daniel Guggenheim medal. *Iron Age* 132:32C-32D Jl 6 '33

**CIGAR bands**

Cigar bands. *il Fortune* 7:76-7 F '33

**CIGAR box labels**

Atlas and the nudes; a portfolio of cigar-box art. *Fortune* 7:66-70 Mr '33

**CIGAR factories**

Management does something about the weather. L. K. Urquhart. *il Factory Management* 91:76-8 Mr '33

*See also*

Cigars—Manufacture

**Employees**

Effects on women of changing conditions in the cigar and cigarette industries. C. Manning and H. A. Byrne. *U S Women's Bur Bul* 100:1-184 '32

**CIGAR lighters**

Andrews finds new bonanza; 50,000 unit-a-day volume from \$5 to \$300 lighter. L. M. Hughes. *il Sales Management* 33:443+ N 1 '33

**CIGARET factories****Employees**

Effects on women of changing conditions in the cigar and cigarette industries. C. Manning and H. A. Byrne. *U S Women's Bur Bul* 100:1-184 '32

**Equipment**

Large uses of steel in small ways; cigarette machines. *il Steel* 92:30 Je 19 '33

**CIGARET machines**

Point-of-use display wins 3,000,000 sales in 10-month period; aids Target tobacco. *il Sales Management* 32:72 Ja 15 '33

**CIGARETS**

Camels—a hard times product that didn't have a chance. *Sales Management* 32:18+ Ja 1 '33

Cigarette companies look to Washington. J. H. Melhado. *il Barron's* 13:3, 7 Jl 24 '33  
Cigarette tar in cancer. *Sci Am* 148:245-6 Ap '33

Cigarettes. *Business Week* p10 My 3 '33  
Cigarettes in the 10-cent stores? *il Adv & Sell* 20:32 D 22 '32

New factors bid for cigarette profits. N. T. Calhoun. *il Mag of Wall St* 51:334-5+ Ja 7 '33

Tests made to determine means for reducing cigarette hazard; Bureau of standards believes that fire hazards can be cut by application of tips. *East Underw* 34:26 N 3 '33

What about private brand cigarettes? H. Deutsch. *il Adv & Sell* 20:18 Mr 30 '33

**Advertising**

Ad that set a fashion; Camel cigarette hat. *il Adv & Sell* 20:19-20+ Ja 19 '33

Advertising Wings. *Ptr Ink* 163:74 Ap 6 '33

Camel hat. *il Ptr Ink* 162:62 Ja 12 '33

Camels and magicians are still at it; "it's fun to be fooled" campaign. *il Ptr Ink* 163:10-12 Ap 6 '33

Embattled cigarettes. P. B. B. Andrews. *il Adv & Sell* 20:22-3 F 16 '33

Geared to the calendar; Spud seasonal advertising copy. E. J. Helke. *il Ptr Ink* 162:5 Mr 16 '33

He makes America sit up and buy; George Washington Hill. G. H. Allen. *il Forbes* 31:12-14 Ja 1 '33

Magicians make noisy protest at Camel campaign. *il Ptr Ink* 162:27-8 F 2 '33

New Camel campaign. *il Ptr Ink* 163:42 Je 29 '33

Piedmonts; the story of a once popular brand of cigarettes whose advertising was stopped. *il Ptr Ink* 162:52-3 F 9 '33

That new Camel campaign. *il Ptr Ink* 162:10+ Ja 19 '33

**Prices**

A.F.L. joins retailers to combat cigarette price-cutting by chains. *Sales Management* 32:442-3 Ap 20 '33

Another cigarette price cut. *Barron's* 13:19 F 13 '33

Cigarette-makers cut prices to aid sales. *Barron's* 13:20 Ja 9 '33

Cigarette strategy; 10c smokes up in volume, so 15c ones are going down in price. *Business Week* p4 Ja 11 '33

Cigarettes roll down. *Business Week* p13 F 22 '33

Going down! *Ptr Ink* 162:10+ F 16 '33

Slash cigarette prices to meet 10-cent competition. *Ptr Ink* 162:83 Ja 5 '33

Ten-cent cigarette growth arrested. *Barron's* 12:14 D 12 '32

Where there's smoke—chains raise Big 4 prices. *Business Week* p12 Mr 22 '33; Correction. p 13 Mr 29 '33

**Statistics**

Cigarette consumption off 8.72% in 1932. *Barron's* 13:20 Ja 30 '33

Demand curve for cigarettes. E. H. Schoenberg. *J of Business* 6:15-35 Ja 5 '33

Tobacco industry. *Index* 12:245-7 D '32

**CIGARS**

Cigar industry and the tariff under the general provisions of section 332, part II, title III, Tariff act of 1930. 24p U.S. Tariff commission, Washington '33

La Corona. *il Fortune* 7:74-7, 109-10 F '33

La Corona—native; Havana cigars made in Trenton, N.J. *il Business Week* p12 Mr 8 '33

Economic development of the cigar industry in the United States. W. N. Baer. 293p [bibliog p275-8] \$3.20 W. N. Baer, Landisville, Pa. '33

*See also*

General cigar company

**Advertising**

Adapting a quality theme to a price market: Admiration cigars. E. J. Regensburg. *il Ptr Ink* 163:44-6 Ap 20 '33

Advertising experience I found most interesting; Robert Burns and Owl cigars. F. J. Ross. *Ptr Ink* 163:33+ Ap 13 '33

Competitive copy not needed here; Bayuk built capacity cigar production without knocking other forms of smoking. A. J. Newman. *il Ptr Ink* 163:24-6 Je 29 '33

Consumer ballots determine copy theme for Van Dyck. L. M. Hughes. *il Sales Management* 33:153+ Ag 15 '33

Smokers set advertising theme of new 5-cent cigar; Van Dyck program; advertising follows distribution. A. M. Howe. *il Ptr Ink* 162:6+ Mr 9 '33

Uses deductive epigram; Habanero cigar. *il Ptr Ink* 164:78 Jl 6 '33

**Manufacture**

Cigar manufacturing industry. R. H. Mack. 140p [bibliog p116-19] \$2.50 Univ. of Pennsylvania press '33

Management does something about the weather; Henry Clay and Bock & co. cigar factory. L. K. Urquhart. *il Factory Management* 91:76-8 Mr '33

*See also*

Cigar factories

**Prices**

Cigars; a classic ten-center becomes a nickel cigar. *Business Week* p9 Ja 25 '33

**CINCHONA alkaloids**

Alkaloidal cuprichlorides; the specific precipitation by cupric chloride of cinchona alkaloids containing the vinyl group. A. Cohen. *Chem Soc J* p996-1000 Ag '33

## CINCINNATI, Ohio

## Bridges

- Concrete rigid-frame bridges for railroad loadings in Cincinnati. D. A. McGavren. il diags Eng N 111:526-8 N 2 '33
- Three-span continuous-truss railroad bridge, Cincinnati, Ohio. W. T. Ballard. diags plan Am Soc C E Proc 59:585-606 Ap '33; Discussion. 59:1373-4 O '33

## Railroads

- Aluminum details; the new Cincinnati union terminal. D. E. Hobbs. il Arch Rec 74:227-36 S '33
- Buses serve union terminal dedicated recently at Cincinnati. il Transit J 77:162+ My '33
- Cincinnati's new union railway terminal. il Eng N 111:524-6 N 2 '33
- Cincinnati's new union terminal now in service. W. S. Lacher; J. H. Dunn. il diags plans map Ry Age 94:575-90 Ap 22 '33
- \$41,000,000 funnel, which is the Cincinnati union terminal. il Fortune 7:72-6+ Je '33
- New Cincinnati union terminal has novel features. il Heating-Piping 5:337-40 Jl '33
- Seven great railroads build a union terminal. R. G. Skerrett. il Comp Air M 38:4134-40 Je '33
- Union terminal. front il diag plan map Arch Forum 58:453-78 Je '33

## Rapid transit

- Depot bus service; Cincinnati street railway inaugurates a special bus service. il map Elec Traction 29:144-5 My '33
- Improved power supply betters street railway service. J. A. Noertker. il Elec Eng 52:22-8 Ja '33
- Transit in Cincinnati. il Transit J 77:409 N '33

## CINDERS

- Development of a new type cinder catcher for the Hudson Avenue station. G. C. Cook. il diag Power 77:598-9 N '33
- Draft appliance reclaims cinders. il diags Ry Age 94:901-2 Je 24 '33; Same. Ry Mech Eng 107:288-9 Ag '33

## CINNABAR

- Mining and furnacing quicksilver ore; Parnell Hill mine of the Southwestern quicksilver company. N. H. Stearn. il maps Eng & Min J 134:22-4 Ja '33

## CINNAMATES

- Alkamine esters: novocaine analogs. M. T. Leffler and H. C. Brill. Am Chem Soc J 55:365-70 Ja '33
- Some alkamine esters of cinnamic acid and derivatives: novocaine analogs. H. C. Brill and C. F. Cook. Am Chem Soc J 55:2062-4 My '33

## CIRCLES

- Calculating the area of a sector between two circles. M. N. Clair. Civil Eng 3:172 Mr '33

## CIRCUS

- Circus boneyard of the late Diamond Billy Hall. il Fortune 7:12 Ap '33

## CITIES and towns

- Disappearing city. F. L. Wright. 90p \$2.50 William Farquhar Payson, New York '33; Review by H. S. Churchill. Arch Rec 73: sup12+ Ja '33

- Economic and social effects of urbanization. A. L. Pollard. Mech Eng 55:27-31+ Ja '33

## See also

- |                        |                    |
|------------------------|--------------------|
| Boroughs               | Municipal govern-  |
| City planning          | ment and other     |
| Market areas           | headings beginning |
| Metropolitan districts | Municipal          |
|                        | Rapid transit      |

## Growth

- City growth and decay revealed by census figures. H. W. Green. maps Eng N 110:187-90 F 9 '33
- Importance of the human factor in city planning; problems arising as a stationary state of population is approached. W. R. Tylor. il Mech Eng 54:831-6 D '32
- Population trends and the growth of cities. W. R. Tylor. Civil Eng 3:277-80 My '33

## United States

- American agricultural villages: 1930. I. Lorge. 133p American statistical assn, New York '33
- Metropolitan community. R. D. McKenzie. 352p \$3.50 McGraw-Hill '33
- Recent trends in city and country populations. W. R. Tylor. J Land & Pub Util Econ 9: 63-74 F '33
- Rise of the city, 1878-1898. A. M. Schlesinger. 494p \$4 Macmillan '33
- CITIES service company**  
Annual report, 1932. Gas Age 71:424 Ap 22 '33
- Cities Service trading sifted at federal hearing. Elec W 101:530 Ap 29 '33
- CITIZENSHIP**  
Building citizenship. R. O. Hughes. 709p, 39p Allyn and Bacon, New York '33
- Citizenship. A. Capper, ed. (Leadership ser. v 15) 350p Univ. society, inc, New York '33
- Citizenship training versus the education of men. T. Woody. Ann Am Acad 169:120-9 S '33
- Life insurance as a model for government. J. H. Finley. Ins Field (Life ed) 61:22 D 16 '32

## Study and teaching

- Educating for citizenship. G. A. Coe. 205p Scribner '32
- Educations for political citizenship. D. Snedden. 196p [bibliog p193-4] Teachers college, Columbia univ. press, New York '32

## CITRACONIC acid

- Studies on unsaturated 1,4-dicarbonyl compounds; aryl unsaturated 1,4-diketones and ketonic acids derived from citraconic and mesaconic acids, with particular reference to the  $\beta$ -[p-bromobenzoyl]-methylacrylic acids. R. E. Lutz and R. J. Taylor. Am Chem Soc J 55:1168-78 Mr '33

## CITRIC acid

- Increased acidity inhibits corrosion; application to canning prunes. E. F. Kohman and N. H. Sanborn. Ind & Eng Chem 25: 920-2 Ag '33
- Isolation and identification of the organic nitrogenous and non-nitrogenous compounds occurring in the Alaska pea; the presence of citric acid in the Alaska pea. S. L. Jodidi. Am Chem Soc J 55:4663-4 N '33
- Oxidation of citric acid. A. C. Kuyper. Am Chem Soc J 55:1722-7 Ap '33
- Study of the reactions between citric and acetylsalicylic acids. A. J. Dietzler and R. E. Nelson. Am Chem Soc J 55:1605-8 Ap '33

## CITRUS fruit

- Credit pressure may force fair prices. Forbes 31:6 My 1 '33
- I-inositol in citrus fruits. E. K. Nelson and G. L. Keenan. Science 77:561 Je 9 '33
- Manufacture, handling, and use of hydrocyanic acid; fumigation of California orchards. P. J. Carlisle. il Ind & Eng Chem 25:959-64 S '33
- Pectin studies; citrus pectin. A. G. Olsen. bibliog Ind & Eng Chem 25:699-703 Je '33

## Advertising

- Califlorida rivalry launches \$1,950,000 citrus promotion. Sales Management 31:490 D 1 '32

## CITY and country

- Menace of the municipal plant to the farmer. L. O. Whitsell. Pub Util 12:439-46 O 12 '33
- Recent trends in city and country populations. W. R. Tylor. J Land & Pub Util Econ 9: 63-74 F '33

## CITY halls. See Municipal buildings

## CITY planning

- Analytical charts of planned communities. Arch Forum 58:255-74 Ap '33
- Best laid plans of mice and men; abandonment of the McMillan plan of 1901 for the development of the Washington monument grounds. D. H. Gillette. il diag plan Am Arch 143:43-5 Mr '33
- Building the capital city of Australia. M. J. Moir. il Arch Rec 74:55-6 Jl '33
- Cleveland housing studies. W. R. McCornack. il map plans Arch Rec 73:150-3 Mr '33



## CITY planning—Continued

Determining community needs in advance. H. M. Lewis. *il diag Eng N 110:653-6 My 18 '33*

Disappearing city. F. L. Wright. 90p W. F. Payson, New York '32

Importance of the human factor in city planning; problems arising as a stationary state of population is approached. W. R. Tylor. *il Mech Eng 54:831-6 D '32*

Making and using city plans. R. V. Black. map *Civil Eng 2:753-5 D '32*

Minor street. H. S. Swan. *J Land & Pub Util Econ 9:297-305 Ag '33*

New opportunities for the engineer in city planning. D. H. Sawyer. *Civil Eng 3:516-18 S '33*

New Rome in an old setting. A. M. Hoffmann. *il Comp Air M 33:4147-9 Je '33*

Plan of Boston, Massachusetts; a capital city. A. C. Comey. *il maps Am Soc C E Proc 59:429-40 Mr '33; Discussion. 59:917-19 My '33*

Plan of Boulder City, Nevada. S. R. De Boer. *il plans Arch Rec 73:154-8 Mr '33*

Planned community. L. Mumford. *Arch Forum 58:253-4 Ap '33*

Planning for the small American city. R. V. Black. 90p pa \$1 Public administration service. 850 E. 58th st, Chicago '33

Planning London. *Economist 116:1120-1 My 27 '33*

Planning progress; abstract. T. Buckley. *Eng N 111:447-8 O 12 '33*

Practical city plan; what it should include. E. P. Arneson. *il Civil Eng 2:750-3 D '32*

Preventing disintegration of cities. H. Bartholomew. *il Civil Eng 3:259-62 My '33*

Queens Boulevard competition prizes. *il Arch Rec 73:432-7 Je '33*

St John town planning scheme. *Can Eng 63:26 N 15 '32*

Santa Barbara; the case for unified architecture. *il Arch Forum 59:84-5+ J1 '33*

Six aspects of town planning. S. L. G. Beaufoy. 94p P. S. King & son, ltd, London '32

Subdivision of land in San Mateo county, Calif. 78p San Mateo county planning commission. Redwood City, Calif. '32

Survey of Providence. R. I. F. L. Ackerman. *Arch Rec 73:316 My '33*

Time zoning as a preventive of blighted areas. K. Lonberg-Holm. *il Arch Rec 74:340-1 N '33*

Town and country planning. P. Abercrombie. 256p [bibliog p249-52] \$1.25 Holt '33

Value of planned city development; 24 years of progress under Chicago plan. H. E. Young. *il Civil Eng 3:503-5 S '33*

Water supply in relation to city and regional planning. M. Pirnie. *Water Works & Sewerage 80:189-91 Je '33*

*See also*

Airports	National conference
Building laws and regulations	on city planning
Community centers	Parks
Housing	Parkways
Industrial districts	Regional planning
Metropolitan districts	Roads—Superhighways
	Streets

## Zone system

Ottawa town planning program. *Can Eng 64:27 F 28 '33*

Transition zoning. A. C. Comey. 150p Harvard univ. press '33

## CIVIC centers. See Municipal centers

## CIVIL engineering

Airway engineering in the federal government. *il Eng N 110:309-11 Mr 9 '33*

American society of civil engineers' Chicago meeting. *Eng N 111:20-1, 51-3 J1 6-13 '33*

Big world engineering projects; outline of outstanding engineering achievements during 1932. *Can Eng 64:9-10 Je 6 '33*

Civil engineering and construction in the U.S. navy; Bureau of yards and docks. *il Eng N 110:368-71 Mr 23 '33*

Civil engineers' cost book. T. E. Coleman. 5th ed rev 312p Spon '31

Construction challenges chemical engineering talents. F. E. Schmitt. *Chem & Met Eng 40:23-6 Ja '33*

Engineering progress, 1932-1933. *Eng N 110:135-42 F 2 '33*

Public works are ably planned to serve the community. C. H. Paul. *il Eng N 110:661-3 My 18 '33*

Uses of electricity on the site of civil engineering works. G. T. Allcock. *Engineering 135:632 Je 9 '33*

*See also*

Airports	Mining engineering
Airways	Municipal engineering
Aqueducts	Piers
Arches	Piles and pile driving
Blasting	Pipe laying
Breakwaters	Pipe lines—Design
Bridges	Public works
Building	Railroad engineering
Canals	Reclamation of land
Cofferdams	Regional planning
Dams	Rivers—Regulation
Docks	Roads
Drainage	Sanitary engineering
Dredging	Sewerage
Drilling and boring (earth and rocks)	Soil mechanics
Dry docks	Steel construction
Earthwork	Strains and stresses
Embankments	Strength of materials
Excavation	Structural engineering
Filling	Subways
Flood control	Surveying
Foundations	Tunnels and tunneling
Highway engineering	Water supply engineering
Hydraulic engineering	Wharves
Irrigation	Wrecking
Lighthouses	
Marine engineering	
Metropolitan districts	

## Bibliography

Current periodical literature. Published in monthly numbers of Civil engineering

## History

Early years of modern civil engineering. R. S. Kirby and P. G. Laurson. 324p \$4 Yale univ. press, New Haven '32

## CIVIL engineers

New England's classic contributions to hydraulic science. C. W. Sherman. *N E Water Works Assn J 47:153-63 Je '33*

Professional problems and unemployment. *Eng N 110:169-70 F 2 '33*

*See also*

Moir, Sir Ernest William

## CIVIL service

Politics and civil service. L. D. White. *Ann Am Acad 169:86-90 S '33*

Public personnel problems and the depression. R. M. Gallagher. p199-215 pa 25c National municipal league, 309 E. 34th st, New York '33

Universities and the public service. T. H. Reed. *Ann Am Acad 169:144-52 S '33*

*See also*

Government employees

## Examinations

100 civil service examinations. 248p Pergande pub. co, Milwaukee, Wis. '33

## Great Britain

Whitley councils in the British civil service. L. D. White. 357p \$4.50 Univ. of Chicago press '33

## United States

Employment in executive civil service of the United States, September, 1932. *Monthly Labor R 35:1193-4 N '32* [cont monthly]

100 civil service examinations. 248p Pergande pub. co, Milwaukee, Wis. '33

## CIVIL service pensions

Civil service preference retirement, and salary classification laws. E. A. Lewis, comp. 129p Gov. ptg. office '33

**CIVIL service pensions—Continued**

Revised provisions for retirement of civil service employees. *Monthly Labor R* 37:38 J1 '33

**CIVILIZATION**

Introduction to western civilization. G. A. Hedger, ed. 851p \$3.50 Doubleday '33  
Modern theme. J. Ortega y Gasset. 152p \$2 W. W. Norton & co, inc, New York '33  
Philosophy of civilization. A. Schweitzer. 2d ed 2pts 105p, 288p pt 1 \$1.50; pt 2 \$4 Macmillan '32  
Rough road to civilization. W. A. Henke. 400p Grandview Press, La Crosse, Wis. '32  
This troubled world. J. Drinkwater. 105p Columbia univ. press '33  
We move in new directions. H. A. Overstreet. 284p \$3 W. W. Norton & co, inc, New York '33

*See also*

Education	Social problems
Industry	Social progress
Inventions	Society, Primitive
Progress	

**CLAIMS***See also*

Damages	Public utilities—
Insurance—Adjust-	Claims
ment of claims	Railroads—Claims

**CLAMER, Guillian H. 1875-**

A. F. A. awards Seaman gold medal. *por Foundry* 61:54+ Je '33; *Steel* 93:27 Ag 28 '33

**CLAMPS**

Combined locating and clamping fixture. F. W. Curtis. *diag Mach* 39:527-8 Ap '33  
Extension clamps for small-lot set ups; illustrations. A. E. Fristedt. *Am Mach* 77:268-9 Ap 26 '33  
Improved laboratory screw clamp. W. A. Sperry. *diags Ind & Eng Chem Anal* ed 5: 188 My 15 '33  
Jig with quick-acting clamp for drilling oil-holes in bearing stud. F. Server. *diags Mach* 39:717 J1 '33  
Lever arrangement for operating two opposed clamps simultaneously. H. Scriber. *diag Mach* 40:28 S '33  
Pneumatic clamp for the triple-valve shop. *il diags Ry Mech Eng* 106:463 N '32  
Pneumatic clamping in milling fixture design. F. W. Curtis. *diags Mach* 39:761-3 Ag '33  
Quick-acting jig clamp. J. G. Jergens. *diags Am Mach* 77:637 S 27 '33  
Universal drill press clamp. *diags Ry Mech Eng* 107:104 Mr '33

**CLARIFICATION**

Clarifying action of fuller's earth. M. E. Fogle and H. L. Olin. *bibliog il Ind & Eng Chem* 25:1069-73 O '33  
Considérations sur le procédé Teatini; les nouvelles bases de l'épuration. M. Pingris-Spriet. *Chimie & Ind* 30:41-4 J1 '33  
Sedimentation of fine particles in liquids; a survey of theory and practice. R. F. Stewart and E. J. Roberts. *Chem Age (Lond)* 29: 345-6; Discussion. 346-7 O 14 '33

**CLARK, George L. 1892-**

Grasselli medal awarded to Clark. *Oil Paint & Drug Rep* 122:15 O 24 '32; *Chemicals* 37:2 N 14 '32; *Soc Chem Ind J (Chem & Ind)* 51:943 N 11 '32

**CLARK, Robert Post, 1859-**

Sketch. *por Explosives Eng* 11:324-5 N '33

**CLARKSON, Thomas, 1864-1933**

Sketch. *Engineering* 135:417 Ap 14 '33

**CLASSIFICATION**

Anthropology; its library classification problems. F. P. Allen. *Special Lib* 24:90-3 My '33

Applied scientific management; organization and classification. K. Hathaway. *Taylor Soc Bul* 17:229-34 D '32

Architecture and the fine arts; some schemes and modifications. D. Morris. *Special Lib* 23:451-3 D '32

Catalogers' and classifiers' yearbook, number three 1932. 141p American library assn. Chicago '33

Classification of subject titles in engineering periodicals. S. W. Gibson. *Assn of Sp Lib & Inf Bur Proc* 1933:93-9

Colon classification. S. R. Ranganathan. 3 pts in 1 v 127p; 135p; 106p Madras lib. assn, Univ. lib, Triplicane, Madras, India; F. Goldston, ltd, 25, Museum st, London '33

Notes by a British librarian on the Library of Congress classification scheme. G. H. Bushnell. *Special Lib* 24:41-3 Mr '33

Organization of knowledge in libraries and the subject-approach to books. H. E. Bliss. 335p [bibliog p313-19] \$4 Wilson, H. W. '33  
Report on classification. *Special Lib* 23:445-7 D '32

Technical library; how a good system of classification saves time. F. C. Duffield. *Elec R (Lond)* 112:336 Mr 10 '33

What do you mean by practical classification? H. E. Bliss. *Special Lib* 24:35-7 Mr '33

**CLASSIFICATION, Decimal**

Cataloging of chemical engineering trade literature according to unit operations. F. C. Vilbrandt. *J Chem Educ* 10:354-5 Je '33

Co-operation in science. S. C. Bradford. *Engineer* 156:360-1 O 13 '33

International indexing of scientific and technical papers. S. C. Bradford. *Engineering* 135: 119-22 F 3 '33

International indexing; the twelfth conference of the International institute of bibliography. Brussels, July 18-20. *Engineering* 136:173 Ag 18 '33

Systematic subject indexes to periodical volumes. A. F. C. Pollard and S. C. Bradford. *Assn of Sp Lib & Inf Bur Proc* 1932:20-38; Discussion. 39-40

**CLASSIFICATION, Dewey decimal**

Decimal classification at Columbia university library. H. B. Prescott. *Special Lib* 23:413 N '32

Dewey classification and the special library. J. L. Thornton. *Lib J* 58:789 O 1 '33

New D. C.—a critical review. E. S. Radtke. *Special Lib* 24:37-40 Mr '33

**CLASSIFIERS**

Automatic hydraulic classifier. *il diags Engineering* 136:10-11 J1 7 '33

Geco classifier; improved efficiency claimed. *diags Eng & Min J* 134:302 J1 '33

Giant classifiers for Wright-Hargreaves. *il Eng & Min J* 134:440 O '33

Hardinge grinding and classifying unit. *il diags Rock Prod* 35:52 N 19 '32

Intermittent-raking drag classifier. *il plan Rock Prod* 35:25 D 10 '32

Proposed standard instrument for classification of papermaking fibers according to length. G. D. O. Jones and others. *il diag Paper Tr J* 96:29-36 Ap 27 '33; Same abstr. *Pulp & Pa of Can (Convention no)* 34:117-22; Discussion. H. B. McAdam. 124-6 [F] '33

Sedimentation of fine particles in liquids; a survey of theory and practice. R. F. Stewart and E. J. Roberts. *Chem Age (Lond)* 29:345-6; Discussion. 346-7 O 14 '33

Untersuchungsergebnisse an einer neuartigen stauchsieb-setzmaschine. T. Kopp. *diags Zeit Ver Deutsch Ing* 77:149-51 F 11 '33

*See also*

Air separators  
Screens

**CLAUDE, Georges**

Description et essais en usine d'un extracteur d'air, système Rateau devant être utilisé dans les appareils Claude-Boucherot. C. Monteil. *diags Soc Ing Civils Bul* 85:961-90, pl 210 J1 '32; Abstract. *Génie Civil* 101:556-8 D 3 '32

**CLAUSEN medal**

Address of acceptance. H. A. Wagner. *Prof Eng* 17:13 N '32

Clausen gold medal; address of appreciation of Herman A. Wagner. C. J. Ullrich. *Prof Eng* 17:6-7+ N '32

**CLAY**

Bearing power of clay is determinable. W. S. Housel. *Eng N* 110:244-7 F 23 '33



**CLAY—Continued**

Behavior of unstable or monotropic forms in the system alumina-silica and related systems. A. B. Peck. *il Am Cer Soc J* 16:68-75 Ja '33

Bleaching clay in water purification. G. D. Norcom. *il Water Works & Sewerage* 80:53-4 F '33

Bleaching clays. J. R. Baylis. *Water Works & Sewerage* 80:287-8 Ag '33

Clay in concrete. D. A. Parsons. *pl U S Bur Stand J Research* 10:257-73 F '33

Clay minerals. C. S. Ross and P. F. Kerr. *Am Cer Soc J* 16:57-8 Ja '33

Clay used as artificial turbidity to eliminate short filter runs. C. Leopold. *il Water Works & Sewerage* 80:304-5 Ag '33

Effect of mechanical pressure on the imbibitional and drying properties of some ceramic clays. A. E. R. Westman. *diags Am Cer Soc J* 15:552-63; 16:256-64 O '32, Je '33

Filtrol co. has unique fullers' earth substitute. *Oil Paint & Drug Rep* 122:23 D 19 '32

Influence of particle size distribution in clays on hand sheet and coating characteristics. R. D. McCarron and B. W. Rowland. *bibliog il Paper Tr J* 96:36-9 Je 1 '33

Lubricating oils in contact with clays; effect of time at elevated temperatures. V. A. Kalichevsky and J. W. Ramsay. *diag Ind & Eng Chem* 25:941-3 Ag '33

Nonmetallic industries in 1932. H. E. Nold. *Min & Met* 14:52 Ja '33

Some notes on the nature of clay. F. H. Norton and F. B. Hodgdon. *diags Am Cer Soc J* 15:191-205; 16:86-92 [*bibliog p91-2*] Mr '32, F '33

**See also**

Bentonite	Porcelain
Bricks	Pottery
Ceramics	Silicates
Fire clay	Silicon
Foundation soils	Slips (ceramics)
Fuller's earth	Soils
Kaolin	Terra cotta

**Deaeration**

De-airing clay. *il Chem & Met Eng* 40:270 My '33

De-airing stiff-mud bodies by means other than the vacuum method. H. R. Straight. *il Am Cer Soc J* 16:251-5 Je '33

Manufacturing sewer pipe with de-aired clay. C. R. Austin. *Brick & Clay Rec* 82:173, 176 My '33

Use of de-airing for clays and other plastic products. H. R. Straight. *il Chem & Met Eng* 40:410-13 Ag '33; Same abr. *Brick & Clay Rec* 83:125+- O '33

**Moisture content**

Water determination in raw clays. E. W. Zublin. *Nat Pet N* 25:36 S 13 '33

**See also**

Clay drying

**Testing**

Simple dispersion test for clays. H. Wilson and G. A. Page. *il Am Cer Soc J* 16:82-5 F '33

**Connecticut valley**

Late-pleistocene sequence in the Connecticut valley. R. F. Flint. *bibliog maps Geol Soc Bul* 44:965-88 O '33

**Georgia**

Shales and brick clays of Georgia. R. W. Smith. *map Am Cer Soc J* 16:36-44 Ja '33

**Idaho**

Composition and origin of certain commercial clays of northern Idaho. E. L. Tullis and F. B. Laney. *il map Econ Geol* 28:480-95 Ag '33

**Illinois**

Petrography of the fuller's earth deposits. Olmstead, Illinois, with a brief study of some non-Illinois earths. R. E. Grim. *il Econ Geol* 28:344-63 Je '33

**Indiana**

Clay resources of Indiana. G. I. Whitlatch. *Indiana Dept of Conservation Pub* 123:1-298 [*bibliog p263-7*] '33

Commercial underclays of Indiana. G. I. Whitlatch. *Am Cer Soc J* 16:45-53 Ja '33

**North Carolina**

Mineralogy of typical North Carolina clays and shales. W. L. Fabianic and N. H. Stolte. *Am Cer Soc J* 16:6-11 Ja '33

**Ohio**

Glass phase in Ohio heavy clays. *J Fr Inst* 216:111-13 Jl '33

**Pennsylvania**

Clay and shale resources in southwestern Pennsylvania. H. Leighton. *Pennsylvania Geol Survey Bul M* 17:1-190 '32

**United States**

Wide variety of bleaching clays in United States to satisfy the needs of petroleum refiners. P. G. Nutting. *Oil & Gas J* 31:14 Ja 26 '33

**CLAY drying**

Drying of solids; mechanism of drying of clays. T. K. Sherwood and E. W. Comings. *bibliog il Ind & Eng Chem* 25:311-16 Mr '33

Effect of mechanical pressure on the imbibitional and drying properties of some ceramic clays. A. E. R. Westman. *diags Am Cer Soc J* 15:552-63; 16:256-64 O '32, Je '33

Some notes on the nature of clay; drying shrinkage. F. H. Norton. *diags Am Cer Soc J* 16:86-92 [*bibliog p91-2*] F '33

Water movement in stiff-mud ware and its relation to drying. E. Lovejoy. *Am Cer Soc J* 16:405-11 S '33

**CLAY industries**

Clay business in public works fund lies in housing division. *Brick & Clay Rec* 83:122 O '33

Clay codes nearing final form; changes in structural clay products code. *Brick & Clay Rec* 83:116-17 O '33

Clay industry continues working on its codes. *Brick & Clay Rec* 83:80-2 S '33

Practical plant problems discussed at joint Ohio ceramic meeting. *Brick & Clay Rec* 82:206-7 Je '33

**See also**

Brick industry and trade	Fire brick
Brickmaking	Glazes
Clay products	Porcelain
	Pottery

**Statistics**

Clay products production figures reflect slump in construction; tabulation. *Brick & Clay Rec* 83:96+- S '33

36% drop in 1931 clay sales. *Brick & Clay Rec* 81:167 N '32

**Illinois**

Report of Illinois clay industry for 1932. *Brick & Clay Rec* 82:167-8 My '33

**CLAY industries federation**

Choose Clay industries federation as name of federated association group. *Brick & Clay Rec* 81:195 D '32

**CLAY mines and mining**

Clay mining methods and costs at the Cornuna (Mich.) pit of the Aetna Portland cement co. O. A. Dibble. *map U S Bur Mines Information Circ* 6657:1-7 '32; Same. *Rock Prod* 35:12-13 O 8 '32; Same cond. *Concrete (milli sec)* 41:40-2 Ja '33

Mining methods and accident prevention record at Hanley clay mine. C. T. Morrow. *il diag map Explosives Eng* 11:327-32 N '33

**CLAY modeling. See Modeling****CLAY products**

Dealer should not sell clay products! *Brick & Clay Rec* 81:202-3 D '32

Fabricated homes demand new products from clay products industry. O. W. Renkert. *Brick & Clay Rec* 82:21+- Ja '33

**CLAY products—Continued**

Return of beer building up market for clay products. *il* Brick & Clay Rec 82:122+ Ap '33

Sell the farmer clay products. *Brick & Clay Rec* 82:30 Ja '33

Trade names of clay products. *Brick & Clay Rec* 82:99; 83:61 Mr, Ag '33

*See also*

Brickmaking	Sewer pipes, Vitrified
Bricks	clay
Porcelain	Stoneware
Pottery	Terra cotta
	Tiles

**Manufacture**

Better clay products through evacuation. C. H. Vivian. *il* Comp Air M 38:495-8 Ap '33

De-airing clay. *il* Chem & Met Eng 40:270 My '33

Deutsche keramische gesellschaft, Berlin, 1933; fabrikationsfehler, ihre ursachen und vermeidung. *Angew Chemie* 46:553-5 Ag 26 '33

Electro-lubrication of clay-ware dies. J. O. Everhart. *Brick & Clay Rec* 82:97 Mr '33

Modern waste-heat tunnel driers. T. W. Garve. *diags Am Cer Soc J* 16:118-23 F '33

Use of de-airing for clays and other plastic products. H. R. Straight. *il* Chem & Met Eng 40:410-13 Ag '33; Same abr. *Brick & Clay Rec* 83:125+ O '33

*See also*

Clay products plants

**Testing**

Resistance to sudden temperature change of some bodies of the system talc-clay-mulite. R. M. King and C. L. Evans. *Am Cer Soc J* 16:360-2 Ag '33

**Transportation***See also*

Railroads—Rates—  
Clay products

**CLAY products plants**

Morgan crucible co. ltd. *il* Soc Chem Ind J (Chem & Ind) 52:680-1 Ag 18 '33

*See also*

Brick works	Terra cotta—Manu-
Potteries	facture

**Costs**

Computing clay plant costs. G. A. Mays. *Brick & Clay Rec* 82:161-2 My '33

**Equipment**

Abrasion-resistant castings. W. C. Hartmann. *Iron Age* 132:20-1 Jl 20 '33

Caring for pyrometers to give greatest service. R. C. Kennan. *Brick & Clay Rec* 82:174-5 My '33

Opportunities for using indicating and recording control instruments in the rock products industries. J. R. Withrow. *il* Rock Prod 35:20-3 N 5 '32; 36:32-5 F '33

Right metal for the right job is problem for refractories man. C. E. Bales. *Brick & Clay Rec* 83:22-3 Jl '33

Small dryer helps to check-up drying troubles. E. Pagett. *diag Brick & Clay Rec* 83:90-1+ S '33

Trockenanlage für keramische erzeugnisse. J. Schmarje. *diags Zeit Ver Deutsch Ing* 77:809 Jl 22 '33

Wear of metal in Muller tires in the clay industry; chrome-molybdenum alloy steel casting reveals longer performance qualities. J. Mayer. *Brick & Clay Rec* 81:168 N '32

Work for a profit in 1933 thru rehabilitation. *il* Brick & Clay Rec 82:10-16 Ja '33

**Management**

Some results of time studies in the manufacture of structural clay products. H. R. Straight. *il* Am Cer Soc Bul 12:248-52 Ag '33

Work for a profit in 1933 thru rehabilitation. *il* Brick & Clay Rec 82:10-16 Ja '33

**Power**

How and where to cut down the power bill. C. N. Witherow. *Brick & Clay Rec* 83:126-7+ O '33

CLAYCATURES. *See* Caricatures

CLAYTON, Sir George Christopher, 1869—Presentation to Sir Christopher Clayton. *Soc Chem Ind J* (Chem & Ind) 52:817 O 13 '33

**CLAYTON antitrust act**

Federal courts and organized labor, since the Clayton act. J. F. Christ. *J of Business* 5:47-75, 103-29, 283-300, 380-99; 6:62-82, 157-70, 247-61 Ja '32-Jl '33

CLEAN coal. *See* Coal supply—Clean coal

**CLEANING**

Biggest janitor; American building maintenance company. *Business Week* p15 Ja 18 '33

Dry cleaning in the home. T. E. Youngblood and E. V. Perigo. 26p Bureau of home dry cleaning, Evansville, Ind. '33

Glimpse of the dry cleaning industry; filtration and solvent recovery problems. *il* diag Chem Age (Lond) 28:453-4 My 27 '33

Mechanism of detergency; properties required in concentrated soap solutions. P. L. Mann. *Am Dyestuff Rep* 22:297-8 My 8 '33

Organic chemicals in the dry cleaning industry. *Chemicals* 38:4 Ja 23 '33

Overhead chain conveyors in a dry-cleaning factory. *il* plan Mech Handling 20:39-42 F '33

Study of the dry-cleaning bath. C. L. Bird. *Soc Dyers & Col J* 49:316-19 O '33

*See also*

Bleaching	Milk bottles—Clean-
Car cleaning	ing
Coal cleaning	Oil tanks—Cleaning
Dust removal	Soap
Dyes and dyeing	Street cleaning
Factories—Cleaning	Vacuum cleaners
Floors, Concrete—	Vegetables—Cleaning
Cleaning	Water pipes—Clean-
Laundry	ing
Metal cleaning	

**CLEANING compositions**

Disadvantages of the non-flammable solvents. W. Brown. *Chem Markets* 33:229-31 S '33

Dry-cleaning solvents. W. Brown. *Soc Dyers & Col J* 49:42-5 F '33; Excerpt. *Textile Col* 55:330 My '33

Gardinol and Brilliant Avicol products. A. G. Bruinier. *il* Textile Col 55:456-7 Jl '33

Gel formation in sodium metasilicate solutions. M. J. Prucha and C. A. Getz. *Ind & Eng Chem* 25:68-72 Ja '33

Mrs Buyer puts new paint cleaner on sale in 150 department stores. *Sales Management* 33:82 Jl 15 '33

New soapless soaps; Procter & Gamble introduces "Drift" for the household, duPont offers "Gardinol" to industry. *Business Week* p11 Ap 5 '33

Organic chemicals in the dry-cleaning industry. *Oil Paint & Drug Rep* 123:47+ Ja 9 '33

Recent developments in the application of the fat alcohol sulfates. S. Lenher. *Am Dyestuff Rep* 22:663-7; Discussion. 667 N 6 '33

Soapless detergents point the way to new trend in an old industry? *il* Chem & Met Eng 40:249 My '33

Study of the dry-cleaning bath. C. L. Bird. *Soc Dyers & Col J* 49:316-19 O '33

Sulfonated higher alcohols; new detergents. D. H. Killeffer. *Ind & Eng Chem* 25:138-40 F '33

*See also*

Metal cleaning  
Soap

**Advertising**

And now Socony cleaning fluid. *il* Ptr Ink 164: 20 Ag 10 '33

Concentrates on productive markets; B. T. Babbitt, inc. L. J. Gumpert. *il* Ptr Ink Mo 26:19+ My '33

Girls; bath tub rings; Bab-O. *il* Ptr Ink 162: 36 F 23 '33

Gold Dust tests economy appeal; new double-size package. *il* Ptr Ink 162:6 Mr 16 '33

Old Dutch shows appreciation. *il* Ptr Ink 162: 33 Mr 9 '33



**CLEANING machinery**

Green and son non-inflammable solvent dry-cleaning machine. *il* *diag*s Engineering 136: 295-6 S 15 '33  
Service equipment company's degreaser. Engineer 156:18 JI 7 '33

*See also*

Washing apparatus  
Washing machines

**CLEANLINESS**

Automotive good-housekeeping. S A E J 32: 137 Ap '33  
What about your hands? S. R. Benedict. Nat Safety N 26:15-16+ D '32

*See also*

Factories—Clean-  
liness      Foundries—Clean-  
liness

**CLEARING houses**

The answer—regional clearinghouses. W. K. Payne. Am Bankers Assn J 25:22+ Ap '33  
Clearinghouse examinations. Am Bankers Assn J 26:70 N '33  
Code to strengthen banking. *il* Business Week p16-17+ O 7 '33  
Federal clearing-houses; proposed plan. E. H. Youngman. Bankers M 126:311 Ap '33  
Regional clearinghouses; public confidence. W. F. Ploch. Am Bankers Assn J 25:24+ Ja '33

*See also*

Bank clearings      New York clearing  
Banks and banking      house  
Chicago clearing  
house

**CLEARING of land**

P. and H. stump puller. *il* Engineering 135: 475 Ap 28 '33

**CLEPSYDRA. See Water clocks****CLERGY**

Experiments with family allowances in the Church of England. Monthly Labor R 35: 1357 D '32

**CLERK, Sir Dugald, 1854-1932**

Sketch. *por* Engineering 134:601-3 N 18 '32;  
Engineer 154:515-16 N 18 '32; Automotive Ind 67:755 D 10 '32

**CLEVELAND, Ohio**

City growth and decay revealed by census figures. H. W. Green. maps Eng N 110:187-90 F 9 '33

Cleveland housing studies. W. R. McCornack. *il* map plans Arch Rec 73:150-3 Mr '33  
Cleveland knows; city-wide inventory of real estate. Business Week p22-3 Ag 5 '33

Nation's proving ground for big-scale housing will probably be Cleveland. Arch Forum 58: 521 Je '33

Use of census tracts in analyzing the population of a metropolitan community. H. W. Green. Am Statis Assn J 28:sup147-53 Mr '33

**Architecture**

Cleveland museum of art; views and plans. Architecture 68:261-8 N '33

**Bridges**

Cleveland again bridges Cuyahoga valley; Lorain-Carnegie bridge. *il* *diag*s Eng N 109: 747-9 D 22 '32

**Railroads**

Operation of 3,000-volt locomotives on the Cleveland union terminals electrification. F. H. Craton and H. W. Pinkerton. *il* Elec Eng 52:96-9 F '33

**CLEVELAND college**

Occupations of students of Cleveland college for adults. Monthly Labor R 36:806-7 Ap '33

**CLIFF dwellers**

Cliff-dwellers of 1000 A.D. as underpinning experts; what the inhabitants of Pueblo Bonito did to prevent destruction of their city by a great rock. J. B. Hamilton and F. A. Kittredge. *il* *diag*s Eng N 110:774-5 Je 15 '33

**CLIMATE**

Climate; a handbook for business men, students and travelers. C. E. P. Brooks. 2d ed rev 1939 E. Benn Ltd, London '32

Climate changes and the last glacial period. W. M. Davis. Science 77:sup9 Mr 10 '33

Climate in the United States. O. W. Armspach. Refrig Eng 24:273-6+ N '32; Same. Heat & Ven 29:26-9 D '32

Climatic factors in the development of civilization in Russia. E. Huntington. Science 77:sup7 F 17 '33

Fundamentals of climate. D. C. Ridgley and C. E. Koeppe. 63p [bibliog p63] McKnight & McKnight, Bloomington, Ill. '32

St Louis center of cooling belt, survey indicates. maps Heating-Piping 5:346-7 JI '33

*See also*

Atmospheric temperature      Paleoclimatology  
Meteorology      Rain and rainfall  
Weather

**CLINICS, Dental. See Dental clinics****CLINKERS, Cement**

High early strength with wet grinding. Concrete (mill sec) 41:35 O '33

**CLIPPER ships**

Cutty Sark, the last of the famous tea clippers. C. N. Longridge. 2v ea \$2.50 Spon '33

**CLOCKS**

*See also*

Water clocks

**Manufacture**

Health aspects of radium dial painting; occupational environment. J. J. Bloomfield and F. L. Knowles. bibliog *il* J Ind Hygiene 15:368-82 S '33

**CLOCKS, Electric**

Adjustment of groups of electric clocks. *diag* Electrician 111:45 JI 14 '33

Advertising clocks; a novelty on Paddington station and a hoarding unit at Singapore. *il* Electrician 111:458 O 13 '33

Chronoscope clock for Paddington station. *il* Engineer 156:315-16 S 29 '33

Electrical clock at Merton college, Oxford. *il* Engineer 156:157 Ag 18 '33

Electricity in the home; electric clocks. *il* Elec R (Lond) 113:505 O 13 '33

Gearless electric clock. T. R. Robinson. *il* Elec R (Lond) 113:43 JI 14 '33

Heston air port clock. *il* Engineer 155:151 F 10 '33

Heston air port clock. T. R. Robinson. *il* Elec R (Lond) 112:554 Ap 21 '33

Mammoth electric clock on the Eiffel tower, Paris. *il* Elec R (Lond) 113:244 Ag 25 '33

Marking of imported clocks. Elec R (Lond) 113:158 Ag 4 '33; Electrician 111:159 Ag 4 '33

Master frequency clock with automatic wireless check. *il* Electrician 109:695 N 25 '32

Merton college bells. *il* Electrician 110:574 Ap 23 '33

Modern electric clocks. S. F. Philpott. 212p \$2.25 Pitman '33

Precise timing of sporting events. C. H. Fetter and H. M. Stoller. *il* *diag* Elec Eng 52: 386-91 Je '33

Radio receiver clocks; useful adjunct to a wireless set. *il* Electrician 111:475 O 20 '33

Robot clock announces time from the Paris observatory. E. Esclancon. Science 77: sup11-12 My 26 '33

Timekeeping at Paddington. T. R. Robinson. *il* Elec R (Lond) 113:416 S 29 '33

U. S. court rules against Telechron. Business Week p12 F 1 '33

**Advertising**

How a quality story meets cut-price competition; to consumers and trade, Telechron tells good, hard facts. W. K. Opydyke. *il* Ptr Ink 164:17-20 JI 6 '33

Humorous drawings of great Dr. Seuss feature covers of Telechron house organ. W. K. Opydyke. *il* Ptd Salesmanship 61:84-5 Ap '33

**CLOSED banks.** See Bank crisis, 1933; Bank failures

**CLOSETS**

Adjustable fittings for children's closets; diagrams. C. R. Ramsey and H. R. Sleeper. Am Arch 142:42 N '32

**CLOTH analysis.** See Textile fabrics—Analysis

**CLOTHES** dryers. See Drying apparatus—Clothes

### CLOTHING, Protective

Protective clothing; abstract. W. P. Biggs. Safety Eng 66:129 O '33

See also

Hats, Protective  
Miners—Clothing  
Shoes, Safety

### CLOTHING and dress

Effect of clothing on the rate of cooling of the body. W. S. Weeks. J Ind Hygiene 15:383-6 S '33

See also

Costume	Shirts
Hats	Textile fabrics
Hosiery	Underwear
Neckties	Uniforms

### Children

Children's knitwear. il Textile World 83:732 Ap '33

### Repair

2,000 garments were salvaged by repairers; art of invisible weaving. il Weekly Underw 128:493-4 Mr 11 '33

### CLOTHING trade

Sales help that the dealer asks for; Kuppenheimer informal booklet of selling facts. M. M. Lebensburger. Ptr Ink 165:27-8 O 19 '33

Shop check list; clothing stores. F. A. Pawley. Arch Forum 58:386-7 My '33

Tell 'em and sell 'em; Hart Schaffner & Marx booklet for dealers' salesmen. Ptr Ink 162:62 F 2 '33

Will men's summer fashions click? Forbes 31:9-10 Je 1 '33

See also

Dry goods	Shirts
Hosiery trade	Underwear
Men's furnishing goods	

### Accounting

Some aspects in accounting for manufacturers employing contractors. J. D. Kahn. J Account 56:17-30 Jl '33

### Advertising

Cutting out frills to meet today's selling needs; straightforward mail announcement substituted for more spectacular type of advertising; Kuppenheimer & co. M. M. Lebensburger. Ptr Ink 164:96-7 S 28 '33

Dealer builds his own advertising with a tool-kit; new Hart Schaffner & Marx plan. Ptr Ink 161:80 D 8 '32

English custom clothes; drawings by George Howe. Ptd Salesmanship 61:100-1 Ap '33

Glamour; drawings by Robert L. Leonard. Adv Arts p25-9 Jl '33

Importance of recognition value in advertising; Rogers Peet company. R. M. Ferns. il Ptr Ink 165:72-3+ N 9 '33

Ladies of the camera. A. R. Barkley. Ptd Salesmanship 61:34-5 Mr '33

Salesmanship in wood; Society brand suits of Tyburn Twist fabric. il Ptr Ink 162:62 Mr 16 '33

This four-page letter will sell suits to every man in your town now! il Inland Ptr 90:37-40 F '33

See also

Advertising copy—  
Fashion appeal

### Labor conditions

Coats and suits; summary of code. Monthly Labor R 37:523-7 S '33

Connecticut sweatshops; needle-trades employers escape New York's unions and labor laws by moving to metropolitan suburbs. Business Week p20+ Ja 11 '33

Growth of sweatshop conditions during the depression. Monthly Labor R 36:500-2 Mr '33

Hours and earnings in the men's clothing industry, 1930 and 1932. Monthly Labor R 36:350-60 F '33

Men's clothing industry; summary of code. Monthly Labor R 37:547-50 S '33

See also

Garment workers  
Shirt factories—Employees

### United States

Clothing deflation. Business Week p8 D 7 '32

Employment gains expanding clothing output and sales. Dun & Bradstreet 41:18-20 O '33

Garment industries. Business Week p7 Jl 22 '33

Men's clothing trade slow to advance. Dun & Bradstreet 41:40-2 Ap '33

Seller's market! with the help of NRA and a few strikes. Business Week p26-7 S 16 '33

### CLOUDS

Cloud formation and its effect upon gliding. G. T. Walker. il diags Roy Aeronautical Soc J 37:657-76; Discussion. 676-80 Ag '33

Clouds in the stratosphere. A. Thomson. Science 77:sup9 Ja 27 '33

Penetration of clouds and fog by infra-red rays. Science 76:sup9 N 18 '32

### CLOVER

Flotation removes noxious weed seeds from clover. Comp Air M 38:4065 F '33

**CLUB** idea in advertising. See Advertising—Children, Appeal to

### CLUBHOUSES

Anslay Park golf club, Atlanta, Georgia; views and plans. Arch Forum 58:57-9 Ja '33

Cosmopolitan club, New York; views and plans. Am Arch 143:23-30 My '33

Katharine house, New York city; views and plans. Arch Rec 73:185-7 Mr '33

Tokyo golf club; views and plans. Arch Rec 73:42-7 Ja '33

Union: mother of clubs. il Fortune 6:44-7, 100, 103 D '32

### CLUBS

See also

Union club, New York city

### CLUTCHES

Ajax quick-acting multiple-disc air clutches. il Mach 40:169-70 N '33; Automotive Ind 69:527 O 28 '33; Iron Age 132:27 N 16 '33

Automatic load-adjusting power-transmission clutch, made by the British Rema mfg. co. diags Engineering 135:88 Ja 20 '33

Design and application of roller friction clutches. W. P. Willett. diags Mach 39:510-14 Ap '33

Fitting motors and clutches to high-inertia loads. R. S. Elberty. il Elec W 101:92-4 Ja 21 '33

Friction gear drive that prevents overload. F. W. Curtis. diags Mach 39:518-19 Ap '33

G-O-B engineering co.'s clutch prevents overloads on machine or motor. il Iron Age 131:sup14 Ap 6 '33

Kelpo free-wheeling clutch. il Am Mach 77:128 F 15 '33

Lindsay automatic centrifugal clutch. diags Engineer 156:364 O 13 '33

Overload release clutch for rotating members. E. Niederer. diags Mach 39:641 Je '33

Pulvis clutch. diags Engineer 154:597 D 9 '32; Automobile Eng 23:95 Mr '33

Remodeling a friction clutch to prevent over-running. E. Bengston. diags Mach 39:384-5 F '33

Taylor brothers toggle-operated disc-type friction clutch. diags Engineering 135:292 Mr 10 '33

See also

Automobiles—	Motor trucks—
Clutches	Clutches

### CLUTCHES, Magnetic

Briggs mfg. co. finds magnetic clutches cut maintenance and accident cost. il Iron Age 131:sup12 My 18 '33

Magnetic clutch for power transmission. il diags Engineering 135:660 Je 16 '33

Magnetic clutch measures only 3 in. in diameter. il Iron Age 131:911 Je 8 '33

Magnetic safety-type clutch opened magnetically. il Iron Age 132:43 S 28 '33



**CLUTCHES, Magnetic—Continued**

- Payne magnetic clutch has radial grooves in driven disk. *il diag Automotive Ind* 69:93 J1 22 '33  
 Tag magnetic clutch flow controller. *il Oil & Gas J* 31:74 F 9 '33

**COAGULATION**

- Ionic interchange in sulphur sols; the influence of acids. T. R. Bolam and J. J. Muir. *Chem Soc J* p1022-8 Ag '33  
 Ionic interchange in sulphur sols; the lyotropic series and the mechanism of coagulation. T. R. Bolam and G. Bowden. *diags Chem Soc J* p2684-94 N '32  
 Migration studies with colloids. F. Hazel and D. M. McQueen. *J Phys Chem* 37:553-82 [bibliog p570, 582] My '33  
 Nature of coagulation, viscosity, and thixotropy in colloidal systems. S. S. Kistler. *il J Phys Chem* 36:2948-66 D '32

**COAL**

- Accounting for anthracite's superiority to sand as a filter medium. H. G. Turner and G. S. Scott. *il Water Works & Sewerage* 80:330-1 S '33  
 Both technical and economic papers on coal program, A.I.M.E. annual meeting. *Min & Met* 14:139-40 Mr '33  
 La chimie et technologie des combustibles solides. D. J. W. Kreulen. *Chimie & Ind* 28:1011-17 N '32  
 Compressibility and bearing strength of coal in place; tests of lateral compression of Pittsburgh coal bed. H. P. Greenwald, S. Avins and G. S. Rice. *pl U S Bur Mines Tech Pa* 527:1-12 '33  
 Contribution à l'étude de l'action des bases pyridiques sur les charbons. L. Malanowicz. *bibliog Chimie & Ind* 28:1277-82 D '32  
 Economic significance of coal. B. Acworth. *Gas J (Lond)* 202:158; *Discussion* 159-60 Ap 19 '33  
 Economic significance of coal; British science guild symposium. *Chem Age (Lond)* 28:312 Ap 8 '33  
 Fuel that failed. H. E. Armstrong. *Chem Age (Lond)* 29:389 O 28 '33  
 Furnace equipment for burning fine anthracite coal. F. A. Bestow. *Lib J* 58:300-1 Ap 1 '33  
 La fusion de la houille: abstract. C. Arnau. *Chimie & Ind* 30:557-8 S '33  
 Mining engineers discuss economic and technical problems at A.I.M.E. meeting. *Coal Age* 38:94-7+ Mr '33  
 Novel chamber of commerce building at Williamson, W. Va. constructed entirely of coal. *il Manuf Rec* 102:23 Je '33  
 Observations on the distribution of ash in coal and coke. A. Marsden. *il diag Gas J (Lond)* 202:54-8 Ap 5 '33  
 La part du charbon et du pétrole dans l'économie moderne. R. Brunschwig. *Génie Civil* 103:212-14 Ag 26 '33  
 Proceedings of the Symposium on fuel and coal, held in October and November, 1931, under the auspices of the Department on mechanical engineering. 469p McGill univ. Montreal, Canada '32  
 Public utility consumption of fuel in 1929. W. H. Young. *maps Coal Age* 38:19-21 Ja '33  
 Relation between the volatile matter and elementary composition of coal. C. A. Seyler. *Soc Chem Ind J* 52:304T-6T S 22 '33  
 Research by F. Fischer on plastics from lignin. R. D. Hall. *Coal Age* 38:308-9 S '33  
 Science in a coalfield. R. E. Machin. 268p Pitman '32  
 Story of coal. 103p Museum of science and industry, Chicago '33  
 Studies in the composition of coal; the constitution of the ulmins. F. Heathcoat and R. V. Wheeler. *Chem Soc J* p2839-47 D '32  
 Über den basenaustausch von kohlenaschen. H. Mönning. *Angew Chemie* 46:631-4 O 7 '33  
 Über den einfluss der korngrosse auf die oxydation und selbstentzündung von steinkohlen. K. Peters and W. Picker. *bibliog Angew Chemie* 46:498-503 J1 29 '33

- Über fließkohle aus braunkohle; abstract. G. Benthin. *Angew Chemie* 46:403 Je 24 '33

*See also*

- |                       |                  |
|-----------------------|------------------|
| Boilers—Firing        | Coal preparation |
| Briquetting (fuel)    | Coal trade       |
| Coal as fertilizer    | Coke             |
| Coal as filter medium | Fuel             |
| Coal distillation     | Gas              |
| Coal mines and mining | Lignite          |
|                       | Locomotives—Fuel |

**Analysis**

- Analyses of Montana coals. C. E. Dobbin. *U S Bur Mines Tech Pa* 529:1-129 '32  
 Chlorine determination in coal. W. A. Selvig and F. H. Gibson. *Ind & Eng Chem Anal ed* 5:189-91 My 15 '33  
 Determination of nitrogen in coal by the Kjeldahl method. J. H. G. Carille. *diag Soc Chem Ind J* 52:306T-8T S 22 '33  
 Efficient cement clinker making. R. R. Coghlan. *Rock Prod* 36:30-2 J1 '33  
 Losses of volatile matter in coal by standard method; water of hydration and carbon dioxide of mineral matter. W. A. Selvig and W. D. Pohle. *Ind & Eng Chem Anal ed* 5:239-41 J1 15 '33  
 Pulverized coal; the significance of its analysis to the consumer. R. R. Coghlan. *Rock Prod* 35:20-2 N 19 '32  
 Rapid volumetric method for determination of sulfur in coal and coke; comparison of a modified benzidine method with the standard methods. E. L. Skau and I. L. Newell. *bibliog Ind & Eng Chem Anal ed* 5:180-2 My 15 '33  
 Rational examination of coal. W. Francis. *Gas J (Lond)* 203:459-61, 514-15 Ag 30-S 6 '33  
 Short cut to the ultimate analysis of coal. L. B. Bragg. *charts Gas Age* 71:514-16 My 20 '33  
 Spectroscopy as an aid to coal seam examination and identification. J. O. Samuel. *Soc Chem Ind J (Chem & Ind)* 52:155-6 F 24 '33

**Chlorination**

- Constitution of chlorinated coal; some notes on solvent extraction and coke formation. H. Kay and A. McCulloch. *il Soc Chem Ind J* 52:47T-9T F 24 '33  
 Studies in the composition of coal; the constitution of the ulmins. F. Heathcoat and R. V. Wheeler. *Chem Soc J* p2839-47 D '32

**Geology**

- Angular coal fragments as evidence of a long time break in Pennsylvanian sedimentation in eastern Kansas. J. L. Rich. *il pl Geol Soc Bul* 44:865-9 Ag '33  
 Correlation and extent of Pennsylvanian cyclothem. H. R. Wanless and J. M. Weller. *diags Geol Soc Bul* 43:1003-16 D '32  
 Neues zur entstehung von kohle und erdöl. R. Potonié and C. Wicher. *Angew Chemie* 45:802-3 D 31 '32  
 Role of water conditions in the formation and differentiation of common (banded) coals. D. White. *bibliog Econ Geol* 28:556-70 S '33  
 Zur entstehung des steinkohlenspitrits. E. Stach. *il Angew Chemie* 46:275-8 My 20 '33

**Prices**

- Retail prices of coal in September, 1932. *Monthly Labor R* 35:1201-3 N '32 [cont monthly]  
 Union prices coal; Illinois operators are told what their selling price must be. *Business Week* p7 D 7 '32

**Standards**

- Bituminous code brings up new problems in describing coal quality. G. B. Gould. *Coal Age* 38:331-2+ O '33

**Sulfur content**

- Coal dry-cleaned and desulfurized prior to coking at Humphreys. *Coal Age* 38:163 My '33

**COAL**—Sulfur content—*Continued*

Rapid volumetric method for determination of sulfur in coal and coke; comparison of a modified benzidine method with the standard methods. E. L. Skau and I. L. Newell. *biolog Ind & Eng Chem Anal ed* 5:180-2 My 15 '33

**Testing**

A.G.A.—Bureau of mines coal assay apparatus installed at the Hunts Point station of the Consolidated gas company of New York. A. R. Belyea. *il Am Gas Assn Proc* 1932:879-81 Carbonisation of inferior coals. Engineering 135:717 Je 30 '33

Carbonizing properties and constitution of Chilton bed coal from Boone no. 2 mine, Logan county, W. Va. A. C. Fieldner and others. *il U S Bur Mines Tech Pa* 542:1-60 '32

Carbonizing properties and constitution of No. 2 gas bed coal from Point Lick No. 4 mine, Kanawha county, W. Va. A. C. Fieldner and others. *biolog il U S Bur Mines Tech Pa* 548:1-52 '33

Coal testing and other aids in the control of carbonization. N. C. Sturrock. *Gas J (Lond)* 201:754-6 Mr 22 '33

Comparison of methods for determining the friability of coal. H. F. Yancey and R. E. Zane. *il diags U S Bur Mines Rep of Invest* 3215:1-24 '33

Comparison of small and large scale experimental carbonizing apparatus. A. C. Fieldner and others. *il U S Bur Mines Tech Pa* 543:1-34 '32

Gas, coke and by-product making properties of American coals; summary of important results and preliminary conclusions from tests on 20 coals. A. C. Fieldner and J. D. Davis. *tables Am Gas Assn Proc* 1932:860-78

Measuring effect of heat on coal; abstract. A. Shimomura. *diag Am Gas J* 133:38 Ap '33

Method for determining the dustiness of coal and coke. A. R. Powell and C. C. Russell. *il Ind & Eng Chem Anal ed* 5:340-1 S 15 '33

Method of determining values of different fuels for power plant use. H. M. Faust. *Ohio State Univ Eng Exp Sta Circ* 29:1-8 '33

Ohio coal investigation; economic study of the use of Cambridge coal with underfeed stoker equipment. H. M. Faust. *diags map Ohio State Univ Eng Exp Sta Bul* 75:1-37 '33

Plastic properties of coking coals. J. D. Davis and others. *Ind & Eng Chem* 25: 1269-74 N '33

Possible production of low ash and sulphur coal in Illinois as shown by float-and-sink tests. D. R. Mitchell. *il Ill U Eng Exp Sta Bul* 258:1-42 '33

Softening of coal on heating. H. A. J. Pieters and H. Koopmans. *Am Gas J* 138:33 My '33

Studies on the agglutination test for coals. L. Crussard and M. Gauzelin. *Gas J (Lond)* 202:275 My 3 '33

Testing and blending coals for coking. T. Biddulph-Smith. *il Blast F & Steel Pl* 21: 471-3+ S '33

**Transportation**

Coal trucks; more and more bituminous coal moves over the highways. *Business Week* p7 Ja 4 '33

Impending shifts in coal movement; how leading carriers would be affected. A. T. Shurick. *Barron's* 13:3, 8 F 27 '33

Lake cargo coal rate controversy. H. C. Mansfield. 273p Columbia univ. press, New York '32

Modern river-rail coal transfer plant; new facility of Pittsburgh & Lake Erie. *il plan Ry Age* 93:909-10 D 17 '32

Northern coal roads continue gain over southern. A. T. Shurick. *Mag of Wall St* 52:422-3+ Ag 19 '33

Prospective shifts in rail revenues; lower wage scales in soft coal regions affect railroads. A. T. Shurick. *Mag of Wall St* 52: 74-5+ My 13 '33

*See also*  
Coal handling  
Railroads—Rates—  
Coal

**Alabama**

Washability studies of coal from the Mary Lee bed at the Bankhead mine, Bankhead, Ala. A. C. Richardson and B. W. Gandrud. *U S Bur Mines Rep of Invest* 3206:1-9 '33  
Washability studies of the Mary Lee bed at the Powhatan mine, Powhatan, Ala. A. C. Richardson and W. H. Carrington. *U S Bur Mines Rep of Invest* 3204:1-15 '33

**Alaska**

Eastern portion of Mount McKinley national park. S. R. Capps. *U S Geol S Bul* 836-D:272-8 '32

Progress of surveys in the anthracite ridge district, Alaska. R. W. Richards and G. A. Waring. *maps U S Geol S Bul* 849-A:1-27 '33

**Great Britain**

Silkstone coal seam. *Gas J (Lond)* 200:611-12 N 30 '32

**Illinois**

Possible production of low ash and sulphur coal in Illinois as shown by float-and-sink tests. D. R. Mitchell. *il Ill U Eng Exp Sta Bul* 258:1-42 '33

**Montana**

Analyses of Montana coals. C. E. Dobbin. *U S Bur Mines Tech Pa* 529:1-129 '32

**North Dakota**

Development of Dakota lignite; effect of inorganic materials on low-temperature carbonization. A. W. Koth and I. Lavine. *biolog il diags Ind & Eng Chem* 25:328-33, 570-4 Mr, My '33

Development of Dakota lignite; oil-steam atmosphere for dehydrating Dakota lignite. A. M. Cooley, jr. and I. Lavine. *Ind & Eng Chem* 25:221-4 F '33

**Ohio**

Ohio coal investigation; economic study of the use of Cambridge coal with underfeed stoker equipment. H. M. Faust. *diags map Ohio State Univ Eng Exp Sta Bul* 75:1-37 '33

**Saskatchewan**

Saskatchewan lignite. J. P. De Wet. *il Can Min J* 54:356-9 S '33

**South Dakota**

Effective fuel values of South Dakota coal. W. V. Searight. 22p Univ. of South Dakota, Vermillion '33

**United States**

Competitive relationship of coal and petroleum in the United States forecast to year 1950. W. S. Hutchinson and A. J. Breitenstein. *Oil & Gas J* 31:30-1 F 23 '33

Our mineral resources and researches. M. M. Leighton. *il W Soc E J* 37:335-42 D '32

**West Virginia**

Carbonizing properties and constitution of Chilton bed coal from Boone no. 2 mine, Logan county, W. Va. A. C. Fieldner and others. *il U S Bur Mines Tech Pa* 542:1-60 '32

Carbonizing properties and constitution of No. 2 gas bed coal from Point Lick No. 4 mine, Kanawha county, W. Va. A. C. Fieldner and others. *biolog il U S Bur Mines Tech Pa* 548:1-52 '33

Coal in Monongalia county. L. M. Morris. 144p West Virginia. Geological survey, Morgantown '32

**COAL, Pulverized**

Babcock and Wilcox pulverised coal feeders. *diag Engineer* 155:215 Mr 3 '33



**COAL, Pulverized—Continued**

- Carbonization of screened, mixed, and blended coals. H. Hollings. flow diags Gas J (Lond) 201:370-4; Discussion. 374-6 F 15 '33
- Continuous production of water gas from powdered fuels. A. Thau. Gas Age 70:705 D 31 '32
- Conversion of bituminous coals into pseudo-bitumen; abstract. F. Fischer, K. Peters and W. Cremer. Gas J (Lond) 202:912 Je 28 '33
- Correlation of pulverizer capacity, power and grindability; abstract. R. M. Hardgrove. Chem & Met Eng 40:355 J1 '33
- Les formes nouvelles d'emploi du charbon pulvérisé. C. Berthelot. diags Génie Civil 103:201-5 Ag 26 '33
- Grindability vs. pulverizer performance; abstract. M. Frisch and G. C. Holder. Power 77:342 J1 '33
- Marketing of pulverized coal in Great Britain; abstract. H. D. Tollemache. Mech Eng 55:121-2 F '33
- Melts iron in rotary furnaces; Armstrong, Whitworth, British foundry installs four units which are fired with pulverized coal. V. Delport. il Foundry 60:26-7+ S '32; Abstract. Mech Eng 55:45-6 Ja '33
- Method for rating the grindability or pulverizability of coal; abstract. C. E. Baltzer and H. P. Hudson. Mech Eng 55:585 S '33
- Properties of coal in fine division; suggestions for the ideal colloidal fuel. Chem Age (Lond) 27:545-6 D 10 '32
- Pulverised coal and colloidal fuel; abstract. H. D. Tollemache. Engineering 136:202-3 Ag 25 '33
- Pulverised coal as a fuel for internal combustion engines. G. Staniland and G. W. Lee. Automobile Eng 23:358 O '33
- Pulverized coal for forge furnaces is excellent and cheap; Norfolk & Western railway. C. P. Blair and C. E. Pond. il diags Metal Prog 22:24-8 D '32
- Pulverized coal; the significance of its analysis to the consumer. R. R. Coghlan. Rock Prod 35:20-2 N 19 '32
- Pulverized-fuel marketing scheme. Soc Chem Ind J (Chem & Ind) 52:542 Je 30 '33; Abstract. Engineering 135:703-4 Je 30 '33
- Rotary pulverised fuel furnace for cast iron; abstracts. P. M. Macnair. il diags Engineer 155:175-6 F 17 '33; Génie Civil 102:276-8 Mr 25 '33

*See also*

Boilers—Pulverized  
coal firing

Boilers, Marine—Pul-  
verized coal firing  
Coal ash

**Preparation**

- Coal-handling costs for powdered-fuel plant. Elec W 102:176 Ag 5 '33
- Cost of pulverising coal on land. Engineering 136:128 Ag 4 '33
- Multiplex pulverised-fuel unit. il Engineering 136:83-5 J1 28 '33
- Progress in the production and transmission of heat and power; pulverized coal preparation and firing. il diags Paper Tr J 96:61+ F 16 '33
- Ring roll mill pulverising plant at the Brimsdown generating station. il diags Engineering 136:243-6 S 8 '33
- Steam raising plant at Kirkstall power station, Leeds. il diags Engineering 134:617-19, pl 23 N 25 '32
- Über mahlung und mahlmaschinen. P. Rosin and E. Rammler. bibliog Chemische Fabrik 6:395-9, 403-5 S 20-27 '33
- COAL as fertilizer**
- Bituminous coal neither plant food nor fertilizer. W. R. Chedsey. Coal Age 38:303-4 S '33
- Über den basenaustausch von kohlenaschen. H. Mönning. Angew Chemie 46:631-4 O 7 '33
- COAL as filter medium**
- Attrition loss of anthracite in rapid filters. H. G. Turner and G. H. Young. Water Works & Sewerage 80:246 J1 '33
- Clarification of water supplies by filtration through anthracite. H. G. Turner and G. S. Scott. diag Water Works & Sewerage 80:135-6 Ap '33

- Loss of head and backwashing velocities for anthracite coal in water filters. H. G. Turner and G. S. Scott. Water Works & Sewerage 80:66-8 F '33
- Use of anthracite coal as a filter medium. M. A. Farrell. Am Water Works Assn J 25:718-24 My '33

**COAL ash**

- Fluxing of [coal] ashes and slags as related to the slagging-type furnace; abstract. P. Nicholls and W. T. Reid. Soc Chem Ind J 51:sup1110 D 23 '32
- Observations on the distribution of ash in coal and coke. A. Marsden. il diag Gas J (Lond) 202:54-8 Ap 5 '33
- Recovered coal ash made available as raw material. Concrete (mill sec) 41:31 My '33
- Über den basenaustausch von kohlenaschen. H. Mönning. Angew Chemie 46:631-4 O 7 '33
- See also*  
Coke—Ash content

**Analysis**

- Analysis of coal ash. Gas J (Lond) 203:397 Ag 23 '33

**COAL bins, Concrete**

- South Brooklyn coal pockets involve massive reinforced concrete. M. Hirschthal. il Concrete 41:13-14 O '33

**COAL breakers**

- Better cleaning plus operating economies feature West End breaker. flow sheet il Coal Age 38:299-300+ S '33
- Fading egg market anticipated in designing Salem Hill breaker. flowsheet il Coal Age 38:92-3 Mr '33
- Norton vertical-pick coal breaker. diag Coal Age 38:73 F '33
- Service reliability keynote of anthracite breaker design. R. A. Hopkins. il diags Elec W 101:484-6, 516-19, 583 Ap 15-22, My 6 '33
- What metals to use in anthracite-breaker chutes. W. L. Keene and D. F. McFarland. il diag Coal Age 38:335-6+ O '33

**COAL cleaning**

- Advantages and use of dedusted coal and its products. H. F. Hebley. diags Coal Age 38:263-5 Ag '33
- Anthracite problems dominate discussion at meeting of Coal division of A.I.M.E. Coal Age 37:398-9 N '32
- Coal and coke washing and cleaning plant; Birtley co, Durham. il diags Mech Handling 20:165-7 My '33
- Coal cleaning. H. F. Hebley. Coal Age 37:441+ D '32
- Coal-cleaning installation; J. & J. Charlesworth's Newmarket colliery, Wakefield, England. il diag Elec R (Lond) 113:82 J1 21 '33
- Coal dry-cleaned and desulphurized prior to coking at Humphreys. Coal Age 38:163 My '33
- Combined coal-washing and dry-cleaning plant at Backworth collieries. il diags Engineering 136:137-8, 144 Ag 11 '33
- Dedusting coal offers advantages in both cleaning and marketing. K. C. Appleyard. il Coal Age 38:54-5, 89-91 F-Mr '33
- Flotation processes for cleaning fine coal. H. F. Yancey and J. A. Taylor. U S Bur Mines Information Circ 6714:1-31 '33
- How to maintain proper operating conditions when jigging coal. B. M. Bird. diags Coal Age 38:342-3 O '33
- How to start and regulate a jig. B. M. Bird. Coal Age 38:269-70 Ag '33
- New air equipment developed for coal cleaning. il Coal Age 37:421 N '32
- New devices for coal cleaning. J. B. Morrow. Min & Met 14:49 Ja '33
- New methods of cleaning coal; abstract. D. T. Davis. Elec R (Lond) 112:345-6 Mr 10 '33
- Possible production of low ash and sulphur coal in Illinois as shown by float-and-sink tests. D. R. Mitchell. il Ill U Eng Exp Sta Bul 258:1-42 '33
- Simon-Carves dust extraction system. plan Coal Age 38:107 Mr '33

**COAL cleaning—Continued**

Uniform distribution of water an important factor in successful jigging. B. M. Bird. *diags Coal Age* 38:301-2 S '33

Why and when to use flotation process. E. W. Mayer. *Coal Age* 38:333-4, 375-9 O-N '33  
Without suction, fine coal in unsized feed is not properly cleaned. B. M. Bird. *Coal Age* 38:235-6 J1 '33

*See also*

Coal preparation  
Coal supply—Clean coal  
Coal washing

**COAL cutters**

Overhauling cutter chains. *diag Coal Age* 38: 67 F '33

Track machines make high records at Peabody Coal operations. C. E. Lee. *diag Coal Age* 38:157-8 My '33

Use and care of bits; abstract. J. Hyslop. *Coal Age* 38:199 Je '33

**COAL distillation**

Brick retorts for low-temperature carbonization. *Engineering* 136:138-9 Ag 11 '33

Carbonizing coal in current of gas. J. H. Scholtz and R. V. Wheeler. *Am Gas J* 138: 20 My '33

Carbonizing coal in fuel oil; abstract. *Mech Eng* 55:443 J1 '33

Carbonizing properties and constitution of Chilton bed coal from Boone no. 2 mine, Logan county, W. Va. A. C. Fieldner and others. *il U S Bur Mines Tech Pa* 542:1-60 '32

Carbonizing properties and constitution of No. 2 gas bed coal from Point Lick No. 4 mine, Kanawha county, W. Va. A. C. Fieldner and others. *bibliog il U S Bur Mines Tech Pa* 548:1-52 '33

Comparison of small and large scale experimental carbonizing apparatus. A. C. Fieldner and others. *il U S Bur Mines Tech Pa* 543: 1-34 '32

Development of Dakota lignite; effect of inorganic materials on low-temperature carbonization. A. W. Koth and I. Lavine. *bibliog il diag Ind & Eng Chem* 25:328-33, 570-4 Mr, My '33

Distillation of coal under very low pressures. V. Stone and M. W. Travers. *diags Soc Chem Ind J (Chem & Ind)* 52:686-7 Ag 25 '33

Die entwicklung der steinkohlenteerindustrie von ihren anfangen bis zur jetzzeit. A. Spilker. *il diags Chemische Fabrik* 6:357-65 Ag 30 '33

Future prospects of low temperature carbonisation. *Engineer* 156:353 O 13 '33

Low-temperature carbonization development in 1932. *Gas J (Lond)* 203:674 S 27 '33

Low temperature carbonisation: narrow brick retorts at the Fuel research station; abstracts. *Chem Age (Lond)* 28:178 F 25 '33; *diag Am Gas J* 138:37 Ap '33

Les méthodes modernes de carbonisation à basse température et de préparation d'anthracite artificiel. C. Berthelot. *bibliog il diags Chimie & Ind* 29:18-44 Ja '33

Motor spirit from low temperature carbonisation. A. B. Manning. *Chem Age (Lond)* 29:195-6 Ag 26 '33

Récolte et traitement des sous-produits de la carbonisation de la houille; état actuel de ces techniques en Europe et aux États-Unis. C. Berthelot. *bibliog il diags Chimie & Ind* 30:3-38; *Discussion*. 38 J1 '33

Scientific developments in the carbonization of coal. S. F. Smith and H. J. Rose. *Am Gas Assn Proc* 1932:971-6 [bibliog p975-6]

Solid smokeless fuel. J. W. Napier. *Gas J (Lond)* 201:264-6 F 1 '33; *Abstracts. Chem Age (Lond)* 28:78 Ja 28 '33; *Soc Chem Ind J (Chem & Ind)* 52:78; *Discussion*. 78-9 Ja 27 '33

*See also*

Coal liquefaction  
Coal tar  
Coal tar products

Coke manufacture  
Gas manufacture

**Salerni process**

Salerni coal-refining process. *Chem Age (Lond)* 27:535 D 3 '32

**COAL drying**

Cost of drying coal of various sizes by different means; tabulation. F. A. Jordan. *Coal Age* 38:198 Je '33

Development of Dakota lignite; oil-steam atmosphere for dehydrating Dakota lignite. A. M. Cooley, jr. and I. Lavine. *Ind & Eng Chem* 25:221-4 F '33

Drying washed coals; abstract. *r. A. Jordan. Min Cong J* 19:27 Je '33

New deal in coal drying. J. F. Mitchell. *Min Cong J* 19:36-7 My '33

Oliver united filters, inc. continuous heat dryer. *diag Coal Age* 37:421-2 N '32

Sherwood mines again pioneer—this time in dehydrating and drilling. R. D. Hall. *il Coal Age* 38:7-8 Ja '33

**COAL dust**

Action of coal dust as a facing material; abstract. B. Bird. *Iron Age* 131:1040-1 Je 29 '33  
Advantages and use of dedusted coal and its products. H. F. Hebley. *diags Coal Age* 38: 263-5 Ag '33

Carbonizing coal in fuel oil; abstract. *Mech Eng* 55:443 J1 '33

Dedusting coal offers advantages in both cleaning and marketing. K. C. Appleyard. *il Coal Age* 38:54-5, 89-91 F-Mr '33

Engineering aspects of coal dust control; Brooks, et al. vs. the Edison electric illuminating company of Boston. *Elec W* 102: 443-6 S 30 '33

Firing with unground coal dust; abstract. O. Haller. *Mech Eng* 55:378 Je '33

Kornfeinheitsbestimmungen durch die sedimentanalyse am beispiel des steinkohlentaubes. W. Gross and W. Gründer. *Zeit Ver Deutsch Ing* 77:897 Ag 19 '33

Method for determining the dustiness of coal and coke. A. R. Powell and C. C. Russell. *il Ind & Eng Chem Anal ed* 5:340-1 S 15 '33

*See also*

Coal, Pulverized

**COAL handling**

Anti-coal breaker for loading ships. *il diag Engineering* 136:170, 178 Ag 18 '33

Ayr harbour coal shipping plant. C. W. Fox. *il diags Mech Handling* 20:13-18 Ja '33

Belt conveyors for coal and coke. *diags Mech Handling* 20:129-32 Ap '33

Coal and coke loading and the prevention of breakage; Morison-Leonard antibreaker. *il diag Mech Handling* 20:327-30 O '33

Coal loading plant on the Tyne. *diags plan Mech Handling* 20:61-4 F '33

Electricity in gasworks. C. H. S. Tupholme. *il Elec R (Lond)* 113:42-3 J1 14 '33

Engineering aspects of coal dust control; Brooks, et al. vs. the Edison electric illuminating company of Boston. *Elec W* 102: 443-6 S 30 '33

Fading egg market anticipated in designing Salem Hill breaker. *flowsheet il Coal Age* 38: 92-3 Mr '33

Das förderband als abbau- und abbaustreckenfördermittel in steinkohlengruben. W. Vollmar. *Zeit Ver Deutsch Ing* 77:323-4 Mr 25 '33

Handling coal in the moderate-sized power plant. *il Manuf Rec* 102:24 Ap '33

Improved portable conveyors for coke and gas plants. E. J. Tournier. *il Gas Age* 71: 169-72 F 18 '33

Low-cost coal-handling system for small plant; University of North Carolina power plant. I. W. Summerlin. *diag Power* 77:240-1 My '33

Maintenance and obsolescence of handling equipment. E. J. Tournier. *il Gas Age* 71: 351-4 Ap 8 '33

Modern river-rail coal transfer plant; new facility of Pittsburgh & Lake Erie. *il plan Ry Age* 93:909-10 D 17 '32

Mono rail telfers. *il diags Mech Handling* 19:381-3; 20:27-9 N '32, Ja '33

Motors for elevators and hoists in gas and coke plants. E. J. Tournier. *il diag Gas Age* 71:53-6 Ja 21 '33



**COAL handling—Continued**

- New Blackburn Meadows generating station of the Sheffield corporation. *il* diags Engineering 135:456-7, pl 29 Ap 28 '33
- Ship discharging at Gothenburg harbour. *il* Engineer 156:68 Jl 21 '33; Same. Engineering 135:687 Je 23 '33; Same. Mech Handling 20:255-6 Ag '33
- Side-tipping wagon for friable materials. *il* Mech Handling 20:110 Ap '33
- Slack storage at Prescott mine follows dirt-moving lines. plan Coal Age 38:130 Ap '33
- Special chains and buckets in gas and coke plant conveyors. E. J. Tournier. *il* diag Gas Age 72:167-9+ Ag 19 '33
- Steam raising plant at Kirkstall power station, Leeds. *il* diags Engineering 134:617-19, pl 23 N 25 '32

*See also*

**Coaling stations****Cost**

- Coal-handling costs for powdered-fuel plant. Elec W 102:176 Ag 5 '33

**COAL lands**

- Taxation of coal lands as applied in Pennsylvania. E. A. Holbrook. Min & Met 14:297 Jl '33

**COAL liquefaction**

- Bergin process for oil from coal; inner history of the introduction of the process to England. T. L. Gilmour. Chem Age (Lond) 29:167-8 Ag 19 '33; Same. Gas J (Lond) 203:408-9 Ag 23 '33

- Coal and oil. J. Brass. Engineer 155:123 F 3 '33; Excerpt. Mech Handling 20:38 F '33

- Coal hydrogenation. Economist 116:168-9 Ja 28 '33

- Deutschlands versorgung mit mineralölen und bituminösen strassenbaustoffen. C. Walther. Zeit Ver Deutsch Ing 77:1153-6 O 28 '33

- Economics of coal hydrogenation. Chem Markets 33:221-2 S '33

- Hydrogenation of American coals in anthracene. W. L. Beuschlein and C. C. Wright. Ind & Eng Chem 25:409-10 Ap '33

- Hydrogenation of bituminous coal. K. Gordon. Engineer 156:191-2 Ag 25 '33; Same cond. Chem Age (Lond) 29:108-9; Discussion. 109 Jl 29 '33

- Oil and motor spirit from coal. C. H. Lander. Gas J (Lond) 201:691 Mr 15 '33

- Oil from coal schemes. J. Roberts. Chem Age (Lond) 29:232 S 9 '33

- Petrol from coal. W. A. Bristow. Gas J (Lond) 203:211-12 Jl 26 '33

- Production of oil from British coal; House of commons discussion. Chem Age (Lond) 29:110 Jl 29 '33

- Production of oil from coal. R. Illingworth. Chem Age (Lond) 29:165 Ag 19 '33

- Production of oil from coal; details of a scheme for South Wales. Chem Age (Lond) 29:275 S 23 '33

- Production of oil from coal; its technological and political aspect. W. R. Ormandy. Chem Age (Lond) 29:391-2; Discussion. 392 O 28 '33

- Protection for home-produced motor oil. Soc Chem Ind J (Chem & Ind) 52:602 Jl 21 '33

- Studies in hydrogenation of certain American coals. W. L. Beuschlein, B. E. Christensen and C. C. Wright. Washington U Eng Exp Sta Bul 69:1-24 '33

**COAL loading machines**

- Consistent daily output per loader key to building up system of economical production. A. R. Long. diags Coal Age 37:401-2+ N '32

- Driving rock tunnel with mechanical loaders; abstract. O. G. Sharrer. Min Cong J 19:23 Je '33

- Economy and safety reward C. & O.'s mechanical operations. Coal Age 38:162 My '33

- Joy loader in British mines. *il* Coal Age 38:242 Jl '33

- Little Betty mine expands mechanical loading operations. Coal Age 38:159 My '33

- Lubrication cost for loading machines; abstract. G. S. Jenkins. Min Cong J 19:23 Je '33

- Lump coal—the goal in mechanical loading at Old Orient. A. F. Brosky. *il* Coal Age 38:329-30 O '33

- Mechanical device to eliminate shovelling. *il* Chem Age (Lond) 27:581 D 17 '32

- Mechanical loading accounts for larger percentage of total output in 1932. *il* Coal Age 38:59-60 F '33

- Mechanical loading in bituminous coal mines in 1932. Monthly Labor R 37:49-50 Jl '33

- No delay in change from hand to mechanical loading at Centralia. Coal Age 38:161-2 My '33

- Pit-car loading effects economies at Superior coal co. mines. Coal Age 38:154 My '33

- Survival of the fittest. G. B. Southward. Min Cong J 18:18 D '32

- Ten-year record at Union Pacific proves mechanical loading pays. E. McAuliffe. Coal Age 38:146-7 My '33

**COAL measurement**

- Measurement of coal and coke; Lea coal meter and the Lea cubimeter. *il* diags Mech Handling 20:269-71 Ag '33

- Sounding the coal pile from traveling crane. Power 76:317 D '32

**COAL miners**

- Coal—an insider's story. H. Stover. *il* Nation's Business 21:13-15+ N '33

- Experience of an instructor in evening classes in coal mining. A. P. McIntosh. *il* Explosives Eng 11:252-4 Ag '33

- Factory methods bring attendance at Nellis mine under control of management. E. H. Shriver. *il* Coal Age 38:297-8 S '33

- Machine age in the hills. M. Ross. 248p \$2 Macmillan '33

- Skillful planning opens way to more profitable anthracite operation. J. H. Pierce. Coal Age 38:38-40+ F '33

- Solving some safety and school problems at the coal mines near Kemmerer, Lincoln county, Wyo. G. M. Kintz. Min Cong J 19:16-17 O '33

- Wages and hours of work in the coal-mining industry in 1931. Int Labour R 28:371-94 S '33

- What shall be done with the unemployed miner? abstract. C. E. Pickett. Min Cong J 19:29 Je '33

*See also*

- United mine workers of America

**Diseases and hygiene**

- Miner's health. D. Harrington. *il* Nat Safety N 28:30-2 O '33

- Silico-anthracosis; abstract. W. E. Cooke. J Ind Hygiene 15:sup76-8 Jl '33

**Germany**

- Wages in German coal mining, 1929 to 1932. Monthly Labor R 35:1167 N '32

- Wages in German coal mining in 1932. Monthly Labor R 37:392-3 Ag '33

**Great Britain**

- Output and earnings per shift in the mining industry in Great Britain. Monthly Labor R 37:851 O '33

- Productivity and earnings of coal miners in Great Britain. Monthly Labor R 36:94 Ja '33

- Report upon miners' welfare fund, England. Monthly Labor R 37:50-2 Jl '33

**Illinois**

- Insurgent union gains ground in Illinois; anthracite wage board chosen. Coal Age 37:419 N '32

- Union prices coal; Illinois operators are told what their selling price must be. Business Week p7 D 7 '32

**Oklahoma**

- Miners press for unionization of two Oklahoma fields. Coal Age 37:418-19 N '32

**Russia**

- Wages in coal mines of the Don Basin, soviet Russia. Monthly Labor R 37:397-9 Ag '33

## COAL miners—Continued

## United States

- Anthracite code of fair competition submitted to NRA on Oct. 30; text, *Coal Age* 38:386-7 N '33; Same, *Min Cong J* 19:15-17 N '33
- Appalachian wage agreement signed Sept. 21; fails to halt strikes in eastern fields. *Coal Age* 38:354-8 O '33
- Bituminous coal code—a critical test of the Industrial recovery act. A. T. Shurick. *Analyst* 42:43-4 J1 14 '33
- Bituminous-coal mining; summary of code. *Monthly Labor R* 37:820-5 O '33
- Board of reference reports on wage dispute in anthracite industry. *Monthly Labor R* 36:815-18 Ap '33
- Code for coal; a beneficiary: Pittsburgh coal co. *il Fortune* 8:56-63, 138 O '33
- Employment in relation to mechanization in the bituminous-coal industry. *Monthly Labor R* 36:256-78 F '33; Excerpts. *Min Cong J* 19:15-17 Ap '33
- Hours and earnings in bituminous-coal mining, 1933. *Monthly Labor R* 37:634-50 S '33
- Illinois wage agreement extended to 1935; Oklahoma deadlock continues. *Coal Age* 38:29 Ja '33
- Labor productivity in anthracite mining, 1931. *Monthly Labor R* 35:1029-30 N '32
- Labor productivity in the bituminous-coal industry, 1931. F. G. Tryon and L. Mann. *Monthly Labor R* 36:510-11 Mr '33
- Organized labor wins victory in coal agreement. *Iron Age* 132:51C-51D S 28 '33
- Wage rates and working time in the bituminous coal industry, 1912-1922. W. E. Fisher and A. Bezanson. 374p \$3.50 Univ. of Pennsylvania press, Philadelphia '32
- COAL mines and mining**
- Anthracite problems dominate discussion at meeting of Coal division of A.I.M.E. *diag Coal Age* 37:398-400 N '32
- Compressibility and bearing strength of coal in place; tests of lateral compression of Pittsburgh coal bed. H. P. Greenwald, S. Avins and G. S. Rice. *pl U S Bur Mines Tech Pa* 527:1-12 '33
- Mining engineers discuss economic and technical problems at A.I.M.E. meeting. *Coal Age* 38:94-7+ Mr '33
- Modern mining practice; abstracts of papers at 10th annual meeting of Coal division of American mining congress. *Min Cong J* 19:22-9 Je '33
- Origin of and pressure of gas flowing into coal mines. G. S. Rice. *Min & Met* 14:234-6 My '33
- Practical coal operating men 10th annual meeting, Pittsburgh, May 8-11. *Coal Age* 38:196-203 Je '33
- Safety, economy in coal mine operation stressed by West Virginia institute. *Coal Age* 38:17-18 Ja '33
- Unwatering flooded coal mines in Washington. S. H. Ash and T. Murphy. *il diags U S Bur Mines Tech Pa* 549:1-18 '33
- Will United States follow Europe in wide use of steel arches, posts and straps? R. D. Hall. *il Coal Age* 38:9-11 Ja '33
- See also*
- Coal handling
- Coal miners
- Coal mining machinery
- Accidents and explosions**
- Accident experience and cost in Tennessee coal mines. F. E. Cash. *U S Bur Mines Information Circ* 6664:1-8 '32
- Accident prevention gives further evidence of progress in 1932. S. Turner. *Coal Age* 38:49-50 F '33
- Accident prevention record of coal mines in 1931. S. Turner. *Safety Eng* 65:54 F '33
- Coal-mine accidents in the United States, 1930. W. W. Adams, L. E. Geyer and L. Chenoweth. *U S Bur Mines Bul* 355:1-112 '32; Abstract. *Monthly Labor R* 35:1338-9 D '32
- Coal-mine accidents in the United States, 1931. W. W. Adams, L. E. Geyer and L. Chenoweth. *U S Bur Mines Bul* 373:1-104 '33
- Coal-mine fatalities in the United States and Europe; death rates from 1922 to 1930; tabulation. *Monthly Labor R* 35:1337 D '32
- Explosions in Pennsylvania coal mines, 1870-1932. J. J. Forbes and H. B. Humphrey. *U S Bur Mines Information Circ* 6710:1-28 '33
- Falls of roof and coal in the Book Cliffs and Wasatch Plateau coal fields of Utah. H. Tomlinson. *diags map plans U S Bur Mines Rep of Invest* 3189:1-24 '32
- Falls of roof in mines operating in the Pittsburgh coal bed, West Virginia. J. W. Paul and J. N. Geyer. *diags map U S Bur Mines Tech Pa* 547:1-23 '33
- Mine explosions and fires in the United States during the fiscal year which ended June 30, 1932. D. Harrington. *U S Bur Mines Information Circ* 6680:1-13 '33
- Places of occurrence of injury from falls of roof. J. W. Paul and D. L. Sibray. *diags U S Bur Mines Rep of Invest* 3203:1-12 '33
- Progress in coal mine safety. *Min Cong J* 19:16-17 F '33
- Safety progress in anthracite and bituminous-coal fields. D. Harrington. *U S Bur Mines Information Circ* 6671:1-10 '32
- Safety work a paying proposition at Madeira, Hill & co. collieries. *il Coal Age* 38:177-9 Je '33
- Study of falls of roof and coal in mines of Lincoln county, Wyoming. H. Tomlinson. *diags maps U S Bur Mines Rep of Invest* 3188:1-18 '32
- Study of falls of roof and coal in northern Colorado. H. Tomlinson. *il plans map U S Bur Mines Rep of Invest* 3199:1-20 '33
- Study of falls of roof and coal, Rock Springs coal district, Sweetwater county, Wyo. H. Tomlinson. *il diags U S Bur Mines Rep of Invest* 3207:1-22 '33
- Study of roof in Pennsylvania mines contiguous to the Monongahela river. J. W. Paul and J. G. Calverley. *diags map U S Bur Mines Tech Pa* 550:1-31 '33
- Ten years of fatal accidents and two years of accident costs in Indiana coal mining. C. A. Herbert. *U S Bur Mines Information Circ* 6672:1-12 '32
- Thin seams no obstacle to Clearfield bituminous coal corporation's mechanization program. *diags Coal Age* 38:143-5 My '33; Excerpt. *Monthly Labor R* 37:71-2 J1 '33
- See also*
- Coal mines and mining—Safety measures
- Blasting**
- Blasting practices as they affect the roof of coal mines in Ohio, Pennsylvania, and West Virginia. J. N. Geyer. *diags U S Bur Mines Information Circ* 6738:1-11 '33; Same. *Explosives Eng* 11:333-40 N '33; Excerpts. *Min Cong J* 19:20 N '33
- Effective blasting means increased profits and safety; abstract. C. J. Sandoe. *Min Cong J* 19:22 Je '33
- European practices. R. D. Hall. *Coal Age* 37:412-13 N '32
- Experiments made by the German safety authorities. C. Beyling. *Coal Age* 38:242 J1 '33
- New method of shooting increases lump at Shuler coal company. R. A. Thompson. *il diags Explosives Eng* 11:116-17 Ap '33
- Prevent misfires in shooting. *diags Coal Age* 37:447 D '32
- Safety in the use of permissible explosives. H. L. Griffin. *diag Explosives Eng* 11:76-8 Mr '33
- Strip-pit shooting costs cut by horizontal drilling. R. D. Hall. *il diags Coal Age* 38:85-6 Mr '33
- See also*
- Coal mines and mining—Explosives
- Buildings**
- Zollverein colliery in Essen; views. *Arch Forum* 58:148-9 F '33



COAL mines and mining—*Continued*

## Costs

- Anthracite industry intensifies efforts to reduce production costs in 1932. *Coal Age* 38: 41-2+ F '33  
 Coal spends \$575,000,000 in 1932 despite industrial depression. *Coal Age* 38:65 F '33  
 Skillful planning opens way to more profits in anthracite operation. J. H. Pierce. *Coal Age* 38:87-8 Mr '33  
 Variable cost-per-ton bogey; abstract. G. C. McFadden. *Coal Age* 38:196 Je '33

## Electric equipment

- Belle Vue coal pageant; exhibit of electrical plant for mines at Manchester. *il Electrician* 111:57 J1 14 '33  
 Connected load increased, power and maintenance costs cut at Wheelwright mines. E. R. Price. *il diag plan Coal Age* 37:427-9 D '32  
 Different lighting system for coal mines; abstract. W. Cramp. *Elec W* 100:831 D 17 '32  
 Electric colliery winders. *Elec R (Lond)* 113: 85 J1 21 '33  
 Electric eye opens Nemacolin doors. *il diag plan Coal Age* 38:77-8+ Mr '33  
 Electricity in mines. A. R. Cooper. *diags Inst E E J* 73:169-78 Ag '33; Abstract. *Elec R (Lond)* 112:11-12 Ja 6 '33; Discussion. *Inst E E J* 73:178-85 Ag '33  
 Electricity in mines; abstract of report of H. M. electrical inspector of mines for 1932. *Engineering* 136:266-7 S 8 '33  
 Electricity in mines; report of the Electrical inspector of mines for 1932. *Elec R (Lond)* 113:286 S 1 '33  
 Electrified coal mining. C. Lee. *W Soc E J* 38:19-26 F '33  
 How to choose motors for mine fan drives. H. W. Chadbourne. *il Coal Age* 37:404-6 N '32  
 International viewpoint on safeguarding electrical equipment used in gassy mines. L. C. Ilsley, E. J. Gleim and F. Craven. *U S Bur Mines Information Circ* 6690:1-16 '33  
 Oak Hill colliery completes program of electrification. W. A. Thomas. *il Coal Age* 37: 442-3 D '32  
 Planning electrical equipment for the new coal mine. C. Lee. *Min & Met* 14:345-6 Ag '33  
 Protecting machine motors. *Coal Age* 38:274-5 Ag '33

## Equipment

- Aerial tramway solves refuse disposal at Octavia J mine. J. H. Edwards. *il Coal Age* 38:123-4 Ap '33  
 Cardiff engineering exhibition. *il diags Engineering* 134:669-71, 734-6 D 9, 23 '32  
 Coal-washing plant at the Newmarket colliery; Chance sand-flotation process. *il diags Engineering* 136:88-90, pl 4 J1 28 '33; *Engineer* 156:92-3 J1 28 '33  
 Combined coal-washing and dry-cleaning plant at Backworth collieries. *il diags Engineering* 136:137-8, 144 Ag 11 '33  
 Combined use of belt, jigger and scraper conveyors. H. Maskrey. *Mech Handling* 20:160 My '33  
 Compressed air plays part in mechanization program at Ehrenfeld. A. L. Hunt. *diag Coal Age* 38:155-6 My '33  
 Conveying at the coal face. *il diags Mech Handling* 19:280-4, 319-20, 353-6, 388-90, 419-21; 20:98-101, 172 Ag-D '32, Mr, My '33  
 Conveyor mining overcomes adverse conditions at Price-Pancoast colliery. I. A. Given. *il plan Coal Age* 38:3-6+ Ja '33  
 Efficient haulage theme of Wilkes-Barre meeting. *Coal Age* 37:403 N '32  
 Experience guides improvements on button conveyor. *il diags Coal Age* 38:310-11 S '33  
 Five years' work proves value of conveyors at Chauncey colliery. *Coal Age* 38:150-1 My '33  
 Glen White prepares for future with new preparation plant. J. H. Edwards. *il Coal Age* 38:337-8 O '33  
 Hanna adopts shop practice for tool sharpening. *il Coal Age* 38:244 J1 '33

- Illinois institute's kink box includes wide range of operating ideas. *diag Coal Age* 38:245-6 J1 '33  
 In anthracite, competition forces modernization. E. H. Suender. *Min & Met* 14:50 Ja '33  
 Jigging conveyors. W. H. Snow. *diag Engineer* 155:162-3 F 17 '33  
 Loader efficiency increased by installing big cars at Fairpoint mine. P. R. Paulick. *il Coal Age* 38:175-6+ Je '33  
 Mechanical loading accounts for larger percentage of total output in 1932. *il Coal Age* 38:59-60 F '33  
 Modern equipment keeps mines running despite wage differential; DeBardeleben coal corporation, Birmingham; Ala. *Coal Age* 38: 158-9 My '33  
 No delay in change from hand to mechanical loading at Centralia. *Coal Age* 38:161-2 My '33  
 Office-type elevator installed in man hoist at Caples mine in West Virginia. *il Coal Age* 38:115+ Ap '33  
 Quality and uniformity are watchwords at new mine of Pond Creek Pocahontas co. J. H. Edwards. *il Coal Age* 38:116-20 Ap '33  
 Rubber conveyor belts in mines; improvements in manufacture and operation. J. Cunningham. *Mech Handling* 20:55-6 F '33  
 Slack storage at Prescott mine follows dirt-moving lines. *plan Coal Age* 38:130 Ap '33  
 Standardized mine track work; its relation to safety, production and maintenance. J. B. Haskell and R. L. Ireland, Jr. *Min Cong J* 19:17-19 Ja '33  
 Timber treatment promotes operating economies at Carbon fuel co. *Coal Age* 38:160-1 My '33  
 Transportation costs at Wheelwright reduced by remodeling haulage. E. R. Price. *il Coal Age* 37:434-6 D '32  
 Types of cars used by the Lehigh navigation coal company; abstract. J. S. Miller. *Coal Age* 38:201-2 Je '33  
 Wire rope inspection and maintenance rules adopted by Susquehanna collieries co. *Coal Age* 38:100-1 Mr '33

## See also

- Coal cutters  
 Coal loading machines  
 Coal mining machinery

## Exhibits

- Man-made mine opened for convention visitors to Chicago by Rosenwald museum. *il Coal Age* 38:182-3 Je '33

## Explosives

- Active list of permissible explosives and blasting devices approved prior to June 30, 1933. *U S Bur Mines Rep of Invest* 3220:1-16 '33  
 Developments in coal mining explosives; abstract. C. S. Comeaux. *Min Cong J* 19:22 Je '33  
 Effect of the crimped-paper ends on cartridges of permissible explosives in propagating detonation. D. E. Gawthrop. *diags U S Bur Mines Rep of Invest* 3191:1-7 '32  
 Replacement of nitrated polyglycerine by nitroglycol. W. A. Payman. *Coal Age* 38:242-3 J1 '33

## Fires and fire protection

- Direct fire fighting; Glen Alden coal co. S. D. Dimmick. *map Coal Age* 38:239-41 J1 '33

## Lighting

## See Mine lighting

## Longwall system

- Joy loader in British mines. *il Coal Age* 38:242 J1 '33  
 Longwall, steel arches and posts in Nova Scotia mines. S. C. Miffen. *il Coal Age* 38:261-2 Ag '33  
 Mining vertical seams by longwall in Belgium. F. C. Cornet. *plans Coal Age* 38:125-7 Ap '33  
 Weak and heavy top make longwall and mechanization imperative in Nova Scotia. S. C. Miffen. *il Coal Age* 38:223-5 J1 '33

## COAL mines and mining—Continued

## Management

- C. & O. record system forestalls break-down and reduces maintenance cost. Coal Age 38: 276-7 Ag '33
- Consistent daily output per loader key to building up system of economical production. A. R. Long. diags Coal Age 37:401-2+ N '32
- Factory methods bring attendance at Nellis mine under control of management. E. H. Shriver. il Coal Age 38:297-8 S '33
- Foreman who checks and double-checks. J. J. Rutledge. Explosives Eng 11:238-40 Ag '33
- Good housekeeping in and about a mining plant. E. B. Agee. Min Cong J 18:17+ D '32
- Illinois institute discusses transportation and cleaning at Danville meeting. Coal Age 37: 440-1+ D '32
- Illinois institute's kink box includes wide range of operating ideas. diag Coal Age 38: 245-6 JI '33
- Proper regard for a superior officer. J. J. Rutledge. Explosives Eng 11:12-14 Ja '33
- Quality and uniformity are watchwords at new mine of Pond Creek Pocahontas co. J. H. Edwards. il Coal Age 38:116-20 Ap '33
- Skillful planning opens way to more profitable anthracite operation. J. H. Pierce. Coal Age 38:38-40+, 87-8, 91 F-Mr '33
- Time studies point way to improvements in underground transportation. D. L. McElroy. Coal Age 37:395-7 N '32
- Union Pacific adopts lubrication code to insure efficiency and cut waste. Coal Age 38: 164 My '33
- Wheelwright program brings increased safety and efficiency with lower operating costs. E. R. Price. il diags plans Coal Age 37:425-39 D '32

## Methods

- Backfilling in the United States. T. F. S. Brass. diag Coal Age 37:444 D '32
- Backfilling permits recovery of abandoned pillars while preserving surface improvements. H. A. Dierks. il diags Coal Age 38: 255-8 Ag '33
- Brings coal to tippie without breakage or admixed impurity. O. Carter. il Coal Age 38:259-60 Ag '33
- Compressed air plays part in mechanization program at Ehrenfeld. A. L. Hunt. diag Coal Age 38:155-6 My '33
- Conveyor mining overcomes adverse conditions at Price-Pancoast colliery. I. A. Given. il plan Coal Age 38:3-6+ Ja '33
- Driving rock tunnel with mechanical loaders; abstract. O. G. Sharrer. Min Cong J 19:23 Je '33
- Entry-driving machines advance 50 feet a day at New Orient mine. J. R. Foster and A. F. Brosky. il diags Coal Age 38:111-12+ Ap '33
- Factors and conditions that aid in alignment of pillar extraction lines in coal mining. J. N. Geyer. diags U S Bur Mines Information Circ 6727:1-22 '33
- Lump coal—the goal in mechanical loading at Old Orient. A. F. Brosky. il Coal Age 38: 329-30 O '33
- 1½ mile tunnel solves haulage problems of a Rocky Mountain mine; Kenilworth mine. il Coal Age 38:305-7 S '33
- Producing lump coal without blasting; sawing system of mining. H. S. Littlewood. il Elec J 30:213-14 My '33
- Room and pillar system used at Black diamond coal company. D. V. Plan. il Explosives Eng 11:154-5 My '33
- Shaft sinking methods, practices, and costs of the Consolidation coal co. at its No. 261 mine. Caretta, McDowell county, W. Va. L. E. Kelley. diags U S Bur Mines Information Circ 6602:1-15 '32; Same. Explosives Eng 11:274-82 S '33
- Study of mine roof of the Pittsburgh coal bed in the Pittsburgh mining district. J. W. Paul and L. N. Plein. diags map plans U S Bur Mines Tech Pa 541:1-98 '32
- Thin seams no obstacle to Clearfield bituminous coal corporation's mechanization program. diags Coal Age 38:143-5 My '33

- Use of the coal saw; abstract. C. D. McLaughlin. Coal Age 38:198 Je '33
- Wheelwright program brings increased safety and efficiency with lower operating costs. E. R. Price. diag Coal Age 37:425-6+ D '32

## See also

- Coal mines and min-  
ing—Longwall sys-  
tem
- Coal mines and min-  
ing—Stripping  
operations

## Power

- Colliery utilization of steam power; abstract. F. N. Becker. Min Cong J 19:24 Je '33
- Compressed air for modern coal-mining. R. D. Currie. Min Cong J 19:27 Mr '33
- Connected load increased, power and maintenance costs cut at Wheelwright mines. E. R. Price. il diag plan Coal Age 37:427-9 D '32
- Consumption of electrical energy in coal mining. E. B. Lamb. Min Cong J 19:20 F '33
- Electrified coal mining. C. Lee. W Soc E J 38:19-26 F '33
- Generation and utilization of power since 1910; abstracts. P. Sterling and E. Schweitzer. Coal Age 38:200 Je '33; Min Cong J 19:25 Je '33
- Lower power costs; new factors enter picture of power generation. H. R. Carr. Coal Age 38:51-3 F '33
- Power economics in coal mining. Min Cong J 19:19-20 Ja '33
- Power plants play larger part in new modernization plans. Coal Age 35:61-2 F '33
- Power saving; abstract. E. R. Price. Min Cong J 19:24-5 Je '33

## Records

- C. & O. record system forestalls break-down and reduces maintenance cost. Coal Age 38: 276-7 Ag '33

## Safety measures

- Accident prevention at the New Black Diamond coal mine, Washington. S. H. Ash and R. W. Smith. U S Bur Mines Information Circ 6731:1-20 '33
- Axe hazard. D. Harrington. Min Cong J 19:21 F '33
- Derrail protects inside slope at Spring Canyon. Coal Age 38:131-2 Ap '33
- Evolution of methane detecting devices for coal mines. L. C. Ilsley and A. B. Hooker. U S Bur Mines Information Circ 6733:1-12 '33
- Greater safety a major objective in operation at Wheelwright mines. E. R. Price. Coal Age 37:437-9 D '32
- Inspectors' institute studies economics of mine safety at 24th annual meeting. Coal Age 38:204-5 Je '33
- International conference on mine safety research at Buxton, England, July, 1931. G. S. Rice. plans U S Bur Mines Information Circ 6670:1-19 '32
- International viewpoint on safeguarding electrical equipment used in gassy mines. L. C. Ilsley, E. J. Gleim and F. Craven. U S Bur Mines Information Circ 6690:1-16 '33
- Magnificent progress in safety work. J. T. Ryan. Min & Met 14:51 Ja '33
- New products for safety. il Coal Age 38:211 Je '33
- Preventing falls of roof in coal mines. W. H. Tomlinson. Explosives Eng 10:379-81 D '32
- Recommendations of the United States Bureau of mines on certain questions of safety as of February 3, 1933. U S Bur Mines Information Circ 6732:1-43 '33
- Safety below! theme of meeting of Coal mining institute of America. Coal Age 38:12-14 Ja '33
- Safety car holder. R. C. Rice. diags Coal Age 37:417 N '32
- Safety council studies major factors in accident prevention. Coal Age 37:409-11 N '32
- Safety in the use of permissible explosives. H. L. Griffin. diag Explosives Eng 11:76-8 Mr '33; Excerpts. Min Cong J 19:15 Ap '33
- Safety practices and achievements at the Columbia mine of the Columbia steel co. D. J. Parker. U S Bur Mines Information Circ 6743:1-10 '33



## COAL mines and mining—Safety measures

—Continued

- Safety practices at Mine 1, Spring Canyon coal co., Utah. D. J. Parker. diag U S Bur Mines Information Circ 6675:1-10 '32; Abstract. Coal Age 38:66 F '33
- Safety work a paying proposition at Madeira, Hill & co. collieries. il Coal Age 38:177-9 Je '33
- Safety work at Zeigler mines; abstract. J. Lyons. Coal Age 38:237-8 Jl '33
- Team work wins trophy for Alloy (West Virginia) mine. A. F. Tyra. il map Explosives Eng 11:296-302 O '33
- Timber withdrawing and devices used for this purpose in some coal mines. J. W. Paul and J. G. Calverley. diags U S Bur Mines Information Circ 6722:1-14 '33
- Use of peat moss to protect a stopping. C. H. Leeds. il Coal Age 37:444 D '32
- Wire rope inspection and maintenance rules adopted by Susquehanna collieries co. Coal Age 38:100-1 Mr '33

## Steel company ownership

- Mines, or owners, captive? Steel's problems in coal. R. H. Sweetser. Steel 92:13-14+ Mr 20 '33

## Stripping operations

- Kabelbagger im braunkohlen-tagebau. O. Gold. il Zeit Ver Deutsch Ing 77:1097-8 O 7 '33
- Maumee stripping swells list of operations using modern equipment and methods. il Coal Age 38:294-6 S '33
- Mechanical handling at lignite mines. T. Rich. il diags Mech Handling 20:19-22 Ja '33
- Sherwood mines again pioneer—this time in dehydrating and drilling. R. D. Hall. il Coal Age 38:7-8 Ja '33
- Strip-pit shooting costs cut by horizontal drilling. R. D. Hall. il diags Coal Age 38:85-6 Mr '33
- Stripping outcrops insures complete coal recovery at Kingston collieries. il diag map Coal Age 38:113-14 Ap '33

## Study and teaching

See Mining schools and education

## Waste disposal

- Aerial tramway solves refuse disposal at Octavia J mine. J. H. Edwards. il Coal Age 38:123-4 Ap '33
- Aerial tramway solves refuse-disposal problem at Wheelwright mines. E. R. Price. il plan Coal Age 37:432-3 D '32
- Automatic tramway solves refuse disposal at Fordson. J. H. Edwards. diags Coal Age 38:271 Ag '33
- Character of drainage from mines in the thick Freeport coal bed, Pennsylvania. R. D. Leitch, W. P. Yant and R. R. Sayers. map U S Bur Mines Rep of Invest 3193:1-29 '32
- Inland steel co. builds aerial tram for disposal of coal mine waste. il Iron Age 131:430-1 Mr 16 '33
- Refuse handled by subway conveyor and skips. J. H. Edwards. il Coal Age 37:407-8 N '32

## France

- Le bassin houiller sarro-lorrain. Siviard. map Génie Civil 103:164-5 Ag 12 '33

## Germany

- Der deutsche bergbau im jahre 1931. Stahl & Eisen 52:1278-9 D 22 '32
- Mechanical handling at lignite mines. T. Rich. il diags Mech Handling 20:19-22 Ja '33
- Die technik des Ruhrbergbaues im kampf mit der wirtschaftskrise. Zeit Ver Deutsch Ing 76:1293-4 D 31 '32

See also

Coal miners—Germany

## Indiana

- Ten years of fatal accidents and two years of accident costs in Indiana coal mining. C. A. Herbert. U S Bur Mines Information Circ 6672:1-12 '32

## Kentucky

- Wheelwright program brings increased safety and efficiency with lower operating costs. E. R. Price. il diags plans Coal Age 37:425-39 D '32

## Manchuria

- Manchukuo and engineering developments. J. N. Penlington. il diags map Engineer 155:290-1, 300 Mr 24 '33

## Nova Scotia

- Longwall, steel arches and posts in Nova Scotia mines. S. C. Miffen. il Coal Age 38:261-2 Ag '33
- Nova Scotia mining society plans future developments; 41st annual meeting. Coal Age 38:266-8 Ag '33
- Weak and heavy top make longwall and mechanization imperative in Nova Scotia. S. C. Miffen. il Coal Age 38:223-5 Jl '33

## Pennsylvania

- Character of drainage from mines in the thick Freeport coal bed, Pennsylvania. R. D. Leitch, W. P. Yant and R. R. Sayers. map U S Bur Mines Rep of Invest 3193:1-29 '32
- Explosions in Pennsylvania coal mines, 1870-1932. J. J. Forbes and H. B. Humphrey. U S Bur Mines Information Circ 6710:1-28 '33
- Study of roof in Pennsylvania mines contiguous to the Monongahela river. J. W. Paul and J. G. Calverley. diags map U S Bur Mines Tech Pa 550:1-31 '33

## United States

- Coal's prospects under the NRA code. A. T. Shurick. Min & Met 14:415-20 O '33

See also

- Coal miners—United States      Coal trade—United States

## Utah

- Falls of roof and coal in the Book Cliffs and Wasatch Plateau coal fields of Utah. H. Tomlinson. diags map plans U S Bur Mines Rep of Invest 3189:1-24 '32
- Mechanization of coal mines in Utah. O. Herres, jr. Min & Met 14:180-1 Ap '33

## Wyoming

- Study of falls of roof and coal in mines of Lincoln county, Wyoming. H. Tomlinson. diags maps U S Bur Mines Rep of Invest 3188:1-18 '32

## COAL mining institute of America

- Annual meeting, 45th, Pittsburgh, Dec. 15-16. Coal Age 38:12-14 Ja '33

## COAL mining machinery

- Anthraxite industry intensifies efforts to reduce production costs in 1932. diag Coal Age 38:41-2+ F '33
- Employment in relation to mechanization in the bituminous-coal industry. Monthly Labor R 36:256-78 F '33
- Entry-driving machines advance 50 feet a day at New Orient mine. J. R. Foster and A. F. Brosky. il diags Coal Age 38:111-12+ Ap '33

- Maumee stripping swells list of operations using modern equipment and methods. il Coal Age 38:294-6 S '33

- Mechanization of coal mines in Utah. O. Herres, jr. Min & Met 14:180-1 Ap '33

- New equipment pays for itself in year at Island Creek mines. Coal Age 38:151-2 My '33

- Producing lump coal without blasting; sawing system of mining. H. S. Littlewood. il Elec J 30:213-14 My '33

- Use of the coal saw; abstract. C. D. McLaughlin. Coal Age 38:198-9 Je '33

See also

- Coal breakers      Coal loading machines  
Coal cutters

## Exhibitions

- National exposition of coal-mining equipment, Pittsburgh, May 8-11. il diags Coal Age 38:206-11 Je '33

**COAL mixing**

Carbonization of screened, mixed, and blended coals. H. Hollings. flow diags Gas J (Lond) 201:370-4; Discussion. 374-6 F 15 '33

**COAL piers**

New type deck used on Reading pier. il Ry Age 95:82-3 J1 8 '33

**COAL preparation**

Anthraccite industry intensifies efforts to reduce production costs in 1932. diag Coal Age 38:42+ F '33

Better cleaning plus operating economies feature West End breaker. flow sheet il Coal Age 38:299-300+ S '33

Clean coal declared essential to production of good coke. Iron Age 131:395-6 Mr 9 '33

Coal preparation and washing in mine operation; abstract. C. Y. Thomas. Min Cong J 19:26 Je '33

Dedusting coal; abstract. O. A. Higgins. Min Cong J 19:27 Je '33

Equipped for big tonnage; Wheelwright surface plant prepares coal with smaller force. E. R. Price. il plan Coal Age 37:430-1+ D '32

Glen White prepares for future with new preparation plant. J. H. Edwards. il Coal Age 38:337-8 O '33

Method for determining the dustiness of coal and coke. A. R. Powell and C. C. Russell. il Ind & Eng Chem Anal ed 5:340-1 S 15 '33

Modern preparation widens market and enhances sales realizations; Powhatan mining co. J. Pursglove, jr. Coal Age 38:153-4 My '33

Norton-Collins dust extraction system. diags Coal Age 38:73 F '33

Preparation keeps pace with new market demands; with new topworks construction in 1932. il Coal Age 38:56-8 F '33

Preparing coal for western markets. il plan Coal Age 38:79-81 Mr '33

Les procédés de flottage pour l'épuration des charbons fins. C. Berthelot. bibliog il diags Chimie & Ind 30:770-88 O '33

Stump air-flow preparation plant; abstract. R. T. Todhunter. Min Cong J 19:26-7 Je '33

Über steinkohlen-grossaufbereitungen. F. Prockat. il Zeit Ver Deutsch Ing 77:893-7 Ag 19 '33

*See also*

Coal, Pulverized—	Coal screening
Preparation	Coal sizing
Coal breakers	Coal tipples
Coal cleaning	Coal washing
Coal drying	

**COAL products**

Coke and coal products reach new lows in 1932. Chem & Met Eng 40:35 Ja '33

*See also*

Coal distillation	Coal tar
Coal liquefaction	Coal tar products

**COAL purchasing**

Buying coal looks easy, but isn't! an interview with G. B. Gould. Power 77:232-3, 306-7 My-Je '33; Discussion. N. T. Fef. 77:467 S '33; Reply. G. B. Gould. 77:593 N '33

Choosing fuels on the basis of plant performance. G. Mankin. il Food Ind 5:221-3 Je '33

Reciprocal buying of coal condemned. Ry Age 95:527-9 O 14 '33

**COAL research**

Coal and oil. J. Brass. Engineer 155:123 F 3 '33

Coal industry slow in adopting a technical and market research program. C. Williams. Coal Age 38:231-2 J1 '33

Coal research; Bituminous coal research inc. Business Week p13-14 Ap 19 '33

Coal researches in progress or completed in 1932 or planned for 1933. Coal Age 38:47-8 F '33

Future of research in rehabilitation of the bituminous coal industry. J. C. Cosgrove. Coal Age 38:43-4 F '33

Mining research at Birmingham; the oxidisability of coal. Chem Age (Lond) 29:260-1 S 16 '33

Research in coal broadens and deepens year by year. Coal Age 38:46-8 F '33

Research on coal and coke; report of the Northern coke research committee for 1932. Gas J (Lond) 202:766-7 Je 7 '33

What research offers the coal industry. A. C. Fieldner. Min & Met 14:253-6 Je '33

**COAL sampling**

Average error in sampling; its industrial significance explained by reference to coal; abstract. E. S. Grumell. Chem Age (Lond) 28:264 Mr 25 '33

Directions for sampling coal for shipment or delivery. G. S. Pope; rev. by N. H. Snyder. U S Bur Mines Tech Pa 133:1-8, pl 1 '33

**COAL screening**

Carbonization of screened, mixed, and blended coals. H. Hollings. flow diags Gas J (Lond) 201:370-4; Discussion. 374-6 F 15 '33

**COAL sizing**

Fading egg market anticipated in designing Salem Hill breaker. flowsheet il Coal Age 38:92-3 Mr '33

What price slack? depression obscures growing demand for fine coal by industrial markets. G. B. Gould. map Coal Age 38:184-6 Je '33

**COAL storage**

Conveyor and scraper store slack at low cost. diag Coal Age 37:414-15 N '32

Sounding the coal pile from traveling crane. Power 76:317 D '32

**COAL strikes**

Labor unrest reflected in bituminous strikes; anthracite insurgents organize. Coal Age 38:319 S '33

**COAL supply***Clean coal*

Needless transportation in steel industry; ore and coal treatment urged to reduce transportation costs. R. H. Sweetser. Iron Age 131:506+ Mr 30 '33

**COAL tar**

Bituminous coal tar as fuel for Diesel locomotives underground; abstract. Maercks. diag Mech Eng 55:505-7 Ag '33

British fuel research board investigates production of lubricating oil from low-temperature tars. C. H. S. Tupholme. Ind & Eng Chem News ed 11:163 My 20 '33

Dr Adolf Spilker zum 70. geburtstag; zugleich ein beitrag zur geschichte der technologie des steinkohlenteeres. H. Ihlder. Angew Chemie 46:457-9 J1 8 '33

Electrostatic precipitators; recovery of tar from the distillation of coal. C. C. Downie. Elec R (Lond) 113:215 Ag 18 '33

Die entwicklung der steinkohlenteerindustrie von ihren anfangen bis zur jetzzeit. A. Spilker. il diags Chemische Fabrik 6:357-65 Ag 30 '33

Evaporation et oxydation des revêtements à base de goudron de houille. A. Léauté. Génie Civil 102:598 Je 24 '33

Motor fuel from coal and oil shales. A. Fisher and J. C. Morrell. Soc Chem Ind J 52:228T-30T J1 28 '33

Road tars. H. Pickard. Soc Chem Ind J (Chem & Ind) 52:4-5 Ja 6 '33

*See also*

Tar  
Tar distillation

*Analysis*

Composition of the fractions of primary and high-temperature tar. E. B. Kester and W. D. Pohle. U S Bur Mines Rep of Invest 3197:1-11 '33

*Physiological effect*

Cancer-producing constituent of coal tar; abstract. J. W. Cook, I. Hieger and C. Hewett. Science 76:sup8+ D 30 '32

Isolation of a cancer-producing hydrocarbon from coal tar. J. W. Cook, C. L. Hewett and I. Hieger. pl Chem Soc J p395-405 Ap '33

Occupational cancer. Int Labour R 26:847-53 p '32



**COAL tar colors**

Coaltar dyes production in U.S. in 1931 was 2 percent lower than total sales. *Oil Paint & Drug Rep* 123:17+; Editorial comment. 15 F 13 '33

Coaltar products imports less in 1932. *Oil Paint & Drug Rep* 123:14+ F 27 '33

*See also*

Dyes and dyeing

**COAL tar pitch. See Pitch****COAL tar products**

Coal-tar chemicals in Japan; remarkable growth in dyeing industry. K. Kasai. *Chemicals* 38:12 My 15 '33

Coke oven tar. H. Broche, K. Ehrmann and W. Scheer. *Gas J (Lond)* 200:490 N 16 '32

Improvements in the art of manufacturing and utilizing coal tar products. S. P. Miller. *il J Fr Inst* 215:373-99 Ap '33

New uses for coal-tar. R. C. Bickmore. *Chem Ind* 33:306 O '33

Recent developments in special by-products of coal carbonization. A. R. Powell. *Am Gas Assn Proc* 1932:907-11

Water gas tar and heavy oil in making carbureted water gas. E. S. Pettyjohn. *bibliog Gas Age* 71:643-6+ Je 24 '33

*See also*

Benzene

Benzol (commercial benzene)

Coal distillation

Coal tar colors

Creosote

Cresol

Naphthalene

Phenol

Pitch

Toluene

Xylene

**Statistics**

Coaltar chemicals. Published in weekly numbers of *Oil, paint and drug reporter*

Coaltar crudes output and sales in 1932. *Oil Paint & Drug Rep* 124:26 N 13 '33

Coaltar dye and chemical census for 1932. *Oil Paint & Drug Rep* 124:16, 18 JI 10 '33

Coaltar products imports less in 1932. *Oil Paint & Drug Rep* 123:14+ F 27 '33

Coaltar products output, 1931. *Oil Paint & Drug Rep* 123:33 Ja 2 '33

German tar-distillation figures for 1931. *Chem Markets* 32:506 Je '33

Production and sales of dyes and other coal-tar chemicals, 1931. *Textile Col* 55:199+ Mr '33; Same. *Oil Paint & Drug Rep* 123:17+; Editorial comment. 15 F 13 '33

**COAL tipples**

Buckeye River tippie has high loading rate over wide range of water levels. *il diags Coal Age* 38:226-7 JI '33

Equipped for big tonnage; Wheelwright surface plant prepares coal with smaller force. E. R. Price. *il plan Coal Age* 37:430-1+ D '32

Independent coal and coke co. modernizes with new tippie; illustrations. *Explosives Eng* 11:176-7 Je '33

Preparing coal for western markets. *il plan Coal Age* 38:79-81 Mr '33

**COAL trade**

Anthracite strikes at competing fuels. *Forbes* 31:11-12 Je 15 '33

Coal—an insider's story. H. Stover. *il Nation's Business* 21:13-15+ N '33

Coal price stabilization and orderly marketing; functioning of Appalachian coals, inc. J. V. Sullivan. *Manuf Rec* 102:14 My '33

Future of research in rehabilitation of the bituminous coal industry. J. C. Cosgrove. *Coal Age* 38:43-4 F '33

To keep coal dealers out of the furnace business. *Sheet Metal Worker* 23:479-80+ N '32

Today's trend in the utilization of coal; abstract. J. W. Lucas. *Coal Age* 38:238 JI '33

Trenton boosts anthracite by sale of automatic equipment through central agency. *Coal Age* 38:195 Je '33

**Accounting**

Operating costs of retailing coal in Columbus. W. D. Hooper. 43p Ohio state univ. press, Columbus '32

**Advertising**

Anthracite battling to regain lost markets takes the dealer into partnership. I. A. Given. *Coal Age* 38:82-4, 121-2 Mr-Ap '33

Direct mail results; results for coal. *Ptr Ink Mo* 27:52-3 N '33

Makes NRA work for orders. *il Ptr Ink* 165: 60 O 26 '33

**Finance**

Coal companies, 1930-1932. *Mag of Wall St Manual* p54 Mr 6 '33

**Regulation**

Lake cargo coal rate controversy. H. C. Mansfield. 273p \$4.25 Columbia univ. press, New York '32

Mining legislation. C. R. Thomas. *Min Cong J* 18:15-16 D '32

New coal plan modeled after British system. Lewis bill. *Business Week* p9 Ja 18 '33

Regulation in the coal trade. *Economist* 116: 1346-8 Je 24 '33

Stabilization plans and future of mineral industry feature American mining congress meeting. *Coal Age* 38:15 Ja '33

**Service**

*See also*

Anthracite service corporation, Trenton, New Jersey

**Statistics**

Bituminous coal production. Published in weekly numbers of *Econostat*

Bituminous coal production in the United States, monthly, 1919-1932. *Bradstreet's* 61: 225 Ja 28 '33

Die kohlenwirtschaft des deutschen reiches und der welt im jahre 1931. *Stahl & Eisen* 52:1182-6 N 24 '32

What price slack? depression obscures growing demand for fine coal by industrial markets. G. B. Gould. *map Coal Age* 38:184-6 Je '33

**Great Britain**

Britain's coal problems; abstracts. W. A. Bone. *Soc Chem Ind J (Chem & Ind)* 52:258-9 Mr 24 '33; *Chem Age (Lond)* 28:221 Mr 11 '33

Coal and co-operation. *Economist* 117:852-3 N 4 '33

Coal and oil. J. Brass. *Engineer* 155:123 F 3 '33

Coal industry, 1932. *Economist* 116:sup50-1 F 18 '33

Coal mining in 1932. *Economist* 116:797 Ap 15 '33

Coal propaganda; suggested compulsory national levy. *Gas J (Lond)* 204:139-40 O 11 '33

Economic significance of coal. B. Acworth. *Gas J (Lond)* 202:158; Discussion. 159-60 Ap 19 '33

Lessons from the coal-mining industry; abstracts. W. B. Woodhouse. *Elec R (Lond)* 111:924 D 23 '32; *Electrician* 109:808 D 23 '32

Marketing of pulverized coal in Great Britain; abstract. H. D. Tollemache. *Mech Eng* 55: 121-2 F '33

Regulation in the coal trade. *Economist* 116: 1346-8 Je 24 '33

Rise of the British coal industry. J. U. Nef. 2v [bibliog, v2 p333-52] 42s Routledge '32

Road tar industry and the coal trade. *Gas J (Lond)* 200:610-11 N 30 '32

West Yorkshire coal scheme. *Economist* 117: 527-8 S 16 '33

**Illinois**

Competitive position of Illinois coal industry outlined at first annual Mineral industries conference. *Coal Age* 38:137 Ap '33

**Minnesota**

Coal distribution in the twin cities. R. S. Vaile and V. G. Pickett. 90p Univ. of Minnesota press, Minneapolis '32

## COAL trade—Continued

## Netherlands

Der kohlenbergbau der Niederlande im jahre 1932. Stahl & Eisen 53:635-6 Je 15 '33

## United States

Administration rejects district codes for coal; Indiana agreement submitted. Coal Age 38:248-9 Jl '33

Anthracite battling to regain lost markets takes the dealer into partnership. I. A. Given. Coal Age 38:82-4, 121-2 Mr-Apr '33

Anthracite code of fair competition submitted to NRA on Oct. 30; text. Coal Age 38:386-7 N '33; Same. Min Cong J 19:15-17 N '33

Anthracite industry; research and new ideas help it solve its difficulties. B. P. Disque. il Bradstreet's 61:222-3 Ja 28 '33

Appalachian Coals decision applicable to all industry. Iron Age 131:476 Mr 23 '33

Appalachian Coals decision indication of liberal antitrust attitude? Steel 92:11-12 Mr 20 '33

Appalachian coals, inc. begins operations; other regions consider agency plan. Coal Age 38:168 My '33

Bargaining codes; coal. Business Week p7 Jl 22 '33

Bituminous coal code—a critical test of the industrial recovery act. A. T. Shurick. Analyst 42:43-4 Jl 14 '33

Bituminous coal flies the Blue Eagle under code of fair competition; text of code. il map Coal Age 38:327-8, 350-3 O '33; Min Cong J 19:8-11 O '33

Bituminous coal highlights in 1932. Bradstreet's 61:224 Ja 28 '33

Bituminous coal points for code hearings. Coal Age 38:279-85 Ag '33

Bituminous code brings up new problems in describing coal quality. G. E. Gould. Coal Age 38:331-2+ O '33

Bituminous code hearings. Min Cong J 19:12-14 S '33

Bituminous industry charts path to stabilization at Chicago meeting of National coal association. Coal Age 38:230-4 Jl '33

Both East and West set plans in motion for district selling agencies. Coal Age 38:215 Je '33

Coal. Bradstreet's 60:1631; 61:46+, 318 D 10 '32, Ja 11, F 11 '33

Coal code was a victory, but for whom? Iron Age 132:36 S 21 '33

Coal company wins anti-trust suit. Barron's 13:20 Mr 20 '33

Coal industry pushing research to meet natural gas and oil competition. B. R. Gehhart. Oil & Gas J 31:106 My 18 '33

Coal industry widens battle front in war against competition. Coal Age 38:35-7 F '33

Coal pool wins big victory; Supreme court allows extension of trade association activities. E. B. Weiss. Ptr Ink 162:72-3 Mr 16 '33

Coal signs up. Business Week p8 S 23 '33

Coal situation. J. V. Sullivan. Manuf Rec 101:25 D '32

Coal wins its case. Econostat 1:5-6 Mr 25 '33

Coal's prospects under the NRA code. A. T. Shurick. Min & Met 14:415-20 O '33

Coal's 27 codes. Business Week p5 Ag 12 '33

Code for coal; a beneficiary: Pittsburgh coal co. il Fortune 8:56-63, 138 O '33

Co-operation to correct industrial evils held not violation of the trust law by Supreme court. Oil & Gas J 31:11+ Mr 23 '33; Excerpts. Nat Pet N 25:13-14 Mr 22 '33; Iron Age 131:442 Mr 16 '33

Delay in building a code for the bituminous coal industry is not due purely to cussedness. Business Week p8-9 S 16 '33

Facts about the Appalachian Coals case. P. McCrea. il Nation's Business 21:23-5 My '33

Important ruling on mergers; U. S. District court enjoins selling agency plan. Pulp & Pa of Can 33:429 N '32

Industrial snapshots; the present situation in coal and steel analyzed. J. Backman and A. L. Jackson. Barron's 13:6 O 16 '33

Model code of fair competition for bituminous coal. Coal Age 38:234 Jl '33

NRA code making for bituminous coal industry enters into final stages. Coal Age 38:293, 314-18 S '33

Possible application of Appalachian decision to the oil industry. W. J. Donovan. Oil & Gas J 31:8+ Ap 20 '33

Price of progress in the coal industry. R. H. Sweetser. Min & Met 14:384-5 S '33

Regional sales plan upheld by high court in decision in Appalachian case. Coal Age 38:134-5 Ap '33

Rule of reason broadened; Supreme court relaxes anti-trust laws, approves the Appalachian Coals plan. Business Week p9-10 Mr 22 '33

Skillful planning opens way to more profits in anthracite operation. J. H. Pierce. Coal Age 38:88, 91 Mr '33

Stabilization plans and future of mineral industry feature American mining congress meeting. Coal Age 38:15-16 Ja '33

## COAL washing

Chance sand-flotation coal washer; Fraser and Chalmers engineering works. diag Engineering 134:669, 670 D 9 '32

Coal and coke washing and cleaning plant. il diags Mech Handling 20:95-8, 136-8, 229-32, 267-9 Mr-Apr, Jl-Ag '33

Coal washing benefits coke oven operation. H. W. Seyler. il Chem & Met Eng 40:470-3 S '33

Coal-washing plant at the Newmarket colliery; Chance sand-flotation process. il diags Engineering 136:88-90, pl 4 Jl 28 '33; Engineer 156:92-3 Jl 28 '33

Modern coal cleaning plant. S. H. North. 159p \$1.50 Spon '32

Washability studies of coal from the Mary Lee bed at the Bankhead mine, Bankhead, Ala. A. C. Richardson and B. W. Gandrud. U S Bur Mines Rep of Invest 3206:1-9 '33

Washability studies of the Mary Lee bed at the Powhatan mine, Powhatan, Ala. A. C. Richardson and W. H. Carrington. U S Bur Mines Rep of Invest 3204:1-15 '33

Washing coal for coking purposes at Clairton byproduct coke works. H. W. Seyler. flow sheet il Coal Age 38:187-94 Je '33

## See also

Coal cleaning

## COAL waste

Anthracite duff as boiler fuel; the Swansea contract. il diags Elec R (Lond) 112:739 My 26 '33

Solving the slack question—Covington coal block plant converts fines into high-priced fuel. R. L. Beard. il Coal Age 38:228-9 Jl '33; Excerpts. Min Cong J 19:12 Ag '33

## See also

Briquets (fuel)

Coal mines and mining—Waste disposal

## COALING stations

Ayr harbour coal shipping plant. C. W. Fox. il diags Mech Handling 20:13-18 Ja '33

Coal loading plant on the Tyne. diags plan Mech Handling 20:61-4 F '33

Manchukuo and engineering developments. J. N. Penlington. il diags Engineer 155:264-5 Mr 17 '33

New coal handling plant at Gibraltar. il Engineer 154:666 D 30 '32

New coal shipping staith at Howdon-on-Tyne. il plan Engineer 154:650-1 D 23 '32; Engineering 134:763, 768 D 30 '32

Use wrought iron plates in coaling plant; Missouri Pacific mechanical coaling station at Myrick, Mo. il Ry Age 95:435-6 S 23 '33

## COALITE

Low temperature carbonisation, limited; the demand for coalite. Economist 115:1163 D 17 '32

COAST and geodetic survey. See United States —Coast and geodetic survey

## COAST changes

Determination of mean high water. H. A. Marmer. Am J Sci 5th ser 26:332-43 S '33

Glacial epochs of the Santa Monica mountains, California. W. M. Davis. bibliog diags map Geol Soc Bul 44:1041-1133, pl 10-56 O '33



**COAST changes—Continued**

Role of analysis in scientific investigation. D. Johnson. *Geol Soc Bul* 44:461-93 Je '33;  
Same abr. *Science* 77:569-76 Je 16 '33  
Save the golden band of ocean beaches! New Jersey beaches have taxable valuation of \$4,000,000 a mile. V. Gelineau. *il diags maps* Eng N 110:765-71 Je 15 '33

**COAST guard.** See United States—Coast guard**COAST guard cutters**

Coast guard asks bids for 9 cruisers, 4 cutters. *Marine R* 63:27 N '33  
Escanaba and Galatea. *il diags* *Marine R* 63:20, 22 Ap '33  
Escanaba completes successful builder's trials. *il Marine R* 63:14-16 Ja '33  
Two yards receive orders for Coast guard ships. *Marine R* 63:31 N '33

**COATS, J. & P., limited**

Annual ordinary general meeting, 43d, Glasgow. *Economist* 116:1326 Je 17 '33

**COBALT**

Absolute saturation of cubic cobalt. R. I. Allen and F. W. Constant. *diag Phys R* 44:228-33 Ag 1 '33  
Action of carbon monoxide on iron and cobalt complexes of cysteine. M. P. Schubert. *Am Chem Soc J* 55:4563-70 N '33  
Influence of crystalline fields on the susceptibilities of salts of paramagnetic ions; the iron group, especially Ni, Cr and Co. R. Schlapp and W. G. Penney. *Phys R* 42:666-86 D 1 '32  
Metal cobalt and some of its uses. B. E. Field. *Min & Met* 14:303-5 Jl '33  
New complex of cobalt and cysteine and its behavior with hydrogen peroxide. M. P. Schubert. *Am Chem Soc J* 55:3336-42 Ag '33  
Spectra of the calcium I-like ions: manganese VI, iron VII, cobalt VIII and nickel IX. W. M. Cady. *Phys R* 43:322-8 Mr 1 '33  
Study of the isotopes of cobalt by the magneto-optic method. T. R. Ball and S. S. Cooper. *Am Chem Soc J* 55:3207-10 Ag '33

**Analysis**

Adaptation of the dimethylglyoxime-benzidine test for cobalt to the usual scheme of qualitative analysis. A. W. Scott. *Am Chem Soc J* 55:3647-8 S '33  
Improved qualitative separation of the iron group in the presence of phosphate. T. B. Smith. *Chem Soc J* p253-7 Mr '33  
Volumetric determination of cobalt by means of ferrous sulfate and potassium dichromate. L. A. Sarver. *Ind & Eng Chem Anal* ed 5:275-6 Jl 15 '33

**COBALT alloys**

Alloy 548; a new metal cutting alloy. Z. Jeffries; W. P. Sykes. *il Metal Prog* 23:29-35 F '33  
Cobalt-tungsten system. W. P. Sykes. *il Am Soc Steel Tr Trans* 21:385-421; Discussion. 421-3 My '33  
Cutting tools of Fe-Co-W. W. Köster. *il Metal Prog* 24:42-4 Ag '33  
Develops low-cost alloy for high-speed cutting. *Steel* 92:19-20 Ja 23 '33

See also

**Stellite**

**COBALT amines.** See Cobalt compounds

**COBALT compounds**

Absorption spectra of cobaltous compounds; the alkali oxide-boric oxide glasses. W. R. Brode. *Am Chem Soc J* 55:939-47 Mr '33  
Amines; cobaltous and cupric compounds from tris-( $\beta$ -hydroxyethyl)amine; new method of formation of amino-cupric salts. J. C. Duff and E. H. Steer. *Chem Soc J* p2861-2 D '32  
Catalysis of Eder's reaction by cobalt compounds. G. H. Cartledge and T. G. Djang. *Am Chem Soc J* 55:3214-21 Ag '33  
Researches on amines; the action of acids on dihydroxotetramminocobaltic hydroxide. H. J. S. King. *Chem Soc J* p517-20 My '33

**COBALT cresylate**

Metallic driers. bibliog *Oil Paint & Drug Rep* Extra ed 122:47-9 N 29 '32

**COBALT phenolate**

Metallic driers. bibliog *Oil Paint & Drug Rep* Extra ed 122:47-9 N 29 '32

**COBALT steel**

Cobalt steel; growth of the magnet department of Darwins, ltd. *il Electrician* 109:694 N 25 '32  
Heat treatment of cobalt high speed steel. *Metal Prog* 23:29-4 Ap '33  
Modern metal-cutting materials and how to select them; results of tests at East Pittsburgh plant of the Westinghouse electric & mfg. co. J. M. Highducheck. *il chart Mach* 40:12-17 S '33

**COBALT sulfate**

Equilibria in the systems  $(\text{NH}_4)_2\text{SO}_4\text{-NiSO}_4\text{-H}_2\text{O}$ ,  $(\text{NH}_4)_2\text{SO}_4\text{-CoSO}_4\text{-H}_2\text{O}$ ,  $(\text{NH}_4)_2\text{SO}_4\text{-ZnSO}_4\text{-H}_2\text{O}$ ,  $\text{Na}_2\text{SO}_4\text{-NiSO}_4\text{-H}_2\text{O}$ , and  $\text{Na}_2\text{SO}_4\text{-CoSO}_4\text{-H}_2\text{O}$ , at 25°. R. M. Caven and W. K. Gardner. *Chem Soc J* p943-6 Ag '33  
Partial molal volumes of cobalt sulfate and of cadmium iodide. R. C. Cantelo and H. E. Phifer. *Am Chem Soc J* 55:1333-8 Ap '33

**COBALTINITRITES**

Determination of potassium by the cobaltinitrite method and its application in agricultural analysis. A. H. Lewis and F. B. Marmoy. *Soc Chem Ind J* 52:177T-82T Je 23 '33

**COBBETT, William**

Peter Porcupine's persecution of Priestley. L. C. Newell. *por J Chem Educ* 10:151-9 Mr '33

**COCA COLA company**

Coca-Cola and beer. *Barron's* 13:12 Ap 10 '33  
Coca-Cola's pause in earnings. *Econostat* 1:14-15, 23 Jl 29 '33  
Unfair competition; injunctive relief. *Econostat* 1:23 N 4 '33

**COCKS**

Der Deuton-säurehahn. K. Dehne. *il diag* *Chemische Fabrik* 6:6-8 Ja 4 '33  
Fixture for slotting bodies of special cocks. C. C. Tomney. *diags Am Mach* 77:635 S 27 '33  
New stop-cock clamp. A. F. Roe. *diag Science* 77:566 Je 9 '33

**COCOA**

Chocolate and cocoa products, 1929 and 1931. *Food Ind* 5:51 F '33  
Cocoa crisis; all-time lows depress African growers and American traders, but not the British combine. *Business Week* p22 N 4 '33  
Cocoa in São Tomé and Príncipe. L. J. Schwarz. *U S Bur For & Dom Com Trade Promotion Ser* 138:1-27 '32  
Cocoa in the Cameroons under French mandate and in Fernando Po. L. J. Schwarz. *il map U S Bur For & Dom Com Trade Promotion Ser* 148:1-64 '33  
Cocoa market in 1932. H. T. McKee. *Comm & Fin* 22:30 Ja 11 '33  
Cocoa moth in its chemical aspects. L. E. Campbell. *Soc Chem Ind J (Chem & Ind)* 51:1058-9 D 23 '32; Abstract. *Chem Age (Lond)* 27:549-50 D 10 '32; Discussion. *Soc Chem Ind J (Chem & Ind)* 51:1059-60 D 23 '32; *Chem Age (Lond)* 27:550 D 10 '32  
Kind of cocoa beans the manufacturer wants. *il Food Ind* 5:408-9 O '33  
Mr Bennett becomes King Koko amid regal pomp and splendor. *Sales Management* 32:124 F 1 '33

See also

**Chocolate****Manufacture**

Rockwood & co. improves product by lowering cost. E. S. Stater. *il Food Ind* 5:64-5 F '33

**Statistics**

Cocoa, 1932. *Economist* 116:sup40 F 18 '33

**COCOA butter.** See Cacao butter

**COCONUT oil**

Catalytic effect of caustic alkali on the alcoholysis and hydrolysis of fats. G. K. Rowe. *Soc Chem Ind J* 52:49T-52T F 24 '33  
Empire copra and coconut oil. *Chem Age (Lond)* 28:95 F 4 '33  
Restrictions on coconut oil in oleomargarine protested. *Chemicals* 38:9 O 2 '33

**COD liver oil**

- By-product sodium morrhuate. S. Caspe. bibliog Ind & Eng Chem 25:1177 O '33  
 Cod-liver oil as food. J. Kloster. Science 76: sup9 D 23 '32  
 Newfoundland codliver oil output estimated. Oil Paint & Drug Rep 123:29 Ja 2 '33  
 Sardine and tuna oils as sources of vitamin D. R. W. Truesdail and H. J. Culbertson. bibliog Ind & Eng Chem 25:563-4 My '33  
 Use of vitamin D from cod-liver oil in milk and bread. T. F. Zucker. Science 77:19-20 Ja 6 '33

**CODES, Industrial.** See Industrial codes**COENZYMES**

- Respiration coenzyme. F. E. Allison, S. R. Hoover and D. Burk. Science 78:217-18 S 8 '33

**COFFEE**

- Proof is in the drinking. P. W. Punnett. il Food Ind 5:291-3+, 354-6, 405-7 Ag-O '33

**Prices**

- New York coffee futures, 1932. Annalist 41: 102 Ja 20 '33

**COFFEE pots**

- Good is in the brewing. P. W. Punnett. il Food Ind 5:354-6, 405-7 S-O '33

**COFFEE trade**

- A & P's new coffee packages. il Ptr Ink Mo 27:17+ O '33  
 Coffee and sugar markets in 1932. H. H. Pike, jr. Comm & Fin 22:29 Ja 11 '33  
 Glass pack coffee; Owens-Illinois goes after the vacuum pack market. Business Week p8 Ap 26 '33  
 New A & P packages. il Ptr Ink 164:75 S 28 '33  
 Proof is in the drinking. P. W. Punnett. il Food Ind 5:291-3+, 354-6, 405-7 Ag-O '33  
 Retailers' sales pick-up speeded by manufacturer's salesmen; J. A. Folger & co. F. Atha. il Ptr Ink 165:25-7 O 12 '33

**Advertising**

- Brewery bequeaths dry era outlet to competitor; recommends Maxwell House. il Ptr Ink 164:10-11 Jl 6 '33  
 Maxwell House back in magazines. il Ptr Ink 162:67 F 2 '33  
 New deal in coffee; McLaughlin's utensil offer. il Ptr Ink 163:39-40 Ap 6 '33  
 Unexpected enclosures that dramatize the sales points stressed in the letters; how W. F. McLaughlin and company introduces Manor house coffee to grocers and housewives. A. Barkley. il Ptd Salesmanship 60: 428-9 F '33

**Statistics**

- Coffee, 1932. Economist 116:sup39-40 F 18 '33

**Brazil**

- Coffee loans. Economist 115:1251-2 D 31 '32

**COFFERDAMS**

- Construction of the Hoover dam. W. R. Nelson. il diag plans Comp Air M 38:4069-74 Mr '33  
 George Washington bridge; construction of substructure. M. B. Case. il diag plans Am Soc C E Proc 59:29-64 Ja '33  
 Handling 2,000,000 cu. yd. of excavation at Boulder dam. il plan Eng N 110:777-8 Je 15 '33  
 Hoover dam on the Colorado river. il plan Engineer 156:374-6, 384 O 20 '33  
 New York piers for 1,000-ft. ships. il diag plans Eng N 111:123-8 Ag 3 '33  
 Permanent cofferdams to be large earthrock fills with concrete facing; Hoover dam project. il plan Eng N 109:709-11 D 15 '32  
 Piers for superliners; new ocean terminal in New York. C. H. Vivian. il Comp Air M 38:4048-53 F '33  
 Sheeting interlocked on barge for cofferdam wall; concrete multiple-arch highway bridge across the Mohawk river between Cohoes and Waterford, N.Y. diag Eng N 110:191 F 9 '33

**See also**

Bridges—Foundations and piers

**COFFIN, Howard E.**

- Heads General textiles, inc. which succeeds Hunter company. por Textile World 82:1148-9 D '32

**COFFINS**

- Excavations reveal old cast iron casket. il Foundry 61:30 My '33

**COHESION**

- Kohäsionsfestigkeit. W. Kuntze. il Zeit Ver Deutsch Ing 77:49-50 Ja 14 '33

**COILS**

- Cleaning stator coil leads. S. Ovando. diag Maintenance Eng 91:53-4 F '33  
 Design of direct-current armature coils. E. H. Turnock. diag Elec J 30:131 Mr '33  
 Ferrocart coils. il Electrician 110:498 Ap 14 '33  
 Ferrocart; losses in radio frequency magnet cores. A. Schneider. diag Electrician 110: 849+; 111:9 Je 30-Jl 7 '33  
 High frequency magnetic field of a flat spiral coil. S. Githens, jr. and O. Stuhlman, jr. R Sci Instr 4:542-5 O '33  
 Iron-content cores for high-frequency coils; use of Ferrocart. A. Schneider. diag Wireless Eng 10:183-5 Ap '33; Discussion. 10: 293-5, 313-15, 491-2 Je, S '33  
 Iron powder compound cores for coils; Ferrocart. Wireless Eng 10:1-3 Ja '33  
 Material standards of resistance; the B.A. coils, 1881-1932; abstract. R. T. Glazebrook and L. Hartshorn. Engineering 134:554 N 11 '32  
 Method of measuring the self-capacitance of coils. M. G. Scroggie. diag Wireless Eng 10:477-9 S '33  
 Modified reactance-frequency chart. J. R. Tolmie. Inst Radio Eng Proc 21:1364-6 S '33  
 Overlap windings. A. C. Roe. il Maintenance Eng 91:53 F '33  
 Subdivided conductors in shell-type transformers. R. L. Brown. diag Elec J 30:119-20 Mr '33  
 Tables for the calculation of the mutual inductance of any two coaxial single-layer coils. F. W. Grover. Inst Radio Eng Proc 21:1039-49 Jl '33  
 Temperature protection with detector coils. H. E. Pearson. il diag Gen Elec R 36:109-10 F '33

**See also**

- |                  |           |
|------------------|-----------|
| Armatures        | Reactors  |
| Inductance coils | Solenoids |

**Manufacture**

- Automatic power driven coil winder. il Electrician 109:691 N 25 '32  
 Multiple coil winding. il Elec R (Lond) 112: 68 Ja 13 '33

**Testing**

- Testing instrument coils. diag Elec R (Lond) 111:880 D 16 '32

**COILS, Pipe**

- Coils; how aluminum tubing is bent to make them. F. V. Hartman. il Dom Eng 142:137-8 S '33  
 Cooling coil efficiency tests; admiralty brass, glass, and chrome nickel iron as tube materials tested. B. L. Peables and D. K. Taylor. Gas Age 70:653-4 D 17 '32  
 Difficult pipe bends made with special table. diag Ry Mech Eng 107:223-4 Je '33

**COIN exchanges**

- Coin exchanges proving bad risks for many companies. Nat Underw 36:24 D 1 '32

**COINAGE**

- Royal mint; extensive application of gas. il diag Gas J (Lond) 201:40-1 Ja 4 '33

**COINS**

- Chemistry and Grecian archaeology. W. Foster. il J Chem Educ 10:272-5 My '33  
 Coin rarities hold up well in recent auction sale. T. J. Venn. Bankers Mo 50:56 Ja '33  
 Results secured at recent coin sales. T. J. Venn. Rand McNally Bankers Mo 50:308-9, 422-3 Je, Ag '33

**COINS, Roman**

- Coins of the twelve Cæsars. H. W. Haines. il Burroughs Clearing House 17:13-15 Ja '33



COINSURANCE. See Insurance, Fire—Coinsurance

## COKE

Coke consumption in blast-furnace practice; the effect of removal of breeze. D. F. Marshall and R. V. Wheeler. *diag Engineering* 135:531-2 My 12 '33; Abstract. *Engineer* 155:470 My 12 '33; Discussion. *Engineering* 135:525-6 My 12 '33; *Engineer* 155:470-1 My 12 '33

Coke-fired reheating furnace. F. Lloyd and R. V. Wheeler. *diag Engineering* 136:479-80 O 27 '33; Abstract. *Iron Age* 132:17, 74 O 19 '33

Coke for open fires. H. J. Hodsmen. *Gas J (Lond)* 201:737 Mr 22 '33

Constitution of chlorinated coal; some notes on solvent extraction and coke formation. H. Kay and A. McCulloch. *il Soc Chem Ind J* 52:47T-9T F 24 '33

Development of Dakota lignite; effect of inorganic materials on reactivity of low-temperature lignite char. A. W. Koth and I. Lavine. *bibliog diag Ind & Eng Chem* 25:570-4 My '33

Gasification of small coke in built-in producers. *Gas J (Lond)* 200:694 D 7 '32

Observations on the distribution of ash in coal and coke. A. Marsden. *il diag Gas J (Lond)* 202:54-8 Ap 5 '33

Plastic properties of coking coals. J. D. Davis and others. *Ind & Eng Chem* 25:1269-74 N '33

Reactivity of cokes at low temperatures to oxygen and carbon dioxide. C. B. Bolland and J. W. Cobb. *diag Soc Chem Ind J* 52:153T-9T Je 2 '33; Abstract and discussion. *Soc Chem Ind J (Chem & Ind)* 52:179-80 Mr 3 '33

Use of coke for domestic purposes. *Gas J (Lond)* 202:162-3 Ap 19 '33

See also

Coke ovens

Petroleum coke

### Analysis

Rapid volumetric method for determination of sulfur in coal and coke; comparison of a modified benzidine method with the standard methods. E. L. Skau and I. L. Newell. *bibliog Ind & Eng Chem Anal ed* 5:180-2 My 15 '33

Sampling and analysis of coke. *Engineering* 136:126 Ag 4 '33

### Ash content

Ash content of domestic coke. G. E. Foxwell. *Engineer* 156:5-6 Jl 7 '33

Ash in gas coke. G. E. Foxwell. *Gas J (Lond)* 202:276-7 My 3 '33

Observations on the distribution of ash in coal and coke. A. Marsden. *il diag Gas J (Lond)* 202:54-8 Ap 5 '33

Variations in coke ash found to affect analysis of pig iron. H. W. Johnson. *Iron Age* 131:664-5 Ap 27 '33

### Prices

Connellsville coke prices, monthly, 1913-1932. *Iron Age* 131:84 Ja 5 '33

Market history of beehive and by-product foundry coke; tabulation. *Steel* 92:112-13 Ja 2 '33

### Semi-coke

Les méthodes modernes de carbonisation à basse température et de préparation d'antracite artificiel. C. Berthelot. *bibliog il diag Chimie & Ind* 29:18-44 Ja '33

### Testing

Method for determining the dustiness of coal and coke. A. R. Powell and C. C. Russell. *il Ind & Eng Chem Anal ed* 5:340-1 S 15 '33

Die reaktionsfähigkeit von koks bei temperaturen über 1000°. H. Broche and H. Nedelmann. *Stahl & Eisen* 53:144-7 F 9 '33

## COKE, Pulverized

Use of pulverized petroleum coke at Michigan City. *Power Pl Eng* 37:75 F '33

## COKE breeze

Carbonization of screened, mixed, and blended coals. H. Hollings. *flow diag Gas J (Lond)* 201:370-4; Discussion. 374-6 F 15 '33

Coke consumption in blast-furnace practice; the effect of removal of breeze. D. F. Marshall and R. V. Wheeler. *diag Iron & Steel Inst J* 127:87-113, pl 7-8 no 1 '33; Same cond. *Engineering* 135:531-2 My 12 '33; Abstract. *Engineer* 155:470 My 12 '33; Discussion. *Iron & Steel Inst J* 127:114-25 no 1 '33; *Engineering* 135:525-6 My 12 '33; *Engineer* 155:470-1 My 12 '33

Fuel economy in internal producers. A. Tran. *Gas J (Lond)* 202:559-61; Discussion. 561 My 24 '33

Making profits from waste by briquetting coke. E. J. Tournier. *il diag Gas Age* 72:230-4 S 9 '33

Study toward solution of breeze problem in by-product coke oven plant. R. E. Kruger. *Am Gas Assn Mo* 15:295-7 Jl '33

## COKE burning appliances

Gas and gas coke for hot water supply. *Gas J (Lond)* 201:682-3; Discussion. 683-4 Mr 15 '33

## COKE handling

Belt conveyors for coal and coke. *diag Mech Handling* 20:129-32 Ap '33

Coke handling and grading at Beckton. *il Gas J (Lond)* 203:197-8 Jl 26 '33

Coke handling at gas works and coke ovens. *il diag Mech Handling* 19:421-6 D '32

Coke handling plant. D. L. Copp. *diag Gas J (Lond)* 201:376-8; Discussion. 378 F 15 '33

Coke handling, storage and treatment at Beckton gas works. C. G. Harman. *flow diag plan Mech Handling* 20:197-201, 234-8, 263-7, 297-301, 330-4, 357-60 Je-N '33

Coke loading at coke ovens. *diag Mech Handling* 20:69-70 F '33

Conveying systems simplify barge loading and unloading. *il Chem & Met Eng* 40:136-7 Mr '33

Dust elimination in coke-handling plant. *il Mech Handling* 20:271-2 Ag '33

Improved portable conveyors for coke and gas plants. E. J. Tournier. *il Gas Age* 71:169-72 F 18 '33

Motors for elevators and hoists in gas and coke plants. E. J. Tournier. *il diag Gas Age* 71:53-6 Ja 21 '33

Special chains and buckets in gas and coke plant conveyors. E. J. Tournier. *il diag Gas Age* 72:167-9+ Ag 19 '33

## COKE industry

Cooperative plan helps sell coke in Stamford, Conn.; gas company and coal dealers. C. B. Barr. *il Gas Age* 71:6-7+ Ja 7 '33

Fortschritte im kokereiwesen im jahre 1932. W. Melzer. *Stahl & Eisen* 53:631-3 Je 15 '33

Future prospects of low-temperature carbonisation. *Engineer* 156:353 O 13 '33

### Advertising

Jig-saw puzzle campaign adds 60 coke customers; Providence gas company, Providence, R.I. *Gas Age* 71:550 My 27 '33

Savings dramatized; Koppers Philadelphia coke advertising. *il Ptr Ink* 162:47-8 F 23 '33

### Statistics

Coke by-product output in 1932 showed decrease. *Oil Paint & Drug Rep* 124:22 Ag 21 '33

### Germany

Die koks- und briketherstellung sowie eisen- und stahlerzeugung des Deutschen Reiches im jahre 1931. *Stahl & Eisen* 53:153-5 F 9 '33

### Great Britain

Modern trends in the British by-product coking industry. G. E. Foxwell. *Soc Chem Ind J (Chem & Ind)* 52:49-51 Ja 20 '33; Excerpts. *Chem Markets* 32:225-6 Mr '33

Preparation and sale of gas coke. T. Hornby. *il Gas J (Lond)* 202:343-6; Discussion. 346-7 My 10 '33

Presidential address before Coke oven managers' association. W. E. Mordecai. *Gas J (Lond)* 204:263-4 O 25 '33

Selling solid smokeless fuel. G. E. Foxwell. *Gas J (Lond)* 203:96-8 Jl 12 '33

**COKE manufacture**

- Carbonization of coal of relatively low coking power. Gas J (Lond) 202:215 Ap 26 '33
- Centralized manufacture and distribution of gas in Belgium. G. Evetts. map Gas J (Lond) 202:526-32 My 24 '33; Discussion. 202:752-5; 203:41-5 Je 7, Jl 5 '33
- Clean coal declared essential to production of good coke. Iron Age 131:395-6 Mr 9 '33
- Coal testing and other aids in the control of carbonization. N. C. Sturrock. Gas J (Lond) 201:754-6 Mr 22 '33
- Coal washing benefits coke oven operation. H. W. Seyler. il Chem & Met Eng 40:470-3 S '33
- Development of Dakota lignite; effect of inorganic materials on low-temperature carbonization. A. W. Koth and I. Lavine. bibliog il diag Ind & Eng Chem 25:328-33 Mr '33
- Gas, coke and by-product making properties of American coals; summary of important results and preliminary conclusions from tests on 20 coals. A. C. Fieldner and J. D. Davis. tables Am Gas Assn Proc 1932:860-78
- Mechanism of coke formation. G. E. Foxwell. Gas J (Lond) 201:813; 202:41, 100 Mr 29-Apr 12 '33
- Les méthodes modernes de carbonisation à basse température et de préparation d'anthracite artificiel. C. Berthelot. bibliog il diags Chimie & Ind 29:18-44 Ja '33
- Mikroskopische untersuchung des verkokungsvorganges. E. Terres and O. Reinecke. il Angew Chemie 45:715-19 N 12 '32
- Preparation and sale of gas coke. T. Hornby. il Gas J (Lond) 202:343-6; Discussion. 346-7 My 10 '33
- Recent developments in coking practice; production of Carbolux. H. Koppers. Gas J (Lond) 204:267-9; Discussion. 269-72 O 25 '33
- Scientific developments in the carbonization of coal. S. F. Smith and H. J. Rose. Am Gas Assn Proc 1932:971-6 [bibliog p975-6]
- Solid smokeless fuel. J. W. Napier. Gas J (Lond) 201:264-6 F 1 '33
- Study toward solution of breeze problem in by-product coke oven plant. R. E. Kruger. Am Gas Assn Mo 15:295-7 Jl '33
- Testing and blending coals for coking. T. Biddulph-Smith. il Blast F & Steel Pl 21: 471-3+ S '33
- Washing coal for coking purposes at Clairton byproduct coke works. H. W. Seyler. flow sheet il Coal Age 38:187-94 Je '33
- Young, Beilby, and some experiments on the carbonization of coal. F. S. Sinnatt. il diags Gas J (Lond) 203:565-70 S 13 '33

*See also*

- |             |                  |
|-------------|------------------|
| Coke ovens  | Gas manufacture— |
| Coke plants | By-products      |

**By-products**

- Byproducts obtained from coke-oven operations in 1931. Chem & Met Eng 40:47 Ja '33
- Direct recovery of standard road tars. F. Cooke. diag Gas J (Lond) 202:811-13 Je 14 '33
- Making profits from waste by briquetting coke. E. J. Tournier. il diags Gas Age 72: 230-4 S 9 '33
- Production of organic compounds from coke oven gas. J. W. Osterrieth and G. Dechamps. Gas J (Lond) 201:202-5 Ja 25 '33; Excerpts. Chem Age (Lond) 28:45-6 Ja 21 '33; Discussion. Gas J (Lond) 201:205-6 Ja 25 '33; Chem Age (Lond) 28:46-7 Ja 21 '33
- Récolte et traitement des sous-produits de la carbonisation de la houille; état actuel de ces techniques en Europe et aux États-Unis. C. Berthelot. bibliog il diags Chimie & Ind 30:3-38; Discussion. 38 Jl '33

*See also*

- |                             |                         |
|-----------------------------|-------------------------|
| Benzol (commercial benzene) | Coke plants, By-product |
| Coke-oven gas               |                         |

**Cooling**

- Coke dry cooling at coke-ovens. diags Mech Handling 20:32-4 Ja '33
- Coke handling plant. D. L. Copp. diags Gas J (Lond) 201:376-8; Discussion. 378 F 15 '33

- Dry-quenched coke for the blast furnace; with cost data. J. F. Miller. il diag Iron Age 132:12-15 Ag 24 '33

**COKE measurement**

- Measurement of coal and coke; Lea coal meter and the Lea cubimeter. il diags Mech Handling 20:269-71 Ag '33

**COKE-oven gas**

- Application of gas analysis to industrial problems. M. Bermann. Gas Age 72:211-14 S 2 '33
- Benzolgewinnung aus koksofengas mittels aktiver kohle. A. Sander. diag Zeit Ver Deutsch Ing 77:1076-7 S 30 '33
- Coke plant sells its surplus gas to public utility. Steel 93:34 Jl 3 '33
- Combustion of solid, liquid, and gaseous industrial fuels. H. L. Pirie. Gas J (Lond) 201: 96-8 Ja 11 '33
- Co-ordinated gas conservation at the Normanby Park steel works, Scunthorpe; abstract. W. J. Brooke. Engineer 156:288-9 S 22 '33; Discussion. Engineer 156:288-9 S 22 '33; Engineering 136:339 S 22 '33
- La gazification des Gelsenkirchener gusstahlwerke, à Gelsenkirchen (Allemagne). diags Génie Civil 102:94 Ja 28 '33
- Identification of vapor-phase gum in resinous deposits. R. N. Wenzel. Gas Age 71:413-14 Ap 22 '33
- Investigation of nitric oxide in works gas. V. Porrazzo. il Gas Age 72:123-4+ Ag 5 '33
- Kleinverbraucher von koksofengas in der eisenindustrie. A. Herberholz. diags Stahl & Eisen 53:417-22 Ap 27 '33
- Der koksofengaszusatz bei Siemens-Martin-öfen mit generatorgasbeheizung. F. Wesemann. Stahl & Eisen 53:185-9; Discussion. 189-91 F 23 '33
- Organic compounds from coke-oven gas. C. H. S. Tupholme. diag Ind & Eng Chem News ed 11:63+ Mr 10 '33
- Particulars relating to the manufacture and supply of gas by authorized gas undertakings in Great Britain for the year 1932; coke oven gas purchased by gas undertakings; tabulations. Gas J (Lond) 203:450 Ag 30 '33
- Principles of recuperation applied to industrial gas furnaces. E. A. Luscombe. bibliog il diags Am Gas J 137:9-12+ D '32
- Production of organic compounds from coke oven gas. J. W. Osterrieth and G. Dechamps. Gas J (Lond) 201:202-5 Ja 25 '33; Excerpts. Chem Age (Lond) 28:45-6 Ja 21 '33; Discussion. Gas J (Lond) 201:205-6 Ja 25 '33; Chem Age (Lond) 28:46-7 Ja 21 '33
- Wassergaserzeugung im koksofen. G. Lorenzen. diags Stahl & Eisen 53:33-40 Ja 12 '33
- COKE oven managers' association**  
Annual dinner, Oct. 19. Chem Age (Lond) 29:390 O 28 '33
- COKE ovens**  
Coke-oven and recovery plant at Irlam. il plan Engineering 135:538-40, 546, pl 32 My 19 '33
- Coke oven plant at Beckton gas works; with cost data. R. W. Hunter. il Gas J (Lond) 202:504-14 My 24 '33; Discussion. 202:743-6 Je 7 '33
- Constitution and thermal expansion of silica coke-oven brick after service. J. B. Austin and R. H. H. Pierce, jr. diags Am Cer Soc J 16:102-6 F '33
- Improvement of design of coal-carbonizing equipment. H. C. Porter. il diag Ind & Eng Chem 24:1363-8 D '32; Abstract. Gas Age 71:255-6 Mr 11 '33
- Pieters coke oven; abstract. J. Dubois. Am Gas J 138:38 Ap '33
- Prince George opens Irlam's new coke ovens. il plan Gas J (Lond) 202:393-6 My 17 '33
- La technique actuelle des fours à coke; évolution des fours depuis la guerre. G. Lecocq. diags Chimie & Ind 29:1287-92 Je '33
- Tentative German standard specifications for coke-oven jointing cements. Gas J (Lond) 202:912 Je 28 '33



**COKE ovens—Continued**

Underlying a coke oven with liquefied petroleum gas. E. D. Maurer. plans Gas Age 71: 579-82 Je 3 '33

*See also*

Coke manufacture  
Coke-oven gas

**COKE plants**

Coke oven plant at Beckton gas works; with cost data. R. W. Hunter. il Gas J (Lond) 202:504-14 My 24 '33; Abstract. Engineering 135:617 Je 9 '33; Discussion. Gas J (Lond) 202:743-6; 203:45-6 Je 7, JI 5 '33

Coke plant held not a nuisance. Gas Age 71: 18 Ja 7 '33

Consett iron co., ltd. Soc Chem Ind J (Chem & Ind) 52:614-15 JI 28 '33

**Accidents**

Coke-oven accidents in the United States during the calendar year 1932. W. W. Adams and L. Chenoweth. U S Bur Mines Tech Pa 559:1-15 '33

Coke-oven accidents in the United States, 1931. Monthly Labor R 36:107 Ja '33

Gas explosion in the Saar. il Gas J (Lond) 201:361-4 F 15 '33

Gasholder explosion at Neunkirchen. K. Bunte. il plan Gas J (Lond) 201:460-1 F 22 '33; Same. Gas Age 71:275+ Mr 18 '33

**Equipment**

Coke handling plant. D. L. Copp. diags Gas J (Lond) 201:376-8; Discussion. 378 F 15 '33

Coke loading at coke ovens. diags Mech Handling 20:69-70 F '33

Improved portable conveyors for coke and gas plants. E. J. Tournier. il Gas Age 71: 169-72 F 18 '33

Motors for elevators and hoists in gas and coke plants. E. J. Tournier. il diag Gas Age 71:53-6 Ja 21 '33

Special chains and buckets in gas and coke plant conveyors. E. J. Tournier. il diag Gas Age 72:167-9+ Ag 19 '33

**Waste**

Coke oven effluents; investigation of their toxicity. B. A. Southgate. Gas J (Lond) 202:216-18 Ap 26 '33; Abstract. Gas Age 72: 220 S 2 '33

Death of fish from cyanides in coke-oven effluents. C. H. S. Tupholme. Ind & Eng Chem News ed 11:211 JI 20 '33

Effect of some constituents of coke-oven effluents on the rate of decomposition of sewage. B. A. Southgate. Soc Chem Ind J 52:1T-4T Ja 13 '33

Utilization of pyridine-quinolines for removal of phenol from coke-plant effluents. L. Kosachkov. Ind & Eng Chem News ed 11: 234 S 20 '33

Water pollution by cyanides. Gas J (Lond) 202:156-7 Ap 19 '33

**COKE plants, By-product**

Coke oven and recovery plant at Irlam. il plan Engineering 135:538-40, 546, pl 32 My 19 '33

Coke plant sells its surplus gas to public utility. Steel 93:34 JI 3 '33

Derwenthaugh coke works. il Chem Age (Lond) 29:54 JI 15 '33

International handbook of the by-product coke industry. W. Gluud, ed. 879p \$15 Chemical catalog co. '32

Modern trends in the British by-product coking industry. G. E. Foxwell. Soc Chem Ind J (Chem & Ind) 52:49-51 Ja 20 '33; Excerpts. Chem Markets 32:225-6 Mr '33

New coke and by-product plant at Irlam. il Chem Age (Lond) 29:11 JI 1 '33

New coke-oven plant; £250,000 scheme at Manvers main collieries. Chem Age (Lond) 29:sup18 S 2 '33

New coking and by-product installation at Pont Brûlé. Gas J (Lond) 201:467 F 22 '33

Prince George opens Irlam's new coke ovens. il diag plan Gas J (Lond) 202:393-9 My 17 '33

Reducing cooling costs in by-product coke plants. B. T. Du Pont. il diags Iron Age 131:704-5+ My 4 '33

Report of the Koppers company. Am Gas Assn Proc 1932:915-16

Study toward solution of breeze problem in by-product coke oven plant. R. E. Kruger. Am Gas Assn Mo 15:295-7 JI '33

Washing coal for coking purposes at Clairton byproduct coke works. H. W. Seyler. flow sheet il Coal Age 38:187-94 Je '33

*See also*

Coke manufacture—  
By-products

**COKE preparation**

Birtley coke cleaning plant. diags Mech Handling 19:424-6 D '32

Coke; A.G.A. subcommittee report. Am Gas Assn Proc 1932:913-14

Cutting of coke. il Mech Handling 20:67-8 F '33

*See also*

Coke screening  
Coke washing

**COKE research**

Mechanism of coke formation. G. E. Foxwell. Gas J (Lond) 201:813; 202:41, 100 Mr 29-Apr 12 '33

Midland coke research committee; report of progress during 1932. Gas J (Lond) 202:916 Je 28 '33

Research on coal and coke; report of the Northern coke research committee for 1932. Gas J (Lond) 202:766-7 Je 7 '33

**COKE screening**

Coke handling plant. D. L. Copp. diags Gas J (Lond) 201:376-8; Discussion. 378 F 15 '33

Coke handling, storage and treatment at Beckton gas works. C. G. Harman. diags Mech handling 20:332-4, 357-60 O-N '33

Re-screens coke at the blast furnace skips; Weirton steel co, Weirton, W. Va. E. J. Tournier. il diag Iron Age 131:585-6 Ap 13 '33

**COKE washing**

Coal and coke washing and cleaning plant. il diag Mech Handling 20:301-4, 334-6 S-O '33

**COLD**

*See also*

Cooling  
Temperature—Phy-  
siological effect

Temperature. Low

**COLD (disease)**

Catching cold and body temperature. P. Schmidt. Science 77:sup9 Mr 10 '33

Common cold—an infection. C. H. Watson. Nat Safety N 26:36 D '32

Common cold, with special reference to the part played by streptococci, pneumococci and other organisms. D. Thomson and R. Thomson. 738p Williams and Wilkins '32

Diet in sinus infections and colds. E. V. Ullmann. 166p \$2 Macmillan '33

Stability of resistance to colds. W. M. Gafaer and J. A. Doull. Science 78:314-15 O 6 '33

**COLD light.** *See* Light; Luminescence

**COLD storage**

Browne's cold storage temperatures and humidity chart. M. W. Browne. 2d ed M. W. Browne, Kansas City, Mo. '32

Changes occurring during freezing storage and thawing of fruits and vegetables. M. A. Joslyn and G. L. Marsh. diags California Agric Exp Sta Bul 551:1-40 '33

Changes which may occur in frozen foods during cold storage. D. K. Tressler. il Food Ind 5:346-7, 410+ S-O '33

Chemical changes in the fat of frozen and chilled meat; the effect of smoking and the influence of atmospheric humidity on the keeping properties of bacon. C. H. Lea. Soc Chem Ind J 52:57T-63T Mr 3 '33

Chemical changes in the fat of frozen and chilled meat; the protective influence of carbon dioxide on the fat of beef stored at 0° C. C. H. Lea. Soc Chem Ind J 52:9T-12T Ja 27 '33

Cold storage and warehouse refrigeration. W. E. Zieber and J. C. Consley. Refrig Eng 25:29-33 Ja '33

Cold storage holdings, New York state, April 1, 1933 and April 1, 1932; tabulation. Refrig W 68:41 Ap '33

**COLD storage—Continued**

- Commercial storage of fruits, vegetables, and florists' stocks. D. H. Rose, R. C. Wright and T. M. Whiteman. U S Agric Circ 278:1-39 [Bibliog p37-9] '33
- Decomposition of ozone; application to cold storage rooms. A. W. Ewell. Refrig Eng 26: 68-9+ Ag '33
- Effect of carbon dioxide on the colour changes or bloom of lean meat. J. Brooks. Soc Chem Ind J 52:17T-19T Ja 27 '33
- Influence of freezing temperatures on had-dock's muscle. G. A. Reay. Soc Chem Ind J 52:265T-70T Ag 25 '33
- Investigations on the sea transport of apples. Engineering 136:333-4 S 22 '33
- Jacketed cold storage rooms. O. C. Young. Refrig Eng 26:198-9 O '33
- Nation's refrigerator. E. M. Dodds. il Refrig Eng 25:312-13+ Je '33
- Some recent developments in low-temperature research. W. Hardy. il diag Soc Chem Ind J (Chem & Ind) 52:45-9 Ja 20 '33
- Storage of grapes; plant installed in southern France. Estrade. Electrician 110:550 Ap 28 '33
- U.S. cold storage holdings; tabulation. Refrig W 68:24 Ag; 31 S; 36 O; 42 N '33

*See also*

Carbon dioxide, Solid

**COLD storage warehouses**

- Cold storage and warehouse refrigeration. W. E. Zieber and J. C. Consley. Refrig Eng 25:29-33 Ja '33
- New deal and the refrigerated warehousing industry. F. A. Horne. Refrig W 68:5-6 S '33
- New York dressed poultry terminal, New York city; view and plans. Am Arch 143:50 My '33

**COLD treatment of metals.** *See* Metals, Cold treatment of**COLGATE, R. T.**

Sketch. por Soc Chem Ind J (Chem &amp; Ind) 52:120 F 10 '33

**COLGATE-Palmolive-Peet company**

- Colgate shake-up interesting to other big advertisers. Business Week p22 My 3 '33
- Higher prices help Colgate-Palmolive-Peet. Econostat 1:13, 32 S 16 '33
- What is the investment outlook for these companies? Mag of Wall St 51:160 N 26 '32

**COLLAGEN**

- Structure of gelatin sols and gels; the insolubilization of gelatin by heat. S. E. Sheppard and R. C. Houck. J Phys Chem 36:2885-900 D '32

**COLLECTING of accounts**

- Budget plan for slow-pay accounts. J. Sprengeler. Ptr Ink Mo 26:30+ My '33
- Candy brings in cash; Dave Ginsburg music co. Management Methods 62:18-19 Ja '33
- Collect—with a club! Mitchell wholesale grocery and fruit co, Mitchell, S.D. Credit & Fin Management 34:10 D '32
- Collection letter award. Management Methods 62:116, 140 Mr '33
- Collection letters that brought in \$2,500; Frey and Cunningham, inc. il Management Methods 62:72, 73 F '33
- Collection messages can be sent third class if—. Ptr Ink 163:32-3 My 11 '33
- Collection procedure for current delinquent bills. J. G. Waddick. Gas Age 70:541-2 N 19 '32
- Credit and collection plan that brings in dollars and corrects lists; Guarantee shoe store. il System and Management Methods 62:352-3 Ag '33
- Credit and collection system for small companies. L. A. Mayo. Am Gas Assn Proc 1932:387-95; Discussion. 396-8
- Credit policy boosts sales; Woods service stations. Management Methods 62:214 My '33
- Credits and collections in the metal-working industry. H. A. Russell. Iron Age 130:799+ N 24 '32
- Do you control your collection medium? H. H. Heilmann. Credit & Fin Management 35: 25 Ap '33
- Effective collection methods. E. H. Gardner. 472p Ronald press '33

Effective collection procedure for current delinquent bills. J. G. Waddick. Am Gas Assn Proc 1932:399-403

Even a collection letter, it seems, can have news value. Ptr Ink 161:52-3 D 8 '32

For use with customers who take unearned discounts. W. F. Schaphorst. Inland Ptr 90: 28 Ja '33

Good will gained by tolerance with delinquent customers. Elec W 102:373-5 S 16 '33

Handling delinquent accounts. C. K. Chapin. Am Water Works Assn J 25:192-8 F '33

How have present conditions affected collection letter technique? H. L. Bird. il Ptd Salesmanship 60:455-8 F '33

How Maytag follows the buyer after the sale. Ptr Ink 161:48 N 24 '32

How planning speeded up collections and reduced bad debt losses; Standard Brands. Management Methods 62:166-7 Ap '33

How to collect installment accounts. S. W. Guggenheim. 68p Credit press, Rochester, N.Y. '33

How to measure your collection efficiency. H. VanDrooge. Management Methods 62:12-13 Ja '33

Large distributors collect more promptly. Credit & Fin Management 35:27 J1 '33

Last hope collection letters. Ptr Ink Mo 26:32 Mr '33

Mercantile credit survey. U S Bur For & Dom Com Domestic Commerce Ser 74:1-46; 77:1-44; 78:1-39 '32

Nation-wide collection and sales conditions. Published in monthly numbers of Credit and financial management

Never write a letter without a reason! R. E. Ramsay. Ptd Salesmanship 60:451-3+ F '33

No more monthly statements; easy house-keeping shop. Management Methods 62:65-6 F '33

100% (?) collections. W. D. Dyer. N E L A Bul 20:85 F '33

Plain envelope pulls better. Management Methods 62:11 Ja '33

P.S., he got the cash! a correspondence comedy. T. Kizer. Credit & Fin Management 34:16+ D '32

Pressing collections; Pantex pressing machine, inc, Pawtucket, R. I. J. E. Bullard. il Credit & Fin Management 34:12-13+ D '32

Putting pull into the short collection letter. D. Gridley. Ptr Ink 162:35-6 F 9 '33

Ready-made material for collection letters. Ptr Ink 163:61-3 My 25 '33

Stickers speed collections. il Management Methods 62:15 Ja '33

That final collection letter. B. F. Berfield. Ptr Ink 161:83-4 N 17 '32

There is no single formula for collection letters. Ptr Ink 161:41 D 15 '32

This month's collection letter. Published in monthly numbers of Credit and financial management

When the much-dunned customer becomes a lost account, personal sales work is usually necessary; Universal gypsum & lime co. Ptr Ink 162:36 F 16 '33

Wiring for profits; Postal Telegraph uses its own wire service as part of its collection system. C. B. Allsopp. Credit & Fin Management 34:11+ D '32

*See also*

Billing	Debt
Cash on delivery system	Salesmen as collectors
Credit	

**COLLECTIVE bargaining**

Collective bargaining in Chicago: 1929-1930. C. L. Christenson. 396p \$3 Univ. of Chicago press '33

No interpretations; industry must meet each labor issue on its own merits. Business Week p7-8 S 23 '33

*See also*

Trade agreements

**COLLECTORS and collecting**

For \$100,000 any man becomes a collector. il Fortune 7:58-66 My '33



**COLLECTORS and collecting—Continued**

Principal buyer of firemarks, Linden T. Harris of Mutual fire assurance co, Philadelphia; value of some firemarks. East Underw 34:29 Mr 17 '33

See also

Postage stamps

**COLLEGE architecture**

Architectural planning of the American college. J. F. Larson and A. M. Palmer. 181p 124 il \$2 McGraw-Hill '33

Indiana union building, Indiana university; views and plans. Arch Rec 73:17-23 Ja '33  
Meadville theological school in Chicago; views and plans. Arch Rec 74:372-6 N '33

Payne Whitney gymnasium and Ray Tompkins house at Yale university. front il plans Arch Rec 73:75-104 F '33

University gymnasium and athletic club; checklist of planning requirements. I. D. Matthew. il diags Arch Rec 73:137-44 F '33

Yale divinity school, New Haven, Conn. il Architecture 67:269-74 My '33

See also

Chapels

College buildings

Dormitories

**COLLEGE buildings**

Buildings and equipment of the Engineering department at Cambridge university. il plan Engineering 135:117-19, 132, pl 5 F 3 '33

Hospital addition introduces welding in San Francisco; eight-story Medical school building, University of California. E. M. Knapik. il diags Eng N 110:222-3 F 16 '33

R.F.C. dormitory and the trouble it can cause. Arch Forum 58:331 Ap '33

Technical services cooperate to cut building costs; St Mary college and academy, Monroe, Mich. W. G. Mansuy. il Eng N 109:650-1 D 1 '32

University plant facilities. F. W. Reeves, F. J. Kelly and J. D. Russell. (Univ. of Chicago survey v 9) 154p Univ. of Chicago press '33

See also

College architecture

College libraries

Dormitories

**Heating and ventilation**

At University of Colorado—master control valves save steam. W. E. Brockway and G. S. Dobbins. il Heating-Piping 5:556-7+ N '33

Central steam plant and pipe tunnels keep heating costs down at University of Chicago. il diag plan Heating-Piping 5:90-3 F '33

Efficient stoker, redesign of boilers and instruments modernize college plant; Ball state teachers college. T. R. Davis. diags Heat & Ven 30:42-3 F '33

Meeting special heating needs when main plant is shut down; Toronto university. H. H. Angus. diags Heating-Piping 5:144+ Mr '33

Planning a central heating plant for a school or institution. A. Kellogg. il Heating-Piping 5:191-3+, 242-4+ Ap-May '33

Swarthmore builds new concrete pipe tunnel. L. S. Tarleton. il diags Heat & Ven 30:20-2 Ag '33

Yale Divinity school uses 25,000 MCF of gas a year. C. B. Barr. il Gas Age 70:589-90+ D 3 '32; Excerpts. Am Gas Assn Mo 15: 124 Ap '33

**Power plants**

Purdue's new power plant extension reduces cost of operation. L. D. McCoy. il diags Power Pl Eng 37:370-5 S '33

**COLLEGE catalogs.** See Catalogs, College

**COLLEGE education**

Universities and the public service. T. H. Reed. Ann Am Acad 169:144-52 S '33

See also

College graduates

**COLLEGE fraternities**

House management problems of fraternities and sororities. B. R. Robson. 93p [bibliog p92-3] Teachers college '33

**COLLEGE graduates**

Good news for college men; one big corporation inquires about their value to business. Ptr Ink 164:25 S 7 '33

What becomes of the college graduate? A. Anable. Chem & Met Eng 40:83-5 F '33

See also

Engineering graduates

**COLLEGE libraries**

Allotment of book funds—a defense. C. M. Baker. Lib J 58:247-9 Mr 15 '33

Circulation work in college and university libraries. C. H. Brown and H. G. Bousfield. 179p [bibliog p173] \$2.25 American library assn, Chicago '33

College library news, 1931-1932. bibliog Lib J 57:1046-50 D 15 '32

Contribution of the university library to civilization; a series of symposia at the dedication of the Mary Reed library, October 26-28, 1932. 138p Univ. of Denver, Denver '33

Dedication of Harper Hall, Claremont Colleges and Conference on the American college library and its librarian, February 19, 1932. 64p pa \$1 Claremont Colleges library, Harper Hall, Claremont, Calif. '32

Fines findings. C. P. Baber. Lib J 58:485-90 Je 1 '33

Periodical subscriptions in the reduced budget of the college library. M. M. Helm. Lib J 58:245-7 Mr 15 '33

Tracing misplaced books in a university library. W. P. Kellam. Lib J 58:155-6 F 15 '33

University libraries. M. L. Raney. (Univ. of Chicago survey v 7) 250p Univ. of Chicago press '33

See also

Atlanta university—

Library

Denver university—

Library

Northwestern university—

Library

**COLLEGE professors and instructors**

Selection and development of faculties. J. W. Barker. J Eng Educ 24:135-9 O '33

See also

Academic assistance council

**Salaries**

Salaries and the cost of living in twenty-seven state universities and colleges, 1913-1932. V. Boothe. 158p Ohio state univ. press, Columbus '32

**COLLEGE students**

College and life. M. E. Bennett. 456p McGraw-Hill '33

How collegians spend: \$300 annually at Berea; \$2,000 at Bryn-Mawr. Sales Management 32: 87 Ja 15 '33

See also

Engineering students

**Grading**

Study of grades and grading practices at Northeastern university. W. C. White. bibliog J Eng Educ 23:550-60 Mr '33

Tests that might be given to detect the gifted student. J. P. Nafe. J Eng Educ 23: 634-6 Ap '33

**COLLEGES and universities**

Faculty aspects of university administration. D. S. Kimball. J Eng Educ 24:129-34 O '33

Failure of business leadership and the responsibility of the universities. W. B. Donham. Harvard Business R 11:418-35 Jl '33

Obligation of universities to the social order; addresses and discussion. 503p New York university press, Washington square, New York '33

State university and legal medicine. O. T. Schultz. Nat Research Council Bul 87:72-9 '32

**COLLEGES and universities—Continued**

University departments in the field of criminology. O. T. Schultz. Nat Research Council Bul 87:117-31 '32

*See also*

College architecture Junior colleges  
College graduates Medical colleges  
Degrees, Academic Mining schools and  
Engineering colleges education  
also names of colleges and universities  
e.g. Harvard university; Yale university  
Consult Education Index for additional material

**Accounting**

Study of methods used in unit-cost studies in higher education. 34p [bibliog p29-31]  
National committee on standard reports for institutions of higher education. Lloyd Morey, Univ. of Illinois, Urbana '32

Suggested forms for financial reports of colleges and universities. 88p National committee on standard reports for institutions of higher education, Lloyd Morey, Univ. of Illinois, Urbana '31

Suggested forms for internal financial reports of colleges and universities. 47p National committee on standard reports for institutions of higher education, Lloyd Morey, Univ. of Illinois, Urbana '32

**Curriculum**

College courses that specialize in teaching broadcasting. C. M. Koon. il Radio N 15: 267 N '33

**Finance**

Class size and university costs. F. W. Reeves, N. B. Henry and J. D. Russell. 229p Univ. of Chicago press '33

Growing complexity of fiduciary investing; some broader aspects of the trust function and the problems of safeguarding trustee funds under changing conditions. I. W. Baker. Trust Companies 56:11-15+ Ja '33

Trust services to colleges and universities. il Am Bankers Assn J 25:32+ Je '33

**Purchasing**

Crumbs from the university table or stores and purchasing control in a New England college. Int Management Inst Bul 7:104-5 Jl '33

**Research**

Research barriers in the South. W. Gee. 192p \$2.25 Century co. '32

Universities are important contributors to railway research; extensive laboratories at Purdue and Illinois. G. A. Young; E. C. Schmidt and E. C. Young. il Ry Age 95: 12-16 Jl 1 '33

University patents. A. Gregg. Science 77:257-9 Mr 10 '33

University patents are ethical. Y. Henderson. Science 77:324-5 Mr 31 '33

University research in public administration. I. M. Ely. Special Lib 24:141-3 Ag '33

**Canada***See also*

Montreal university

**COLLEGES and universities, Land grant**

Reduction in federal aid for the land grant colleges. Science 77:599-60 Je 23 '33

**COLLIER, John**

New commissioner of Indian affairs. H. L. Ickes. Science 77:384 Ap 21 '33

**COLLIER'S (periodical)**

Gallery, T. H. Beck, H. Powel. il Adv & Sell 21:22-3+ Je 8; 28+ Je 22 '33

**COLLINGSWOOD, New Jersey****Sewerage**

Operating experiences at the Collingswood activated sludge plant. C. W. Dare. il Water Works & Sewerage 80:130-1 Ap '33

**COLLODION**

Preparation of collodion filters for X-rays. H. Kersten and J. Maas. R Sci Instr 4:14 Ja '33

**COLLOIDAL fuel.** See Fuel, Colloidal

**COLLOIDS**

Are liquid sodium amalgams colloidal? H. E. Bent. bibliog J Phys Chem 37:431-6 Ap '33

Colloid aspects of textile materials and related topics; a general discussion held by the Faraday society, September, 1932. 368p Gurney & Jackson, London '32

Colloid correlation principle. S. C. Blacktin. Soc Chem Ind J (Chem & Ind) 52:372-3, 544-5, 781 Ap 28, Je 30, S 29 '33

Colloid gold. Science 77:sup8 Mr 10 '33

Colloid symposium number. J Phys Chem 36: 2849-3190 D '32

Colloidal behaviour in paint and varnish systems. W. E. Wornum. Chem Age (Lond) 28: 453 My 20 '33

Conductivity measurements of thorium and other jelly-forming systems. S. Prakash. bibliog J Phys Chem 37:907-16 O '33

Considérations sur le procédé Teatini; les nouvelles bases de l'épuration. M. Pingris-Spriet. Chimie & Ind 30:41-4 Jl '33

Dependence of the ultrafiltrate from a sol of ferric hydroxide upon rate of ultrafiltration; Donnan equilibrium and pH of sols. J. W. McBain and W. L. McClatchie. Am Chem Soc J 55:1315-23 Ap '33

Diffusion of colloidal electrolytes; sodium oleate. M. E. L. McBain. Am Chem Soc J 55:545-51 F '33

Effect of hydrogen-ion concentration on the flocculation values of chromic and aluminum oxide sols. M. H. Bedford, W. H. Keller and J. L. Gabbard. bibliog Am Chem Soc J 55:3953-6 O '33

Electrical factors of colloid stability. E. S. Hedges. bibliog Soc Chem Ind J (Chem & Ind) 51:937-9 N 11 '32

Gel formation in sodium metasilicate solutions. M. J. Prucha and C. A. Getz. Ind & Eng Chem 25:68-72 Ja '33

Influence of temperature on certain properties of zirconium oxide sols. F. J. Robinson and G. H. Ayres. bibliog Am Chem Soc J 55: 2288-94 Je '33

Inorganic colloid chemistry. v 1, The colloid elements. H. B. Weiser. 389p \$4.50 Wiley '33

Interrelation of electrokinetic behavior and cation exchange of iron phosphate. J. B. Hester. Am Chem Soc J 55:1442-5 Ap '33

Ionic interchange in sulphur sols; the influence of acids. T. R. Bolam and J. J. Muir. Chem Soc J p1022-8 Ag '33

Ionic interchange in sulphur sols; the lyotropic series and the mechanism of coagulation. T. R. Bolam and G. Bowden. diags Chem Soc J p2684-94 N '32

Kolloidchemische vorgänge beim färben von baumwolle. A. Schaeffer. bibliog Angew Chemie 46:618-22 S 30 '33

Migration studies with colloids. F. Hazel and D. M. McQueen. J Phys Chem 37:553-82 [bibliog p570, 582] My '33

Ein molekül-vermenger zur herstellung von kolloiden und zur hydrierung mit atomarem wasserstoff. S. v. Bogdandy, M. Polanyi and G. Veszl. diags Chemische Fabrik 61:1-4 Ja 4 '33

Pectography; the effect of colloids on crystallization. J. Alexander. Soc Chem Ind J (Chem & Ind) 52:3-4 Ja 6 '32

Preparation and properties of silver sols by reduction of silver halides with formaldehyde. T. I. Taylor and W. H. Cone. Am Chem Soc J 55:3512-15 S '33

Recovery by flotation of mineral particles of colloidal size. A. M. Gaudin and P. Malozemoff. J Phys Chem 37:597-607 [bibliog p606-7] My '33

Studies on silicic acid gels; the effect of the addition of some solutes on the time of set. C. B. Hurd and D. H. Carver. bibliog J Phys Chem 37:321-9 Mr '33

Studies on the nature and amount of the colloids present in sewage; the influence of the pH value on the physical properties of sewage liquors. E. V. Mills. Soc Chem Ind J 51:374T-80T N 11 '32



**COLLOIDS—Continued**

Über eine methode zur herstellung von koloiden und zur hydrierung mit atomarem wasserstoff. S. v. Bogdandy, M. Polanyi and G. Veszi. *diag Angew Chemie* 46:15-17 Ja 7 '33

See also

Adsorption	Emulsions
Brownian movements	Gelatin
Catalysis	Proteins
Cellulose	Silica gel
Coagulation	

**COLLOTYPE**

Artistic printed portraits easily achieved by means of this old colotype process. G. R. Mayer. *il Inland Ptr* 90:37-40 D '32

Colotype success hinges on study given to these fine points. G. R. Mayer. *bibliog il Inland Ptr* 91:26 My '33

Drying box plays an important part in the finishing of colotype plates. G. R. Mayer. *il Inland Ptr* 90:40-2 Ja '33

Only by proving colotype plates can printing quality be told. G. R. Mayer. *bibliog il Inland Ptr* 90:57-8 Mr '33

Preparing colotypes for printing is a simple but delicate task. G. R. Mayer. *Inland Ptr* 90:52-3 F '33

Presses for printing of colotypes compared as to best results. G. R. Mayer. *il Inland Ptr* 91:28 Ap '33

Water and glycerin should be added to colotype plate. *Inland Ptr* 90:34 Ja '33

**COLOMBIA**

South American countries—Colombia. S. Bell. *Comm & Fin* 21:1414 D 7 '32

Commerce

Colombia. *Economist* 116:341 F 18 '33

**COLONIAL architecture.** See **Architecture, Colonial****COLONIAL life insurance company of America**

Year of progress. *Spectator* 130:21+ F 9 '33

**COLONIZATION, Agricultural.** See **Agricultural colonization****COLOR**

Analytical uses of color. M. G. Mellon, G. W. Ferner and J. P. Mehlig. *J Chem Educ* 10:691-3 N '33

Annual meeting of the British colour council. *Chem Age (Lond)* 28:358 Ap 22 '33

Color. R. C. Hitchcock. *il diags Elec J* 30:340-5 Ag '33

Colour; a manual of its theory and practice. H. B. Carpenter. 3d ed rev & enl \$2.75 86p Scribner '33

Colour and constitution from the standpoint of recent electronic theory. H. H. Hodgson. *Soc Dyers & Col J* 49:213-16 Jl '33

Color comments and suggestions. T. R. Hart. *Textile Col* 54:813-14 D '32

Color in films of sputtered tin. C. J. Overbeck. *il diag Opt Soc Am J* 23:109-13 Mr '33

Material vision; light and optics as they relate to interior design. C. B. Ryder. *bibliog il Architecture* 67:93-8 F '33

Styrylpyrylium salts; further study of the colour phenomenon associated with benzonaphtha- and dinaphtha-spiropyran. I. M. Heilbron, R. N. Heslop and F. Irving. *Chem Soc J* p430-4 Ap '33

Surface absorption of heat from solar radiation. F. G. Hechler and E. R. Queer. *il diag Refrig Eng* 25:86-91 F '33; *Abstract, Heat & Ven* 30:39 Mr '33; *Discussion. Refrig Eng* 25:91+ F '33

Universe of light. W. Bragg. 283p \$3.50 Macmillan '33

See also

Colorimeters and colorimetry	Dyes and dyeing
Colorimetric analysis	Glass, Colored
Coloring matter in food	Light, Colored
Colors	Lubricating oils—Color
Concrete—Coloring	Package goods—Color
Cotton—Color	Paint
Decolorization	Pigments
	Trade marks—Color

Standards

British color standards. *Am Dyestuff Rep* 22:426 Jl 3 '33

Calibrated colors have three dimensions. *Automotive Ind* 67:685 N 12 '32

System of standardizing colors. D. P. Dieterle. *Am Dyestuff Rep* 22:253-4; *Discussion*. 254-6 Ap 10 '33

**COLOR blindness**

Description of a case of total color blindness. F. A. Geldard. *Opt Soc Am J* 23:256-60 Jl '33

Incidence of color blindness among races. T. R. Garth. *Science* 77:333-4 Mr 31 '33

Man sees world without colors. *Sci Am* 149:126 S '33

**COLOR charts**

Analytic color-tone chart. R. D. Rusk. *Opt Soc Am J* 23:182-3 My '33

Convenient color chart for geneticists. E. Anderson. *Science* 78:150-1 Ag 18 '33

Ink standardization, color harmony are combined; Behrens system of color charts. *il Inland Ptr* 91:50 Je '33

**COLOR fast (term)**

Color fast is officially defined. W. Fawcett. *Am Dyestuff Rep* 22:427-8 Jl 3 '33

**COLOR filters.** See **Light filters****COLOR in advertising**

Consumer ballots determine copy theme for Van Dyck. L. M. Hughes. *il Sales Management* 33:153+ Ag 15 '33

Experiment with colored and uncolored advertisements; abstract. H. N. Gilbert. *Management R* 22:151-2 My '33

Four-color newspaper advertising hinges on care given printing. V. W. Challenger. *Inland Ptr* 91:26 Ap '33

Is there a trend toward color and rotogravure? *Sales Management* 33:158, 160 Ag 15 '33

Survey shows vivid colors are best attention-getters. R. Blumberg. *Ptr Ink* 162:49-50 F 23 '33

**COLOR in architecture**

Color of the Century of progress exposition. W. Muschenheim. *il Arch Forum* 59:2-4 Jl '33

Color treatment of exhibit space; Century of progress exposition. S. Vogelgesang. *il Arch Rec* 73:370-4 My '33

Recent developments in architectural ceramics. J. B. Helme. *Am Cer Soc Bul* 12:281-3 S '33

See also

Bricks—Color  
Concrete—Coloring

**COLOR in industry**

Is the color of your product wrong for export markets? General Motors cars. D. Guernsey. *Sales Management* 31:519 D 15 '32

No product can have monopoly of a color; Gillette safety razor company vs. Triangle mechanical laboratories corporation. *Ptr Ink* 163:64-5 Je 15 '33

See also

Package goods—Color

**COLOR in plastic materials**

New material opens new markets; Durez 1406 series. H. S. Spencer. *il Plastics* 8:418+ N '32

Oxides of iron and their use in molded plastics. J. W. Ayers. *Plastic Prod* 9:230 Ag '33

Pigments for plastics. R. W. Boise. *Plastic Prod* 9:134 Je '33

**COLOR in the ceramic industries**

Polychrome terra cotta. W. Timmerman. *Am Cer Soc Bul* 12:276-80 S '33

**COLOR in the textile industries**

Dyeing wool for the heather drape suitings. G. Rice. *il Textile Col* 55:120+ F '33

See also

Calico printing	Silk printing
Dyes and dyeing	Textile printing
Silk, Artificial—Printing	

**COLOR matching**

Color. R. C. Hitchcock. *il diags Elec J* 30:340-5 Ag '33

Exact matching of colors. N. D. White. *il Textile Col* 54:845-6+ D '32

**COLOR matching—Continued**

Photo-electric color matcher. *il* Textile Col 55:558 Ag '33; Excerpt. System and Management Methods 62:354 Ag '33; Am Dyestuff Rep 22:642 O 23 '33

Shade matching in the printworks. T. C. Hutchins. *Am Dyestuff Rep* 22:148-6, 165-6 F 27 '33

Slide rule for color matching. *il* Sci Am 148: 46 Ja '33

Surroundings can fool you on colors of paper or ink samples. E. K. Hunt. *il* Inland Ptr 90:23-5 F '33

**COLOR measurement**

Absorption of direct dyestuffs by cellulose. S. M. Neale and W. A. Stringfellow. *Chem Age (Lond)* 29:5-6 Jl 1 '33; Same. *Textile Inst J* 24:P145-9 Jl '33

Application of spectrophotometric color analysis to dyeing. O. W. Pineo. *il* diags *Am Dyestuff Rep* 22:470-4 Jl 31 '33

Chromaticity sensibility to wave-length difference as a function of purity. E. P. T. Tyndall. *il* diag *Opt Soc Am J* 23:15-24 Ja '33

Colorimeter and method employed in the color testing of cotton. D. Nickerson. *diag Am Soc T M Proc* 32 pt 2:775-7 '32

Industrial spectro-photometry; British instruments for measuring colour. *il* Chem Age (Lond) 28:449-50 My 20 '33

Measurement of skin color. G. D. Williams. *Science* 78:192-3 S 1 '33

La mesure des couleurs et ses applications industrielles. R. Toussaint. *Soc Ing Civils Bul* 85:743-68 My '32; Abstract. *Génie Civil* 101: 464 N 5 '32

1931 I.C.I. standard observer and coordinate system for colorimetry. D. B. Judd. *Opt Soc Am J* 23:359-74 O '33

Principles of colorimetry in practice; abstract. J. W. Perry. *Am Dyestuff Rep* 22: 539-40 Ag 28 '33

Proposed scale for use in specifying the chromaticity of incandescent illuminants and various phases of daylight. I. G. Priest. *Opt Soc Am J* 23:41-5 F '33

Saturation scale for yellow colors. D. B. Judd. *Opt Soc Am J* 23:35-40 F '33

Trans-o-meter for measuring colors. *Paper Tr J* 97:30 Jl 6 '33

*See also*

Blancometer  
Colorimeters and  
colorimetry

**COLOR of flowers**

Natural coloring matters and their analogues. R. Robinson. *Soc Chem Ind J (Chem & Ind)* 52:737-42 S 15 '33; Abstract, with discussion. *Chem Age (Lond)* 29:226-8 S 9 '33

**COLOR photography**

Cellophane and three-color photography. R. M. Reeve. *Science* 77:sup9 Ap 28 '33

Color photograph by Bruehl-Bourges an example of how actual merchandise can be shown. *Adv Arts p14A* S '33

Direct color photography applied to a map. *il* Adv Arts p22A-22D S '33

Dyes and colours in photography. C. Bonamico and T. T. Baker. *Soc Dyers & Col J* 49: 103-5 Ap '33

Mazda lamps for color photography. R. E. Farnham. *Illum Eng Soc Trans* 28:637-8 S '33

Photographic prints in color process; Gasparcolor process. *Science* 78:sup9 S 1 '33

Sheep and Shuttleworths, whose corporate expression is the Mohawk carpet mills, inc. *il* Fortune 7:42-8 Ja '33

**COLOR printing**

Color photograph for Fisher bodies by Henry Waxman. *Adv Arts p16A* N '33

Encyclopedia of printing lithographic inks and accessories. H. G. Kriegel. 255p H. G. Kriegel, New York '32

Four-color newspaper advertising hinges on care given printing. V. W. Challenger. *Inland Ptr* 91:26 Ap '33

Huge auto cut-out order is printed in five colors at one impression. C. B. Davis. *il* Inland Ptr 90:36 Ja '33

Progress made in development of Howey photoelectric engraving machine. *il* Inland Ptr 90:29 D '32

What are the uses of silk screen printing? B. Zahn. *il* Ptd Salesmanship 61:245-6 Je '33

*See also*

Calico printing  
Color in advertising  
Color photography

**COLOR sense**

Chromaticity sensibility to wave-length difference as a function of purity. E. P. T. Tyndall. *il* diag *Opt Soc Am J* 23:15-24 Ja '33

Color vision machines. *Am Dyestuff Rep* 22: 105 Ja 30 '33

Progress in the study of colour vision. *il* Chem Age (Lond) 28:268 Mr 25 '33

Sensibility to color-temperature change as a function of temperature. D. B. Judd. *Opt Soc Am J* 23:7-14 Ja '33

**COLOR temperature**

Color filters for altering color temperature; pyrometer absorption and daylight glasses. H. P. Gage. *bibliog Opt Soc Am J* 23:46-54 F '33

Proposed scale for use in specifying the chromaticity of incandescent illuminants and various phases of daylight. I. G. Priest. *Opt Soc Am J* 23:41-5 F '33

Sensibility to color-temperature change as a function of temperature. D. B. Judd. *Opt Soc Am J* 23:7-14 Ja '33

Über farbtemperatur und ihre messung. Hoffmann. *Angew Chemie* 46:529 Ag 12 '33

**COLORADO river**

Problem of soil in transportation in the Colorado river. S. L. Rothery. *il* plans *Am Soc C E Proc* 53:1639-59 D '32; Discussion. 59:682-7, 866-81, 1014-19, 1185-91 Ap-My, Ag-S '33

Regulation of the Colorado river. C. C. Elder. *Am Water Works Assn J* 25:793-802 Je '33

**Boulder Dam project**

Administration of the Boulder Dam project area. R. L. Wilbur. *Science* 77:233 Mr 3 '33

Air conditioning for Hoover Dam concrete tests. *diag Power* 77:69 F '33; Same cond. *Heating-Piping* 5:104-5 F '33

Le barrage Hoover, de 220 mètres de hauteur, sur le Colorado (E.-U.). C. Dantin. *il* maps *plans Génie Civil* 101:469-73 N 12 '32

Bids rejected on special cement for Hoover dam. *Eng N* 110:602+ My 11 '33

Billions of kilowatt-hours used at Hoover dam. *il Elec J* 30:22 Ja '33

Boulder Dam generators ordered. *Elec Eng* 52:796-7 N '33

Cement investigations for the Hoover dam. R. E. Davis and others. *Am Concrete Inst J* 4:413-31 Je '33; Abstract. *Concrete* 41:14 Ag '33

Construction of the Hoover dam. W. R. Nelson and others. *il* diag *plans Comp Air M* 38:4069-74, 4099-4104, 4171-6 Mr-Apr, Jl '33

The dam. *il* diag *Fortune* 8:74-6+ S '33

Electrically operated power shovels at Hoover dam. *il Eng & Contr* 71:267-70 D '32

Electricity digs Hoover Dam tunnels. *il Sci Am* 147:330 D '32

Explosives important to Hoover Dam progress; illustrations. *Explosives Eng* 11:16-17 Ja '33

Fabricating the water gates for Boulder Canyon project. C. C. Erinton. *il Iron Age* 132:10-13+ O 19 '33

Fabricating the world's largest valves for Boulder dam. *il Metal Ind* 31:377 N '33

Giant bending roll aids construction at Hoover dam. *il Am Mach* 77:156-7 Mr 1 '33

Giant welded penstocks take form at Boulder Canyon field plant. *il Iron Age* 132:22-3 N 9 '33

Handling gravel for a man-made mountain; Hoover Dam project. E. A. Slater. *il Elec J* 30:154-5 Ap '33

Handling 2,000,000 cu. yd. of excavation at Boulder dam. *il plan Eng N* 110:776-80 Je 15 '33



- COLORADO river**—Boulder Dam project—*Cont.*  
Hoover Dam appropriation cut \$2,000,000 by committee. Eng N 109:793 D 29 '32  
Hoover Dam hydro plant to house largest turbines. il plans Power 77:174-5 Ap '33  
Hoover dam, including the story of the turbulent Colorado river. W. H. Gates, comp. 88p Wetzel pub. co, inc. Las Vegas, Nev. '32  
Hoover dam on the Colorado river. il maps plan Engineer 154:580-3, 606-9 D 9-16 '32  
Hoover dam on the Colorado river. il plan Engineer 156:374-6, 384, 402-3, 440-1 O 20-N 3 '33  
Hoover Dam penstocks to be X-ray inspected. il Iron Age 131:639 Ap 20 '33; Same. Elec Eng 52:349 My '33  
Hoover Dam planning and construction. il diags maps plans Eng N 109:701-28 [bibliog p702-3] D 15 '32  
Hoover Dam power and water contracts and related data with introductory notes. R. L. Wilbur and N. Ely. 674p U.S. Dept. of the interior, Washington '33  
Hoover Dam progress speeds equipment awards. diags plan Elec West 70:50-2 F '33  
Huge bending roll shipped to Hoover dam. il Eng N 110:307-8 Mr 9 '33  
Hydraulic equipment for the Hoover power plant. diags plan Power Pl Eng 37:124-6 Mr '33  
Hydraulic-model tests for Boulder Dam spillways. E. W. Lane. il diags Eng N 111:155-9 Ag 10 '33  
Machining 32-ft. gate valves for Boulder dam. il Am Mach 77:684-5 O 25 '33  
Mass concrete research for Hoover dam. B. W. Steele. diags Am Concrete Inst J 4:305-17 Mr '33  
More about the Hoover dam. H. E. M. Kensit. il plan Elec R (Lond) 111:738 N 18 '32  
New facts about cement and concrete; abstracts of A.C.I. papers on research program in construction of Hoover dam. il diag Eng N 110:322-5 Mr 9 '33  
150-ton cableway for the Hoover dam. il diags Engineering 136:218-19 S 1 '33  
Power limits of 220-kv transmission lines; transmission of power from Boulder dam to the system of the Southern California Edison company. A. A. Kroneberg and M. Macferran. bibliog diags Elec Eng 52:758-66 N '33  
Preparing for river diversion at Hoover dam. il Eng N 109:622-4 N 24 '32  
Ready mixed concrete at the Hoover dam. W. B. Lenhart. il plans Rock Prod 35:40-5 N 19 '32
- COLORADO River aqueduct**  
Nineteen contracts under way on Colorado River aqueduct. il map Eng N 110:678-80 My 25 '33  
1933's outstanding electrical project. diag map Elec West 70:52-5 F '33  
Summary of principal unit prices, 19 contracts, Colorado River aqueduct tunnels. Eng N 111:396 S 28 '33  
West Eagle mountain, Hayfield and Mecca Pass tunnels, Colorado aqueduct; unit prices. Eng N 110:856 Je 29 '33
- COLORIMETERS and colorimetry**  
Absolute colorimeter in the laboratory; measuring procedure in micro analysis. il Chem Age (Lond) 28:388 Ap 29 '33  
Photoelectric colorimeter for measuring color intensities of liquid petroleum products. B. W. Story and V. A. Kalichevsky. diag Ind & Eng Chem Anal ed 5:214-17 My 15 '33; Abstract. Oil & Gas J 31:18 Ap 6 '33  
Über ein neues lichtelektrisches colorimeter. B. Lange. il diag Chemische Fabrik 5:457-9 N 30 '32  
Zur colorimetrie. C. Frick. il Chemische Fabrik 5:481-4 D 14 '32
- See also*  
Color measurement  
Colorimetric analysis
- COLORIMETRIC analysis**  
Analysis by colorimetric methods. N. Strafford. Chem Age (Lond) 28:179 F 25 '33  
Analytical uses of color. M. G. Mellon, G. W. Ferner and J. P. Mehlig. J Chem Educ 10:691-3 N '33  
Colorimetric determination of aluminum with aurintricarboxylic acid. P. S. Roller. Am Chem Soc J 55:2437-8 Je '33  
Colorimetric determination of fluoride in water using ferric chloride. M. D. Foster. Ind & Eng Chem Anal ed 5:234-6 Jl 15 '33  
Colorimetric determination of fluorine. W. D. Armstrong. bibliog Ind & Eng Chem Anal ed 5:300-2 S 15 '33  
Colorimetric determination of thallium. P. A. Shaw. Ind & Eng Chem Anal ed 5:93-5 Mr 15 '33  
Colorimetric method for the determination of tartaric acid. A. K. Anderson, A. H. Rouse and T. V. Letonoff. Ind & Eng Chem Anal ed 5:19-20 Ja 15 '33  
Colorimetric methods for the estimation of glucosamine and acetyl-N-glucosamine; abstract. L. A. Elson and W. T. J. Morgan. Soc Chem Ind J (Chem & Ind) 52:844-5 O 20 '33  
Colorimetrische aluminiumbestimmung. F. Alten, H. Weiland and H. Looftmann. bibliog Angew Chemie 46:668-9 O 21 '33  
Colorimetrische bleibestimmung, besonders im wasser. O. Liebknecht and L. Gerb. Angew Chemie 46:744-5 N 26 '32; Discussion. 46:80-1 Ja 28 '33  
Comparison of methods for the determination of small amounts of copper in textiles. W. M. Scott. bibliog Am Dyestuff Rep 22:605-10 O 9 '33  
Control tests for the treatment of feed and boiler water. J. K. Rummel. bibliog Am Water Works Assn J 24:2004-24 D '32  
Detection and determination of small amounts of inorganic substances by colorimetric methods. N. Strafford. 36p Institute of chemistry of Great Britain and Ireland, 30, Russell square, London. W.C. 1 '33  
Determination of potassium by the cobalt-nitrite method and its application in agricultural analysis. A. H. Lewis and F. B. Marmoy. Soc Chem Ind J 52:177T-82T Je 23 '33  
Determination of small amounts of manganese in salt solutions. N. A. Clark. bibliog Ind & Eng Chem Anal ed 5:241-3 Jl 15 '33  
Diphenylamine sulfonic acid as a reagent for the colorimetric determination of nitrates. I. M. Kolthoff and G. E. Noponen. Am Chem Soc J 55:1448-53 Ap '33  
Hellige titration comparators for pH control in plating. il Metal Ind 31:254 Jl '33  
Modification of Bettendorff's arsenic test; with adaptation for mercury determination. W. B. King and F. E. Brown. bibliog Ind & Eng Chem Anal ed 5:168-71 My 15 '33  
New mathematical formula for chemical analysis in a two phase system. J. F. McClendon. Science 77:189-90 F 17 '33  
Ortho-tolidine test for chlorine. H. W. Adams and A. M. Buswell. bibliog Am Water Works Assn J 25:1118-36; Discussion. L. H. Enslow. 1136-9 Ag '33  
Photometric investigation of Nessler reaction and Witting method for determination of ammonia in sea water. H. E. Wirth and R. J. Robinson. bibliog Ind & Eng Chem Anal ed 5:293-6 S 15 '33  
Preparation of optically stable sugar solutions for colorimetric analysis. J. F. Brewster and F. P. Phelps. U S Bur Stand J Research 10:365-72 Mr '33  
Spot tests for organic compounds; abstract. I. M. Korenman. Soc Dyers & Col J 49:340-1 O '33  
Technical refinements for the micro colorimetric method of iodine in blood. R. G. Turner and M. Z. Weeks. Am Chem Soc J 55:254-8 Ja '33
- COLORING matter**  
Crystalline coloring compounds in redwood extract. E. C. Sherrard and E. F. Kurth. Am Chem Soc J 55:1728-32 Ap '33  
Du lait et du foie. Soc Chem Ind J (Chem & Ind) 52:119-20 F 10 '33  
Natural colouring matters and their analogues. R. Robinson. Soc Chem Ind J (Chem & Ind) 52:737-42 S 15 '33; Abstract, with discussion. Chem Age (Lond) 29:226-8 S 9 '33
- See also*  
Dyes and dyeing  
Pigments

**COLORING matter in food**

Legal requirements for coloring-matters for foodstuffs, etc. A. Beythien. *Am Dyestuff Rep* 22:32-3 Ja 2 '33

**COLORS**

Application of the three-color principle to oil painting; abstract. H. E. Ives. *Science* 77: 459 My 12 '33

Comparative visibility of standard luminous and nonluminous highways signs. F. W. Mills. *il Pub Roads* 14:109-28 S '33; Summary. *Roads & Sts* 76:358 O '33

Observations on dry colors. C. A. Henlein. *Oil Paint & Drug Rep* 123:17+ Ja 16 '33

Psychology of colors. M. Martin. *Textile Col* 55:488-9 Jl '33

*See also*

Coal tar colors

Color

Pigments

**COLPIDIUM**

Note on the food habits of colpidium. C. T. Butterfield. *biblog Pub Health Rep* 48:814-18 Jl 14 '33

**COLUMBIA gas and electric corporation**

Outlook for Columbia G. & E. *Econostat* 1:13+ Jl 8 '33

Records progress in depression. F. C. Fullerton. *Mag of Wall St* 52:424+ Ag 19 '33

What is the investment outlook for these companies? *Mag of Wall St* 51:404 Ja 21 '33

**COLUMBIA-PRESBYTERIAN medical center, New York**

New eye hospital. G. Nichols and others. *il diags plans Arch Rec* 74:15-32 Jl '33

**COLUMBIA river**

Terraces and coulees along the Columbia river near Lake Chelan, Washington. A. C. Waters. *il maps Geol Soc Bul* 44:783-820 Ag '33

Work begun on Bonneville dam on the lower Columbia river across the Oregon-Washington boundary. *il Eng N* 111:556-7 N 9 '33

**COLUMBIAN carbon company**

Annual report for year ended Dec. 31, 1932. *Oil & Gas J* 31:72 Ap 6 '33

Columbian Carbon's prospects. *Econostat* 1: 14-15 S 2 '33

**COLUMBIATES**

Physicochemical studies of complex acids; tantic acid; reactions of alkali niobate and tantalate solutions with organic acids. H. T. S. Britton and R. A. Robinson. *Chem Soc J* p419-24 Ap '33

**COLUMBIUM**

Multiplets in the spectra of Cb III and Mo IV. A. Y. Eliason. *Phys R* 43:745-8 My 1 '33

Tantalum and columbium cathodes vs. platinum cathodes for electro-analysis. D. F. Calhane and C. M. Alber. *Electrochem Soc Trans* 63 (preprint 7):61-7 My '33

Thermal expansion of columbium. P. Hidnert and H. S. Krider. *U S Bur Stand J Research* 11:279-84 Ag '33

Titanium and columbium in plain high-chromium steels. F. M. Becket and R. Franks. *Iron Age* 132:20-2 O 26 '33; Excerpt. *Steel* 93:30 O 16 '33

Weak X-ray lines of columbium and antimony. P. A. Ross and P. Kirkpatrick. *Phys R* 43:1036 Je 15 '33

**Analysis**

Eine neue volumetrische niob-bestimmung bei gegenwart von tantal. V. Schwarz. *diag Angew Chemie* 46:552-3 Ag 26 '33

**COLUMBUS, Georgia**

Laying the groundwork for progress. W. J. Fielder. *Manuf Rec* 102:19 Mr '33

**COLUMBUS, Ohio****Sewerage**

Intercepting sewers and storm stand-by tanks at Columbus, Ohio. J. H. Gregory and others. *il diags plans Am Soc C E Proc* 59:1289-1324 O '33

Surveying under compressed air; holling-through sewer tunnel headings at Columbus, Ohio. O. Bonney. *diags Civil Eng* 3:31-3 Ja '33

**Water supply**

Operation of Columbus water purification plant. *diags Pub Works* 64:27 Jl '33

Soil-bearing tests for Columbus water tanks. J. C. Prior. *diags Eng N* 111:500-2 O 26 '33

Water softening and purification at Columbus. *Water Works & Sewerage* 80:182 My '33

**COLUMBUS mutual life insurance company**

Annual statement. *Ins Field (Life ed)* 62:10 F 10 '33

**COLUMN footings**

Development of air rights entails difficult substructure work; more than 200 column footings placed at the Pennsylvania station, New York, for post office extension. *il plan Ry Age* 95:342-5 S 2 '33

Expansion and moving fill damage bridge concrete. *il diags Eng N* 110:346-9 Mr 16 '33

Soil action shown by model. W. S. Housel; F. R. Harris. *il Eng N* 109:626-7 N 24 '32

**COLUMNS**

Using pipe for columns; chart. M. B. Watson. *Heating-Piping* 4:806-7 D '32

*See also*

Architecture

Strains and stresses

Strength of materials

**COLUMNS, Brick****Testing**

Reinforced brick columns tested at Lehigh university. I. Lyse. *il Eng N* 110:345 Mr 16 '33

Testing machine capacity doubled by special loading rig. I. Lyse. *diag Eng N* 111:248 Ag 31 '33

Tests of reinforced brick columns. I. Lyse. *il Am Cer Soc J* 16:584-97 N '33

**COLUMNS, Concrete**

Concrete columns with large bars offer advantages; building erected for Rockford newspapers, inc, Rockford, Ill. T. Germondsson. *diags Eng N* 109:277-8 S 8 '32; Discussion. 110:257-8, 477, 536-7, 719; 111: 176-7 F 23, Ap 13, 27, Je 1, Ag 10 '33

Reinforced concrete column investigation; tentative final report of committee 105; with Minority recommendation for design formula. *Am Concrete Inst J* 4:275-84, 443 F, Je '33; Excerpt. *Concrete* 41:10 Jl '33; Discussion. *Am Concrete Inst J* 5:78-90 S '33

**Testing**

Deformation of steel reinforcement during and after construction. S. I. Sergev. *plan Am Soc C E Proc* 59:1269-88 O '33; Discussion. 59:1521-3 N '33

Fifth report on column tests at Lehigh university. I. Lyse. *il Am Concrete Inst J* 4: 433-42 Je '33

New facts about cement and concrete; abstracts of some A.C.I. papers on high-frequency vibration, mix economy and column design. *Eng N* 110:352 Mr 16 '33

Reinforced concrete column investigation; tentative final report of committee 105. *Am Concrete Inst J* 4:275-8 F '33

Tests of reinforced concrete columns. I. Lyse. *il Civil Eng* 3:366-8 Jl '33

**COLUMNS, Steel**

Rational design of steel columns. D. H. Young. *Civil Eng* 3:455-6 Ag '33

**Testing**

Compressive strength of steel columns incased in brick walls. A. L. Harris, A. H. Stang and J. W. McBurney. *il diags U S Bur Stand J Research* 10:123-33 Ja '33

Fire tests of columns protected with gypsum. N. D. Mitchell. *diags pls U S Bur Stand J Research* 10:737-55 Je '33; Abstract. *Eng N* 111:195-6 Ag 17 '33

George Washington bridge; design of the towers. L. S. Moisseiff. *il Am Soc C E Proc* 58:1760-8 D '32

Steel-column research. F. E. Turneaure. *Eng N* 110:127 Ja 26 '33

Tests of riveted and welded steel columns. W. A. Slater and M. O. Fuller. *il diags Am Soc C E Proc* 58:1147-80 S '32; Discussion. 59:199-206, 380-3, 841-2 Ja-F, My '33



**COLUMNS, Stone**

Gantry crane erects heavy stone columns; new building of the Mellon Institute of industrial research, in Pittsburgh. G. S. Merts. *il diag Eng N* 110:365-6 Mr 23 '33

**CO-MAGMATIC regions**

Sierra Nevada as a co-magmatic region. A. A. Fitch. *Am J Sci* 5th ser 24:481-95 [bibliog p 494-5] D '32

**COMBINATION selling.** See Sales policies—Combination selling

**COMBUSTION**

American gas association publishes new basic data on high temperature combustion. E. E. McCormick. *Am Gas Assn Mo* 15:468 N '33  
Chemistry of hydrocarbon combustion. W. A. Bone. *Chem Age (Lond)* 28:259-60 Mr 25 '33

Combustion; current research projects. *Power* 77:250-1 My '33

Combustion of carbon; abstract. R. Wigginton. *Soc Chem Ind J* 52:sup451 Je 9 '33

Combustion of gases in electric discharges. G. I. Finch. *Soc Chem Ind J (Chem & Ind)* 51:978-9 N 25 '32; Discussion. 51:1003-6 D 2 '32

Combustion of solid, liquid, and gaseous industrial fuels. H. L. Pirie. *Gas J (Lond)* 201:96-8 Ja 11 '33

Combustion train for the determination of total carbon in soils. T. H. Hopper. *diags Ind & Eng Chem Anal ed* 5:142-3 Mr 15 '33

Effect of nitrogen in combustion processes. H. H. Gray. *Soc Chem Ind J (Chem & Ind)* 52:351-2 Ap 21 '33

Elements of gas technology. *Am Gas J* 138:25-6 My; 19-20 Je; 139:25-6 Ji; 19-20 Ag '33

Forty years of combustion research. W. A. Bone. *Soc Chem Ind J* 52:202T-9T Ji 14 '33; Abstracts. *Gas J (Lond)* 203:155-6 Ji 19 '33; *Chem Age (Lond)* 29:75 Ji 22 '33

Gaseous combustion at high pressures; abstract. W. A. Bone, D. M. Newitt and D. T. A. Townend. *Soc Chem Ind J (Chem & Ind)* 51:957-8 N 18 '32

Gases from thermal decomposition of common combustible materials. J. C. Olsen, G. E. Ferguson and L. Scheffan. *il Ind & Eng Chem* 25:599-603 Je '33

Mol; direct road to the answer in all combustion problems. E. F. Dawson. *Power* 76:292-4 D '32

New combustion chart insures speed—ease—accuracy. E. Therkelsen. *Power* 77:600-1 N '33

Stand und entwicklung der feuerungstechnik. F. Schulte and E. Tanner. *il diags Zeit Ver Deutsch Ing* 77:565-72 My 27 '33

*See also*

Boilers—Firing	Gas burners
Carbon dioxide recorders	Ignition
Draft	Inflammable mixtures
Flame propagation	Oxidation
Flames	Smoke prevention
Fuel	Spontaneous combustion
Gas and oil engines—Combustion research	

**COMBUSTION, Diffusion**

Diffusion combustion and its application to glass melting. P. Q. Williams. *il diags Glass Ind* 14:13-21 F '33

Heating galvanizing kettles by diffusion combustion. H. M. Heyn. *il Steel* 93:24-5 N 13 '33

**COMBUSTION, Heat of**

Heat of combustion, entropy and free energy of cyanogen gas. J. McMorris and R. M. Badger. *bibliog diag Am Chem Soc J* 55:1952-7 My '33

Standard states for bomb calorimetry. E. W. Washburn. *U S Bur Stand J Research* 10:525-58 Ap '33

Thermal data on organic compounds; the heats of combustion of nine hydrocarbons. H. Banse and G. S. Parks. *Am Chem Soc J* 55:3223-6 Ag '33

**COMBUSTION, Submerged**

Commercial burners for underwater fires. K. A. Kobe and C. W. Hauge. *il diags Power* 77:402-3 Ag '33

Evaporation by submerged combustion. K. A. Kobe, F. H. Conrad and E. W. Jackson. *bibliog il diags Ind & Eng Chem* 25:984-9 S '33

Submerged combustion meets many industrial heating needs. K. A. Kobe and C. W. Hauge. *diag Power* 77:460-1 S '33

**COMBUSTION research**

Über katalytische einflüsse bei selbstzündungsvorgängen. C. Zerbe, F. Eckert and H. Jentzsch. *Angew Chemie* 46:659-62 O 21 '33

**COMETS**

Limits of the solar system. H. N. Russell. *il Sci Am* 148:144-5 Mr '33

**COMFORT stations, Public.** See Public comfort stations

**COMIC strip.** See Advertisements, Pictorial—Comic strip; Newspapers—Comic strip

**COMMERCE**

Gold and international trade. J. Donaldson. *bibliog Ann Am Acad* 165:181-96 Ja '33

How to keep trade flowing. H. Withers. *Baron's* 13:5 O 23 '33

L.-G. executive appraises world trade in terms of debts. H. Schmitz. *Chem Markets* 32:412-13 My '33

International economics. R. F. Harrod. 211p \$1.25 Harcourt '33

International trade. D. T. Jack. 126p [bibliog p126] Pitman '31

International trade. B. Whale. 255p [bibliog p253-4] 2s 6d T. Butterworth Ltd, London '32

Interregional and international trade. B. Ohlin. 617p [bibliog p595-603] Harvard Univ. press '33

Introduction to international trade and tariffs. R. A. Hodgson. 191p [bibliog p184-7] \$1.75 Pitman '32

Problems in foreign trade. G. B. Roorbach. 512p [Selected bibliog on foreign commerce p497-501] McGraw-Hill '33

*See also*

Accounting	Free trade and protection
Advertising	Freight and freightage
Balance of payments	Geography, Commercial
Banks and banking	Harbors
Barter, International	Insurance, Marine
Business	Interstate commerce
Canals	Maritime law
Commercial law	Marketing
Commercial policy	Merchandizing
Commercial statistics	Merchant marine
Communication and traffic	Money
Competition	Ports
Contracts	Prices
Credit	Shipping
Delivery of goods	Tariff
Dumping (commercial policy)	Trade marks
Exchanges	Transportation
Export trade	Waterways
Foreign exchange	
also subdivision	Commerce under names of countries, e.g. Great Britain—Commerce; United States—Commerce

**Bibliography**

Classified list of commercial periodicals. Leeds Pub Lib Comm & Tech Lib Bul New Ser 50:1-8 O '33

**COMMERCIAL aeronautics.** See Aeronautics, Commercial

**COMMERCIAL correspondence**

Bangor & Aroostook finds economy in post cards. *Ry Age* 94:208 F 11 '33

Business letters. G. M. Hoffman. 224p Penn pub. co, Philadelphia '32

Business letters. W. K. Smart and L. W. McKelvey. 489p \$3.50 Harper '33

Effective business correspondence. R. R. Aurner. 624p South-western pub. co, Cincinnati '33

Handbook of business correspondence. J. C. McCloskey. 467p Prentice-Hall, inc. '32

**COMMERCIAL correspondence—Continued**

Modern business English. A. C. Babenroth. rev ed 552p [bibliog p537-9] \$4 Prentice-Hall, inc. '33

Never write a letter without a reason! R. E. Ramsay. Ptd Salesmanship 60:451-3+ F '33  
Obvious triumph; thanking customers for discounting bills by means of a short, personalized letter. H. Clark. Credit & Fin Management 34:20-1+ D '32

Principles of effective letter writing. L. C. Lockley. 2d ed 440p \$3 McGraw-Hill '33  
Prize letter contest. L. E. Frailey. Ptd Salesmanship 61:30-1 Mr '33 [cont monthly]  
Some letters that tickle the funny bone. L. E. Frailey. il Ptd Salesmanship 60:444-6 F '33

There's a balance-sheet difference in the kind of letters you dictate. B. Bigelow. il Management Methods 62:254-5 Je '33; [cont as] System 62:300-1+, 344-6+, 444-5+, 496-7+ Jl-Ag, O-N '33

Write better business letters. M. H. Weseen. 332p \$2 Crowell '33

**See also**

Collecting of accounts	Sales letters
Letterheads	Sales management—
Mailing lists	Letters to salesmen

**COMMERCIAL correspondence, German**

Pitman's German commercial correspondence. 2d ed 233p Pitman '33

**COMMERCIAL credit company**

Annual report, 1932. Barron's 13:7 F 27 '33

**COMMERCIAL investment trust corporation**

Builds financing profits. Econostat 1:12, 32 O 14 '33

Sales for sale. Fortune 7:70-4, 89-90 Ja '33

Stocks which should see better prices this fall. Mag of Wall St 52:482-3 S 2 '33

**COMMERCIAL law**

Business and law. E. R. Dillavou. 494p \$1.40 McGraw-Hill '33

Business law. R. S. Bowers. rev ed 521p Prentice-Hall, inc. '33

Business law. T. Conyngton and L. O. Bergh. 3d ed rev 600p Ronald press '33

Business law. D. J. Mays. 355p William Byrd press, inc. Richmond, Va. '33

Court decisions. Published in monthly numbers of Credit and financial management  
Essentials of business law. E. M. Kanzer and C. W. Gerstenberg. 551p Prentice-Hall, inc. '33

Everyday law; handy legal guide for business men; rev. by M. Streusand. 58p pa 35c Multi-topic pub. co, 45 W. 45th st, New York '32

Law for the busy executive. Published in weekly numbers of Econostat

Legal notes. H. D. Greeley, ed. J Account 55: 50-2 Ja '33 [cont monthly thru September]

Principles of business law. E. R. Dillavou and C. G. Howard. rev ed 966p Prentice-Hall, inc. '33

Principles of business law. P. B. S. Peters. 311p South-western pub. co, Cincinnati '33

**See also**

Acceptances	Insurance law
Accounting—Laws and regulations	Maritime law
Advertising—Laws and regulations	Mortgages
Agency (law)	Negotiable instruments
Arbitration	Partnership
Banking law	Patent laws and legislation
Bankruptcy	Price fixing
Carriers	Price fixing, Government
Checks—Law	Price fixing, Resale
Collecting of accounts	Public utilities—Law
Competition, Unfair	Railroad law
Contracts	Real property
Corporation law	Restraint of trade
Debt	Retail trade—Law
Debtor and creditor	Sales
Drafts	Suretyship and guaranty
Food laws and legislation	Trade marks
Foreign exchange	Trust companies
Fraud	Trusts, Industrial
Government regulation of industry	Trusts and trustees

**Study and teaching**

American institute of accountants' examination in commercial law, November 18, 1932. J Account 55:384-9 My '33

American institute of accountants' examination in commercial law, May 12, 1933. J Account 56:384-8 N '33

**Colombia**

Trading under the laws of Colombia. M. H. Ramirez. U S Bur For & Dom Com Trade Promotion Ser 142:1-68 '32

**Germany**

Trading under the laws of Germany. H. C. Harris. U S Bur For & Dom Com Trade Promotion Ser 150:1-218 '33

**Great Britain**

Commercial law of England. J. A. Slater. 3d ed 227p Pitman

Legislation considered in relation to retail distribution; its origin and defects. G. B. Brooks. Textile Inst J 24:P41-6 Mr '33

**COMMERCIAL paper**

Acceptances and commercial paper. Published in monthly numbers of Federal reserve bulletin

Commercial paper—the healthy bank investment for trying times. R. A. Foulke. Dun & Bradstreet 41:6-7 Jl '33

**See also**

Acceptances	Drafts
Acceptances, Trade	Negotiable instruments
Checks	

**COMMERCIAL policy**

L'aide à l'industrie. P. Petit. Chimie & Ind 29:453-6 F '33

Agenda for the World economic conference. L. Pasvolosky. Barron's 13:18-19 F 27 '33

Butter—a world problem. G. Marples. Comm & Fin 22:397 My 3 '33

Dream of recapturing a forty-billion-dollar market; trend toward self-sufficient national economic unity. J. C. Cresswill. il Mag of Wall St 52:62-3+ My 13 '33

Economic disarmament; League of nations' preparatory commission. Business Week p2-3 F 1 '33

Economics of Central Europe. Economist 117: 657-8 O 7 '33

Les entraves à la concurrence et aux échanges internationaux. P. Razous. Génie Civil 103: 107-11 Jl 29 '33

Foreign tariffs and commercial policies during 1932. H. Chalmers. U S Bur For & Dom Com Trade Information Bul 812:1-19 '33

International problems to be faced. J. Aird. Bankers M 126:183-4 F '33

International trade barriers. Guaranty Survey 13:8-10 My '33

Ottawa conference—one year later. J. E. Boyle. Barron's 13:10-11 O 2 '33

Policies of self-improvement. P. Perry. Barron's 13:17 Je 5 '33

Report of the World economic conference; report of sub-commission I. Economist 117: sup5-6 Jl 29 '33

Restrictions on foreign exchange; growth and significance. Index 13:52-3, 56-8 Mr '33

Tariffs and trade barriers; a series of addresses and papers presented at the semi-annual meeting of the Academy of political science, April 28, 1933. P. T. Moon, ed. 91p Academy of political science, Columbia university, New York '33

This mirage, foreign trade. G. E. Anderson. il Am Bankers Assn J 25:22-3+ Mr '33

Trade pacts progress. Business Week p24 Ap 26 '33

Trêve et démobilisation douanières. R. P. Duchemin. Chimie & Ind 30:222-4 Jl '33

Way to world prosperity; well-planned world trade revival. E. F. Davies. Bankers M 126: 445-50 My '33

World business speaks at Vienna; proposals for ending the deadlock in world trade. J. Gregg. Nation's Business 21:49-50 Ag '33

World conference draft annotated agenda submitted by the Preparatory commission of experts. Economist 116:sup7-11 Ja 28 '33



**COMMERCIAL policy—Continued**

World trade—a la mode; Argentina will buy from us, if we reciprocate the courtesy. *Business Week* p27 Je 10; 26 Je 17 '33  
 World trade restrictions. I. C. Olsen. *il Am Bankers Assn J* 25:44+ Ap '33

*See also*

Barter, International	Export trade—Gov-
Commercial treaties	ernment aid
Dumping (commercial policy)	Free trade and protection
	Tariff

**COMMERCIAL products**

Commodities and localities in the decisions of the interstate commerce commission; I.C.C. Rep.-186 I.C.C. Rep. (1887 to 1933). H. C. Lust, ed. 499p H. C. Lust pub. co, Chicago '33

*See also*

Chemicals	Manufactures
Farm produce	Raw materials
Forest products	Waste products
Geography, Commercial	

**COMMERCIAL solvents corporation**

Companies which should show large gains in earnings. *Mag of Wall St* 52:281+ J1 8 '33  
 Report for 1932. Barron's 13:13 Mr 13 '33  
 Solvents' peacetime expansion. *Econostat* 1:11+ My 27 '33  
 Speculative audit; factors affecting common-stock values. Barron's 13:14 Ap 24 '33

**COMMERCIAL statistics**

Commerce yearbook, 1932; v2, Foreign countries. 743p U.S. Bur. of foreign and domestic commerce, Washington '33  
 Commercial history of 1932. *Economist* 116:sup1-69 F 18 '33  
 Foreign trade of the United States in the calendar year 1932. G. A. Witherow. U S Bur For & Dom Com Trade Promotion Ser 151:1-131 '33  
 Review of world trade, 1931 and 1932 (first half). 76p pa 50c World peace foundation '32  
 State of trade at home and abroad. Published as the *Economist* monthly supplement

*See also*

Market statistics

**COMMERCIAL treaties**

Foreign trade boosts; Germany's pacts with France and Canada. *Business Week* p26 Ja 11 '33  
 New Franco-German trade agreement. L. Pasvolksky. Barron's 13:5 F 13 '33  
 Tariff precedent; power to proclaim reciprocity treaties without Senate ratification. *Business Week* p7 My 10 '33

**COMMERCIAL union assurance company, limited**

Annual general meeting, 71st, London. *Economist* 116:1153 My 27 '33

**COMMISSION selling.** See Salesmen—Salaries and commissions**COMMISSIONS (compensation)**

Why not let agents, dealers help get better gasoline prices? evils of cents per gallon commissions. B. L. Meece. *Nat Pet N* 25:36-8 F 8 '33

*See also*

Advertising agencies	Salesmen—Salaries
—Commissions	and commissions

**COMMODITY exchange, incorporated**

Commodity exchange in new quarters. *Comm & Fin* 22:575 J1 5 '33

Commodity exchange, inc. *Comm & Fin* 22:162-3 F 15 '33

Commodity exchange, inc. J. Lewine. *Comm & Fin* 22:577+ J1 5 '33

Commodity exchange operates in new quarters. *il Rubber Age* 33:155-6 J1 '33

Exchanges merge; Lewine president. *Comm & Fin* 22:417 My 10 '33

New commodity exchange opens. *il Barron's* 13:21 J1 10 '33

**COMMODITY exchanges.** See Exchanges**COMMON carrier.** See Carriers**COMMONWEALTH and Southern corporation**  
 Recovery of Commonwealth & Southern. *Econostat* 1:12+ Je 24 '33**COMMUNICATION and traffic**

Communication agencies and social life. M. M. Willey and S. A. Rice. 229p \$2.50 McGraw-Hill '33; Review by A. D. Schultz. *Pub Util* 12:164-5 Ag 3 '33

Communication revolution, 1760-1933. R. G. Albion. *il Mech Eng* 55:531-8+ S '33

Modern communication. A. W. Page and others. 182p \$2.75 Houghton '32

Transmission theory. *Electrician* 111:449-50, 478-9, 525-6, 555-6 O 13-N 3 '33

*See also*

Aeronautics	Rapid transit
Aeronautics, Commercial	River traffic
Air lines	Road traffic
Airways	Roads
Canals	Shipping
Carriers	Street railroads
Commerce	Street traffic
Harbors	Telephone
Motor vehicles	Teletype
Ocean travel	Traffic regulations
Postal service	Transportation
Radio communication	Travel
Railroads	Waterways

**History**

Modern Mercuries; the story of communication. L. George and J. Gilman. 283p [bibliog p269-76] R. M. McBride & co, New York '32

**COMMUNISM**

Capitalism and communism: a reconciliation. O. Newfang. 278p Putnam '32

Communism. (In Capitalism and its alternatives, p289-362) [bibliog p289-300] J. E. Johnsen, comp. (Handbook ser 4, v 4) \$2.40 Wilson, H. W. '33

Philosophic approach to communism. T. B. H. Brameld. 242p [bibliog p225-35] \$2.50 Univ. of Chicago press '33

*See also*

Shakers—Industries  
 Socialism

**COMMUNITY advertising**

Six New England governors sponsor campaign. *Ptr lnk* 161:70 D 22 '32

*See also*

Municipal advertising

**COMMUNITY centers**

Charges and fees for community recreation facilities and activities of public park, recreation and school systems. 158p National recreation assn, New York '32

Universal; a multi-purpose community center theater designed for Woodstock, N.Y.; F. J. Kiesler, architect. *il plans Arch Forum* 57:535-42 D '32

**COMMUNITY chests**

Community chest accomplishments. 102p Civic development dept, Chamber of commerce of the U. S., Washington '33

**COMMUNITY life**

Community and society. L. D. Osborn and M. H. Neumeyer. 468p American book co, New York '33

Community assets essential to sustained recovery. O. F. Ball. *il Rand McNally Bankers Mo* 50:206-7+ Ap-My '33

Our community life. C. L. King and J. L. Barnard. 610p [bibliog p557-84] J. C. Winston co, Philadelphia '32

Social planning and adult education. J. W. Herring. 138p \$1.25 Macmillan '33

**COMMUNITY trusts**

Efficient functioning of the Permanent charity fund, inc. of Boston. *Trust Companies* 55:710 D '32

**COMMUTATION (electricity)**

Harmonic commutation for thyatron inverters and rectifiers. C. H. Willis. *diags Gen Elec R* 35:632-8 D '32

**COMMUTATORS**

Flashover troubles corrected on rotary-converter commutator. T. E. Miller. *diag Power* 77:147 Mr '33; *Abstract. Coal Age* 38:165 My '33

*See also*

Brushes (electric machinery)

**Repair**

Scheduled maintenance reduces brush replacement costs. R. B. Glen. *diags Power* 77:372-3 Jl '33

Spiral grooving aids commutation sometimes. R. H. Parrish. *Elec W* 101:383 Mr 25 '33

Using commutator with excess bars. J. A. Horton. *diag Elec Traction* 28:484 D '32

**COMPANY towns**

Code operation may solve problem of mill village. *Textile World* 83:1428 Ag '33

Community activities expanded by Avondale during depression years. *il Textile World* 83:588-9 Mr '33

Hershey—the home of chocolate. C. H. Vivian. *il map Comp Air M* 38:4180-90 Ag '33

Mill village cost a burden on manufacturers in southern states. *Textile World* 83:1804 O '33

**COMPANY unions**

Eastman inquires into company unions. *Ry Age* 95:405+ S 16 '33

*See also*

Employees' representation in management

**COMPARATORS**

Apparatus for comparison of length of gages. C. Moon. *diags pl U S Bur Stand J Research* 10:249-55 F '33

Low-temperature comparator for coefficient of expansion of ceramic bodies. H. E. Davis. *diag Am Cer Soc J* 16:229-31 My '33

Microlux mirror comparators. *il Am Mach* 77:515 Ag 2 '33

New wave-length comparator. G. Glockler and F. W. Fullerton. *diag R Sci Instr* 4:530-1 O '33

Tram gage comparator. R. B. Loveland. *il Ry Mech Eng* 107:177 My '33

**COMPASS**

Automatic yacht steerer. *diag Sci Am* 148:238 Ap '33

Compass checking device developed at school. *Aero Digest* 23:52 Ag '33

Compass; historical notes. *Can Min J* 54:11 Ja '33

Stella dual magnetic compass. *il diags Engineering* 136:473 O 27 '33

*See also*

Radio compass

**COMPENSATING devices**

New device develops straight line volumetric displacement for reciprocating pumps; Holveck compensator. J. E. Holveck. *diag Oil & Gas J* 31:36-7 Mr 2 '33

**COMPENSATION (law)**

*See also*

Damages  
Eminent domain  
Insurance, Automobile—Compensation principle  
Workmen's compensation

**COMPETITION**

Birth control for new enterprises—a remedy for competitive excesses. C. G. Thoma. *Iron Age* 131:584+ Ap 13 '33

Crucial question of price. W. F. Ogburn. *Nation's Business* 21:23-5+ O '33

Les entraves à la concurrence et aux échanges internationaux. P. Razous. *Génie Civil* 103:107-11 Jl 29 '33

Give all trade associations power to make rules, then all join. W. A. Vincent. *Inland Ptr* 90:33-5 D '32

How competition distorts normal wholesale trading areas. N. H. Engle. *map Sales Management* 33:22-4 Jl 1 '33

How the anti-trust laws should be modified. J. H. Williams. *Ann Am Acad* 165:72-84 Ja '33

Production for profits. D. R. Stevens. *Elec W* 101:609-11, 716-18; 102:113-15 My 13, Je 3, Jl 22 '33

Theory of monopolistic competition. E. H. Chamberlin. 213p \$2.50 Harvard univ. press '33; Review by B. W. Knight. *Pub Util* 11:734-5 Je 8 '33

Truth about competition. F. A. Fetter. *Ann Am Acad* 165:93-100 Ja '33

What kind of competitor are you? L. J. Dougherty. *Nation's Business* 21:46+ Ap '33

*See also*

Chain stores  
Monopolies  
Price fixing  
Restraint of trade  
Supply and demand  
Trusts, Industrial

**COMPETITION, Unfair**

Brakes for the Trade commission. *Ptr Ink* 162:42 F 2 '33

Cottonseed crushers lose F.T.C. code; Commission charges violations of antitrust law. *Oil Paint & Drug Rep* 123:17+ My 22 '33

Injunctive relief; Coca-cola company. *Econostat* 1:23 N 4 '33

No product can have monopoly of a color; Gillette safety razor company vs. Triangle mechanical laboratories corporation. *Ptr Ink* 163:64-5 Je 15 '33

Protection of trademarks and tradenames, and protection against unfair competition, in Canada. H. F. Freeman. 38p Freeman and Weidman, Cleveland '33

These advertising leaders fight bootleg merchandise. *il Ptr Ink* 163:10-12 My 11 '33

Thorwy is imitator's path; courts are broadening their conception of what constitutes unfair competition. *Ptr Ink* 162:68-9 F 9 '33

Unfair competition; N.P.O. & V.A. report. *Oil Paint & Drug Rep Extra* ed 122:26-7 N 29 '32

Use of similar selling methods not unfair competition; where catalogs are unlike in most respects, use of certain like cuts does not constitute infringement. *Ptr Ink* 163:56 Je 8 '33

*See also*

Advertising, Fraudulent  
Bribery, Commercial  
Imitation in business  
Misbranding  
Salesmen, Retail—Bonuses (manufacturers')  
Substitution (merchandizing)  
Trade marks—Counterfeiting

**COMPLAINTS**

When annoyed to exasperation it may be well to throw overboard the old belief that the customer is always right. E. N. Simons. *Foundry* 61:23+ Ja '33

*See also*

Electric utilities—Complaints  
Gas companies—Complaints  
Returned goods

**COMPO shoe machinery corporation**

And there's a company called Compo. *il Fortune* 8:42-3, 114-15 S '33

**COMPOSERS, authors and publishers, American society of. See American society of composers, authors and publishers****COMPOSITION (art)**

Composition and rendering. A. T. Bishop. 130p \$2.75 Wiley '33

**COMPRESSED air**

Agitating milk with sterile air. *il diag Sci Am* 148:102 F '33

Air required by air-lift pumps. F. Bates. *Civil Eng* 3:626-7 N '33

Another example of air-water tank hazard. *Locomotive* 39:138 Ja '33

Bordeaux reaches seaward; new steamship terminal supported on concrete piers sunk with the aid of compressed air emulseurs. R. G. Skerrett. *il diags map Comp Air M* 38:4210-13 S '33

Bromak pneumatic paint brush. *il diag Engineering* 136:104 Jl 28 '33

Compressed air brooms reveal hidden diamonds. *il Comp Air M* 37:4009 D '32

Compressed air for hammers. *Power Pl Eng* 37:79-80 F '33

Compressed air for modern coal-mining. R. D. Currie. *Min Cong J* 19:27 Mr '33



**COMPRESSED air—Continued**

- Compressed air helps build speedy new air-planes. *il Comp Air M* 38:4163-4 *Jl '33*
- Compressed air plays part in mechanization program at Ehrenfeld. A. L. Hunt. *diag Coal Age* 38:155-6 *My '33*
- Corewall of 31 caissons sunk under air; Quabbin reservoir of the Boston metropolitan water supply. *il diags plan Eng N* 111:215-19 *Ag '33*
- Further application of pneumatic cylinders to pumping wells being made in east Texas. H. B. Thomson. *il diag Oil & Gas J* 32:68+ *Je '33*
- Handling plant employed in gas desulphurisation; operation by compressed-air motor. *il diag Mech Handling* 20:141-3 *My '33*
- Imprisoned air and the failure of castings. J. G. Kennedy. *Engineer* 134:520-1 *N '33*
- Murdoch valve to prevent waste of compressed air. *diag Iron Age* 130:766 *N '33*
- Pneumatic clamping in milling fixture design. F. W. Curtis. *diags Mach* 39:761-3 *Ag '33*
- Pneumatic tipping gear. *Automobile Eng* 23:176 *My '33*
- Pneumatic travelling crane. *il diags Engineer* 155:384 *Ap '33*
- 7000 kW-turbokompressor für 80 000 m<sup>3</sup>/h saugleistung. W. Grun. *diags Zeit Ver Deutsch Ing* 77:691-2 *Je '33*
- Sonnette à air comprimé, pour le battage des pieux. *il diags Génie Civil* 102:163-4 *F '33*
- Surveying under compressed air; holing-through sewer tunnel headings at Columbus, Ohio. O. Bonney. *diags Civil Eng* 3:31-3 *Ja '33*
- Die verwendung von druckluft in elektrischen schaltanlagen. I. Sihler. *il diags Zeit Ver Deutsch Ing* 77:1121-2 *O '33*
- Washing insides of bottles with compressed air. *diags Comp Air M* 38:4247 *O '33*
- Why and how compressed air should be cleaned. *il diag Power* 77:530-2 *O '33*

**See also**

- |                 |                     |
|-----------------|---------------------|
| Air brush       | Pneumatic convey-   |
| Air compressors | ing                 |
| Air lifts       | Pneumatic machinery |
| Caissons        |                     |

**Tables, calculations, etc.**

- Conditioning of air for ice-can agitation. L. Washington. *Refrig Eng* 25:199-201 *Ap '33*

**COMPRESSED air lines**

- Between compressor and face; distributing air underground. L. Eaton. *diags Eng & Min J* 134:288-9 *Jl '33*
- Design of compressed air piping for buildings. T. R. Davis. *il Heat & Ven* 30:33-5 *Je '33*
- Design of compressed air piping for industrial power plants. H. C. Moffett. *Power Pl Eng* 37:349-51 *Ag '33*
- Valve coupling for compressed air pipes. *il Engineering* 135:717 *Je '33*

**COMPRESSED gases. See Gases, Compressed****COMPRESSIBILITY**

- Compressibilities of certain gases at low pressures and various temperatures. W. Cawood and H. S. Patterson. *Chem Soc J* p619-24 *Je '33*
- Compressibility of solutions; the apparent molal compressibility of strong electrolytes. F. T. Gucker, jr. *Am Chem Soc J* 55:2709-18 *Jl '33*
- Compressometer, an instrument for evaluating the thickness, compressibility, and compressional resilience of textiles and similar materials. H. F. Schiefer. *diag pl U S Bur Stand J Research* 10:705-13 *Je '33*
- New analysis of Slater's compressibility data. H. M. Evjen. *Phys R* 44:491-500 *S '33*
- Physico-chemical factors in high-pressure design. B. F. Dodge. *bibliog Ind & Eng Chem* 24:1353-63 *D '32*

**COMPRESSOMETER**

- Compressometer, an instrument for evaluating the thickness, compressibility, and compressional resilience of textiles and similar materials. H. F. Schiefer. *diag pl U S Bur Stand J Research* 10:705-13 *Je '33*

**COMPRESSORS**

- Air compressors and gas compressors at Shipping, engineering and machinery exhibition at Olympia. *il Engineer* 156:275-6, 279-80, *supp S* 22 '33; *Engineering* 136:330-2 *S '33*
- Anderson rotary pump. C. E. Anderson. *diags Refrig Eng* 26:143+ *S '33*
- Comparison of the carbonic and ammonia refrigeration cycles. H. J. McIntire. *Power* 77:412-14 *Ag '33*
- Compressors and condensers. *il Refrig Eng* 25:344+ *Je '33*
- Controlling motors for temperature control systems, compressors, oil burners, stokers. S. R. Lewis. *il diags Heating-Piping* 5:101-2 *F '33*
- Flexible Diesel-compressor refrigerating plant. *Power* 77:273 *My '33*
- Frigidaire designs small rotary. *Refrig Eng* 25:272 *My '33*
- Lamp flicker traced to critical compressor resonance. *il Elec W* 101:300-1 *Mr '33*
- Leistungsverluste im drehkolbenverdichter; einfluss der arbeitsschieber auf den mechanischen wirkungsgrad. A. Steller. *diags Zeit Ver Deutsch Ing* 76:1218-20 *D '32*
- Regelung von turbokompressoren mit dem strahlrohrregler. K. Blasig. *il diags Stahl & Eisen* 53:375-9 *Ap '33*
- Steam-pressure transformers; abstract. T. B. Morley. *Mech Eng* 55:258-9 *Ap '33*
- Works of Messrs. C. A. Parsons and company, limited. *il diags Engineering* 134:648, 654 *D '32*
- Zorzi enclosed motor-compressor unit. G. Muffy. *il Refrig Eng* 25:244-6 *My '33*
- Zorzi refrigerating unit. C. Zorzi. *diag Refrig Eng* 25:379-80 *Je '33*

**See also**

- |                     |                 |
|---------------------|-----------------|
| Air compressors     | Gas compressors |
| Ammonia compressors |                 |

**Lubrication**

- Air conditioning—the lubrication factor. *Heat & Ven* 30:34-7 *Jl '33*

**Manufacture**

- Precision work on refrigerator parts. F. H. Colvin. *il diags Am Mach* 77:677-80, 712-15 *O '33*

**COMPTON, Otelia Augspurger**

- Portrait. *Sci Am* 148:259 *My '33*

**COMPTON, California**

- Local chamber whips disaster; while an earthquake was destroying the business district of Compton, the chamber of commerce got busy. *il Nation's Business* 21:42-3 *Ag '33*

**COMPTON effect**

- Measurements of intensity of Compton modified radiation by means of filters. E. O. Wollan. *diag Phys R* 43:955-63 *Je '33*

**COMPTROLLERS. See Controllers****COMPULSORY insurance. See Insurance, Compulsory****COMPULSORY labor. See Labor, Compulsory****CONANT, James Bryant**

- Named president of Harvard. *por Oil Paint & Drug Ref* 123:22 *My '33*
- Portrait. *J Chem Educ* 10:385 *Jl '33*

**CONCAVE-convex shapes. See Turning****CONCENTRATING tables**

- Removing foreign materials from sand and gravel by use of concentrating tables. F. Sinclair. *il Rock Prod* 36:60-1 *Ag '33*

**CONCENTRATION of ores. See Ore treatment****CONCENTRATORS**

- Concentrating liquids by freezing in a continuous process; Zorn machine. K. L. Ford. *il Food Ind* 5:129 *Ap '33*

**CONCORD, New Hampshire****Water supply**

- New high service water supply of Concord. P. R. Sanders and F. A. Marston. *il diags N E Water Works Assn J* 47:1-12 *Mr '33*

**CONCRETE**

Aus untersuchungen mit zement, zementmörtel und beton. O. Graf. *il Zeit Ver Deutsch* Ing 77:813-19 JI 29 '33

Electrical insulation of concrete; abstract. T. Ferrier. *Mech Eng* 55:576 S '33

L'emploi du béton pervibré pour la construction des cuves à mazout. M. Finot. *il diag Génie Civil* 101:613-14 D 17 '32

Muskegon's concrete laboratory saves money for city. *Concrete* 40:10 D '32

Relation between quality and economy of concrete. I. Lyse. *bibliog Am Concrete Inst J* 4:325-43 Mr '33

Unique floor slab uses two kinds of concrete; long-span, light-weight construction in new Pine Plains, N.Y. school. *il diags Eng N* 111:565-6 N 9 '33

What light-weight concrete means in dollars and tonnage. *Concrete* 41:9-10 Ja '33

**See also**

Bins, Concrete	Gunite
Cement	Pavements, Concrete
Concrete, Reinforced	Pipes, Concrete
Concrete construction	Roads, Concrete
Concrete lining	Sewer pipes, Concrete
Concrete products	Sewers, Concrete
Grouting	Water pipes, Concrete

**Aggregate**

Aggregate grading and concrete quality, by H. N. Walsh. Review by J. C. Pearson. *Am Concrete Inst J* 5:sup [news letter] 5-6 S '33

Batching plant economics for separate aggregates. T. C. Thee and O. K. Normann. *il diags Eng N* 110:52-4 Ja 12 '33; Same. *Roads & Sts* 76:97-100 Mr '33

Blast-furnace slag long accepted as concrete aggregate. *Concrete* 41:5-6 S '33

Co-ordination of basic principles of concrete mixtures. J. A. Kitts. *Concrete* 41:13-15 Ap '33

Effect of size of specimen, size of aggregate and method of loading upon the uniformity of flexural strength tests. W. F. Kellermann. *il diags Pub Roads* 13:177-84 Ja '33

Grading concrete aggregates in Los Angeles. *Pub Works* 64:34 JI '33

Light-weight aggregate specification proposed by A. S. T. M. *Concrete* 41:13-14 S '33

Mass concrete as affected by size of aggregate and related factors. A. Ruettgers. *il Am Concrete Inst J* 5:27-34 S '33

New sand and gravel plant in the Boston district; Concrete materials co, Saugus, Mass. W. R. Carmichael. *il Rock Prod* 36:19-21 Ja '33

Newly acquired knowledge of cement and concrete aggregates. F. O. Anderegg. *bibliog Rock Prod* 36:62-4 Ag '33

Pacific coast aggregates gets big contract for the substructure of the Golden Gate bridge. *Rock Prod* 36:25 Ap '33

Portable aggregate plant for Hetch Hetchy tunnel. H. V. Eastling. *il diag Eng N* 109: 654-6 D 1 '32

Reclaimed, crushed concrete as coarse aggregate. M. O. Johnson. *il Roads & Sts* 76:325-6 S '33

Waylite, a blast-furnace slag concrete material. *il Iron Age* 130:847 D 1 '32

**Analysis**

Washing machine designed for use in determining constituents of fresh concrete. W. A. Blanchette. *il diag Pub Roads* 13:151-2 N '32

**Coloring**

Buff-colored concrete units produce beautiful church interior; used with monolithic concrete and rough quarry stone for economical exterior walls. *il Concrete* 41:7-8 F '33

Place colored concrete floor finish by unique method. G. E. Warren. *il Concrete* 40:11 D '32

Practical details of concrete construction; coloring of concrete. W. E. Barker. *il Pub Works* 64:39 Ap '33

**Curing**

Concrete strength increased by spray irrigation; tests made at Stony Gorge and Rodriguez dams. E. H. Burrows. *il Eng N* 110: 401-2 Mr 30 '33

Cotton mats for curing concrete. *il diags Pub Roads* 14:73-80+ JI '33; Excerpts. *Concrete* 41:9 S '33

Curing concrete with automatic control. *il Elec West* 70:96 Mr '33

Curing of concrete pavements with calcium chloride. H. F. Clemmer. *il Roads & Sts* 76:264-7 JI '33

Curing of Portland cement concrete; placing concrete in cold weather. J. M. Portugais. *Can Eng* 64:9-12 Ja 24 '33

Development of large calorimeter rooms and automatic temperature controls for adiabatic curing of mass concrete. H. S. Meissner. *diag Am Concrete Inst J* 5:21-6 S '33

High pressure steam curing under study for eight years; tests at University of Saskatchewan. *Concrete* 41:20-1 Ja '33

Ohms of resistance measure concrete curing. S. B. Slack. *il Eng N* 111:169-70 Ag 10 '33

Practical details of concrete construction. W. E. Barker. *il Pub Works* 64:14 My '33

Treatment of road surfaces with bitumen emulsions; Colas and Terolas. *il Engineering* 135:659 Je 16 '33

**Durability**

Concrete water tunnel inspected after 25 years; Blue Island Ave. tunnel in Chicago. *il map Eng N* 110:374-6 Mr 23 '33

Old Ohio concrete road shows record service. F. H. Jackson. *il Eng N* 111:378-80 S 28 '33

**Expansion and contraction**

Deformation of steel reinforcement during and after construction. S. I. Sergeev. *plan Am Soc C E Proc* 59:1269-88 O '33; Discussion. 59:1521-3 N '33

Dilatation, retrait et élasticité du béton; recherches exécutées par la Société des forces motrices de l'Oberhasli (Suisse). *Génie Civil* 101:659-60 D 31 '32

Volume changes of an early-strength concrete. E. R. Dawley. *Kansas State College Eng Exp Sta Bul* 31:1-21 '32; Same. *Am Soc T M Proc* 32 pt 2:642-58 '32

**Failures**

Concrete pavement failures due to high-lime cement. I. Paul. *Eng N* 110:212-13 F 16 '33

**Finishing**

Effect of vibration and delayed finishing on pavement slabs. F. H. Jackson and W. F. Kellermann. *il Pub Roads* 14:129-54 O '33; Summary. *Concrete* 41:8-9 Ag '33

Efficiency of surface treatments on the permeability of concrete. G. W. Washa. *diag Am Concrete Inst J* 5:1-8 S '33

Oscillated face on cinder unit; textured waterproof face on ordinary Straub block. *il Concrete* 41:23 Mr '33

Place colored concrete floor finish by unique method. G. E. Warren. *il Concrete* 40:11 D '32

Plastering key, exposed aggregate obtained by new method. *il Concrete* 41:18 JI '33

Practical details of concrete construction. W. E. Barker. *il Pub Works* 64:23-4 Mr '33

Vibration in pavement finishing. V. L. Glover. *Am Concrete Inst J* 4:sup[news letter] 10 D '32

Vibratory finishing machine for concrete pavements. F. V. Reagel. *Am Concrete Inst J* 4:391-6 Je '33

**Moisture content**

Tests on consistency and strength of concrete having constant water content. I. Lyse. *Am Soc T M Proc* 32 pt 2:629-36; Discussion. 637-41 '32

When to lay wood floors over concrete sub-floors. M. E. Dunlap. *il Eng & Contr* 71: 275-6 D '32



## CONCRETE—Continued

## Painting

- Painting on concrete surfaces. F. O. Andereggs. *Am Concrete Inst J* 4:1-7 S '32; Same abr. *Concrete* 40:13-14 D '32; Discussion. *Am Concrete Inst J* 5:72-5 S '33

## Permeability

- Clay in concrete. D. A. Parsons. pl *U S Bur Stand J Research* 10:257-73 F '33  
Efficiency of surface treatments on the permeability of concrete. G. W. Washa. diag *Am Concrete Inst J* 5:1-8 S '33  
Permeability of concrete under high water pressure. C. C. Vermeule. il diags *Civil Eng* 3:611-14 N '33

## Protection

- Asphalt-impregnated slabs of concrete in salt water; precast units used for protection against disintegration in tunnels of Seal Beach power plant. W. R. Shettel. il *Eng N* 110:108-9 Ja 26 '33  
Concrete that withstands the sea; Penocrete process. H. M. Wright. il diag *Sci Am* 148:18-19 Ja '33  
How protect concrete from weathering? *Factory Management* 91:sup32+ Ap '33  
Longer life for concrete floors; obtaining dustproof, waterproof and fireproof qualities with Ironite. il *Chem Age (Lond)* 27:435 N 5 '32

## Repair

See Concrete construction—Repair

## Setting

- Concrete hardened by electrocution. *Sci Am* 148:121 F '33  
Effect of mechanical working on concrete during setting; abstract. A. Hauenschild. *Rock Prod* 36:38 Ja '33

## Strength

- Blend of silica and Portland cement modifies quality of concrete. *Concrete* 41:5-6 O '33  
Cement investigations for the Hoover dam. R. E. Davis and others. *Am Concrete Inst J* 4:413-31 Je '33; Abstract. *Concrete* 41:14 Ag '33  
Clay in concrete. D. A. Parsons. pl *U S Bur Stand J Research* 10:257-73 F '33  
Concrete strength increased by spray irrigation; tests made at Stony Gorge and Rodriguez dams. E. H. Burrows. il *Eng N* 110:401-2 Mr 30 '33  
Effect of size of specimen, size of aggregate and method of loading upon the uniformity of flexural strength tests. W. F. Kellermann. il diags *Pub Roads* 13:177-84 Ja '33  
Eight-hour accelerated strength test for field concrete control. O. G. Patch. plan *Am Concrete Inst J* 4:318-24 Mr '33  
How fineness of cement affects strength of concrete. W. E. Corbett. *Concrete* 41:8-9 Je '33  
Improving concrete quality by paying bonuses to contractors on group of sewerage structures. M. H. Klegerman. il *Eng N* 111:434-7 O 12 '33  
Progress in cement strength revealed by long-time tests. *Eng N* 110:494 Ap 20 '33  
Steam test of Portland cement mortar briquettes. A. E. Hiscox. *Rock Prod* 36:34-6 S '33  
Strength of concrete masonry walls after standard fire exposure. C. A. Menzel. diags *Am Concrete Inst J* 4:113-42 N '32  
Tests on consistency and strength of concrete having constant water content. I. Lyse. *Am Soc T M Proc* 32 pt 2:629-36; Discussion. 637-41 '32

## Temperature

- Actual deflections and temperatures in a trial load arch dam; Ariel hydro-electric development. A. T. Larned and W. S. Merrill. il diags map plan *Am Soc C E Proc* 59:723-61 My '33; Discussion. 59:1204-6, 1354-7 S-O '33  
Comparison of selected Portland cements in mass concrete tests. R. F. Blanks. *Am Concrete Inst J* 5:9-20 S '33

Temperature effects in concrete sections; unequal changes in unsymmetrical viaduct slab and girder sections create serious stresses. S. B. Slack. il diags *Civil Eng* 3:213-16 Ap '33

Thermal properties of mass concrete. C. S. Rippon and L. J. Snyder. il diags *Am Concrete Inst J* 5:35-40 S '33

## Testing

- Actual deflections and temperatures in a trial load arch dam; Ariel hydro-electric development. A. T. Larned and W. S. Merrill. il diags map plan *Am Soc C E Proc* 59:737-54 My '33; Discussion. 59:1204-6, 1354-7, 1455-60, 1639-47 S-D '33  
Air conditioning for Hoover Dam concrete tests. diag *Power* 77:69 F '33; Same cond. Heating-Piping 5:104-5 F '33  
Avery 500-ton compression testing machine. il *Engineer* 155:152 F 10 '33; *Engineering* 135:176 F 10 '33  
Colonial concretes; abstract. R. Feret. *Rock Prod* 36:40 O '33  
Comparison of selected Portland cements in mass concrete tests. R. F. Blanks. *Am Concrete Inst J* 5:9-20 S '33  
Determining yield of concrete by density method. W. S. Foster. il *Roads & Sts* 76:120-1 Mr '33  
Development of apparatus and technique for measuring elasticity of mass concrete. E. N. Vidal. il *Am Concrete Inst J* 5:41-7 S '33  
Development of large calorimeter rooms and automatic temperature controls for adiabatic curing of mass concrete. H. S. Meissner. diag *Am Concrete Inst J* 5:21-6 S '33  
Effect of size of specimen, size of aggregate and method of loading upon the uniformity of flexural strength tests. W. F. Kellermann. il diags *Pub Roads* 13:177-84 Ja '33  
Effect of vibration and delayed finishing on pavement slabs. F. H. Jackson and W. F. Kellermann. il *Pub Roads* 14:129-54 O '33  
Eight-hour accelerated strength test for field concrete control. O. G. Patch. plan *Am Concrete Inst J* 4:318-24 Mr '33  
Electric strain meter and its use in measuring internal strains. R. E. Davis and R. W. Carlson. il diags *Am Soc T M Proc* 32 pt2: 793-801 '32  
Mass concrete as affected by size of aggregate and related factors. A. Ruettgers. il *Am Concrete Inst J* 5:27-34 S '33  
Mixtures for vibrated concrete in production of burial vaults. W. G. Kaiser. *Concrete* 41:13-14 Jl '33  
Mortar voids method of designing concrete mixtures. M. Morris. *Am Concrete Inst J* 4:9-26 S '32; Discussion. F. J. Jackson; B. Tremper. 4:241-5 Ja '33; Same (Jackson). *Concrete* 41:14-15 My '33  
Over-a-minute mixing adds no strength. F. S. Besson. *Eng N* 110:183-5 F 9 '33; Discussion. 111:204 Ag 17 '33  
Permeability of concrete under high water pressure. C. C. Vermeule. il diags *Civil Eng* 3:611-14 N '33  
See beneficial effects of admixture in test run on viaduct. C. A. Gill. *Concrete* 41:16 Je '33  
Standard cement and concrete tests. J. M. Portugais. il *Can Eng* 64:9-10 My 16 '33  
Strength tests of old mass concrete. W. M. Smith. *Civil Eng* 3:172-3 Mr '33  
Testing for diatomaceous earth. J. L. Heitzman and A. S. Pelper. *Eng N* 110:801 Je 22 '33  
Tests on consistency and strength of concrete having constant water content. I. Lyse. *Am Soc T M Proc* 32 pt 2:629-36; Discussion. 637-41 '32  
Thermal properties of mass concrete. C. S. Rippon and L. J. Snyder. il diags *Am Concrete Inst J* 5:35-40 S '33  
Vibrated concrete. T. C. Powers. *Am Concrete Inst J* 4:373-81 Je '33  
Volume changes of an early-strength concrete. E. R. Dawley. *Kansas State College Eng Exp Sta Bul* 31:1-21 '32; Same. *Am Soc T M Proc* 32 pt 2:642-58 '32

**CONCRETE—Testing—Continued**

Work done in placing concrete and its compressive strength; abstract. F. Lauser. *Rock Prod* 36:40 O '33

See also

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**Waterproofing**

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**CONCRETE, Effect of sea water on**

Colonial concretes; abstract. R. Feret. *Rock Prod* 36:40 O '33

Concrete ferry landing at North Vancouver, B.C. G. S. Hanes. *il Can Eng* 64:13-14 Ja 24 '33

Concrete that withstands the sea; Penocrete process. H. M. Wright. *il diag Sci Am* 148: 18-19 Ja '33

**CONCRETE, Laminated**

Friction of lubricants for laminated concrete; San Gabriel flood-control dams. E. C. Eaton. *il Eng N* 111:442-4 O 12 '33

**CONCRETE, Ornamental**

Gingerbread castle—with concrete animal cookies. *il Am Concrete Inst J* 4:sup[news letter] 7-10 D '32

Project of ornamenting the Baha'i temple dome. J. J. Earley. *il Am Concrete Inst J* 4:403-11 Je '33

**CONCRETE, Reinforced**

Build reinforced concrete houses with standard metal forms. *il Concrete* 40:7-8 D '32

Cell house of monolithic concrete at Illinois prison. B. E. Hadley. *il Concrete* 41:7-8 S '33

Concrete columns with large bars offer advantages; building erected for Rockford newspapers, inc., Rockford, Ill. T. Gerundsson. *diags Eng N* 109:277-8 S 8 '32; Discussion. 110:257-8, 477, 536-7, 719; 111: 176-7 F 23, Ap 13, 27, Je 1, Ag 10 '33

Concrete control encouraged by Northwest building codes. H. M. Hadley. *Eng N* 110:49 Ja 12 '33

Design of circular tanks; chart for solution of Janssen's formula. E. Cowan. *Concrete* 41:16 N '33

Fabricating 36-in. reinforced concrete-steel cylinder water mains. J. F. Brett. *Am Concrete Inst J* 5:61-2 S '33

Graphical analysis of stress in a reinforced concrete section under an eccentric load. H. E. von Bergen. *Civil Eng* 3:93-4 F '33

Novel ideas and views on reinforced concrete; abstract. E. Freyssinet. *Rock Prod* 36:44 Mr '33

Photo-elastic analysis of stresses in composite materials. A. H. Beyer and A. G. Solakian. *il Am Soc C E Proc* 59:1121-32 S '33

Practical method for reducing building costs; advantages of a standard concrete reinforcement. *il Chem Age (Lond)* 27:436 N 5 '32

Precast slabs build walls and floors of large concrete residence. *il Concrete* 41:14-15 Je '33

Reinforced concrete column investigation; tentative final report of committee 105; with Minority recommendation for design formula. *Am Concrete Inst J* 4:275-84, 443 F, Je '33; Discussion. 5:78-90 S '33

Reinforced concrete in the Long Beach earthquake. N. B. Green. *il Eng N* 110:560-2 My 4 '33

Reinforced concrete poles for overhead lines. P. D. Morgan. *Inst E E J* 72:423-30 My '33

Reinforced concrete wins approval as shock-proof construction. B. Willis. *Concrete* 41: 5 My '33; Same. *Can Eng* 65:9 S 5 '33

Relation between quality and economy of concrete. I. Lyse. *bibliog Am Concrete Inst J* 4:325-43 Mr '33

Retaining wall design; reinforced concrete walls. *diags Pub Works* 64:21-2 N '33

Shell of concrete standpipe pre-stressed by steel hoops; water tower, Minneapolis. J. A. Jensen. *il diags Eng N* 110:224-5 F 16 '33

Stirrups for reinforced concrete beams. D. M. Burmister. *diags Civil Eng* 3:6-8 Ja '33

Stresses in reinforced concrete due to volume changes. C. P. Vetter. *Am Soc C E Proc* 58:197-211 F '32; Discussion. 58:892-6, 1242-57; 59:821-8 My, S '32, My '33

Tests of anchorages for reinforcing bars. C. J. Posey. *diags Iowa Univ Studies in Engineering Bul* 3:1-31 '33

Unique floor slab uses two kinds of concrete; long-span, light-weight construction in new Pine Plains, N.Y. school. *il diags Eng N* 111:565-6 N 9 '33

Wall units and reinforced concrete eliminate need for forms. *il diags Concrete* 41:7-8 N '33

Welded shear reinforcement for concrete beams. D. M. McCain. *il Civil Eng* 3:331 Je '33

See also

Bridges, Concrete Pavements, Concrete  
Concrete construction —Reinforcement  
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**Failures**

St Louis light standards too small at top and spall off. *il Eng N* 110:191 F 9 '33

**Testing**

Deformation of steel reinforcement during and after construction. S. I. Sergeev. *plan Am Soc C E Proc* 59:1269-88 O '33; Discussion. 59:1521-3 N '33

Fifth report on column tests at Lehigh university. I. Lyse. *il Am Concrete Inst J* 4:433-42 Je '33

Tests of reinforced concrete columns. I. Lyse. *il Civil Eng* 3:366-8 Jl '33

**CONCRETE ashlar.** See Concrete blocks

**CONCRETE bins.** See Bins, Concrete

**CONCRETE blocks**

Buff-colored concrete units produce beautiful church interior; used with monolithic concrete and rough quarry stone for economical exterior walls. *il Concrete* 41:7-8 F '33

Build recreation rooms in basements with concrete ashlar. *il Concrete* 41:7-8 O '33

Face interlocking concrete units with brick or stone. *il Concrete* 41:20 Ap '33

Oscillated face on cinder unit; textured waterproof face on ordinary Straub block. *il Concrete* 41:23 Mr '33

Small shield-driven tunnel lined with trapezoidal blocks completed under seven tracks of the Pennsylvania railroad at Norristown, Pa. *il diags Eng N* 111:162-4 Ag 10 '33

Wall units and reinforced concrete eliminate need for forms. *il diags Concrete* 41:7-8 N '33

**Testing**

Strength and stability of concrete masonry walls. F. E. Richart, R. B. B. Moorman and P. M. Woodworth. *il diags Ill U Eng Exp Sta Bul* 251:3-36 '32

**CONCRETE brick**

Makes quality cement brick at \$5.00 per thousand; Kalamazoo Haydite tile co. *il Am Bld* 54:34 Ja '33

Raise strength requirements for grade B concrete brick; revised A.S.T.M. specifications approved for publication as tentative standard. *Concrete* 41:6 Ag '33

**CONCRETE bridges.** See Bridges, Concrete

**CONCRETE columns.** See Columns, Concrete

**CONCRETE construction**

Catenary steel-plate roof for grain elevator at Albany, N.Y. *il diags plans Eng N* 111: 137-40 Ag 3 '33

Cell house of monolithic concrete at Illinois prison. B. E. Hadley. *il Concrete* 41:7-8 S '33

Combining concrete and timber for trestle decks. G. D. Burr. *il diags Eng N* 110:523-4 Ap 27 '33

Concrete at a Century of progress. *il Am Bld* 55:28 Ag '33

Concrete columns with large bars offer advantages; building erected for Rockford newspapers, inc., Rockford, Ill. T. Gerundsson. *diags Eng N* 109:277-8 S 8 '32; Discussion. 110:257-8, 477, 536-7, 719; 111: 176-7 F 23, Ap 13, 27, Je 1, Ag 10 '33



**CONCRETE construction—Continued**

- Concrete control encouraged by Northwest building codes. H. M. Hadley. Eng N 110:49 Ja 12 '33
- Concrete masonry association annual meeting. Rock Prod 36:48-9 Mr '33
- Concrete masonry finds new markets. W. D. M. Allan. Concrete 41:5-6 F '33
- Concreting problems—Chats Falls power development. H. L. Trotter and W. Schnarr. il diags Am Concrete Inst J 4:249-74 F '33
- Constructing a new front on a St Louis building; street widening requires removal of 40-ft. section of McNichols building. C. W. Martin. plans Eng N 110:554-5 My 4 '33
- Construction in reinforced concrete. G. P. Manning. 167p Pitman '32
- Construction of Wards Island sewage treatment works ahead of schedule. R. H. Gould. il Civil Eng 3:154-7 Mr '33
- Continuous frames of reinforced concrete. H. Cross and N. D. Morgan. 343p \$4.50 Wiley '32
- Corewall of 31 caissons sunk under air; Quabbin reservoir of the Boston metropolitan water supply. il diags plan Eng N 111:215-19 Ag 24 '33
- Earthquake again proves efficiency of concrete construction. Concrete 41:9 Ap '33
- George Washington bridge; construction of substructure. M. B. Case. il diag plans Am Soc C E Proc 59:29-64 Ja '33; Discussion. 59:894-5 My '33
- Greater use of concrete would have saved lives and property in California earthquake area. E. Shaw. il Rock Prod 36:36 Mr '33
- Hastings bathing pool. il diags plans Engineer 156:206-8 S 1 '33
- How concrete improved airports in 1932. E. K. Smith. il Concrete 41:12 Ja '33
- Long Beach earthquake a triumph for concrete construction. E. P. Dale. il Concrete 41:10 Je '33
- Manitoba telephone building; Winnipeg; structural steel with reinforced concrete slabs. il Can Eng 64:11-13 Mr 21 '33
- Manufacturing and placing Portland cement concrete. J. M. Portugais. Can Eng 63:11-12 N 22 '32
- New marine terminal at Los Angeles. G. F. Nicholson and E. C. Earle. il diag Eng N 110:305-7 Mr 9 '33
- New system of concrete construction; precast concrete beams in apartment-house construction. F. Pratt. il Arch Rec 74:391-2 N '33
- New system of small house concrete construction; Garrett system. E. Shaw. il Rock Prod 36:52-3 S '33
- Newspaper building floor designed for 2,100-lb. load; Times-Star building in Cincinnati, supported with pipe-pile foundations. W. A. Lensky. il Eng N 110:588 My 11 '33
- Practical details of concrete construction. W. E. Barker. il Pub Works 63:19 Je; 21 Jl; 24 Ag; 20 S; 26 O; 28 N; 24 D '32; 64:17 Ja; 22 F; 23-4 Mr; 39 Ap; 14 My '33
- Precast light-weight concrete slabs placed on Illinois state capitol dome. il Concrete 40:9 D '32
- Project of ornamenting the Baha'i temple dome. J. J. Earley. il Am Concrete Inst J 4: 403-11 Je '33
- Reinforced concrete combined with light steel joists; composite floor construction well adapted to light occupancy. R. C. Johnson. il diag Concrete 41:3-4 N '33
- Reinforced concrete in the Long Beach earthquake. N. B. Green. il Eng N 110:560-2 My 4 '33
- Reinforced concrete subway on Jean Talon street, Montreal. il Can Eng 65:5-8 O 3 '33
- Reinforced concrete wins approval as shock-proof construction. B. Willis. Concrete 41:5 My '33; Same. Can Eng 65:9 S 5 '33
- Rock products possibilities in the small house market. E. Shaw. diags Rock Prod 36:74-7 Ag '33
- Le silo à céréales de la Société générale de transbordements maritimes, à Marseille. L. Fèvre. il diags plans Génie Civil 103:1-7 Jl 1 '33
- South Brooklyn coal pockets involve massive reinforced concrete. M. Hirschthal. il Concrete 41:13-14 O '33
- Tests of anchorages for reinforcing bars. C. J. Posey. il diags Iowa Univ Studies in Engineering Bul 3:1-31 '33
- Unusual structures in Europe. A. A. Brielmaier. Am Concrete Inst J 5:sup [news letter] 8-9 S '33
- Wall units and reinforced concrete eliminate need for forms. il diags Concrete 41:7-8 N '33
- What light-weight concrete means in dollars and tonnage. Concrete 41:9-10 Ja '33

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Concrete, Reinforced	Footings, Concrete
Concrete blocks	Piers, Concrete
Concrete brick	Poles, Concrete
Concrete houses	Sewers, Concrete
Concrete lining	Steel construction—
Concrete mixing	Concrete encase-
Concrete piling	ment
Concrete placing	Walls, Concrete
Concrete plants	Water pipes, Con-
Concrete slabs	crete

**Cost**

Reduction of concrete costs. V. S. Wigmore. Engineering 135:19-20 Ja 6 '33; Discussion. L. B. Højberg. 136:60 Jl 21 '33

**Design**

- Analysis of unsymmetrical concrete arches. C. S. Whitney. Am Soc C E Proc 59:1247-68 O '33
- Calcul des poutres planes et des poutres-cloisons en béton armé. R. L'Hermite. Génie Civil 102:393-7 Ap 29 '33
- Calculations for the design of bubble tower foundations. W. C. Edmister. diag chart Nat Pet N 25:35-6 F 15; 27-8+ F 22; 35-6 Mr 1 '33
- Data for design of retaining walls. A. H. T. Williams. chart Concrete 41:10 S '33
- Deformation of steel reinforcement during and after construction. S. I. Sergev. plan Am Soc C E Proc 59:1269-88 O '33; Discussion. 59:1521-3 N '33
- Design of concrete foundations. H. G. Smith. diag Can Min J 54:154-5 Ap '33
- Design of cylindrical concrete tanks. L. Leeper. diags Civil Eng 3:598-600 N '33
- Earthquake design for bank buildings; four new branches of the Mitsui bank in Japan. P. F. Pape. il diags plans Eng N 110:457-60 Ap 13 '33
- Fifth report on column tests at Lehigh university. I. Lyse. il Am Concrete Inst J 4: 433-42 Je '33
- Graphical analysis of stress in a reinforced concrete section under an eccentric load. H. E. von Bergen. Civil Eng 3:93-4 F '33
- Housing a laundry in a modern building; Cashman laundry corp. il diags plan Eng N 109:682-4 D 8 '32
- Modern concrete design exemplified in Brooklyn apartments; Flagg Court apartments. il plans Eng N 110:462-5 Ap 13 '33
- Reinforced concrete chimneys. J. Fertik. Civil Eng 3:577-8 O '33
- Reinforced concrete column investigation; tentative final report of committee 105; with Minority recommendation for design formula. Am Concrete Inst J 4:275-84, 443 F, Je '33; Excerpt. Concrete 41:10 Jl '33; Discussion. Am Concrete Inst J 5:78-90 S '33
- Reinforced concrete designers' handbook. C. E. Reynolds. 298p [bibliog p271-81] Concrete publications ltd, London '32
- Retaining wall design; reinforced concrete walls. diags Pub Works 64:21-2 N '33
- Stirrups for reinforced concrete beams. D. M. Burmister. diags Civil Eng 3:6-8 Ja '33
- Stresses in reinforced concrete due to volume changes. C. P. Vetter. Am Soc C E Proc 58:197-211 F '32; Discussion. 58:892-6, 1242-57; 59:821-8 My, S '32, My '33
- Unsymmetrical concrete arches; determination of moment, shear and thrust at crown. F. N. Weaver. Boston Soc C E J 20:99-109; Discussion. O. G. Julian. 110-14 My '33

**CONCRETE construction—Design—Continued**

Les voiles minces en forme de paraboloïde hyperbolique. F. Aimond. diags Génie Civil 102:179-81 F 25 '33

**Fire resistance**

Fireproof concrete homes may be built at moderate cost. il Concrete 41:3-4 My '33  
Strength of concrete masonry walls after standard fire exposure. C. A. Menzel. diags Am Concrete Inst J 4:113-42 N '32  
Technological developments in fireproof concrete homes. W. D. M. Allan and R. E. Copeland. il diags plans Am Concrete Inst J 4:351-64 Mr '33

**Forms**

Build reinforced concrete houses with standard metal forms. il Concrete 40:7-8 D '32  
Concrete form building. G. S. Bartleson. diags Am Bld 54:34-5 D '32  
Concreting the Denn shaft. F. P. Brunel. diags Eng & Min J 133:614-17 D '32  
Economy in form work for multiple-arch dams. F. A. Noetzel. diags Civil Eng 3:329-30 Je '33  
L'emploi de coffrages glissants, système MacDonald, pour la construction des murs de barrages. diags Génie Civil 102:449-51 My 13 '33

Fast-truck concrete haul cuts building cost; construction of the Meadowbrook hospital in Nassau county, New York. W. J. Barney. il Eng N 109:779 D 29 '32

Metal forms feature construction of sewage disposal plant. il Concrete 41:17-18 F '33

Metal forms for floor become finished ceiling. il Iron Age 132:27 S 14 '33

Moving forms for concrete construction. H. H. Broughton. il (supp) diags Engineer 155:134-5, 140-1 F 10 '33

Open-truss bar joists simplify wall construction; rebuilding a dock for the Huron milling co. at Harbor Beach, Mich. J. I. Bennett. diags Eng N 110:221 F 16 '33

Placing 300,000 yards of concrete tunnel lining; Hoover Dam project. il diags Eng N 109:715-18 D 15 '32

Plywood as a building material. P. S. Hill. il Mech Eng 55:355 Je '33

Practical formwork and shuttering. J. F. Dowsett and E. G. Bartle. 163p Library press Ltd, London '32

Sliding form work; report of committee 608. L. B. Mercer. il diags Am Concrete Inst J 4:201-40 Ja '33

Sliding form work; supplement to report of committee 608. W. R. Sproul. il diags Am Concrete Inst J 4:285-99 F '33

What pressure on concrete forms? Concrete 41:6-7 Je '33

**Repair**

Repairing bridge piers of disintegrated concrete. J. B. Ferguson. il diags Eng N 110:57-8 Ja 12 '33

**Tables, calculations, etc.**

Minimum-section trapezoidal mass-concrete retaining walls. C. G. Reddington. Engineering 135:644 Je 16 '33

What pressure on concrete forms? Concrete 41:6-7 Je '33

**Testing**

Essais de rupture d'une voûte mince conoïde en béton armé, aux ateliers de Fontenay-sous-Bois du chemin de fer Métropolitain de Paris. M. Fauconnier. il diags plan Génie Civil 102:533-8 Je 10 '33

Les essais par chargement direct des constructions. Génie Civil 102:401-2 Ap 29 '33

Photo-elastic analysis of stresses in composite materials. A. H. Beyer and A. G. Solakian. il Am Soc C E Proc 59:1121-32 S '33

**CONCRETE construction, Subaqueous**

Asphalt-impregnated slabs of concrete in salt water; precast units used for protection against disintegration in tunnels of Seal Beach power plant. W. R. Shettel. il Eng N 110:108-9 Ja 26 '33

Concrete ferry landing at North Vancouver, B.C. G. S. Hanes. il Can Eng 64:13-14 Ja 24 '33

Concrete jackets protect timber piles exposed to sea water; with cost data. J. W. Barnwell, Jr. il diags Concrete 41:3-5 Je '33  
Concrete that withstands the sea; Penocrete process. H. M. Wright. il diags Sci Am 148:18-19 Ja '33

Golden Gate bridge work makes progress. il Eng N 111:7-8 Jl 6 '33

Lake Zurich breakwater built on piles. A. J. Luchinger. il plan Eng N 110:80-1 Ja 19 '33

Lock construction at dam 3, Tennessee river. il Eng N 111:196-8 Ag 17 '33

New marine terminal at Los Angeles. G. F. Nicholson and E. C. Earle. il diags Eng N 110:306 Mr 9 '33

New ore dock built entirely of reinforced concrete; facility completed by D.S.S. & A. at Marquette, Mich. il diags plan Ry Age 94:326-8 Mr 4 '33

Place concrete under water through vibrated tremie spout. Concrete 41:13 My '33

Port of Havre. il diags plan map Engineer 155:566-9, 576, 592-5, 616-18 Je 9-23 '33

**See also**

Breakwaters, Concrete

Bridges—Foundations and piers

Concrete piling  
Dams, Concrete  
Piers, Concrete

**CONCRETE construction in winter**

Concreting problems—Chats Falls power development. H. L. Trotter and W. Schnarr. il diags Am Concrete Inst J 4:249-74 F '33

Curing of Portland cement concrete; placing concrete in cold weather. J. M. Portugais. Can Eng 64:9-12 Ja 24 '33

Winter paving provided work in Ohio village. L. Brannon. il Eng N 110:472-3 Ap 13 '33

**CONCRETE dams.** See Dams, Concrete

**CONCRETE finishing.** See Concrete—Finishing

**CONCRETE floors.** See Floors, Concrete

**CONCRETE footings.** See Footings, Concrete

**CONCRETE handling**

Concreting equipment and methods on San Francisco-Oakland Bay bridge. Pub Works 64:41 N '33

Concreting plant for Madden dam. A. J. Ackerman. il diags Eng N 109:674-5 D 8 '32

Fast-truck concrete haul cuts building cost; construction of the Meadowbrook hospital in Nassau county, New York. W. J. Barney. il plan Eng N 109:778-9 D 29 '32

Pasadena builds Pine Canyon dam; domestic water supply and storage project on the San Gabriel river. S. B. Morris. il diags Civil Eng 3:312-13 Je '33

Proportioning, mixing and placing of concrete piers for the St Johns bridge, across the Willamette river. W. A. Scott. il Concrete 41:19-20 Mr '33

Ready mixed concrete at the Hoover dam. W. B. Lenhart. il plans Rock Prod 35:40-5 N 19 '32

**See also**

Concrete placing

**CONCRETE houses**

Build reinforced concrete houses with standard metal forms. il Concrete 40:7-8 D '32

Fireproof concrete homes may be built at moderate cost. il Concrete 41:3-4 My '33

Honestly modern concrete house; Century of progress exposition. il plans Am Bld 55:66-7 Je '33

New system of small house concrete construction; Garrett system. E. Shaw. il Rock Prod 36:52-3 S '33

Precast slabs build walls and floors of large concrete residence. il Concrete 41:14-15 Je '33

Prefabricated concrete homes. R. E. Copeland. il Rock Prod 36:46-7 Je '33

Technological developments in fireproof concrete homes. W. D. M. Allan and R. E. Copeland. il diags plans Am Concrete Inst J 4:351-64 Mr '33

Wall units and reinforced concrete eliminate need for forms. il diags Concrete 41:7-8 N '33

**CONCRETE joists.** See Joists, Concrete



**CONCRETE laboratories**

Muskegon's concrete laboratory saves money for city. *Concrete* 40:10 D '32

**CONCRETE lining**

Asphalt-impregnated slabs of concrete in salt water; precast units used for protection against disintegration in tunnels of Seal Beach power plant. W. R. Shettel. *il Eng N* 110:108-9 Ja 26 '33

Concrete siphons and canal linings feature irrigation system; Otis Orchards irrigation district, Washington. G. W. Hitchcock. *il Concrete* 41:13 Ag '33

Construction of Bridge River tunnel. C. E. Blee. *Can Eng* 63:31-3 D 13 '32

Construction of the Cobble Mountain diversion tunnel; cost data. H. H. Hatch. *diags plan N E Water Works Assn J* 47:133-52 Je '33

Construction of the Hoover dam; lining of the diversion tunnels with concrete. C. H. Vivian. *il Comp Air M* 37:4010-17 D '32

Excavating close to building without underpinning; deep sewage regulator alongside shallow foundation. W. O. Johnson. *il diags Eng N* 111:376-7 S 23 '33

Guniting with lumnite cement. A. R. Chadwick. *il Can Eng* 64:11 Ap 18 '33

Lining the Coast Range tunnel for Hetch Hetchy water. *il diags map Eng N* 111:107-10 Ji 27 '33

New tunnel eliminates seven grade crossings; Canadian Pacific drives 4,600-ft. bore at Vancouver. B. C. F. W. Alexander. *il diags Ry Age* 93:730-1 N 26 '32

Permeability of concrete under high water pressure. C. C. Vermeule. *il diags Civil Eng* 3:611-14 N '33

Placing 300,000 yards of concrete tunnel lining; Hoover Dam project. *il diags Eng N* 109:715-20 D 15 '32

Portable aggregate plant for Hetch Hetchy tunnel. H. V. Eastling. *il diag Eng N* 109:654-6 D 1 '32

Solving hydraulic problems necessitated by state highway location, Pine Creek Gorge, California. *Pub Works* 64:36 S '33

*See also*

Concrete placing  
Water conduits, Concrete

**CONCRETE masonry.** *See* Concrete blocks; Concrete brick; Concrete slabs

**CONCRETE masonry association**

Annual meeting, Chicago, Feb. 23. *Concrete* 41:10 Mr '33; *Rock Prod* 36:48-9 Mr '33

**CONCRETE mixers**

Application of truck mixers and mechanical spreaders to concrete road construction. *il Pub Works* 64:24-6 Ja '33

Boston-Worcester turnpike paved by truck mixers. *il Eng N* 110:104-7 Ja 26 '33

Construction machinery company new 10-S drum type mixer. *il Roads & Sts* 76:132 Mr '33

Internal, helical blades improve action of concrete truck. *il Concrete* 41:22 N '33

Revolving-pan concrete mixer. *il Engineering* 135:445 Ap 21 '33

Super Victoria seven cubic feet concrete mixer. *il Engineer* 154:491 N 11 '32

**CONCRETE mixing**

Aggregate plants of movable type. E. Shaw. *il Rock Prod* 36:18-19 Ap '33

Blaw-Knox new automatic water measuring tank for concrete mixing plants. *il Roads & Sts* 76:95 F '33

Clay in concrete. D. A. Parsons. *pl U S Bur Stand J Research* 10:257-73 F '33

Concreting problems—Chats Falls power development. H. L. Trotter and W. Schnarr. *il Am Concrete Inst J* 4:249-56 F '33

Control of concrete in the field. J. M. Portugais. *Can Eng* 64:11-12 Je 13 '33

Co-ordination of basic principles of concrete mixtures. J. A. Kitts. *Concrete* 40:7-9 My; 14-16 Je; 9-11 Ji; 10-12 Ag; 17-19 S; 11-13+ O; 17-19 N; 17-19 D '32; 41:15-17 Ja; 9-11 F; 5-7 Mr; 13-15 Ap '33

Effect of vibration and delayed finishing on pavement slabs. F. H. Jackson and W. F. Kellermann. *il Pub Roads* 14:129-54 O '33

Effects of particle interference in mortars and concretes. C. A. G. Weymouth. *diags Rock Prod* 36:26-30 F '33

Handling concrete for best results. N. R. Love. *il Elec Traction* 29:76-7 Mr '33

Manufacturing and placing Portland cement concrete. J. M. Portugais. *Can Eng* 63:11-12 N 22 '32

Mass concrete as affected by size of aggregate and related factors. A. Ruettgers. *il Am Concrete Inst J* 5:27-34 S '33

Mixtures for vibrated concrete in production of burial vaults. W. G. Kaiser. *Concrete* 41:13-14 Ji '33

Mortar voids method of designing concrete mixtures. M. Morris. *Am Concrete Inst J* 4:9-26 S '32; Discussion. F. J. Jackson; B. Tremper. *4:241-5 Ja '33; Same (Jackson). Concrete* 41:14-15 My '33

Over-a-minute mixing adds no strength. F. S. Besson. *Eng N* 110:183-5 F 9 '33; Discussion. 111:204 Ag 17 '33

Proportioning concrete. J. C. Sprague. *Eng N* 111:85 Ji 20 '33

Proportioning, mixing and placing of concrete piers for the St Johns bridge, across the Willamette river. W. A. Scott. *il Concrete* 41:19-20 Mr '33

Puzzolan admixture to cement aids resistance of concrete. E. W. Lazell. *Concrete (mill sec)* 41:30 Ap '33

Reduction of concrete costs. V. S. Wigmore. *Engineering* 135:19-20 Ja 6 '33; Discussion. L. B. Højberg. 136:60 Ji 21 '33

*See* beneficial effects of admixture in test run on viaduct. C. A. Gill. *Concrete* 41:16 Je '33

Trend of mixes and specifications for concrete street construction. E. K. Smith. *Pub Works* 64:29, 31 F '33

*See also*

Concrete—Aggregate  
Concrete mixers

**Ready-mixed concrete**

Aid for ready-mixed concrete plant; device for determining retained water in aggregates. W. B. Lenhart. *Rock Prod* 36:59 Ag '33

Contractors enter ready-mixed concrete field in St Louis. *il Rock Prod* 36:48-9 Ja '33

Engineer versus the laboratory in ready-mixed plant control. D. G. Dupuy. *Concrete* 41:7-8 Ap '33

Fast-truck concrete haul cuts building cost; construction of the Meadowbrook hospital in Nassau county, New York. W. J. Barney. *il plan Eng N* 109:778-9 D 29 '32

How Ohio's highway department uses transit-mixed concrete for widening and repair. H. P. Chapman. *Concrete* 41:3-4 Mr '33

National ready mixed concrete association annual meeting. *Rock Prod* 36:46-7 Ja '33; *Eng N* 110:122-3 Ja 26 '33

One-yard trucks haul concrete for 3-mile overhead highway. *il Concrete* 41:18 Ja '33

Place truck-mixed highway concrete with mechanical spreader. *il Concrete* 41:17 Mr '33

Rapid service on ready-mixed concrete. H. M. Fitch. *il Rock Prod* 36:44-5 Ji '33

Ready mixed concrete at the Hoover dam. W. B. Lenhart. *il plans Rock Prod* 35:40-5 N 19 '32

Simplified control of ready-mixed concrete. D. V. Terrell. *Concrete* 40:8-9+ O '32; Discussion. T. C. Powers. 40:21 D '32

This modern equipment cuts handling costs; Warner company. *il Am Bld* 55:72-3 Ap '33

**Tables, calculations, etc.**

Design of cement concrete mixtures. J. M. Portugais. *Can Eng* 64:15-17 Mr 21 '33

**CONCRETE piling**

Le battage de pieux en béton armé dans les terrains hétérogènes; pieux à sabot coupant. M. Lacombe. *il diags Génie Civil* 102:36-8 Ja 14 '33

Bell splice composite pile developed in Texas; concrete approaches to Neuces River crossing. G. G. Wickline. *il diags Eng N* 111:39-40 Ji 13 '33

**CONCRETE piling—Continued**

- Efficient pile-casting yard for highway bridges; Great Egg Harbor structures in New Jersey. *il diags Eng N 109:743-5 D 22 '32*
- Features of the Franki system of piling. *il diags Can Eng 65:12-14 O 17 '33*
- Federal special welder for concrete pile forms. *il Am Mach 76:1174 N 23 '32*
- Use high-frequency vibration in casting concrete piles. *il Concrete 41:17 Ja '33*
- Wave theory applied to the driving of reinforced concrete piles. D. V. Isaacs. *Enginering 136:211 S 1 '33*
- West-Rotnoff shell pile. *il Gas J (Lond) 201: 43 Ja 4 '33*

**Testing**

- Holding-down power of concrete piles; results of field tests made at Columbus, Ohio, on square precast piles with parallel sides. J. H. Gregory, R. A. Allton and J. H. Blodgett. *diags Civil Eng 3:66-8 F '33*

**CONCRETE pipes. See Pipes, Concrete****CONCRETE placing**

- Belt conveyors place concrete for Vermunt dam in the Alps. B. Widman. *il diags Eng N 109:126-9 Ag 4 '32; Abstract. Mech Handling 20:8-11 Ja '33*
- Compaction of concrete through the use of vibratory tampers. R. E. Davis and H. E. Davis. *Am Concrete Inst J 4:365-72 Je '33*
- Concreting at Pine Canyon dam. *il plan Eng N 110:671-4 My 25 '33*
- Concreting problems—Chats Falls power development. H. L. Trotter and W. Schnarr. *il Am Concrete Inst J 4:258-61 F '33*
- Concreting the Denn shaft. F. P. Brunel. *diags Eng & Min J 133:614-17 D '32*
- Construction of Bridge River tunnel. C. E. Blee. *Can Eng 63:31-3 D 13 '32*
- Curing of Portland cement concrete; placing concrete in cold weather. J. M. Portugais. *Can Eng 64:9-12 Ja 24 '33*
- Effect of vibration and delayed finishing on pavement slabs. F. H. Jackson and W. F. Kellermann. *il Pub Roads 14:129-54 O '33; Summary. Concrete 41:8-9 Ag '33*
- Improved type of concrete pouring skip. *il Mech Handling 20:312 O '33*
- Lining the Coast Range tunnel for Hetch Hetchy water. *il diags map Eng N 111:107-10 Jl 27 '33*
- Manufacturing and placing Portland cement concrete. J. M. Portugais. *Can Eng 63:11-12 N 22 '32*
- La mise en place du béton au moyen d'une pompe. *il diag Génie Civil 102:352-4 Ap 15 '33*
- New facts about cement and concrete; abstracts of some A.C.I. papers on high-frequency vibration, mix economy and column design. *Eng N 110:350-2 Mr 16 '33*
- New pump and vibrator will help speed up concrete work in 1933. *il Am Bld 54:35 Ja '33*
- Placing concrete by pump and pipe line. *Am Concrete Inst J 4:sup[news letter] 11-12 F '33*
- Practical details of concrete construction. W. E. Barker. *il Pub Works 63:24 D '32*
- Proportioning, mixing and placing of concrete piers for the St Johns bridge, across the Willamette river. W. A. Scott. *il Concrete 41:19-20 Mr '33*
- Pump concrete 600 feet on viaduct contract in Milwaukee. *il Concrete 41:3-4 S '33*
- La reconstruction du pont de Champigny, sur la Marne; serrage du béton armé par des appareils de pervibration. L. Roussel. *il diags Génie Civil 103:365-9 O 14 '33*
- See beneficial effects of admixture in test run on viaduct. C. A. Gill. *Concrete 41:16 Je '33*
- Shovel places concrete for Delaware road; bottom-dump bucket substituted for dipper. *il Eng N 111:202-3 Ag 17 '33*
- Tunnel concreting procedure; Hoover Dam project. *diags Eng N 109:718-20 D 15 '32*
- Use high-frequency vibration in casting concrete piles. *il Concrete 41:17 Ja '33*
- Vibrated concrete. T. C. Powers. *Am Concrete Inst J 4:373-81 Je '33*

- Vibration as a means of placing concrete. M. I. McCarty and others. *il Am Concrete Inst J 5:49-64; Discussion. 65-71 S '33*
- Work done in placing concrete and its compressive strength; abstract. F. Lauser. *Rock Prod 36:40 O '33*

**See also**

- Concrete construction      Concrete lining  
tion, Subaqueous      Tremies

**CONCRETE plants**

- Batching plant economics for separate aggregates. T. C. Thee and O. K. Normann. *il diags Eng N 110:52-4 Ja 12 '33; Same. Roads & Sts 76:97-100 Mr '33*
- Concreting at Pine Canyon dam. *il plan Eng N 110:671-4 My 25 '33*
- Concreting plant for Madden dam. A. J. Ackerman. *il diag Eng N 109:671-5 D 8 '32*
- Contractors enter ready-mixed concrete field in St Louis. *il Rock Prod 36:48-9 Ja '33*
- Efficient pile-casting yard for highway bridges; Great Egg Harbor structures in New Jersey. *il diags Eng N 109:743-5 D 22 '32*
- Ready mixed concrete at the Hoover dam. W. B. Lenhart. *il plans Rock Prod 35:40-5 N 19 '32*

**See also**

- Concrete construction      Concrete placing  
Concrete mixers      Concrete products  
Concrete mixing—      plants  
Ready-mixed concrete      Pipes, Concrete—  
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**Management**

- Engineer versus the laboratory in ready-mixed plant control. D. G. Dupuy. *Concrete 41:7-8 Ap '33*

**CONCRETE products**

- Concrete masonry finds new markets. W. D. M. Allan. *Concrete 41:5-6 F '33*
- Facts about concrete masonry. 3d ed 48p Concrete masonry assn, 33 West Grand Av, Chicago '33
- Rock products possibilities in the small house market. E. Shaw. *diags Rock Prod 36:74-7 Ag '33*
- Surface-sepulcher, a distinctive new concrete product. *il Concrete 41:20 Ag '33*

**See also**

- Concrete blocks      Concrete tile  
Concrete brick      Joists, Concrete  
Concrete piling      Pipes, Concrete  
Concrete slabs      Water pipes, Concrete

**Manufacture**

- Use of vibration in the manufacture of concrete products. M. N. Clair. *Am Concrete Inst J 4:383-90 Je '33*

**CONCRETE products industry**

- Concrete masonry proves its value. B. Wilk. *Concrete 41:3-4 Ap '33*

**CONCRETE products plants**

- Concrete pipe in a clay products town. G. B. Arthur. *Rock Prod 35:44-5 D 10 '32*

**Equipment**

- Vibrating equipment in a cast stone plant. G. B. Pickop. *Am Concrete Inst J 5:59-60 S '33*

**CONCRETE pumping. See Concrete placing****CONCRETE research**

- Comparison of selected Portland cements in mass concrete tests. R. F. Blanks. *Am Concrete Inst J 5:9-20 S '33*
- Development of apparatus and technique for measuring elasticity of mass concrete. E. N. Vidal. *il Am Concrete Inst J 5:41-7 S '33*
- Development of large calorimeter rooms and automatic temperature controls for adiabatic curing of mass concrete. H. S. Meissner. *diag Am Concrete Inst J 5:21-6 S '33*
- Effects of particle interference in mortars and concretes. C. A. G. Weymouth. *diags Rock Prod 36:26-30 F '33*
- Grind cement clinker and lime-clay to produce new cements. *Concrete (mill sec) 41: 27-30 S '33*



**CONCRETE research—Continued**

- High pressure steam curing under study for eight years; tests at University of Saskatchewan. *Concrete* 41:20-1 Ja '33
- Hoover Dam construction guided by extensive research. E. Mead. *il Eng N* 109:725-6 D 15 '32
- Mass concrete research for Hoover dam. B. W. Steele. *diags Am Concrete Inst J* 4:305-17 Mr '33
- New facts about cement and concrete; abstracts of A.C.I. papers on research program in construction of Hoover dam. *il diag Eng N* 110:322-5 Mr 9 '33
- New facts about cement and concrete; abstracts of some A.C.I. papers on high-frequency vibration, mix economy and column design. *Eng N* 110:350-2 Mr 16 '33
- Newly acquired knowledge of cement and concrete aggregates. F. O. Anderegg. *bibliog Rock Prod* 36:62-4 Ag '33

See also

Concrete laboratories

**CONCRETE roofs.** See **Roofs, Concrete****CONCRETE slabs**

- Asphalt-impregnated slabs of concrete in salt water; precast units used for protection against disintegration in tunnels of Seal Beach power plant. W. R. Shettel. *il Eng N* 110:108-9 Ja 26 '33
- Girderless concrete slabs solve headroom problem; overstreet crossings at Elmira. N. Y. M. Hirschthal. *il diags map Eng N* 109:678-81 D 8 '32
- Long precast bridge slabs carry tracks without ballast; reinforced concrete structures on the Canadian National. *il plans Ry Age* 95:209-11 Ag 5 '33
- Modern practices in bridge re-decking. W. F. Carson. *il diags Eng N* 110:86-9 Ja 19 '33
- New system of concrete construction; precast concrete beams in apartment-house construction. F. Pratt. *il Arch Rec* 74:391-2 N '33
- Precast light-weight concrete slabs placed on Illinois state capitol dome. *il Concrete* 40:9 D '32
- Precast slabs build walls and floors of large concrete residence. *il Concrete* 41:14-15 Je '33
- Unique floor slab uses two kinds of concrete; long-span, light-weight construction in new Pine Plains, N. Y. school. *il diags Eng N* 111:565-6 N 9 '33
- Vibration in making roof deck slabs. A. B. Shenk. *Am Concrete Inst J* 5:63-4 S '33

**Testing**

- Temperature effects in concrete sections; unequal changes in unsymmetrical viaduct slab and girder sections create serious stresses. S. B. Slack. *il diags Civil Eng* 3:213-16 Ap '33

**CONCRETE stone**

- Vibrating equipment in a cast stone plant. G. B. Pickop. *Am Concrete Inst J* 5:59-60 S '33

**CONCRETE tile**

- Opens new market for concrete roof tile. *il Rock Prod* 36:60 F '33

**CONCRETIONS**

- Chert and flint, concretions, and cone-in-cone. W. A. Tarr. *Nat Research Council Bul* 89:90-9 '32
- Lacustrine concretions of manganese. E. M. Kindle. *il map Am J Sci* 5th ser 24:496-504 D '32

**CONDENSATION**

- Kondensation und verdampfung; neuere anschauungen und versuche. M. Jakob. *il diag Zeit Ver Deutsch Ing* 76:1161-70 N 26 '32
- Refinery and natural gasoline technology; calculation of refinery vaporization and condensation requirements. G. A. Burrell and N. C. Turner. *Nat Pet N* 25:18-21 N 8 '33

**CONDENSATION, Chemical**

- Acetoacetic ester condensation; the condensation of higher esters. R. B. Briese and S. M. McElvain. *Am Chem Soc J* 55:1697-1700 Ap '33

Acetoacetic ester condensation; the reaction product of certain aliphatic esters and sodium ethoxide. J. M. Snell and S. M. McElvain. *Am Chem Soc J* 55:416-21 Ja '33

Action of aromatic alcohols on aromatic compounds in the presence of aluminum chloride; condensation of phenylpropylcarbinol and  $\alpha$ -chlorobutylbenzene with phenol. R. C. Huston and H. W. Strickler. *Am Chem Soc J* 55:4317-18 O '33

Addition of phenols to the ethylenic linkage; the action of phenols on alkylene halides. R. A. Smith and J. B. Niederl. *Am Chem Soc J* 55:4151-3 O '33

Aldehyde-amide condensation; reactions between aldehydes and acetamide. W. A. Noyes and D. E. Forman. *Am Chem Soc J* 55:3493-4 Ag '33

Betti condensation; effect of substituents on the stability and optical rotation of the resulting amines. F. E. Ray and W. A. Moomaw. *Am Chem Soc J* 55:749-52 F '33

Case of ketonic activity of acetic anhydride, and the condensation of salicylaldehyde with benzoylacetone. R. J. W. Le Fèvre and J. Pearson. *Chem Soc J* p1197-1200 S '33

Condensation of acetophenone with isatin by the Knoevenagel method. H. G. Lindwall and J. S. MacLennan. *Am Chem Soc J* 54:4739-44 D '32

Condensation of aldehydes with ketones and some of the products derived from the ketols. L. P. Kyrides. *Am Chem Soc J* 55:3431-5 Ag '33

Condensation of anthranilic acid with 4-chloroquinoline and with 2-chlorolepidine. O. G. Backeberg. *Chem Soc J* p390-1 Ap '33

Condensation of chloral with tolyl- and nitrophenyl-ureas. F. D. Chattaway, G. M. T. Kerr and C. G. Lawrence. *Chem Soc J* p30-2 Ja '33

Condensation of formaldehyde with *p*-nitrophenol. F. D. Chattaway and R. M. Goepp. *Chem Soc J* p699-700 Je '33

Condensation of oxalic esters with benzyl cyanide. G. S. Skinner. *Am Chem Soc J* 55:2036-9 My '33

Condensation of sulphamide, dimethylsulphamide, and aniline-*p*-sulphonamide with formaldehyde. F. C. Wood and A. E. Baty. *Soc Chem Ind J* 52:346T-9T O 20 '33

Condensation of 2-butanone with normal aliphatic aldehydes. S. G. Powell, H. C. Murray and M. M. Baldwin. *Am Chem Soc J* 55:1153-4 Mr '33

Condensations of isatin with acetone by the Knoevenagel method. F. Braude and H. G. Lindwall. *Am Chem Soc J* 55:325-7 Ja '33

Formaldehyde condensations with aliphatic ketones. G. T. Morgan and E. L. Holmes. *Chem Soc J* p2667-73 N '32

Michael condensation; the behavior of diethyl phenylmalonate in the Michael condensation. R. Connor. *bibliog Am Chem Soc J* 55:4597-601 N '33

Reduction studies of Schiff bases; the condensations of certain secondary aromatic amines with formaldehyde in acid solution; nuclear or N-methylations by means of formaldehyde. E. C. Wagner. *bibliog Am Chem Soc J* 55:724-31 F '33

Studies in thiophenol chemistry; a condensation reaction between thiophenols and condensed aldehyde-ammonias. G. Dougherty and W. H. Taylor. *bibliog Am Chem Soc J* 55:4588-93 N '33

**CONDENSERS**

Increasing condenser efficiency through production of turbulent flow. B. T. duPont. *diag Nat Pet N* 24:74-5+ N 16 '32

Neuerungen an extraktoren und kühlern. O. Hagen. *il diags Chemische Fabrik* 5:425-7 N 9 '32

Die wirksamkeit der genormten und einiger neuerer rückflusskühler. F. Mach and R. Herrmann. *il Chemische Fabrik* 6:199-201, 211-13 My 10-17 '33

See also

Ammonia condensers  
Distillation apparatus

**CONDENSERS (electricity)**

- Bangor spends to save; installation of synchronous condenser at Veazie station. *Elec W* 101:363 Mr 18 '33
- Cathodic films in electrolytic condensers. F. W. Godsey, jr. *Electrochem Soc Trans* 63 (preprint 2):9-15 My '33
- Condensers in measuring; instruments which employ capacity variations. R. Leonhardt. *il diags Elec R (Lond)* 113:245-6 Ag 25 '33
- Insulating bushings; a 220 kV oil filled condenser bushing. W. Hüter. *diag Electrician* 110:619 My 12 '33
- Measurement of the power factor and capacitance of a condenser by comparison with a mutual inductance. A. W. Smith. *diags R Sci Instr* 4:280-4 My '33
- Method of control for gas filled tubes. C. Stansbury. *il diags Elec Eng* 52:190-4 Mr '33
- Metropolitan-Vickers synchronous condenser and transformers. *il diag Engineer* 154:595-6 D 9 '32; *Engineering* 134:680-1 D 9 '32
- Power-factor correction; the economic value of condensers. P. R. Coursey. *il Elec R (Lond)* 112:867 Je 16 '33
- Power limits of synchronous machines. E. Clarke and R. G. Lorraine. *bibliog diags Elec Eng* 52:780-7 N '33
- Radiometric condenser; the control of oscillating circuits by radiant heat. G. G. Blake. *il diags Elec R (Lond)* 112:43-4 Ja 13 '33
- Series capacitor improves 4150-volt line operation. W. S. Hill. *il Gen Elec R* 36:461 O '33
- Suppression of radio interference with capacitor-type filters. C. V. Aggers and W. E. Pakala. *Elec J* 30:337-9+ Ag '33
- Surge protection for rotating machines. J. F. Calvert, A. C. Monteith and E. Beck. *il diags Elec J* 30:91-4+ Mr '33
- Synchronous condenser. *Electrician* 109:814, 842 D 23-30 '32
- Synchronous condenser raises system generating capacity; Bangor hydro-electric company. *Elec W* 101:494 Ap 15 '33
- Synchronous condensers; three large machines with novel features for the Victoria Falls and Transvaal power company. *il diag Electrician* 109:709-10 D 2 '32
- This thing called power factor. *Power Pl Eng* 37:87-9, 138-40 F-Mr '33
- Three-million-volt testing laboratory; Compagnie générale d'électro-céramique, Ivry, Paris. *il Elec R (Lond)* 113:594 O 27 '33
- Voltage regulation; application of series-coupled condenser to l. t. networks. R. Hintze. *diag Electrician* 111:389 S 29 '33

**CONDENSERS (mercury vapor)**

- Semi-plant condenser of standard fittings for mercury vapors. G. E. Seavoy. *diag Chem & Met Eng* 40:430 Ag '33

**CONDENSERS (steam)**

- Balanced natural-flow condenser. J. H. Smith. *Mech Eng* 55:196 Mr '33
- Condenser-tube corrosion; two reports. J. R. Freeman, jr. and A. W. Tracey. *il Mech Eng* 55:556 S '33
- Condensers and auxiliaries show little change. *il Power Pl Eng* 36:26-7 Ja '33
- Condensing equipment. 35p National electric light assn, New York '33
- Condensing plant data. *Elec R (Lond)* 112:210 F 10 '33
- Copper-nickel tubes; their advantages for steam condensers. R. Worthington. *il Metal Prog* 24:20-4 Jl '33
- Drip condensation. F. A. M. Wulffinghoff. *il Mech Eng* 55:410 Jl '33
- Extruded condenser tubes. *il diag Marine Eng* 38:420-1 N '33
- Huge condenser fabricated by electric welding. *il Elec J* 30:5 Ja '33
- Improvements in marine condenser equipment; Westinghouse electric & mfg. co. *Marine R* 63:31 S '33
- Kondensation und verdampfung; neuere anschauungen und versuche. M. Jakob. *il diag Zeit Ver Deutsch Ing* 76:1161-70 N 26 '32

- Ten years' progress in copper-nickel condenser tubes. R. Worthington. *Marine Eng* 38:266-7 Jl '33; Same abr. *Marine R* 63:29 Jl '33
- Tube diameter and heat transmission. T. Petty. *Engineer* 156:54 Jl 21 '33
- Use of condensers in factory power plants. C. L. Hubbard. *diags Melland* 4:609-10, 657-9 Ja-F '33
- Works of Messrs. C. A. Parsons and company, limited. *il diags Engineering* 134:645-9, 654 D 2 '32

**Testing**

- Performance of two 101,000-sq. ft. surface condensers at Hudson Ave. station of the Brooklyn Edison company. J. N. Landis and S. A. Tucker. *diags Power* 77:308-10 Je '33
- Test methods for determining condenser cleanliness. F. H. Hardie and W. S. Cooper. *diag Power* 77:154-5 Mr '33

**CONDIMENTS**

- Spices and condiments. H. S. Redgrove. 361p [bibliog p341-5] \$4.50 Pitman '33

**CONDUITS**

- Utility distribution systems in housing projects. N. B. Jacobs. *Am Water Works Assn J* 25:633-44 My '33

**See also**

- Aqueducts  
Electric conduits  
Pipe lines  
Water conduits

**CONE, J. Carroll, 1892-**

- New faces and new policies in Washington. *por Aviation* 32:232, 234 Ag '33

**CONEY ISLAND, New York****Sewerage**

- Performance of the Laughlin process of sewage treatment. E. Hurwitz and S. I. Zack. *il Water Works & Sewerage* 80:117-20 Ap '33

**CONFECTIONERY**

- Confectionery standards. S. Jordan. 370p Applied sugar laboratories, inc, New York '33
- Credit business of confectionery supply houses analyzed. *Credit & Fin Management* 35:28 Ap '33

**See also**

- Candy trade  
Chocolate

**Standards**

- Confectionery standards. S. Jordan. 370p \$5 Applied sugar laboratories, inc, 109 Wall Street, New York '33

**CONFERENCE of major industries**

- Proceedings of the eighth Conference of major industries, October 21, 1931. 168p Columbia university and the Institute of American meat packers, Chicago '31

**CONFERENCE plan**

- Venture in cooperative education. W. H. Renne. *Nat Safety* N 26:23-4+ D '32

**CONFERENCES**

- Art of conference. F. Walser. 305p [bibliog p288-95] \$3 Harper '33

**CONFIGURATIONISM. See Psychology****CONFLICT of laws. See International law, Private****CONFORTI, Joseph**

- Some of our members and what they do. *Special Lib* 24:128 Jl '33

**CONGOLEUM-NAIRN, incorporated**

- Overlooked improvement in sound companies. *Mag of Wall St* 52:385 Ag 5 '33

**CONGRESSIONAL record (periodical)**

- Extra! The Congressional Record is colored. *Ptr Ink* 163:78+ Je 8 '33
- Public utility and progressive propaganda in the Congressional record. H. Corey. *Pub Util* 12:312-19 S 14 '33

**CONIFERS**

- Conifers in cultivation; the report of the Conifer conference held by the Royal horticultural society Nov. 10-12, 1931. F. J. Chittenden, ed. 634p Bernard Quaritch, Ltd, 11 Grafton st, New Bond st, London, W 1 '32



**CONIFERS—Continued**

Preliminary report on reducing transpiration of transplanted evergreens. J. L. Emerson and A. C. Hildreth. *Science* 77:433-4 My '33

See also

Pine  
Spruce

**CONJUGATION (chemistry)**

Properties of conjugated compounds; the Michael reaction applied to a triene ester. E. H. Farmer and S. R. W. Martin. *Chem Soc J* p960-2 Ag '33

Ring-chain conjugation in the quinoline series. A. Hoffman, M. W. Farlow and R. C. Fuson. *Am Chem Soc J* 55:2000-4 My '33

Studies of conjugated systems; the addition of bromine, hydrogen bromide and hypobromous acid to 1-bromobutadiene. I. E. Muskat and L. B. Grimsley. *ibid* *Am Chem Soc J* 55:2140-5 My '33

Studies of conjugated systems; the preparation and properties of 1-phenyl-4-aminobutadiene and 1-phenyl-4-anilidobutadiene. I. E. Muskat and L. B. Grimsley. *Am Chem Soc J* 55:3762-9 S '33

Studies of conjugated systems; the preparation and properties of 1-phenyl-4-bromobutadiene. I. E. Muskat and L. B. Grimsley. *Am Chem Soc J* 55:2860-7 J1 '33

**CONJUNCTIVITIS**

Seasonal acute conjunctivitis occurring in the southern states. I. A. Bengtson. *ibid* *Pub Health Rep* 48:917-26 Ag 4 '33

**CONJURING**

Camels and magicians are still at it; "it's fun to be fooled" campaign. *il* *Ptr Ink* 163: 10-12 Ap 6 '33

**CONNECTICUT****Insurance department**

Connecticut security division established in insurance department nearly year ago. C. Foster. *East Underw* 34:25 Ap 14 '33

**CONNECTICUT mutual life insurance company**

Annual report for 1932. *East Underw* 34:5 Ja 27 '33; *Weekly Underw* 128:207 Ja 28 '33; *Spectator* 130:20 F 2 '33

**CONNECTICUT power company**

Connecticut utility; Hartford electric light co. and its affiliate Connecticut power co. *il* *map* *Fortune* 7:37-43+ Ap '33

**CONNECTING rods**

Balancing connecting rods for truck motors. H. C. Francis. *il* *Am Mach* 77:235 Ap 12 '33  
Shank proportions of aircraft engine connecting rods. G. D. Angle. *diags* *Aviation Eng* 8:5-8+ Ap '33

With new thin-wall big end liners rods can be lighter. *Automotive Ind* 68:169-70 F 11 '33

**Manufacture**

Honing connecting rods. *il* *Automobile Eng* 23:222 Je '33

Honing finishes big end bores within 0.0003 in. A. F. Denham. *il* *Automotive Ind* 68:438+ Ap 8 '33

Modern motor methods; connecting rods. F. H. Colvin. *Am Mach* 77:74-5 F 1 '33

Progress in automobile production methods; highly accurate connecting-rod bearings by diamond boring and honing. F. C. Duston. *il* *Mach* 39:633-5 Je '33

**Testing**

Bending moments in the master rod of a radial aircraft engine. C. F. Taylor. *diags* *S A E J* 31:488-92 D '32

New data on the bending moments in the master connecting-rod. C. F. Taylor. *S A E J* 32:sup26-7 Je '33; *Same*. *Automobile Eng* 23:332 S '33; *Correction*. *S A E J* 32:sup23 J1 '33

**CONNECTORS, Train line**

A.R.A. mechanical division committee report on automatic train line connectors. *Ry Mech Eng* 107:233-4 J1 '33

Testing flexible metallic connectors. A. Skinner. *il* *Ry Mech Eng* 107:297 Ag '33

**CONNELL, Edward P.**

Vice president, the Falk corp. *por* *Steel* 92:17 Mr 27 '33

**CONODONTS**

Conodont studies numbers one and two. E. B. Branson and M. G. Mehl. *Mo U Studies* 8, no1:5-72, pl 1-4 Ja; no2:1-167, pl 1-12 Ap '33

New Pennsylvanian conodonts from Oklahoma. R. W. Harris and R. V. Hollingsworth. *pl* *Am J Sci* 5th ser 25:193-204 Mr '33

**CONSERVATION of energy. See Force and energy****CONSERVATION of resources**

Iowa conservation plan; its bearing upon general land planning. J. L. Crane, jr. *J Land & Pub Util Econ* 9:247-51 Ag '33

See also

Forest conservation  
Gas, Natural—Con-  
servation  
Mines and mineral  
resources  
Natural resources

Petroleum—Conser-  
vation  
Public lands  
Reclamation of land  
Water power  
Water supply

**CONSIGNMENT selling**

Abstract of law on consigned goods contracts in all the states. L. W. Morse and L. W. Argetsinger, jr. 131p Youngstown sheet and tube co, Youngstown, Ohio '33

Agency and consignment plans of maintaining chemical prices. *Chem Markets* 32:507-8 Je '33

Consignment selling; abstract. *Management R* 22:23 Ja '33

Consignment selling increased sales 500 per cent; Tung-Sol radio tubes. G. A. Bodem. *Ptr Ink* Mo 26:17-18 F '33

Consignment selling scores on the price rise. A. E. Graham. *Adv & Sell* 21:17-18+ Ag 3 '33

Dealer sales increase under Timken consignment plan. W. C. Wood and E. V. Walsh. *Sales Management* 32:57+ Ja 15 '33

How a small refiner handles consignments to dealers. A. A. Hines. *Nat Fet N* 25:51 J1 26 '33

How the warehouse can cut the cost of selling on consignment. H. A. Haring. *il* *Adv & Sell* 20:17-18+ Ja 5 '33

Mazda's experiences with consignment selling. O. F. Rost. *Adv & Sell* 21:28+ O 12 '33

Selling on consignment. H. Deutsch. *Adv & Sell* 19:13-14+ O 27; 20:17-18+ D 8 '32

**CONSISTOMETER**

Apparatus and method for measuring the consistency of roofing putties and fibrous roof coatings. G. W. Clarvoe. *il* *Am Soc T M Proc* 32 pt 2:689-700; *Discussion*. 701-4 '32  
Consistency changes in starch pastes. G. V. Caesar. *Ind & Eng Chem* 24:1432-5 D '32

**CONSOLIDATED gas company of New York**

Annual report, 1932. *Barron's* 13:15 F 27 '33; *Gas Age* 71:207-8 F 25 '33

New York's Consolidated Gas. *Econostat* 1:12, 23 Ag 5 '33

Speculative audit; favorable and unfavorable factors affecting common-stock values. *Barron's* 13:14 O 2 '33

Three years of depression have not disturbed stability. F. C. Fullerton. *Mag of Wall St* 51:276-7+ D 24 '32

**CONSOLIDATED gas, electric light and power company of Baltimore**

Progress despite depression. F. C. Fullerton. *Mag of Wall St* 51:580-1+ Mr 18 '33

**CONSOLIDATED lobster company**

Perhaps you've never been introduced to a lobster; Maine's industry. *il* *Fortune* 8:71-5+ N '33

**CONSOLIDATED oil corporation**

Low price stocks that can be purchased now for later appreciation. *Mag of Wall St* 51: 218 D 10 '32

**CONSOLIDATED paper corporation**

First annual report. *Pulp & Pa of Can* 34: 419+ Je '33

First report. *Paper Tr J* 96:16 Je 1 '33

**CONSOLIDATED return. See Business consolidations—Accounting**

**CONSOLIDATED statements**

American institute of accountants' examination in accounting theory and practice, May 11, 1933. J Account 56:135-47 Ag '33

**CONSOLIDATIONS, Business.** See Business consolidations**CONSTANCE, Lake of**

Die deutschen ingenieure am Bodensee zur 71. hauptversammlung. C. Matschoss. il map Zeit Ver Deutsch Ing 77:537-42 My 27 '33

**CONSTRUCTION camps**

Ontario's highway-construction camps for unemployed. H. C. Hudson. Monthly Labor R 35:1071-3 N '32

**CONSTRUCTION equipment**

Active invention brightens the equipment field. Eng N 110:165-6 F 2 '33

Employment and values in construction. L. Mehren. maps Eng N 111:353-7 S 21 '33

Evolution of modern construction machinery. F. C. Ruhloff. il Civil Eng 3:451-4 Ag '33

Le matériel moderne des travaux publics (terrassements). C. Moreau. diags Soc Ing Civils Bul 86:237-423, pls 214-16 Mr '33

Review of new contractors' equipment. il Am Bld 55:34-5 Ap '33

Review of preliminary construction operations; Hoover dam. il map Eng N 109:713-15 D 15 '32

Safety and economy in heavy construction. R. J. Reigeluth. 237p McGraw-Hill '33

Serving construction loads; portable electric substation. A. K. Walton. il diag Elec J 30:123-5 Mr '33

Ten business problems of contracting; the costs of owning equipment. J. L. Harrison. Eng N 111:531-5 N 2 '33

Tubular steel towers 52-ft. high carry stiff-leg derrick; stone-handling rig for erection of Pittsburgh church. C. P. Streithof. il diags Eng N 110:521-2 Ap 27 '33

Untersuchungen an fahrbaren förderbändern für den baubetrieb. M. R. Ehrt. Zeit Ver Deutsch Ing 77:451-2 Ap 29 '33

*See also*

Cableways Excavating machinery  
Concrete plants  
Cranes, derricks, etc. Hoisting machinery

**CONSTRUCTION league of the United States**

Committee reports data on construction working conditions. Eng N 111:363 S 21 '33

Construction; heterogeneous groups of widely assorted associations unite under the aegis of the Construction league of the United States. Business Week p13 F 1 '33

Meeting, Detroit, Jan. 21. Eng N 110:119 Ja 26 '33

**CONSTRUCTION schedules**

Rapid progress revises construction schedule; Hoover dam. Eng N 109:723-4 D 15 '32

**CONSULTING engineers**

Association of consulting engineers annual general meeting. Electrician 110:835 Je 23 '33

Position of the consultant; editorial. Refrig Eng 25:237+ My '33

Le VI<sup>e</sup> congrès international des ingénieurs-conseils (Zurich, 7-10 septembre 1932). J. de Soucy. Génie Civil 102:519-21 Je 3 '33

**CONSUMER acceptance**

Consumer acceptance. Ptr Ink 162:35-6 Ja 26 '33

**CONSUMERS Christmas fund**

Christmas club II; retailers bait sales with savings certificates and help collections along. Business Week p14 Ja 4 '33

**CONSUMERS' cooperative societies.** See Co-operation**CONSUMERS gas company**

Has paid dividends for 84 years. Am Gas Assn Mo 14:498 D '32

**CONSUMPTION (economics)**

BRDO buying power index. C. E. Haring. il Adv & Sell 22:16-17+ N 9 '33

Behavior of consumption in business depression; abstract. A. R. Tebbutt. Management R 22:272 S '33

Consumer; his nature and his changing habits. W. B. Pitkin. 421p McGraw-Hill '32

Consumer psychology in the three Americas. W. B. Pitkin. il Adv & Sell 21:20+ My 25 '33

Do we need a department of the consumer? R. S. Lynd and A. C. Hanson. Adv & Sell 20:15+ Ja 5 '33

Economic improvement by the quick movement of money and credit. M. Sykes. Comm & Fin 22:335 Ap 12 '33

Enough for everybody. A. M. Newman. 188p \$1.25 Bobbs '33

Expenditures of American consumers according to income. Monthly Labor R 35:1210 N '32

Falling population growth and consumption indicate lower profits. J. R. Arnold. Annalist 41:453-60+ Mr 31 '33

First real test of administration's price-raising program due this fall. H. E. Hansen. Annalist 42:78 Jl 21 '33

Government and the housewife. Economist 117:614-15 S 30 '33

How will the consumer use revived purchasing power? L. H. Harvey. il Adv & Sell 21:24+ Jl 6 '33

Human aspects of business in the new consumption era. H. W. Hess. Ann Am Acad 165:116-24 Ja '33

Is buying the way out of depression? Mag of Wall St 52:130 My 27 '33

Phantasy in purchasing power; theories of wage increases will lead to neo-mediaevalism. J. S. Lawrence. Econostat 1:56-10+ Ag 19 '33

Population changes and consumption; a forecast for our industrial future. L. I. Dublin. Taylor Soc Bul 17:162-4 O '32; Same. Ptr Ink Mo 25:61-2 D '32

Problem of purchasing power. R. E. Flanders. il Mech Eng 55:595-602 O '33

Production and purchasing power; a study in support of a view expressed in the first A.E.C. report on economic balance. C. A. Norman. il Mech Eng 55:549-55 S '33

Public purchasing power; its relationship to general business. J. Backman and A. L. Jackson. Barron's 13:11 Jl 31 '33

Purchasing power and trade depression, a critique of under-consumption theories. E. F. M. Durbin. 198p J. Cape, London '33

Purchasing power and wage policy; the relation thereto of recent changes in payrolls, hours and earnings in the United States. E. H. Welch. Taylor Soc Bul 17:169-84 O '32; Discussion. 18:8-15 F '33

Standardization of consumers' goods. J. V. Coles. 323p [bibliog p299-312] \$3 Ronald press '32

This spending push. E. J. P. Benn. Chem Age (Lond) 28:290 Ap 1 '33

Ultimate consumer is ordered into the breach. T. M. Knappen. Mag of Wall St 52:566-8+ S 30 '33

Volume, and slackening growth, of consumption in the United States. J. R. Arnold. Annalist 41:163-4 Ja 27 '33

Will purchasing power sustain business activity? J. D. C. Weldon. Mag of Wall St 52:314-15+ Jl 22 '33

Wise spending and wise saving. J. Stamp. Barron's 12:20 N 21 '32

*See also*

Buying habits	Production
Industry	Purchasing
Market surveys	Supply and demand
Prices	

**Bibliography**

The consumer. Cleveland Pub Lib Business Information Bur Bul v4, no1:1-2 Mr '33

**CONTACT angle**

Physical chemistry of flotation. I. W. Wark and others. bibliog J Phys Chem 37:623-44, 797-819 My-Je '33

Solid-liquid-air contact angles and their dependence upon the surface condition of the solid. F. E. Bartell and A. D. Wooley. diags Am Chem Soc J 55:3518-27 S '33

**CONTAINER system (freight handling)**

Freight cars; effect of transportation requirements on their evolution; abstracts. C. B. Peck. il Mech Eng 55:151-5 Mr '33; Ry Age 94:209-12 F 11 '33



**CONTAINER system (freight handling)**—*Cont.*  
Hoist for handling freight containers. *il Elec Traction* 29:182-3 *Je '33*  
L.C.L.—O.K.; approval by Coordinator Eastman's idea trust. *il Business Week* p12 *Jl 15 '33*  
New container and trailer for co-ordinated service. *il Ry Age* 93:955-6 *D 24 '32*  
Shipping loaded trucks and trailers on railway freight cars. *il Concrete (mill sec)* 40:35-7 *D '32*

# CONTAINERS

Acid-proofing for new and old containers. A. A. Weinhardt. *il Chem Markets* 33:143-4 *Ag '33*  
Bootleg-proof can gives oil firms 35 to 50 per cent more sales. *il Sales Management* 32:616+ *Je 15 '33*  
Brings product into spotlight with package change; Pacific coast brands. *il Ptr Ink* 163:40 *My 4 '33*  
Designing to sell. R. S. McFadden, ed. *il Sales Management* 32:218-19 *Mr 1 '33*  
Dispenser provides efficient means for handling oil in sealed cans. *il Nat Pet N* 25:49 *Ja 18 '33*  
Dromedary redesigns the line. *il Ptr Ink* 163:44 *Ap 13 '33*  
Dual use vacuum packages. *il Ptr Ink* 164:50 *Jl 6 '33*  
Economy of improved package design. *il Ptr Ink* Mo 26:50-2+ *Ja '33*  
Every package a showcase for fresh foods. F. K. Lawler. *il Food Ind* 5:91 *Mr '33*  
Fight oil bootleggers with packaged product; sealed cans. *il Ptr Ink* Mo 27:42+ *Jl '33*  
Flexibility—the next big trend in packages. C. B. Larrabee. *Ptr Ink* 163:17-20 *Ap 20 '33*  
Das fugenlose sperrholzfass. E. Sachsenberg. *il diags Zeit Ver Deutsch Ing* 77:879-81 *Ag 12 '33*  
Glad rags for sugar. *Ptr Ink* 164:76 *Ag 10 '33*  
Go slowly with the dual-use package. C. B. Larrabee. *Ptr Ink* 161:56-7 *D 22 '32*  
Herring by the boatload. *il Ptr Ink* 162:24 *Mr 2 '33*  
How the Wolf award package competition got its start. I. D. Wolf. *il Ptr Ink* Mo 26:73-80 *Mr '33*  
How to squeeze extra profits out of the package; give it a dual use. H. W. Marks. *il Ptr Ink* Mo 25:26-7+ *D '32*  
Limitations of dual-use package. M. Weill. *Ptr Ink* 162:82 *Ja 19 '33*  
Many types of containers used in selling Pennsylvania oils. *il Nat Pet N* 25:116 *Mr 15 '33*  
Modern package design must affect both advertising and sales. P. T. Haagen. *il Ptd Salesmanship* 60:294-7+ *D '32*  
New ideas to meet 1933 conditions feature package show. *Ptr Ink* 162:65-6+ *Mr 16 '33*  
Nine better packages pulled this product out of four depressions; Dr Price's vanilla. L. B. Colby. *il Sales Management* 33:262 *S 15 '33*  
O-Cedar gets Wolf award for most effective package. *il Adv & Sell* 20:15 *Mr 2 '33*  
O'Cedar puts style appeal into another dirty work product. R. S. McFadden. *il Sales Management* 32:64 *Ja 15 '33*  
Package parade. R. Sheldon. *il Adv & Sell* 20:sup [Adv Arts] 12-16 *Mr '33*  
Packages that make the mouth water. D. Gridley. *il Ptr Ink* Mo 26:41-2 *Ap '33*  
Packages with a second use have added sales value. *Ptr Ink* 162:40 *F 16 '33*  
Packaging the product to bring repeat orders. H. A. Toulmin, jr. *Ptr Ink* 163:10-12 *Je 1 '33*  
Passing judgment on package redesign. R. M. Schmitz. *il Food Ind* 5:88-90 *Mr '33*  
Photographic packaging. J. Von Miklos. *il Adv Arts* p18-22 *S '33*  
Post Toasties puts cutout toys on its package. *il Ptr Ink* 163:68 *My 11 '33*  
Refill package for steady buyers; Phenix Cheese refill jar. *il Ptr Ink* 164:68 *Jl 6 '33*  
Salesman's wife helps produce advertising idea; sugar refiner suggests uses for cotton bags. R. Crothers. *il Ptr Ink* 163:27-8 *Je 29 '33*

This honey package is no drone; nature-inspired container idea. *il Ptr Ink* 164:36-7 *Ag 17 '33*

When the screw cap sticks how does a woman open the container? M. L. Carr. *il Food Ind* 5:170-1+ *My '33*

Wolf award goes to O-Cedar. *il Ptr Ink* 162:74 *F 23 '33*

You sold chemises, not flour! W. T. Laing. *Ptr Ink* 164:64+ *Ag 10 '33*

## See also

Bottles	Paper containers
Glass containers	Pressure vessels
Labels	Tanks
Package goods	Tin cans

# CONTAINERS (for shipping)

Give the shipping container an advertising job. C. B. Larrabee. *il Ptr Ink* Mo 26:32-3 *F '33*

Trends in shipping container design. J. D. Malcolmson and others. 28p American management assn, New York '33

## See also

Barrels	Gas containers
Container system (freight handling)	Kegs
Crates	Milk cans

# CONTAINERS, Steel

Drums for the chemical manufacturer. *il Chem Age (Lond)* 28:292 *Ap 1 '33*

## See also

Barrels, Steel
Milk cans
Tanks, Steel

# CONTINENTAL assurance company

Had gains last year. *East Underw* 34:10 *F 3 '33*

Report for 1932. *Spectator* 130:19 *F 9 '33*

# CONTINENTAL can company

Common stocks for income and price appreciation. *Mag of Wall St* 51:282-3 *D 24 '32*

Earnings rise. *Econostat* 1:12, 23 *Ag 12 '33*

Profit prospects in cans; tin container industry and the outlook for leading companies. N. T. Calhoun. *Mag of Wall St* 51:388-9+ *Ja 21 '33*

Second largest maker of tin containers. *Mag of Wall St* 53:26+ *O 28 '33*

# CONTINENTAL casualty company

Strong position. *East Underw* 34:36 *F 10 '33*

# CONTINENTAL insurance company

Assets gain. *Barron's* 13:13 *Ja 30 '33*

Overlooked improvement in sound companies. *Mag of Wall St* 52:385-6 *Ag 5 '33*

# CONTINENTAL life insurance company, St Louis

Examination report. *Nat Underw (Life ed)* 37:15-16 *Mr 24 '33*; *Ins Field (Life ed)* 62:5+ *Mr 24 '33*

# CONTINENTAL oil company

Low-priced speculations of merit. *Mag of Wall St* 53:83 *N 11 '33*

# CONTINENTAL shares, incorporated

Cleveland reunion; Cyrus Eaton and the Van Sweringens break into the news together again. *Business Week* p20-1 *Je 17 '33*

# CONTINENTAL shelf

Sediments of the continental shelves. F. P. Shepard. *maps Geol Soc Bul* 43:1017-39 *D '32*

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Gondwana land bridges. C. Schuchert. *pl maps Geol Soc Bul* 43:875-915 [bibliog p913-15] *D '32*

Isthmian links. B. Willis. *Geol Soc Bul* 43:917-53, pl 25-29 *D '32*

Land levels in the North. B. Gutenberg. *Science* 78:sup5 *Ag 11 '33*

# CONTINUATION schools. See Evening and continuation schools

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# CONTRACT plan (in education)

Contract plan in high-school chemistry. J. O. Frank. *J Chem Educ* 10:556-9 *S '33*

**CONTRACTORS**

Code of fair competition for general contractors; full text. Eng N 111:82-4 J1 20 '33

Code of fair competition for general contractors submitted Aug. 25. Roads & Sts 76:329-31 S '33

Compensation insurance facts important to contractors. R. Talbot. Eng N 111:409-10 O 5 '33; Same. East Underw 34:38 O 27 '33

Contracting ends year with increased stability. Eng N 110:168 F 2 '33

Getting competent contractors for your job. E. Bender. Pub Works 64:9-10 S '33

One price policy. W. F. Creighton. Manuf Rec 101:41 D '32

Practical application of construction census statistics. A. D. Morehouse. Am Statis Assn J 28:sup190-5 Mr '33

Pre-qualification of contractors. C. J. Tilden. Am Soc C E Proc 58:1207-10 S '32; Discussion. 58:1631-6; 59:207-11, 1325-6 N '32, Ja, O '33

Ten business problems of contracting. J. L. Harrison. Eng N 111:73-5, 129-32, 192-4, 254-6, 407-9, 472-4, 531-5 J1 20, Ag 3, 17, 31, O 5, 19, N 2 '33

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Handling extra-work orders in building construction. C. V. Hobaugh. Eng N 111:105-6 J1 27 '33

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Contractors' license law; bill before the Michigan legislature. Am Bld 55:10 My '33

Three-year record of California contractor's licensing act. Eng N 110:520 Ap 27 '33

**CONTRACTORS' equipment.** See Construction equipment

**CONTRACTS**

Cases on the law of contracts. G. P. Costigan, jr. 2d ed 112p Commerce clearing house, inc, New York '32

Cases on the law of contracts. W. A. Keener. 3d ed 818p Baker, Voorhis & co, New York '33

Cases on the law of contracts, selected from decisions of English and American courts. A. L. Corbin. 2d ed 1304p West '33

Codified contracts; the new deal on labor costs calls for a new deal on pre-NIRA contracts. Business Week p 10-11 Ag 26 '33

Lack of mutuality; Dupont company v. Reno company. Econostat 1:23 Ag 26 '33

Recent decisions affecting inviolability of contract. Trust Companies 56:635-6 Je '33

*See also*

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Cottonseed crushers' claims against government are expedited. Oil Paint & Drug Rep 122:17 D 5 '32

Government contracts cannot adjust for higher costs. Iron Age 132:33 Ag 31 '33

Instructions to private architects engaged upon public building work; general information and preliminary procedure. Arch Rec 74:73-5 Ag '33

Uncle Sam's move; firms with government contracts get promise of adjustment. Business Week p4 Ag 12 '33

**CONTRACTS, Letting of**

Advertising for degree of effluent. S. I. Zack. Water Works & Sewerage 80:302-3 Ag '33

Bid peddling; the construction industry strikes a blow to destroy its old scourge. Business Week p6-7 S 9 '33

Bidding systems; a resumé of the Huddleston, Detroit and Nashville plans. T. S. Rogers. Am Arch 143:67-8 J1 '33

Code of bidding proposed for construction. Eng N 109:681 D 8 '32

Facts about letting a painting contract. C. L. Frye. Am Gas J 135:35-7 Ja '33

Huddleston plan to prevent bid peddling recommended as cure for building evils. Am Bld 55:46 Ap '33

New contractor's cost-plus formula. Sci Am 149:126 S '33

Pre-qualification of contractors. C. J. Tilden. Am Soc C E Proc 58:1207-10 S '32; Discussion. 58:1631-6; 59:207-11, 1325-6 N '32, Ja, O '33

Procedure in contracting for garbage incinerators; abstract. I. S. Osborn. Pub Works 64:43 J1 '33

Rigid contract control safeguards public interests. G. B. Walbridge. Eng N 110:663-4 My 18 '33

*See also*

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**CONTRACTS, Municipal**

Judgment in Glenmore dam inquiry; all city officials and engineers exonerated. Can Eng 64:15-17 Ja 31 '33

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Automatic control in the steel and gas industries. diags Chem Age (Lond) 29:377-8 O, 21 '33

Closer control becomes requisite in chemical processing. Chem & Met Eng 40:267-8 My '33

Coordinated effort solves Dow's control problems. T. R. Olive. Il diags Chem & Met Eng 40:520-5 O '33

18 proofs that instruments save money. G. A. Van Brunt. Factory Management 91:449-50 N '33

Process cycle control a boon to rubber industry. L. Church. Il Chem & Met Eng 40:536-8 O '33

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**CONVENTIONS**

Circulating credit creates commerce; a novel test of the extent of money circulation during a convention. Credit & Fin Management 35:12 Je '33

Convention dollars; Milwaukee works out device to see where the delegates' money goes. Business Week p11 Mr 1 '33

Convention friendships. D. V. Stephens. Rand McNally Bankers Mo 50:277+ Je '33

Why not speak the speeches? G. Stewart. Ptr Ink 164:65 Ag 3 '33

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**CONVERTERS**

Basic steel process in France; abstracts of papers read before Société des ingénieurs civils de France. Engineering 135:171-2 F 10 '33

Erfahrungen mit röhrenböden für konverter. A. Jung. Stahl & Eisen 52:1285-7; Discussion. 1287-8 D 29 '32

Rotational energy tides converter over power failure; Tennessee copper company. L. W. Hayward. Elec W 100:782 D 10 '32

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## CONVEYANCING

Elements of conveyancing (with precedents) for the use of students, founded upon the fourth edition of Deane and Spurling's Elements of conveyancing, by J. F. R. Burnett. 544p 21s Sweet & Maxwell, Ltd, London '32

## CONVEYING machinery

Adapting the overhead chain conveyor to the layout. G. A. Holmes. diags Maintenance Eng 91:6-9 Ja '33

Ayr harbour coal shipping plant. C. W. Fox. il diags Mech Handling 20:13-18 Ja '33

Belt conveyors for coal and coke. diags Mech Handling 20:129-32 Ap '33

Belt conveyors place concrete for Vermont dam in the Alps. B. Widman. il diags Eng N 109:126-9 Ag 4 '32; Abstract. Mech Handling 20:8-11 Ja '33

Billingsgate fish-box transporter. il Engineer 155:74 Ja 20 '33

Carries cores on trolley conveyor; American foundry co. T. E. Wright. il Foundry 60:24+ D '32

Catapult conveyor. diag Mech Handling 20:314 O '33

Coal loading plant on the Tyne. diags plan Mech Handling 20:61-4 F '33

Combined use of belt, jigger and scraper conveyors. H. Maskrey. Mech Handling 20:160 My '33

Conveying at the coal face. il diags Mech Handling 19:280-4, 319-20, 353-6, 388-90, 419-21; 20:98-101, 172 Ag-D '32, Mr, My '33

Conveying difficulties in a textile mill; uses of chutes and power scutches. G. L. Atkinson. diag Mech Handling 20:319-21 O '33

Conveyor plant in a drug factory; Boots pure drug company. il diag Engineer 155:366-8, 376 Ap 14 '33

Conveyors for metal finishing. W. E. Warner. Mech Handling 20:256 Ag '33

Conveyors speed up enameling of stove parts; Florence stove co, Kankakee, Ill. J. B. Nealey. il plan Steel 92:25-7 Je 26 '33

Conveyors used for handling all material through a modern brass foundry; illustrations. Iron Age 130:956-7 D 22 '32

Cooling conveyors at the Barning cannery. il Mech Handling 20:315-17 O '33

80,000-ton granary at Bahia Blanca. il diags plans Engineering 135:205-8, 220, 267-8, 280, pl 19 F 24, Mr 10 '33

En masse conveyor; Redler system. il Business Week p8 Ja 11 '33

Experience guides improvements on button conveyor. il diags Coal Age 38:310-11 S '33

Fasteners for belt conveyors. il Mech Handling 20:221-2 Jl '33

Five years' work proves value of conveyors at Chauncey colliery. Coal Age 38:150-1 My '33

Das förderband als abbau- und abbaustrecken-fördermittel in steinkohlengruben. W. Vollmar. Zeit Ver Deutsch Ing 77:323-4 Mr 25 '33

Gravity conveyors for handling cased goods il Mech Handling 20:209-10 Jl '33

Handle sand and molds on conveyors; Westinghouse foundry. il plan Foundry 60:12-14+ D '32

Handling granulated salt cake. E. P. Gleason. plan Chem Ind 33:327 O '33

Handling plant transmission. il diags Mech Handling 20:202-5, 233-4 Je-Jl '33

Handling sugar by overhead belt conveyor. il Mech Handling 19:402 D '32

Herringbone run-out table for sheet mills. il Iron Age 130:767 N 17 '32

Hinged bridge conveyor for stripping overburden. E. Luther. il diags Mech Handling 20:276-7 S '33

Kirkham lubricator for conveyor chains. il Mech Handling 20:247 Ag '33

Large works conveying scheme; Boot's pure drug co. il Elec R (Lond) 111:915-16, 917 D 23 '32

Maintenance and obsolescence of handling equipment. E. J. Tournier. il Gas Age 71:351-4 Ap 8 '33

Maintenance of belt conveyors. W. E. Warner. Mech Handling 20:291 S '33

Maintenance of conveyors in pulp and paper mills. il Pulp & Pa of Can 34:323 My '33

Many types of conveyors are available to meet lubricating oil canning requirement. E. F. Morgan. il Nat Pet N 25:47-8+ S 20 '33

Mavor & Coulson belt conveyors. diags Eng & Min J 134:396-7 S '33

Mechanical handling in a preserve factory; advantages of the team system. T. W. Winterton. Mech Handling 20:191-3 Je '33

Mechanical handling in rubber tyre production. H. S. Jude. diags Mech Handling 20:185-90 Je '33

Mechanical handling of raw materials; illustrations. Chem Age (Lond) 29:148-9 Ag 12 '33

New barge loader solves small plant problem. E. J. Tournier. il plan Rock Prod 36:26-7 Ap '33

New conveyor on the pushing principle; Sizer conveyor. il Mech Handling 20:181 Je '33

New conveyor practice at smelting works. A. F. Beasley. il diag Mech Handling 20:304-6 S '33

New type Redler conveyor. il diags Mech Handling 20:107-9 Ap '33

One plant to do the work of two—conveyors did it; Westinghouse lamp company. W. C. Hipple. il Factory Management 91:165-8 My '33; Same. Mech Handling 20:280-3 S '33

Overhead chain conveyors in a dry-cleaning factory. il plan Mech Handling 20:39-42 F '33

Overhead chain trolley conveyors. J. S. Taylor. Mech Handling 20:23 Ja '33

Pickling of refrigerator parts is made automatic by conveyors. il Steel 92:17-19 Ja 16 '33

Pours steel castings on conveyors; Detroit steel casting co. F. G. Steinebach. il Foundry 61:10-12+ Ja '33

Refuse handled by subway conveyor and skips. J. H. Edwards. il Coal Age 37:407-8 N '32

Sackförderanlage im Nürnberger paket-postamt. H. Schwaighofer. diags Zeit Ver Deutsch Ing 76:1204-5 D 3 '32

Saving \$15,000 with conveyors; Chevrolet plant in Bay City, Mich. E. J. Tournier. il plan Am Mach 77:204-5 Mr 29 '33

Screw conveyor and bucket elevator drives. T. N. Haffner. il diag Rock Prod 36:25-7 O '33

Shop applications of simple handling units. E. J. Tournier. il Am Mach 77:104-5 F 15 '33

Special chains and buckets in gas and coke plant conveyors. E. J. Tournier. il diag Gas Age 72:167-9+ Ag 19 '33

Use of conveyors in photographic film manufacture. H. Baines. Mech Handling 20:57 F '33

Werkstättenförderung; forschungen—beispiele. H. Hellmich. bibliog il diags Zeit Ver Deutsch Ing 77:217-22 Mr 4 '33

## See also

Ash handling	Loading and unloading
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Device that causes sprocket-chain conveyor to dwell at regular intervals for loading. J. E. Fenno. diags Mach 39:341 Ja '33

Handling of mail bags under photo-electric control. S. H. L. Bohm. il Mech Handling 20:3-6 Ja '33

Photoelectric control prevents tote pans from piling up on conveyor. il Steel 91:26 D 26 '32

Photoelectric relay prevents enamel ware from piling up on conveyor. Steel 92:28 Je 19 '33; Mech Handling 20:226 Jl '33

## Manufacture

66,000 man-hours in this little capital-goods order; mail-handling conveyors for Atlanta post office. E. J. Patton. Factory Management 91:365 S '33

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Horizontal portable belt conveyor made by British Jeffrey-Diamond, Ltd. il Engineer 155:100 Ja 27 '33

Improved portable conveyors for coke and gas plants. E. J. Tournier. il Gas Age 71:169-72 F 18 '33

Link-Belt portable conveyor with fixed side plates. il Engineering 134:726 D 16 '32

Untersuchungen an fahrbaren förderbändern für den baubetrieb. M. R. Ehrh. Zeit Ver Deutsch Ing 77:451-2 Ap 29 '33

Zimmer portable sack elevator. il Mech Handling 20:145 My '33

**CONVEYOR belting. See Belting, Conveyor****CONVICT labor**

Chain gang and profit. W. Wilson. Econostat 1:16 Ap 8 '33

Convict working for county held not a county employee. Monthly Labor R 37:315-16 Ag '33

Forced labor. J. P. Chamberlain. Ann Am Acad 166:80-5 Mr '33

Forced labor in the United States. W. Wilson. 192p \$1.50 International publishers, New York '33

Laws relating to prison labor in the United States as of July 1, 1933. C. F. Sharkey and G. D. Patterson, jr. comps. U S Bur Labor Statistics Bul 596:1-146 '33

Prison labor in the United States, 1932. U S Bur Labor Statistics Bul 595:1-216 '33; Excerpt. Monthly Labor R 37:1-24 Jl '33

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**CONWAY, Eleanor**

Some of our members and what they do. Special Lib 24:129 Jl '33

**COOK books. See Advertisements—Cook books and recipes****COOK paint and varnish company**

Given F.T.C. order; bribery by former salesman basis of charge. Oil Paint &amp; Drug Rep 124:29 O 16 '33

**COOKERY**

New methods of meat cookery. L. Alexander. Am Gas Assn Proc 1932:565-70

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**COOKING schools**

Food foundation builds consumer acceptance for chain; Kroger grocery &amp; baking company. Ptr Ink 162:96-9 Ja 19 '33

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Tying home service activities to timely community events. Gas Age 71:174 F 18 '33

**COOLIDGE, Calvin, 1872-1933**

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**COOLIDGE, William David**

Director of research laboratory, General electric co. por Steel 91:17 N 21 '32

Portrait. Sci Am 148:5 Ja '33

**COOLING**

Air conditioning activities of the Detroit Edison company. S. S. Sanford. N E L A Bul 19:721-2 D '32; Abstract. Heat &amp; Ven 30:33-4 Ja '33; Excerpt (Residence cooling with fans). Elec W 100:735 N 26 '32

Air conditioning and the central stations. A. D. McLay. il Refrig Eng 25:129-30; Discussion. 130-2 Mr '33

Air conditioning for comfort and economy. M. G. Harbula. Power Pl Eng 37:81-2 F '33

Air conditioning for small store costs 16 cents per hour to operate. J. J. Murray. plan Heat &amp; Ven 30:19 My '33

Air conditioning—selecting the cooling equipment. G. B. Helmrich. il plans Heat &amp; Ven 30:24-6 Jl '33

Air cooling and conditioning. il diag Refrig Eng 25:341-2 Je '33

Air cooling by conduction and convection. W. S. Weeks and F. G. DeBerry. bibliog J Ind Hygiene 15:34-40 Ja '33

Application of refrigerating to air conditioning. B. C. Oldham. Refrig Eng 26:35 Jl '33

Attic ventilation for summer cooling. diags Sheet Metal Worker 24:121-2 Ap '33

Awning-sales ammunition; tests disclose useful facts. diags Textile World 83:1441 Ag '33

Century of progress display presents difficult cooling problem. il Dom Eng 142:68+ S '33

Chicago World's fair proves air conditioning attracts the public. il Heating-Piping 5:360-2 Jl '33

Comfort air conditioning; cooling coil or surface cooling method. C. A. Bulkeley. Heating-Piping 5:221-3 Ap '33

Comfort cooling and air conditioning with ice. A. G. Riddell. Elec West 70:243 Je '33

Comfort cooling for stores. W. L. Fleisher. il diags Arch Forum 58:409-12 My '33

Comfort cooling in a refrigerating plant. R. H. Smith. Refrig Eng 26:152 S '33

Comfort cooling in utility offices. S. S. Sanford. Elec W 101:264 F 25 '33

Comfort cooling with ice during 1932. G. Bright. diag Refrig Eng 25:18-20, 46 Ja '33; Abstract. Power 76:354 Mid-D '32; Discussion. Refrig Eng 25:60-1 Ja '33

Compressing steam to make cold water; steam-jet refrigerating apparatus. C. H. Vivian. il diags Comp Air M 38:4141-6 Je '33

Conditions air for six-floor tenant; 22 East 40th St. building of the New York trust company. M. O'Connell. il Heating-Piping 5:463-5+ S '33

Cooling conclusions. S. R. Lewis. il Dom Eng 142:57-9 Jl; 58+ Ag '33

Cooling small stores with ice. J. N. Livermore, C. M. Clemens and P. S. Hosman. il diags layout Heat &amp; Ven 30:22-7 Mr; 40-2 Ap '33

Cost of ice cooling; abstract. J. Neff. Heat &amp; Ven 30:39 S '33

Determination of sun effect on summer cooling loads. G. A. Hendrickson and J. H. Walker. diag Heat &amp; Ven 30:20-3 Je '33

Development of gas-operated house cooling and air-conditioning equipment. Am Gas J 139:28-9 O '33

Heat transfer in unit coolers; the effect of humidity at temperatures below and above the freezing point in a dry type floor mounted unit. W. R. Woolrich, P. W. Scates and M. Tucker. diags Refrig Eng 26:239-43 N '33; Abstract. Heat &amp; Ven 30:39-40 S '33; Discussion. Refrig Eng 26:243-5 N '33

Heating effect of artificial lighting. W. Sturrock and J. H. Walker. il diags Heating-Piping 5:581-9 N '33; Excerpts. Elec W 102:377-9 S 16 '33; Abstract. Heat &amp; Ven 30:40-1 O '33

Ice as a factor of air conditioning costs. C. F. Holske. Refrig W 68:28-30 Ja '33; Same cond. Refrig Eng 25:133+ Mr '33

Just where does the small-building cooling situation stand? Heat &amp; Ven 30:27 Jl '33

New commercial brine cooling unit. il diags Refrig Eng 26:254-5 N '33

Office comfort at 6½ cents a day. il Dom Eng 141:62+ My '33

Operating data on steam jet refrigeration for air conditioning. Heat &amp; Ven 30:26 N '33

Present situation in air conditioning equipment; self-contained room coolers. il plans Heat &amp; Ven 30:9-16 Jl '33

Reduces air-conditioning costs with compressor-equipped plant storing refrigerating effect. C. S. Leopold. il Heating-Piping 5:296-7+ Je '33

Residence comfort cooling. G. B. Bright. il Refrig Eng 25:311+ Je '33



**COOLING—Continued**

- Residence cooling problem; tests in the research residence at the University of Illinois. A. C. Willard and A. P. Kratz. *il plans Refrig Eng* 26:73-81+ Ag '33
- Room cooler design; requirements for self-contained units and a description of a new machine. C. R. Neeson. *il diags Refrig Eng* 26:233-5; Discussion. 235-8 N '33
- Science reverses the refrigeration cycle and gives us the heat pump! C. D. Graham and G. Wilkes. *il diag Dom Eng* 141:55-6+ Mr '33
- Silica-gel plant air conditions Chicago building; residence of M. A. Hirsch. *flow diag il Heat & Ven* 30:22-3 S '33
- Status of air-conditioning and its potential effect on the mining industries. H. G. Moulton. *Min & Met* 14:459-63 N '33
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- Study of summer cooling in the research residence at the University of Illinois. A. P. Kratz and S. Konzo. *il diags plans Heating-Piping* 5:115-26 F '33; Excerpts. *Sheet Metal Worker* 24:75-6+ Mr '33; *Dom Eng* 141:63-5 Mr '33
- Summarize cooling data now; air conditioning installation in the Barnum hotel, Bridgeport, Conn. A. Merle. *il plan Dom Eng* 142:72+ O; 60+ N '33
- Summer air conditioning with gas heat energy; cost data. E. D. Milener. *flow sheets il Am Gas Assn Mo* 15:85-9 Mr '33
- Summer cooling operating results in a Detroit residence. J. H. Walker and G. B. Helmrich. *il Heating-Piping* 5:127-32 F '33
- Temperature regulation in air cooling and conditioning. R. C. Davis. *Refrig Eng* 25:149+ Mr '33
- Temperature up and so were sales! *Dom Eng* 141:62 Ap '33
- This restaurant is steam-cooled—its sales mount. S. S. Sanford. *il Dom Eng* 141:81-3 Je '33
- Unit cooler application. T. W. Carraway. *il Refrig Eng* 25:302, 341 Je '33
- Unit system cools large Dallas store. *il diags Power* 77:132-3 Mr '33
- Ventilating a lodge room. *diag plans Sheet Metal Worker* 24:179-80 Je '33
- Water for house cooling. C. H. Herter. *Refrig Eng* 25:380 Je '33
- What does summer cooling cost? *Heat & Ven* 30:31-3 Jl '33
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- Estimating annual power and water costs for air conditioning. E. P. Wells. *Heat & Ven* 30:39-40 F '33
- COOLING, Industrial**
- Cooling coil efficiency tests; admiralty brass, glass, and chrome nickel iron as tube materials tested. B. L. Peables and D. K. Taylor. *Gas Age* 70:653-4 D 17 '32
- Cooling conveyors at the Barming cannery. *il Mech Handling* 20:315-17 O '33
- Dewaxing oils in propane solution with self-refrigeration. W. H. Bahlke, R. N. Giles and C. E. Adams. *flow diag il diag Am Pet Inst Proc* 14M(3):16-23 My '33; Excerpt. *Nat Pet N* 25:37, 38-9 My 17 '33
- New clinker coolers save kiln fuel and improve grindability. *il diags Concrete (mill sec)* 41:35-40 Mr '33
- Recirculating process lowers cost of vinegar production; with cost tables. A. L. Nugey. *diags Food Ind* 5:174-6 My '33
- Reducing cooling costs in by-product coke plants. B. T. Du Pont. *il diags Iron Age* 131:704-5+ My 4 '33

Self-refrigeration of lubricating oils through use of propane improves their quality. R. C. Conine. *il diags Oil & Gas J* 31:11+ My 4 '33

Treating gas by refrigeration; abstract. A. Beck. *Gas Age* 72:58 Jl 15 '33

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**COOLING of crystals**

Cooling of crystals for X-ray scattering measurements. P. S. Williams. *diags R Sci Instr* 4:334-6 Je '33

**COOLING of fruits and vegetables**

Die kühlagerung von gemüse, obst und blumen. H. Ude. *Zeit Ver Deutsch Ing* 76:1299-1300 D 31 '32

South's pre-cooling and refrigerating projects. *Manuf Rec* 102:48 O '33

**COOLING of water**

Cooling condensing water with refrigeration. *Power* 77:437 Ag '33

Cooling water for air conditioning or industrial process uses with steam jet refrigeration. W. L. Fleisher. *il diag Heating-Piping* 5:77-81, 147-8+ F-Mr '33

Laboratory cooling unit. D. H. Cook. *diag Ind & Eng Chem Anal ed* 5:147-8 Mr 15 '33

Leonard offers new water cooler. *Refrig Eng* 25:171 Mr '33

Steam jet refrigeration system. *il Refrig W* 68:24-5 S '33

Water cooler. *il Power Pl Eng* 37:438 O '33

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**COOLING towers**

Camouflaged cooling; illustrations. *Power* 77:527 O '33

Cooling towers vs. city water. G. J. Bischof. *Power* 77:456-7 S '33

Design of grid-packed cooling towers. C. C. Furnas and R. H. Newton. *diag Chem & Met Eng* 40:301-4 Je '33

Fäulnisbekämpfung und -vorbeugung an kühltürmen. F. Lebius. *il diags Zeit Ver Deutsch Ing* 77:88-90 Ja 28 '33

Old stand pipe becomes unique cooling tower. *il Power* 77:173 Ap '33

**COOLING water**

Condensing plant data. *Elec R (Lond)* 112:210 F 10 '33

Cooling towers vs. city water. G. J. Bischof. *Power* 77:456-7 S '33

Deterioration in water systems; suggestions for reducing overheating in heavy vehicles. E. A. Smith. *Automobile Eng* 23:302-4 Ag '33

Economies effected by the chemical treatment of cooling waters used for pumping engines. H. M. McClain. *Oil & Gas J* 31:37+ F 23 '33

Mid-continent brine yields salt, bromine, calcium chloride, and epsom salt. *il Chem & Met Eng* 40:414-16 Ag '33

Requirements demanded of industrial cooling water. J. W. Romig. *Power Pl Eng* 37:435-6 O '33

Wasserkühlung des hochofens. B. v. Sothen. *diags Stahl & Eisen* 53:85-91, 121-5 Ja 26-F 2 '33

Water circulating systems for Diesel engines. H. J. Vander Eb. *diags Locomotive* 39:133-7 Ja '33

**COOPER-BESSEMER corporation**

Builds engines for 100 years. *Foundry* 61:37-8 Ap '33

Famous engine-building firm 100 years old. *Locomotive* 39:166 Ap '33

Marks centenary. *Steel* 92:10 Ja 16 '33

**COOPERAGE**

Foreign markets for cooperage. *U S Bur For & Dom Com Trade Promotion Ser* 144:1-88 '33

## COOPERATION

Banker's stake in the new co-operative movement. E. H. Hull. Bankers M 126:132-4 F '33

Consumers' cooperative congress of 1932. Monthly Labor R 35:1095-7 N '32

Cooperation here and abroad. H. J. Hughes. 48p Midland cooperative oil assn, Minneapolis, Minn. '33

Cooperative citizenship. J. I. Arnold. 716p Row, Peterson and co, Evanston, Ill.; Philadelphia '33

Co-operative congress. Economist 116:1296 Je 17 '33

Cooperative self-help activities among the unemployed. Monthly Labor R 36:449-95, 717-70, 979-1038, 1229-40 Mr-Je '33

Digest of co-operative law at home and abroad. M. Digby. 304p P. S. King & son, Ltd, London '33

Regulations governing federal grants to self-help organizations. Monthly Labor R 37:511-14, 807-9 S-O '33

Stability of cooperative movement during the depression. Monthly Labor R 36:551-2 Mr '33

See also

Advertising, Cooperative	Marketing, Cooperative
Banks and banking, Trade union	Profit sharing
Benefit societies	Purchasing, Cooperative
Building and loan associations	Socialism
Communism	Trade unions
Credit unions	Voluntary chain movement
Employees' representation in management	

## Africa

Co-operation for Africa. C. F. Strickland. 158p Oxford '33

## Canada

Development of cooperative movement in Canada. Monthly Labor R 36:322 F '33

## China

Cooperative credit societies in China. Monthly Labor R 36:125-6 Ja '33

## Czechoslovakia

Cooperation in Czechoslovakia, 1924 to 1931. Monthly Labor R 36:552 Mr '33

## Finland

Arbitration of disputes between cooperatives and trade-unions in Finland. Monthly Labor R 36:138 Ja '33

## France

Consumers' cooperative societies in France in 1930. Monthly Labor R 36:126-8 Ja '33

## Germany

Farmers' cooperative movement in Germany. C. W. Gray. Monthly Labor R 36:128-9 Ja '33

## Great Britain

Co-operative interest and loan policy. Economist 115:1251 D 31 '32

Development of cooperative productive federation in Great Britain. Monthly Labor R 36:553 Mr '33

## Ohio

Cooperative production units, Dayton, Ohio. Monthly Labor R 36:480-5 Mr '33

## Palestine

Coöperative movement. H. Viteles. Ann Am Acad 164:127-38 N '32

## Russia

Progress of workers' productive associations in the Soviet Union. Monthly Labor R 36:554 Mr '33

## South Africa

Membership and business of cooperative societies in South Africa. Monthly Labor R 36:323 F '33

## Sweden

Controlled economy as it works out for consumer. M. W. Childs. Ptr Ink 165:49- N 2 '33

## United States

American cooperation; collection of papers and discussions. 640p American institute of cooperation, Washington, D.C. '32

Consumers' cooperative societies in 1932. Monthly Labor R 37:116-18 Jl '33

COOPERATION, International. See International cooperation

COOPERATIVE advertising. See Advertising, Cooperative

COOPERATIVE associations

Consumers' cooperative societies in 1932.

Monthly Labor R 37:116-18 Jl '33

Membership and business of farmers' cooperative associations. Monthly Labor R 35:1097-8 N '32

See also Agricultural cooperative credit associations

COOPERATIVE cataloging. See Cataloging, Cooperative

COOPERATIVE credit. See Credit unions

COOPERATIVE marketing. See Marketing, Cooperative

COOPERATIVE phenomena (physics)

Cooperative phenomena. F. Zwicky. Phys R 43:270-8 F 15 '33

Problem of the solid state of matter. F. Zwicky. Mech Eng 55:427-32 Jl '33

CO-PARTNERSHIP

Croydon company's co-partnership, 11th annual meeting. Gas J (Lond) 202:816-17 Je 14 '33

COPPER

Action of heavy metals on cysteine and on sulphydryl groups of proteins. S. M. Rosenthal and C. Voegtlin. bibliog Pub Health Rep 48:347-64 Ap 7 '33

Amination by ammonolysis; effect of metal catalysts in ammonolysis. P. H. Groggins and A. J. Stirton. Ind & Eng Chem 25:46-9 Ja '33

Average motor car contains 45 pounds of copper; abstract. W. G. Schneider. Iron Age 132:38 O 12 '33

Copper as an alloy in steel and iron. E. F. Cone. Am Mach 77:681-3 O 25 '33

Copper membrane gas-molecule sieve; Callendar's theory of osmosis. D. L. Warrick and E. Mack, Jr. Am Chem Soc J 55:1324-32 Ap '33

Copper, with its alloys, has many important uses in every branch of petroleum industry. L. G. E. Bignell. Oil & Gas J 32:14- N 9 '33

Corner metals of electrical distribution: copper, aluminium, and lead. F. J. Brislee. Soc Chem Ind J (Chem & Ind) 52:447-51 My 26 '33

Electric furnace for annealing bright copper sheets. Il Engineering 136:452 O 20 '33

Equilibrium of the reaction between steam and molten copper; abstract. N. P. Allen and T. Hewitt. Engineering 135:363 Mr 31 '33; Discussion. Engineer 155:294 Mr 24 '33

Exanthema in pears and its relation to copper deficiency. J. Oserkowsky and H. E. Thomas. Science 78:315-16 O 6 '33

Green patina on copper; examples from Elan Valley (Wales) and Dundalk (Ireland); abstract and discussion. W. H. J. Vernon. Engineering 136:392-3 O 6 '33

High conductivity oxygen free copper; abstract. S. Rolle and P. H. Brace. Metal Ind 31:89 Mr '33

Influence of volatile chlorides on magnesium and on copper. J. D. Grogan and T. H. Schofield. Engineering 135:675-6 Je 23 '33

Measurements on contact potential difference between different faces of copper single crystals. B. A. Rose. Phys R 44:585-8 O 1 '33

Merimet copper-fabric material developed for automobile roofs. Automotive Ind 68:192 F 18 '33



**COPPER—Continued**

Nonferrous physical metallurgy; review of literature shows wide variety of work. H. W. Gillett. *Min & Met* 14:34-5 Ja '33  
Outline of the processes between ore and finished product; chart. A. Bregman. *Metal Ind* 31:3-4 Ja '33

Oxygen-free high-conductivity copper; its properties and uses; abstract. S. Rolle and P. H. Brace. *il Min & Met* 14:340-1, 396 Ag-S '33; Discussion. 14:341-5 Ag '33

Rates of scale formation on iron and a few of its alloys. K. Heindhofer and B. M. Larsen. *il Am Soc Steel Tr Trans* 21:865-95 O '33

Soft X-rays from (100) and (111) faces of copper single crystals. M. L. Williams. *diag Phys R* 44:610-17 O 15 '33

Wave-lengths of the silver, molybdenum, copper, iron and chromium  $K\alpha$  lines. J. A. Bearden. *Phys R* 43:92-7 Ja 15 '33

See also

Brass	Copper plating
Bronze	Pipes, Copper
Copper alloys	Roofing, Copper
Copper industry and trade	Steel—Copper content
Copper metallurgy	Wire, Copper
Copper mines and mining	

**Analysis**

Bismuth in copper. *Engineer* 155:sup [Metallurgist]45-6 Je 30 '33; Abstract. *Soc Chem Ind J* (Chem & Ind) 52:473-4 Je 2 '33

Chemical analysis of rayons; the micro-determination of metals in commercial rayon yarns. B. P. Ridge, M. Corner and H. S. Cliff. *bibliog Textile Inst J* 24:T293-308 Ag '33

Comparison of methods for the determination of small amounts of copper in textiles. W. M. Scott. *bibliog Am Dyestuff Rep* 22:605-10 O 9 '33

Composition of copper matte. C. K. Avetisyan. *bibliog diag Eng & Min J* 133:627-9; 134:27-8 D '32-Ja '33

Estimation of small amounts of antimony in copper. B. Park and E. J. Lewis. *Ind & Eng Chem Anal ed* 5:182-3 My 15 '33

Selective etching reagent for copper and its alloys. J. B. Kasey. *Metal Ind* 31:306 S '33

Separation and determination of copper and nickel by salicylaldehyde. H. L. Riley. *Chem Soc J* p895 Jl '33

Shorter method for determining copper iodometrically. T. H. Whitehead and H. S. Miller. *bibliog Ind & Eng Chem Anal ed* 5:15-16 Ja 15 '33; Correction. 5:92 Mr 15 '33

Tantalum and columbium cathodes vs. platinum cathodes for electro-analysis. D. F. Calhane and C. M. Alber. *Electrochem Soc Trans* 63 (preprint 7):61-7 My '33

Use of amyl alcohol in the sodium diethyl dithiocarbamate method for estimation of copper. R. W. Thatcher. *Am Chem Soc J* 55:4524 N '33

**Cost of production**

Some fallacies underlying the fear of competition from Rhodesian copper. P. E. Barbour. *Annalist* 41:723-4 My 26 '33; Discussion. *Min & Met* 14:323-4 Ag '33

**Metallography**

Distribution of porosity in copper ingots; abstracts and discussion. N. P. Allen. *Engineer* 155:293-4 Mr 24 '33; *Engineering* 135:362-3 Mr 31 '33

Further observations on the distribution of porosity in aluminium and copper ingots, with some notes on inverse segregation; abstract and discussion. N. P. Allen. *Engineering* 136:391-2 O 6 '33

**Prices**

Thirty-five years of prices of copper and lead at New York refinery, (Lake copper to 1920 and electrolytic copper since then)1898-1932; graph. *Iron Age* 131:63-4 Ja 5 '33

**Testing**

Application of the diamond-pyramid indentation test to copper and copper-rich alloys in the form of thin strip. M. Cook and E. C. Larke. *Engineering* 135:367-9 Mr 31 '33; Abstracts. *Engineer* 155:294 Mr 24 '33; *Metal Ind* 31:126 Ap '33; Discussion. *Engineering* 135:364 Mr 31 '33; *Engineer* 155:294-5 Mr 24 '33

**COPPER alloys**

Automotive uses of beryllium bronze. *Automotive Ind* 69:98 Jl 22 '33

Beryllium; American brass co. announces complete line of beryllium-copper products. *Business Week* p 16+ Ja 11 '33

Beryllium-copper; abstract. C. H. Davis. *Mech Eng* 55:377 Je '33

Beryllium-copper alloys on display. *Steel* 91:32 D 5 '32; *Mach* 39:365 Ja '33

Beryllium-copper alloys; their manufacture and heat treatment. E. F. Cone. *il Iron Age* 132:14-16+ Ag 10 '33

Casting beryllium-copper alloys. E. F. Cone. *Foundry* 61:20-1, 59-60 S '33; Abstract. *Iron Age* 131:1027+ Je 29 '33

Castings of beryllium alloys win several different uses. H. J. Noble. *Iron Age* 131:786 My 18 '33

Copper alloys that have the strength of steel. *il Mach* 40:104-5 O '33

Copper-cadmium alloys. G. Owen and L. Pickup. *Engineer* 155:sup [Metallurgist]44-5 Je 30 '33

Copper-nickel tubes; their advantages for steam condensers. R. Worthington. *il Metal Prog* 24:20-4 Jl '33

Copper, with its alloys, has many important uses in every branch of petroleum industry. L. G. E. Bignell. *Oil & Gas J* 32:14+ N 9 '33

Crystal structure of precipitated copper-tin alloys. H. Kersten and J. Maas. *Am Chem Soc J* 55:1002-4 Mr '33

Electrodeposition of iron-copper-nickel alloys; deposition from sulfate-boro-citrate baths. L. E. Stout and C. L. Faust. *Electrochem Soc Trans* 64 (preprint 10):111-22 S '33

Grain boundary effects as a factor in heterogeneous equilibrium of alloy systems. A. Phillips and R. M. Brick. *il diag J Fr Inst* 215:557-77 My '33

Heading properties of brass wire as it varies with composition and temper. D. K. Cramp-ton. *il diag Metal Prog* 23:20-4 Mr '33

Heat treatment of beryllium-copper. E. F. Cone. *il Am Mach* 77:620-2 S 27 '33

High-phosphorus copper alloys. *il Engineer* 155:sup [Metallurgist] 24-7 Ap 28 '33

Leaded bronze developed by Standards bureau. L. J. Briggs. *Iron Age* 131:823 My 25 '33

Materials for cold heading; structure more important than composition. H. B. Pulsifer. *il Metal Prog* 23:13-17 Mr '33

Micrographic study of the decomposition of the  $\beta$  phase in the copper-aluminum system. C. S. Smith and W. E. Lindlie. (Tech pub 493) 39p A.I.M.E. '33

Nonferrous physical metallurgy; review of literature shows wide variety of work. H. W. Gillett. *Min & Met* 14:34-5 Ja '33

Oil-permeable metal alloy; olite; abstract. *Mech Eng* 55:576 S '33

Precipitation-hardening nickel-copper alloys containing aluminium. D. G. Jones, L. B. Pfeil and W. T. Griffiths. *Engineering* 136:505-7 N 3 '33; Abstract. *Engineer* 156:307 S 29 '33; Discussion. *Engineering* 136:367 S 29 '33; *Engineer* 156:307 S 29 '33

Riverside beryllium copper. *Metal Ind* 31:177 My '33; *Mach* 39:733 Jl '33

Selective etching reagent for copper and its alloys. J. B. Kasey. *Metal Ind* 31:306 S '33

Special properties and applications of beryllium-copper alloys. E. F. Cone. *il Iron Age* 132:18-19+ S 7 '33

Structure analogies of alloys. A. Westgren. *il diag Am Soc Steel Tr Trans* 20:507-28 D '32

Tin-free leaded bearing bronze. H. K. Herschman and J. L. Basil. *pls U S Bur Stand J Research* 10:591-608 My '33

**COPPER alloys—Continued**

Welded joints in copper and copper alloy; fabrication of small tanks. I. T. Hook. *il diags Am Mach* 77:720-4 N 8 '33

X-ray investigation of the copper-aluminum alloys; abstract. A. J. Bradley and P. Jones. *Metal Ind* 31:126 Ap '33

X-ray study of phase boundaries in thermal diagrams of alloy systems: Cu-Zn system; abstract. G. Owen and L. Pickup. *Engineer* 154:sup[Metallurgist] 168-70 N 25 '32

See also

Aluminum bronze	Bronze
Brass	Monel metal
Brazing	Silver solder

**Standards**

Thicknesses and weights of non-ferrous alloy sheets; data sheet. *Mach* 39:760a Ag '33

**Testing**

Application of the diamond-pyramid indentation test to copper and copper-rich alloys in the form of thin strip. M. Cook and E. C. Larke. *Engineering* 135:367-9 Mr 31 '33; Abstracts. *Engineer* 155:294 Mr 24 '33; *Metal Ind* 31:126 Ap '33; Discussion. *Engineering* 135:364 Mr 31 '33; *Engineer* 155:294-5 Mr 24 '33

Effect of sulphur dioxide gas on alloys; chrome-nickel steels compared with brass, bronze, cast iron, and soft steel. G. H. McGregor and J. W. Stevens. *Paper Tr J* 97:40-1 N 2 '33

Investigation of the effects of hydrogen and oxygen on the unsoundness of copper-nickel alloys; abstracts and discussion. N. P. Allen and A. C. Street. *Engineer* 155:294 Mr 24 '33; *Engineering* 135:363 Mr 31 '33

**COPPER and brass research association**

Copper and brass theme of \$100,000 campaign. *il Ptr Ink* 162:27-8 F 16 '33

**COPPER chlorides**

Alkaloidal cuprichlorides; the specific precipitation by cupric chloride of cinchona alkaloids containing the vinyl group. A. Cohen. *Chem Soc J* p996-1000 Ag '33

Quantitative mercaptan determination with cupric chloride solution. W. A. Schulze and L. V. Chaney. *il Nat Pet N* 25:37-8, 40 Ag 23 '33

**COPPER compounds**

Ammines; cobaltous and cupric compounds from tris-( $\beta$ -hydroxyethyl)amine; new method of formation of amino-cupric salts. J. C. Duff and E. H. Steer. *Chem Soc J* p2861-2 D '32

Composition of copper matte. C. K. Avetisian. *bibliog diag Eng & Min J* 133:627-9; 134:27-8 D '32-Ja '33

Electrolysis; experiments with organic salts of copper. G. Kravtsoff. *Electrician* 111:389 S 29 '33

Relative stability of copper derivatives of  $\beta$ -diketo-compounds. T. S. Moore and M. W. Young. *Chem Soc J* p2694-709 N '32

Studies of electrolytic polarisation; ammines of copper, silver, zinc, and cadmium. S. Glasstone. *Chem Soc J* p2849-57 D '32

**COPPER founding**

Distribution of porosity in copper ingots; abstracts and discussion. N. P. Allen. *Engineer* 155:293-4 Mr 24 '33; *Engineering* 135:362-3 Mr 31 '33

Further observations on the distribution of porosity in aluminium and copper ingots, with some notes on inverse segregation; abstract and discussion. N. P. Allen. *Engineering* 136:391-2 O 6 '33

Prevent losses with proper gates and risers. P. Dwyer. *diags Foundry* 61:38+ Mr; 32+ Ap '33

**COPPER houses**

Copper houses; plans. *Arch Forum* 59:sup40 O '33

First copper house being erected at Lake Delta, near Rome, N.Y. *il Sheet Metal Worker* 24:291 S '33

**COPPER industry and trade**

Copper; a survey. *Economist* 117:484-6 S 9 '33  
Copper highlights in 1932. *Bradstreet's* 61:204 Ja 28 '33

Copper in trouble; coming New York conference. *Business Week* p18-19 N 23 '32

Copper, 1932. *Metal Ind* 31:5 Ja '33

Copper restriction plans. *Chem Age (Lond)* 27:sup29 N 5 '32

Copper still has hopes. *Business Week* p24 D 21 '32

Outlook for copper. A. Notman. *Econ Geol* 27:219-30 My '32; Discussion. T. M. Broderick. 27:750-7 D '32

Roan Antelope's part in conference. *Barron's* 12:18 D 26 '32

Scrap and the copper market. S. Tzach. *Eng & Min J* 134:293-5 Jl '33

**Advertising**

Copper and brass theme of \$100,000 campaign. *il Ptr Ink* 162:27-8 F 16 '33

**Finance**

Mining, smelting and metal companies, 1930-1932. *Mag of Wall St Manual* p45 Mr 6 '33

**Statistics**

Copper. *Min Cong J* 19:13 F '33

Copper, 1932. *Economist* 116:sup52-3 F 18 '33

Current position of the copper industry. L. Vogelstein. *Min & Met* 13:527-8 D '32

Smelter output of copper from ores of domestic origin in 1932. *Min Cong J* 19:12-13 Mr '33

**Rhodesia**

Rhodesian copper. *Economist* 115:1153-4 D 17 '32

Some fallacies underlying the fear of competition from Rhodesian copper. P. E. Barbour. *Annalist* 41:723-4 My 26 '33; Discussion. *Min & Met* 14:323-4 Ag '33

**United States**

Code for the copper industry. *Eng & Min J* 134:359-61 S '33; Excerpts. *Min Cong J* 19:9-10 S '33

Copper industry code—individual bargaining asked. *Iron Age* 132:33 Ag 24 '33

Copper scrap; conflicting interests make it difficult to draft a code. *Business Week* p12-13 N 11 '33

Higher prices brighten copper outlook. J. C. Clifford. *il Mag of Wall St* 52:480-1+ S 2 '33

Report on the copper industry. *Min Cong J* 19:9-10 Ap '33

Ups and downs of copper. L. Dale. *Comm & Fin* 22:186-7 F 22 '33

**COPPER metallurgy**

Advance in flotation; sphalerite and copper minerals separated. R. E. Barthelemy. *Eng & Min J* 134:280-1 Jl '33

Composition of copper matte. C. K. Avetisian. *bibliog diag Eng & Min J* 133:627-9; 134:27-8 D '32-Ja '33

Copper reduction. C. R. Kuzell, comp. *Min & Met* 14:45-8 Ja '33

Copper refining in Lancashire. *il Elec R (Lond)* 112:803-4, 805 Je 9 '33

Dust control an economy measure; Roan antelope copper company. G. E. Lynch. *il diags Eng & Min J* 133:606-8 D '32

New copper refining process. *Chem Age (Lond)* 28:125 F 11 '33

Statistical microscopic examination of mill products of the Copper Queen concentrator, of the Phelps Dodge corporation, Bisbee, Ariz. R. E. Head and others. flow sheet diags U S Bur Mines Tech Pa 533:1-48 '32

Sulfate roasting of copper ores and economic recovery of electrolytic copper from chloride solutions. E. A. Ashcroft. *Electrochem Soc Trans* 63 (preprint 24):229-50 My '33; Excerpts. *Eng & Min J* 134:420-1 O '33

Treatment of ore at the Andes Copper plant, in Chile. L. C. Wood. *Min & Met* 14:203 Ap '33

Working-up of poor cupriferous ores. *Chem Age (Lond)* 28:sup33-4 Je 3 '33

**Electrometallurgy**

Copper product perfected; Anaconda makes sound sheets by electrolysis. B. H. Strom. *diags Eng & Min J* 134:281-2 Jl '33



**COPPER metallurgy—Electrometallurgy—Cont.**

Electrolytic copper refinery; Canadian copper refiners, Ltd. at Montreal East. il diag Engineer 156:153-5 Ag 18 '33

More uses for copper. Sci Am 149:225 N '33

Oxygen-free high-conductivity copper; its properties and uses; abstract. S. Rolle and P. H. Brace. il Min & Met 14:340-1, 396 Ag-S '33; Abstract. Elec Eng 52:131 F '33; Discussion. Min & Met 14:341-5 Ag '33

Production of copper sheets. A. Eyles. Elec R (Lond) 111:738 N 18 '32; Same. Metal Ind 31:53 F '33; Same. Mech Eng 55:317 My '33

Sulfate roasting of copper ores and economic recovery of electrolytic copper from chloride solutions. E. A. Ashcroft. Electrochem Soc Trans 63 (preprint 24):245-50 My '33; Excerpts. Eng & Min J 134:421 O '33

**COPPER mines and mining**

Cost of surface metal mining. M. J. Elsing. Eng & Min J 134:17-21 Ja '33

Development and application of energy in the mining and metallurgical treatment of copper ore; abstract. W. Jurden. Engineering 136:478 O 27 '33

Mr Jackling receives the John Fritz medal. Min & Met 14:261-5 Je '33

Porphyry coppers. A. B. Parsons. 581p \$5 A.I.M.E. '33; Review by T. A. Rickard. Min & Met 14:350-1 Ag '33

See also

Copper ores

**Arizona**

Diamond drilling at the United Verde mine. M. G. Hansen. il diags U S Bur Mines Information Circ 6703:1-18 '33

Mining methods and costs at the New Cornelia Branch, Phelps Dodge corporation, Ajo, Ariz. G. R. Ingham and A. T. Barr. map plans U S Bur Mines Information Circ 6666:1-17 '32; Same cond. Explosives Eng 11:181-90 Je '33

**Chile**

Progress in blasting with LOX at Chuquicamata. W. D. B. Motter, jr. il diag Min & Met 14:367-72 S '33

Treatment of ore at the Andes Copper plant, in Chile. L. C. Wood. Min & Met 14:203 Ap '33

**Cuba**

Piping a sand-water mix; Pinar del Rio Matambre copper mine in Cuba. C. L. Mantell. diag Heating-Piping 5:87 F '33

**Manitoba**

Open pit blasting at Flin Flon. M. A. Roche. diags Can Min J 54:219-20 Je '33

Water system at Flin Flon. J. P. de Wet. Can Min J 54:70-1 F '33

**Mexico**

Mining methods and costs at the Teziutlan copper mine of the Mexican corporation, S. A., Teziutlan, Puebla, Mexico. E. P. Herivel. diags U S Bur Mines Information Circ 6736:1-15 '33

**Oregon**

Copper deposits in the Squaw Creek and Silver Peak districts and at the Alameda mine, southwestern Oregon, with notes on the Pennell & Farmer and Banfield prospects. P. J. Shenon. il maps U S Geol S Circ 2:1-35 '33

**Tennessee**

Geology applied to mining in the Ducktown district. H. F. Kendall and J. H. Ffolliott. map Min & Met 14:175-9 Ap '33

**Utah**

Safety at the Magna and Arthur plants of the Utah copper company. D. J. Parker and J. G. Hadley. il Explosives Eng 11:89-94 Mr '33

**COPPER number**

Linen cellulose complex; the effects of alkaline hydrolysis. E. Butterworth and H. A. Elkin. bibliog diag Textile Inst J 24:T10-29 Ja '33

**COPPER oleate**

Rapid quantitative determination of mercaptans. G. R. Bond, Jr. Ind & Eng Chem Anal ed 5:257-60 Jl 15 '33

**COPPER ores**

Chalcocite and native copper types of ore deposits. E. S. Bastin. maps Econ Geol 28:407-46 [bibliog p444-6] Ag '33

Chalcocite deposit, Great Bear Lake, Canada. C. Riley. Econ Geol 28:496-501 Ag '33

Copper deposits in the Squaw Creek and Silver Peak districts and at the Alameda mine, southwestern Oregon, with notes on the Pennell & Farmer and Banfield prospects. P. J. Shenon. il maps U S Geol S Circ 2:1-35 '33

Mineral zoning in the New Jersey-Pennsylvania-Virginia Triassic area. W. H. Newhouse. bibliog map Econ Geol 28:613-33 N '33

Relation between silver content and tetrahedrite in the ores of the North Cananea mining co. Cananea, Sonora, Mexico. H. V. Warren. Econ Geol 27:737-43 D '32

**COPPER oxides**

Copper-cuprous-oxide rectifier and photoelectric cell. L. O. Grondahl. il diags Rs Mod Phys 5:141-68 [bibliog p168] Ap '33

Photoeffects in semi-conductors. B. Lange. diags Electrochem Soc Trans 63 (preprint 8):69-81 My '33

Promoter action in the catalytic decomposition of sodium hypochlorite solutions. J. R. Lewis and F. Seegmiller. J Phys Chem 37:917-21 O '33

**COPPER pipes. See Pipes, Copper****COPPER plating**

Cyanide-free bath for the deposition of copper on steel. C. G. Fink and C. Y. Wong. Electrochem Soc Trans 63 (preprint 9):83-90 My '33; Abstracts. Elec W 101:733 Je 3 '33; Steel 92:25 My 15 '33

Theories of addition agent action. R. Taft. il Electrochem Soc Trans 63 (preprint 6):53-60 My '33

**COPPER roofing. See Roofing, Copper****COPPER selenate**

Copper selenate tetrammine dihydrate. W. Lange and G. v. Krueger. Am Chem Soc J 55:4132-3 O '33

**COPPER sulfate**

Change in the transformation temperature of copper sulfate at 56°C. with the solvent medium. H. J. Abrahams and W. W. Lucasse. J Phys Chem 37:521-4 Ap '33

Copper sulphate treatment kills roots in sewers. J. W. McAmis. Water Works & Sewerage 80:102 Mr '33

Distribution of methylamine between water and chloroform and the existence of methylamine complexes of the metal-amine type. W. A. Felsing and S. E. Buckley. bibliog J Phys Chem 37:779-86 Je '33

**COPPER sulfides**

Extra specific heat in cuprous sulfide; specific heat of ferrous oxide. W. P. White. Am Chem Soc J 55:1047-53 Mr '33

Formation and identification of copper stains on wool; precipitation of sulphides in dyeing. N. T. White. Textile Col 55:750-1 N '33

Removal of sulphur compounds from petroleum distillates. H. N. Holmes, A. L. Elder and N. Beeman. diags J Phys Chem 36:2981-93 D '32

See also

Tetrahedrite

**COPPERAS. See Iron sulfates****COPPERWORK**

New product now and then helps the whole line; Rome manufacturing company. il Ptr Ink 165:95 O 12 '33

Welded joints in copper and copper alloy; fabrication of small tanks. I. T. Hook. il diags Am Mach 77:720-4 N 8 '33

**COPPERWORK, Architectural**

Expansion battens for copper deck. diags Sheet Metal Worker 23:475-6 N '32

Large copper finial. il Sheet Metal Worker 24:326 O '33

**COPPERWORK, Architectural—Continued**

Sheet copper; a handbook on its application in the construction of buildings. 129p Copper and brass research association, New York '32

*See also*

Copper houses  
Roofing, Copper

**COPRA**

Empire copra and coconut oil. Chem Age (Lond) 28:95 F 4 '33

**COPRECIPITATION. See Precipitation****COPY writers. See Advertising copy writers****COPYING processes**

Facsimile processes; with special relation to tabular matter. N. Parley. Assn of Sp Lib & Inf Bur Proc 1933:33-44

Labor and money saving devices in the catalog department. F. C. Fuchs. Lib J 58:573-7 J1 '33

Production control; preparing the order. T. M. Landy. il Factory Management 91:195-7 My '33

Seven ways to control copied data. il Management Methods 62:178 Ap '33

*See also*

Blueprinting  
Photostat

**COPYRIGHT**

Marketing of literary property. G. H. Thring. 242p Constable & co, ltd, London '33

*See also*

Patent laws and legis- Royalties  
lation Trade marks

**Designs**

Design protection; hearings held before the Committee on patents, House of representatives, Seventy-second Congress, first session, May 10, 11, 17, 1932. 148p U. S. Gov't. pgs. office, Washington '32

*See also*

Design—Protection

**Music**

5,000,000 songs are the commercial heritage of the American society of composers, authors and publishers. Fortune 7:27-33, 84, 86 Ja '33

**Russia**

Soviet pays royalties. Business Week p27 S 2 '33

**CORALS**

Chaetetes milleporaceus M.E.H. F. Heritsch. il Am J Sci 5th ser 25:257-60 Mr '33

Xyloides rugosus sp. nov., a Niagaran coral. S. Smith. pl Am J Sci 5th ser 26:512-22 [biblog p521-2] N '33

**CORBELS**

Portfolio of corbels. il Architecture 68:173-88 S '33

**CORD, Errett Lobban**

Cord—shipbuilder. Business Week p23 Ag 12 '33

Cord's latest venture. por Barron's 13:4 Ag 14 '33

**CORD corporation**

Cord corporation; an account of its aeronautical activities. il map Aero Digest 23: 22-30 N '33

Cord's expanding interests. Econostat 1:14-15 S 16 '33

**CORDAGE**

Cordage and twine industry code hearing. Paper Tr J 97:32 N 9 '33

**CORDAITES**

New cordaites from Missouri. J. E. Cribbs. Science 78:311-12 O 6 '33

**CORDILLERAS. See Mountains****CORDUROY**

Velveteen and corduroy; cotton constructions and some weaves suitable for silk. G. R. Robertshaw. il diags Textile World 83:1260-1 J1 '33

**CORE ovens**

Elektrisches trocknen von formen und kernen. E. F. Russ. diag Stahl & Eisen 52:1224-5 D 8 '32

**CORES**

Accuracy features cylinder cores; casting of Ford V-8 engine. il Foundry 60:12-14+ N '32

Carries cores on trolley conveyor; American foundry co. T. E. Wright. il Foundry 60:24+ D '32

Controlling properties of cores. H. W. Dietert and F. Von Valtier. Foundry 61:18-19+ Ap '33

Core assembly handled as unit. il diag Foundry 61:10-12+ Ag '33

Osborn machine blows green and dry sand cores. il Steel 92:32 Ja 30 '33; Iron Age 131: 320 F 23 '33

**Testing**

Humidity and oil sand cores; moisture content of atmosphere influences successful drying. A. S. Coulter. Foundry 61:13+ F '33

**CORK**

Characteristics of cork, and marine applications. Marine R 63:29 Mr '33

Effect of water and oil on natural cork. Heating-Piping 5:305+ Je '33

Vibration-absorbing materials. il Mach 40:99-100 O '33

**CORLISS, George Henry, 1817-1888**

George H. Corliss. J. A. Hall and G. W. Richardson. front (por) Mech Eng 55:403-9 J1 '33

Looking backward to George H. Corliss. Power 77:197 Ap '33

**CORLISS valve**

Origin of the Corliss valve. J. W. Roe. il Mech Eng 55:517-18 Ag '33

**CORN**

Alcoholized gasoline for farm relief. R. S. McBride. Food Ind 5:169 My '33

Corn alcohol plant costs; fourth progress report by Iowa state college. Oil Paint & Drug Rep 123:16, 30A Ap 17 '33

Some economic aspects of a program for the manufacture of fuel alcohol from corn; fifth progress report by Iowa state college. Oil Paint & Drug Rep 123:40+ Ap 24 '33

**CORN meal**

Butyric acid and butyl alcohol fermentation of hemicellulose- and starch-rich materials. S. A. Waksman and D. Kirsh. bibliog Ind & Eng Chem 25:1036-41 S '33

**CORN products**

Food marketing agreement. Food Ind 5:412 O '33

**Taxation**

Corn processing and floor taxes reduced. Oil Paint & Drug Rep 124:45 N 13 '33

**CORN products plants**

Modern corn milling involves many unit operations. J. L. Neenan. flow sheet il Food Ind 5:360-2 S '33

**CORN products refining company**

Common stocks for income and price appreciation. Mag of Wall St 51:280 D 24 '32

Corn Products shows strength. Econostat 1: 14-15, 23 Ag 5 '33

Earns dividend. Barron's 13:13 Mr 20 '33

Report for 1932. Barron's 13:13 Mr 6 '33

Speculative audit; favorable and unfavorable factors affecting common-stock values. Barron's 13:12 Ap 17 '33

Stocks I would buy to hold. A. T. Miller. Mag of Wall St 51:629 Ap 1 '33

Stocks which should see better prices this fall. Mag of Wall St 52:484+ S 2 '33

**CORN sirup**

Composition of corn sirup unmixed. A. P. Bryant and R. C. Jones. bibliog Ind & Eng Chem 25:98-100 Ja '32

**Analysis**

Determination of dextrin, maltose, and dextrose in corn sirup. W. R. Fetzer, J. W. Evans and J. B. Longenecker. bibliog Ind & Eng Chem Anal ed 5:81-4 Mr 15 '33

**CORN starch**

Consistency changes in starch pastes. G. V. Caesar. Ind & Eng Chem 24:1432-5 D '32

Dehydration by absorption characterizes cast confectionery manufacture. O. H. Windt. il diag Food Ind 5:213-15, 248-50 Je-J1 '33



**CORN starch—Continued**

Influence of stock temperature and hydrogen-ion concentration on a kraft paper sized with a special starch. W. A. Chilson and others. Paper Tr J 97:39-43 O 5 '33

**Analysis**

Carbohydrate-fatty acid linkings in corn alpha amylase. T. C. Taylor and R. T. Sherman. Am Chem Soc J 55:258-64 Ja '33

**CORN sugar.** See Dextrose

**CORNCOBS**

Butyric acid and butyl alcohol fermentation of hemicellulose- and starch-rich materials. S. A. Waksman and D. Kirsh. bibliog Ind & Eng Chem 25:1036-41 S '33  
Chemistry of lignin; distillation of alkali lignin in reduced atmosphere of carbon dioxide. M. Phillips and M. J. Goss. il diag Ind & Eng Chem 24:1436-41 D '32

**CORNCRIBS**

Corncribs for the corn belt. M. A. R. Kelley. U S Agric Farmers' Bul 1701:1-26 '33

**CORNELL university****Heckscher foundation**

Heckscher grants at Cornell university. Science 77:207 F 24 '33

**CORNICES**

Sloping vs. the flat roof. il Sheet Metal Worker 24:319-20 O '33

**CORNSTALKS**

Mechanical equipment for continuous fermentation of fibrous materials. A. M. Buswell and C. S. Boruff. bibliog diags Ind & Eng Chem 25:147-9 F '33

**CORONA (electricity)**

Corona and spark discharge in gases. J. D. Stephenson. diags Inst E E J 73:69-82 [bibliog p81-2] Jl '33

Corona loss at 220-330 kv; tests made at the Ryan laboratory, Stanford University, Calif. J. S. Carroll and B. Cozzens. il diag Elec Eng 52:178-83 Mr '33

Factors affecting surge potentials. J. J. Torok and W. R. Ellis. diags Elec J 30:381-7 S '33

Progress report on deterioration of oils and papers under corona discharge; abstract. K. S. Wyatt. Elec Eng 52:102-3 F '33

Sterilizing packaged cereal with corona discharge. il diag Elec W 101:231 F 18 '33

**CORONERS**

Possibilities and need for development of legal medicine in the United States, with a supplement on University departments in the field of criminology. O. T. Schultz. Nat Research Council Bul 87:1-135 [bibliog p132-5] '32 (\$1.50)

**CORPORATION law**

Compulsory audits by public accountants. A. J. Watson. J Account 56:250-60 O '33

Rehabilitation of corporations in financial distress; British and Canadian procedure. F. R. MacKelcan. Trust Companies 56:85-7 Ja '33

Treasury stock and general corporation statutes. L. L. Briggs. J Account 55:329-39 My '33

Treasury stock and the courts. L. L. Briggs. J Account 56:171-99 S '33

**See also**

Banking law	Proxies
Commercial law	Public utilities—Law
Corporations—Accounting	Railroad law
Dividends	Securities—Law
	Trusts, Industrial

**Delaware**

Delaware corporations, September, 1933. 36p Corporation trust co, New York '33

Digest of the Delaware corporation law, as amended 1933. 19th ed 39p Corporation service co, Wilmington, Delaware '33

**Germany**

Position of auditing and accounting in Germany. O. Hintner. Harvard Business R 11: 196-204 Ja '33

**Great Britain**

Company law and business taxes in Great Britain. W. Jaeger. U S Bur For & Dom Com Trade Promotion Ser 147:1-156 '33

One thousand questions and answers on company law. H. A. Ashton. 8th ed rev and enl 296p Company law press, ltd, 69 Fleet st, London, E.C. 4 '33

Prospectus law. Economist 116:305-6 F 11 '33

**Maryland**

Maryland corporation law. H. M. Brune, jr. 556p Prentice-Hall, inc. '33

**New York (state)**

Corporation laws of New York, revised to May 8, 1933. 263p Corporation trust co, New York '33

Corporations dissolved under New York law. Oil Paint & Drug Rep 122:15+ D 26 '32

New York laws, affecting business corporations, annotated, revised to May 10, 1933. J. B. R. Smith, ed. 14th ed 482p \$2 United States corporation co, 150 Broadway, New York '33

**Pennsylvania**

Pennsylvania corporation laws, 1933. E. R. Shockley, ed. 301p Dept. of property and supplies, Harrisburg, Pa. '33

**United States**

Cases and other materials on private corporations. G. F. Canfield and I. M. Wormser, eds. 3d ed 1132p Bobbs '32

Commercial law cases. H. W. Babb. 352p Blanchard printing co, Boston '33

Federal Securities act manual. G. C. Thorpe and C. B. Ellis. 422p W. H. Anderson co, Cincinnati '33

Federal Securities act of 1933. 137p International bank, Washington, D.C. '33

What constitutes doing business by a corporation in states foreign to the state of its creation. 312p Corporation trust co, New York '33

**Virginia**

Virginia corporation law. 199p Virginia State corporation commission, Richmond '32

**CORPORATIONS**

American security news: capital changes, mergers. Published in weekly numbers of Annalist

Business-wrecking racket must be stopped! H. F. Merrill. Forbes 31:11-13+ Ap 15 '33

Corporate enterprise in modern economic life. P. M. O'Leary. 125p \$1; pa 75c [bibliog p125] Harper '33

Disenfranchised stockholder. C. B. Larrabee. Ptr Ink 162:47-8+ Mr 9 '33

Executive of corporation held not an employee within Indiana compensation act. Monthly Labor R 35:1342-3 D '32

It's better to tell the truth about corporations. Ptr Ink 162:49-50 Mr 23 '33

Management's latest problem; the belligerent stockholder. A. M. Howe. Ptr Ink Mo 26: 17-18+ My '33

Modern corporation and private property. A. A. Berle, jr. and G. C. Means. 396p \$3.75 Macmillan '33; Review by W. D. Ennis. Mech Eng 55:545-8 S '33

Still more light on corporate practice. H. Richmond, jr. Mag of Wall St 51:263-5+ D 24 '32

U. S. corporate management. Fortune 7:47-51+ Je '33

**See also**

Banks and banking	Investment trusts
Building and loan associations	Municipal ownership
Corporation law	Oil companies
Electric utilities	Public utilities
Gas companies	Railroads
Government ownership	Stocks
Insurance companies	Street railroads
Insurance trusts	Trust companies
	Trusts, Industrial

**Accounting**

Accountants and the New York stock exchange. J Account 55:241-6 Ap '33

**CORPORATIONS—Accounting—Continued**

Accounting requirements; New York stock exchange sends letter to all listed companies asking further information on audits. *Barron's* 13:13 F 13 '33

Application-of-fund statement. A. L. Knollmuller. *J Account* 55:101-7 F '33

Consolidated return. J. W. Jones. *J Account* 55:255-71 Ap '33

Deflating the balance sheet to inflate earnings. W. R. Donaldson. *Iron Age* 131:773-5 My 18 '33; Same. *Trust Companies* 57:173-6 Ag '33; Same abr. *Chem Markets* 32:427-9 My '33

Depreciation, income tax and dividends. W. A. Clader. *J Account* 56:47-54 Jl '33

Effects of recent events on financial statements. W. W. Nissley. *J Account* 55:272-90 Ap '33

Figures, facts—and lies; certified public accountants and the stock exchange move in on the corporations. *Business Week* p20 Ap 26 '33

For more light on corporations. *Barron's* 13:13 F 6 '33

Independent audits for investors. R. Barton. *J Account* 56:91-101 Ag '33

Law and accounting. A. Herrick; F. W. Thornton. *J Account* 56:148-53 Ag '33

Legal regulation of accounting. F. S. Fisher, Jr. *J Account* 55:9-29 Ja '33

Limited companies and their accounts. W. S. Ferguson and F. R. Crocombe. 324p Commercial text book co, Toronto, Can. '32

Our outdated accounting. W. M. Cole. *Harvard Business R* 11:478-89 Jl '33

Position of auditing and accounting in Germany. O. Hintner. *Harvard Business R* 11:196-204 Ja '33

Question of writing down plant assets; abstract. D. P. Perry. *Management R* 22:238-9 Ag '33

Report of I.B.A. industrial securities committee. *Inv Banking* 3:95-6 N 25 '32

Splendid accomplishment; report prepared by a committee of the American institute of accountants. *J Account* 55:161-8 Mr '33

Stock exchange demands audit of listed companies. *J Account* 55:81-8 F '33

What is income? *J Account* 55:401-3 Je '33

Why engage public accountants? *J Account* 56:163-6 S '33

Write-down policy gains adherents. *Management R* 21:364 D '32

See also

Finance companies—	Public utilities—Ac-
Accounting	counting
Financial statements	Valuation

**Directors**

These advertising agents are on boards of directors. *Ptr Ink* 162:41-2 F 23 '33

**Finance**

Asset values must be measured by factual analysis; capital deflation necessary in many industrial companies. J. R. Kraus. *Bankers Mo* 50:71-2+ F '33

Capital flexibility. A. C. Littleton. *J Account* 56:102-8 Ag '33

Capital markets and recovery. *Index* 13:185-92 N '33

Comparison of the ratios of successful industrial enterprises with those of failed companies. P. J. FitzPatrick. *Certified Public Accountant* 12:598-605, 656-62, 727-31 O-D '32

Corporation finance. H. E. Hoagland. 463p \$3.50 McGraw-Hill '33

Corporation finance. E. S. Mead. 7th ed 726p Appleton-Century '33

Corporation net earnings; industry, rails, utilities. Published in weekly numbers of *Annalist*

Corporation profits and deficits, 1931-1932. *Nat City Bank* p57-9 Ap '33

Corporation salaries and bonuses in theory and in actual recent practice. P. M. Payne. *bibliog Annalist* 42:605-10 N 10 '33

Current vogues in corporation refinancing. L. H. Sloan. 12p Am. management assn, 20 Vesey st, New York '33

Earnings—just a record; first quarter. *Business Week* p20 Je 10 '33

Earnings—mostly deficits; third-quarter reports. *Business Week* p18 N 23 '32

Earnings; 1932 reports; eighteen companies show increase in net income. *Business Week* p11 Mr 1 '33

Economic and legal aspects of the securities act of 1933. A. H. Dean. *Inv Banking* 4:18-31 O 7 '33

Effect of the Securities act on industrial financing. W. F. Gephart. *Trust Companies* 57:279-84 S '33

Gain in second quarter profits. *Nat City Bank* p122-3 Ag '33; Same abr. *Barron's* 13:19 Ag 7 '33

Industrial profits. *Economist* 116:798-9; 117:168-70, 754-5 Ap 15, Jl 22, O 21 '33

Industrial profits, 1932. *Economist* 116:61-2 Ja 14 '33

Liquid capital and industrial recovery. *Economist* 116:1196-7 Je 3 '33

Manufacturing capital and output, 1839-1931; main factors in their changes. J. R. Arnold. *Annalist* 42:8-11 Jl 7 '33

Net earnings of American corporations. *Bradstreet's* 61:313-14 F 11 '33

New financing of the future. J. C. Clifford. *Mag of Wall St* 52:112-13 My 27 '33

1932 annual reports. *Nat City Bank* p38-40 Mr '33; Same. *Barron's* 13:18 Mr 13 '33

Oliphant's studies in securities. 7th issue 153p James H. Oliphant & co, 61 Broadway, N.Y. '33

184 companies report for first six months of 1933; tabulation. *Ptr Ink* 164:68-70 S 7 '33

Per share earnings. Published in weekly numbers of *Barron's*

Plant depreciation and net earnings; a study in corporation management. W. A. Layman. *Annalist* 40:867-8 D 30 '32

Post-war course of corporate profits as determined by net-to-gross profit ratios. W. L. Crum. *Harvard Business R* 11:336-48 Ap '33

Profits again! second-quarter earnings. *Business Week* p16 Ag 5 '33

Profits; from a 71-company sample, 'average net earnings for 1932 are put at 0.6%. *Business Week* p18 F 15 '33

Recovery and the profit problem. J. W. O'Leary. *il Nation's Business* 21:30+ N '33

Recovery earnings; third-quarter reports. *Business Week* p16 N 4 '33

Securities act; administration leaders explore possibilities of modifying act. *Business Week* p21-2 O 21 '33

Securities act of 1933. B. B. Bane. *Inv Banking* 4:12-17 O 7 '33

Third quarter profits. *Nat City Bank* p172-4 N '33; Excerpt (table). *Barron's* 13:19 N 13 '33

Those third quarter figures. *Ptr Ink* 165:13 N 9 '33

322 companies report for 1932; tabulation. *Ptr Ink* 163:54-5, 58-60 Ap 13 '33

Three important balance sheet ratios. R. A. Foulke. *Dun & Bradstreet* 41:7-11 Ag '33

Treasury stock and general corporation statutes. L. L. Briggs. *J Account* 55:329-39 My '33

Treasury stock and the courts. L. L. Briggs. *J Account* 56:171-99 S '33

Twenty-five more advertisers report for 1932. *Ptr Ink* 163:56 My 25 '33

Two months of the Securities act. P. McCrea. *Nation's Business* 21:38+ N '33

Use of subsidiary corporations in segregating risks. K. Field. *J Land & Pub Util Econ* 9:150-71 My '33

Week's earnings record. Published in weekly numbers of *Econostat*

What about maturities? an immediate problem under the Securities act. *Business Week* p18 S 30 '33

What the corporate reports show; tabulation. *Barron's* 13:19 Ap 3; 18 Ap 10; 18 Ap 17; 22 Ap 24; 19 My 8 '33

What the securities act may do. *Nation's Business* 21:39-40, 42 Jl '33

What third-quarter reports indicate for stock prices. G. P. Manton. *Mag of Wall St* 53:67-9+ N 11 '33



**CORPORATIONS—Finance—Continued**

What's behind the plant account; from the investor's viewpoint. W. W. Hay. *Mag of Wall St* 51:473-4+ F 18 '33

Writing down of plant values and its probable effect on future profits. W. A. Layman. *Annalist* 42:243-4 Ag 25 '33

*See also*

Dividends	Receivers
Public utilities—Finance	Reserves
Railroads—Finance	Stockholders
	Stocks

**Bibliography**

Corporation finance—methods. (Business literature, v5, no7) 2p Business branch, Public library, Newark, N.J. '33

**Reorganization**

Business tribunal for corporate reorganizations. P. G. Phillips. *Harvard Business R* 11:178-86 Ja '33

Corporate reorganization; bondholders protective committees. *Econostat* 1:28 My 27 '33

Debt laws; bills to facilitate reorganization of corporate debt structures. *Business Week* p4 D 21 '32

Federal bankruptcy amendment. A. A. Berle, Jr. *Am Bankers Assn J* 25:37-8+ Mr '33

Investor pays. M. Lowenthal. 406p \$2.50 Knopf '33

National Surety reorganization plan. *East Underw* 34:43-5 My 26 '33

Rehabilitation of corporations in financial distress; British and Canadian procedure. F. R. MacKelcan. *Trust Companies* 56:85-7 Ja '33

**Reports and yearbooks**

Annual report reads easier in newspaper form; Connecticut mutual life insurance company. K. H. Mathus. *il Ptr Ink* 165:11-12 O 12 '33

Another blow for corporate secrecy; Allied chemical & dye corporation and the New York stock exchange. *Forbes* 31:8 My 15 '33

Beating around the bush. P. H. Smith. *Comm & Fin* 22:269 Mr 22 '33

Compulsion! a brief for compulsory accounting services. R. Atkins. *Credit & Fin Management* 35:14+ Mr '33

Innovation; Corn exchange bank and Northwestern life co. bare investments, set precedent. *Business Week* p8-9 F 22 '33

Polonius—What do you read? Hamlet—Words, words, words! plea for pruning annual reports. A. H. Little. *Ptr Ink Mo* 27:15-16+ Jl '33

**Taxation**

Dividend and corporate value taxes in Recovery act. *Nat Pet N* 25:16 Je 21 '33

Important financial problem raised for incorporated agencies by new capital and excess profit taxes. *Spectator* 131:7+ Ag 24 '33

Instruction issued for arriving at capital stock values. *Nat Pet N* 25:24 Jl 19 '33

New capital and excess profits taxes call for re-appraisal of net worth. J. Geschelin. *Automotive Ind* 69:173-6 Ag 12 '33

New capital stock tax imposed by the National industrial recovery act. G. N. Nelson. *Annalist* 42:309 S 8 '33

Pennsylvania corporation taxes. S. L. Ruslander and F. W. Main. 3d ed 728p \$10 Prentice-Hall, inc. '33

Repeal and taxes. J. K. Lasser. *map System and Management Methods* 62:342-3+ Ag '33

Why not change to a partnership? partnership and corporation comparison of total federal taxes payable. J. K. Lasser. *System* 62:498-9 N '33

**Great Britain**

Company registrations at Somerset house; a record total in 1932. *Chem Age (Lond)* 28:48 Ja 21 '33

Protection for shareholders. *Economist* 117:499-500 S 9 '33

**CORPULENCE**

*See also*

Weight (physiology)

**CORRELATION (statistics)**

Algebraic derivation of the normal equations involved in multiple and partial correlation. C. H. Hamilton. *Am Statist Assn J* 28:204-5 Je '33

Coefficient of correlation. J. Berkson. *Science* 77:259 Mr 10 '33

Correlation curiosity. E. B. Wilson. *Science* 76:515 D 2 '32; Discussion. L. M. Blumenthal. 77:88 Ja 20 '33

Ordinal index of correlation. G. P. Watkins. *Am Statist Assn J* 28:139-51 Je '33

Partial correlation. T. V. Moore. 40p [bibliog p37-9] Williams & Wilkins co, Baltimore '32

Test of significance for the correlation coefficient; some further results. E. S. Pearson. *Am Statist Assn J* 27:424-6 D '32

**CORRESPONDENCE schools and courses**

All about babies in this sales course by mail; Earnshaw knitting company. *Ptr Ink* 163:82-4 My 11 '33

Home study courses as a part of the library's vocational guidance program. R. L. Newing. *Lib J* 58:723-4 S 15 '33

Job improvement, inc.; International correspondence schools and others. S. Chase. *il Fortune* 7:66-71, 96+; Discussion. J. S. Noffsinger. 98, 101 Je '33

University teaching by mail; a survey of correspondence instruction conducted by American universities. W. S. Bittner and H. F. Mallory. 355p \$2.50 Macmillan '33

*See also*

University extension

**CORROON and Reynolds companies**

Sound cash position of Corroon & Reynolds group. *Spectator* 130:33 Mr 30 '33; *East Underw* 34:20 Mr 31 '33

**CORROSION, Electrolytic. See Electrolytic corrosion****CORROSION and anti-corrosives**

Air conditioning equipment needs corrosion study; abstract. R. M. Palmer. *Chem & Met Eng* 40:151 Mr '33

Cable corrosion reduced by external grease film. *Elec W* 101:121 Ja 23 '33

Chromium-nickel-iron castings from sulphite service. G. L. Cox and F. L. LaQue. *bibliog il Paper Tr J* 96:30-6 My 4 '33

Compositions for the protection of ships. H. W. Keenan. *Chem Age (Lond)* 28:99; Discussion. 99-100 F 4 '33

Corrosion-accelerated wear; its effect in relation to cylinders and bearings. H. J. Young. *il Automobile Eng* 23:295-7 Ag '33

Corrosion destroys, paint protects. J. C. Gehant. *Nat Safety N* 28:25+ S '33

Corrosion effects of lubricants upon bearing surfaces. C. H. Bierbaum. *il Iron Age* 132:20-1+ Ag 31 '33

Corrosion fundamentals. C. E. Beynon. *diags Soc Chem Ind J (Chem & Ind)* 52:359-63 Ap 28 '33

Corrosion in non-pressure refining equipment. S. S. Shaffer and J. E. Pollock. *il diag Am Pet Inst Proc* p63-8 sec 3 D '32; Same. *Oil & Gas J* 31:88-90 N 17 '32; Discussion. E. S. Dixon. *Am Pet Inst Proc* p68-70 sec 3 D '32

Corrosion in sulphonators. *Chem & Met Eng* 40:409 Ag '33

Corrosion of metals in salt solutions and seawater. G. D. Bengough. *il diag Soc Chem Ind J (Chem & Ind)* 52:195-210, 228-39, pl 1-4 Mr 10-17 '33; Discussion. 51:998-9 D 2 '32

Corrosion of oil tankers. N. B. Musser. *diags Am Pet Inst Proc* p51-62 sec 3 D '32

Corrosion of oil-well tubing. W. F. Rogers. *il Am Pet Inst Proc* 14M(4):86-90 My '33; Same. *Oil & Gas J* 32:61+ My 25 '33; Discussion. *Am Pet Inst Proc* 14M(4):90-2 My '33

Corrosion of tin cans used as food containers. S. G. Lipsett. *Can Chem & Met* 17:171-2+ Ag '33

Corrosion, the billion-dollar thief. F. A. Rohrman. *J Chem Educ* 10:141-7, 215-21, 297-301 Mr-My '33

Corrosion-time relationship of iron. R. F. Passano. *bibliog Ind & Eng Chem* 25:1247-50 N '33

CORROSION and anti-corrosives—*Continued*

- Corrosive action of brine. R. L. Beach. *Refrig W* 68:11-15 J1 '33
- Cylinder wear. *Engineer* 155:660-2 Je 30 '33
- Effect of corrosive agents on admiralty metal. S. Born and W. L. Nelson. *bibliog Nat Pet N* 25:27-8, 30-1 J1 19 '33
- Effect of sulphur and phosphorus on the corrosion of iron. L. Tronstad and J. Sejersted. *Iron & Steel Inst J* 127:425-36, pl 31-32 no 1 '33; Abstract. *Engineering* 135:590-1 Je 2 '33; Discussion. *Iron & Steel Inst J* 127:437-43 no 1 '33
- Electrochemical theory of corrosion. O. P. Watts. *Electrochem Soc Trans* 64 (preprint 20):219-44 S '33; Excerpts. *Engineer* 156:267-8 S 15 '33; Abstract. *Science* 78:sup7 S 5 '33
- Endurance of metal in corrosive surroundings. T. S. Fuller. *il diag Metal Prog* 23:23-6 Je '33
- Englische untersuchungen über die korrosion von stahl. E. H. Schulz. *Stahl & Eisen* 53:836-9 Ag 10 '33
- Increased acidity inhibits corrosion; application to canning prunes. E. F. Kohman and N. H. Sanborn. *Ind & Eng Chem* 25:920-2 Ag '33
- Korrosionserscheinungen an hochdruckdampfesseln. K. Hofen. *il Stahl & Eisen* 53:925-9; Discussion. 930 S 7 '33
- Korrosionserscheinungen an teerdestillierblasen. *il Stahl & Eisen* 53:734-6 J1 13 '33
- Korrosionsschutz durch nichtmetallische überzüge. E. Rackwitz. *Zeit Ver Deutsch Ing* 76:1225-6 D 10 '32
- Korrosions-tagung 1932. *Stahl & Eisen* 52:1125-6 N 17 '32; *Angew Chemie* 46:65-7 Ja 21 '33
- Lecture experiments in general chemistry; the rusting of iron, spontaneous combustion, the halogens. S. Morris and A. J. W. Headlee. *diags J Chem Educ* 10:637-8 O '33
- Mechanism of corrosion of iron in sodium chloride solution; effect upon the potential of the iron of adding organic substances to the brine. E. G. R. Ardagh, R. M. B. Roome and H. W. Owens. *bibliog diags Ind & Eng Chem* 25:1116-21 O '33
- Nature and prevention of intergranular corrosion in austenitic stainless steels. E. C. Bain, R. H. Aborn and J. J. B. Rutherford. *bibliog il diags Am Soc Steel Tr Trans* 21:481-509 Je '33; Excerpts. *Steel* 92:21-3+ Ap 17 '33
- Preventing corrosion after machining. V. W. Wells. *il Mach* 39:475-6 Mr '33
- Reduction of corrosion in water pipe. E. S. Hopkins. *il Ind & Eng Chem* 25:1050 S '33
- Refrigeration plant chemistry; corrosion in brine installations. C. B. Hill. *Refrig Eng* 25:216+ Ap '33
- Reichsausschuss für metallschutz; korrosions-tagung und jahreshauptversammlung. Berlin. 19 und 20. mai 1933. *Angew Chemie* 46:592-4 S 16 '33
- Role of the corrosion product in the atmospheric corrosion of iron. W. H. J. Vernon. *Electrochem Soc Trans* 64 (preprint 26):309-18 S '33; Excerpts. *Iron Age* 132:12+ S 21 '33
- Short-period rust preventers; abstract. P. Mabb. *Mech Eng* 55:580-1 S '33
- Survey of corrosion prevention in water heater storage tanks. W. P. Cook and H. W. Smith, jr. *Am Gas Assn Mo* 15:345-6 Ag '33
- Time-potential curves on iron and steel and their significance. T. P. Hoar and U. R. Evans. *bibliog Iron & Steel Inst J* 126:379-90; Discussion. 391-5 no 2 '32
- Über chemische und elektrochemische korrosion, insbesondere am kupfer. Cassel. *Angew Chemie* 46:203 Ap 8 '33
- See also*
- |                          |                               |
|--------------------------|-------------------------------|
| Acid handling            | Corrosion resisting materials |
| Acid-resisting materials | Electrolytic corrosion        |
| Aluminum—Protection      | Galvanizing                   |
| Boilers—Corrosion        | Gas pipes—Corrosion           |
| Concrete—Protection      | Gas pipes—Protection          |
- Metal coating
- Metal protection
- Paint, Protective
- Pipe coating
- Pipe lines—Protection
- Steel—Protection
- Water pipes—Corrosion
- Water pipes—Protection
- Testing**
- Apparatus for corrosion tests. *il Chem Age (Lond)* 28:395 Ap 29 '33
- Arbeiten und erfolge der Deutschen Reichsbahn auf dem gebiete des korrosionsschutzes durch anstriche. O. Lindermayer. *il map Zeit Ver Deutsch Ing* 77:385-92 Ap 15 '33
- Atmospheric action as a factor in fatigue of metals. H. J. Gough and D. G. Sopwith. *il diags Engineering* 134:634-6 D 9 '32; Discussion. 134:409-10 O 7 '32
- Cadmium coatings on steel. S. G. Clarke. *Metal Ind* 31:307, 373-4 S, N '33
- Condenser-tube corrosion; two reports. J. R. Freeman, jr. and A. W. Tracey. *il Mech Eng* 55:556 S '33
- Controlled data from an immersion test. R. F. Passano. *Am Soc T M Proc* 32 pt 2:468-74; Discussion. 475-6 '32
- Corrosion-fatigue tests on mild steel when coated with nickel by the Fecolising process. *Engineering* 136:398 O 6 '33
- Corrosion of nickel and monel metal by sulfured grape juice. E. M. Mrak and W. V. Cruess. *Ind & Eng Chem* 25:367-9 Ap '33
- Corrosion resistance of iron-chromium alloys in various media; the salt spray test. W. B. Arness and J. N. Ostrofsky. *il diag Am Soc Steel Tr Trans* 20:429-58 N '32; Abstract. *Iron Age* 130:837+ D 1 '32; Discussion. *Am Soc Steel Tr Trans* 20:458-63 N '32
- Corrosion test for liquid butane. F. M. Clothier, jr. *diag Nat Pet N* 25:42 Ag 23 '33
- Deterioration of structures in sea water. *Engineering* 135:708 Je 30 '33
- Determination of the life of lanoline rust preventing coatings on steel. C. Jakeman. *Engineering* 134:750-1 D 23 '32
- Does the Krupp test forecast the life of 18-8? V. B. Browne. *il Metal Prog* 24:35-40+ J1 '33; Same. *Steel* 93:23-6 J1 17 '33
- Effect of hydrogen sulphide on the corrosion of iron by salt solutions. S. C. Britton, T. P. Hoar and U. R. Evans. *bibliog Iron & Steel Inst J* 126:365-73; Discussion. 374-7 no 2 '32
- Effect of organic coatings in preventing damage to metal subjected to stress and corrosion. F. N. Speller and I. B. McCorkle. *il Oil & Gas J* 32:73-4 O 26 '33
- Experimental methods for the study of corrosion. J. C. Hudson. *Soc Chem Ind J* 52:69T-75T Mr 24 '33; Abstract. *Chem Age (Lond)* 27:505-6 N 26 '32; Discussion. *Soc Chem Ind J (Chem & Ind)* 52:75T-6T Mr 24 '33
- Explanation of mechanism of corrosion fatigue and its application to sucker rod failures. B. B. Wescott and C. N. Bowers. *il Oil & Gas J* 32:65+ O 26 '33
- Further studies on chromium-nickel-iron and related alloys. V. N. Krivobok and others. *il Am Soc Steel Tr Trans* 21:22-60; Discussion. 60-72 Ja '33
- Hochlegierter chromguss als werkstoff im chemischen apparatbau. K. Roesch and A. Clauberg. *il Chemische Fabrik* 6:317-20 J1 26 '33
- Impingement-corrosion apparatus. H. W. Brownson and L. C. Bannister. *il diag Engineering* 134:581-2 N 11 '32
- Indiscriminate use of corrosion test for stainless steels is harmful. V. B. Browne. *Iron Age* 132:17-18, 23+ J1 27 '33
- Influence of solution concentration on the severity of corrosion fatigue. A. J. Gould. *il Engineering* 136:453-4 O 27 '33
- Intergranular corrosion of 18/8 austenitic stainless steels. E. C. Rollason. *bibliog diags Iron & Steel Inst J* 127:391-414, pl 27-30 no 1 '33; Same cond. *Engineering* 135:659-91 Je 23 '33; Discussion. *Iron & Steel Inst J* 127:415-23 no 1 '33
- National physical laboratory, annual report for 1932. *il diags Engineering* 136:95-7 J1 28 '33



## CORROSION and anti-corrosives—Testing

—Continued

- New light on heating system corrosion. J. H. Walker, diags Heat & Ven 30:28-32 My '33
- Protection of iron in aerated salt solutions by cathodic deposits. E. Herzog, diags Electrochem Soc Trans 64 (preprint 28):325-36 S '33
- Reducing metal corrosion rate by use of an inhibitor. A. R. Dunham. Gas Age 71:657-8 Je 24 '33
- Removal of corrosion products from iron. T. J. Finnegan and R. C. Corey. Ind & Eng Chem Anal ed 5:89-90 Mr 15 '33
- Resistance of iron to corrosion. H. Nipper and E. Piwowarsky. Foundry 60:36-7 D '32
- Röntgennachweis der inneren korrosion von drahtseilen. R. Glocker, P. Wiest and R. Woernle. il Stahl & Eisen 53:758-61 Jl 20 '33; Abstract (X-ray examination of wire ropes). Engineer 156:sup [Metallurgist] 58 Ag 25 '33
- Some comparative corrosion-fatigue tests employing two types of stressing action. H. J. Gough and D. G. Sopwith, diags Iron & Steel Inst J 127:301-32 no 1 '33; Same cond. Engineering 136:75-8 Jl 21 '33; Abstract. Engineer 155:472 My 12 '33; Discussion. Iron & Steel Inst J 127:333-5 no 1 '33; Engineer 155:472 My 12 '33
- Testing engineers revise methods of determining corrosion; discussion at A.S.T.M. sessions. Iron Age 132:32C Jl 6 '33; Steel 93:30-1 Jl 10 '33
- Tests of regular and stabilized 18-8 alloy welds in sulphite liquor. bibliog il Paper Tr J 97:29-34 Ag 31 '33
- Use of non-ferrous metals in the food industry; laboratory corrosion experiments. N. D. Sylvester. Soc Chem Ind J (Chem & Ind) 52:141-3 F 17 '33
- Zur bekämpfung des korrosionsdauerbruchs. H. Buchholtz and K. Krekeler. il Stahl & Eisen 53:671-4 Je 29 '33
- Underground corrosion**
- Abstracts and summaries of the Bureau of standards publications on stray-current electrolysis. E. R. Shepard. U S Bur Stand Circ 401:1-23 '33
- Application of pipe coating and corrosion research to southern soils. S. Ewing. Am Gas Assn Mo 15:298-300 Jl '33; Same abr. Gas J (Lond) 203:353-4 Ag 16 '33
- Economics of pipe wall thickness in gas distribution. N. L. Hoff. Gas Age 71:573-5 Je 3 '33
- Influence of oil in soil corrosion. W. F. Rogers. il Am Pet Inst Proc p131-5 sec 4 D '32
- Liner plates 18 years old show little corrosion; old Passaic Valley sewer, Newark, N.J., J. S. Unger. il Eng N 110:337-8 Mr 16 '33
- Means of adjustment of soil corrosion pit depth measurements for size of sample examined. G. N. Scott. Oil & Gas J 32:69 N 2 '33
- Molded coating halts oil pipe corrosion; Somatic asphalt mixture. A. J. Swank. il Elec W 101:134-6 Ja 28 '33
- Protection of pipes against soil action. K. H. Logan. il Electrochem Soc Trans 64 (preprint 13):137-48 S '33; Same cond. Chem & Met Eng 40:514-16 O '33
- Soil corrosion survey gives valuable data as aid in selecting proper type of coating. W. Denman. Oil & Gas J 31:12 D 22 '32
- CORROSION research**
- Corrosion; current research projects. Power 77:251-2 My '33
- Corrosion fundamentals. C. E. Beynon. diags Soc Chem Ind J (Chem & Ind) 52:359-63 Ap 28 '33
- Corrosion research on light metals. F. Horn. diags Soc Chem Ind J (Chem & Ind) 52:554-62 Jl 7 '33; Excerpts. Chem Age (Lond) 28:sup9-10 F 4 '33; Discussion. Soc Chem Ind J (Chem & Ind) 52:60-1 Ja 20 '33; Chem Age (Lond) 28:sup10-11 F 4 '33
- Corrosion-time relationship of iron. R. F. Passano. bibliog Ind & Eng Chem 25:1247-50 N '33
- Effect of composition and pre-treatment of steels upon the life of protective coatings. K. Daevess. il Electrochem Soc Trans 64 (preprint 16):161-72 S '33; Abstract. Iron Age 132:43 S 14 '33
- Electrochemical behavior of iron in corrosion cells. H. L. Lochte and R. E. Paul. diags Electrochem Soc Trans 64 (preprints 3-5):23-55 S '33
- Experimental methods for the study of corrosion. J. C. Hudson. Soc Chem Ind J 52:69T-75T; Discussion. 75T-6T Mr 24 '33
- Korrosion bei kavitation; bericht über versuche am Walchenseekraftwerk. H. Schröter. il diag Zeit Ver Deutsch Ing 77:865-9 Ag 12 '33; Abstract (Corrosion and cavitation). Mech Eng 55:766-7 D '33
- Neue versuche zur theorie der korrosion und korrosionspassivität. W. J. Müller. Angew Chemie 46:531-2 Ag 12 '33
- Theories of passivity and of corrosion. E. S. Hedges. Engineer 154:sup [Metallurgist] 188-90 D 30 '32
- Untersuchungen über korrosion bei kavitation. G. Vogelpohl. Zeit Ver Deutsch Ing 77:1099 O 7 '33
- CORROSION resisting materials**
- Beständigkeit des hartgummis gegen aggressive flüssigkeiten. St Reiner. Chemische Fabrik 6:375-6 S 6 '33
- Checking caustic corrosion with nickel and its alloys. H. E. Searle and R. Worthington. Chem & Met Eng 40:528-30 O '33
- Copper-nickel tubes; their advantages for steam condensers. R. Worthington. il Metal Prog 24:20-4 Jl '33
- Corrosion research on light metals. F. Horn. diags Soc Chem Ind J (Chem & Ind) 52:554-62 Jl 7 '33; Excerpts. Chem Age (Lond) 28:sup9-10 F 4 '33; Discussion. Soc Chem Ind J (Chem & Ind) 52:60-1 Ja 20 '33; Chem Age (Lond) 28:sup10-11 F 4 '33
- Effect of sulphur dioxide gas on alloys; chrome-nickel steels compared with brass, bronze, cast iron, and soft steel. G. H. McGregor and J. W. Stevens. Paper Tr J 97:40-1 N 2 '33
- Eliminating guesswork in materials of construction. H. Miller. il Chem & Met Eng 39:646-50 D '32
- Field and laboratory data covering tests upon special alloys for barrels, balls and seats for oil well pumps. W. F. Rogers. il Oil & Gas J 32:54, 57-8 O 26 '33
- French chemical industries use cast iron to resist corrosion. A. Matagrin. il Chem & Met Eng 40:480-2 S '33; Excerpts. Chem Ind 33:329, 331 O '33
- High chromium cast iron for smoke resistance. R. Tull. Iron Age 131:952 Je 15 '33
- Manufacturers' recommendations for the corrosion resistant non-metallic materials of construction; tabulation. Chem & Met Eng 39:654-5 D '32
- Modern materials for dye-house equipment. J. F. Springer. Textile Col 53:842-4; 54:546-9, 699-702. 773-4; 55:190-3+, 406-9 D '31, Ag, O-N '32, Mr, Je '33
- Monel metal and pure nickel; their properties with reference to chemical plant. il Chem Age (Lond) 28:sup15-16 Mr 4 '33
- Nickel deposits; some of the properties which affect their use. L. Wright. il Electrician 110:324 Mr 10 '33
- Non-corrodible materials are desirable in sewerage construction. il Pub Works 64:21-2 O '33
- Non-rusting and heat-resisting cast iron. E. Houdremont and R. Wasmuth. Engineer 156:sup [Metallurgist] 72-3 O 27 '33
- Plating for tankers of wrought iron. R. W. Morrell. diags Marine Eng 38:360-7 O '33
- Preservation of chemical works plant; lead as a corrosion-resisting material for iron and steel. il Chem Age (Lond) 28:242 Mr 18 '33
- Relative corrodibility of some common metals and alloys; tabulation. J. Strauss. Metal Prog 24:41 N '33
- Resinous equipment solves corrosion problems. il diags Chem & Met Eng 40:201-3 Ap '33
- Surface film. Engineer 156:sup [Metallurgist] 50 Ag 25 '33

**CORROSION** resisting materials—*Continued*

- Use of non-ferrous metals in the food industry. T. N. Morris and J. M. Bryan. Soc Chem Ind J (Chem & Ind) 52:139-41 F 17 '33
- Valves for the chemical industry. Chem Age (Lond) 27:sup35 D 3 '32
- Welded plant in the chemical industry. H. Seymour. Chem Age (Lond) 28:237-8 Mr 18 '33
- Welding aluminum. W. Froelich. Can Chem & Met 17:56, 58, 79-80 Mr-Apr '33
- What metals to use in anthracite-breaker chutes. W. L. Keene and D. F. McFarland. il diag Coal Age 38:335-6+ O '33
- What the school of experience has taught a dye-plant operator about construction materials. Chem & Met Eng 40:62-3 F '33
- See also*
- |                               |                            |
|-------------------------------|----------------------------|
| Acid-resisting materials      | Glass lining               |
| Chromium nickel steel         | Haveg                      |
| Chromium steel                | Rubber coating             |
| Corrosion and anti-corrosives | Steel, Corrosion resisting |
|                               | Steel, Stainless           |

**CORSETS**

- Dyeing textiles for weight reducing girdles and corsets. G. Rice. il Textile Col 55:126-7 F '33

**Manufacture**

- Corset and brassiere industry; summary of code. Monthly Labor R 37:529-30 S '33

**CORTELYOU, George B.**

- Portrait. Elec W 101:746 Je 10 '33

**CORUNDUM**

- Synthetic corundum for jewel bearings. E. G. Sandmeier. il Inst E E J 72:505-8, pl 1-6 Je '33; Same cond. Electrician 110:34-6 Ja 13 '33; Abstract. Elec R (Lond) 112:47-8 Ja 13 '33; Discussion. Inst E E J 72:508-14 Je '33

**COSACH. See Sodium nitrate****COSMETICS**

- Cosmetics defended by woman physician. A. Carleton. Sci Am 149:184 O '33
- Modern cosmetics; dangers of certain chemical ingredients. A. Carleton. Chem Age (Lond) 28:572 Je 24 '33
- 100,000,000 guinea pigs; dangers in everyday foods, drugs, and cosmetics. A. Kallet and F. J. Schlink. 312p \$2 Vanguard press, New York '32
- Soaps and cosmetics; an enterprising branch of the chemical industry. Index 13:120-4 Je '33

**Advertising**

- Five points that jumped sales of new line 400 per cent; Outdoor Girl products. M. Picker. il Ptr Ink 161:17-19 N 17 '32
- How this new product covered nation in three years; Perstik. il Ptr Ink 164:56-7 Jl 27 '33
- Men and lipsticks. il Ptr Ink 161:13 D 29 '32
- Style note for noses. il Ptr Ink 162:32 Mr 2 '33

**COSMETICS institute. See Perfumery and cosmetics institute****COSMIC rays**

- Airplane cosmic-ray intensity measurements. L. M. Mott-Smith and L. G. Howell. Phys R 44:4-11 Jl 1 '33
- Angular distribution of cosmic-ray particles. J. C. Stearns and R. D. Bennett. Phys R 43:1038-9 Je 15 '33
- Angular distribution of low energy cosmic radiation and interpretation of angular distribution curves. T. H. Johnson and E. C. Stevenson. Phys R 43:583-4 Ap 1 '33; Same. J Fr Inst 216:267-70 Ag '33
- Azimuthal asymmetry of cosmic radiation. S. A. Korff. Phys R 44:515 S 15 '33
- Azimuthal asymmetry of the cosmic radiation. T. H. Johnson. Phys R 43:834-5 My 15 '33
- Azimuthal asymmetry of the cosmic radiation at Swarthmore. T. H. Johnson and E. C. Stevenson. J Fr Inst 216:276-80 Ag '33; Same cond. Phys R 44:125-6 Jl 15 '33
- Azimuthal asymmetry of the cosmic radiation in Mexico City. T. H. Johnson. J Fr Inst 215:749-53 Je '33
- Circuit for recording multiply-coincident discharges of Geiger-Mueller counters. T. H. Johnson and J. C. Street. il diags J Fr Inst 215:239-46 Mr '33
- Comparison of the angular distributions of the cosmic radiation at elevations 6280 ft. and 620 ft. T. H. Johnson. diag Phys R 43:307-10 Mr 1 '33; Same. J Fr Inst 216:259-67 Ag '33
- Compton's latitude effect of cosmic radiation. G. Lemaitre and M. S. Vallarta. Phys R 43:87-91 Ja 15 '33
- Concerning the production of groups of secondaries by the cosmic radiation. J. C. Street and T. H. Johnson. Phys R 42:142-4 O 1 '32; Same. J Fr Inst 216:256-9 Ag '33
- Cosmic-ray bursts. C. D. Anderson. Phys R 43:368-9 Mr 1 '33
- Cosmic ray hodoscope. T. H. Johnson and E. C. Stevenson. il diags J Fr Inst 216:329-37 S '33
- Cosmic-ray intensities in the stratosphere. I. S. Bowen and R. A. Millikan. il Phys R 43:695-700 My 1 '33
- Cosmic ray intensities in the stratosphere; abstract. I. S. Bowen and R. A. Millikan. Science 77:494 My 19 '33
- Cosmic-ray light on nuclear physics. R. A. Millikan. Science 78:153-8 Ag 25 '33
- Cosmic-ray nuclear disintegrations. W. F. G. Swann and C. G. Montgomery. Phys R 44:52-3 Jl 1 '33; Same. J Fr Inst 216:249-52 Ag '33
- Cosmic-ray positive and negative electrons. C. D. Anderson. il diag Phys R 44:406-16 S 1 '33
- Cosmic rays. G. Lemaitre. Science 77:sup6 Ja 20 '33
- Cosmic rays. B. Rossi. Science 77:sup8-9 Ap 7 '33
- Cosmic rays discussed by R. A. Millikan and A. H. Compton. Science 77:sup8 Ja 6 '33
- Cosmic rays, experiment and conjecture. A. W. Stern. J Chem Educ 10:24-8 Ja '33
- Cosmic rays; theory and experimentation. T. H. Johnson. il diags J Fr Inst 214:665-89 D '32
- Cosmic rays; what physicists have learned about them. K. K. Darrow. il diag Elec Eng 52:221-8 Ap '33
- Deflection of cosmic rays by a magnetic field. L. F. Curtiss. diags U S Bur Stand J Research 9:815-23 D '32
- Discovery of the free positive electron; abstract. C. D. Anderson. Science 77:495 My 19 '33
- Distribution of cosmic ray paths in a vertical cylinder. D. L. Macadam and M. R. Lipman. diags J Fr Inst 216:583-9 N '33
- Distribution of cosmic ray paths in a vertical cylinder. W. F. G. Swann. diags J Fr Inst 216:559-81 N '33
- Energy contained in cosmic rays. R. A. Millikan. Science 77:sup8 My 5 '33
- Fluctuations of cosmic-ray ionization. J. W. Broxon, G. T. Merideth and L. Strait. biblog Phys R 43:687-94 My 1 '33
- Geographic study of cosmic rays. A. H. Compton. diag map Phys R 43:387-403 Mr 15 '33
- Hearing radio from the stars. K. G. Jansky. Elec W 102:521 O 21 '33
- How far do cosmic rays travel? F. Zwicky. Phys R 43:147-8 Ja 15 '33
- Improved cosmic-ray meter. A. H. Compton and J. J. Hopfield. il diags R Sci Instr 4:491-5 S '33
- Interpretation of the azimuthal effect of cosmic radiation. M. S. Vallarta. Phys R 44:1-3 Jl 1 '33
- Lens for cosmic-ray electrons. W. F. G. Swann and W. E. Danforth, jr. Opt Soc Am J 23:191 My '33
- Matter created from light and cosmic rays. Science 77:sup8 Je 9 '33
- Mechanism of acquirement of cosmic-ray energies by electrons. W. F. G. Swann. Phys R 43:217-20 F 15 '33; Same. J Fr Inst 215:273-9 Mr '33
- Nature of cosmic-ray showers. B. Cassen. Phys R 44:513 S 15 '33
- Nature of the primary cosmic radiation. W. F. G. Swann. Phys R 43:945-6 Je 1 '33; Same. J Fr Inst 216:252-4 Ag '33



**COSMIC rays—Continued**

- New high-altitude study of cosmic-ray bands and a new determination of their total energy content. I. S. Bowen, R. A. Millikan and H. V. Neher. *Phys R* 44:246-52 Ag 15 '33; Abstract. *Science* 78:sup5 Ag 25 '33
- New techniques in the cosmic-ray field and some of the results obtained with them. R. A. Millikan. *Phys R* 43:661-9 Ap 15 '33
- Penetration of cosmic rays. *Science* 78:sup9 S 29 '33
- Positive electron. C. D. Anderson. *il Phys R* 43:491-4 Mr 15 '33
- Positively charged component of cosmic rays. L. Alvarez and A. H. Compton. *diags Phys R* 43:835-6 My 15 '33
- Present status of cosmic rays. A. T. Waterman. *Am J Sci* 5th ser 26:158-60 Ag '33
- Principles of statistical analysis occasionally overlooked. A. G. McNish. *J Fr Inst* 215: 697-703 Je '33
- Relations among fluctuations of the cosmic-ray ionization, of the terrestrial magnetic field, of the atmospheric potential gradient, and of the absolute humidity. J. W. Broxon, G. T. Merideth and L. Strait. *Phys R* 44:253-7 Ag 15 '33
- Secondary and tertiary particles produced by cosmic rays. J. H. Sawyer, jr. *diags Phys R* 44:241-5 Ag 15 '33
- Secret message of the cosmic ray. A. H. Compton. *il Sci Am* 149:5-7 Jl '33
- Significance of recent measurements of cosmic rays. A. H. Compton. *Science* 77:480-2 My 19 '33
- Space density of cosmic-ray particles. W. F. G. Swann. *Phys R* 44:124 Jl 15 '33; Same. *J Fr Inst* 216:272-4 Ag '33
- Use of argon in the ionization method of measuring cosmic rays and gamma-rays. J. J. Hopfield. *bibliog Phys R* 43:675-86 My 1 '33
- World-wide cosmic ray survey. *Science* 78:sup6 Jl 23 '33

**COSMOLOGY**

- Builders of the universe. A. Einstein, comp. 96p 25c U. S. library assn, inc, Westwood Village, Los Angeles '32
- Relativistic cosmology. H. P. Robertson. *diags Rs Mod Phys* 5:62-90 [bibliog p88-90] Ja '33

*See also***Universe****COSMOPOLITAN life insurance company**

- Two receiver suits filed. *Nat Underw (Life ed)* 37:2+ Ap 21 '33

**COST**

- Increasing return. G. T. Jones. 300p Cambridge university press, London '33
- Management problems under the National recovery act. *Paper Tr J* 97:32-3 Jl 13 '33
- What are the costs and how will they affect equipment sales? D. Blanchard. *Automotive Ind* 69:31-2+ Jl 8 '33
- What constitutes below-cost selling? A. Andersen. *Credit & Fin Management* 35:14-16 N '33

*See also*

- |                 |              |
|-----------------|--------------|
| Cost accounting | Mining costs |
| Cost of living  | Power cost   |
| Factory costs   | Prices       |
| Foundry costs   | Sales costs  |
| Labor cost      |              |

*also* subdivision **Cost and Costs** under special subjects, e.g. **Building—Cost**; **Railroads—Costs**

**COST accounting**

- Accounting for wood-pulp paper industry. C. H. Aveyard. *J Account* 55:171-87 Mr '33
- Allocation of costs of natural gas production and pipe line companies. R. A. Ransom. *Am Gas Assn Mo* 15:368-71+ S '33
- Bankers and the NRA; the credit problems of bankers will be simplified by the regulatory measures of the new codes. R. F. Sales. *Bankers M* 127:351-4 O '33
- Before a price fixing spree, what about our costs? a macaroni man protests. E. J. McLuckie. *Food Ind* 5:258 Jl '33
- Break-even chart. H. R. Mallory. *Mech Eng* 55:493-6+ Ag '33

- Common fallacies about the average cost of distributing power. H. W. Reed. *Pub Util* 12:516-23, 567-76 O 26-N 9 '33
- Le contrôle permanent des prix de revient en temps de crise. J. Boissonnet. *Génie Civil* 102:325-7 Ap 8 '33
- Cost accounting. C. Reittel. 441p International textbook co, Scranton, Pa. '33
- Cost accounting; A.P. & V.M.A. report. *Oil Paint & Drug Rep Extra ed* 122:34-5 N 29 '32
- Cost accounting and the chemical engineer. A. G. Peterkin and H. W. Jones. *Chem & Met Eng* 40:86-8, 133-5 F-Mr '33
- Cost-accounting short cut; Jewel tea company. *Management Methods* 62:116-17 Mr '33
- Cost-accounting short cut; Stewart Warner corporation. *Management Methods* 62:14 Ja '33
- Cost accounts for dyers and finishers. J. R. Blyth. *Soc Dyers & Col J* 49:127-32; Discussion. 132 My '33
- Cost-finding system at Minneapolis knitting works. V. J. Gregory. *il Textile World* 83: 60-1 Ja '33
- Cost finding to assure profits. C. H. Hatch. *Am Mach* 77:549-51, 594-6, 625-8, 656-9, 689-92, 716-19 Ag 30-N 8 '33
- Cost records simplified; Ray Burner company. *il System* 62:454 O '33
- Cost reports for a news print company. H. E. Tucker. *Paper Tr J* 95:37-41 D 1 '32
- Costing for molding. G. K. Scribner. *Plastic Prod* 9:229-30 Ag '33
- Costing in the chemical industry; extracting useful facts from the available plant data. L. Staniforth. *Chem Age (Lond)* 28:133-4 F 18 '33
- Decreased production and scientific management make profit possibilities; the break even chart. J. Geschelin. *Automotive Ind* 69:208-11 Ag 19 '33
- Determining unit plating costs. G. P. Pearce. *Factory Management* 91:290+ Jl '33
- Do production costs mean anything in a year like this? S. E. Honey. *Rock Prod* 35:60-2 D 31 '32
- Economic characteristics of the manufacturing industries. W. Rautenstrauch. *Mech Eng* 54:759-70 N '32; Discussion. 55:324-6, 516-17 My, Ag '33
- Electrical trade costing. S. H. Withey. *Electrician* 109:449, 634, 837; 110:216, 353, 589 O 7, N 18, D 30 '32, F 17, Mr 17, My 5 '33
- Electricity supply costing. H. Southall. *Elec R (Lond)* 113:323 S 8 '33
- Fundamentals of yields in cost accounting for refined products. H. T. Zimmerman. *Nat Pet* N 25:27-8+ F 8; 31-2+ F 15 '33
- How to control profits while reducing sales costs. S. A. Weart. *Ptr Ink Mo* 27:22-3 N '33
- Interest during construction. L. D. Blum. *Am Water Works Assn J* 24:1970-5 D '32
- Lease rentals and well drilling of natural-gas companies. W. A. Clader. *J Account* 55:30-5 Ja '33
- Marketing costs; a method of allocating to individual commodities. F. M. Surface. *Taylor Soc Bul* 18:2-5 F '33
- Model water department cost accounting system. *il Pub Works* 64:37+ F '33
- Moulding inquiries and how to meet them; the preparation of estimates. A. G. Snell. *Chem Age (Lond)* 28:286 Ap 1 '33
- Normal costs a necessity; simplified method to correct plant inefficiency. A. D. Robison. *Am Dyestuff Rep* 22:6-8 Ja 2 '33
- Optional discount. L. G. Peloubet. *J Account* 55:97-100 F '33; Same. *Credit & Fin Management* 35:34-5 Mr '33
- Price leveling meets three big obstacles; lack of uniformity in cost accounting, management methods, equipment modernization. F. Juraschek. *Iron Age* 132:30-1 N 2 '33
- Profits from cost analysis in paint distribution. S. L. Kedzierski. *diags U S Bur For & Dom Com Domestic Commerce Ser* 79:1-21 '32
- Profits through classified costs. J. L. Carter. *Foundry* 61:40+ Je '33
- Rational scheme for computing motor costs. E. Ballman. *Elec W* 102:367-8 S 16 '33

**COST accounting—Continued**

- Segregation of water power costs. W. S. McCrea, jr. Elec Eng 52:313-18 My '33
- Significance of standard costs in industrial undertakings. W. W. Neumayer. Int Management Inst Bul 7:133-40 S '33
- Standard costs on the instalment plan. W. V. Lindblom. Iron Age 131:580-1+ Ap 13 '33
- Uniform cost accounting is sought as aid toward stabilization in petroleum industry. Nat Pet N 25:25-6 Mr 15 '33
- Uniform cost activities in trade and industry. 46p [bibliog p44-5] Policyholders service bureau, Metropolitan life insurance co. New York '33
- What constitutes below-cost selling? A. Andersen. Credit & Fin Management 35:14-16 N '33
- Why advertising is not a part of the processing cost. R. P. Harper. Ptr Ink 164:68-70 Ag 31 '33

**See also**

- |                           |                        |
|---------------------------|------------------------|
| Accounting                | Overhead expense       |
| Budget, Business          | Payrolls               |
| Depreciation              | Power cost—Accounting  |
| Labor cost—Accounting     | Sales costs—Accounting |
| Machinery, Replacement of |                        |

**COST of living**

- Cost of living in the United States and in foreign countries. Monthly Labor R 36:439-42; 37:466-9 F, Ag '33
- Cost of living; United States, England, France, Germany. Published in monthly numbers of Federal reserve bulletin
- Distribution of expenditures and a cost of living index for a professional group. A. E. Chandler. diags Ohio State Univ Bur of Business Research Special Bul 37:1-19 '32
- Index numbers of the cost of living and retail prices. Int Labour R 27:96-8 Ja '33
- International cost-of-living inquiry. H. S. Hanna. Ann Am Acad 166:162-7 Mr '33
- International inquiry into costs of living; a comparative study of workers' living costs in Detroit and fourteen European cities. L. Magnusson. Am Statis Assn J 28:123-38 Je '33
- Problem of the representative budget in a cost of living index. B. D. Mudgett. Am Statis Assn J 28:sup26-32 Mr '33
- What the machine has done to us. W. S. Giele. Iron Age 131:389-91+ Mr 9 '33

**See also**

- Budget, Household
- Prices
- Saving

**Statistics**

- Cost of the basket of provisions or cost-of-living coefficients (for foodstuffs) in different towns in October 1932: tabulation. Int Labour R 28:283-4 Ag '33
- Index numbers of the cost of living and retail prices; with sources and notes. Int Labour R 27:96-8, 539-57; 28:88-91, 561-4 Ja, Ap, Jl, O '33
- International statistics of rents in certain towns in 1932. tables Int Labour R 28:248-64 Ag '33
- Scales for measuring the standard of living. E. G. Tough and E. L. Kirkpatrick. Am Statis Assn J 28:55-63 Mr '33

**California**

- How Mexicans earn and live. (Cost of living studies, V) Univ of Calif Pub in Economics v 13, no 1:1-114 '33

**Canada**

- Changes in cost of Canadian family budget, 1922 to 1932. Monthly Labor R 36:965-6 Ap '33

**China**

- Wages and cost of living of laborers in various Chinese cities, 1930. Monthly Labor R 36:181-2 Ja '33

**France**

- New indexes of cost of living in France. Monthly Labor R 35:1216 N '32

**Netherlands**

- Family budget survey in the Netherlands. Monthly Labor R 36:1204-5 My '33

**Peking**

- How Chinese families live in Peiping. S. D. Gamble. 348p [bibliog p338-41] \$3 Funk & Wagnalls co, New York '33

**San Francisco**

- Quantity and cost budgets for family of an executive; family of a clerk; family of a wage earner; dependent families or children. 58p Univ. of California, Berkeley '33
- Typical family budgets of executive, clerk, and wage earner, in San Francisco, 1932. Monthly Labor R 37:470-1 Ag '33

**United States**

- Changes in cost of living in the United States. Monthly Labor R 36:429-39 F '33
- Changes in cost of living in the United States, June 1933. Monthly Labor R 37:455-66 Ag '33
- Prices of the things we must buy are dropping, but the rate of decline on some items—notably food—is slowing up. Business Week p16 F 1 '33
- Purchasing power of the dollar, monthly, 1913-1932. Survey of Cur Business 13:18 Ag '33
- Real wages under laissez-faire; what a new index of retail prices covering 142 years shows. R. F. Tucker. Barron's 13:6-7 O 23 '33
- Salaries and the cost of living in twenty-seven state universities and colleges, 1913-1932. V. Boothe. 158p Ohio state univ. press, Columbus '32
- Teachers' salaries and the cost of living. W. C. Eells. 94p Stanford univ. press, Stanford University, Calif. '33

**Virginia**

- Living standards in a village of Crozet, Va. Monthly Labor R 35:1212-15 N '32

- COST-plus contracts.** See Contracts, Letting of

**COSTELLO, Joseph**

- Star salesmen the depression couldn't lick. por Sales Management 33:318, 320 O 1 '33

**COSTS (law)**

- Costs, fees, and expenses in litigation. K. Dayton. Ann Am Acad 167:32-51 My '33

**COSTUME**

- Modes and manners. v2, The sixteenth century. M. Von Boehn. 290p \$4 Lippincott '33

**See also**

- Fashion drawing

**History**

- Elegant woman, from the rococo period to modern times. G. Aretz. 314p [bibliog p303-5] \$5 '32 Harcourt

**COTTAGES**

- Are you getting anything but dust from tourists? B. L. Johnson. il Am Bld 55:62-4 My '33

- Cypress cottage proves rustic charm; Century of progress exposition. il plans Am Bld 55:38-9 Je '33

- Farm group at Summer Hill, near Stamford, Connecticut; views and plans of stable group and gardener's cottage. Am Arch 143: 51-4 Ja '33

- Summer colony developments. R. C. Kilborn. il maps plans Am Arch 143:69-80 Jl '33

**See also**

- Country houses
- Log cabins

**COTTER pins**

- Draft-key retainers with self-locking cotter. il diag Ry Mech Eng 107:3 Ja '33

**COTTON**

- Action of potassium permanganate solutions of graded hydrogen ion concentration on cotton cellulose. C. Dorée and A. C. Healey. Soc Dyers & Col J 49:290-5 S '33



**COTTON—Continued**

Cotton, and the dye chemist. W. S. Calcott. *il* Textile Col 55:165-8 Mr '33; Same *abr.* Chemicals 38:12 Mr 20 '33  
 Cotton as a legal tender. T. H. Price. *il* Comm & Fin 22:526 Je 14 '33  
 Cotton, the universal fiber. W. D. Darby. 63p Dry goods economist, New York '32  
 Formaldehyde in the treatment of textile materials. A. J. Hall. *Am Dyestuff Rep* 22:379-81, 399-401 Je 19 '33

Oxycellulose and hydrocellulose; their detection, properties, and probable differences in constitution. H. A. Thomas. *Soc Chem Ind J* 52:79T-86T Mr 31 '33; Same. *Am Dyestuff Rep* 22:355-6, 371-7 Je 5 '33

Retention of glycerol and glycols by cellophane and cotton cellulose. R. S. Shutt and E. Mack, jr. *bibliog diag Ind & Eng Chem* 25:687-92 Je '33

Sorption of sodium hydroxide on cellulose and wood. R. Richardson and O. Maass. *J Phys Chem* 36:3064-73 D '32

Sorption of vapors on wood and cellulose. N. H. Grace and O. Maass. *diag J Phys Chem* 36:3046-63 D '32

Viscosity of cellulose acetate solutions. T. E. Ellison. *Soc Chem Ind J (Chem & Ind)* 52:134-6 F 17 '33

X-ray method for quantitative comparison of crystallite orientation in cellulose fibers. W. A. Sisson and G. L. Clark. *bibliog il Ind & Eng Chem Anal ed* 5:296-300 S 15 '33

*See also*

Bleaching—Cotton	Cotton trade
Cellulose	Cottonseed
Cotton fabrics	Dyes and dyeing—
Cotton fibers	Cotton
Cotton mills	

**Analysis**

Analysis of cotton and viscose rayon mixtures. B. P. Ridge and K. Turner. *Soc Chem Ind J* 52:86T-8T Mr 31 '33

Analysis of sized cotton; the determination of zinc and magnesium, and some qualitative tests. A. Geake. *Textile Inst J* 23:T279-92 N '32; Abstract. *Soc Dyers & Col J* 49:65-6 F '33

Detection of heavy metals and traces of impurities in cotton fabrics. H. M. Chase. *Am Dyestuff Rep* 22:75-81 Ja 30 '33

Influence of ash constituents on the electrical conduction of cotton. A. C. Walker and M. H. Quell. *Textile Inst J* 24:T123-30 Mr '33

Naturally-occurring ash constituents of cotton; distribution of ash constituents as salts and changes resulting from washing in aqueous solutions. A. C. Walker and M. H. Quell. *diags Textile Inst J* 24:T131-44 [*bibliog pT139*] Mr '33

**Color**

Colorimeter and method employed in the color testing of cotton. D. Nickerson. *diag Am Soc T M Proc* 32 pt 2:775-7 '32

**Diseases and pests**

Le soufre en agriculture. E. Pozzi-Escot. *Chimie & Ind* 30:533-4 S '33

**Immunized cotton**

Über niedrig acetylierte faserzellulosen. A. Rheiner. *il Angew Chemie* 46:675-81 O 28 '33

**Moisture content**

Effect of atmospheric humidity and temperature on the relation between moisture content and electrical conductivity of cotton. A. C. Walker. *bibliog Textile Inst J* 24:T145-60 Ap '33

**Prices**

Inflate now, cotton leaders demand. *Comm & Fin* 22:824 S 20 '33  
 New York cotton futures, 1932. *Annalist* 41:98 Ja 20 '33

**Statistics**

King cotton takes the spot. *Bradstreet's* 60:1514 N 19 '32  
 1933 cotton crop estimate—12,191,000 bales. *Comm & Fin* 22:827-30 S 20 '33

**Testing**

Colorimeter and method employed in the color testing of cotton. D. Nickerson. *diag Am Soc T M Proc* 32 pt 2:775-7 '32  
 Stapling of cottons; use of a standard sheet for recording the results for the combined stapling test. A. W. Bayes. *Textile Inst J* 24:T90-7 F '33  
 Test for extent of chemical damage in cotton. *Textile Col* 55:749 N '33

**Uses**

Cameron-Dockery proposal for utilization of the whole cotton plant as a source of cellulose for papermaking. H. R. Murdock. *bibliog Paper Tr J* 96:41-2 Ap 6 '33

Cellulose specifications; preparation and uses of commercial grades of chemical cotton. L. Kitchel. *il Chem Markets* 32:499-503 Je '33

Cotton industry creates new outlets to supplement old markets. G. A. Sloan. *il Bradstreet's* 61:188-91 Ja 28 '33

Cotton mats for curing concrete. *il diags Pub Roads* 14:73-80+ Jl '33; Excerpts. *Concrete* 41:9 S '33

*See also*

Cotton, Insulating  
 Cotton fabrics—Uses

**Bibliography**

Uses for cotton. M. C. Benton, comp. (*Agricultural economics bibliography no 44*) 43p U. S. Dept. Agric, Bur of agricultural economics '32 (typew)

**Texas**

Texas cotton; types of fiber from new source in South Plains. C. D. Brandt. *il Textile World* 83:1258 Jl '33

**United States**

Birth control in cotton. *Econostat* 1:5-6 Je 24 '33

Capacity of government to direct business. W. H. Harris. *Comm & Fin* 22:850 S 27 '33

Cotton. *il map Fortune* 7:22-9+ Je '33

Cotton acreage reduction favored. *Comm & Fin* 22:499 Je 7 '33

Cotton acreage reduction progress. *Comm & Fin* 22:620-1 Jl 12 '33

Cotton and the farm relief program. P. Wooton. *Textile World* 83:1286 Jl '33

Cotton control program for two years ahead is mapped. *Textile World* 83:1803 O '33

Cotton crisis; threat of huge cotton crop alarms Wallace, who turns to land leasing as a solution. *Business Week* p23 My 31 '33

Cotton joker; ideal growing conditions produce bumper cotton crop on reduced acreage. *Business Week* p22-3 Ag 12 '33

Cotton quandary; demand for crop restriction to protect prices. *Business Week* p9 Je 10 '33

Cotton's new deal; large acreage reduction probable. *Comm & Fin* 22:555-6 Je 28 '33

Retrospect of American cotton, 1932-1933, and prospects for the new season. C. Geller. *Comm & Fin* 22:821+ S 20 '33

Revised acreage and yield figures, 1866-1931. *Comm & Fin* 22:449 My 17 '33

**COTTON, Effect of alkalis on**

Tendered cellulose fibers and alkali treatments; effects of alkalis on overbleached cotton and rayon materials. *Textile Col* 55:232-3+ Ap '33

**COTTON, Insulating**

Influence of ash constituents on the electrical conduction of cotton. A. C. Walker and M. H. Quell. *Textile Inst J* 24:T123-30 Mr '33  
 Insulations; varnished sheets, tapes, sleeveings, etc. H. Warren. *Electrician* 110:184-6 F 10 '33

**COTTON bags**

Better bales; cotton spinners of 20 nations propose to penalize the use of jute. *Business Week* p6 D 14 '32

Salesman's wife helps produce advertising idea; sugar refiner suggests uses for cotton bags. R. Crothers. *il Ptr Ink* 163:27-8 Je 29 '33

**COTTON bags—Continued**

You sold chemises, not flour! W. T. Laing.  
Ptr Ink 164:64+ Ag 10 '33

**COTTON baling**

American cotton fires at Shanghai stir underwriters; poor baling. East Underw 33:1+ D 30 '32

Better bales; cotton spinners of 20 nations propose to penalize the use of jute. Business Week p6 D 14 '32

**COTTON boll weevil.** See Boll weevil

**COTTON carding**

Effects of different taker-in speeds on card wastes, sliver, and yarn. H. Spibey. diags Textile Inst J 23:T183-94 S '32; Abstract. Textile World 82:1166-7 D '32

Licker-in speed; some factors and a formula. C. A. Weston. Textile World 83:1820 O '33

Rate of cotton absorption by card cylinder wire, and its effects on sliver and wastes. H. Spibey. Textile Inst J 24:T212-20 My '33

**COTTON exchanges**

See also

New Orleans cotton New York cotton exchange exchange

**COTTON fabrics**

Cellophane cloth. Business Week p25 My 17 '33

Cellophane-faced fabrics open new markets to textiles. il Textile World 83:927 My '33

Cotton cloth can be wool-finished. W. Elsaesser. il Melland 4:613-14 Ja '33; Abstract. Business Week p 17 N 23 '32

Cotton cloth production, etc; cotton consumed, on hand, etc; monthly, 1930-1932. Annalist 41:154 Ja 20 '33

Defects in weaving of cotton fabrics. W. Markham. il Melland 5:92-4 Je-Jl '33

Finishing of cotton lace fabrics. G. Rice. diag Textile Col 55:631+ S '33

Handbag fabrics. T. Nelson. il Textile World 82:1163 D '32

New draperies offer outlets for cotton dress goods. il Textile World 83:917 My '33

New entries lend interest to summer suitings. il Textile World 83:568-9 Mr '33

Safety cloth; fireproof cotton fabrics. il Arch Rec 73:305 Ap '33

Shrinkage of cotton and linen woven materials. G. H. Johnson. Am Dyestuff Rep 22:561-4+, 591-2, 619-21 S 25-O 9 '33

Some faults in finished fabrics. P. Bean. pls Textile Inst J 24:P194-201; Discussion. P202-3 Ag '33

Some of the big problems of the textile trade. H. D. Martin. Textile Col 55:410-11 Je '33

Specializing the colored goods mill product. H. D. Martin. Textile Col 55:178+ Mr '33

Women's cotton suitings. T. R. Hart. il Textile World 83:747 Ap '33

See also

Calico printing	Dyes and dyeing—
Cotton, Insulating	Cotton
Cotton finishing	Fabrikoid
Duck (textile)	Sheets
	Ticking

**Analysis**

Detection of heavy metals and traces of impurities in cotton fabrics. H. M. Chase. Am Dyestuff Rep 22:75-81 Ja 30 '33

**Creasing**

Coming; creaseless textiles. Plastics 8:417+ N '32; Abstract. Mech Eng 55:261-2 Ap '33

Pacific and Sayles now producing anti-crease fabrics. il Textile World 83:742 Ap '33

Synthetic resins and anti-crease cellulosic materials. E. Clayton. Soc Dyers & Col J 48:295-8 N '32

**Uses**

Anti-tarnish cloth; patents and tests. T. C. Coté. diag Textile Col 55:316-18 My '33

Cotton cloth stationery. Sci Am 148:107 F '33

Cotton fabric reinforcement of road surfacing. il Roads & Sts 76:235 Je '33

Muslin in the movies; fabric walls bring acoustic perfection to Hollywood sets. A. B. Laing. il Textile World 83:1252-3 Jl '33

New applications of cotton. il Arch Rec 73:304-5 Ap '33

Silver protecting cloth. Sci Am 149:78-9 Ag '33

**COTTON fabrics, Effect of light on**

Effect of sunlight and other factors on the strength and color of cotton fabrics. Textile Col 55:417 Je '33

**COTTON fibers**

Cotton hair; effect of maturity on properties. Textile Inst J 24:A58-9 Ja '33

Deconvolution of cotton hairs as a test of the mercerisation process. M. A. Calvert and D. A. Clibbens. diags Textile Inst J 24:T233-54 Je '33

Growth and character of cotton. H. A. Harris. Textile Col 55:394 Je '33

Measurement of fibre and yarn diameters by diffraction method. J. A. Matthew. Textile Inst J 24:T54-6 Ja '33

Neuere untersuchungen auf dem gebiete der cellulosefasern. W. Weltzien. Angew Chemie 46:167-8 Mr 18 '33

Recent developments relating to surface properties of cellulose fibers; report of Faraday Society meeting. H. DeW. Smith. bibliog Am Dyestuff Rep 22:515-18+ Ag 28 '33

Support government's fiber research, committee D-13 advised; abstract. R. W. Webb. Textile World 83:928, 929 My '33

Suter-Webb cotton fiber duplex sorter and the resulting method of length-variability measurements. R. W. Webb. il Am Soc T M Proc 32 pt 2:764-71; Discussion. 772-4 '32

Theories of cotton structure. Am Dyestuff Rep 22:299-300 My 8 '33

**Testing**

Test for chemically damaged cotton fibres. J. W. Lewis. pl Textile Inst J 24:T122 Mr '33; Same, without pl. Textile Col 55:445 Jl '33

**COTTON finishing**

Coming; creaseless textiles. Plastics 8:417+ N '32

Cotton cloth can be wool-finished. W. Elsaesser. il Melland 4:613-14 Ja '33; Abstract. Business Week p 17 N 23 '32

Face-to-face starching. M. W. Alling. diags Textile World 83:232-3 F 14 '33

Fast-to-washing fillings for cotton and other fabrics. Textile Col 55:346 My '33

Finishing of cotton lace fabrics. G. Rice. diag Textile Col 55:631+ S '33

pH control in bleaching and finishing cotton. C. E. Mullin. Textile Col 55:81-4+ F '33

Kier boiling, peroxide and sodium hypochlorite bleaching, and anti-chloring cellulose fabrics. M. W. Alling. il Am Dyestuff Rep 22:544-6+ S 11 '33

Monopole soap in the finishing of cotton linings and ordinary cotton cloth generally. Textile Col 55:482 Jl '33

Practical ideas in processing cotton, rayon, silk, and linen piece goods. A. C. Estey. Textile Col 55:171-3 Mr '33

Sanding, singeing, wetting and steeping cellulose fabrics. M. W. Alling. il diags Am Dyestuff Rep 22:485-8+ Ag 14 '33

Synthetic resins and anti-crease cellulosic materials. E. Clayton. Soc Dyers & Col J 48:295-8 N '32

Technical control in cotton cloth finishing. M. M. Charap. Melland 5:49-51 My '33

See also

Cotton fabrics  
Cotton sizing  
Mercerizing

**Cost**

Rehandling costs of cotton piece goods. J. A. Clark. Am Dyestuff Rep 22:88-91 Ja 30 '33

**COTTON linters**

Cellulose specifications; preparation and uses of commercial grades of chemical cotton. L. Kitchel. il Chem Markets 32:499-503 Je '33

Chemical delinting of cottonseed and industrial utilization of the lint. B. T. Ardashev. bibliog diag Ind & Eng Chem 25:575-81 My '33



**COTTON linters—Continued**

Cottonseed crushers' claims against government are expedited. Oil Paint & Drug Rep 122:17 D 5 '32

**COTTON machinery**

Improving the operation of slashers. H. D. Martin. Textile Col 55:770 N '33

Rayon on cotton machines; desirable modifications easily made in spoolers and warpers. A. I. Metart. Textile World 83:1257 J1 '33

Staple rayon spun successfully on cotton machinery. A. E. Oxley. il Textile World 83:44-5 Ja '33

Suter-Webb cotton fiber duplex sorter and the resulting method of length-variability measurements. R. W. Webb. il Am Soc T M Proc 32 pt 2:764-71; Discussion. 772-4 '32

See also

Looms  
Spinning machinery  
Textile machinery

**Manufacture**

Cotton textile machine industry—American loom builders. J. T. Lincoln. Harvard Business R 12:94-105 O '33

**COTTON manufacture**

Cotton-mill efficiency benefits from better methods and equipment. R. C. Maultsby. il Textile World 83:408-9 F 28 '33

Place of technical men in the textile industry. H. H. Willis. Am Dyestuff Rep 22:207-10 Mr 27 '33; Same. Melliand 4:705-7 Mr '33

Selecting cotton among topics discussed by North Carolina-Virginia division of the Southern textile association. Textile World 83:62-3 Ja '33

Slashing and weaving problems discussed by Georgia operating executives. Textile World 83:1812-13 O '33

Textile dyeing, bleaching and finishing. W. Woosnam. Comm & Fin 22:73-4+ Ja 11 '33

Variable-speed spinning among topics discussed by Textile operating executives of Georgia. il Textile World 83:748-9 Ap '33

See also

Cotton carding	Cotton spinning
Cotton finishing	Cotton waste
Cotton machinery	Cotton weaving
Cotton mills	Cotton yarn
Cotton sizing	

**Russia**

Comparison of a modern U.S.S.R. kiering and bleaching process with the usual western methods. A. J. Hall. Am Dyestuff Rep 22:1-4 Ja 2 '33

**COTTON mats**

Cotton mats for curing concrete. il diags Pub Roads 14:73-80+ J1 '33; Excerpts. Concrete 41:9 S '33

**COTTON mills**

Cannon. il Fortune 8:50-3+ N '33

Code operation may solve problem of mill village. Textile World 83:1428 Ag '33

Efficient layout insures smooth flow of goods through Spartan Mills' cloth room. il plan Textile World 83:572-3 Mr '33

Textile dyeing, bleaching and finishing. W. Woosnam. Comm & Fin 22:73-4+ Ja 11 '33

See also

Cotton manufacture  
Electric driving—  
Cotton mills

**Costs**

Power transmission in the cotton textile industry. V. A. Hanson. il Melliand 5:193-6, 233-6 O-N '33

**Electric equipment**

Cotton mill change-over. G. T. Allcock. il Elec R (Lond) 112:695-7 My 19 '33

Group and unit drive combination effects savings. Textile World 83:934 My '33

Power transmission in the cotton textile industry. V. A. Hanson. il Melliand 5:193-6, 233-6 O-N '33

**Employees**

Attitude of cotton manufacturers toward shorter hours and higher wages. Monthly Labor R 35:1164-5 N '32

Community activities expanded by Avondale during depression years. il Textile World 83:588-9 Mr '33

End of more-ooms dispute in English cotton textile industry. Monthly Labor R 36:563-4 Mr '33

Health of workers in a textile plant. Pub Health Rep 48:1351-2 N 3 '33

Hours and wages in textile mills frankly criticized. W. C. Teagle. Textile World 82:1162 D '32

Industrial relations in a New England textile mill; the Pequot mills of the Naumkeag steam cotton company, Salem, Mass. G. A. Johnston. Int Labour R 27:471-98 Ap '33

Labor laws; New England, disturbed by the industry's lowering standards, warns she will have to meet competition. Business Week p6 D 7 '32

Lancashire cotton weavers' strike and terms of settlement. Monthly Labor R 35:1113-18 N '32

Mill village cost a burden on manufacturers in southern states. Textile World 83:1804 O '33

Moratorium on Massachusetts labor restrictions proposed to meet competition. H. P. Kendall. Textile World 82:1157 D '32

Night work; cotton manufacturers find a way to save a principle in the face of discouraging defections. Business Week p8 N 23 '32

Night-work policy re-affirmed by Institute but responsibility decentralized. il Textile World 82:1147 D '32

Outbreak of dermatitis in cotton mills due to varnish. L. Schwartz and C. L. Pool. J Ind Hygiene 15:214-25 J1 '33; Abstract. Nat Safety N 28:44 S '33

Wage readjustments create new difficulties in setting parities. Textile World 83:1273 J1 '33

See also

Cotton spinners

**Equipment**

Costs reduced by \$500,000 program at Avondale mills. il Textile World 83:432-3 F 28 '33

Cotton-mill efficiency benefits from better methods and equipment. R. C. Maultsby. il Textile World 83:408-9 F 28 '33

Portable cloth scray. H. H. Iler. il Textile World 83:1265 J1 '33

See also

Cotton machinery

**Heating and ventilation**

Modernized humidification will aid textile mills in maintaining profits. G. Fuller. Heating-Piping 5:394-6 Ag '33

Napping-room air; re-circulation system installed by Pepperell. F. A. Westbrook. il Textile World 83:1821 O '33

**Management**

Budgeting production effects material savings in costs. E. N. Hood. il Textile World 83:386-7 F 28 '33

NACM opposes lifting limits on machine hours. Textile World 83:1798 O '33

Peculiar happenings of the textile industry. H. D. Martin. Textile Col 55:555-7 Ag '33

Technocracy and its relation to cotton manufacturing. H. D. Martin. Textile Col 55:340-1 My '33

Weave room end breakage. Melliand 5:22-4 Ap '33

**Records**

We see what's wrong; graphic records for production control. E. Szepesi. Textile World 83:1438 Ag '33

**COTTON oiling**

New possibilities in the lubrication of textile fibers. C. B. Ordway. Am Dyestuff Rep 22:638-40 O 23 '33

**COTTON research**

Effects of different taker-in speeds on card wastes, sliver, and yarn. H. Spibey. *diags Textile Inst J* 23:T183-94 S '32; Abstract. *Textile World* 82:1166-7 D '32  
 Mercerization of cotton for strength. J. B. Wilkie. *il Am Dyestuff Rep* 22:217-25 Mr 27 '33

**COTTON root rot**

Persistent strands of the root-rot fungus in Texas. H. C. McNamara, R. E. Wester and K. C. Gunn. *Science* 77:510-11 My 26 '33

**COTTON sizing**

Chemical and physical properties of sweet potato starch. F. H. Thurber. *bibliog il Ind & Eng Chem* 25:565-8 My '33  
 Improving the operation of slashers. H. D. Martin. *Textile Col* 55:770 N '33  
 Sizing and how it should be controlled; with reference to conditions in India. *Textile Col* 55:332-3 My '33

**Analysis**

Analysis of sized cotton; the determination of zinc and magnesium, and some qualitative tests. A. Geake. *Textile Inst J* 23:T279-92 N '32; Abstract. *Soc Dyers & Col J* 49:65-6 F '33

**COTTON spinners**

Lancashire cotton spinners' hours and wages. A. R. Thomson. *Monthly Labor R* 35:1414-15 D '32  
 Occupational cancer. *Int Labour R* 26:856-9 D '32

**COTTON spinning**

Break draft, a neglected detail of cotton spinning. A. K. Landau. *Textile World* 82:1169 D '32  
 Long draft in roving and single vs. double roving in spinning. J. L. Truslow. *il Textile World* 82:966-8 N '32  
 Spinning combed yarn with longer drafts. *Textile World* 83:1098 Je '33  
 Spinning instruments of scientific character enter the textile mill. E. J. Zalkind. *il Textile World* 83:1091 Je '33  
 Variable-speed spinning among topics discussed by Textile operating executives of Georgia. *il Textile World* 83:748-9 Ap '33

*See also*

Cotton yarn

**COTTON-textile institute, inc.**

Annual meeting, 7th, New York, Oct. 19. *Textile World* 82:956-7 N '32  
 Annual meeting, New York. *Comm & Fin* 22:931 O 25 '33  
 Cotton Institute wins association prize. *Forbes* 31:10 My 15 '33  
 Cotton-textile institute honored. *Textile World* 83:906 My '33

**COTTON trade**

Asks industry to become profit-minded. G. A. Sloan. *Textile World* 82:956-7 N '32  
 Cotton; a first-of-the-year view of the surplus, consumption, prices. I. V. Shannon. *Am Bankers Assn J* 25:30+ Ja '33  
 Cotton digest. Published in monthly numbers of *Textile world*

Federal legislation is theme-song of A.C.M.A. convention. *Textile World* 83:910-13 My '33

Improving prospects for commodities. C. S. Burton. *il Mag of Wall St* 51:620-3+ Ap 1 '33

Lost opportunity for profits deplored. K. P. Lewis. *Textile World* 82:1182 D '32

Merchandising of cotton textiles; methods and organization. M. T. Copeland and E. P. Learned. \$1.50 Division of research, Harvard business school, Cambridge '33; Review. *Textile World* 83:908-9 My '33

Some of the big problems of the textile trade. H. D. Martin. *Textile Col* 55:410-11 Je '33

*See also*

Cotton—Prices

Cotton yarn

Insurance, Cotton

**Finance**

Cotton textile shares. *Economist* 117:540-1 S 16 '33

**Statistics**

Cotton and cotton spindle activity, August 1931-July 1932. Survey of Cur Business 13:20 F '33

Cotton and the cotton market. Published in weekly numbers of Commerce and finance  
 Cotton cloth production, etc; cotton consumed, on hand, etc; monthly, 1930-1932. *Annalist* 41:154 Ja 20 '33

Cotton consumption. Published in weekly numbers of *Econostat*

Cotton industry, monthly, 1920-1932. Bradstreet's 61:192 Ja 28 '33

Cotton, 1932. *Economist* 116:sup43, 58 F 18 '33

Cotton production and distribution, season of 1931-32. 74p U S Bur of the Census *Bul* 169:1-74 '32

Cotton year book of the New York cotton exchange, 1932. 211p charts tables New York cotton exchange, New York '32

International cotton statistics. *Economist* 116:520 Mr 11 '33

International federation cotton statistics. *Comm & Fin* 22:299, 858 Mr 29, S 27 '33

Ten years of cotton textiles, 1923-1932. *Textile Col* 55:200 Mr '33

**Taxation**

Cotton textile manufacturers testify on tax. *Paper Tr J* 97:30 O 5 '33

Government aid simplifies payment of cotton tax. P. Wooton. *Textile World* 83:1430-1 Ag '33

Processing tax—is it the straw which breaks the camel's back? P. Wooton. *Textile World* 83:1619 S '33

**Great Britain**

Cotton textile shares. *Economist* 117:540-1 S 16 '33

**Japan**

Japanese 1932 cotton yarn and cloth. *Textile Col* 53:231 Ap '33

**Southern states**

Review of the South's cotton industry. B. B. Gossett. *Manuf Rec* 102:18-19 Ja '33

**United States**

Allotment plan for farm relief arouses opposition from manufacturers. *Textile World* 83:40-1 Ja '33

Analysis of the cotton industry. A. L. Jackson and J. Backman. *Dun & Bradstreet* 41:4-5 S '33

Code of fair competition for the cotton-textile industry; text. *Monthly Labor R* 37:265-72 Ag '33; *Textile Col* 55:530-1 Ag '33

Competitive questions soft-pedaled in approved textile code. C. B. Larrabee. *Ptr Ink* 164:21-4 Jl 13 '33

Cotton. *il map Fortune* 7:22-9+ Je '33

Cotton code; text and hearings. *Textile World* 83:1244-9; Editorial comment. 1243 Jl '33

Cotton coöperatives in the Southeast. W. Gee and E. A. Terry. 271p Appleton-Century '33

Cotton future; prices in the cotton market are depressed by poor consumption prospects. *Business Week* p16-17 N 23 '32

Cotton textile code approved; statement of President Roosevelt. *Comm & Fin* 22:623 Jl 12 '33

Cotton textile code of fair competition. *Dun & Bradstreet* 41:2-5 Jl '33

Cotton textiles; some factors tending toward a more stabilized industry. *Index* 13:28-31, 34-6 F '33

Cotton textiles under the code. *il Business Week* p9-10 S 2 '33

Defects seen in Smith cotton plan. *Barron's* 13:21 Ja 23 '33

Domestic allotment plan a fallacious remedy. R. M. Harriss. *Comm & Fin* 22:67 Ja 11 '33

Farm and labor bills. P. Wooton. *Textile World* 83:903 My '33

Fifty years in the textile industry. J. W. Arrington. *Comm & Fin* 22:825 S 20 '33

Future of cotton. A. H. Garside. *Comm & Fin* 22:25+ Ja 11 '33

How cotton leaders view the outlook. W. S. Dowdell and others. *Comm & Fin* 22:57+ Ja 11 '33



**COTTON trade—United States—Continued**

- How cotton trade leaders view the outlook. Comm & Fin 22:831-5 S 20 '33
- How relieve agriculture? R. M. Harriss. Comm & Fin 21:1436-7 D 14 '32
- Industrial snapshots; wool—silk—cotton. J. Backman and A. L. Jackson. Barron's 13:5 S 18; 6 N 6 '33
- Laying the cornerstone; hearings on the cotton textile code. Business Week p7-8 J1 1; 5-6 J1 8 '33
- National association of cotton manufacturers annual convention, Boston, Oct. 4. Textile World 83:1796-9 O '33
- New hope for cotton grower; Smith bill the most attractive of relief proposals. Bradstreet's 61:386-7 F 25 '33
- Recovery act gets under way; Cotton textile institute submits limited code. Ptr Ink 163: 5-6 Je 22 '33
- Recovery code for cottons discussed; hearing affords precedents for other groups. Oil Paint & Drug Rep 124:15+ J1 3 '33
- Red Cross cotton; how the 500,000 bales have been handled. G. S. Harris. Textile World 82:983 N '32
- Red Cross cotton; mills and garment manufacturers now satisfied that Congressional gifts do no harm to business. Business Week p4 Ja 4 '33
- Textile code ready for President. L. W. Moffett. Iron Age 132:44-6 J1 6 '33
- Textile code wins friends. Business Week p9-10 N 4 '33
- Textile industry's contribution to recovery. G. A. Sloan. Comm & Fin 22:631 J1 19 '33
- Textile leaders weigh their problems; Cotton textile institute annual meeting, New York. Comm & Fin 22:931 O 25 '33
- Trends in cotton textiles. E. N. Hood. Comm & Fin 22:68 Ja 11 '33
- Wagel cotton quota plan. S. R. Wagel. Comm & Fin 21:1433-5 D 14 '32
- What NRA means to cotton textiles. G. A. Sloan. Comm & Fin 22:837 S 20 '33
- What the Farm board did to cotton. W. Parker. il Nation's Business 21:40+ Mr '33

**National cotton week**

- Cotton week improves with age and sells goods. Textile World 83:907 My '33
- National cotton week, May 15-20. Melliand 5:67, 69 My '33
- Trade prepares for national cotton week. Comm & Fin 22:423+ My 10 '33

**COTTON washing**

- Naturally-occurring ash constituents of cotton; distribution of ash constituents as salts and changes resulting from washing in aqueous solutions. A. C. Walker and M. H. Quell. p139] Mr '33

**COTTON waste**

- Determination of artificial silk (viscose) in mixtures of artificial silk and cotton waste. P. McGregor and C. F. M. Fryd. Textile Inst J 24:T103-4 F '33; Same. Textile Col 55:339+ My '33

- How can the cotton rag industry best cooperate with the writing paper manufacturers in increasing the use of rag papers? H. R. Knott. Paper Tr J 97:17-18 Ag 17 '33

**COTTON weaving**

- Advice to weave room for improving operation of cotton looms. M. Meek. il Textile World 83:914-15 My '33
- Defects in weaving of cotton fabrics. W. Markham. il Melliand 5:92-4 Je-J1 '33
- Loom upkeep reduced by correct settings. M. Meek. Textile World 83:1090 Je '33
- Manufacture of cotton rubber-lined fire hose. H. R. Mauersberger. il diag Melliand 5: 157-9, 207-9 Ag-S-O '33
- Velveteen and corduroy; cotton constructions and some weaves suitable for silk. G. R. Robertshaw. il diags Textile World 83:1260-1 J1 '33
- Weave room drives. V. A. Hanson. il diags Melliand 5:233-6 N '33
- Weave room end breakage. Melliand 5:22-4 Ap '33

**COTTON workers****See also**

- Cotton mills—Employees
- Cotton spinners

**COTTON yarn**

- Examination of mercerised hosiery yarns. D. A. Clibbens and A. Geake. pls Textile Inst J 24:T255-72 Je '33
- Mercerization of cotton for strength. J. B. Wilkie. il Am Dyestuff Rep 22:217-25 Mr 27 '33
- Novelty yarns; nep and Himalaya on cotton system. A. Ouimet. Textile World 83:1429 Ag '33
- Periodic variations in hank processed yarn, and the patterns produced by them in stocking fabrics. D. A. Clibbens and A. Geake. pls Textile Inst J 24:T221-32 Je '33
- What about new products in yarns? il Textile World 83:1620-1 S '33

**See also**

- Cotton spinning

**Testing**

- Examination of a proposed relationship between the lea test and the single thread test results. V. Venkataraman and N. Ahmad. bibliog Textile Inst J 24:T35-43 Ja '33
- Spinning instruments of scientific character enter the textile mill. B. J. Zalkind. il Textile World 83:1091 Je '33
- Tensile strength and fluidity in cuprammonium hydroxide solution of chemically modified rayon and cotton yarns; oxidation by hypochlorite solutions. B. P. Ridge and H. Bowden. bibliog diag tables Textile Inst J 23:T319-66 D '32

**COTTONSEED**

- Chemical delinting of cottonseed and industrial utilization of the lint. B. T. Ardashev. bibliog diag Ind & Eng Chem 25:575-81 My '33
- Cottonseed code hearing develops needed changes. Oil Paint & Drug Rep 124:49 S 25 '33
- Cottonseed crushers lose F.T.C. code; Commission charges violations of antitrust law. Oil Paint & Drug Rep 123:17+ My 22 '33
- How and why we burn cotton-seed hulls. G. Hoffman. diag Power 77:462-3 S '33
- Probe of cottonseed finds practices have contravened the law. Chemicals 38:1, 9 My 29 '33

**Statistics**

- Cottonseed and cottonseed products, August 1931-July 1932. Survey of Cur Business 13:20 F '33
- Cottonseed, oil, cake, and meal. Published in weekly numbers of Oil, paint and drug reporter
- Cottonseed statistics; cottonseed received at mills; cottonseed products manufactured, shipped out and held; monthly data. Published in Oil, paint and drug reporter

**COTTONSEED meal**

- Estimation of gossypol in cottonseed meal. J. O. Halverson and F. H. Smith. Ind & Eng Chem Anal ed 5:29-33 Ja 15 '33
- Estimation of total and bound (D) gossypol in cottonseed meal; a modified method. F. H. Smith and J. O. Halverson. Ind & Eng Chem Anal ed 5:319-20 S 15 '33
- Relation of moisture to extraction of gossypol from cottonseed meal with ether. J. O. Halverson and F. H. Smith. Ind & Eng Chem Anal ed 5:320-2 S 15 '33
- Vitamin B(B<sub>1</sub>) and G(B<sub>2</sub>) content of cottonseed products. M. L. Whitsitt. bibliog Ind & Eng Chem 25:1169-71 O '33

**COTTONSEED oil**

- Cracking of cottonseed oil. G. Egloff and J. C. Morrell. Ind & Eng Chem 24:1426-7 D '32
- Gossypol in the technology of cottonseed oil. H. D. Royce and F. A. Lindsey, jr. bibliog il Ind & Eng Chem 25:1047-50 S '33
- Photochemical oxidation of cottonseed oil. G. R. Greenbank and G. E. Holt. Ind & Eng Chem 25:167-8 F '33

**COTTONSEED oil—Continued**

Shortening value of plastic fats. J. D. Fisher. Ind & Eng Chem 25:1171-3 O '33  
 Vitamin B(B<sub>1</sub>) and G(B<sub>2</sub>) content of cottonseed products. M. L. Whitsitt. bibliog Ind & Eng Chem 25:1169-71 O '33

**Manufacture**

Factors, and problems in conditioning, cooking and pressing cottonseed meats; abstracts. W. R. Woolrich and E. L. Carpenter. il diag Chem & Met Eng 40:291-2 Je '33; Food Ind 5:260-2 Jl '33

**Statistics**

Cottonseed, oil, cake, and meal. Published in weekly numbers of Oil, paint and drug reporter

**COUGH drops****Advertising**

Getting down to fundamentals; Luden's, inc. went back to the product itself. R. Dickinson. il Ptr Ink 162:25-7 Ja 12 '33  
 Smith brothers add A vitamin to product. Ptr Ink 164:89 S 14 '33

**COULOMETERS. See Voltmeters****COUMARANE. See Dihydrobenzofuran****COUNCILMAN, William Thomas, 1854-1933**

Sketch. H. Cushing. Science 77:613-18 Je 30 '33

**COUNTER display. See Display of merchandize****COUNTERBALANCES**

Pump outfits will operate better if equipped with properly designed counter-balances. Oil & Gas J 32:58 Je 22 '33

**COUNTERFEITS****See also**

Trade marks—  
 Counterfeiting

**COUNTING machines and devices**

Avery dual-ratio counting machine. il diag Engineering 135:244-5 Mr 3 '33  
 Mechanism for counting. il Chem Age (Lond) 27:580 D 17 '32  
 Photo-electric counter installed at the Forty-second street entrance of the central building of the New York public library. il Lib J 58:317 Ap 1 '33

**See also**

Drop counters

**COUNTRY banks. See Banks and banking—Country banks****COUNTRY clubs**

Municipal golf course, Brookline, Mass.; and Saxon Woods golf course, Westchester County park system, New York; views and plans. Arch Forum 59:220-1 S '33

**COUNTRY estates**

Farm group at Summer Hill, near Stamford, Connecticut; views and plans of stable group and gardener's cottage. Am Arch 143:51-4 Ja '33  
 For sale: ten estates. il Fortune 7:66-73, 92-3, 96 F '33

**COUNTRY houses**

Back to the land homes most popular in 1933 market. il plans Am Bld 55:14-17 My '33  
 Bedford, New York, remodeled frame farm house of Margaret Owen; views and plans. Am Arch 143:67-72 Mr '33  
 Country house room by room; a check list with suggestions. F. A. Pawley. il Arch Forum 58:194-204 Mr '33  
 Country houses by H. T. Lindeberg; views. Arch Rec 74:289-312 O '33  
 Design for living. K. K. Stowell. il plans Arch Forum 58:173-6 Mr '33  
 Eight country houses; views and plans. Arch Forum 58:209-24 Mr '33  
 Heating, air conditioning, lighting, sanitation, etc. il Arch Forum 58:235-52 Mr '33  
 How to supply the country home with modern city conveniences. il diags Am Bld 55:18-19 My '33  
 Ein landhaus; view and plans. Architecture 67:331 Je '33  
 New materials and methods in country house construction. R. W. Sherman. il Arch Forum 58:225-34 Mr '33

Portfolio of country houses. il plans Arch Rec 74:219-26 S '33  
 Six country houses; views and plans. Arch Forum 58:177-92 Mr '33  
 Southbridge, Mass. house of Richard Lennihan. il plans Architecture 68:157-60 S '33  
 Two country houses of Pennsylvania farm house type; views and plans. Arch Forum 58:485-8 Je '33

**COUNTRY life**

Flight from the city. R. Borsodi. 194p [bibliog p173-90] \$2.50 Harper '33  
 Membership relations in community organization. W. E. Garnett and others. Virginia Agric Exp Sta Bul 287:1-63 '32

**COUNTRY stores**

Farm market moves to town; but advertising must knock on the farmer's door. H. A. Haring. Adv & Sell 21:16-17+ O 26 '33  
 Main Street market; a mismanaged sales opportunity. M. Dana. il Adv & Sell 22:19+ N 9 '33  
 Memo for national brand manufacturers: watch the comeback of the general store. M. M. Zimmerman. il Sales Management 31:522-4+ D 15 '32  
 Passing of the country store. J. J. McCarthy. Ptr Ink 164:53-5 Jl 13 '33  
 Small town can't come back—it never went away. Ptr Ink 162:43-4 Mr 23 '33

**COUNTY bonds**

Protective committee surveys problems of Kentucky counties' bonded indebtedness. J. R. Lindsay. Ins Field (Life ed) 62:4 Jl 25; 4+ Ag 4; 4 Ag 11 '33

**COUNTY buildings**

Westchester county office building, White Plains, New York; views and plans. Arch Forum 59:175-7 S '33

**See also**

Courthouses

**COUNTY government**

Administrative county government in South Carolina. C. Andrews. 245p [bibliog p209-16] Univ. of North Carolina press, Chapel Hill '33  
 Administrative relationship of state and county. V. J. Brown. Roads & Sts 76:79-83 F '33  
 American county government. A. W. Bromage. 306p [bibliog p287-95] Sears pub. co, inc, New York '33  
 Costs of township and county government in Illinois. M. H. Hunter. map III U Bur of Business Research Bul 45:1-31 '33  
 County government. H. M. Rocca. 2d ed 58p [bibliog p51-8] pa 20c National league of women voters, 532 17th st, N. W. Washington, D.C. '32  
 County government and administration in Texas. W. C. Murphy. Texas U Bur of Research in the Social Sciences Study no 5: 1-334 [bibliog p322-7] '33  
 Organization and cost of county and township government. A. W. Bromage and T. H. Reed. 146p Detroit bur. of governmental research, inc, 936 First national bank bldg. '33

**COUNTY libraries. See Libraries, County****COUNTY planning**

County zoning for agriculture, forestry, and recreation in Wisconsin. W. A. Rowlands. maps J Land & Pub Util Econ 9:272-82 Ag '33

**COUNTY roads. See Roads, County****COUPLINGS**

Accouplements élastiques pour fortes variations de vitesse et de couple. il diags Génie Civil 102:236-7 Mr 11 '33  
 American standard shaft couplings; data sheet. diags Mach 39:696a Jl '33  
 Falk-Rawson 4-duty coupling. il Am Mach 77:514 Ag 2 '33; Iron Age 132:26 Jl 27 '33  
 Farrel-Birmingham new gear-type flexible couplings. il Iron Age 132:26 Ag 17 '33; Paper Tr J 97:42 S 21 '33  
 Flexible coupling permitting free endwise flotation. J. T. Towilson. diag Am Mach 76: 565-6 Ap 28 '32; Discussion. H. Shaw. 77: 13 Ja 4 '33



**COUPLINGS—Continued**

Gegenwartsfragen im bau von maschinen-  
teilen bewegliche verbindungen. E. Heide-  
brook. Zeit Ver Deutsch Ing 77:1168 O 28  
'33

Handling plant transmission; Vulcan Sin-  
clair coupling. il diag Mech Handling 20:  
34-6 Ja '33

Hydraulic variable-speed a.c. couplings. il  
diag Elec R (Lond) 111:705 N 11 '32

Standage resilient coupling. il diags Engineer  
155:51 Ja 13 '33

Théorie générale des joints de transmission  
de rotation à couples d'emboîtement. F. E.  
Myard. diags Génie Civil 102:345-9 Ap 15  
'33

Three-year test with 1,000 couplings; light-  
duty Fast's coupling. il diag Paper Tr J  
97:30 N 9 '33

Les transmissions de rotation à couples d'em-  
boîtement; application aux automobiles. F.  
E. Myard. diags Génie Civil 102:539-41 Je 10  
'33

Valve coupling for compressed air pipes. il  
Engineering 135:717 Je 30 '33

Verstellbare koppelkurventriebe für hubbewe-  
gungen mit einem stillstand. K. Rauh and  
O. Edler. diags Zeit Ver Deutsch Ing 77:  
478-80 My 6 '33

See also

Car couplings  
Clutches  
Joints

**COUPONS.** See Advertisements—Coupons**COURTAULDS**

Courtaulds' outlook. Economist 117:136 J1 15  
'33

Report. Economist 116:474 Mr 4 '33

**COURTESY**

Necessity for courtesy. A. Bradbury. Ptr Ink  
163:70-2+ My 25 '33

She knows why millions of customers stop  
buying; Joan Wing, doctor of courtesy. R.  
Arell. Sales Management 32:476+ My 1 '33

**COURTHOUSES**

District steam heats new Milwaukee county  
court house. H. C. Kimbrough. il Heat &  
Ven 30:28-9 Mr '33

Planning of public buildings; with views and  
plans. Arch Forum 59:165-74 S '33

St Paul city hall and Ramsey county court-  
house, St Paul, Minnesota; views and plans.  
Am Arch 143:35-46 J1 '33

United States postoffice and courthouse at  
Little Rock, Arkansas; drawings and plans.  
Arch Rec 74:84-6 Ag '33

**COURTS**

Administration of justice. R. Moley and S.  
C. Wallace, eds. Ann Am Acad 167:1-220 My  
'33

Federal courts and organized labor. J. F.  
Christ. J of Business 3:205-49, 341-75, 445-  
71; 4:194-210, 268-82; 5:47-75, 103-29, 283-300,  
380-99; 6:62-82, 157-70, 247-61 Ap-O '30, Ap-  
J1 '31, Ja '32-J1 '33

Hits advocates of limiting U.S. court power.  
G. W. Pepper. Nat Underw 36:29 D 15 '32

Politics and judicial administration. S. H.  
Perry. Ann Am Acad 169:75-85 S '33

**COVERLETS**

Employing modern looms to reproduce colo-  
nial coverlets. W. E. Shinn. il Textile World  
83:212-13 F 14 '33

Printing cotton bedspreads. Textile Col 55:  
471 J1 '33

**COVERS.** See Catalogs—Covers; House organs  
—Covers; Periodicals—Covers**COVERS of folders.** See Advertising, Mail—  
Folder covers**CRABBING machines**

Better crabbng results; eliminating costs  
and reducing faults in this operation. G. L.  
Atkinson. Textile Col 55:675-6+ O '33

**CRABS**

Occurrence of the paralytic shell-fish poison  
in the common sand crab. H. Sommer. Sci-  
ence 76:574-5 D 16 '32

**CRACCA virginiana**

Occurrence of rotenone and related compounds  
in the roots of cracca virginiana. E. P.  
Clark. Science 77:311-12 Mr 24 '33

**CRADLES (docks).** See Slipways**CRAFTSMANSHIP**

Craftsmanship in chemical stoneware. T. R.

Olive. il Chem & Met Eng 40:369-71 J1 '33

Study of the past; its uses and its dangers.  
A. N. Whitehead. Harvard Business R 11:  
436-44 J1 '33

**CRANBERRIES****Advertising**

Another national campaign for cranberries. il  
Ptr Ink 165:28 O 5 '33

Newspaper drive starts to move cranberry  
crop—profitably. il Sales Management 33:  
309 O 1 '33

**CRANBERRY sauce**

Cranberry jelly; how it is made. R. E. Cox.  
bibliog il Food Ind 5:348-9 S '33

**CRANBROOK academy of art, Bloomfield Hills,  
Michigan**

Cranbrook academy of art program. il Arch  
Rec 73:430-1, sup 17 Je '33

**CRANES, derricks, etc.**

Adamson and co.'s 25-ton overhead travel-  
ling crane. il Engineer 155:50 Ja 13 '33

Clarke, Chapman & co.'s combined winch and  
derrick. il Engineer 134:519 N 18 '32

Clarke Chapman level luffing cranes. il diag  
Mech Handling 19:417-18 D '32

Crane for the truck-shop. il Ry Mech Eng  
107:136-7 Ap '33

Crane scale indicates hoist capacity require-  
ments. W. C. Sutton. il Maintenance Eng  
90:461 D '32

Cranes for building moles. diags Mech  
Handling 20:77-8 Mr '33

Cupola charging cranes cut cost. M. H. Kid-  
der. il Blast F & Steel Pl 21:267-9 My '33

Dimensions, weights, and test and safe loads  
for wrought-iron crane chain; data sheet.  
Mach 39:632A Je '33

Gantry crane erects heavy stone columns;  
new building of the Mellon institute of in-  
dustrial research, in Pittsburgh. G. S.  
Merts. il diag Eng N 110:365-6 Mr 23 '33

Grues sur portique pour le chargement des  
minerais, au port de Nantes. il Génie Civil  
101:463 N 5 '32

Halbportal-wippdrehkrane von 3 t tragfähig-  
keit. J. Kahrmann. il diag Zeit Ver Deutsch  
Ing 77:1173-4 O 28 '33

Handling plant at a paper warehouse. il En-  
gineer 155:433 Ap 28 '33

Handling plant employed in gas desulphurisa-  
tion; operation by compressed-air motor. il  
diag Mech Handling 20:141-3 My '33

Iron load chains for hand-operated pulley  
blocks; British standard specifications.  
Mech Handling 19:411+ D '32

Laufkran für betriebsräume mit explosions-  
gefahr. F. Toussaint. diag Stahl & Eisen  
52:1251-2 D 15 '32

New coal handling plant at Gibraltar. il En-  
gineer 154:666 D 30 '32

Pneumatic travelling crane. il diags Engineer  
155:384 Ap 14 '33

75 t-wagendrehkran für aufgleisungsarbeiten.  
C. Bartel. il diags Zeit Ver Deutsch Ing  
77:1123-4 O 14 '33

Ship discharging at Gothenburg harbour. il  
Engineer 156:68 J1 21 '33; Same. Engineer-  
ing 135:687 Je 23 '33; Same. Mech Handling  
20:255-6 Ag '33

Sounding the coal pile from traveling crane.  
Power 76:317 D '32

Speed-torque curves—how they picture crane  
performance. A. A. Merrill. il diags Steel  
93:25-8 J1 31; 23-6 Ag 21; 27-30 S 4 '33

Stothert and Pitt 50-ton cantilever crane for  
launching and landing seaplanes. il Engi-  
neer 156:119 Ag 4 '33

Torsional stresses in a crane support. B. C.  
Jacob. Civil Eng 3:280-1 My '33

Tubular steel towers 52 ft. high carry stiff-  
leg derrick; stone-handling rig for erection  
of Pittsburgh church. C. P. Streithof. il  
diags Eng N 110:521-2 Ap 27 '33

**CRANES, derricks, etc.—Continued**

- Unusual equalizer for cranes. W. J. Tangerman. *diag Am Mach* 77:315 My 10 '33  
 Wippkran mit seilzugwaage. F. Riedig. *il diag Zeit Ver Deutsch Ing* 77:270 Mr 11 '33;  
 Abstract. *Mech Handling* 20:150 My '33  
 Wrecking cranes for the Cleveland union terminals co. and the New York Central railroad. H. L. Weinberg. *il diag Gen Elec R* 36:349-53 Ag '33

See also

Buckets

**Electric equipment**

- Babcock and Wilcox 80-ton electric level-luffing jib crane. *il diags Engineer* 156:339-41 O 6 '33; *Engineering* 136:383-5, 388 O 6 '33  
 Electric brakes for cranes. C. H. S. Tupholme. *Elec R (Lond)* 112:518-19 Ap 14 '33  
 Electrically operated mobile cranes; three methods of control. *il Elec R (Lond)* 113:116 Jl 28 '33  
 150-ton floating crane for Trieste. *il diags Engineering* 135:177-9, 180, 190, pl 9 F 17 '33  
 Seatrain bridge crane. W. C. Raube. *il Marine Eng* 38:326-9+ S '33  
 Speed-torque curves of a series motor. A. A. Merrill. *il diags Gen Elec R* 36:431-40 O '33  
 Tate 3-wheel mobile electric cable-fed crane. *Electrician* 109:693 N 25 '32

**Manufacture**

- Aluminum, the metal of the present and the future. *il Mach* 40:81-4 O '33

**Safety devices and measures**

- Brown and Aitken crane safe load indicator. *il diag Engineer* 154:597 D 9 '32  
 Wylie safe load indicator for cranes. *il diag Engineer* 155:176 F 17 '33

**CRANES, Floating**

- Cranes for building moles. *diags Mech Handling* 20:77-8 Mr '33  
 150-ton floating crane for Trieste. *il diags Engineering* 135:177-9, 180, 190, pl 9 F 17 '33  
 Ransomes and Rapier steam dredging crane. *il Engineering* 135:501 My 5 '33; *Engineer* 155:281 Mr 17 '33

**CRANIOMETRY**

- Cephalic-medular angle. *Science* 78:sup7 Jl 14 '33

**CRANKCASES**

- Crank-case cleaning spells profits. *il Pet Age* 27:20-1 Ja '33

**Manufacture**

- Inspection gauges used on radial engine crankcases. A. G. Lloyd. *diags Aviation Eng* 8:12-13 Ja '33  
 Welded steel used for Diesel engine structures. E. Chapman. *il Iron Age* 132:27-9+ Ag 24; 14-17 Ag 31 '33; Same. *Steel* 93:31-4 Ag 28; 25-7 S 11 '33; Same. *Marine R* 63:23-6 N; 19-21 D '33; Same cond. *Marine Eng* 38:330-3 S '33; Same cond. *Power* 77:479-81 S '33; Same cond. *Ry Age* 95:363-6 S 9 '33; Same cond. *Ry Mech Eng* 107:352-7 O '33; Abstract. *Automotive Ind* 69:362-5 S 23 '33

**CRANKPINS**

- Making and keeping crankpins square. F. H. Colvin. *il diag Am Mach* 75:819-20 N 26 '31; Discussion. 76:560-2, 827; 77:147 Ap 28, Jl 6 '32, Mr 1 '33

**CRANKSHAFTS**

- Are cast iron crankshafts coming on high speed engines? T. H. Wickenden. *il S A E J* 32:sup14-16 Je '33; Same. *Automobile Eng* 23:419-20 N '33  
 Crankshafts; a brief consideration of the influence of molybdenum. *Automobile Eng* 23:221 Je '33; Discussion. J. Vogel. 23:258 Jl '33  
 Der dauerbruchweg in kurbelwellen. A. Thum and H. Oschatz. *il diags Zeit Ver Deutsch Ing* 77:834 Jl 29 '33  
 Elastic hysteresis in crank-shaft steels. S. F. Dorey. *il Inst Mech Eng Proc* 123:479-510; Discussion. 511-35 '32

- Investigation of the mechanical breakdown of prime movers and boiler plant. L. W. Schuster. *il diag Engineering* 135:554-6 My 19 '33  
 Material for crankshafts; abstract. J. B. Fisher. *S A E J* 31:466 D '32

**Manufacture**

- Davis & Thompson crankshaft drilling machine. *il Am Mach* 77:93 F 1 '33  
 Drilling and tapping both ends of crankshafts at the rate of fifty per hour; National automatic tool co.'s hydraulic driller and lead-screw tapper. *il Mach* 39:647-8 Je '33  
 Modern motor methods; crankshafts. F. H. Colvin. *Am Mach* 77:144-5 Mr 1 '33  
 New crankshaft grinder. *il Automobile Eng* 23:29-30 Ja '33  
 Permanent molds in production of crankshafts; methods developed by A. W. Morris. *il diag Iron Age* 131:665-6 Ap 27 '33  
 Precision grinding machines; crank shaft grinding. *il Engineer* 154:612 D 16 '32  
 Steelweld crankshaft twisting machine. *il Am Mach* 76:1177 N 23 '32; *Iron Age* 130:887 D 8 '32; *Mach* 39:291 D '32

**CRATER Lake national park**

- Buried system preserves beauty of famous resort. *il map Elec West* 70:8-9 Ja '33

**CRATES**

- Design factors affecting the strength and rigidity of wooden crates. G. E. Heck. *U S Agric Circ* 236:1-27 '32

**CRAVATS. See Neckties****CRAWFORD, Edward A.**

- Doc. Crawford, a little country doctor, peering through thick lenses, shakes the commodity markets of the world. *por Business Week* p20 Ag 5 '33  
 Man who would be grain king. *Comm & Fin* 22:670 Ag 2 '33

**CREAM of wheat corporation**

- More than thirty years of profits, strong today. R. P. Hartwell. *il Mag of Wall St* 51:442+ F 4 '33  
 What is the investment outlook for these companies? *Mag of Wall St* 51:160 N 26 '32

**CREAM separators**

- Permanent molds in manufacturing cream separator parts; DeLaval separator company, Poughkeepsie, N.Y. H. R. Simonds. *il Iron Age* 131:940-3 Je 15 '33

**CREAMERIES****Waste**

- Destruction of carbohydrates and organic acids by bacteria from a trickling filter. M. Levine and J. H. Watkins. *il diags Iowa State College Eng Exp Sta Bul* 110:1-54 '32

**CREASING of textiles**

See also

- Cotton fabrics—Creasing

**CREATINE**

- Some aspects of intermediary protein metabolism. E. Brand and M. M. Harris. *bibliog Science* 77:589-90 Je 16 '33

**CREDIT**

- Answers to credit questions. E. B. Moran. Published in monthly numbers of Credit and financial management  
 Banker speaks his piece; retail credit terms unfair to banks. B. Bennitt. *Credit & Fin Management* 35:29 F '33  
 Bankocracy—an industrial answer to technocracy; credit system at fault. G. L. Lacher. *Iron Age* 131:127-8+ Ja 19 '33  
 Beware the unknown buyer! R. Hough. *Credit & Fin Management* 35:28 Jl '33  
 Business highways and byways; credit standards. D. A. Weir. *Credit & Fin Management* 35:20-1 O '33  
 Business on a holiday. *Business Week* p6-7 Mr 15 '33  
 Call to creditors; credit interchange service. M. Fields. *Credit & Fin Management* 35:18-19 Ap '33  
 Capital, capacity and character. J. H. Peto. *Bankers M* 126:435-6 My '33



**CREDIT—Continued**

- Cash preferred; Commerce department's semi-annual retail credit survey. *Business Week* p10 *My* 24 '33
- Circulating credit creates commerce. H. H. Heimann. *map Credit & Fin Management* 35:8-10+ *Jl* '33
- Credit abuses bring business difficulties. F. S. Jefferies. *Dom Eng* 141:44+ *F* '33
- Credit and collection plan that brings in dollars and corrects lists; Guarantee shoe store. *Il System and Management Methods* 62:352-3 *Ag* '33
- Credit and the retailer. J. V. Day. *Credit & Fin Management* 35:14+ *O* '33
- Credit business of confectionery supply houses analyzed. *Credit & Fin Management* 35:28-9 *Ap* '33
- Credit ceiling; credit problems arising from inflation. H. W. Huegy. *Credit & Fin Management* 35:12-13+ *My* '33
- Credit credo. E. D. Ross. *Credit & Fin Management* 35:14-15+ *Ja* '33
- Credit group checks losses, assists retailers; Men's furnishings manufacturers group. *Management Methods* 62:71-3 *F* '33
- Credit losses almost nil; Cluett, Peabody & co. H. W. Woodruff. *Adv & Sell* 20:30 *Mr* 30 '33
- Credit men compare notes. *Nation's Business* 21:38 *Mr* '33
- Credit plan as adopted by the united fine paper industry of Philadelphia. *Paper Tr J* 97:17 *S* 28; 16 *N* 9 '33
- Credit plan increases Canada Dry volume 60 per cent in May. *Sales Management* 33:36 *Jl* 1 '33
- Credit situation; N.P.O. & V.A. report. *Oil Paint & Drug Rep Extra ed* 122:19-20 *N* 29 '32
- Difficulty of enforcing terms. *Credit & Fin Management* 35:29 *Jl* '33
- Fishermen and fish. W. F. Fowler. 103p *W. F. Fowler, Lynbrook, N.Y.* '33
- Forecasting credit responsibility. F. H. Miller. *Credit & Fin Management* 34:18-19+ *D* '32
- Foresight. H. H. Heimann. *Credit & Fin Management* 35:10-11+ *Ja* '33
- Forgotten creditor. E. I. Kilcup. *Credit & Fin Management* 35:8-9+ *Je* '33
- Gauging capacity to pay. E. S. Benjamin. *Credit & Fin Management* 35:8-9+ *N* '33
- Give or take credit. R. A. Colliton. *Il Credit & Fin Management* 35:18-19 *My* '33
- Gold and credit. C. O. Hardy. *Ann Am Acad* 165:197-201 *Ja* '33
- Graphic arts committee adopts broad credit control plan. *Inland Ptr* 91:24 *Ap* '33
- Graphic arts council wins support of all machinery manufacturers. C. N. Everett. *Inland Ptr* 90:25-6 *Ja* '33
- Hartford credit certificate plan. *N E L A Bul* 20:86-7+ *F* '33
- Insurance as bolster of protection. D. C. Campbell. *Il Credit & Fin Management* 35:28 *S* '33
- Insurance guards credits. D. C. Campbell. *Credit & Fin Management* 35:17+ *N* '33
- Managing credits in a pre-inflation era. J. G. Martin. *Ptr Ink Mo* 27:20+ *Jl* '33
- Mercantile credit survey. U S Bur For & Dom Com Domestic Commerce Ser 74:1-46; 77:1-44; 78:1-39 '32
- Missing link; abstract. I. Fisher. *Management R* 22:302 *O* '33
- Nation-wide needs for legitimate credit by industry. R. A. Young. *Management R* 22:35-43 *F* '33
- N.R.A. and the credit problem. E. I. Kilcup. *Oil Paint & Drug Rep Extra ed* 124:25, 27; *Discussion*. 27 *O* 11 '33
- New deal credit; study in oil credits. W. C. Wenzel. *Credit & Fin Management* 35:18 *Jl* '33
- Opportunity awaits credit! D. C. Roper. *Credit & Fin Management* 35:8-10+ *Ag* '33
- Reflecting oil credits. C. E. Votrian. *Credit & Fin Management* 35:8-9+ *F* '33; Same cond. *Nat Pet N* 24:26+ *N* 23 '32; *Excerpts*. *Oil & Gas J* 31:20+ *N* 17 '32; *Pet Age* 26:42 *N* '32
- Report of N.W.D.A. on credits and collections. *Oil Paint & Drug Rep Extra ed* 124:24-5 *O* 11 '33
- Retail credit survey, July—December 1932. U S Bur For & Dom Com Domestic Commerce Ser 83:1-36 '33
- Retail credit survey, January-June 1933. U S Bur For & Dom Com Domestic Commerce Ser 84:1-35 '33
- Retailer speaks again; the same credit deal to all customers. B. Bennett. *Credit & Fin Management* 35:29+ *Je* '33
- Schedule of oil credit terms proposed in the code. *Nat Pet N* 25:21 *Je* 28 '33
- Second helping; mercantile credit survey summary. W. C. Plummer. *Credit & Fin Management* 35:20+ *F* '33
- There has been no commercial panic and it is vitally essential to keep the wheels of commerce moving. A. D. Whiteside. *Dun & Bradstreet* 41:2-3 *Mr* 11 '33; Same. *Comm & Fin* 22:256 *Mr* 15 '33
- Third annual credit congress records group advances. P. J. Gray. *Credit & Fin Management* 35:19 *S* '33
- 3 A.M. credit. L. C. Stone. *Adv & Sell* 21:34 *My* 25 '33
- Too much credit not good for the industry. E. L. Milliken. *Textile World* 83:49 *Ja* '33
- True credit data builds profits. P. E. Meyers. *Credit & Fin Management* 35:12-13+ *Ag* '33
- Two more "C's" for the credit man. R. G. Echols. *Credit & Fin Management* 35:38 *S* '33
- Up from the debts; analysis of consumer debts. C. H. Matthews. *Credit & Fin Management* 35:19+ *Jl* '33
- Urge change in credit approach. I. J. Gale; C. B. Wilber. *Credit & Fin Management* 35:20-1 *S* '33
- Valuation cycle; risk in accounts receivable which have restated their financial positions. E. I. Kilcup. *Credit & Fin Management* 35:12+ *Jl* '33
- Watch the firms "on the fence." P. E. Meyers. *Credit & Fin Management* 34:31 *D* '32
- Who pays the profits—prompt discounters or slow-pay customers? H. M. Cary. *Credit & Fin Management* 35:16 *Jl* '33
- Wholesale grocery credit survey; summary. *Dun's R* 41:12-13+ *F* 25 '33
- Wholesaler speaks his piece; standard credit policy towards retailers. B. Bennett. *Credit & Fin Management* 35:32 *Ap* '33

**See also**

- |                        |                     |
|------------------------|---------------------|
| Acceptances            | Debtor and creditor |
| Acceptances, Trade     | Finance companies   |
| Accounts receivable    | Financial state-    |
| Agricultural credit    | ments               |
| Banks and banking      | Gasoline industry—  |
| Billing                | Credit problems     |
| Business failures      | Instalment plan     |
| Cash business          | Loans               |
| Charge accounts (re-   | Negotiable instru-  |
| tail trade)            | ments               |
| Collecting of accounts | Salesmen and credit |
| Credit unions          | Securities          |
| Debt                   |                     |

**Bibliography**

- Credits and collections. (Business literature, v 5, no 8) 2p Business branch, Public library, Newark, N.J. '33

**Great Britain**

- National productive credit. O. Stoll. 248p [bibliog p161-6] George Allen & Unwin Ltd, London '33

**Latin America**

- Current survey of credit conditions and collections in Latin-America. W. S. Swingle. *Credit & Fin Management* 35:22-3 *Ja*; 20-1 *My*; 16-17 *Ag*; 18-19+ *N* '33

CREDIT, Agricultural. See Agricultural credit

**CREDIT, Bank**

- A B C of open market policy. J. S. Lawrence. *Econostat* 1:8-10 *S* 16 '33
- Alibi hunting for the NRA. J. S. Lawrence. *Bankers M* 127:345-7 *O* '33
- Availability of bank credit. 146p '33 National industrial conference board, New York '32; *Review*. *Pub Serv M* 54:89 *Mr* '33
- Bank credit for NRA program. *Econostat* 1:7 *Ag* 5 '33

**CREDIT, Bank—Continued**

- Bank credit to industry inadequate, National industrial conference board finds. *Am Mach* 77:166 *Ja* 4 '33
- Banker au naturel; his policies call for new declaration of business independence. *A. H. Little. Ptr Ink* 165:6+ *N* 9 '33
- Banker in the recovery parade. *P. D. Houston. il Burroughs Clearing House* 18:3-5+ *N* '33
- Banker speaks his piece; retail credit terms unfair to banks. *B. Bennett. Credit & Fin Management* 35:29 *F* '33
- Bankers and the NRA; the credit problems of bankers will be simplified by the regulatory measures of the new codes. *R. F. Sale. Bankers M* 127:351-4 *O* '33
- Banking and industry; with special reference to engineering. *Engineer* 155:250-1, 277 *Mr* 10-17 '33
- Banks and home trade. *Economist* 116:sup5-6 *My* 13 '33
- Branch banking to relieve credit stringency. *J. L. Walsh. Credit & Fin Management* 35:16-17+ *Ja* '33
- Can the banks meet the challenge of the present emergency? *T. M. Knappen. Mag of Wall St* 52:614-16+ *O* 14 '33
- Capital markets and recovery. *Index* 13:185-92 *N* '33
- Central versus open market banking. *E. S. Pillsbury. Comm & Fin* 22:373-4 *Ap* 26 '33
- Credit expansion or currency inflation—a challenge to banking talent. *G. P. Knapp. Rand McNally Bankers Mo* 50:261 *Je* '33
- Credit for thirsty business. *Business Week* p10-11 *S* 23 '33
- Credit policy of Canadian banks. *S. H. Logan. Bankers M* 126:181-2 *F* '33
- Credit pressure may force fair prices. *Forbes* 31:6 *My* 1 '33
- Dealers wait for loans to make new sales possible. *J. V. Tuttle. Rand McNally Bankers Mo* 50:405+ *Ag* '33
- Divergent views on bank credit; A. B. A. convention crystallizes attitudes of bankers and government on credit liberalization. *Barron's* 13:15 *S* 11 '33
- Effect of the Securities act on industrial financing. *W. F. Gephart. Trust Companies* 57:279-84 *S* '33
- Essential elements in banking reconstruction. *O. K. Burrell. Harvard Business R* 12:12-22 *O* '33
- How to rate sales capacity as a factor in commercial credits. *C. D. Murphy. il Rand McNally Bankers Mo* 50:136-8+ *Mr* '33
- Ideal bank; unification under Federal Reserve is desirable, but we really need one big bank with 20,000 branches. *Business Week* p16+ *Ap* 19 '33
- Inflation's shadow; an immediate and direct relationship between credit changes and price changes is erroneous. *H. P. Willis. Credit & Fin Management* 35:8-9+ *My* '33
- Kiwanis helped our banks; talk given before the Kiwanis club. *G. Docking. Rand McNally Bankers Mo* 50:532 *O* '33
- Lagging bank credit; government is inadequately filling the credit vacuum. *Business Week* p18-19 *O* 7 '33
- Losses in bank earning assets. *F. Mueller, jr. Bankers M* 127:367-87 *O* '33
- 1929-1932: a study in contrasts; monetary factor makes for economic recovery. *D. L. Saunders. Barron's* 12:3+ *D* 19 '32
- Please—or else—editorial. *Business Week* p32 *S* 9 '33
- Preferred stock for banks. *J. H. Jones. Bankers M* 127:397-400 *O* '33
- Present stagnation in bank credit: two main obstacles to recovery. *W. B. Slade. Annalist* 42:135+ *O* 6 '33
- Problem of capital loans. *Am Bankers Assn J* 26:69 *N* '33
- Putting dollars back to work. *E. R. Black. Credit & Fin Management* 35:8-9+ *O* '33
- Qualitative credit control. *W. E. Dunkman. 345p [bibliog p334-8] \$3 Columbia univ. press* '33
- Recovery, on credit. *Business Week* p5-6 *O* 21 '33
- Role of banking and Federal reserve in business recovery. *E. Platt. Trust Companies* 55:539-42 *N* '32
- Scapegoats for the NRA. *Econostat* 1:5-6 *S* 9 '33
- Signed auditor's report should accompany financial statement. *Bankers Mo* 50:110 *F* '33
- What customers should know about credit and currency. *C. W. Fackler. Rand McNally Bankers Mo* 50:350-1+ *Jl* '33
- When making a loan on inventories determine credit by markets. *W. H. Johnson, jr. il Bankers Mo* 49:717-18 *D* '32
- Why bank credit does not respond. *S. Axley. Barron's* 13:3+ *O* 2 '33
- See also*
- Advertising and bankers      Agricultural credit  
Loans, Bank
- CREDIT associations**
- Roster of N. A. C. M. affiliated associations as of August 1, 1933. *Credit & Fin Management* 35:30-1 *Ag* '33
- See also*
- Agricultural cooperative credit associations      National association of credit men  
Credit unions      National retail credit association
- Adjustment bureaus**
- Approved adjustment bureaus, November 15, 1932. *Credit & Fin Management* 34:45 *D* '32
- Approved adjustment bureaus, June 1, 1933. *Credit & Fin Management* 35:39 *Jl* '33
- Figures tell the story; Adjustment bureau of the Detroit association of credit men. *L. E. Deeley. Credit & Fin Management* 35:21+ *Ja* '33
- CREDIT bureaus**
- Credit checking simplified; Akron credit bureau, inc. il System and Management Methods 62:398-9 *S* '33
- How to organize a credit bureau. *Am Bankers Assn J* 25:65 *Je* '33
- CREDIT council, Economic.** *See* Economic credit council
- CREDIT departments**
- Credit centers centralized. il Management Methods 62:218 *My* '33
- Daily review that builds up buying power of desirable charge accounts. *E. J. Dollard. Management Methods* 61:668-9 *D* '32
- How planning speeded up collections and reduced bad debt losses; Standard Brands. *Management Methods* 62:166-7 *Ap* '33
- Obvious triumph; thanking customers for discounting bills by means of a short, personalized letter. *H. Clark. Credit & Fin Management* 34:20-1+ *D* '32
- You can sell, but can you collect? *R. H. Rositzke. Management Methods* 62:120-1+ *Mr* '33
- See also*
- Credit managers  
Salesmen and credit
- Records**
- Code shows credit limits. *Management Methods* 62:118 *Mr* '33
- Pressing collections; Pantex pressing machine, inc. Pawtucket, R.I. *J. E. Bullard. il Credit & Fin Management* 34:12-13+ *D* '32
- These credit files do not get rusty; Rusk-Lehigh oil corporation. il Management Methods 61:610-11 *N* '32
- CREDIT interchange reports**
- Call to creditors; credit interchange service. *M. Fields. Credit & Fin Management* 35:18-19 *Ap* '33
- First things first; credit interchange reports and financial statements. *R. A. Colliton. Credit & Fin Management* 35:17+ *Jl* '33
- Give or take credit. *R. A. Colliton. il Credit & Fin Management* 35:18-19 *My* '33
- Observations of an auctioneer. *B. J. Selkirk. Credit & Fin Management* 35:46 *Ja* '33



**CREDIT managers**

Cooperation; the credit man and the C.P.A. G. D. Fish. *Credit & Fin Management* 35: 15+ Mr '33

**CREDIT men, National association of.** See National association of credit men

**CREDIT unions**

Cooperative credit movement in 1932. *Monthly Labor R* 37:771-5 O '33

Cooperative credit societies in China. *Monthly Labor R* 36:125-6 Ja '33

Credit unions make rapid progress. *Forbes* 32:13+ S 1 '33

Growth of postal credit unions in 1932. *Monthly Labor R* 36:1285 Je '33

Library credit union. G. E. Fielstra. *Lib J* 58:583-4 Jl '33

Loans of credit unions in New York in 1931. *Monthly Labor R* 36:125 Ja '33

See also

Agricultural cooperative credit associations

**CREEP of metals**

Correlation of damping capacity of steels with other properties. G. R. Brophy. *Iron Age* 130:989+ D 29 '32

Creep and structural stability of nickel-chromium-iron-alloys at 1,600° F. W. A. Tucker and S. E. Sinclair. *diag pls U S Bur Stand J Research* 10:851-62 Je '33

Creep characteristics of metals at elevated temperatures. A. E. White and C. L. Clark. *il diags Am Soc Steel Tr Trans* 21:1-16; Discussion. 16-21 Ja '33

Creep of metals measured in millionths of an inch. *Power* 77:131 Mr '33

Creep strength versus creep limit. *Metal Prog* 24:37-8 Ag '33

Creep tests require long and precise observations. W. Rosenhain. *Metal Prog* 22:50+ D '32

Factors affecting choice of working stress for high-temperature service; abstract. P. G. McVetty. *Power* 76:346 Mid-D '32

Fundamental research needed into laws governing creep of metals. *Steel* 91:58 D 12 '32

Influence of recrystallization temperature and grain size on the creep characteristics of non-ferrous alloys. C. L. Clark and A. E. White. *il Am Soc T M Proc* 32 pt 2:492-506 '32; Excerpts. *Power Pl Eng* 36:20 Ja '33; Discussion. *Am Soc T M Proc* 32 pt 2:507-16 '32

Measuring millionth-inch creep in metals. *il Metal Ind* 31:99 Mr '33

New device for creep testing. F. H. Norton and J. A. Fellows. *diag Metal Prog* 24:41-3 O '33

Steels subjected to elevated temperature service; abstract. A. E. White and C. L. Clark. *Steel* 93:30 N 6 '33

What steel to use at high pressures and temperatures; effect of hydrogen. J. L. Cox. *bibliog Chem & Met Eng* 40:405-9 Ag '33

**CREGIER, DeWitt Clinton, 1829-1898**

Chicago's waterworks—a century of accomplishment. A. E. Gorman. *por Eng N* 110: 734, 735-6 Je 8 '33

Dedication of memorial. H. A. Allen. *W Soc E J* 38:207-9 Ag '33

**CREOLE petroleum corporation**

Output up. *Econostat* 1:14-15 N 11 '33

**CREOSOTE**

Burner for creosote oil by Bretts patent lifter co. *il diags Engineer* 156:144 Ag 11 '33; Same cond. *Mech Eng* 55:633-4 O '33

Creosote as a motor fuel. *Gas J (Lond)* 201: 369 F 15 '33

Effect of tar acids upon the wetting of wood by coal-tar oils. F. H. Rhodes and I. Erickson. *il Ind & Eng Chem* 25:1132-3 O '33

Efficiencies of tar oil components as preservative for timber. F. H. Rhodes and I. Erickson. *Ind & Eng Chem* 25:989-91 S '33

Gas-works fuels for omnibus engines; creosote oil and compressed coal gas; abstract. D. E. Bell. *Gas J (Lond)* 202:809; Discussion. 809-10 Je 14 '33

L'huile de créosote utilisée comme carburant. M. Stuart. *Génie Civil* 102:574 Je 17 '33

Toxicity of creosote petroleum mixtures; abstract. H. Schmitz. *Ry Age* 94:106 Ja 28 '33

Wood creosote in mercerization; abstract. W. Pohl. *Textile Col* 55:255-6 Ap '33

**CREPE**

Conditioning rayon crepe is important throwing operation. *il Textile World* 83:923 My '33

Creping rayon fabrics. *Textile Col* 55:618 S '33

Frosted georgette, attractive fabric which may become a staple. B. D. Blackman. *il Textile World* 82:1160-1 D '32

High twist and use of rayon add to throwsters' problems. *il Textile World* 83: 59 Ja '33

Rayon crêpe threads and fabrics; manufacture; abstract. W. A. Dickie and R. W. Moncrieff. *Textile Inst J* 24:A37 Ja '33

**CREPE paper**

Creation of fad jumps production 50 per cent; Dennison lifts crepe paper sales by fostering the making of hats. *il Ptr Ink* 164:40-2 Ag 3 '33

**CRESOL**

Action of chlorosulphonic acid on phenol and *p*-cresol at low temperatures. G. N. Burkhardt. *Chem Soc J* p337-8 Ap '33

Behavior of mixed halogenated phenols in the Zincke method of nitration. L. C. Raiford and G. R. Miller. *bibliog Am Chem Soc J* 55:2125-31 My '33

Chloro derivatives of *m*-cresol. R. C. Huston and P. S. Chen. *bibliog Am Chem Soc J* 55:4214-18 O '33

Electrical conductivities of liquid mixtures of phenol-aniline, phenol-*p*-toluidine, and phenol-*m*-cresol. O. R. Howell and H. G. B. Robinson. *Chem Soc J* p1032-7 Ag '33

Emulsion systems containing phenols, water, and gelatin. R. M. Woodman. *Soc Chem Ind J* 52:44T-6T F 10 '33

Nitration of para-cresol and of para-cresyl carbonate in the presence of sulfuric acid. H. J. Lucas and Yun-pu Liu. *Am Chem Soc J* 55:1271-80 Mr '33

Some mono and dibromo derivatives of meta-cresol. R. C. Huston and W. J. Peterson. *Am Chem Soc J* 55:3879-82 S '33

Über zähigkeitsmessungen bei kresolen. J. Scheiber. *Angew Chemie* 46:503-5 Jl 29 '33

**CRESYL carbonate**

Nitration of para-cresol and of para-cresyl carbonate in the presence of sulfuric acid. H. J. Lucas and Yun-pu Liu. *Am Chem Soc J* 55:1271-80 Mr '33

**CRESYL ether**

Rearrangement of alkenyl phenyl and cresyl ethers and the syntheses of isopropenyl phenols and their reduction products. J. B. Niederl and E. A. Storch. *bibliog Am Chem Soc J* 55:284-94 Ja '33

**CRESYLIC acid.** See Cresol**CRETONNE**

Cretonne printing. *Textile Col* 55:412-13 Je '33

**CRIBS**

Progress in intake design revealed by Chicago crib. M. B. Reynolds. *il Eng N* 110: 737-9 Je 8 '33

**CRIME and criminals**

Chicago's crime commission. *East Underw* 33: 88 D 9 '32

Crime for profit; a symposium on mercenary crime. E. D. MacDougall, ed. 355p \$2 Stratford co, Boston '32

Crimes and criminals. W. A. White. 276p \$2.50 Farrar & Rinehart, inc, New York '33

Criminals and politicians. D. T. Lynch. 256p Macmillan '32

Possibilities and need for development of legal medicine in the United States, with a supplement on University departments in the field of criminology. O. T. Schultz. *Nat Research Council Bul* 87:1-135 [bibliog p132-5] '32 (\$1.50)

**CRIME and criminals—Continued**

Some basic problems in criminology. J. Hall.  
Ann Am Acad 167:119-34 My '33

See also

Advertising, Fraudulent  
Burglary  
Convict labor  
Forgery

Fraud  
Juvenile delinquency  
Racketeering  
Swindlers and swindling

**CRINOIDEA, Fossil**

Syndetocrinus, a new crinoid genus from the Silurian of Canada. E. Kirk. bibliog il Am J Sci 5th ser 26:344-54 S '33

**CRITICAL constants**

Improved methods for approximating critical and thermal properties of petroleum fractions. K. M. Watson and E. F. Nelson. bibliog Ind & Eng Chem 25:880-7 Ag '33

**CRITICAL point**

Equilibrium  $A_s$  and  $A_m$  points in pure carbon steels. Yap, Chu-Phay. Am Soc Steel Tr Trans 21:260-8 Mr '33

**CRITICAL potentials**

Soft X-rays from (100) and (111) faces of copper single crystals. M. L. Williams. diag Phys R 44:610-17 O 15 '33

**CRITICAL solution temperature**

Critical solution temperatures of mixtures of gasoline, ethyl alcohol, and water. O. C. Bridgeman and D. Querfeld. diag U S Bur Stand J Research 10:693-704 My '33; Excerpt. Automotive Ind 69:207 Ag 19 '33  
Method of analysis of mixtures of Schaeffer and F acids; effect of these acids in depressing the phenol-water critical solution temperature. D. G. Kerr. Soc Chem Ind J 52:336T-8T O 13 '33

**CROMANSIL steels.** See Chromium manganese silicon steel**CROMPTON, Rockies Evelyn Bell, 1845-**

Pioneer's work in road transport. Engineer 155:304 Mr 24 '33

**CROMPTON and Knowles loom works**

Cotton textile machine industry—American loom builders. J. T. Lincoln. Harvard Business R 12:94-105 O '33

**CROPS**

America's calamity crop year. C. L. Hyde. Comm & Fin 22:871 O 4 '33

Cotton joker; wheat and other food crops are small. Business Week p22-3 Ag 12 '33

Crop failure; prospect of lean crops decreases necessity of acreage reduction. Business Week p20 Ag 19 '33

Crops are small but—. Business Week p22-3 O 21 '33

Observations on forecasting annual changes of crop yields. G. W. Hervey. Science 78: 211-12 S 8 '33

Rainfall and crop yields. I. Gutmann. Civil Eng 3:326-9 Je '33

Tree and crop damage in flood-detention basins; Miami conservancy district, Ohio. C. H. Eiffert. Eng N 111:370-1 S 28 '33

See also

Barley  
Corn  
Cotton

Flaxseed  
Wheat

**CROSSE and Blackwell**

Report for 1932. Economist 117:187-8 Jl 22 '33

**CROTONIC acid**

Arylamides of  $\beta$ -arylaminoacrotonic acids. J. K. Thomson and F. J. Wilson. Chem Soc J p1262-3 S '33

Course of addition of the sodium enolates of malonic and methylmalonic esters to benzalacetophenone and to crotonic ester. A. Michael and J. Ross. Am Chem Soc J 55: 1632-46 Ap '33

**CROWN mines, limited**

Ordinary general meeting; 37th, Johannesburg. Economist 116:1158-9 My 27 '33

**CROWN Willamette paper company**

Reports loss for the fiscal year ended April 30. Paper Tr J 97:24 Jl 13 '33

**CRUCIBLES**

High temperature furnace using graphite crucible. D. A. Moulton. diags Brick & Clay Rec 83:132 O '33

How industrial gas research solved one tough problem; adapting graphite crucible to gas firing. F. Talcott. Gas Age 72:235-6+ S 9 '33

No more off sizes or seconds under crucible industry's code. Iron Age 132:46C O 12 '33

**Manufacture**

Refractory oxides for crucible manufacture. Chem Age (Lond) 28:sup29-30 My 6 '33

Thorium oxide, a high temperature refractory. O. O. Fritzsche, H. B. Wablin and J. F. Oesterle. il diags Electrochem Soc Trans 64 (preprint 23):281-91 S '33

**CRUSHED stone.** See Stone, Crushed

**CRUSHED stone association, National.** See National crushed stone association

**CRUSHING**

Analysis of crushing and pulverizing processes. L. T. Work. Rock Prod 35:19 N 19 '32

Asbestos milling in the Urals. W. A. Ruckeyser. flow sheets il diags Eng & Min J 134:415-19 O '33

Diesel-electric power plant for stone quarrying and crushing; Hudson River stone corp., Cold Spring, N.Y. O. J. de Gaetano. il diags Rock Prod 36:46-9 Ag '33

Dust control and economy measure; Roan antelope copper company. G. E. Lynch. il diags Eng & Min J 133:606-8 D '32

Feldspar and silica processing. A. J. McDermid. flow sheet il Eng & Min J 134:105 Mr '33

Gravity milling and flotation of low-grade gold ore; Beebe gold mining company. J. B. Huttli. flow sheet il diag Eng & Min J 133: 630-1 D '32

Grinding and calcining gypsum in one operation. W. B. Lenhart. il Rock Prod 36:34-7 Ag '33

Inexpensive grinder. A. How. il diag Ind & Eng Chem Anal ed 5:219 My 15 '33

Large crushing and screening plant reflects engineering progress; Hudson River stone corporation. L. A. Slattery. il diags plans Eng & Min J 134:2-10 Ja '33

Methods and costs of quarrying, crushing and grinding limestone at the plant of the Southwestern Portland cement co., El Paso, Texas. R. T. Mann. flow sheet diag maps U S Bur Mines Information Circ 6608:1-13 '33

Simplify your process by combining drying and grinding operations. L. T. Work. il diag Chem & Met Eng 40:306-9 Je '33

See also

Coal, Pulverized—  
Preparation

Ore treatment  
Stone, Crushed

**Cost**

Possible grinding economies would save 25% in power cost of Portland cement; B&W type E pulverizer. N. C. Rockwood. il Rock Prod 36:42-4 Ap '33

**CRUSHING machinery**

Adjusting a re-crusher to give maximum percentage of a desired size. I. Warner. flow sheet Rock Prod 36:21-3 S '33

Concasseur à mâchoires de 2<sup>m</sup> 13 x 1<sup>m</sup> 52 d'embranchure. il diags Génie Civil 103:259-61 S 9 '33

Efficient and economical crushed-stone production; plant at Mettur dam, Madras, India. R. Hadfield. flow sheet il diag Eng & Min J 134:384-5 S '33

Experimental cement plant at University of California. J. W. Kelly. il diag Eng N 111: 519-21 N 2 '33

Grinding progresses toward higher efficiency. diag Chem & Met Eng 40:257-8 My '33

Gyrasphere; gyrating head of spherical surface features newest crusher. il Eng & Min J 134:212 My '33

Hadfields high-speed roll crusher for iron ore. il Engineering 136:436-7 O 20 '33

Hardinge grinding and classifying unit. il diags Rock Prod 35:52 N 19 '32

Hildebrandt fine grinding mill. il Chem Age (Lond) 29:173 Ag 19 '33

Laboratory machinery for crushing and grinding. il Chem Age (Lond) 27:524-6 D 3 '32



**CRUSHING machinery—Continued**

Large crushing and screening plant reflects engineering progress; Hudson River stone corporation. L. A. Slattery. *il* diags plans Eng & Min J 134:2-10 Ja '33

Lightning crusher for disintegrating ordinary household refuse. *diags* Engineer 155:330 Mr 31 '33

Maintenance of crushing and screening machinery. F. W. R. Williams. *il* Chem Age (Lond) 28:261-2 Mr 25 '33

Newest stone crushing plant in New York city district. R. R. Shafter. *il* Rock Prod 35:9-16 D 10 '32

Operating results obtained with Hadsel mill indicate economical reduction. H. Hardinge. *il* diag Eng & Min J 134:82-4 F '33

Pennsylvania-Duchanan primary jaw crusher. *il* Eng & Min J 134:396 S '33

Ring roll mill pulverising plant at the Brimsdown generating station. *il* diags Engineering 136:243-6 S 8 '33

Stone breaking and ore crushing machinery; a brief review of some of the products of Hadfields, Ltd. *il* Can Min J 54:405-7 O '33

Symons short head fine reduction crusher. *il* Can Min J 54:37 Ja '33

Telsmith gyrasphere; a new secondary crusher. *il* Can Min J 54:288 J1 '33

Über mahlung und mahlmaschinen. P. Rosin and E. Rammler. *bibliog* Chemische Fabrik 6:395-9, 403-5 S 20-27 '33

*See also*

Ball mills  
Coal breakers

Pulverizers  
Tube mills

**Power**

Modernize rock crusher drive with synchronous motor. F. A. Westbrook. *il* Concrete (mill sec) 41:39 Ja '33

Should a crushed stone or gravel operator make or buy electric power? C. R. Earle. *Rock Prod* 36:36-7 F '33

**CRYOLITE**

Determination of fluorine in cryolite. F. J. Frere. *bibliog* Ind & Eng Chem Anal ed 5:17-18 Ja 15 '33

Study of 78 workers exposed to inhalation of cryolite dust. S. V. Gudjonsson. *J Ind Hygiene* 15:27-33 Ja '33

**CRYPTOPHENOLS. See Phenols****CRYSTALLITES**

X-ray method for quantitative comparison of crystallite orientation in cellulose fibers. W. A. Sisson and G. L. Clark. *bibliog* *il* Ind & Eng Chem Anal ed 5:296-300 S 15 '33

**CRYSTALLIZATION**

Chemical flowers. *Sci Am* 149:43-4 J1 '33

Compilation of phase-rule diagrams of interest to the ceramist and silicate technologist. F. P. Hall and H. Insley. *diags* *bibliog* *Am Cer Soc J* 16:459-567 O '33

Dependence of crystallization velocity on molecular structure. M. E. Krah. *Am Chem Soc J* 55:1425-9 Ap '33

Influence of recrystallization temperature and grain size on the creep characteristics of non-ferrous alloys. C. L. Clark and A. E. White. *il* *Am Soc T M Proc* 32 pt 2:492-506 '32; *Excerpt*s. *Power Pl Eng* 36:20 Ja '33; *Discussion*. *Am Soc T M Proc* 32 pt 2:507-16 '32

Mechanism of development of pigment value in zinc sulfide; development of pigment value in calcination. L. T. Work and I. H. Odell. *il* *Ind & Eng Chem* 25:543-9 My '33

Preparation and crystallization of pure ether-soluble rubber hydrocarbon; composition, melting point, and optical properties. W. H. Smith, C. P. Saylor and H. J. Wing. *bibliog* *diags* *pls* *U S Bur Stand J Research* 10:479-92 Ap '33

Purification of hydrocarbons by crystallization from liquid methane; isolation of 2-methylheptane from petroleum. R. T. Leslie. *diags* *U S Bur Stand J Research* 10:609-13 My '33

Recast analysis and its relation to the chemistry of Portland cement. L. A. Dahl. *Rock Prod* 35:28-9 N 5; 26-7 D 10 '32

Supersaturation control attains close crystal sizing. F. Jeremiasen and H. Svanoe. *il* *diag* *Chem & Met Eng* 29:594-6 N '32

System, CaO-FeO-SiO<sub>2</sub>. N. L. Bowen, J. F. Schairer and E. Posnjak. *il* *diags* *Am J Sci* 5th ser 26:193-284 S '33

Vacuum crystallization makes important strides. *diag* *Chem & Met Eng* 40:258 My '33

Volatile transport of silica. J. W. Greig, H. E. Merwin and E. S. Shepherd. *il* *Am J Sci* 5th ser 25:61-73 Ja '33

*See also*

Crystals  
Solutions, Solid

**CRYSTALLOGRAPHY**

Chapters in crystal chemistry for college freshmen. C. W. Stillwell. *bibliog* *diags* *J Chem Educ* 10:590-9, 667-74 O-N '33

Cooperative phenomena. F. Zwicky. *Phys R* 43:270-8 F 15 '33

Crystal structure of precipitated copper-tin alloys. H. Kersten and J. Maas. *Am Chem Soc J* 55:1002-4 Mr '33

Crystallography of some compounds of gadolinium and samarium. A. Pabst. *Am J Sci* 5th ser 26:72-9 J1 '33

Form and properties of crystals. A. B. Dale. 186p [*bibliog* p181-2] \$1.60 Macmillan '32

Luminescence and crystalline structure. B. E. Cohn. *diag* *Am Chem Soc J* 55:953-7 Mr '33

New type of crystal structure model. G. Glockler. *il* *R Sci Instr* 4:529 O '33

Optical crystallography of acetaldehyde 2,4-dinitrophenylhydrazones. W. M. D. Bryant. *Am Chem Soc J* 55:3201-7 Ag '33

Phosphorescence of solid nitrogen and its relation to crystal structure. L. Vegard. *Science* 77:588-9 Je 16 '33

Physics of solids. B. E. Warren. *R Sci Instr* 4:520-3 O '33

Problem of the solid state of matter. F. Zwicky. *Mech Eng* 55:427-32 J1 '33

Studies on alkylated complex cyanides; the isomerism of the alkylated ferrocyanides; hexaethylated ferrocyanides. E. G. J. Hartley and H. M. Powell. *Chem Soc J* p101-5 Ja '33

*See also*

Crystallization  
Isomorphism

Mineralogy

Solutions, Solid

*also* names of minerals, e.g. Feldspar; Quartz

**X ray studies**

Composition and structure of artificial spherulites. H. W. Morse, J. D. H. Donnay and E. Ott. *il* *Am J Sci* 5th ser 25:494-8 Je '33

Crystal structure of ortho-iodobenzoic acid. H. P. Klug. *Am Chem Soc J* 55:1430-6 Ap '33

Crystalline structure in relation to failure of metals especially by fatigue; abstract. H. J. Gough. *Eng N* 111:18 J1 6 '33

Decade of applied X-ray research. G. L. Clark. *il* *diag* *Soc Chem Ind J (Chem & Ind)* 52: 317-25, 336-46 Ap 14-21 '33

Effect of etching on the relative intensities of the components of double Laue spots obtained from a quartz crystal. M. Y. Colby and S. Harris. *il* *Phys R* 43:562-3 Ap 1 '33

Effect of grain boundaries on equilibrium. *Engineer* 156:sup[Metallurgist] 53-4 Ag 25 '33

Factors affecting the reflection intensities by the several methods of X-ray analysis of crystal structures. F. C. Blake. *Rs Mod Phys* 5:169-202 [*bibliog* p201-2] J1 '33; *Correction*. 5:288 O '33

Grain boundary effects as a factor in heterogeneous equilibrium of alloy systems. A. Phillips and R. M. Brick. *il* *diag* *J Fr Inst* 215:557-77 My '33

Laue patterns from thick crystals at rest and oscillating piezoelectrically. J. M. Cork. *il* *Phys R* 42:749-52 D 15 '32

Measurement of lattice constants. F. Wever and O. Lohrman. *Engineer* 154:sup[Metallurgist] 190-2 D 30 '32

Molecular structure of some co-ordination compounds of platinum and palladium. E. G. Cox and G. H. Preston. *Chem Soc J* p1089-93 Ag '33

## CRYSTALLOGRAPHY—X ray studies—Cont.

- Nature of the tetragonal and cubic martensites. K. Honda and Z. Nishiyama. *diag Am Soc Steel Tr Trans* 20:464-70 N '32
- Notes on the X-ray diffraction patterns of mullite. E. Posnjak and J. W. Greig. *il Am Cer Soc J* 16:569-83 N '33
- Phase transformations. I. Weerts. *Engineer* 155:sup[Metallurgist] 14-16 F 24 '33
- Symposium on the physical chemistry of the alumina-silica refractories. B. E. Warren and others. *Am Cer Soc J* 16:412-21 S '33
- Two rulers for use in analyzing rotating crystal photographs. M. L. Huggins. *diag R Sci Instr* 4:10-13 Ja '33
- X-ray studies of the system nickel-oxygen-water. R. W. Cairns and E. Ott. *il Am Chem Soc J* 55:527-44 F '33
- X-ray study of the transformation of marcasite into pyrite. H. V. Anderson and K. G. Chesley. *bibliog il Am J Sci* 5th ser 25: 315-24 Ap '33
- CRYSTALS**
- Absolute X-ray reflectivities of single crystals of calcite, rocksalt, rochelle salt and barite. P. Kirkpatrick and P. A. Ross. *Phys R* 43: 596-600 Ap 15 '33
- Absorption spectra of the samarium ion in solids; absorption of  $\text{Sm}(\text{BrO}_3)_3 \cdot 9\text{H}_2\text{O}$  and a partial energy-level diagram for the  $\text{Sm}^{+++}$  ion as it exists in crystalline  $\text{Sm}(\text{BrO}_3)_3 \cdot 9\text{H}_2\text{O}$ . F. H. Spedding and R. S. Bear. *il Phys R* 44:287-95 Ag 15 '33
- Absorption of thorium B by thallium halide crystals in the presence of various ions. J. F. King and P. R. Pine. *diag J Phys Chem* 37:851-74 O '33
- Contribution to the theory of heteropolar crystals. H. M. Evjen. *Phys R* 44:501-9 S 15 '33
- Cooperative phenomena. F. Zwicky. *Phys R* 43:270-8 F 15 '33
- Crystalline fields of Pr, Nd and Yb from paramagnetic susceptibilities. W. G. Penney. *Phys R* 43:485-90 Mr 15 '33
- Diffraction of low-speed electrons by a tungsten single crystal. W. T. Sproull. *Phys R* 43:516-26 Ap 1 '33; Discussion. 44:417-18 S 1 '33
- Effect of crystal symmetry and chemical composition on the energy levels of solids. F. H. Spedding and G. C. Nutting. *il Am Chem Soc J* 55:496-504 F '33
- Effect of etching on the relative intensities of the components of double Laue spots obtained from a quartz crystal. M. Y. Colby and S. Harris. *il Phys R* 43:562-3 Ap 1 '33
- Effect of grinding and etching on a pair of split calcite crystals. F. K. Richtmyer, S. W. Barnes and K. V. Manning. *Phys R* 44:311-12 Ag 15 '33
- Effect of homogeneous mechanical stress on the electrical resistance of crystals. P. W. Bridgman. *Phys R* 42:858-63 D 15 '32
- Effect of temperature on the intensity of X-rays scattered by powdered sodium fluoride. J. J. Shonka. *bibliog diag Phys R* 43:947-54 Je 15 '33
- Effect of tension on the electrical resistance of single antimony crystals. M. Allen. *Phys R* 43:569-76 Ap 1 '33
- Effect of tension on the electrical resistance of single bismuth crystals. M. Allen. *il diags Phys R* 42:848-57 D 15 '32
- Fine structure of electron diffraction beams from a gold crystal and from a silver film on a gold crystal. H. E. Farnsworth. *Phys R* 43:900-6 Je 1 '33
- Formation of columnar crystals in steel sheets after normalisation. F. Kinský. *bibliog Iron & Steel Inst J* 127:209-21, pl 17-19 no 1 '33; Abstract. *Engineering* 135:542 My 19 '33; Discussion. *Iron & Steel Inst J* 127:222-8 no 1 '33; *Engineering* 135:542 My 19 '33
- How scientists are finding new applications of the relation between electricity and crystals. I. J. Saxl. *il diags Radio N* 15:16-18+ J1 '33
- Influence of crystalline fields on the susceptibilities of salts of paramagnetic ions; the iron group, especially Ni, Cr and Co. R. Schlapp and W. G. Penney. *Phys R* 42: 666-86 D 1 '32
- Infrared radiations from small particles. A. H. Pfund. *diag Opt Soc Am J* 23:270-3 Ag '33
- Interpretation of line spectra in crystals. F. H. Spedding. *Phys R* 43:143-4 Ja 15 '33
- Laue patterns from thick crystals at rest and oscillating piezoelectrically. J. M. Cork. *il Phys R* 42:749-52 D 15 '32
- Line spectrum of samarium ion in crystals and its variation with the temperature. S. Freed and J. G. Harwell. *il Am Chem Soc J* 55:54-62 Ja '33
- Linear thermal expansion of a single crystal of sodium nitrate. J. B. Austin and R. H. H. Pierce, Jr. *diag Am Chem Soc J* 55:661-8 F '33
- Magnetic dipole energy in hexagonal crystals. L. W. McKeehan. *Phys R* 43:1025-9 Je 15 '33
- Magnetic dipole energy in homogeneously strained cubic crystals. L. W. McKeehan. *Phys R* 43:1022-4 Je 15 '33
- Magnetic dipole fields in dislocated cubic crystals. L. W. McKeehan. *Phys R* 43:924-30 Je 1 '33
- Magnetic dipole fields in unsaturated cubic crystals. L. W. McKeehan. *Phys R* 44:582-4 O 1 '33
- Magnetic dipole fields in unstrained cubic crystals. L. W. McKeehan. *diags Phys R* 43: 913-23 Je 1 '33
- Magnetic quadrupole field and energy in cubic and hexagonal crystals. L. W. McKeehan. *Phys R* 44:33-42 J1 1 '33
- Magnetization of ferromagnetic crystals. F. Bitter. *il Phys R* 43:655-60 Ap 15 '33
- Magnetized atoms actually oscillate. F. Bitter. *il Power Pl Eng* 37:300 J1 '33; Same. *Sci Am* 149:36-7 J1 '33
- Measurements on contact potential difference between different faces of copper single crystals. B. A. Rose. *diag Phys R* 44:585-8 O 1 '33
- Method for preparing crystals for rotation photographs. H. Kersten and W. Lange. *il R Sci Instr* 3:790-1 D '32
- Modes of vibration of piezo-electric crystals. N. H. Williams. *diags Inst Radio Eng Proc* 21:990-5 J1 '33
- Mono-crystal Barkhausen effects in rotating fields. F. J. Beck, Jr. and L. W. McKeehan. *diags Phys R* 42:714-20 D 1 '32
- Needle-shaped crystals of sodium chloride. W. S. Hinegardner. *il Am Chem Soc J* 55:1461-2 Ap '33
- New analysis of Slater's compressibility data. H. M. Evjen. *Phys R* 44:491-500 S 15 '33
- New phenomena in the change of resistance of Bi single crystals in magnetic fields. O. Stierstadt. *Phys R* 43:577-9 Ap 1 '33
- Optical anisotropy of molecular crystals. S. B. Hendricks and M. E. Jefferson. *Opt Soc Am J* 23:299-307 S '33
- Plasticity of rocksalt and its dependence upon water. R. B. Barnes. *Phys R* 43:82-3 Ja 1 '33; Discussion. 43:366-7, 765-6; 44: 308-9 Mr 1, My 1, Ag 15 '33
- Preparation and crystallization of pure ether-soluble rubber hydrocarbon; composition, melting point, and optical properties. W. H. Smith, C. P. Saylor and H. J. Wing. *bibliog diags pls U S Bur Stand J Research* 10:479-92 Ap '33
- Problem of the solid state of matter. F. Zwicky. *Mech Eng* 55:427-32 J1 '33
- Rare crystal habit for gypsum. C. E. Needham. *Science* 76:542 D 9 '32
- Reflection of metallic atoms from alkali halide crystals. R. R. Hancox. *diags Phys R* 42: 864-81 D 15 '32
- Remarks on the scattering of X-rays by gases and crystals. G. E. M. Jauncey. *Phys R* 42: 453-63 N 15 '32
- Scattering of X-rays from powdered crystals. G. E. M. Jauncey and F. Pennell. *Phys R* 43:505-15 Ap 1 '33
- Scattering of X-rays from powdered crystals at low temperatures. G. E. M. Jauncey and F. Pennell. *Phys R* 44:138-40 Ag 1 '33
- Soft X-rays from (100) and (111) faces of copper single crystals. M. L. Williams. *diag Phys R* 44:610-17 O 15 '33



**CRYSTALS—Continued**

- Some properties of homogeneously distorted cubic ferromagnetic lattices. F. Bitter. *Phys R* 42:697-708 D 1 '32
- Studies in coprecipitation; internal structural changes on aging of freshly prepared precipitates. I. M. Kolthoff and E. B. Sandell. *J Phys Chem* 37:723-33 Je '33
- Sub-structures in ferrite. W. D. Jones. *il Engineer* 155:sup[Metallurgist] 8-11 F 24 '33
- Symposium at Leningrad on the structure of solid bodies. *Science* 76:510-11 D 2 '32
- Systematic habit-variation in potassium chlorate crystals produced by dyes; abstract. H. E. Buckley and W. Cocker. *Soc Dyers & Col J* 49:267 Ag '33
- Theory of forced double refraction. K. F. Herzfeld and R. H. Lee. *bibliog Phys R* 44: 625-31 O 15 '33
- Theory of the ferromagnetic anisotropy of single crystals. R. M. Bozorth. *Phys R* 42: 882-92 D 15 '32
- Tropism of crystals. F. Bitter. *Phys R* 42: 731-2 D 1 '32
- Ueber die präzisionsbestimmung von gitterkonstanten mit dem rückstrahlverfahren. H. Möller. *Stahl & Eisen* 53:655-6 Je 22 '33

**CUBA**

- Cuba gets fresh start. *il Business Week* p22-3 Ag 19 '33
- Cuba libre. *Comm & Fin* 22:708 Ag 16 '33
- Cuban intervention; Roosevelt sent private investigators to Cuba. *Business Week* p22 F 15 '33
- See also*
- Sugar industry and trade—Cuba
- Wages—Cuba

**Economic conditions**

- Cuba and sugar. *Nat City Bank* p157-63 O '33

**Industries and resources**

- General survey of wages in Cuba, 1931 and 1932. L. R. Blohm. *Monthly Labor R* 35: 1403-11 D '32

**CUBANITE**

- Origin of the Frood ore deposit. B. C. Freeman. *il map Econ Geol* 28:276-88 My '33

**CUDAHY packing company**

- Operated in black during the year to October 31. *Barron's* 12:14 D 5 '32
- Opportunities for income and profit. *Mag of Wall St* 52:434-5 Ag 19 '33
- Report for the fiscal year ended Oct. 29. *Barron's* 12:13 D 19 '32
- Selected stocks to buy for future profit and protection. *Mag of Wall St* 52:30+ Ap 29 '33

**CULTURE mediums. (See Bacteriology—Culture mediums; Molds (botany)—Culture)****CULVERTS**

- Byers wrought iron culverts. *il Ry Age* 94: 826 Je 10 '33
- Culverts for northern Ontario. *il Can Eng* 65:8 O 17 '33
- Drainage and drainage structures. *il diags Pub Works* 63:16-17 D '32
- Supporting strength of rigid pipe culverts. M. G. Spangler. *il diags Iowa State College Eng Exp Sta Bul* 112:1-100 '33
- Unusual designs are used for concrete bridges; grade-revision project on Missouri Pacific. *il Ry Age* 94:468-70 Ap 1 '33

**CUMBERLAND river**

- Five roads protest against Cumberland river expenditures. *Ry Age* 94:38-9 Ja 14 '33

**Regulation**

- A-frame type dam readopted for Cumberland river. F. S. Besson. *il Eng N* 111:401-2 O 5 '33

**CUMMING, Hugh Smith**

- Honorary degrees conferred at Yale university. *Science* 77:622 Je 30 '33

**CUMMINS, Alden C.**

- General superintendent, Duquesne steelworks. Carnegie steel co. *por Steel* 39:19 J1 10 '33

**CUMMINS, James C., 1842-1933**

- Sketch. *por East Underw* 34:5+ F 24 '33

**CUNARD steam ship company**

- Cunard finance. *Economist* 116:698-9 Ap 1 '33

**CUPOLA furnaces**

- Bullard co. makes small cupola of gray iron castings. *diag Foundry* 61:48 Ap '33
- Cupola practice for malleable iron. H. H. Farr. *Foundry* 61:24-5+ Mr '33
- Small cupola handles rush jobs. E. S. Ensign. *il Foundry* 61:22+ Ag '33
- Straight limestone slag in cupola; abstract. R. H. Bancroft and A. C. Myers. *Iron Age* 131:1043 Je 29 '33

**Air supply**

- Preheating the cupola blast. F. K. Vial. *diag Foundry* 61:14-15+ My '33
- Weigh all air entering the cupola. A. W. Weston. *Foundry* 61:24+ O '33

**Charging**

- Cupola charging cranes cut cost. M. H. Kidder. *il Blast F & Steel Pl* 21:267-9 My '33
- Cupola charging made easy at Nash motors foundry. R. Fiske. *il Iron Age* 131:944-5 Je 15 '33

**Testing**

- Test shows cupola melting loss. M. J. Gregory. *il Foundry* 61:18-20+ My '33

**CUPRAMMONIUM solution**

- Glass spheres for viscosity determination of cuprammonium solutions of cellulose. L. S. Grant, jr. and W. M. Billing. *Ind & Eng Chem Anal ed* 5:270-1 J1 15 '33
- Tensile strength and fluidity in cuprammonium hydroxide solution of chemically modified rayon and cotton yarns; oxidation by hypochlorite solutions. E. P. Ridge and H. Bowden. *bibliog diag tables Textile Inst J* 23:7319-66 D '32

**CURBS**

- Radil of curbs at intersections. Lefferts. *diags Pub Works* 63:27 D '32

**CURIE, Marie (Skłodowska), 1867-**

- Discovery of the elements; the radio-active elements. M. E. Weeks. *por J Chem Educ* 10:79-81, 87-8 F '33

**CURIE, Pierre, 1859-1906**

- Discovery of the elements; the radio-active elements. M. E. Weeks. *por J Chem Educ* 10:79-81, 87-8 F '33

**CURL-cloth. See Pile fabrics****CURME, George Oliver, Jr.**

- Awarded Chandler medal for 1933. *Oil Paint & Drug Rep* 123:16 Ja 16 '33; *Science* 77:83 Ja 20 '33; *Chemicals* 38:12 Ja 23 '33

**CURRENT meters**

- New pivots and bearings for small current meters. R. L. Atkinson. *diag Civil Eng* 3: 392-3 J1 '33

**CURTAINS**

- Retailers help this company to style its products; Powdrell & Alexander, Danielson, Conn. *Ptr Ink* 161:66-7 D 29 '32
- Salesmanship—and what it did for Powdrell & Alexander in 1932. *il Textile World* 82: 964-5 N '32

**CURTIS, Cyrus H. K. 1850-1933**

- Advertiser and publisher. R. Dickinson. *por Ptr Ink* 163:24-6 Je 15 '33
- Cyrus Curtis—gentle salesman. L. M. Hughes. *por Sales Management* 32:614+ Je 15 '33
- Sketch. *por Adv & Sell* 21:164 Je 8 '33
- Sketch. *por Inland Ptr* 91:27 J1 '33

**CURTIS publishing company**

- Report for 1932. *Barron's* 13:13 F 13 '33

**CURVE plotting**

- Duration curves. H. A. Foster. *Am Soc C E Proc* 59:1223-45 O '33
- Simplified method of plotting a gravity cam curve. A. S. Kingman. *Mach* 39:503-4 Ap '33

**CURVES (engineering)**

- Calculating vertical curves by first and second differences. C. O. Carey. *Civil Eng* 3: 34-5 Ja '33
- Relining curves by offsets. J. D. W. Ball. *diags Engineer* 155:645-6 Je 30 '33
- Relining for transition curves by offsets. J. D. W. Ball. *Engineer* 156:156 Ag 18 '33

**CUSCOHYGRINE**

Structure of cuscohygrine; synthesis of ethyl homohygrinate. W. E. Sohl and R. L. Shriner. *Am Chem Soc J* 55:3828-33 S '33

**CUSTOMER is always right (phrase)**

About the eternal rightness of the customer. *Ptr Ink* 162:56 Mr 16 '33

**CUSTOMER relations. See Banks and banking—Customer relations; Complaints; Public relations****CUSTOMERS, New**

Customer turnover experience of meat packing companies. H. C. Greer. *J of Business* 6:1-34 pt 2 Ap '33

**CUSTOMERS as stockholders**

Report of the Customer ownership committee, N.E.L.A. J. B. Black. *N E L A Bul* 20:24-5 Ja '33

Sell merchandise, not securities. *Ptr Ink* 163:28 Ap 13 '33

*See also*

Dealers as stockholders

**CUSTOMERS' suggestions. See Suggestions, Customers'****CUTLERY****Manufacture**

Quenching in making Japanese cutlery. S. Sato. *Iron Age* 131:168 Ja 26 '33

Wages and hours in the English cutlery trade, 1931. *Monthly Labor R* 36:370-5 F '33

**CUTTING**

Machining non-metallic materials. *diags Am Mach* 77:565-6, 725 Ag 30, N '33

Press work pressures; cutting (non-metallic materials). C. W. Lucas. *diags Am Mach* 77:376 Je 7 '33

*See also*

Electric cutting

Gear cutting

Metal cutting

Milling

Oxyacetylene cutting

Paper cutting

Steel cutting

Thread cutting

Trepanning

**CUTTING machines**

Campbell Hudorkut submerged cutting machine. *il Sci Am* 148:182-3 Mr '33; *Iron Age* 131:401 Mr 9 '33

Curd Nube cam cutting machine built in three sizes. *il Iron Age* 132:34 O 12 '33

Gasket cutting and punching. C. H. Franklin. *il diag Am Mach* 77:554 Ag 30 '33

Gasket cutting machine. *il Ry Mech Eng* 107:143-4 Ap '33

Hancock portable auto cutting machine. *diag Engineer* 156:supp vii S 8 '33

Reinecker rack-cutting machine. *il Am Mach* 77:608 S 13 '33

Richards vertical slot-drilling and keyway-cutting machine. *il Engineering* 134:640 N 25 '32

Ruesch cutting and polishing machine for carbide wire-drawing dies. *il Am Mach* 77:355 My 24 '33; *Iron Age* 131:822 My 25 '33

Trims flash from welded barrels. *il Iron Age* 131:280 F 16 '33

*See also*

Broaching machines

Chamfering machines

Cutting tools

Gear cutting machines

Metal cutting

Milling cutters

Oxyacetylene cutting

Pipe cutting machines

Reamers

Saws

Screw machines

Shears (machines)

Threading machines

**CUTTING-off machines**

Campbell wet cutting-off machine. *il Mach* 39:355-6 Ja '33

Improved cutting-off equipment for the up-to-date shop. *il Mach* 39:329-30 Ja '33

*See also*

Saws

Wire cutting machines

**CUTTING tools**

Abstracts of papers read at annual meeting of American society of mechanical engineering. *Steel* 91:31 D 19 '32

Alloy 548; a new metal cutting alloy. Z. Jeffries; W. P. Sykes. *il Metal Prog* 23:29-35 F '33

Are nitrided cutting tools successful? C. E. Greenawalt. *il Mach* 39:753-8 Ag '33

Attachment for grinding proper clearance angles on forged tools and tool bits. H. A. Pearson. *diag Mach* 39:718 Jl '33

Automatic under-cutting and facing tools; Gairing tool co. *diags Mach* 39:536-7 Ap '33

Carbide tooling on existing equipment. W. Calkins. *il diags Am Mach* 76:1158-60 N 23 '32

Cemented carbide cutting tools. M. F. Judkins and W. C. Uecker. *il diags Am Mach* 77:325-9, 364-8 My 24-Je 7 '33; Abstract. *Iron Age* 132:32 Jl 6 '33; Excerpt (Recommended tool angles for various materials).

Automotive Ind 69:13 Jl 1 '33; Discussion. R. C. Deale. *Am Mach* 77:554 Ag 30 '33

Choosing a cutting material. R. R. Weddell. *il Am Mach* 77:300-1 My 10 '33

Circular-tooth facing cutter; Samuel Osborn & co. Ltd. *il Engineering* 134:696 D 9 '32

Cutters for fluting taps and reamers. M. Harris. *diags Am Mach* 77:635 S 27 '33; Discussion. M. H. Ball. 77:791 D 6 '33

Cutting tools of Fe-Co-W. W. Köster. *il Metal Prog* 24:42-4 Ag '33

Demonstration of stellite cutting tools. *il Ry Mech Eng* 107:69-70 F '33; *Sci Am* 148:110 F '33; *Mach* 39:281 D '32

Develops low-cost alloy for high-speed cutting. *Steel* 92:19-20 Ja 23 '33

Economies resulting from the nonferrous cutting alloys; abstract. W. G. Robbins. *Min & Met* 14:464 N '33

Getting optimum results from modern cutting tool materials. J. Geschelin. *il Automotive Ind* 69:580-5 N 11 '33

Grinding cemented carbide 30 to 180 times faster. J. Geschelin. *Automotive Ind* 68:402 Ap 1 '33

How long between grinds? R. C. Deale. *diags Am Mach* 77:517-21 Ag 16 '33

Improved lathes for utilizing new cemented carbide cutting tools. *il Automobile Eng* 23:177-9 My '33

Lapping wheels; a special material for tools of the tungsten carbide type. *il Automobile Eng* 23:184 My '33

Long life of tungsten-carbide tools in machining automobile parts; Hudson motor car co. Detroit. *il Mach* 39:247-8 D '32

Machining aluminum and its alloys. *diags Am Mach* 77:501-2 Ag 2 '33

Machining non-metallic materials. *diags Am Mach* 77:565-6 Ag 30 '33

Metal cutting research. *Am Mach* 77:599 S 13 '33

Modern metal-cutting materials and how to select them; results of tests at East Pittsburgh plant of the Westinghouse electric & mfg. co. J. M. Highducheck. *il chart Mach* 40:12-17 S '33

Multi-blade cutting tools. R. R. Weddell. *il Am Mach* 77:428-9, 466-8, 488-91, 526-7, 556-7 Jl 5-Ag 30 '33

Multiple-operation tools of the hollow-mill type. *diags Mach* 39:636-7 Je '33

National Acme circular-chaser cutting tools. *il Mach* 40:179-80 N '33

Proper methods to employ in using tantalum carbide tools. C. E. Stryker. *il Iron Age* 131:744-5 My 11 '33; Abstract. *Steel* 92:52 Ap 10 '33

Ramet tantalum-carbide tools for all metals. *Mach* 39:618-19 My '33

Requirements and composition of cutting tools; abstracts. J. V. Emmons. *Iron Age* 130:608-9+ O 20 '32; *Mach* 39:276-8 D '32

Simple cutting tool for measuring pressures in the direction of cut. O. W. Boston and C. E. Kraus. *il diag Am Soc Steel Tr Trans* 21:623-43; Discussion. 643-51 Jl '33

Simple method of brazing high-speed steel tips to low-carbon steel shanks. J. M. Highducheck. *Mach* 39:445 Mr '33

Some molybdenum high speed steels. J. V. Emmons. *bibliog il Am Soc Steel Tr Trans* 21:193-221; Discussion. 221-32 Mr '33

Spedia lapping wheels and hand laps. *il Mach* 40:180 N '33



**CUTTING tools—Continued**

Trend in metal-cutting materials. R. C. Deale. Mach 39:7-67 Ag '33

See also

Milling cutters  
Tool steel

**Testing**

Hot-hardness of high-speed steels and related alloys; abstract. E. C. Harder and H. A. Grove. Iron Age 131:383 Mr 2 '33

Life of turning tools as influenced by shape. O. W. Boston and W. W. Gilbert. il diags Iron Age 132:32-5 S 28; 24-6 O 5 '33; Excerpt. Automotive Ind 69:674 D 2 '33; Discussion. Iron Age 132:28 O 12 '33

Report on the heat conductivity and hardness of carbon and high-speed steel, also the durability of these steels when cutting brass. D. Smith and A. Nield. diags Inst Mech Eng Proc 123:709-25 '32

**CYANAMIDE**

See also

Calcium cyanamide

**CYANATES**

See also

Alkali metal cyanates  
Thiocyanates

**CYANIDE poisoning**

Dye—an antidote. B. Cohen. Ind & Eng Chem 25:472 Ap '33

Methylene blue and cyanide poisoning. Science 78:sup7 J1 21 '33

Methylene blue, as an antidote. Science 77:sup6-7 Ja 20 '33

Methylene blue as an antidote for cyanide and carbon monoxide. M. M. Brooks. Nat Safety N 27:50 Je '33

Methylene blue as antidote for carbon monoxide and cyanide poisoning. Safety Eng 65:229 Je '33

Sodium tetrathionate and methylene blue in cyanide and carbon monoxide poisoning. J. H. Draize. Science 78:145 Ag 18 '33

Treatment of asphyxia due to carbon monoxide or cyanide by artificial respiration and methylene blue. S. C. Dickinson. Am Gas J 139:22-5 S '33

**Fish**

Coke oven effluents; investigation of their toxicity. B. A. Southgate. Gas J (Lond) 202:216-18 Ap 26 '33

Death of fish from cyanides in coke-oven effluents. C. H. S. Tupholme. Ind & Eng Chem News ed 11:211 J1 20 '33

Water pollution by cyanides. Gas J (Lond) 202:156-7 Ap 19 '33

**CYANIDE process**

Clean-up speeded in small cyanide plant by new zinc-dust precipitation. il Eng & Min J 134:38 Ja '33

Developments in flotation-cyanidation. L. E. Tucker and S. J. Swainson. Eng & Min J 133:618-20 D '32

Loss of oxygen in cyanide solutions. H. V. Wallace. Min & Met 13:522-3 D '32

McIntyre metallurgy; flotation and cyanidation. J. J. Denny. flow sheet il diags plan Eng & Min J 134:472-84 N '33

Merrill-Crowe precipitation process. flow sheet Can Min J 54:37-8 Ja '33

Tellurides—problem or alibi? W. E. Johnston. Eng & Min J 134:333-4 Ag '33; Discussion. 134:412-13 O '33

Le traitement des minerais aurifères par la cyanuration continue. C. Berthelot. il diag Génie Civil 102:485-90 My 27 '33

**CYANIDES**

Effect of some constituents of coke-oven effluents on the rate of decomposition of sewage. B. A. Southgate. Soc Chem Ind J 52:1T-4T Ja 13 '33

Studies on alkylated complex cyanides; the isomerism of the alkylated ferrocyanides; hexaethylated ferrocyanides. E. G. J. Hartley and H. M. Powell. Chem Soc J p101-5 Ja '33

Die wichtigsten neuerungen auf dem gebiete der anorganisch-chemischen industrie in den Jahren 1927-1931. A. Bräuer, J. Reitstötter und H. Siebeneicher. bibliog Angew Chemie 46:7-15 Ja 7 '33

**Analysis**

Accurate determination of cyanide by distillation from sulfuric acid solution. H. A. Pagel and W. Carlson. Am Chem Soc J 54:4487-9 D '32

**CYANINES**

Cyanine dyes. M. Q. Doja. Chem R 11:273-321 [bibliog p315-21] D '32

Photographic sensitizers. H. V. Horton. Soc Chem Ind J (Chem & Ind) 52:495 Je 16 '33

Recent advances in sensitizers for the photography of the infrared. L. G. S. Brooker, F. M. Hamer and C. E. K. Mees. bibliog il Opt Soc Am J 23:216-22 Je '33

Tricarbocyanines. N. I. Fisher and F. M. Hamer. Chem Soc J p189-93 F '33; Abstract with discussion. Soc Chem Ind J (Chem & Ind) 52:126-7 F 10 '33

**CYANITE**

Cyanite deposits of North Carolina. J. L. Stuckey. il map Econ Geol 27:661-74 N '32; Discussion. J. A. Dunn. 28:692-5 N '33

Kyanite in Virginia. A. I. Jonas. pls map Virginia Geol S Bul 38:1-52 '32

Minerals with the composition  $Al_2O_3 \cdot SiO_2$ . H. Insley. Am Cer Soc J 16:58-60 Ja '33

**CYANOGEN**

Heat of combustion, entropy and free energy of cyanogen gas. J. McMorris and R. M. Badger. bibliog diag Am Chem Soc J 55:1952-7 My '33

**CYANOGEN iodide**

Anomalous electrolytes; the electrical conductivity of solutions of iodine and cyanogen iodide in pyridine. L. F. Audrieth and E. J. Birr. Am Chem Soc J 55:668-73 F '33

**CYANOHYDRINS**

Synthetical experiments in the isoflavone group; limitations of the phenacyl aryl ether cyanohydrin method. W. Baker, W. M. Morgans and R. Robinson. Chem Soc J p374-5 Ap '33

**CYANOMACLURIN**

Experiments on the synthesis of cyanomacclurin and its derivatives; 3:5:7:2':4'-penta-methoxyflavan. A. L. Bhalla and J. N. Ráy. Chem Soc J p288-90 Mr '33

Synthesis of pyrylium salts of anthocyanidin type; morindin chloride; observations on cyanomacclurin. E. H. Charlesworth, J. J. Chavan and R. Robinson. Chem Soc J p370-4 Ap '33

**CYCLE cars**

Les applications du pneumatique à la voie ferrée; les motocyclettes-draisines, système Alcyon, pour route et pour voie ferrée. G. Delanghe. il diags Génie Civil 102:303-6 Ap 1 '33

Continental sidecars. il Automobile Eng 22:606 D '32

Dual-purpose sidecar body. diags Automobile Eng 23:77-8 F '33

Motordreiräder. E. Wesnigk. diags Zeit Ver Deutsch Eng 77:96-7 Ja 28 '33

**CYCLIC compounds**

Anionotropic and prototropic changes in cyclic systems; hydroxycyclopentenones. H. Burton, C. W. Shoppee and C. L. Wilson. Chem Soc J p720-31 Je '33

Applications of thallium compounds in organic chemistry; changes observed on replacing dialkylthallium by trimethylplatinum in chelate rings. R. C. Menzies and E. R. Wiltshire. Chem Soc J p21-2 Ja '33

Applications of thallium compounds in organic chemistry; molecular association of dialkylthallium chelate compounds. E. R. Wiltshire and R. C. Menzies. Chem Soc J p2734-9 N '32

Cyclic and polymeric compounds from the reactions of ethylene mercaptan with polymethylene halides. N. B. Tucker and E. E. Reid. Am Chem Soc J 55:775-81 F '33

## CYCLIC compounds—Continued

- Cyclization of substituted divinylacetylenes. D. T. Mitchell and C. S. Marvel. *Am Chem Soc J* 55:4276-9 O '33
- Die fortschritte in der organischen chemie 1929-1931, heterocyclische reihe. R. Oppenauer and T. Reichstein. *Angew Chemie* 45: 751-8 D 3 '32
- Indene from alpha, gamma-bisdiphenylene-beta-phenyllalyl alcohol. C. F. Koelsch. *Am Chem Soc J* 54:4744-9 D '32
- Planar forms of large carbon rings. H. D. K. Drew. *diags Soc Chem Ind J (Chem & Ind)* 52:538-40 Je 30 '33
- Researches in cyclic acetals; formation of cyclic acetals of 4,5-dihydroxy-2,6-octadiene. C. P. Burt, D. R. Corcoran and I. V. Koerber. *Am Chem Soc J* 55:2068-70 My '33
- Ring-system of sterols and bile acids. O. Rosenheim and H. King. *Soc Chem Ind J (Chem & Ind)* 51:464-6, 954-7; 52:299-301 My 27, N 18 '32, Ap 7 '33; Discussion. E. L. Kennaway and J. W. Cook. 51:521 Je 10 '32
- Rotatory dispersion of organic compounds; cyclic derivatives of tartaric and malic acids. B. Jones. *Chem Soc J* p785-96 J1 '33
- Stability of cyclic compounds. F. J. F. Dippy. *Soc Chem Ind J (Chem & Ind)* 52:179 Mr 3 '33; Same. *Chem Age (Lond)* 28:190 Mr 4 '33
- Study of the cyclization of a series of  $\alpha,\omega'$ -dicarbethoxydialkylmethylamines through the acetoacetic ester condensation. E. A. Prill and S. M. McElvain. *Am Chem Soc J* 55:1233-41 Mr '33
- Syntheses of cyclic compounds; the thermal decomposition of substituted glutaric acids;  $\beta\beta$ -dimethylglutaric, cyclopentane- and cyclohexane-1:1-diacetic acids, and the mechanism of the reaction. A. I. Vogel. *Chem Soc J* p1028-31 Ag '33
- Syntheses of polycyclic compounds related to the sterols. G. A. R. Kon. *Chem Soc J* p1081-7 Ag '33
- Synthesis of compounds related to the sterols, bile acids, and oestrus-producing hormones; 1:2-cyclopentenophenanthrene. J. W. Cook and C. L. Hewett. *Chem Soc J* p1098-1111 Ag '33
- See also  
Cycloparaffin series
- CYCLOHEXADIENE**  
Systems of sulfur dioxide and hydrogen derivatives of benzene. W. F. Seyer and E. G. King. *diags Am Chem Soc J* 55:3140-9 Ag '33
- CYCLOHEXANE**  
Equilibrium in the system cyclohexane-benzene-hydrogen. R. B. Purdum and R. N. Pease. *diag Am Chem Soc J* 55:3109-11 Ag '33
- Freezing points of solutions of nitro-benzene in benzene and cyclohexane, and their relations to the electrical polarisation. L. G. Davy and N. V. Sidgwick. *Chem Soc J* p281-6 Mr '33
- Preparation of some mono- and dialkylcyclohexanes. F. K. Signaigo and P. L. Cramer. *Am Chem Soc J* 55:3326-32 Ag '33
- Sur la décomposition pyrogénée du cyclohexane et du cyclohexène en présence de silicagel. A. Mailhe. *Chimie & Ind* 29:759-65 Ap '33
- CYCLOHEXANOL**  
Preparation of some mono- and dialkylcyclohexanes. F. K. Signaigo and P. L. Cramer. *Am Chem Soc J* 55:3326-32 Ag '33
- CYCLOHEXANONE**  
Improved grade of cyclohexanone. *Chem Age (Lond)* 28:494 My 27 '33
- Supposed enolizing power of organic magnesium compounds. E. P. Kohler and D. Thompson. *Am Chem Soc J* 55:3822-3 S '33
- Über die beeinflussung der brechung von flüssigkeitsgemischen durch geringe säuremengen. T. Tomonari. *Angew Chemie* 46: 269-71 My 13 '33
- CYCLOHEXENE**  
Sur la décomposition pyrogénée du cyclohexane et du cyclohexène en présence de silicagel. A. Mailhe. *Chimie & Ind* 29:759-65 Ap '33
- Systems of sulfur dioxide and hydrogen derivatives of benzene. W. F. Seyer and E. G. King. *diags Am Chem Soc J* 55:3140-9 Ag '33
- Vapor pressure of crystalline benzene and cyclohexene. V. R. Deitz. *diags Am Chem Soc J* 55:472-5 F '33
- CYCLOHEXYL bromide**  
Reaction of organic halides with piperidine; cyclohexyl bromide and the butyl bromides. W. V. Drake and S. M. McElvain. *Am Chem Soc J* 55:1155-8 Mr '33
- CYCLOHEXYL group**  
Organic derivatives of silicon; steric effects of the cyclohexyl group. N. W. Cusa and F. S. Kipping. *Chem Soc J* p1040-3 Ag '33
- CYCLOHEXYLPHENOLS**  
Some nitrocyclohexylphenols and their derivatives. J. F. Bartlett and C. E. Garland. *Am Chem Soc J* 55:2064-8 My '33
- CYCLOPARAFFIN series**  
Some student experiments in and out of the cycloparaffin series. E. C. Wagner. *bibliog J Chem Educ* 10:113-17 F '33
- CYCLOPENTENE oxide**  
Reformatsky reaction with compounds of the ethylene oxide type. G. R. Clemo and J. Ornston. *Chem Soc J* p362 Ap '33
- CYCLOPENTENOPHENANTHRENE**  
Dehydrogenation of cholesterol. J. W. Cook and C. L. Hewett. *Soc Chem Ind J (Chem & Ind)* 52:451-2 My 26 '33
- Structure of the Diels' hydrocarbon  $C_{18}H_{16}$ . J. D. Bernal and D. Crowfoot. *Soc Chem Ind J (Chem & Ind)* 52:729-30 S 8 '33
- CYCLOPROPANE**  
Analysis of propylene and cyclopropane in mixtures containing both. S. Z. Roginski and F. H. Rathmann. *Am Chem Soc J* 55: 2800-5 J1 '33
- CYCLOPROPENE**  
Furan reactions; cyclopropene. C. D. Hurd and F. D. Pilgrim. *Am Chem Soc J* 55:1195-7 Mr '33
- CYCLORAMAS**  
Panorama building heated by warm-air system; Pantheon de la guerre. A. E. Beitzell. *il Heat & Ven* 29:20-2 D '32
- CYLINDERS**  
High-pressure hydraulic cylinders made from welded steel plates. *il Steel* 93:39 Ag 14 '33
- Über gleichdicke. A. E. Mayer. *diags Zeit Ver Deutsch Ing* 76:884-6 S 10 '32
- Volume common to two intersecting cylinders. N. B. Moore. *Civil Eng* 3:530 S '33
- CYLINDERS (engines, etc.)**  
Aluminum cylinder heads urged as way to better design. F. F. Kishline. *S A E J* 32: 121-3 Ap '33; Same. *Automobile Eng* 23:209-10 Je '33
- Corrosion-accelerated wear; its effect in relation to cylinders and bearings. H. J. Young. *il Automobile Eng* 23:295-7 Ag '33
- Cylinder wear. *Automobile Eng* 23:298 Ag '33
- Effect of cylinder distortion. R. R. Teetor. *Automotive Ind* 69:232-3 Ag 26 '33
- Heat and corrosion resistant cast irons having a wide range of expansion properties. T. H. Wickenden. *Automotive Ind* 69:428-9 O 7 '33
- High-output poppet-valve cylinders; abstracts. F. L. Prescott. *Automotive Ind* 69:339 S 16 '33; *Aviation* 32:323 O '33
- Hydraulic action in ring design. D. D. Robertson. *diag Automotive Ind* 69:233-5 Ag 26 '33
- Improvements in cylinder iron. J. B. Fisher. *S A E J* 31:437 N '32; Same. *Automobile Eng* 23:6 Ja '33
- New theory to explain concentrated wear of cylinder bore. H. Ricardo. *Automotive Ind* 68:429-30 Ap 8 '33
- Some notes and observations on petrol and Diesel engines; cracking of bearing linings and wear of cylinders. H. R. Ricardo. *diags Roy Aeronautical Soc J* 37:518-22 Je '33; *Abstract. Automotive Ind* 68:429-30 Ap 8 '33; *Discussion. Roy Aeronautical Soc J* 37:523-46 Je '33; *Automotive Ind* 69:153-4 Ag 5 '33



CYLINDERS (engines, etc.)—*Continued*

## Lining

- Nitrided cast iron cylinder liners. F. Giolitti. Metal Prog 24:45 S '33  
Two repairs made on loose cylinder linings. J. Cassidy. diags Power 77:589-90 N '33

## Manufacture

- Accuracy features cylinder cores; casting of Ford V-8 engine. il Foundry 60:12-14+ N '32  
Block in 51 seconds; new mirror-like micro-matic honing process. K. W. Connor. il Automotive Ind 68:201-2 F 18 '33  
Cylinder gauging; a comparison of methods and a new type of gauge. diag Automobile Eng 22:568 D '32  
Diesel engine cylinders; alloyed cast irons and their preparation and use. Automobile Eng 23:346 S '33  
Finishing cylinder bores; new method employed at the Austin works. il Automobile Eng 23:14 Ja '33  
Hones for producing smooth and accurate bores. il diags Mach 39:772-6, 777 Ag '33  
How electric refrigerators are made noiseless; Westinghouse electric & mfg. co. C. O. Herb. il Mach 39:561-4 My '33  
Melting high test non-shrinking pearlitic iron. H. H. Judson. il Metal Prog 23:20-4 Ap '33  
Micromatic develops hone for blind end cylinders. il diag Automotive Ind 69:490 O 21 '33  
Motor cylinder re-boring bar. il Engineer 156:218 S 1 '33  
109° below zero; an ideal temperature for certain metal-working operations. C. O. Herb. il diags Mach 39:305-9 Ja '33

## Repair

- Cylinder maintenance; upkeep of a fleet of heavy vehicles. W. F. Enever. Automobile Eng 22:561-2 N '32

## Testing

- Cylinder irons; a study of the material in three commercial vehicle engine cylinders. J. E. Hurst. Automobile Eng 23:245-7 Jl '33  
Cylinder wear; editorial. Engineering 136:41-2 Jl 14 '33  
Cylinder wear; report by the Institution of automobile engineers. il diag Engineer 155: 634-6, 660-2 Je 23-30 '33; Same. Automobile Eng 23:259-64 Jl '33  
Experiments with a supercharged single-cylinder high-speed petrol engine. G. F. Mucklow. Engineering 134:762 D 30 '32; Abstract. Mech Eng 55:122-4 F '33; Discussion. Engineering 134:744 D 23 '32

## CYMENE

- Volume effects of alkyl groups in aromatic compounds; influence of a group  $CR_2R_3Alk$  on vicinal substitution. R. J. W. Le Fèvre. Chem Soc J p980-4 Ag '33

## CYNOMARATHRUM nuttallii

- Volatile oil and resin of cynomarathrum nuttallii. E. K. Nelson. Am Chem Soc J 55: 3400-2 Ag '33

## CYPRESS

- American cypress and its uses. il U S Bur For & Dom Com Trade Promotion Ser 141: 1-28 '32  
Cypress cottage proves rustic charin; Century of progress exposition. il plans Am Bld 55: 38-9 Je '33

## CYRTOLITE

- Age of a Canadian cyrtolite. O. B. Muench. Am J Sci 5th ser 25:487-93 Je '33  
Atomic weight of lead from Bedford cyrtolite. G. P. Baxter and C. M. Alter. Am Chem Soc J 55:1445-8 Ap '33; Abstract. Science 76: 524-5 D 2 '32

## CYSTEINE

- Action of carbon monoxide on iron and cobalt complexes of cysteine. M. P. Schubert. Am Chem Soc J 55:4563-70 N '33  
Action of heavy metals on cysteine and on sulphhydryl groups of proteins. S. M. Rosenthal and C. Voegtlin. bibliog Pub Health Rep 48:347-64 Ap 7 '33  
Growth retardation by the partially oxidized sulphhydryl of cysteine. F. S. Hammett. Science 77:190 F 17 '33

- Iodimetric titration of cysteine and allied substances; abstract. C. C. Lucas and E. J. King. Can Chem & Met 17:29 F '33  
New complex of cobalt and cysteine and its behavior with hydrogen peroxide. M. P. Schubert. Am Chem Soc J 55:3336-42 Ag '33

## CYTISINE

- Cytisine. H. R. Ing. Chem Soc J p2778-80 N '32

## CYTOSINE

- Pyrimidines; their amino and aminoöxy derivatives. T. B. Johnson and D. A. Hahn. Chem R 13:193-303 [bibliog and index p290-303] O '33

## CZECHOSLOVAKIA

- See also  
Chemical industries Labor and laboring classes—Czechoslovakia

## Commerce

- Situation in Austria and Czechoslovakia. Soc Chem Ind J (Chem & Ind) 52:612-13 Jl 28 '33

## Commercial policy

- Exchange war; Czechoslovakia attacks German tariffs; Germany retaliates. Business Week p21 Ap 12 '33

## Economic conditions

- Czechoslovakia in 1932. Economist 116:sup20-1 F 18 '33  
Economic crisis in Czechoslovakia. Chem Age (Lond) 29:147 Ag 12 '33

## Foreign relations

- Dr. Benesh and treaty revision. Economist 116: 901-2 Ap 29 '33

## CZERMANSKI, Zdzislaw

- San Francisco; portfolio of pastels by Zdzislaw Czermanski. Fortune 7:22-6 Ja '33

## D

## DAIDZEIN

- Synthetical experiments in the isoflavone group; synthesis of daidzein. W. Baker, R. Robinson and N. M. Simpson. Chem Soc J p274-5 Mr '33

## DAIRIES

## Electric equipment

- Dairy exhibition. Elec R (Lond) 113:553-4 O 20 '33  
Dairy products plant saves by centralized operations. L. V. Glavinovich. il Elec W 102:470-3 O 7 '33  
Dairy sterilizing with an electric boiler. D. B. Leonard. il diag Elec W 101:109 Ja 21 '33  
Electricity in the milk industry; dairy of Bradford co-operative society. S. Gunson. il Elec R (Lond) 112:551-2 Ap 21 '33  
Elektrizität im molkereibetrieb. O. Schäffer. Zeit Ver Deutsch Ing 77:934-5 Ag 26 '33  
Load building possibilities of the latent steam boiler for use on dairy farms. D. B. Leonard. Elec West 70:268-9 Je '33

## Equipment

- Most perfect milk possible. O. Erf. il Sci Am 148:210-11 Ap '33  
Saving 75 per cent in floor space requirements; closed-plate type heat exchanger permits doubling of pasteurizing and cooling capacity. D. B. Goldberg. il Food Ind 5:350-2 S '33  
Soft soldering dairy equipment. il Am Mach 77:474-5 Jl 19 '33

## Power

- Creameries the nucleus for rural electrification; abstract. C. R. Stewart. Elec R (Lond) 112:167 F 3 '33

## DAIRY industries exposition

- Colorful paintings build exposition attendance; Dairy & ice cream & machinery supplies association. il Ptr Ink Mo 25:42 D '32

**DAIRY machinery**

Dairy exhibition. il Elec R (Lond) 113:553-4 O 20 '33

**DAIRY products**

How science can help to improve the nation's food supply; milk and dairy products. H. D. Kay. Soc Chem Ind J (Chem & Ind) 52: 624-7 Ag 4 '33; Excerpts. Chem Age (Lond) 29:78 JI 22 '33; Discussion. Soc Chem Ind J (Chem & Ind) 52:628-30 Ag 4 '33; Chem Age (Lond) 29:79-80 JI 22 '33

See also

Butter Casein Cheese Milk

**Prices**

Index numbers, monthly, 1913-1932. Survey of Cur Business 13:20 My '33

**Statistics**

Dairy products, 1931; monthly statistics. Survey of Cur Business 13:20 Ja '33  
Milk and milk products. Food Ind 5:52-3 F '33

**DAIRYING**

Dairy industry is based on refrigeration. C. T. Baker. il Refrig Eng 25:318-19 Je '33  
Operation and management of milk plants. C. E. Clement. il U S Agric Circ 260:1-51 '33

See also

Milk Great Britain

Animal industry in the British Empire. A. N. Duckham. 23p Oxford '32

**Southern states**

Growth of dairying in the South. J. H. Kraft. il Manuf Rec 102:18-19 S '33

**United States**

Excess production keeps milk prices low. R. Brennan. Dun & Bradstreet 41:6-9 Mr 11 '33  
Lower production and higher prices help dairy industry. Dun & Bradstreet 41:13-15 S '33  
What's wrong with the dairy stocks? P. Dobbs. Mag of Wall St 53:24-5+ O 28 '33

**DALLAS, Texas**

Basic reasons for industrial growth of Dallas. C. V. Wallis. il Manuf Rec 102:20-1 Ag '33

**Sewerage**

Comprehensive storm sewer system for Dallas. il map Eng N 110:216-19 F 16 '33

**DALTON, Henry G. 1862-**

Senior partner, Pickands, Mather & co. Steel 92:19 Je 12 '33

**DAMAGES**

Complainants denied damages; blasting operations of Federal crushed stone corp. Buffalo, N.Y. are properly conducted. Rock Prod 36: 41 Je '33

Detroit awarded nominal damages in sewer suit. Eng N 110:360 Mr 16 '33

Publicity value of large verdicts is questioned. T. N. Bartlett. East Underw 33:32 D 2 '32

Sewage disposal problem of interest—and a case at law. Water Works & Sewerage 80: 65 F '33

See also

Accidents, Industrial Eminent domain Employers' liability Negligence Public utilities—Claims Railroads—Claims Workmen's compensation

**DAMPERS**

Improved piping arrangement for operating a damper regulator. W. H. Wilson. diag Heating-Piping 5:248-9 My '33

Setting dampers by static. W. E. Keist. plan Sheet Metal Worker 24:111-12 Ap '33

**DAMPNESS in buildings**

Dampness in masonry walls above grade. J Fr Inst 216:539-41 O '33

See also

Waterproofing

**DAMS**

A-frame type dam readopted for Cumberland river. F. S. Besson. il Eng N 111:401-2 O 5 '33

Athens builds modern water works. R. W. Gausmann. il Civil Eng 3:3-4 Ja '33

Les barrages conjugués et installations de pompage. G. Laporte. Soc Ing Civils Bul 85:687-706 My '32

Building large earth dams with C.C.C. labor; Winooski River flood-control project in Vermont. il diags Eng N 111:551-6 N 9 '33

Cauvery Mettur dam. map Engineer 155:558 Je 2 '33

Cle Elum dam completes storage for Yakima project. R. J. Newell. il diag plan Eng N 111:397-400 O 5 '33

Construction of the Cobble Mountain dam of the Springfield water works. H. H. Hatch. il N E Water Works Assn J 46:327-44 D '32; Same. Eng & Contr 71:233-8 O '32

Design and construction of rolled-earth dams. R. R. Proctor. il Eng N 111:245-8, 286-9, 348-51, 372-6 Ag 31-S 7, 21-28 '33

Discharge through Tainter gate openings; observations made at dams on the Oswego river, New York. T. M. Ripley. il diags Civil Eng 3:386-8 JI '33

Egypt and the Sudan; abstracts. M. Macdonald. Engineer 154:460-1 N 4 '32; Engineering 134:562-3 N 11 '32

Enclosure of the Zuyder Zee. B. Cunningham. il map Engineering 134:553-4, 555 N 11 '32

Glory Hole spillway; Owyhee River dam. A. P. Connor. il diags Power Pl Eng 37:482-3 N '33

Improved internal drainage for hydraulic-fill dams. E. M. Moore. diag Eng N 111: 224-5 Ag 24 '33; Discussion. J. D. Justin. 111:448-9 O 12 '33

International congress on large dams, 1st, Sweden and Norway. Engineer 156:64-5, 90-1 JI 21-28 '33

Large dams nearing completion. Can Eng 64:11 Je 6 '33

Metur dam, Madras. il Engineering 135:55 Ja 13 '33

Modern methods used on reclamation projects. E. Mead. il Civil Eng 3:448-51 Ag '33

New water supply serves Pennsylvania coal towns; Panther valley water co. builds rolled-fill dam on tributary of Little Schuylkill. il diag map Eng N 110:50-2 Ja 12 '33

Non-slip hydraulic-fill dam for San Diego. H. N. Savage. il diags plan Eng N 111:33-6 JI 13 '33

Percolation slope in dams measured by new device. L. L. Meyer. il diags Eng N 110: 109-10 Ja 26 '33

Le premier Congrès des grands barrages (Stockholm, juin-juillet 1933). A. Genthal. Génie Civil 103:353-6 O 7 '33

Rapid progress being made on Norris Dam preliminaries. Eng N 111:422 O 5 '33

Record well-drill blast aids progress at San Gabriel dam no. 2. R. C. Fleming. il diags Explosives Eng 11:231-7 Ag '33

Severn barrages scheme; abstracts of report. maps Engineering 135:394-6 Ap 7 '33; Engineer 155:317-19 Mr 31 '33

Das staubecken Ottmarchau; ein erster schritt zur verbesserung der Oderschiffahrtsstrasse. E. Krieg. il diags map Zeit Ver Deutsch Ing 77:1057-60 S 30 '33

Steel joints in rockfill dams. M. M. O'Shaughnessy. Eng N 109:657 D 1 '32

Turbines and hydraulic equipment of the Chats Falls development. O. Holden. il diags plan Can Eng 64:5-8 My 9 '33

Water conservation—the key to national development. C. V. Davis. il Sci Am 148:92-5 F '33

Work begun on Bonneville dam on the lower Columbia river across the Oregon-Washington boundary. il Eng N 111:556-7 N 9 '33

Wyman development arrests steam generation. H. K. Fairbanks. il plans Elec W 102:620-3 N 11 '33

See also

Cofferdams Colorado river—Boulder Dam project Dikes (engineering) Earth pressure Embankments Hydroelectric plants Irrigation Reservoirs Rivers—Regulation Spillways



## DAMS—Continued

## Cost

- Concrete bridge and earth dam, Michigan; unit prices. Eng N 110:608 My 11 '33  
 Dam and two locks, Allegheny river; unit prices. Eng N 109:700 D 8 '32  
 Earth dam for Hartford water supply; unit prices. Eng N 111:214 Ag 17 '33

## Design

- Actual deflections and temperatures in a trial load arch dam; Ariel hydro-electric development. A. T. Larned and W. S. Merrill. il diags map plan Am Soc C E Proc 59: 723-61 My '33; Discussion. 59:1204-6, 1354-7, 1455-60, 1639-47 S-D '33  
 Arch dam built in isolated blocks to reduce shrinkage effects; Grimsel dam in Swiss Alps. F. A. Noetzel. il diags Eng N 110: 78-9 Ja 19 '33  
 Arizona adopts a code for dams. J. A. Fraps. il Civil Eng 3:272-6 My '33  
 Articulated buttress type dams for municipal water supply projects. D. A. Dedel. il diags Pub Works 64:35-7 Jl '33  
 Le barrage en arc à angle constant de Diabolo (Washington, E.-U.). diags plan Génie Civil 103:308-10 S 23 '33  
 Colorado River board approves design of Hoover dam. plan Eng N 109:711-12 D 15 '32  
 Compensated arch dam. A. V. Karpov. diags Am Soc C E Proc 58:507-43 Ap '32; Discussion. 58:1417-24; 59:457-76, 829-31 O '32, Mr. My '33  
 Construction and design of arch dams; results of Engineering foundation's investigation. Can Eng 65:9-10+ Ag 1 '33  
 Determination of principal stresses in buttresses and gravity dams. W. H. Holmes. diags Am Soc C E Proc 58:71-93 Ja '32; Discussion. 58:859-79, 1095-9, 1393-1400, 1796-1802; 59:449-56 My, Ag, O, D '32, Mr '33  
 Diabolo constant-angle arch dam. L. Jorgensen. il diags Engineering 136:2-6, pl 1 Jl 7 '33  
 Fallacy of the middle third theory. S. Shulits. diags Boston Soc C E J 20:150-2 S '33  
 Festigkeitsuntersuchungen bei staudämmen. R. Seifert. Zeit Ver Deutsch Ing 77:361-5 Ap 8 '33  
 High dams on pervious glacial drift. E. M. Burd. diags Am Soc C E Proc 59:537-63 Ap '33; Discussion. 59:920-1, 1201-3, 1348-53, 1444-54 My, S-N '33  
 Hydraulic-model tests for Boulder Dam spillways. E. W. Lane. il diags Eng N 111:155-9 Ag 10 '33  
 Metal-faced gravel dam being built in New Mexico. H. P. Bunker. diags Eng N 111: 504-5 O 26 '33  
 Pasadena builds Pine Canyon dam; domestic water supply and storage project on the San Gabriel river. S. B. Morris. il diag plan map Civil Eng 3:309-13 Je '33  
 Profile for a low dam determined by models; Cochiti diversion dam, near Santa Fe, N.M. A. W. Newcomer. il map diag Civil Eng 3: 9-13 Ja '33  
 La recherche et la mesure des déformations dans les grands barrages en béton. H. Juillard. Génie Civil 103:403-6 O 21 '33  
 Redesign and construction of Prettyboy dam. il diags Eng N 111:63-7 Jl 20 '33  
 Roller-gate dams for Kanawha river. il diags Eng N 111:337-42 S 21 '33  
 Round-head buttress dam. F. A. Noetzel. il diags Am Concrete Inst J 4:161-83 D '32  
 Stability of straight concrete gravity dams. D. C. Henny. il diags Am Soc C E Proc 59:1071-91 S '33; Discussion. 59:1508-10, 1657-9 N-D '33  
 Stresses in inclined arches of multiple-arch dams. G. E. Goodall and I. M. Nelidov. Am Soc C E Proc 58:387-407 Mr '32; Discussion. 58:1401-16; 59:364-8 O '32, F '33  
 Study of stilling-basin design. C. M. Stanley. il diags Am Soc C E Proc 58:1521-43 N '32; Discussion. 59:673-81 Ap '33  
 Technical design of high masonry dams. I. E. Houk. il Engineer 156:104-6, 128-30, 138 Ag 4-11 '33

- Temiscouata storage dam on sand foundation. J. H. Ings. il diags Civil Eng 3:322-5 Je '33  
 Water-bearing members of articulated buttress dams. H. D. Birke. diags Am Soc C E Proc 59:1133-47 S '33

## Extensions

- Heightening of the Aswan dam. il diags supp Engineer 155:542-5 Je 2 '33; Abstract. Génie Civil 103:29-33 Jl 8 '33  
 Initial and final dam heights; economical means of increasing storage capacity. E. H. Burroughs. il diags Civil Eng 3:14-16 Ja '33  
 Power dam raised 30 ft. under full head; Bristol dam in New Hampshire. il diags Eng N 111:185-8 Ag 17 '33

## Failures

- Castlewood Dam failure floods Denver. il diags Eng N 111:174-6, 182 Ag 10 '33  
 Corewall in rockfill dam tilts when reservoir fills; Oued Kébir dam of Tunis water-supply system. F. A. Noetzel. diag Eng N 109:529-30 N 3 '32; Discussion. L. E. Ayres. 109:786 D 29 '32  
 Data on Castlewood Dam failure and flood. J. E. Field. Eng N 111:279-80 S 7 '33  
 Slide in Belle Fourche dam follows reservoir drawdown. il Eng N 111:371 S 28 '33

## See also

- Dams, Concrete—  
 Failures

## Flashboards

- Flashboard resetting platform conserves water. il diag Elec W 102:273 Ag 26 '33  
 Flashboards removed by hoist and rope. I. W. Jones. Power 77:241 My '33  
 Power-driven hoists handle McIndoes Dam flashboards. diags Power 77:570-1 N '33

## Foundations

- Arizona adopts a code for dams. J. A. Fraps. il Civil Eng 3:195-6 Ap '33  
 Festigkeitsuntersuchungen bei staudämmen. R. Seifert. Zeit Ver Deutsch Ing 77:361-5 Ap 8 '33  
 Foundation treatment at Rodriguez dam. C. P. Williams. diags Am Soc C E Proc 58:1375-85 O '32; Discussion. 59:503-9 Mr '33  
 Grouting dam foundations and construction joints; experience at Calderwood dam. J. B. Hays. il diags plan Civil Eng 3:606-10 N '33  
 High dams on pervious glacial drift. E. M. Burd. diags Am Soc C E Proc 59:537-63 Ap '33; Discussion. 59:920-1, 1201-3, 1348-53, 1444-54 My, S-N '33  
 How masonry dam was built over geological fault; Rodriguez dam. il Pub Works 64:9-10 My '33  
 Unusual features of the Rodriguez Dam construction; Ambursen type. C. P. Williams. Am Water Works Assn J 25:355-66 Mr '33

## Laws and regulations

- Arizona adopts a code for dams. J. A. Fraps. il Civil Eng 3:195-9, 272-6 Ap-May '33  
 Arizona publishes a code for guidance in building dams. Eng N 109:771-2 D 29 '32  
 Recommendations for legislation and for application of law. A. H. Markwart. Am Soc C E Proc 58:20-7 Ja '32; Discussion. 58:502-4, 634-93, 839-51, 1081-90; 59:357-63 Mr-My, Ag '32, F '33

## Models

- Hoover Dam model at Century of progress. Power Pl Eng 37:290 Jl '33  
 Profile for a low dam determined by models; Cochiti diversion dam, near Santa Fe, N.M. A. W. Newcomer. il map diag Civil Eng 3: 9-13 Ja '33  
 Severn barrage model experiments; abstracts. A. H. Gibson. il Engineer 155:623-4, 626 Je 23 '33; Engineering 135:599-600 Je 2 '33

## Protection

- Causes and prevention of bed erosion and the protection of structures controlling rivers and canals. A. D. Butcher and J. D. Atkinson. Engineering 134:709 D 16 '32

**DAMS—Protection—Continued**

Preventing the disintegration of dams; general causes of damage and remedial measures used in Scandinavia. O. Reed. *il diags Civil Eng* 3:26-30 Ja '33

Thin concrete diaphragm makes dam watertight; Ringedal dam, Norway. *il Comp Air M* 38:4238 O '33

**Repair**

Corewall in rockfill dam tilts when reservoir fills; Oued Kébir dam of Tunis water-supply system. F. A. Noetzli. *diag Eng N* 109:529-30 N 3 '32; Discussion. L. E. Ayres. 109:786 D 29 '32

Slide in Belle Fourche dam follows reservoir drawdown. *il Eng N* 111:371 S 28 '33

**Safety measures**

Legislation on safety of dams. *Civil Eng* 3:466 Ag '33; Power 77:348 Jl '33

**Testing**

Tests for hydraulic-fill dams. H. H. Hatch. *diags Am Soc C E Proc* 58:1301-42 O '32; Discussion. 59:212-15, 387-9, 495-502, 617-20, 843-57, 1167-84 Ja-My, S '33

**Uplift pressure**

Stability of straight concrete gravity dams. D. C. Henny. *il diags Am Soc C E Proc* 59:1071-91 S '33; Discussion. 59:1508-10, 1657-9 N-D '33

**DAMS, Concrete**

Actual deflections and temperatures in a trial load arch dam; Ariel hydro-electric development. A. T. Larned and W. S. Merrill. *il diags map plan Am Soc C E Proc* 59:723-61 My '33; Discussion. 59:1204-6, 1354-7, 1455-60, 1639-47 S-D '33

Andalusian power station; Jandula hydro-electric power station. *il Elec R (Lond)* 113:385 S 22 '33

Arch dam built in isolated blocks to reduce shrinkage effects; Grimsel dam in Swiss Alps. F. A. Noetzli. *il diags Eng N* 110:78-9 Ja 19 '33

Arch dam committee Am. Soc. C. E. renders final report. *Civil Eng* 3:347-8 Je '33

Arizona adopts a code for dams. J. A. Fraps. *Civil Eng* 3:275-6 My '33

Le barrage en arc à angle constant de Diabolo (Washington, E.-U.). *diags plan Génie Civil* 103:308-10 S 23 '33

Belt conveyors place concrete for Vermont dam in the Alps. B. Widman. *il diags Eng N* 109:126-9 Ag 4 '32; Abstract. *Mech Handling* 20:8-11 Ja '33

Building Hamilton dam on Colorado river in Texas. *il diags plan Eng N* 110:59-62 Ja 12 '33

Cement investigations for the Hoover dam. R. E. Davis and others. *Am Concrete Inst J* 4:413-31 Je '33; Abstract. *Concrete* 41:14 Ag '33

Colorado River board approves design of Hoover dam. *plan Eng N* 109:711-12 D 15 '32

Comparison of selected Portland cements in mass concrete tests. R. F. Blanks. *Am Concrete Inst J* 5:9-20 S '33

Concrete strength increased by spray irrigation; tests made at Stony Gorge and Rodriguez dams. E. H. Burrows. *il Eng N* 110:401-2 Mr 30 '33

Concreting at Pine Canyon dam. *il plan Eng N* 110:671-4 My 25 '33

Concreting plant for Madden dam. A. J. Ackerman. *il diag Eng N* 109:671-5 D 8 '32

Concreting problems—Chats Falls power development. H. L. Trotter and W. Schnarr. *il diags Am Concrete Inst J* 4:249-74 F '33

Construction and design of arch dams; results of Engineering foundation's investigation. *Can Eng* 65:9-10+ Ag 1 '33

Demoistured air aids Madden Dam cement. A. J. Ackerman. *il diags Eng N* 111:11-13 Jl 6 '33

Development of apparatus and technique for measuring elasticity of mass concrete. E. N. Vidal. *il Am Concrete Inst J* 5:41-7 S '33

Development of large calorimeter rooms and automatic temperature controls for adiabatic curing of mass concrete. H. S. Meissner. *diag Am Concrete Inst J* 5:21-6 S '33

Diablo constant-angle arch dam. L. Jorgensen. *il diags Engineering* 136:2-6, pl 1 Jl 7 '33

Economy in form work for multiple-arch dams. F. A. Noetzli. *diag Civil Eng* 3:329-30 Je '33

Edgar Hoopes reservoir assures Wilmington's future water supply. M. J. Walsh. *il Explosives Eng* 11:7-9 Ja '33

L'emploi de coffrages glissants, système Macdonald, pour la construction des murs de barrages. *diags Génie Civil* 102:449-51 My 13 '33

Features of construction on the Ryburn dam; abstract. J. N. Wood. *Engineering* 135:692 Je 23 '33

Foundation treatment at Rodriguez dam. C. P. Williams. *diags Am Soc C E Proc* 58:1375-85 O '32; Discussion. 59:503-9 Mr '33

Friction of lubricants for laminated concrete; San Gabriel flood-control dams. E. C. Eaton. *il Eng N* 111:142-4 O 12 '33

Grouting dam foundations and construction joints; experience at Calderwood dam. J. B. Hays. *il diags plan Civil Eng* 3:606-10 N '33

Hoover dam on the Colorado river. *il maps plan Engineer* 154:580-3, 606-9 D 9-16 '32

How masonry dam was built over geological faults; Rodriguez dam. *il Pub Works* 64:9-10 My '33

Lochaber water power scheme. *il diag map Engineer* 155:492-5 My 19 '33

Mass concrete as affected by size of aggregate and related factors. A. Ruettgers. *il Am Concrete Inst J* 5:27-34 S '33

Mass concrete research for Hoover dam. B. W. Steele. *diags Am Concrete Inst J* 4:305-17 Mr '33

More water for the Panama canal. E. S. Randolph. *il plan Sci Am* 149:206-8 N '33

Pasadena builds Pine Canyon dam; domestic water supply and storage project on the San Gabriel river. S. B. Morris. *il diag plan map Civil Eng* 3:309-13 Je '33

Power dam raised 30 ft. under full head; Bristol dam in New Hampshire. *il diags Eng N* 111:185-8 Ag 17 '33

Preventing the disintegration of dams; general causes of damage and remedial measures used in Scandinavia. O. Reed. *il diags Civil Eng* 3:26-30 Ja '33

Profile for a low dam determined by models; Cochiti diversion dam, near Santa Fe, N.M. A. W. Newcomer. *il map diag Civil Eng* 3:9-13 Ja '33

La recherche et la mesure des déformations dans les grands barrages en béton. H. Juillard. *Génie Civil* 103:403-6 O 21 '33

Record cement-pumping lift used at Pine Canyon dam. *diags Eng N* 110:241 F 23 '33

Redesign and construction of Prettyboy dam. *il diags Eng N* 111:63-7 Jl 20 '33

Round-head buttress dam. F. A. Noetzli. *il diags Am Concrete Inst J* 4:161-83 D '32

Ryburn reservoir. *il Engineer* 156:284, 287 S 22 '33

Ryburn waterworks of the Wakefield corporation. *il map Engineering* 136:288-90, 292 S 15 '33

Special low-heat cement for mass concrete dams. S. B. Morris. *Am Water Works Assn J* 25:1350-8; Discussion. T. Merriman. 1358-61 O '33

Stability of straight concrete gravity dams. D. C. Henny. *il diags Am Soc C E Proc* 59:1071-91 S '33; Discussion. 59:1508-10, 1657-9 N-D '33

Technical design of high masonry dams. I. E. Houk. *il Engineer* 156:104-6, 128-30, 138 Ag 4-11 '33

Thermal properties of mass concrete. C. S. Rippon and L. J. Snyder. *il diags Am Concrete Inst J* 5:35-40 S '33

Thin concrete diaphragm makes dam watertight; Ringedal dam, Norway. *il Comp Air M* 38:4238 O '33

Unusual features of the Rodriguez Dam construction; Ambursen type. C. P. Williams. *Am Water Works Assn J* 25:355-66 Mr '33

**Failures**

Failure of hydro-power storage dam. S. E. Smith. *il Can Eng* 64:11-12 Mr 14 '33



**DAMS, Concrete—Continued****Precast dams**

Chute-à-Caron development. M. DuBose. Can Eng 65:9 J1 4 '33

**DAMS, Movable**

Roller-gate dams for Kanawha river. il diags Eng N 111:337-42 S 21 '33

La similitude des barrages mobiles; expériences de l'usine de la Gentille. C. Camichel. L. Escande and E. Crausse. il Génie Civil 103:211-12 Ag 26 '33

**DAMS, Steel**

Metal-faced gravel dam being built in New Mexico. H. P. Bunger. diags Eng N 111:504-5 O 26 '33

Why not steel dams? C. M. Stanley. bibliog il diags Eng N 109:652-4 D 1 '32

**DANUBE river****Power utilization**

L'aménagement hydro-électrique du secteur des cataractes du Bas-Danube. J. Aubert. il diag map Génie Civil 102:586-8 Je 24 '33

**DANUBIAN countries**

Conference at Stresa; recommendations to restore international trade. Index 12:231-6 N '32

Danubian currency problems. Economist 117:5-6 J1 1 '33

Danubian exchange accounts. Economist 116:290 F 11 '33

Stresa decisions; proposals for a currency-normalization fund and revalorization of grain exports. L. Pasvolksy. Barron's 12:9 D 5 '32

**DANVILLE, Illinois****Water supply**

Ammonia-chlorine treatment in Danville. H. M. Ely. Am Water Works Assn J 25:1257-9 S '33

**DANZIG**

Danzig and Gdynia. Economist 117:448, 451 S 2 '33

Danzig dilemma. Economist 116:1064-5 My 20 '33

**DARTFORD, England**

Dartford's charter; Wellcome chemical works. Soc Chem Ind J (Chem & Ind) 52:761 S 22 '33

**DATED products**

Dated as sales argument has its drawbacks; also creates difficult returned goods problems. Ptr Ink 164:19-20 Ag 17 '33

Dated shoes. il Ptr Ink 164:104 S 14 '33

**DATES**

New outlets lift product out of competition rut; California date growers association extends distribution by selling its dates fresh. T. W. Braun. Ptr Ink 162:10+ Ja 5 '33

**DAVIES, Meurig Lloyd, 1865-**

Sketch. por Soc Chem Ind J (Chem & Ind) 52:466 Je 2 '33

**DAVIS, Albert Gould**

Sketch. J. W. Hammond. front (por) Gen Elec R 36:299 J1 '33

**DAVIS, Boothe Colwell**

Tribute. por Am Cer Soc J (Bul) 16:161-3 Je '33

**DAVIS, Harvey Nathaniel**

Anniversary for Dr Harvey N. Davis; review of some of his accomplishments. pors Stevens Ind 49:192-5 N '32

**DAVIS, Norman Hezekiah**

Personalities in business. por Barron's 13:4 Ap 24 '33

**DAVISON, Henry Pomeroy, 1867-1922**

Henry P. Davison; the record of a useful life. T. W. Lamont. 373p \$3.50 Harper '33

**DAVISON chemical company**

Placed in receivership. Oil Paint & Drug Rep 123:22 F 20 '33

**DAY, Mary Bostwick**

Some of our members and what they do. Special Lib 24:128 J1 '33

**DAYLIGHT**

Effect of weathering on the reflection factor of surfacing materials for light wells. M. R. Paul. il Illum Eng Soc Trans 28:315-24; Discussion. 324-5 Ap '33

Experiments on the suitability of some rectifier photo cells for the measurement of daylight. H. H. Poole and W. R. G. Atkins. Electrician 110:737-8 Je 9 '33

Influence of the reflecting characteristics of wall paints upon the intensity and distribution of artificial and natural illumination. D. L. Gamble. bibliog il diags Illum Eng Soc Trans 28:326-45; Discussion. 345-6 Ap '33

Loss of light due to smoke in Baltimore, Md. from October, 1929 to September, 1930. J. E. Ives. Pub Health Rep 48:113-25 F 3 '33

Proposed scale for use in specifying the chromaticity of incandescent illuminants and various phases of daylight. I. G. Priest. Opt Soc Am J 23:41-5 F '33

Standards of school lighting. il Illum Eng Soc Trans 28:36-43 Ja '33

Transition from daylight to artificial light. C. E. Ferree and G. Rand. Nat Safety N 27:62 Mr '33; Same. Illum Eng Soc Trans 28:376-7 Ap '33

Variation of visual performance with different levels of daylight illumination. K. Y. Tang. il Illum Eng Soc Trans 28:354-67; Discussion. 368-73 Ap '33

Visible and ultraviolet in the light obtained from the sun. W. Kuerth and R. D. Miller. Illum Eng Soc Trans 28:347-53 Ap '33

Workrooms without windows. D. W. Atwater. il Nat Safety N 27:13-14+ Ap '33

**See also**

Sunshine  
Windows

**DAYLIGHT, Artificial**

Color filters for altering color temperature; pyrometer absorption and daylight glasses. H. P. Gage. bibliog Opt Soc Am J 23:46-54 F '33

Good reflectors help whiten daylight quality. M. Luckiesh. Elec W 102:26 J1 1 '33

New system of artificial daylight; Claudagen portable unit. il Chem Age (Lond) 28:511 Je 3 '33

Progress in the study of colour vision. il Chem Age (Lond) 28:268 Mr 25 '33

**DAYTON, Ohio****Rapid transit**

One Dayton company adopts the trolley bus. map Transit J 77:82-3 Mr '33

**DEAD SEA**

Dead Sea salts industry. il Chem Age (Lond) 29:163 Ag 19 '33

**DEAERATION**

Use of de-airing for clays and other plastic products. H. R. Straight. il Chem & Met Eng 40:410-13 Ag '33

**DEAF, Instruments for**

Bone-conduction hearing aid. il Sci Am 148:33 Ja '33

Radio ears for the deaf. S. G. Taylor. il diags Radio N 15:328-31+ D '33

Sonotone sales hit new high under specialty sales plan. L. M. Hughes. il Sales Management 33:306-7+ O 1 '33

**DEAFNESS**

Measurement of certain aspects of personality among hard of hearing adults. H. H. Welles. 77p [bibliog p70-2] Teachers college, Columbia univ. New York '32

Problems of the deaf. M. A. Goldstein. il 580p Laryngoscope press, St Louis '33

**DEALER conventions**

Chrysler's force, 75,000 strong, watch Plymouth set the pace. Sales Management 31:440 N 15 '32

Frigidaire turns bank holiday into salesfest for new line. il Sales Management 32:323+ Ap 1 '33

**DEALER helps**

Anthraxite battling to regain lost markets takes the dealer into partnership. I. A. Given. Coal Age 38:82-4 Mr '33

## DEALER helps—Continued

Bauer & Black give dealers year's sales plan; stress correct display. L. B. Colby. *il Sales Management* 32:320-1 Ap 1 '33

Booklets help revive failing faith of implement dealers; Massey-Harris company. *Ptr Ink* 162:44-5 Ja 5 '33

Building promotion ideas for department stores; Bigelow-Sanford rugs. *Ptr Ink* 163:64-6 Je 8 '33

Dealers seldom pay for display cases. *Ptr Ink* 161:64 D 15 '32

Display idea that solved a turnover problem; Kelling nut company. *il Ptr Ink* 161:32-3 D 1 '32

Display ideas that sell. F. D. Gonda. *il Sales Management* 32:438-9+ Ap 20 '33

Even sausage casings can have consumer acceptance; Visking advertising directed to meat dealers' trade. *il Ptr Ink* 163:75-6+ Ap 20 '33

Factory-sponsored Unisales company helps Ford dealers to compete more intelligently. A. F. Denham. *Automotive Ind* 68:754-5 Je 24 '33

Framing a sales plan to interest big stores; Holeproof hosiery. *Sales Management* 33:346 O 10 '33

G.E. weeds out unwanted dealer helps. *il Ptr Ink Mo* 26:27 Mr '33

Getting salesmen to merchandise a window display service; Jarman shoe company. C. P. Clark. *il Ptr Ink Mo* 26:31+ Ja '33

Good accounting as move to cut dealer failures; National Lead. *Ptr Ink* 162:42-3 F 9 '33

Guide to price-cutting. *Ptr Ink* 164:48 Ag 17 '33

Hitching a related product to a faster seller; Westinghouse is tying its electric ironer to its washer. N. L. Myers. *il Ptr Ink* 163:44-6 Je 8 '33

How Armstrong shows retailers their faults. *il Ptr Ink Mo* 27:26+ Ag '33

How Imperial induces key dealers to feature its line of candies. M. E. Bridston. *il Sales Management* 32:251+ Mr 15 '33

How Squibb weeks doubled business for 3,000 dealers. C. Eddy. *il Sales Management* 32:151-3+ F 15 '33

How to widen distribution for a staple product; free rack for display of Columbus Coated Fabrics. G. Johnston. *il Ptr Ink Mo* 26:34-5 F '33

Kodak display boosts sales 119 per cent. *il Ptr Ink Mo* 26:36 Mr '33; *Sales Management* 32:212 Mr 1 '33

Majestic's master dealer plan of selective selling. E. Butt. *il Ptd Salesmanship* 60:233-6+ N '32

Manufacturers help dealers in management as well as sales. J. V. Tuttle. *Rand McNally Bankers Mo* 50:470-1 S '33

Motor maintenance money; motor manufacturers are offering free lubrication to bring car owners back to car dealers. *Business Week* p10 F 8 '33

Oil jobber helps customers serve their trade. *il Pet Age* 26:20-1 N '32

Plus value from an advertised name; Frigidaire using consumer good-will to help sell more commercial installations. *il Ptr Ink* 163:49-50 Je 1 '33

Sales help that the dealer asks for; Kuppenheimer informal booklet of selling facts. M. M. Lebensburger. *Ptr Ink* 165:27-8 O 19 '33

Selective campaign for a specialized product; Skelgas joined with dealers in an eight-week drive. *il Ptr Ink* 164:60-2 Ag 31 '33

Sunkist film moves quantities of fruit for growers exchange. W. B. Geissinger. *il Sales Management* 33:218+ S 1 '33

Talkies train feed dealers and sell consumers; Larowe milling company. F. W. Thomas. *il Sales Management* 31:470+ D 1 '32

Teaches retailers value of planned advertising; Selby shoe company. *Ptr Ink Mo* 26:18+ Je '33

This plan gets dealers to suggest related sales; Savogran company's paint can stickers. C. H. Frankenberg. *il Ptr Ink* 163:17-19 Je 8 '33

This story to dealers is told with still film; Devoe & Raynolds co. *il Ptr Ink* 163:32-4 Je 15 '33

What dealers put into a wholesaler's question box. S. Carter. *Ptr Ink Mo* 27:25+ O '33

What's ahead for wholesaling? C. A. Schuster. *il Credit & Fin Management* 35:10-12+ O '33

## See also

Advertising—Dealer cooperation	Salesmanship—Service to dealers
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## DEALER relations

Advantages and disadvantages of dealer cooperation. H. H. Cuthrell. *Gas Age* 71:647-8+ Je 24 '33

Associated's Ithaca district cooperates with dealers. W. J. Cashman and F. S. Hoefer. *il Gas Age* 71:57-8+ Ja 21 '33

Brick industry's big job is selling the dealer. Brick & Clay Rec 82:62+ F '33

Building industry is fast learning how to sell; Johns-Manville's advertising program to dealers and homeowners exploiting a million dollars to lend. K. R. Dyke. *Ptr Ink* 163:25-8 Ap 6 '33

Cooperative merchandising increases gas load and aids dealers. W. J. Cashman and F. S. Hoefer. *il Am Gas Assn Mo* 15:34-6 Mr '33

Cooperative plan helps sell coke in Stamford, Conn.; gas company and coal dealers. C. B. Barr. *il Gas Age* 71:6-7+ Ja 7 '33

Dealer should not sell clay products! Brick & Clay Rec 81:202-3 D '32

Disposing of dealer stocks when new package is marketed. *Ptr Ink* 163:72-3 Je 29 '33

General Motors commands: what centralized control has accomplished in its first year. *Business Week* p12-13 F 22 '33

Give the dealer a chance; bridge the gap between the manufacturer of brick and the building material consumer. Brick & Clay Rec 82:22+ Ja '33

How this advertiser finds and controls dealers; Century engineering corporation. E. J. Lattner. *Ptr Ink* 162:17-20 Ja 26 '33

I cover the dealerfront. *Ptr Ink* 165:24-5 O 19 '33

Ithaca plan proves out; co-operative merchandising. *Elec W* 101:577-80 My 6 '33

New deal at the drug store counter. H. Deutsch. *il Adv & Sell* 21:13-15+ Ag 3 '33

Nineteen ways to make grocers push your product. F. Anderson. *Adv & Sell* 20:21 Mr 30 '33

\$1,683,656 of gas appliances sold by dealer-help plan. H. H. Cuthrell. *Dom Eng* 141:99-100 Ja '33

Pahco's mutual dealer help plan improves merchandising attack. *Sales Management* 33:420 O 20 '33

Pennzoil fight on oil bootleggers doubles its sales outlets in year. *Sales Management* 32:330 Ap 1 '33

Price: the wrecker of harmony in distribution. C. F. H. Johnson. *Ptr Ink* 162:72+ F 16 '33

Retail bonus plan sells higher priced merchandise; Sheaffer urges wider use. *Sales Management* 33:152 Ag 15 '33

Retailers help this company to style its products; Powdrell & Alexander, Danielson, Conn. *Ptr Ink* 161:66-7 D 29 '32

Royal typewriter co. adds 800 dealers in drive to develop low-priced market. *Sales Management* 31:526 D 15 '32

Second lines create dealer antagonism; intensive work on established products better than pushing new line under another name. *Ptr Ink* 161:36 N 17 '32

Stewart-Warner attempts to give better dealers a better chance. *Sales Management* 32:26 Ja 1 '32

This plan pulled 1,600 lame duck accounts out of the red. M. S. Sullivan. *Sales Management* 32:163+ F 15 '33; Summary. 33:344 O 10 '33

This plan reduced returned goods 36 per cent; Benedict mfg. co. L. E. Barnes. *Ptr Ink Mo* 26:42+ Ja '33



**DEALER relations—Continued**

- Utility-department store relationship. W. R. Putnam. N E L A Bul 20:63-5 F '33  
 What's wrong with dealers? a manufacturer answers. F. Manning. Sales Management 32:99-100 F 1 '33  
 What's wrong with manufacturers? a dealer answers. L. L. Jacobs. Sales Management 32:98+ F 1 '33  
 When the much-dunned customer becomes a lost account, personal sales work is usually necessary; Universal gypsum & lime co. Ptr Ink 162:36 F 16 '33  
 Why Borden stopped giving free equipment to dealers. L. M. Hughes. il Sales Management 33:106-7 Ag 1 '33  
 Will the small dealer become a big factor in specialty sales? P. A. Scott. il Sales Management 33:312-13+ O 1 '33

*See also*

- |                                     |   |
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| Exclusive agencies                  | Voluntary chain movement                  |
| Gas companies—Appliance selling     |   |
| Gas industry and the plumbing trade |   |

**DEALER selection**

- Customer turnover experience of meat packing companies. H. C. Greer. J of Business 6:1-34 pt 2 Ap '33  
 Framing a sales plan to interest big stores; Holeproof hosiery. Sales Management 33:346 O 10 '33  
 How Imperial induces key dealers to feature its line of candies. M. E. Bridston. il Sales Management 32:251+ Mr 15 '33  
 How to get more sales out of fewer accounts. L. Stephenson. Ptr Ink 163:32-4 My 4 '33  
 Motor agreement consummated; Westinghouse and dealers. Elec West 70:14 Ja '33

**DEALERS as stockholders**

- Profit sharing program nets 17.24 per cent to Squibb dealers. Sales Management 32:330 Ap 1 '33

**DEAN, Albert Flandreau, 1842-1933**

- Personal observations on A. F. Dean's life and work. C. M. Cartwright. Nat Underw 37:2+ S 7 '33  
 Sketch. por Ins Field (Fire ed) 62:5, 7 S 7 '33; Nat Underw 37:2+ S 7 '33

**DEARBORN, Michigan****Sewerage**

- Dearborn Michigan sewage treatment plant and its operating results; abstract. M. B. Owen. Water Works & Sewerage 80:18 Ja '33  
 Dearborn sewage sludge pumped through long pipe line. G. E. Hubbell. Eng N 111:343 S 21 '33  
 Reinforced brick masonry on Dearborn sewer system. C. H. Fork. diags Eng N 109:749-50 D 22 '32

**DEATH***See also***Mortality****DEATH, Presumption of**

- Mysterious disappearances; abstracts. F. E. Spain. Nat Underw (Life ed) 37:5+ O 13 '33; Spectator 131:12 O 12 '33; Weekly Underw 129:698 O 14 '33  
 Presumption of death. Trust Companies 57:428 O '33

**DEATH registration**

- Issuance of certified copy of death record by local health officers upheld in Alabama; and Making changes in death record on file with state health authorities; Tennessee. Pub Health Rep 48:1178-9 S 22 '33

**DEBATES and debating**

- Concurrence and dissent; some recent Supreme court cases. M. Prenner, B. M. Rogoff and W. N. Sternberg, eds. 243p C. E. Merrill co, New York '33  
 University debaters' annual, 1932-1933. E. M. Phelps, ed. 393p bibliog \$2.25 Wilson, H. W. '33

**DEBT**

- Debt deflation. Business Week p8-9 Ap 5 '33  
 How companies help debt-ridden workers. Forbes 32:14 N 1 '33  
 Internal debt: our jig-saw puzzle; interview with Edward A. Filene. C. H. McCall. Credit & Fin Management 35:10-11+ My '33  
 Internal debts of the United States. E. Clark and G. B. Galloway, eds. 430p \$4.50 Macmillan '33  
 Jubilee; editorial on debt readjustment. Business Week p32 N 23 '32  
 New administration. M. Sullivan. Am Bankers Assn J 25:14-16 Mr '33  
 New year opens in midst of major debt adjustments. L. D. Edie. Iron Age 131:25-6+ Ja 5 '33  
 1932's lesson. T. F. Woodlock. Comm & Fin 22:6 Ja 4 '33  
 North Dakota votes down a moratorium. Nat City Bank p12 Ja '33  
 Our debts are not excessive nor unmanageable. D. Friday. Rand McNally Bankers Mo 50:139-40+ Mr '33  
 Price recovery or debt adjustment? L. Stern. Mag of Wall St 51:319-21+ Ja 7 '33  
 Private debts—the crux of our troubles. W. J. Eiteman. Comm & Fin 22:7-8 Ja 4 '33  
 Proposals for inflation. Nat City Bank p21-31 F '33  
 Up from the debts; analysis of consumer debts. C. H. Matthews. Credit & Fin Management 35:19+ Jl '33  
 Uselessness of inflation as a means of moving the mountain of debt. E. C. Harwood. Annalist 42:467+ O 13 '33  
 Volume of indebtedness in the United States in relation to economic recovery. R. P. Falkner. Management R 22:195-204 Jl '33  
 Write down the debts of inflation; revaluation of gold. R. C. Rowe. Pulp & Pa of Can 34:263-5 Ap '33

*See also***Bankruptcy****Credit****Debtor and creditor****DEBTOR and creditor**

- Another new deal; President Hoover would make it possible for debtors and creditors to come to agreement without bankruptcy proceedings. il Business Week p3-4 Ja 25 '33  
 Bankruptcy and the relief of debtors. Index 13:1-7 Ja '33  
 Cases and materials on the law of administration of debtors' estates. W. A. Sturges. 1141p West '33  
 Cash values now safe in 12 states. Nat Underw (Life ed) 37:1+ S 15 '33  
 Decision broadens protection of proceeds from creditor claims; New York. East Underw 34:1+ Je 2 '33  
 Does bankruptcy law fail? proposal for out-of-court adjustment of embarrassed debtors' affairs. A. B. Kreft. il Credit & Fin Management 35:14-15+ S '33  
 Endowment insurance safe from creditors. Weekly Underw 127:1127 D 10 '32  
 Eternal triangle; suretyship, guaranty, and original undertakings. M. Finkelhor. Credit & Fin Management 35:20-1+ Mr '33  
 Forgotten creditor. E. I. Kilcup. Credit & Fin Management 35:8-9+ Je '33  
 Important decision upholds immunity of life insurance trusts from claims of creditors. A. P. Reed. Trust Companies 56:568 My '33  
 Important decision upholds life insurance trusts. Trust Companies 56:7-8 Ja '33  
 Jury trial for bankruptcy preference; U. S. Supreme court decision. Credit & Fin Management 34:31+ D '32  
 Meeting problems of present day America; statement to Senate finance committee; abstracts. E. D. Duffield. East Underw 34:10-11 F 24 '33; Trust Companies 56:303-6 Mr '33  
 Proceeds protection under law weakened; N. Y. Supreme court on Sec. 55a. A. Hirst. East Underw 34:5+ S 29 '33; Same. Nat Underw (Life ed) 37:1 S 29 '33; Same. Spectator 131:17+ O 5 '33  
 Protecting proceeds against creditors of beneficiaries. A. Hirst. East Underw 34:3 Je 30 '33

**DEBTOR and creditor—Continued**

Revocable trust is held safe from creditors' claims. *Ins Field* (Life ed) 62:5-6+ Ja 6 '33  
 Ruinous effects of deliberate inflation and debasement of currency. *D. Farnham. Trust Companies* 56:637-40+ Je '33

*See also*

Attachment and garnishment

Bankruptcy payment

**DEBTS, Public**

A B C of war debts and the seven popular delusions about them. *F. H. Simonds*. 66p \$1 Harper '33  
 Appraisal of American industry; international peace, coordination and control of industry, and debt cancellation. *T. F. Woodlock. Management R* 22:99-103 Ap '33  
 As of March 4th. *G. E. Anderson. Am Bankers Assn J* 25:18-19 Mr '33  
 British and French notes. *Comm & Fin* 21:1412 D 7 '32  
 Brother, can you spare a dime? spending a dollar to collect a dime; editorial. *Business Week* p32 Ja 18 '33  
 Canadian point of view. *Barron's* 12:20 D 19 '32  
 Cancellation of international war debts. *J. G. Hodgson, comp. Ref Shelf v* 8, no 4:1-226 '32  
 Cancellation? repudiation? revision? *J. D. C. Weldon. Mag of Wall St* 51:196-8+ D 10 '32  
 Case for war-debts revision. *W. T. Layton. Barron's* 13:21 Ja 23 '33  
 Commodities and the debts. *C. T. Revere. Comm & Fin* 21:1392-3 N 30 '32  
 Congress stubborn on debts. *Business Week* p3 N 30 '32  
 Debt problem must be solved. *F. E. Lee. Barron's* 13:5 Mr 27 '33  
 Debts; summary of statements of President Hoover and President-elect Roosevelt. *Annalist* 40:741+ D 2 '32  
 Debts, tariffs and nationalism; administration is perplexed in dealing with its debtors. *Econostat* 1:5-6+ N 11 '33  
 December the fifteenth. *Economist* 115:1123-4 D 17 '32  
 Economists report on debts of foreign governments to the United States. *Bankers M* 125:612-14 D '32  
 Europe looks to America. *Economist* 115:915-16 N 19 '32  
 Excerpts from British and French notes and United States replies. *H. W. Bunn. Annalist* 40:805 D 16 '32  
 Facts concerning war debts as of September 1st, 1932. 103p *Young & Otley, inc, New York* '32  
 Foreign trade and the debts. *S. Bell. Comm & Fin* 21:1474-5 D 28 '32  
 French attitude on war debts. *M. De Goumois. Barron's* 12:19 D 5 '32  
 Frenchman's attitude on the debts. *Barron's* 13:19 F 6 '33  
 General business conditions; revival of the war debts question. *Nat City Bank* p177-9 D '32; Abstract. *Bankers M* 125:584 D '32  
 I.-G. executive appraises world trade in terms of debts. *H. Schmitz. Chem Markets* 32:412-13 My '33  
 Inopportune time for revision. *C. Benedict. Mag of Wall St* 51:133+ N 26 '32  
 Interallied debts—politics and economics. *B. M. Anderson, jr. Chase Econ Bul* 12:3-13 D 12 '32; Excerpt. *Trust Companies* 55:671-4 D '32  
 Intergovernmental debts; articles and texts. 56p *Carnegie endowment for international peace, Worcester, Mass.* '33  
 International situation. *Nat City Bank* p4-8 Ja '33  
 June 12 and June 15. *Economist* 116:1008-9 My 13 '33  
 Let Europe pay us in service. *Mag of Wall St* 51:492+ F 18 '33  
 Mr Hoover and the debts. *Economist* 115:967-8 N 26 '32  
 Papers concerning intergovernmental debts, November-December, 1932. 81p *U.S. Dept. of state, Washington* '33  
 Rail union on the debts. *D. B. Robertson. Comm & Fin* 22:191 F 22 '33  
 Roosevelt's attitude on debts. *W. H. Grimes. Barron's* 12:4 N 28 '32

Shall the allies pay? suggestion for meeting the transfer problem. *A. A. Boublikoff. Mag of Wall St* 51:166+ N 26 '32  
 Shall war debts be cancelled? 67p [bibliog p61-7] *Dana college and Trinity theological seminary, Blair, Neb.* '33  
 Shall we collect, revise, or cancel? *S. Bell. Comm & Fin* 21:1373 N 23 '32  
 Some American proposals for war debt revision. *E. L. Bogart, ed. Ill U Bur of Business Research Bul* 47:1-44 '33  
 Squaring the circle of the international account. *A. E. Taylor. Harvard Business R* 11:261-9 Ap '33  
 To pay or not to pay. *S. Bell. Comm & Fin* 21:1454-5 D 21 '32  
 To pay or not to pay? *J. S. Lawrence. Bradstreet's* 60:1587-9+ D 3 '32  
 Transfers and war debts; the difficulty of liquidating an international debt. *C. R. Harrower. Barron's* 13:16 F 6 '33  
 Traveling to prosperity. *L. H. Lehman. 62p L. H. Lehman, Philadelphia* '33  
 Try candor on the war debts. *F. R. Kent. Ill Am Bankers Assn J* 25:20-1+ My '33  
 Uncle Sam no Shylock; editorial. *Bradstreet's* 60:1528-9, 1602-3 N 19, D 3 '32  
 View that Europe can pay for it; five methods of payment suggested. *J. R. Stewart. Am Bankers Assn J* 25:24+ Mr '33  
 War cursing and crushing the world. *H. L. Clarke. Pub Serv M* 54:186-7 Je '33  
 War debt fallacies. *Economist* 116:15-16 Ja 7 '33  
 War debts. *Economist* 115:sup1-16 N 12 '32  
 War debts. *Guaranty Survey* 12:3-7 N '32  
 War debts. *G. E. Anderson. Am Bankers Assn J* 25:13+ D '32  
 War debts. *H. D. Gideonse. 35p pa 25c Univ. of Chicago press* '33  
 War debts—a postscript. *Economist* 115:1129-30 D 17 '32  
 War debts; a way out—negotiable foreign securities in payment. *S. R. Wagel. Comm & Fin* 21:1415-16 D 7 '32; Discussion. *J. Black. 22:55 Ja 11 '33*  
 War debts—an attempt to understand the attitude of the creditor. *L. D. Edie. Iron Age* 130:851-2 D 1 '32  
 War debts and business. *Business Week* p3-4 N 23 '32  
 War debts and world prosperity. *H. G. Moulton and L. Pasvolksky. 498p \$3 Pub. for Brookings institution by Century co.* '32; Review. *Annalist* 40:739 D 2 '32  
 War debts; Britain decides to set a good example to debtors, while France simply cuts the knot. *Business Week* p5 D 21 '32  
 War-debts problem complicates bond outlook. *Barron's* 12:10-11 D 5 '32  
 War debts—world prices. *Business Week* p5-6 D 7 '32  
 Way to collect war debts; as our debtors lack gold we must accept goods or services from abroad. *T. F. Woodlock. Barron's* 12:13 N 21 '32  
 We have paid enough; Europe's message to America. *T. G. Tucker and others. 129p Simpkin, Marshall, ltd, London* '32  
 Will they pay? a primer of the war debts. *D. Richardson. 169p \$1 Lippincott* '33

*See also*

Bonds, Government  
 Municipal bonds  
 State bonds

**Argentina**

Default and adjustment of Argentine foreign debts, 1890-1906. *H. L. Shepherd, jr. U S Bur For & Dom Com Trade Promotion Ser* 145:1-65 [bibliog p64-5] '33  
 Will the Argentine government default? *W. R. MacLaurin. Barron's* 12:16 D 26 '32

**Australia**

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 Bonds, Government  
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**Brazil**

Brazilian debt services. *Economist* 116:1298 Je 17 '33



DEBTS, Public—*Continued*

## Cuba

Cuba maintains her credit; how Machado plans to avoid a moratorium on foreign debts. R. Bentham. *Barron's* 12:11 D 19 '32

## Germany

German transfer moratorium; foreign bondholders obtain eleven-hour concessions. A. Comstock. *Barron's* 13:3+ JI 17 '33  
Germans want new debt deal. *Business Week* p24-5 Je 7 '33

Germany will pay on new plan. *Business Week* p22 Mr 1 '33

Germany's ability to pay. *Business Week* p6-7 F 8 '33

Germany's debtors. *Business Week* p21+ JI 1 '33

Germany's plan to pay. *Business Week* p23 JI 22 '33

No window trimming for Schacht; repaying foreign obligations of the Reichsbank. *Business Week* p22 Ap 19 '33

Reforms planned for German public debt service. R. C. Long. *Annalist* 41:35-6 Ja 13 '33  
Reich aids German cities. *Business Week* p26-7 O 14 '33

*See also*

German indemnities

## Great Britain

Britain and the war debts. L. J. Reid. 108p H. Jenkins, Ltd, London '33

British debt revision; Roosevelt worried over the threat of currency inflation. *Business Week* p4-5 F 1 '33

British note. *Economist* 115:1015-16 D 3 '32

Choice before Britain. *Economist* 115:1067-8 D 10 '32

Debt finale. *Economist* 116:1287-8 Je 17 '33

Dollars vs. gold; England's debt payment in gold is liquidated by exchange of accumulated dollar balances for bars. *Business Week* p3-4 F 1 '33

Fiduciary issue. *Economist* 115:1130 D 17 '32

Floating debt. *Economist* 117:802-3 O 28 '33

June the fifteenth. *Economist* 116:1175-6 Je 3 '33

War debt preliminaries. *Economist* 116:223-4 F 4 '33

## Greece

Greek external debt. *Economist* 116:193 Ja 28 '33

## Hungary

Hungary's foreign debt. *Economist* 117:444-5 S 2 '33

## Japan

Position of Japanese public finance. G. R. Parkin. *Barron's* 13:16-17 Ja 23 '33

Problem of Japan's foreign debt. G. R. Parkin and R. K. Martin. *Barron's* 13:18-19 Ja 30 '33

## Mexico

Details of loan to Mexican government by three exporting oil companies. C. E. Kern. *Oil & Gas J* 31:32 Ja 5 '33

## Newfoundland

Newfoundland debt. *Economist* 116:36 Ja 7 '33

Newfoundland debt position. *Economist* 117:27 JI 1 '33

## United States

Billions in forthcoming federal issues. G. E. Anderson. *Am Bankers Assn J* 25:14-16+ Ap '33

Dangers of credit inflation. O. Ely. *Barron's* 13:3+ O 30 '33

How good is Uncle Sam's credit? J. C. Cresswill. *Mag of Wall St* 53:62-3+ N 11 '33

Mounting national debt—America's false complacency. L. D. Edie. *Iron Age* 130:771+ N 17 '32

Recent changes in the U.S. public debt. *Annalist* 41:228 F 10 '33

U. S. debt. *Business Week* p20-1 JI 15 '33

What America owes Europe. F. Gribble. 188p Hurst & Blackett, Ltd, London '32

## DEBYE, P. 1884-

Sketch. *por Soc Chem Ind J (Chem & Ind)* 52: 285-6 Mr 31 '33

## DEBYE-Hückel theory

Activity coefficients of potassium chloride; an application of the extended Debye-Hückel theory to interpretation of freezing point measurements. H. M. Spencer. *Am Chem Soc J* 54:4490-7 D '32

Coming of age of the interionic attraction theory. G. Scatchard. *Chem R* 13:7-27 [bibliog p26-7] Ag '33

Conductance of aqueous solutions of electrolytes and the interionic attraction theory. D. A. MacInnes, T. Shedlovsky and L. G. Longworth. *bibliog Chem R* 13:29-46 Ag '33

Debye-Hückel ion size parameter in terms of individual ionic radii; the activity coefficient of lead chloride in solutions of cadmium nitrate. H. D. Crookford and H. C. Thomas. *Am Chem Soc J* 55:563-74 F '33

Determination of dissociation constants of monobasic acids. D. J. G. Ives. *Chem Soc J* p731-7 Je '33

## DECALIN

Electric dipole moments of nickel carbonyl, di-iodoacetylene, diethyl sulphide, diethylsulphone, and decalin. L. E. Sutton, R. G. A. New and J. B. Bentley. *Chem Soc J* p652-8 Je '33

Wetting, spreading, and emulsifying agents for use with spray fluids; miscible oils. R. M. Woodman. *Soc Chem Ind J* 52:4T-6T Ja 13 '33

## DECAMINE A

New stripping agent for dyed materials. L. G. Lawrie. *Soc Dyers & Col J* 49:309-11 O '33; *Excerpt, Chem Age (Lond)* 28:337 Ap 15 '33; *Discussion. Soc Dyers & Col J* 49:311-12 O '33

## DECANTATION

Centrifugal separation and decantation. *il diag Chem Age (Lond)* 28:326-7 Ap 15 '33

DECARBURIZATION. *See Steel—Decarburization*

## DECATUR, Illinois

## Sewerage

Decatur cleanses the Sangamon river. W. D. Hatfield. *Civil Eng* 3:498-500 S '33

## DECIBEL (transmission unit)

Decibel. S. J. Zand. *il Aviation Eng* 8:19-22 F '33

Radio measurement; the application of the decibel system. N. Wells. *Elec R (Lond)* 111: 736-7 N 18 '32

DECIMAL classification. *See Classification, Decimal*

## DECOLORIZATION

Anna "Kaolin" as a new decolorizing agent for edible oils. R. J. Piersol, J. E. Lamar and W. H. Voskuil. *Ill State Geol S Rep of Invest* 27:1-42 '33

Le charbon actif et ses applications industrielles. A. Godel. *il Chimie & Ind* 29:3-17 Ja '33

Diminution de la teneur en fer des verres décolorés au sélénium. E. Damour and A. Nadel. *Chimie & Ind* 23:1283-3 D '32

Lubricating oils in contact with clays; effect of time at elevated temperatures. V. A. Kalichevsky and J. W. Ramsay. *diag Ind & Eng Chem* 25:941-3 Ag '33

Sodium hydrosulphite rag cooking process. S. Lenher. *Paper Tr J* 96:28-32 Ja 19 '33

Vergleichende studien an aktivkohlen des handels; elementaranalyse und entfärbungsvermögen. L. W. Jirak. *Angew Chemie* 46:513-17 Ag 5 '33

*See also*

Bleaching	Petroleum refining
Dyes and dyeing—	Sugar—Manufacture
Stripping	and refining
Fuller's earth	Water purification—
Glass—Decolorization	Color removal

## DECOMPOSITION

Anomalous decomposition of ozone in the presence of chlorine. L. J. Heidt, G. B. Kistiakowsky and G. S. Forbes. *bibliog diag Am Chem Soc J* 55:223-31 Ja '33

## DECOMPOSITION—Continued

- Chemical action in the glow discharge; the decomposition of nitrogen dioxide and the nitrogen dioxide equilibrium. A. K. Brewer and P. D. Kueck. *bibliog J Phys Chem* 37: 589-96 O '33
- Chemical action in the glow discharge; the dissociation of ammonia. J. W. Westhaver. *bibliog J Phys Chem* 37:897-906 O '33
- Decomposition of dilute sodium carbonate solutions at temperatures between 147° and 243° C. F. G. Straub and R. F. Larson. *bibliog diag Ind & Eng Chem* 24:1416-19 D '32
- Decomposition of dimethyl ether on the surface of platinum. E. W. R. Steacie and H. A. Reeve. *J Phys Chem* 36:3074-84 D '32
- Effect of ethyl radicals on the thermal decomposition of azomethane; the kinetics of the thermal decomposition of tetraethyllead; ethyl radicals and hydrogen. J. A. Leermakers. *diag Am Chem Soc J* 55:4508-18 N '33
- Fundamentals in the problem of resistance to deterioration. H. S. Taylor. *Am Soc T M Proc* 32 pt 2:9-42 '32
- Homogeneous catalysis of gaseous reactions; the influence of iodine on the decomposition of acids, esters, ketones, and halides. S. Bairstow and C. N. Hinshelwood. *Chem Soc J* p1147-55 S '33
- Homogeneous catalysis of gaseous reactions; the influence of iodine on the decomposition of simple aliphatic amines and of hexane. S. Bairstow and C. N. Hinshelwood. *Chem Soc J* p1155-60 S '33
- Influence of poles and polar linkings on the course pursued by elimination reactions; decomposition of quaternary ammonium alkoxides. C. K. Ingold and C. S. Patel. *Chem Soc J* p68-9 Ja '33
- Influence of poles and polar linkings on the course pursued by elimination reactions; decomposition of quaternary ammonium hydroxides containing the *tert*.-butylcarbiny group. C. K. Ingold and C. S. Patel. *Chem Soc J* p67-8 Ja '33
- Influence of poles and polar linkings on the course pursued by elimination reactions; decompositions of some quaternary ammonium salts containing the methyl, benzyl, and benzhydryl groups. E. D. Hughes and C. K. Ingold. *Chem Soc J* p69-75 Ja '33
- Influence of poles and polar linkings on the course pursued by elimination reactions; dynamics of the elimination of olefins from quaternary ammonium compounds. E. D. Hughes and C. K. Ingold. *Chem Soc J* p523-6 My '33
- Influence of poles and polar linkings on the course pursued by elimination reactions; mechanism of the thermal decomposition of quaternary ammonium compounds. E. D. Hughes, C. K. Ingold and C. S. Patel. *Chem Soc J* p526-30 My '33
- Influence of poles and polar linkings on the course pursued by elimination reactions; thermal decomposition of phosphonium chlorides. G. F. Fenton, L. Hey and C. K. Ingold. *Chem Soc J* p989-91 Ag '33
- Influence of poles and polar linkings on the course pursued by elimination reactions; thermal decomposition of phosphonium ethoxides. L. Hey and C. K. Ingold. *Chem Soc J* p531-3 My '33
- Influence of poles and polar linkings on the course pursued by elimination reactions; thermal decomposition of sulphonium hydroxides. C. K. Ingold and others. *Chem Soc J* p533-7 My '33
- Kinetics of the decomposition of the dichlorosuccinic acids. H. V. W. Robinson and D. T. Lewis. *Chem Soc J* p1260-2 S '33
- Kinetics of the thermal decomposition of trichloromethyl chloroformate. H. C. Ramsperger and G. Waddington. *diag Am Chem Soc J* 55:214-20 Ja '33
- Occurrence of decomposition products of chlorophyll; decomposition of chlorophyll in the digestive system of the cow. P. Rothemund and O. L. Inman. *Am Chem Soc J* 54:4702-6 D '32
- Polymerisation and explosive decomposition of ethylene under pressure. G. Egloff and R. E. Schaad. *bibliog diag Inst Pet Tech J* 19:500-11 S '33
- Primary photochemical processes; the absorption spectrum and photochemical decomposition of diazomethane. F. W. Kirkbride and R. G. W. Norrish. *diag Chem Soc J* p119-26 F '33
- Promoter action in the catalytic decomposition of sodium hypochlorite solutions. J. R. Lewis and F. Seegmiller. *J Phys Chem* 37: 917-21 O '33
- Study of the reactions of free ethyl radicals from the thermal decomposition of tetraethyllead. R. N. Meinert. *Am Chem Soc J* 55:979-89 Mr '33
- Sur la théorie des réactions explosives; à propos d'un récent travail de S. Roginsky. H. Murauor. *Chimie & Ind* 29:507-14 Mr '33
- Syntheses of cyclic compounds; the thermal decomposition of substituted glutaric acids:  $\beta\beta$ -dimethylglutaric, cyclopentane- and cyclohexane-1:1-diacetic acids, and the mechanism of the reaction. A. I. Vogel. *Chem Soc J* p1028-31 Ag '33
- Thermal decomposition of dibutylmercury. F. E. Frey and H. J. Hepp. *Am Chem Soc J* 55:3357-61 Ag '33
- Thermal decomposition of ethyl azide; a homogeneous unimolecular reaction. J. A. Leermakers. *Am Chem Soc J* 55:2719-29 Jl '33
- Thermal decomposition of isobutane into primary products. L. F. Marek and M. Neuhaus. *Ind & Eng Chem* 25:516-19 My '33
- Thermal decomposition of methyl azide; a homogeneous unimolecular reaction. J. A. Leermakers. *Am Chem Soc J* 55:3098-105 Ag '33
- Thermal decomposition of organic compounds from the standpoint of free radicals; the calculation of the products formed from paraffin hydrocarbons. F. O. Rice. *Am Chem Soc J* 55:3035-40 Jl '33
- Thermal decomposition of phenyl vinyl ether. W. M. Lauer and M. A. Spielman. *Am Chem Soc J* 55:1572-4 Ap '33
- Thermal decomposition of simple paraffins. F. E. Frey and H. J. Hepp. *bibliog il diag Ind & Eng Chem* 25:441-9 Ap '33
- See also  
Electrolysis  
Hydrolysis
- DECORATION and ornament**  
Sand and air. M. Ten Eyck. *il Glass Ind* 14: 35-9 Mr '33
- See also
- |                       |                     |
|-----------------------|---------------------|
| Calico printing       | Interior decoration |
| Carpets               | Mural painting and  |
| Church decoration and | decoration          |
| ornament              | Pottery             |
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| Decorative            | Stained glass       |
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| ing                   | Textile design      |
| Furniture             | Textile printing    |
| House decoration      |                     |
- DECORATION and ornament, Architectural**  
Gadgets: shelters, flags, decoration; Century of progress exposition. C. W. Farrier. *il Arch Rec* 73:363-5 My '33
- Ornamental iron gains favor in California. *il Iron Age* 132:26A Jl 20 '33
- Project of ornamenting the Baha'i temple dome. J. J. Earley. *il Am Concrete Inst J* 4:403-11 Je '33
- Story of Rockefeller Center; allied arts. E. Clute. *il Arch Forum* 58:128-32 F '33
- See also
- |                      |                    |
|----------------------|--------------------|
| Architecture—Details | Moldings           |
| Brick work           | Mural painting and |
| Concrete, Ornamental | decoration         |
| Corbels              | Sculpture          |
| Glass, Ornamental    | Sheet metal work,  |
| Interior decoration  | Architectural      |
| Metal work, Archi-   | Terra cotta        |
| tectural             |                    |
- DECORATIVE design.** See Design, Decorative
- DEE, Kay.** See Dougherty, Kathryn



**DEEDS**

- Reflections on the art of administering deed restrictions. C. S. Ascher. *J Land & Pub Util Econ* 8:373-7 N '32  
 Taking a deed in lieu of foreclosing a mortgage; protecting interests of the mortgagee in taking title to property. R. M. Hoyt. *Trust Companies* 57:133-6+ Ag '33

**DEEDS of trust**

- Bonds, mortgages, equipment; some administration problems under corporate trusteeship. W. G. Littleton. *Bankers M* 126:554-60 Je '33; Excerpts. *Trust Companies* 56:335-8 Mr '33  
 Problems of trustees under defaulted bond issues. B. W. Utter. *Trust Companies* 56: 653-8 Je '33  
 Some guiding policies for corporate trust business. A. C. Downing. *Trust Companies* 56:219-24 F '33

**DEFLATION (finance)**

- Debt deflation. *Business Week* p8-9 Ap 5 '33  
 Deflation vs. inflation and the future. G. Bid-dulph. *Chem Markets* 32:216-18 Mr '33  
 Race is on between inflation and deflation. H. H. Allen. *Factory & Ind Management* 84:72 F '33

**DE FOREST, Lee**

- Portrait. *Sci Am* 148:30 Ja '33

**DEFORMATIONS (mechanics)**

- Analysis of factors influencing rolling pressure and power consumption in the hot rolling of steel. S. Ekelund. *Steel* 93:32+S 11; 29-32 S 18; 71-4 S 25; 45-6, 48 O 2 '33  
 Deformation in laminated. E. E. Halls. *diags Plastic Prod* 9:15-17 Mr '33  
 Deformation of steel reinforcement during and after construction. S. I. Sergev. *plan Am Soc C E Proc* 59:1269-88 O '33; Discussion. 59:1521-3 N '33  
 Elastische formänderungen der hölzer. J. Stamer and H. Sieglerschmidt. *Zeit Ver Deutsch Ing* 77:503-5 My 13 '33  
 Electric strain meter and its use in measuring internal strains. R. E. Davis and R. W. Carlson. *il diags Am Soc T M Proc* 32 pt 2:793-801 '32  
 Elongation values on thin sheet metal. R. L. Kenyon. *Engineer* 154:sup[Metallurgist] 187-8 D 30 '32  
 Fundamental difficulties of deformeter analysis. L. A. Beaufoy. *il Engineering* 134:671-3 D 9 '32  
 Mechanics of deformable bodies, being volume II of Introduction to theoretical physics. M. Planck. 234p \$2.50 Macmillan '33  
 New approaches to the study of the deformation of steel. E. J. Janitzky. *il Iron Age* 132:14-17+ N 2 '33  
 Plastic forming of metals. E. Siebel. *Steel* 93:23-5 O 16; 37-8+ O 23; 32-4 O 30; 36+N 6; 26+N 13 '33 (to be cont)  
 La recherche et la mesure des déformations dans les grands barrages en béton. H. Juillard. *Génie Civil* 103:403-6 O 21 '33  
 Some effects of the amount and rate of deformation on a low carbon strip steel. J. Winlock and A. E. Laverne. *il Am Soc Steel Tr Trans* 21:109-15; Discussion. 116-18 F '33  
 Some notes on mechanism of deformations in gray iron. J. W. Bolton. *il Am Soc T M Proc* 32 pt 2:477-87; Discussion. 488-91 '32  
 Thermal effects in elastic and plastic deformation. M. F. Sayre. *bibliog Am Soc T M Proc* 32 pt 2:584-92; Discussion. 593-606 '33

See also

- Strains and stresses  
 Torsion

**DEGREES, Academic**

- Columbia university honorary degrees awarded in the years 1902-1932. N. M. Butler. 193p \$4 Columbia univ. press '33  
 Doctorates conferred in the sciences by American universities, 1931-1932. C. Hull and C. J. West, comps. *Nat Research Council Reprint & Circ Ser* 104:1-59 '32  
 Doctorates conferred in the sciences by American universities, 1932-1933. C. J. West and C. Hull. *Science* 78:241 S 15 '33

- Doctorates in chemistry and related fields conferred by American universities, 1932-33. C. J. West and C. Hull. *J Chem Educ* 10:693-703 N '33  
 Occupations and earnings of women in chemistry; with special reference to academic degrees. H. L. Wikoff. *Ind & Eng Chem* 25: 467-72 Ap '33

**DEGREES, Engineering**

- Present trends with respect to the master's and professional degrees in engineering. W. C. John. *J Eng Educ* 23:169-71; Discussion. 171-4 N '32  
 Study of graduate and undergraduate enrollments in engineering from 1921-22 to 1930-31, and undergraduate, professional, and graduate degrees in engineering, 1921-22 to 1929-30. W. C. John. *J Eng Educ* 23:166-8 N '32  
 Theoretical engineers. *Engineer* 155:607-8 Je 16 '33

**DEGUMMING (textiles)**

- Boil-off of silk. E. S. Hillman. *Textile Col* 55:13-17+ Ja '33  
 Degumming agents; soaps and boil-off oils. *Textile World* 83:67 Ja '33  
 Degumming of natural silk in presence of acetate silk. H. Schmidt. *Textile Col* 55:337 Je '33  
 Degumming of real silk; abstract. J. Stockhausen. *Textile Col* 55:402-3 Je '33  
 Degumming silk; abstract. J. Stockhausen. *Textile Col* 55:46 Ja '33  
 Degumming silk; abstract. P. P. Viktorov and Z. S. Bloch. *Textile Col* 55:328 My '33  
 Hosiery degumming. W. W. Bray. *Textile World* 83:1816-17 O '33  
 Practical processing and dyeing of hosiery; cotton, wool, silk, rayon and combinations of these fibers. N. D. White. *Textile Col* 55:448-9, 517-20+ Jl-Ag '33  
 Usual degumming methods prove harmful to silk-wool unions. H. H. Mosher. *il Textile World* 82:980-1, 1170-1 N-D '32

**DEHALOGENATION**

- Dehalogenation of aliphatic bromo acids; the bromo and dibromo olefins. G. B. Bachman. *Am Chem Soc J* 55:4279-84 O '33

**DEHYDRATION**

- Catalytic dehydration of ionone and the constitution of ionene. M. T. Bogert and V. G. Fourman. *Am Chem Soc J* 55:4670-80 N '33  
 Common basis of intramolecular rearrangements; the dehydration of di-*tert*-butylcarbinol and the conversion of the resulting nonenes to trimethylethylene and isobutylene. F. C. Whitmore and E. Stahly. *bibliog Am Chem Soc J* 55:4153-7 O '33  
 Dehydration and rearrangement of certain pinacolyl alcohols and related compounds. F. C. Whitmore and P. A. Krueger. *Am Chem Soc J* 55:1528-35 Ap '33  
 Dehydration by absorption characterizes cast confectionery manufacture. O. H. Windt. *il diag Food Ind* 5:213-15, 248-50 Je-Jl '33  
 Dehydration of capryl alcohol. F. C. Whitmore and J. M. Herndon. *Am Chem Soc J* 55:3428-30 Ag '33  
 Dehydration of tars by means of centrifuges. *Gas J (Lond)* 202:912 Je 28 '33; Same. *Am Gas J* 139:28 Ag '33  
 Dehydration of tertiary alcohols containing a neopentyl system; methylisopropyl-*tert*-butylcarbinol, methyl-di-*tert*-butylcarbinol, and methylethyleneopentylcarbinol. F. C. Whitmore and K. C. Laughlin. *Am Chem Soc J* 55:3732-8 S '33  
 Dehydration of the  $\alpha$ -forms of *r*- and (+)-*o*- and -*m*-tolylhydrobenzoin. R. Roger and W. B. McKay. *Chem Soc J* p332-6 Ap '33  
 Dehydration of 2,2-dimethylhexanol-1 and related tertiary alcohols. F. C. Whitmore and J. M. Church. *Am Chem Soc J* 55:1119-24 Mr '33  
 Dehydrogenation of cholesterol. J. W. Cook and C. L. Hewett. *Soc Chem Ind J (Chem & Ind)* 52:451-2 My 26 '33  
 Determination of dehydration. S. Skramovsky. *Chem Age (Lond)* 28:195 Mr 4 '33

**DEHYDRATION—Continued**

- Development of Dakota lignite; oil-steam atmosphere for dehydrating Dakota lignite. A. M. Cooley, Jr. and I. Lavine. *Ind & Eng Chem* 25:221-4 F '33
- Preparation and dehydration of 4,4-dimethylpentanol-2 (methyleneoptylcarbinol). F. C. Whitmore and A. H. Homeyer. *biolog Am Chem Soc J* 55:4194-6 O '33
- Soluble anhydrite as a desiccating agent; drying of organic liquids. W. A. Hammond and J. R. Withrow. *diag Ind & Eng Chem* 25:1112-15 O '33
- Some aspects of the Tschugaeff reaction for dehydrating alcohols. F. C. Whitmore and C. T. Simpson. *Am Chem Soc J* 55:3809-12 S '33
- Studies on the rearrangement of tertiary-butylmethylcarbinol (pinacolyl alcohol); dehydration. F. C. Whitmore and P. L. Meunier. *Am Chem Soc J* 55:3721-2 S '33

See also

Drying agents

**DEHYDRODEQUELIN**

- Occurrence of dehydrodeguelin and dehydrotoxicarol in some samples of derris root. E. P. Clark and G. L. Keenan. *Am Chem Soc J* 55:422-3 Ja '33

**DEHYDRODIHYDROROTENONIC acid**

- Experiments on the synthesis of rotenone and its derivatives; dehydrodihydrorotenonic acid and tephrosic acid. A. Robertson. *Chem Soc J* p1163-5 S '33

**DEHYDROGENATION**

- Conversion of a bile acid into a hydrocarbon derived from 1:2-benzanthracene. J. W. Cook and G. A. D. Haslewood. *Soc Chem Ind J (Chem & Ind)* 52:758-9 S 22 '33
- Dehydrogenation of the sesquiterpenes of wintera colorata. J. Melville. *Am Chem Soc J* 55:2462-5 Je '33
- Equilibrium dehydrogenation of ethane, propane, and the butanes. F. E. Frey and W. F. Hupke. *biolog diag Ind & Eng Chem* 25: 54-9 Ja '33
- Preparation of aldehydes and ketones by dehydrogenation of alcohols over copper-chromium oxide. H. Adkins and others. *diag Am Chem Soc J* 55:2992-4 Jl '33
- Structural changes produced in the selenium dehydrogenation method; ring changes in *spiro*-compounds. G. R. Clemon and J. Ormiston. *Chem Soc J* p352-3 Ap '33
- Thermal decomposition of organic compounds from the standpoint of free radicals; the dehydrogenation of paraffin hydrocarbons and the strength of the C-C bond. F. O. Rice and M. D. Dooley. *Am Chem Soc J* 55:4245-7 O '33

**DEHYDRONAPHTHOL disulfide**

- Halogen derivatives of dehydro-2-naphthol 1-disulphide. J. A. C. McClelland and S. Smiles. *Chem Soc J* p786-8 Jl '33

**DEHYDRONORCHOLENE**

- Conversion of a bile acid into a hydrocarbon derived from 1:2-benzanthracene. J. W. Cook and G. A. D. Haslewood. *Soc Chem Ind J (Chem & Ind)* 52:758-9 S 22 '33

**DEHYDROPERILLIC acid**

- Dehydroperillic acid, an acid from western red cedar (*Thuja plicata* don). A. B. Anderson and E. C. Sherrard. *Am Chem Soc J* 55:3813-19 S '33

**DEHYDROROTENONE**

- Experiments on the synthesis of rotenone and its derivatives; the dehydrorotenone nucleus. A. Robertson. *Chem Soc J* p489-93 My '33
- Occurrence of rotenone and related compounds in the roots of cracca virginiana. E. P. Clark. *Science* 77:311-12 Mr 24 '33

**DEHYDROTOXICAROL**

- Occurrence of dehydrodeguelin and dehydrotoxicarol in some samples of derris root. E. P. Clark and G. L. Keenan. *Am Chem Soc J* 55:422-3 Ja '33

DEINKING of paper. See Waste paper

DEKALIN. See Decalin

DE LA VERGNE, John Chester, 1840-1896

Sketch. L. Baron. *Refrig Eng* 25:378-9 Je '33

**DELAWARE**

- Planning the Philadelphia Tri-state region in Delaware. A. P. Shaw. *il Civil Eng* 2:723-30 D '32

**Commerce**

- Aid for analyzing markets in Delaware, Maryland, Virginia, West Virginia and the District of Columbia. C. B. Eliot. 27p U.S. Bur. of foreign and domestic commerce, Washington '33

**DELAWARE and Hudson company**

- Delaware & Hudson—a little giant. D. Hovey. *il map Barron's* 13:6-7+ Je 26 '33
- Delaware & Hudson gets 10% interest in Central. *Barron's* 13:10 Ja 30 '33
- D.&H. reenters railroad market. *Econostat* 1:14-15+ Ap 29 '33
- Why did D. & H. buy into N.Y. Central? P. H. Fulton. *Mag of Wall St* 51:482+ F 18 '33

**DELAWARE and Hudson railroad**

- Delaware & Hudson—a little giant. D. Hovey. *il map Barron's* 13:6-7+ Je 26 '33

- DELAWARE, Lackawana and Western railroad Annual report for calendar year 1932. *Ry Age* 94:530-3 Ap 8 '33

**DELAWARE river**

- Evolution of the Hudson-Delaware-Susquehanna drainage. J. H. Mackin. *maps Am J Sci* 5th ser 26:319-31 S '33
- Origin and structure of the Pensauken gravel. M. R. Campbell and F. Bascom. *maps Am J Sci* 5th ser 26:300-18 S '33

**DELIVERY of goods**

See also

- |                     |                         |
|---------------------|-------------------------|
| Drivers as salesmen | Milk delivery           |
| Freight handling—   | Motor truck drivers     |
| Store door delivery | Motor trucks—Management |
| Ice cream delivery  |                         |
| Ice delivery        | Oil delivery            |

**Delivery to dealers**

- Co-op trucks aid collections; automotive parts jobbers of Seattle. *Management Methods* 62: 115-16 Mr '33
- New step in food wholesaling. R. W. McFadden. *il Nation's Business* 21:48+ Ja '33
- Recruits for the wagon. *il Business Week* p12-13 My 10 '33

**DELPHOS, Ohio****Sewerage**

- Operation of a small sewage treatment plant. F. G. Browne. *Pub Works* 64:39-40 Jl '33

**DEL RIO, Texas****Bridges**

- Trestle design to resist Rio Grande floods; approach to bridge at Del Rio. J. W. Beretta. *il diags Eng N* 110:802-4 Je 22 '33

DEMAND limiter. See Electric current limiter

**DEMOCRACY**

- Crisis of democracy. C. N. Callender, ed. *Ann Am Acad* 169:1-201 S '33
- Democracy in crisis. H. J. Laski. 267p Univ. of North Carolina press, Chapel Hill '33
- Is democracy on the decline? S. Bell. *Comm & Fin* 22:256-7 Mr 15 '33
- What is a democratic approach to economic problems? O. Tead. *Ann Am Acad* 165:101-8 Ja '33

**DEMOCRATIC party**

- Democrats in big business. *il Fortune* 7:16-21+ Ja '33

DEMONSTRATIONS. See Department stores—Manufacturers' demonstrations; Salesmanship—Demonstrations

DEMOUNTABLE walls. See Walls, Demountable

DENATURED alcohol. See Alcohol, Denatured

**DENMARK**

See also

- Insurance, Social—  
Denmark

**Commercial policy**

- Denmark will ration 1933 foreign trade—to please the British. *Business Week* p23 D 28 '32





## DEPARTMENT stores—Continued

## Basements

Mail-order basement; agency sales plan by Sears, Roebuck & company. *Business Week* p12 S 30 '33

## Electric equipment

Electrical equipment of a large modern store; abstract. D. W. Thorpe. *Electrician* 109:642 N 18 '32

## Employees

Staff training in department stores. D. S. Pendleton. 204p *Efficiency* magazine, Kent house, 87 Regent st, London W. 1 '32

## Equipment

Modernizes and profits with air conditioning; D. H. Holmes co, New Orleans. J. M. Todd. *il Heating-Piping* 5:8-11 Ja '33

## Exhibits

This plan built sales; Macy's Forward house. *il System* 62:504-5 N '33

## Finance

Department store financing of consumer purchases of electrical household appliances. K. Dameron. N E L A Bul 20:26-8 Ja '33

Department store sales show rise since March—financial record of 1932. H. E. Hansen. *Annalist* 41:861 Je 23 '33

Expenses and profits of department store chains and department store ownership groups in 1931; abstract. M. P. McNair. *Management R* 22:251 Ag '33

## Heating and ventilation

Steam service control reduces over- and under-heating in department store. P. A. Hyde. *plan Heat & Ven* 30:20-3 My '33

Unit system cools large Dallas store. *il diags Power* 77:132-3 Mr '33

Unit-type air-conditioning system modernizes this large department store; Neiman-Marcus company, Dallas. A. W. Moulder. *il plans Heating-Piping* 5:137-41+ Mr '33

## Laboratories

Chemist in the department store; abstract. E. Freedman. *Management R* 22:283-4 S '33

## Management

Marshall Field exhibit reveals high cost of poor quality. *il Sales Management* 33:324-5 O 1 '33

Present-day department-store organization. M. Kaufman. *Harvard Business R* 11:244-52 Ja '33

Reasons for and extent of markdowns in Ohio department stores. L. H. Grinstead. 311p \$2 Ohio state univ. *Bur of business research* '32

## Manufacturers' demonstrations

False advertising, demonstrators under attack; toilet goods manufacturers to call trade practice conference. *Ptr Ink* 163:80-1 My 11 '33

Why retail store demonstrations often prove costly. O. G. Carpenter. *Ptr Ink* 162:33-4 F 2 '33

Why store-wide promotion plans are turned down. *Ptr Ink Mo* 26:53 Ap '33

## Power

Macy's installs a 1,000-kw. mixed-pressure turbine. *il Power* 77:225-7 My '33

Turbines replaced by engines in Lasalle & Koch co. Toledo, O. B. H. Bonnar. *diag Power Pl Eng* 37:432 O '33

## Securities

Security buyer looks at the department store. T. C. McClary. *Mag of Wall St* 52:22-3+ Ap 29 '33

## Service

Samples, a merchandising idea that is old but still effective; free bus tickets issued by department store helps advertise bus line. *Bus Transportation* 11:503 D '32

## Statistics

Department store sales, monthly, 1919-1932. *Bradstreet's* 61:152 Ja 28 '33

Department-store sales, Philadelphia federal reserve district, monthly, 1919-1932. *Survey of Cur Business* 12:20 D '32

Department stores rise again. *Business Week* p14 Je 17 '33

Operating results of department and specialty stores in 1932. *Adv & Sell* 21:34 Je 8 '33

Operating results of department and specialty stores in 1932; abstract. C. N. Schmalz. *Management R* 22:250 Ag '33

Sales, stocks. Published in monthly numbers of Federal reserve bulletin

Store profits, 1932. *Business Week* p9 Ap 19 '33

## DEPOLARIZATION

Depolarization by graphite anodes in the electrolysis of aluminum oxide. M. De K. Thompson and R. G. Seyl. *Electrochem Soc Trans* 64 (preprint 11):123-9 S '33

## DEPOLARIZATION (light)

Theory of depolarization, optical anisotropy, and the Kerr effect. R. Serber. *Phys R* 43: 1003-10 Je 15 '33

## DEPOSIT insurance. See Banks and banking—Guaranty of deposits

## DEPRECIATION

Concealed earnings in oil-depreciation accounts. L. Beech. *Barron's* 13:16-17 Ja 9; 29-1 Ja 16 '33

Deflating the balance sheet to inflate earnings. W. R. Donaldson. *Iron Age* 131:773-5 My 18 '33; Same. *Trust Companies* 57:173-6 Ag '33; Same abr. *Chem Markets* 32: 427-9 My '33

Depreciation by the insurance method. J. F. Brennan. *J Land & Pub Util Econ* 9:16-24 F '33

Depreciation, income tax and dividends. W. A. Clader. *J Account* 56:47-54 Jl '33

Depreciation of chemical plant: financial accounting. S. H. Withey. *Chem Age (Lond)* 28:72-4 Ja 28 '33

Electrical trade costing. S. H. Withey. *Electrician* 110:353, 589 Mr 17, My 5 '33

Facts and fallacies about straight-line depreciation methods. H. E. Riggs. *Pub Util* 12:393-9 S 28 '33

Plant depreciation and net earnings; a study in corporation management. W. A. Layman. *Annalist* 40:867-8 D 30 '32

Profits in the steel industry—a sound prescription. E. Newton. *Steel* 91:11-13+ D 5 '32

Soundness and necessity of overhead write-downs. J. Geschelin. *Automotive Ind* 69: 146-9 Ag 5 '33

Writing down of plant values and its probable effect on future profits. W. A. Layman. *Annalist* 42:243-4 Ag 25 '33

## See also

Cost accounting

Obsolescence

Valuation

## DEPSIDES

Depside esters of dihydric phenols and some polydepsides. T. Currie and A. Russell. *Chem Soc J* p140-2 F '33

## DERMESTIDAE. See Beetles

## DERRIS

Occurrence of dehydrodeguelin and dehydrotoxicarol in some samples of derris root. E. P. Clark and G. L. Keenan. *Am Chem Soc J* 55:422-3 Ja '33

## DESCH, Cecil Henry, 1874-

Sketch. *por Soc Chem Ind J (Chem & Ind)* 51:996-7 D 2 '32

## DESICCATION. See Drying

## DESICCATORS

Heated vacuum micro-desiccators. E. W. Blank. *diags J Chem Educ* 10:139 Mr '33

## See also

Drying apparatus



## DESIGN

- Another dark corner product earns its bit of limelight; Robeson Rochester corporation. C. W. Silcox. *il Sales Management* 32:164 F 15 '33
- Artistic abuse of the plastics. J. Sinel. *il Plastic Prod* 9:13 Mr '33
- Beautifying the hidden product; Prest-O-Lite battery. *il Ptr Ink* 165:102 N 9 '33
- Big 3 of product design. W. D. Teague. *il Factory & Ind Management* 84:26-7 Ja '33; Same. *Adv & Sell* 20:24+ D 22 '32
- Can we invent new forms? R. Boyd. *il diag Architecture* 67:323-6 Je '33
- Custom-building a new product to the wants of the market; C. F. Church manufacturing company. R. S. McFadden. *il Sales Management* 33:74, 76 Jl 15 '33
- Design and economic recovery. E. E. Calkins. *il Adv Arts* p9-13 Jl '33
- Design for business. R. Sheldon. *il Adv Arts* p25-9 N '33
- Design ingenuity turns waste materials into items buyers grab; Chase brass and copper, Patchogue-Plymouth, H. C. White company and others. R. S. McFadden. *il Sales Management* 32:606-7+ Je 15 '33
- Design strategy helps industrial firm crash new consumer market; Sealright paper cups. R. S. McFadden. *il Sales Management* 33:272+ S 15 '33
- Designing to cash in on a popular trend: enter, humidiguide. R. S. McFadden. *il Sales Management* 32:62-3 Ja 15 '33
- Designing to sell; Sears, Roebuck washing machines. R. S. McFadden. *il Sales Management* 32:512-13+ My 15 '33
- Dollars and cents angle of product design. S. Nowak. *il Ptr Ink Mo* 26:20-1+ F '33
- Done by design; Ditto machine. J. S. Hernlund. *il Factory Management* 91:437-9 N '33
- Economy of improved package design. *Ptr Ink Mo* 26:50-2+ Ja '33
- First-year sales on new scale equal total for previous ten years. R. S. McFadden. *il Sales Management* 32:62 Ja 15 '33
- Horizons. N. B. Geddes. 293p \$4.75 Little, Brown, and co, Boston '32
- How 1,000 consumers voted on five designs; Micarta tray line. *il Ptr Ink Mo* 26:24+ Mr '33
- Importance of design as a factor in increasing sales appeal; abstract. W. D. Teague. *Iron Age* 131:629 Ap 20 '33
- Modern creative design and its application. H. A. Fowler. 270p [bibliog p265] G. Wahr, Ann Arbor, Mich. '33
- 100,793 women bossed our 1933 product design job; Norge corporation. H. E. Blood. *Sales Management* 33:261+ S 15 '33
- Redesign: what it means in the comeback process; Norge corporation. H. E. Blood. *il Ptr Ink* 162:69, 72-4 Mr 30 '33
- Restyling—a major factor in future merchandising programs; interview with Gordon Armstrong. *il Iron Age* 130:987-8+ D 29 '32
- Restyling service—a new development in merchandising; Youngstown pressed steel co. G. Armstrong. *il diag Iron Age* 131:97-8+ Ja 12 '33
- Stoves learn from autos; new models rouse apathetic dealers. R. S. McFadden. *il Sales Management* 32:63 Ja 15 '33
- Towards design. N. B. Geddes. *il Adv & Sell* 20:sup [Adv Arts] 9-11 Mr '33
- What about this modern movement: is it revolution or evolution? influence on advertising. P. T. Haagen. *il Ptd Salesmanship* 61:36-9 Mr '33
- See also*
- Airplanes—Design
- Architecture—Designs and plans
- Architecture, Domestic—Designs and plans
- Automobiles—Design
- Bridge design
- Concrete construction—Design
- Locomotives—Design
- Machine tools—Design
- Machinery—Design
- Proportion (art)
- Steel construction—Design
- Structures, Theory of
- Textile design

## Protection

- Guard all copy ideas and dummies against theft with a label. *il Inland Ptr* 90:35 Mr '33
- Means draw nearer for better design-protection. *Textile World* 83:55 Ja '33
- New means of design security. W. Fawcett. *Am Dyestuff Rep* 22:557-8 S 11 '33
- Ownership of preliminary sketches can be safeguarded. C. H. Blake. *Am Arch* 143:30-2 Ja '33
- Piracy; contract and agreement the newest weapons against the ubiquitous design thief. *Business Week* p8-9 Ja 25 '33
- Piracy; silk printers end a long abuse by unanimously agreeing to refuse copied patterns. *Business Week* p8-9 N 23 '32
- Piracy; textile men win support for a new bill to protect original patterns. *Business Week* p12 Ja 4 '33
- Protection of industrial designs. T. H. Anderson. *Sci Am* 148:124 F '33
- What has been accomplished towards protecting textile designs? O. A. Geier. *Melland* 5:122+ Je-Jl '33

*See also*  
Copyright—Designs

## DESIGN, Decorative

- Elements of design. T. E. Dickson. 49p \$1.25 Pitman '33
- Floral art, decoration and design. H. D. Richter. 14p 60 col pl F. Lewis ltd, South Benfleet, Essex, England '32
- Geometry of repeating design and geometry of design for high schools. A. D. Bradley. 131p [bibliog p129-31] \$1.50 Teachers college '33
- Handbook of ornament. F. S. Meyer. 4th Am ed 548p \$3.60 Architectural book pub. co, inc, New York '33
- Industrial arts design. W. H. Varnum. 248p \$4 Manual arts press '33

*See also*  
Decoration and ornament  
Textile design  
Textile printing

## Plant forms

- Magnified flowers offer new design inspiration; work of Karl Blossfeldt. W. Shack. *il Textile World* 83:578-9 Mr '33
- Nature's architecture; photographs by Professor Karl Blossfeldt. *Am Arch* 143:33-40 Ja '33

## Bibliography

- Plant forms in ornament; a selective list of titles in the New York public library and certain other libraries in New York city. M. F. Baldwin, comp. N Y Pub Lib Bul 37:511-25, 613-32, 715-41 Je-Ag '33

## DESIZING (textiles)

- Enzymes for textile purposes. J. E. Evans. *Soc Dyers & Col J* 49:250-6 Ag '33

## DESKEY, Donald

- Portrait. *Plastics* 8:455 Ja '33

## DESKS

- Sensible new desk for a sales office. *il diag Arch Forum* 59:sup31 Jl '33

## DES MOINES, Iowa

## Rapid transit

- Des Moines regulates its taxicab. *Aera* 23:1418-20 N '32

## DESOXYBENZON

- Grignard reaction in the synthesis of ketones; a new method of preparing desoxybenzoin. S. S. Jenkins and E. M. Richardson. *Am Chem Soc J* 55:703-6, 1618-21 F, Ap '33

## DESOXYMORPHINES

- Desoxymorphines. L. F. Small and D. E. Morris. *Am Chem Soc J* 55:2874-85 Jl '33

## DESUPERHEATERS

- Blaw-Knox desuperheater. *diag Blast F & Steel Pl* 21:116-17 F '33; *Steel* 92:31 F 13 '33; *Power Pl Eng* 37:152 Mr '33

- DESYL chloride. See Chlorophenyl acetophenone

**DETONATION***See also*

- Automobile engines— Gas and oil engines—  
 Detonation Detonation  
 Diesel engines—  
 Detonation

**DETONATORS, Electric**

Propagation tests and the photography of the disturbance sent out by the explosion of commercial electric detonators. D. B. Gawthrop. *il diags J Fr Inst* 214:647-64 D '32

**DETROIT, Michigan**

Detroit pays the piper. *Business Week* p20+ My 24; 8-9 Je 7 '33  
 Detroit's new deal; refunding agreement with major bondholders. *Business Week* p13 J1 22 '33

Industrial Detroit; a selection from the frescoes by Diego Rivera in the Detroit institute of arts. *il Fortune* 7:48-53 F '33

**Sewerage**

Detroit awarded nominal damages in sewer suit. *Eng N* 110:360 Mr 16 '33

**Water supply**

Ammonia-chlorine treatment yields nitrites in effluent. R. Hulbert. *Eng N* 111:315-16 S 14 '33

Four-step power conversion at Springwells. *il Power* 77:470, 472-3 S '33

Selecting pumping equipment for a large water plant. W. C. Rudd and L. E. Ayres. *il diags plan Eng N* 111:429-33, 467-71 O 12-19 '33

**DETROIT Edison company**

Detroit Edison's stability. *Econostat* 1:13, 32 O 7 '33

Fortunes vary with territory served. F. C. Fullerton. *Mag of Wall St* 51:152-3+ N 26 '32

Report for 1932. *Elec W* 101:82 Ja 21 '33

Typical utility earns modest return on capital. *Elec W* 102:592-4 N 4 '33

**DETROIT trust company**

To resume operations on strictly fiduciary lines. *Trust Companies* 57:68 J1 '33

**DEUTONS**

Atom disintegration by high-speed deutons. *Science* 78:sup6+ N 3 '33

Deutons creating neutrons as cause of atomic disintegration. *Science* 78:sup8 O 6 '33

**DEVALUATION of money. See Money—Devaluation****DEVILBISS company**

DeVilbiss and gun. *il diags Fortune* 7:44-8, 114 Mr '33

**DEVOE and Raynolds company**

Annual report, year ended Nov. 30. *Oil Paint & Drug Rep* 123:45 F 6 '33

Devoe's remarkable third quarter. *Econostat* 1:12, 32 O 28 '33

**DEW points**

Pressure-temperature and low pressure total heat relationships of petroleum fractions. E. G. Ragatz, E. R. McCartney and R. E. Haylett. *il diags Ind & Eng Chem* 25:975-9 S '33

**DEXTRIN****Analysis**

Determination of dextrin, maltose, and dextrose in corn sirup. W. R. Fetzner, J. W. Evans and J. B. Longenecker. *bibliog Ind & Eng Chem Anal ed* 5:81-4 Mr 15 '33

Estimation of dextrin in the presence of glue. J. Alexander. *Ind & Eng Chem Anal ed* 5:200 My 15 '33

**DEXTROSE**

Catalysis of air oxidations by iron salts, phosphates and pyrophosphates. E. J. Theriault, C. T. Butterfield and P. D. McNamee. *bibliog Am Chem Soc J* 55:2012-24 My '33

New method of using corn sugar. *Food Ind* 4:394-5 D '32

Value of types of dextrose in the preservation of fruits and vegetables. M. B. Van Arsdale and W. H. Eddy. 24p Teachers college '33

*See also*

Glucose

**Analysis**

Determination of dextrin, maltose, and dextrose in corn sirup. W. R. Fetzner, J. W. Evans and J. B. Longenecker. *bibliog Ind & Eng Chem Anal ed* 5:81-4 Mr 15 '33

**DIABETES**

Diabetes record of 1931. F. L. Hoffman. *Spectator* 129:7+ N 24 '32

Diabetes record of 1932. F. L. Hoffman. *Spectator* 131:10-13 J1 6 '33

Relation of the hypophysis to experimental diabetes. J. F. Regan and B. O. Barnes. *Science* 77:214 F 24 '33

**DIACETYL**

Rotation of polar groups in organic compounds. J. M. Sturtevant. *bibliog Am Chem Soc J* 55:4478-85 N '33

**DIAL telephone. See Telephone, Automatic****DIALKYLAMINOPROPANEDIOLS**

Local anesthetics derived from dialkylaminopropanediols; esters of piperidinopropanediol. E. W. Scott and T. H. Rider. *Am Chem Soc J* 55:804-5 F '33

**DIALLYL**

Synthesis of substances analogous to bile acid degradation products; the attempted use of diallyl as an agent to introduce the requisite side chain in the synthesis of the acid  $C_{21}H_{40}O_6$ . J. W. Baker and H. Burton. *Chem Soc J* p815-18 J1 '33

**DIALYZERS**

Operation of Cerini dialyzers for the recovery of caustic soda solutions containing hemicellulose. D. J. Eynon. *Soc Chem Ind J* 52: 173T-5T Je 16 '32

**DIAMAGNETISM**

Diamagnetism of carbon tetrachloride, benzene and toluene at different temperatures. G. F. Boeker. *Phys R* 43:756-60 My 1 '33

Diamagnetism of water at different temperatures. A. P. Wills and G. F. Boeker. *diag Phys R* 42:687-96 D 1 '32

**DIAMINOANTHRAQUINONE**

Preparation of 1,2- and 2,3- diaminoanthraquinones. P. H. Groggins and H. P. Newton. *bibliog il Ind & Eng Chem* 25:1030-3 S '33

**DIAMOND mines and mining****Brazil**

Black diamond mining in the Brazilian highlands. D. M. Anderson. *il Can Min J* 54:308-10 Ag '33

Mining black diamonds in Brazil. D. M. Anderson. *il map Comp Air M* 38:4195-8 Ag '33

**South Africa**

Compressed air brooms reveal hidden diamonds. *il Comp Air M* 37:4009 D '32

**DIAMONDS, Industrial**

Black diamond mining in the Brazilian highlands. D. M. Anderson. *il Can Min J* 54:308-10 Ag '33

Diamond-drill bits and carbon. W. R. Storms. *diags Eng & Min J* 134:96-8 Mr '33

Diamonds in oil burners. *diag Sci Am* 149:34 J1 '33

Mining black diamonds in Brazil. D. M. Anderson. *il map Comp Air M* 38:4195-8 Ag '33

**DIAPER hygiene unlimited, Cleveland**

Diapers unlimited. *Ptr Ink* 164:100 Ag 17 '33

**DIARSYLS**

Diarsyls; reactions of tetraphenyldiarsyl. F. F. Blicke, R. A. Patelski and L. D. Powers. *Am Chem Soc J* 55:1158-61 Mr '33

Diarsyls; the interaction of diphenyldiiododiarsyl with alkali, with phenylarsine and with diphenylarsine. F. F. Blicke and L. D. Powers. *bibliog Am Chem Soc J* 55:315-18 Ja '33

**DIASPORE**

X-ray studies on the hydrous oxides. H. B. Weiser and W. O. Milligan. *J Phys Chem* 36:3010-29 D '32



**DIASTASE**

Determination of the diastatic activity of honey. H. A. Schuette and R. J. Pauly. *Ind & Eng Chem Anal* ed 5:53-4 Ja 15 '33

See also

Enzymes

**DIASTROPHISM**

Land movements and sedimentation. M. Y. Williams. *Geol Soc Bul* 43:993-1002 D '32

**DIATHERMY**

Short wave h.f. currents; their heating effects—short wave diathermy. H. H. U. Cross. *diags Electrician* 109:683-4 N 25 '32

**DIATOMACEAE**

Pliocene diatoms of Wallace county, Kansas. G. D. Hanna. *Univ of Kansas Science Bul* v 20, no 21:369-94 '32

Red water in La Jolla bay in 1933. W. E. Allen. *Science* 78:12-13 Ji 7 '33

**DIATOMACEOUS earth**

L'association des silices fossiles et des pétroles dans leurs gisements. V. Charrin. *maps Génie Civil* 101:451-3 N 5 '32

Diatomaceous earth in Oregon. W. D. Smith. *il map Econ Geol* 27:704-15 D '32

Ideal filtering medium; extended use of filter-guhr. *Chem Age (Lond)* 29:301 S 30 '33

Reaction between diatomaceous silica and hydrated lime at elevated temperatures. *J Fr Inst* 215:193-4 F '33

Relation of volcanism to diatomaceous and associated siliceous sediments. N. L. Taliaferro. *Univ of Calif Pub Geological Sciences* v 23, no 1:1-56 '33

Testing for diatomaceous earth in set concrete. J. L. Heitzman and A. S. Peiper. *Eng N* 110:801 Je 22 '33

**DIAZO compounds**

Dipole moments and structures of the organic azides and aliphatic diazo-compounds. N. V. Sidgwick, L. E. Sutton and W. Thomas. *Chem Soc J* p406-12 Ap '33

Group of chemicals active in increasing tissue permeability and enhancing certain infectious processes. A. Claude. *Science* 78:151-2 Ag 18 '33

Stability of diazo solutions; abstract. P. P. Viktorov. *Textile Col* 55:45 Ja '33

Stability of diazo chlorides; influence of various substituents, temperature, and concentration. C. C. Snow. *bibliog Ind & Eng Chem* 24:1420-3 D '32

**DIAZODINITROPHENOL**

Diazodinitrophenol, a detonating explosive. L. V. Clark. *bibliog il diag Ind & Eng Chem* 25:663-9 Je '33

**DIAZOMETHANE**

Catalytic decomposition of nitroso- $\beta$ -alkyl-amino-ketones; a new method of preparing diazomethane, and evidence of the occurrence of diazotisation in the aliphatic series. E. C. S. Jones and J. Kenner. *Chem Soc J* p363-8 Ap '33

Primary photochemical processes; the absorption spectrum and photochemical decomposition of diazomethane. F. W. Kirkbride and R. G. W. Norrish. *diag Chem Soc J* p119-26 F '33

**DIAZONIUM compounds**

Character of the diazonium group. H. A. J. Schoutissen. *Am Chem Soc J* 55:4535-15 N '33

**DIAZOSULFONATES**

New reaction of certain diazosulphonates derived from  $\beta$ -naphthol-1-sulphonic acid; constitution of the phthalazine derivatives. F. M. Rowe and A. T. Peters. *Chem Soc J* p1067-70 Ag '33

**DIAZOTIZATION**

Catalytic decomposition of nitroso- $\beta$ -alkyl-amino-ketones; a new method of preparing diazomethane, and evidence of the occurrence of diazotisation in the aliphatic series. E. C. S. Jones and J. Kenner. *Chem Soc J* p363-8 Ap '33

Diazotization of very weakly basic amines. H. A. J. Schoutissen. *Am Chem Soc J* 55:4531-4 N '33

**DIBENZALACETONES**

Rearrangement of the phenylhydrazones of some unsymmetrically substituted dibenzalacetones. L. C. Raiford and J. B. Entikin. *Am Chem Soc J* 55:1125-8 Mr '33

**DIBENZOYL TARTARIC acid**

Preparation of dibenzoyl-*d*-tartaric acid. C. L. Butler and L. H. Cretcher. *Am Chem Soc J* 55:2605-6 Je '33

**DIBENZYL**

Some heat capacity data for durene, pentamethylbenzene, stilbene, and dibenzyl. J. D. Ferry and S. B. Thomas. *J Phys Chem* 37:253-5 F '33

**DIBENZYLDIALYLAMMONIUM hydroxide**

Influence of poles and polar linkings on the course pursued by elimination reactions; formation and decomposition of dibenzylidialylammonium hydroxide. L. Hey and C. K. Ingold. *Chem Soc J* p66-7 Ja '33

**DIBENZYL ketone**

Preparation and pyrolysis of dibenzyl ketone, phenylacetic anhydride and diphenylacetic anhydride. C. D. Hurd, R. Christ and C. L. Thomas. *bibliog Am Chem Soc J* 55:2589-92 Je '33

**DIBROMIDES**

Hydrolysis and rearrangement of certain olefin dibromides containing a tertiary bromine. W. L. Evers and others. *Am Chem Soc J* 55:1136-40 Mr '33

**DIBROMINATION**. See Bromination**DIBROMOBUTENE**

Acetylene polymers and their derivatives; the addition of hydrogen bromide to vinylacetylene, bromoprene and dibromobutene. W. H. Carothers, A. M. Collins and J. E. Kirby. *Am Chem Soc J* 55:786-8 F '33

**DIBROMOHYDROXYBENZYL bromide**

Some derivatives of dibromohydroxybenzyl bromide. W. C. Harden. *Am Chem Soc J* 55:4260-2 O '33

**DIBUTYLMERCURY**. See Mercury dibutyl**DICARBETHOXYALKYLMETHYLAMINES**

Study of the cyclization of the series of  $\omega, \omega'$ -dicarbethoxydialkylmethylamines through the acetoacetic ester condensation. E. A. Prill and S. M. McElvain. *Am Chem Soc J* 55:1233-41 Mr '33

**DICARBONYL compounds**. See Carbonyl compounds**DICARBOXY compounds**

Structure of dicarboxy compounds from dissociation and reaction velocity data. J. Greenspan. *Chem R* 12:339-61 [bibliog p360-1] Ap '33

**DICHLOROACETYLMESITYLENE**

Polyhalo derivatives of acetomesitylene; the bromination of 3,5-dichloroacetylmesitylene. C. H. Fisher. *Am Chem Soc J* 55:4594-7 N '33

**DICHLOROANTHRAQUINONE**

Preparation of 1,2- and 2,3-diaminoanthraquinone. P. H. Groggins and H. P. Newton. *bibliog il Ind & Eng Chem* 25:1030-3 S '33

**DICHLOROBENZENE**

Nitration of *o*-dichlorobenzene. J. R. Ruhoff. *Am Chem Soc J* 55:3470-1 Ag '33

Scattering of X-rays by the gaseous dichlorobenzenes. W. C. Pierce. *Phys R* 43:145-6 Ja 15 '33

**DICHLOROBUTANONE**

$\alpha', \beta'$ -Dichloromethylethyl ketone (1,4-dichlorobutanone-2). R. H. Carroll and G. B. L. Smith. *Am Chem Soc J* 55:370-3 Ja '33

**DICHLORODIFLUOROMETHANE**

Behavior of dichlorodifluoromethane and of chlorotrifluoromethane in the electric discharge. N. V. Thornton, A. B. Burg and H. I. Schlesinger. *diag Am Chem Soc J* 55:3177-82 Ag '33

Flow of superheated refrigerants in copper tubing. J. E. Linebaugh. *Refrig Eng* 26:82-4 Ag '33

- DICHLORODIPHENIC acid**  
Occurrence of a new case of isomerism in the fluorenone carboxylic acid series; isomeric products from the action of sulfuric acid upon 3,3'-dichlorodiphenic acid. E. H. Huntress, I. S. Cliff and E. R. Atkinson. bibliog Am Chem Soc J 55:4262-71 O '33
- DICHLOROETHANE.** See Ethylene chloride
- DICHLOROETHYL ether**  
Commercial application of chlorex process in the manufacture of high grade motor oils. W. H. Bahlke, A. B. Brown and F. F. Diwoky. il diag Oil & Gas J 32:60+ O 26 '33  
Production of lubricating oils by extraction with dichloroethyl ether. J. M. Page, C. C. Buchler and S. H. Diggs. il diag Ind & Eng Chem 25:418-22 Ap '33; Same. Nat Pet N 25:35-6+ Ap 5 '33; Same. Oil & Gas J 31:14-15+ Ap 20 '33
- DICHLOROETHYLENE**  
Heat capacities of *cis* and *trans* dichloroethylenes. A. R. Olson and F. W. Brittain diags Am Chem Soc J 55:4063-8 O '33
- DICHLOROFUORENONE**  
Preparation of certain disubstituted fluorenes by the action of heat upon the corresponding substituted diphenic acids or their derivatives. E. H. Huntress and I. S. Cliff. bibliog Am Chem Soc J 55:2559-67 Je '33
- DICHLORONAPHTHALENES**  
Certain dichloronaphthalenes and related intermediates. R. W. Beattie and F. C. Whitmore. Am Chem Soc J 55:1546-8 Ap '33
- DICHLOROPROPANE.** See Propylene dichloride
- DICHLOROSUCCINIC acid**  
Kinetics of the decomposition of the dichlorosuccinic acids. H. V. W. Robinson and D. T. Lewis. Chem Soc J p1260-2 S '33
- DICHLOROTOLUENE**  
Action of some metallic oxides on benzotrichloride and benzal chloride. W. Davies and J. H. Dick. Chem Soc J p2808 N '32  
Coupling action of the Grignard reagent; benzal chloride and benzotrichloride. R. C. Fuson and W. E. Ross. Am Chem Soc J 55:720-3 F '33
- DICHOISM**  
Rotatory dispersion of organic compounds; rotatory dispersion and circular dichroism of aldehydic sugars. H. Hudson, M. L. Wolfrom and T. M. Lowry. Chem Soc J p1179-92 S '33; Summary, with discussion. Soc Chem Ind J (Chem & Ind) 52:504 Je 16 '33
- DICHROMIC acid**  
Photochemical reaction between quinine and dichromic acid; kinetics of the reaction. G. S. Forbes, L. J. Heidt and F. P. Brackett, Jr. Am Chem Soc J 55:588-96 F '33  
Photochemical reaction between quinine and dichromic acid; quinine derivatives and utilization of absorbed quanta. G. S. Forbes and L. J. Heidt. bibliog Am Chem Soc J 55:2407-13 Je '33
- DICTAPHONE**  
Dicta; confusion between dictaphone and dictograph. Fortune 7:8+ My '33  
Large uses of steel in small way; dictating machines. il Steel 92:26 F 20 '33  
Manual of talking machine dictation and transcription. C. H. Marshall. 99p Marshall fluency shorthand reporting course, 2261 Ocean av, Brooklyn, N.Y. '32  
These salesmen's reports travel in cartons; graven on wax cylinders. F. Goodchild. Ptr Ink 164:32 Ag 31 '33
- DICTATORS**  
Dictatorship versus democracy. (In University debaters' annual, 1932-1933). E. M. Phelps, ed. p251-85 [bibliog p278-85] Wilson, H. W. '33  
No danger of a dictatorship. M. Sykes. Comm & Fin 22:257-8 Mr 15 '33
- DICTIONARIES**  
Specialist dictionaries; criticism and suggestions. C. Fuller. Assn of Sp Lib & Inf Bur Proc 1932:70-4; Discussion, 74  
Technical dictionaries. E. Wüster. Assn of Sp Lib & Inf Bur Proc 1932:75-82 [bibliog p82]
- DICTOGRAPH**  
Dicta; confusion between dictaphone and dictograph. Fortune 7:8+ My '33
- DIE casting**  
Aging of zinc die-casting alloys. Am Mach 77:213 Mr 29 '33  
Artists and engineers cooperate in production of die cast hardware; Devereaux corporation. J. B. Nealey. il Iron Age 131:740-2 My 11 '33  
Colored finishes on zinc, with cleaning methods. il Brass W 28:224-5 N '32  
Combination-type dies reduce cost of die-cast electrical appliance parts. J. A. Schultz, Jr. il Iron Age 132:23 Ag 10 '33  
Composition of typical die-casting alloys; physical properties and applications; data sheets. Mach 39:440A Mr '33  
Cost analysis of zinc die castings vs. machined castings. L. H. Morin. diags Metal Ind 31:168-9 My '33  
Die-cast pistons; methods employed by the Birmingham aluminium casting (1903) co. il diags Automobile Eng 23:161-4 My '33  
Die-casting metals set new standards. il Mach 40:101-3 O '33  
Die castings and stampings. Iron Age 131:48 Ja 5 '33  
Improved methods and alloys aid die-casting industry to expand. il Mach 39:266-9 D '32  
More about zinc; a metal you ought to know. L. K. Urquhart. il Factory & Ind Management 84:54-6 F '33  
New alloys and improved technique extend use of zinc die castings. il Steel 91:21-3 D 5 '32  
New economies in die-casting. G. Nyselius. il Mach 39:497-502 Ap '33  
1933 model automobiles reveal wider use of die castings for small parts. Steel 92:19 Ja 16 '33  
Non-ferrous metal mould castings. F. R. Francis. Can Chem & Met 16:299-300 D '32; Excerpts. Chem Age (Lond) 28:sup3-4 Ja 7 '33  
Properties of zamak alloys used for die-castings; data sheet. Mach 39:376A F '33  
Properties of zinc base die castings. il Metal Ind 30:470-2 D '32  
Size limits of brass and other die castings. L. H. Morin. diags Iron Age 130:803-4 N 24 '32  
Successful finishing of die castings. E. Parkinson and F. V. Paulhaber. Iron Age 131:783+ My 18 '33  
Zinc alloys for die casting recently improved. J. B. Nealey. il Metal Prog 22:43-6 D '32  
Zinc base alloy die castings find steadily widening field of automotive application. J. Geschelin. il Automotive Ind 69:72-5 Jl 15 '33  
Zinc die-casting. il Business Week p10-11 Ja 18 '33
- DIE casting machines**  
Die casting iron and steel; cast-o-matic die casting machine. A. W. Morris and H. R. Simonds. il Iron Age 131:1028-30+ Je 29 '33; Abstract. Mech Eng 55:576-7 S '33  
Kux-Lohner die-casting machine. il Am Mach 77:673-4 O 11 '33; Iron Age 132:30 O 5 '33  
Madison-Kipp die-casting machines for small parts. il Mach 39:483-4 Mr '33; Am Mach 77:192 Mr 15 '33; Metal Ind 31:256 Jl '33  
Madison-Kipp new die casting machine. Metal Ind 31:31 Ja '33  
Newton-New Haven die-casting machines. il Am Mach 77:479 Jl 19 '33; Iron Age 132:37 Jl 6 '33; Mach 39:805 Ag '33; Metal Ind 31:286 Ag '33
- DIE sinking machines**  
Hisgen-Nube automatic die sinking and copying machine. il Mach 39:743-4 Jl '33  
Hisgen-Nube universal die-sinking, engraving, and profiling machine. il Mach 40:182 N '33; Automotive Ind 69:521 O 23 '33  
Hisgen-Nube-Watford automatic die-sinking and profiling machine. il Am Mach 77:386 Je 7 '33
- DIECKMANN reaction**  
Study of the cyclization of a series of  $\omega,\omega'$ -dicarboxyalkylmethylamines through the acetoacetic ester condensation. E. A. Prill and S. M. McElvain. Am Chem Soc J 55:1233-41 Mr '33



**DIELECTRIC constants**

- Bridge and condensers for the precision measurement of dielectric constant and power factor at frequencies below  $10^5$  cycles per second; abstract. A. V. Astin. *Elec Eng* 52: 104 F '33
- Dielectric constant of  $H_2O$ . G. N. Lewis, A. R. Olson and W. Maroney. *Am Chem Soc J* 55:4731 N '33
- Dielectric constant of solid hydrogen sulfide. J. D. Kemp and G. H. Denison. *Am Chem Soc J* 55:251 Ja '33
- Dielectric constant of solutions of amino acids and peptides. J. Wyman, jr. and T. L. McMeekin. *Am Chem Soc J* 55:908-14 Mr '33
- Dielectric constants; ethanol-diethyl ether and urea-water solutions between 0 and  $50^\circ$ . J. Wyman, jr. *Am Chem Soc J* 55:4116-21 O '33
- Dielectric constants of some organic liquids. S. Sugden. *diags Chem Soc J* p768-76 Jl '33
- Dipole rotation and the transitions in the crystalline hydrogen halides. C. P. Smyth and C. S. Hitchcock. *Am Chem Soc J* 55: 1830-40 My '33
- Dipole rotation in crystalline solids. C. P. Smyth and C. S. Hitchcock. *Am Chem Soc J* 54:4631-47 D '32
- Effect of accelerators and antioxidants on electrical characteristics and water absorption of vulcanized rubber insulation. J. H. Ingman-son, C. W. Scharf and R. L. Taylor. *il diag Ind & Eng Chem* 25:83-7 Ja '33
- Effect of temperature and frequency on the dielectric constant, power factor, and conductivity of compounds of purified rubber and sulphur. A. H. Scott, A. T. McPherson and H. L. Curtis. *diags U S Bur Stand J Research* 11:173-209 Ag '33
- Frequency variation of the dielectric constant of dilute non-aqueous solutions. J. L. Oncley and J. W. Williams. *diags Phys R* 43: 341-54 Mr 1 '33
- Possibility of dipole rotation in certain crystalline solids. S. E. Kammerling and C. P. Smyth. *Am Chem Soc J* 55:462-5 F '33
- Properties of electrolytic solutions; conductance as influenced by the dielectric constant of the solvent medium. C. A. Kraus and R. M. Fuoss. *diag Am Chem Soc J* 55: 21-36 Ja '33
- Properties of electrolytic solutions; the conductance minimum and the formation of triple ions due to the action of Coulomb forces. R. M. Fuoss and C. A. Kraus. *bibliog Am Chem Soc J* 55:2387-99 Je '33

**DIELECTRIC losses**

- Dielectric losses in impregnated paper; abstract. J. B. Whitehead. *Elec Eng* 52:51-2 Ja '33
- Dielectric losses in rocksalt. P. L. Bayley. *diag Phys R* 43:355-7 Mr 1 '33
- Iron core tuning coils; editorial. *Wireless Eng* 10:293-5 Je '33

**DIELECTRIC polarization.** See Polarization, Dielectric**DIELECTRIC power factor.** See Power factor, Dielectric**DIELECTRICS**

- Contact phenomena in dielectrics. *diags Inst E E J* 72:252-8 F '33
- Dielectric properties of chlorinated diphenyls. A. H. White and S. O. Morgan. *J Fr Inst* 216:635-44 N '33
- Dielectric strength of porcelain; the influence of porosity. A. J. Monack and R. K. Smith. *Am Cer Soc J* 16:293-5 Jl '33
- Dielectric study at the Harvard engineering school during 1931-32; abstract. C. L. Daves. *Elec Eng* 52:103 F '33
- Dielectrics; effect of temperature change on resistivity. D. K. McCleery. *diags Electrician* 109:745-6 D 9 '32
- Electrical breakdown of liquid dielectrics. F. M. Clark. *bibliog J Fr Inst* 216:429-58 O '33
- Electrical conductivity of commercial dielectrics and its variation with temperature. J. D. Clark and J. W. Williams. *bibliog diags J Phys Chem* 37:119-31 Ja '33

- Ionisation in cable dielectrics. P. Dunsheath. *Electrician* 110:325-7 Mr 10 '33; Discussion. *Elec R (Lond)* 112:376-7, 379 Mr 17 '33; *Electrician* 110:354 Mr 17 '33

Liquid dielectrics. A. Gemant. 185p \$3 Wiley '33

Measurement of degree of wetting by penetrability studies of certain fibrous dielectrics. D. A. McLean and G. T. Kohman. *Elec Eng* 52:104-5 F '33

Rôle of dissolved gases in determining the behavior of mineral insulating oils. F. M. Clark. *bibliog diag J Fr Inst* 215:35-67 Ja '33

See also

Insulation (electric)

**DIELS' hydrocarbons**

Structure of the Diels' hydrocarbon  $C_{15}H_{14}$ . J. D. Bernal and D. Crowfoot. *Soc Chem Ind J (Chem & Ind)* 52:729-30 S 8 '33

**Dienes.** See Olefins**DIES**

- Adjustable forming die. J. W. Gerdel. *diags Am Mach* 77:118-19 F 15 '33
- Automatic indexing die for piercing radial holes. E. L. Soltner. *diags Mach* 39:650-2 Je '33
- Automatic transfer for duplex wire-forming die. A. Suter. *diags Mach* 40:134-6 N '33
- Collapsible die that forms twelve bends at one stroke of the press. A. Beusch. *diags Mach* 39:786-7 Ag '33
- Combination blanking and forming die for U-shaped clasps. V. Waitkus. *diags Mach* 39: 588-9 My '33
- Combination progressive and transfer die for an intricate stamping. A. Suter. *il diags Mach* 39:764-7 Ag '33
- Combination-type dies reduce cost of die-cast electrical appliance parts. J. A. Schultz, jr. *il Iron Age* 132:23 Ag 10 '33
- Die for cutting parallel flats on round pins. P. L. Budwitz. *diags Mach* 39:525-6 Ap '33
- Die for making 10,000 terminal clips an hour. W. C. Betz. *diags Mach* 39:317-18 Ja '33
- Dies that are safe. B. E. Rockoff. *Am Mach* 77:622 S 27 '33
- Dinking dies and their uses. C. B. Lord. *il Am Mach* 77:208-10 Mr 29 '33
- Drawing dies for making rings from flat stock. W. C. Betz. *diags Mach* 39:395-6 F '33
- Embossing feed pins in a recording cylinder of Brown potentiometer-pyrometer. W. C. Schmidt. *diags Am Mach* 76:1230-1 D 21 '32
- Follow-die for producing valve-stem washers. C. S. Schwaebel. *diags Mach* 39:591-2 My '33
- Forming die that compensates for spring-back. *diags Mach* 39:528 Ap '33
- Forming three lugs simultaneously around a circular shell. E. L. Soltner. *diag Mach* 39: 720 Jl '33
- Hard-facing reduces die costs; dies and parts of drum-making machinery made of machine steel. *il Mach* 39:630-2 Je '33
- Hot-pressing of intricate brass and bronze parts. *il Mach* 40:29-30 S '33
- Indenting die for brass shells. J. E. Fenno. *diags Mach* 40:26-7 S '33
- Interchangeable quenching die for ring gears which prevents distortion. D. L. Brown. *diag Mach* 39:393-4 F '33
- Landis types V, L, and H hardened and ground dieheads. *il Am Mach* 77:705-6 O 25 '33; *Automotive Ind* 69:508 O 28 '33; *Iron Age* 132:34-5 O 26 '33; *Steel* 93:40-+ O 30 '33; *Mach* 40:178 N '33
- Large uses of steel in small ways; picture puzzles. *il Steel* 92:28 Mr 6 '33
- National Acme self-opening die. *il Automotive Ind* 68:92 Ja 21 '33
- New developments in cast die and tool steels. *Mach* 39:415 F '33
- Pivoted-cam mechanism for double folding die. *diags Mach* 39:708-9 Jl '33
- Progressive die for hinges. C. D. Olson. *diags Mach* 39:258 D '32
- Progressive die used on dieing machine doubles output of cartridge links; Henry & Wright mfg. co. *il Iron Age* 131:511-12 Mr 30 '33

**DIES—Continued**

- Rebuilt progressive die. diag Am Mach 76: 1169 N 23 '32  
 Self-feeding blanking die. diags Mach 39:453-4 Mr '33  
 Shearing-in small punches in hardened dies. E. E. Keeler. Am Mach 77:542 Ag 16 '33  
 Simple gage stop for blanking dies. Mach 39:784; 40:166 Ag, N '33  
 Spot softening a nitrided case. H. H. Ash-down. il Am Mach 77:330-1 My 24 '33  
 Standardizing die construction. F. Server. diag Am Mach 77:542 Ag 16 '33  
 Threading dies; their manufacture and cutting efficiency. J. G. Morrison. Iron Age 131: 129+, 314-15+ Ja 19, F 23 '33  
 Two types of sub-press follow dies. J. C. Dense. diags Am Mach 77:558-9 Ag 30 '33  
 Universal forming die. C. Kugler. diag Am Mach 77:570 Ag 30 '33

**Manufacture**

- Advances in die making result in better forgings. G. S. Brady. il Iron Age 131:615-16 Ap 20 '33  
 Hardening impression dies. W. E. Snow. diags Mach 39:697-9, 790-2 Jl-Ag '33  
 Latest die-making practice used in a Chinese plant; hard-facing dies with stellite in fabricating kerosene oil cans and lanterns. il Mach 39:470-1 Mr '33  
 Making drawing and forging dies from gray cast iron. F. B. Coyle. il Steel 92:26-7 Je 19 '33  
 Making molds and dies by three-dimensional engraving process. il Mach 39:533-4 Ap '33  
 Matrix alloy reduces tool and die costs. J. R. Weaver. il diags Mach 40:129-32 N '33  
 Ruesch cutting and polishing machine for carbide wire-drawing dies. il Am Mach 77: 355 My 24 '33; Iron Age 131:822 My 25 '33  
 Shaper effectively used in machining die-blocks. il Mach 39:283 D '32  
 Welded construction cuts cost of perforating dies in half. C. M. Taylor. il Mach 40:24 S '33

**Testing**

- Vanadium steel dies for spark plug manufacture. Automotive Ind 67:681 N 26 '32

**DIESEL engine plants.** See Electric plants (central stations)—Diesel engine stations; Power plants—Diesel engine plants

**DIESEL engine users' association**

- Annual dinner, London, Feb. 7. Electrician 110:196 F 10 '33

**DIESEL engines**

- Angularly flexible mountings may find wide use with Diesels. Automotive Ind 69:186-7 Ag 12 '33  
 Atlas Diesel company's portable compressor. il Eng & Min J 134:397 S '33  
 Automotive engines and cars. L. G. Coleman. Ry Age 95:21-2 Jl 1 '33  
 Billiger kleindieselmotor. W. Stremme. il diag Zeit Ver Deutsch Ing 77:157 F 11 '33  
 Büssing-N.A.G. Diesel engine. il diags Automobile Eng 23:43-4 F '33  
 Compression-ignition engine and its applicability to British railway traction. L. F. R. Fell. il diags Inst Mech Eng Proc 124:3-33 '33; Same abr. Engineering 135:85-8 Ja 20 '33; Excerpts. Engineer 155:66-7 Ja 20 '33; Discussion. Inst Mech Eng Proc 124:34-61 '33; Engineering 135:79-81 Ja 20 '33; Engineer 155:72-3 Ja 20 '33  
 Compression pressures in Diesel engines. Automotive Ind 68:709 Je 10 '33  
 Cummins Diesel engine. il Blast F & Steel Pl 21:63+ Ja '33  
 Daimler-Benz enters Diesel aircraft engine field with 12-cyl. Vee model. il Automotive Ind 68:81 Ja 21 '33  
 Diesel engine in ice manufacture. C. A. Brown. Refrig W 68:11-14 S '33  
 Diesel engine manufacturers and suppliers; directory. Power 77:331 sec 2 Je '33; Correction. 77:351 Jl '33  
 Diesel engines and decentralization. M. J. Reed. il Manuf Rec 101:32-3 D '32  
 Diesel engines; current research projects. Power 77:259-60 My '33

Diesel railcars; abstract. Mech Eng 55:702 N '33

Diesel sessions at International automotive engineering congress see animated argument about performance and fuels. J. Kuttner. S A E J 33:sup44-6 O '33

Diesels make notable advance during the year. table Power Pl Eng 36:40-1 Ja '33

Electric power famine approaches; analyzing Diesel-electric possibilities in comparison with use of utility power. F. Juraschek. il Iron Age 132:14-17 O 19 '33

European automotive Diesel vehicles; abstracts. T. B. Rendel. Automotive Ind 69: 250 Ag 26 '33; Nat Pet N 25:25 S 13 '33

European Diesel makers in drive for export markets. A. W. Childs. Automotive Ind 68: 301-2+ Mr 11 '33

Flexible Diesel-compressor refrigerating plant. Power 77:273 My '33

German state railways install high-speed motor coach; the Flying Hamburger. il Ry Age 94:503-5 Ap 8 '33; Ry Mech Eng 107: 160-3 My '33

Heavy-oil engine working costs; 10th annual report of the Diesel engine users' association. Elec R (Lond) 111:963-4 D 30 '32; Electrician 109:874 D 30 '32

Hercules goes in for Diesels with 188 hp. six cylinder model. il Automotive Ind 69:124-5 Jl 29 '33; Roads & Sts 76:319-19 Ag '33

High speed Diesel engine as a prime mover for pumping stations. E. Earl. diags N E Water Works Assn J 47:61-72; Discussion. A. L. Shaw. 72-3 Mr '33; Abstract. Pub Works 64: 43-4 Jl '33

High speed Diesel engines. A. W. Judge. 248p [bibliog p241-2] \$3.25 Van Nostrand '33

Jumo two-stroke Diesel for aircraft developments 540 h.p. il Automotive Ind 69:280 S 2 '33

Junkers sees trend to Diesels in airplanes. Automotive Ind 68:708 Je 10 '33

Land Diesel engines; progress in 1932. W. T. Townend. il Electrician 110:102-3 Ja 27 '33

Lanova air-cell Diesel engine; abstract. E. P. A. Heinzl. Mech Eng 55:697 N '33

Linn Diesel-powered tractor. W. H. C. Mus-sen. il Can Eng 64:13 Ap 4 '33

Modified gas engine operates as Diesel. il Power 77:425 Ag '33

Mono-valve type Diesel engine announced by the American Diesel engine co. il Iron Age 132:31 O 5 '33

New Diesel truck engine to broaden oil market and affect operating basis of transport. S. A. Guiberson, jr. il Oil & Gas J 31:142 N 17 '32

New Jendrassik Diesel. C. Dannerer. il diags Automotive Ind 68:394-6 Ap 1 '33

Nordberg four-cycle, 250 to 1,000-hp. Diesels. il Power 77:274 My '33

Nouvelle automotrice Diesel, à deux bogies moteurs, des Établissements de Dietrich et Cie, il plan Génie Civil 103:380-2 O 14 '33

Oil and gas engines strengthen their positions as prime movers. il Power 77:16-19 Ja '33

Oil and gas power; condensed from the 1932 progress report of the A.S.M.E. oil and gas power division. Mech Eng 54:852 D '32

140 hp. M-A-N Diesel engine built for heavy duty vehicles. il diags Automotive Ind 67: 647-8 N 19 '32

Progress in Diesel engines; abstract. Gautier. Mech Eng 55:507-8 Ag '33

Progress of naphthology, 1932; oil engine development. P. N. Everett. il diags Inst Pet Tech J 19:600-16 Jl '33

Progress report. Oil and gas power division, A.S.M.E. Power 76:338; Discussion. 338+ Mid-D '32

Rolls-Royce Condor aircraft engine converted to Diesel type. Automotive Ind 68:144 F 4 '33

Der schnelltriebwagen der Deutschen reichsbahn-gesellschaft. F. Fuchs and M. Breuer. il diags Zeit Ver Deutsch Ing 77:57-68 Ja 21 '33; Abstract. Génie Civil 102:317-20 Ap 8 '33; Abstract (Streamlined high-speed car of the German national railroad company). Mech Eng 55:191-2 Mr '33



**DIESEL engines—Continued**

- Some notes and observations on petrol and Diesel engines; cracking of bearing linings and wear of cylinders. H. R. Ricardo. diags Roy Aeronautical Soc J 37:509-22 Je '33; Abstract. Automotive Ind 68:429-30 Ap 8 '33; Discussion. Roy Aeronautical Soc J 37:523-46 Je '33; Automotive Ind 69:153-4 Ag 5 '33
- 35 Diesel truck models at Berlin show. E. P. A. Heinze. *il* Automotive Ind 68:317-19 Mr 11 '33
- 35,000-hp. Diesel plant at Vernon, California. *il* Power 77:577-81 N '33
- 37,500-kva. Diesel plant at Vernon, Calif. *il* diags Elec W 102:588-91 N 4 '33
- Thornycroft 36 b.h.p. four-cylinder oil engine. diags Engineer 156:supp xv-xvi S 8 '33; Engineering 136:302-3 S 15 '33
- Type de diagramme commun aux moteurs à explosion et à combustion interne. A. Grebel. Génie Civil 102:111-13 F 4 '33
- Typical Diesel installations since January 1, 1932; tabulation. E. J. Tangerman, comp. Power 77:332-5 sec 2 Je '33
- Vibrationless four-cylinder Diesel engine. *il* Elec J 30:15 Ja '33

**See also**

- |                                     |                                   |
|-------------------------------------|-----------------------------------|
| Electric plants (central stations)— | Locomotives, Diesel               |
| Diesel engine stations              | Power plants—Diesel engine plants |
|                                     | Semi-Diesel engines               |

**Bearings**

- Rod bearing failures. H. Ricardo. Automotive Ind 68:430 Ap 8 '33

**Coal dust engines**

- Pulverised coal as a fuel for internal combustion engines. G. Staniland and G. W. Lee. Automobile Eng 23:358 O '33

**Control**

- New governor makes Diesel engines behave. L. C. Martin. *il* Elec W 101:582-3 My 6 '33
- Speed control for Diesel-electric systems; Gebus system. diags Elec R (Lond) 113:454 O 6 '33
- Water wheel governing principles applied to Diesel engines. Power 77:228-9 My '33

**Cooling**

- Combined water and oil cooler for Diesel locomotives. *il* Engineering 135:287 Mr 10 '33
- Lower average temperatures make Diesels easier to cool. Automotive Ind 69:102 Jl 22 '33
- Water circulating systems for Diesel engines. H. J. Vander Eb. diags Locomotive 39:133-7 Ja '33

**Cost of operation**

- British oil engine working costs. Power 77:95 F '33
- Diesel engine costs; detailed costs of eleven central station plants located in middle western states. Power Pl Eng 37:181 Ap '33
- Fuel savings assure Diesel a place in heavy duty transport. J. Geschelin. *il* Automotive Ind 68:372-4 Mr 25 '33

**Design**

- Baugrenzen von zweitakt-Dieselmotoren mit kurbelkasten-spülpumpe. J. Zeman, diags Zeit Ver Deutsch Ing 77:1136-8 O 21 '33
- British test supercharged Diesels for air service. Automotive Ind 69:96 Jl 22 '33
- Combustion problems of automotive Diesel engines; abstract. J. B. Fisher. Automotive Ind 69:248 Ag 26 '33
- Cylinders of Michel engine arranged star fashion, three on the same central combustion chamber. *il* diags Automotive Ind 67:644-6 N 19 '32
- Details on design of Hercules Diesel; abstracts. O. D. Treiber, diags Automotive Ind 69:338-9 S 16 '33; Nat Pet N 25:25-6 S 13 '33
- Levland 8-litre oil engine. *il* diags Automobile Eng 23:199-202 Je '33; Abstract. Automotive Ind 69:69-70 Jl 15 '33
- Michel Diesel, a high-speed, 3-crankshaft, no-valve unit. E. P. A. Heinze. *il* diags Power 77:92-3 F '33

Le moteur Michel, à combustion interne. G. Delanghe. diags Génie Civil 103:178-81 Ag 19 '33

Les moteurs Diesel à antichambre. G. Delanghe. diags Soc Ing Civils Bul 86:115-233 Ja '33

New L-head Diesel has only one valve per cylinder. *il* Automotive Ind 69:340-2 S 16 '33

1,740-h.p. Harland-B. & W. marine engine. *il* diags Engineering 136:410-11 O 13 '33

Petter A.C.E. Diesel engine. *il* diags Automobile Eng 23:317-18 S '33

Petter 40 b.h.p. high speed two-stroke C.I. engine with Gleniffer reverse and reduction gear. *il* diags Engineer 156:supp iv S 8 '33

What's new in the design of Diesel engines; abstracts of papers at 6th National oil and gas power meeting of A.S.M.E. Automotive Ind 69:279-80 S 2 '33

Winton Diesel employs uni-flow two-cycle system. *il* Marine Eng 38:295 Ag '33

**Detonation**

- Combustion knock in Diesel engines; abstracts. P. H. Schweitzer. Aviation Eng 7:8-9+ D '32; Power Pl Eng 37:310-11 Jl '33
- La détonation dans les moteurs Diesel. Génie Civil 102:397-8 Ap 29 '33
- Why 350-hp. Diesel engine knocks with less load. Power 76:314-15 D '32

**Exhaust**

- Diesel-fired boilers; types, sizes, uses. *il* diags Power 77:534-6 O '33
- Double-acting dollars for Diesel fuel. *il* diags Power 77:285-7, 419-21 Je, Ag '33
- Only a trace of CO in Diesel exhaust. Automotive Ind 69:121 Jl 29 '33
- Recovering Diesel waste heat at Bloomington. L. Howell. *il* Power 77:359-60 Jl '33
- Waste-heat recovery from a 135-hp. Diesel. Power 77:381-2 Jl '33

**Fuel**

- Bituminous coal tar as fuel for Diesel locomotives underground; abstract. Maercks. diags Mech Eng 55:505-7 Ag '33
- Combustion knock in Diesel engines; abstracts. P. H. Schweitzer. Aviation Eng 7:8-9+ D '32; Power Pl Eng 37:310-11 Jl '33
- Co-operative research on motor fuels between the petroleum and automobile industries. H. L. Horning. Oil & Gas J 31:15-16 Ap 27 '33; Excerpts. Nat Pet N 25:28-9 Ap 26 '33
- Diesel fuels must have low viscosity and satisfactory ignition quality. J. Kewley. Oil & Gas J 32:26+ Ag 3 '33
- Engine method favored for testing Diesel fuels. P. H. Schweitzer, C. H. Dickinson and M. J. Reed. Automotive Ind 69:217-20 Ag 19 '33
- Fuel characteristics in relation to pump and sprayer action. L. J. Le Mesurier and R. Stansfield. Engineer 155:358-60 Ap 7 '33
- Fuel-oil supply ample for wide Diesel use. J. Geschelin. S A E J 33:304 S '33
- Fuels for Diesel engines; abstract. W. H. Butler. Power 77:94-5 F '33
- High-speed compression-ignition engine fuels; abstracts of papers at World petroleum congress. Nat Pet N 25:23 Ag 16 '33
- Ignition quality of Diesel fuels. A. G. Marshall. *il* Am Pet Inst Proc 14M(3):102-5 My '33; Abstract. Nat Pet N 25:24+ My 24 '33; Discussion. Am Pet Inst Proc 14M(3):106 My '33
- Ignition quality of engine fuels. G. D. Boerlage. diags Engineer 155:482 My 12 '33
- Performance of high-speed Diesel engines for road transport as affected by the nature of the fuel. J. G. Withers. Inst Pet Tech J 19:713-24 Ag '33
- Progress of naphthology, 1932; gas oil, Diesel fuel oil, and fuel oil. F. H. Garner. bibliog Inst Pet Tech J 19:592-9 Jl '33
- Relative fuel consumption of Diesel and gasoline engines. P. M. Heldt. Automotive Ind 69:159 Ag 5 '33
- Standard rating needed for fuels for high-speed oil-engines. M. Hofmann. S A E J 32:204-9 Je '33; Abstract. Nat Pet N 25:15 F 1 '33
- Tar-oil as Diesel engine fuel. Broche. Can Min J 54:107 Mr '33

**DIESEL engines—Fuel—Continued**

Use of vegetable oils in Diesel engines; abstract. M. Gautier. *Inst Pet Tech J* 19:202A My '33

See also

Diesel engines—Detonation

**Fuel feeding**

Blackstone Fuelol engine. *il diags Engineering* 136:34 J1 14 '33; Same cond. *Automotive Ind* 69:459 O 14 '33

Bosch feed pump for heavy fuels. *diags Automotive Ind* 69:130 J1 29 '33

Compur pumps for fuel injection on Diesel engines. *diags Automotive Ind* 68:399-400 Ap 1 '33

Der einspritzvorgang bei Dieselmotoren. O. Holfelder. *il diag Zeit Ver Deutsch Ing* 76:1241-4 D 17 '32

Fuel characteristics in relation to pump and sprayer action. L. J. Le Mesurier and R. Stansfield. *Engineer* 155:358-60 Ap 7 '33

Fuel injection and combustion as shown by studies in Germany. C. Krause. *il Power* 77:94 F '33

Hydraulics of high speed fuel injection. N. Fodor. *Automotive Ind* 69:248-9 Ag 26 '33

Influence of several factors on ignition lag in a compression-ignition engine. H. C. Gerrish and F. Voss. *Automotive Ind* 68:166-8 F 11 '33

Pressure piping effects on fuel injection. C. W. Lawson. *il diags Roy Aeronautical Soc J* 37:694-702 Ag '33

Problèmes soulevés par l'injection dans les moteurs Diesel et plus spécialement dans les moteurs à vitesse variable. R. Retel. *diags Soc Ing Civils Bul* 86:555-89, pl 218 My '33

Single-sleeve-valve research engine and preliminary results from compression-ignition tests; abstract. C. F. Taylor and M. S. Huckle. *il diag Automotive Ind* 69:370-1 S 23 '33

Some characteristics of sprays obtained from pintle-type injection nozzles. E. T. Marsh and C. D. Waldron. *diag Automotive Ind* 69:420 O 7 '33

See also

Diesel engines—Superchargers

**Ignition**

Bouncing pin tests of ignition lag. J. Kuttner and J. B. Rippere. *Automotive Ind* 69:249-50 Ag 26 '33

Influence of several factors on ignition lag in a compression-ignition engine. H. C. Gerrish and F. Voss. *Automotive Ind* 68:166-8 F 11 '33

**Lubrication**

Diesel engine lubrication. A. N. Kenworthy. *Power Pl Eng* 37:397-8 S '33

Die schmierung von Dieselmotoren unter besonderer berücksichtigung der schiffsantriebe. E. Goos and K. Krekeler. *diags Zeit Ver Deutsch Ing* 77:828-30 J1 29 '33

Vergleichprüfung von schmierölen in verbrennungsmotoren. Kelling. *Zeit Ver Deutsch Ing* 76:1099-1102 N 5 '32

**Manufacture**

Cummins Diesel produced by automotive methods. J. Geschelin. *il Automotive Ind* 68:102-5 Ja 28 '33

Diesel engine cylinders; alloyed cast irons and their preparation and use. *Automobile Eng* 23:346 S '33

Oil-engine production; Petters, Ltd. *il Elec R (Lond)* 112:941 Je 30 '33

Saurer works; methods employed in the production of a high-grade Diesel-engined vehicle. *il Automobile Eng* 23:7-13 Ja '33

Welded steel used for Diesel engine structures. E. Chapman. *il Iron Age* 132:27-9+ Ag 24; 14-17 Ag 31 '33; Same. *Steel* 93:31-4 Ag 28; 25-7 S 11 '33; Same. *Marine R* 63:23-6 N; 19-21 D '33; Same cond. *Marine Eng* 38:330-3 S '33; Same cond. *Power* 77:479-81 S '33; Same cond. *Ry Age* 95:363-6 S 9 '33; Same cond. *Ry Mech Eng* 107:352-7 O '33; Abstracts. *Mach* 40:36 S '33; *Automotive Ind* 69:362-5 S 23 '33

**Noise**

Silencing exhaust noises of Diesel engines. J. M. Drabelle. *Power Pl Eng* 36:826-7 D '32

**Rating**

Rating of Diesel and other engines. W. A. Tookey. *Electrician* 109:665 N 25 '32

**Repair**

Does engine maintenance by unskilled labor pay? J. J. McDougall. *Power Pl Eng* 37:431 O '33

Repairing and alining Diesel engine shafts. J. J. McDougall. *il diags Power Pl Eng* 37:141-2 Mr '33

**Solid injection**

Piston temperatures in a solid-injection oil-engine. G. F. Mucklow. *bibliog diags Inst Mech Eng Proc* 123:349-72 '32; Excerpts. *Engineering* 134:745-7 D 23 '32; Conclusions. *Engineer* 154:644 D 23 '32; Discussion. *Inst Mech Eng Proc* 123:442-78 '32; *Engineering* 134:743-4, 774 D 23-30 '32

Reducing the performance of a solid-injection Diesel engine to standard conditions. H. A. Everett. *Automotive Ind* 69:303-4 S 9 '33

Zum einspritzvorgang in der kompressorlosen Dieselmachine. O. Klüsener. *Zeit Ver Deutsch Ing* 77:171-2 F 18 '33; Same (Injection processes in compressorless Diesel engines). *Mech Eng* 55:446-8 J1 '33

**Specifications**

High speed Diesel and heavy oil engines specifications; tabulation. *Automotive Ind* 68:248-9 F 25 '33

**Superchargers**

Die leistungssteigerung von viertaktmotoren durch vorverdichten. A. Oppitz. *Zeit Ver Deutsch Ing* 76:1227 D 10 '32

**Temperature**

Piston temperatures in a solid-injection oil-engine. G. F. Mucklow. *bibliog diags Inst Mech Eng Proc* 123:349-72 '32; Excerpts. *Engineering* 134:745-7 D 23 '32; Conclusions. *Engineer* 154:644 D 23 '32; Discussion. *Inst Mech Eng Proc* 123:442-78 '32; *Engineering* 134:743-4, 774 D 23-30 '32

**Testing**

Alloy ring carrier cast in light piston resists wear. Diesel tests show; Mercedes-Benz bus tested in Germany. *il Automotive Ind* 67:747-9 D 10 '32

Cummins Diesel test bus makes coast-to-coast trip in 91 hours. J. Geschelin. *il Automotive Ind* 67:771-3 D 17 '32

Diesel-engined bus completes record run from New York to Los Angeles. *il Elec Traction* 28:496-7 D '32

Influence of several factors on ignition lag in a compression-ignition engine. H. C. Gerrish and F. Voss. *Automotive Ind* 68:166-8 F 11 '33

Performance of high-speed Diesel engines for road transport as affected by the nature of the fuel. J. G. Withers. *Inst Pet Tech J* 19:713-24 Ag '33

Piston temperatures in a solid-injection oil-engine. G. F. Mucklow. *bibliog diags Inst Mech Eng Proc* 123:349-72 '32; Excerpts. *Engineering* 134:745-7 D 23 '32; Conclusions. *Engineer* 154:644 D 23 '32; Discussion. *Inst Mech Eng Proc* 123:442-78 '32; *Engineering* 134:743-4, 774 D 23-30 '32

Reducing the performance of a solid-injection Diesel engine to standard conditions. H. A. Everett. *Automotive Ind* 69:303-4 S 9 '33

Single-sleeve-valve research engine and preliminary results from compression-ignition tests; abstract. C. F. Taylor and M. S. Huckle. *il diag Automotive Ind* 69:370-1 S 23 '33

Trials of a 2,500-h.p. Fullagar engine. *Engineering* 135:604-5 Je 2 '33

Versuche an schnellaufenden Dieselmotoren im maschinenlaboratorium der Technischen hochschule Dresden. A. Nägel. *il diags Zeit Ver Deutsch Ing* 76:1213-17 D 10 '32



**DIESEL engines—Continued****Valves**

Maintenance of Diesel engine valves. R. Howarth. *diags Power Pl Eng* 37:357 Ag '33

**Vibration**

Resonanz-drehungsdämpfer mit werkstoffdämpfung für kurbelwellen von Dieselmotoren. W. Popoff. *il diags Zeit Ver Deutsch Ing* 77:19-23 Ja 7 '33

**DIESEL engines, Marine**

Acklam Cross, oil-electric tug. *il Engineer* 156:239-40 S 8 '33; *Engineering* 136:241-2 S 8 '33

Airless-injection engine by W. H. Allen, sons & co. *il Engineering* 136:250-1 S 8 '33

Brooke-A.E.C. 80-130 h.p. highspeed airless-injection marine engine. *il Engineering* 136:355-6 O 6 '33; *Engineer* 156:414 O 27 '33

Crossley brothers 150-b.h.p. scavenge-pump Diesel engine. *il Engineering* 136:249-50 S 8 '33

Cutting Diesel engine costs. *diag Marine Eng* 38:217-18 Je '33

Diesel-electric tugboats; the first two British examples. A. Regnauld. *il diag Elec R (Lond)* 113:549-50 O 20 '33

Diesel-engine trawler installation. *il Engineering* 136:400 O 6 '33

European Diesel, in competition with steam drive. F. C. Bowen. *il Marine R* 63:12-14+ N '33

High-speed marine Diesel engine; abstract. A. E. Evans. *Mech Eng* 54:863-4 D '32

Large European Diesel tugs. *il Marine Eng* 38:411-13 N '33

Marine Diesel engine; description of six installations. *il Marine R* 63:15-22 N '33

Marine electricity; official recognition—machinery of Normandie now on trial. A. C. Hardy. *il Electrician* 110:701 Je 2 '33

Moteurs Diesel construits par la société Fiat pour le paquebot Oceania. *il diags Génie Civil* 102:470-2 My 20 '33

New type Japanese Diesel engine. *il diag Marine Eng* 38:60-2 F '33

Le nouveau caboteur à moteur Diesel. G. Bouineau. *il Génie Civil* 102:234-5 Mr 11 '33

Oil engines for smaller craft. *il Marine R* 63:27 N '33

Operation of Diesel engines. A. G. Elliott. *Marine Eng* 38:345-8 S '33

Performance of Standard Oil tankers. R. L. Hague. *Marine Eng* 38:22-6 Ja '33; Abstract. *Marine R* 62:25 D '32; Discussion. *Marine Eng* 38:32, 64-5 Ja-F '33

Performance of trunk-piston Busch-Sulzer Diesel. *Marine Eng* 38:308 Ag '33

La puissance motrice et le rayon d'action des nouveaux cuirassés allemands, du type Deutschland. *Génie Civil* 103:357-8 O 7 '33

Die schmierung von Dieselmotoren unter besonderer berücksichtigung der schiffsantriebe. E. Goos and K. Krekeler. *diags Zeit Ver Deutsch Ing* 77:828-30 Jl 29 '33

Sea power and the Diesel engine. E. B. Pollister. *Marine Eng* 38:341-2 S '33

6,000-h.p. two-cycle Fiat marine engine for Oceania. *il diag Engineering* 135:644-6 Je 16 '33

Thames motor tug Crowstone. *il Engineer* 154:544 N 25 '32

Thames tug Crowstone. *diags Engineering* 134:575; 135:158-60 N 11 '32, F 10 '33

Tom Sawyer, twin screw Diesel, river towboat. *il diag Marine R* 63:16-19 Jl '33

Winton steel-type Diesel. *il Marine Eng* 38:101-2 Mr '33

**Advertising**

This advertisement has 100 pages; Winton engine corporation of Cleveland. *Ptr Ink* 162:72 Mr 2 '33

**Foundations**

Motorfundamente auf schiffen. W. Scholz. *il diags Zeit Ver Deutsch Ing* 76:1141-7 N 19 '32; Excerpts (Marine oil engine foundations). *Marine Eng* 38:178-81 My '33

**Repair**

Repair problems of marine Diesel engines. L. R. Ford. *S A E J* 32:259-60 Jl '33

**Superchargers**

Diesels for small boats; discussion. *Power* 76:345 Mid-D '32

**DIESEL locomotives.** See Locomotives, Diesel

**DIESEL transportation equipment, Ltd.**

Diesel transportation units; new company organized to handle Diesel engines for road and rail transport. *Can Eng* 65:13 O 31 '33

**DIET**

Cause of dental decay. R. G. Agnew. *Science* 76:sup8 D 16 '32

Deficient diet and mental efficiency. M. F. Fritz. *Science* 77:sup9 Ja 13 '33

Diet in sinus infections and colds. E. V. Ullmann. 166p \$2 Macmillan '33

Food in health and disease. K. M. Thoma. 370p F. A. Davis co, Philadelphia '33

Food, nutrition and health. E. V. McCollum and J. E. Becker. 3d ed 146p \$1.50 E. V. McCollum, 2301 Monticello Road, Baltimore '33

Fundamentals of dietetics. B. M. Wood and A. L. Weeks. 3d ed rev 254p W. B. Saunders co, Philadelphia '32

How to stay young. R. H. Rose. 195p \$1.50 Funk & Wagnalls co, New York '33

Iodine in the diet; abstract. T. von Fellenberg. *Food Ind* 5:275 Jl '33; Same. *Sci Am* 149:181 O '33

Is longevity compatible with optimum growth? C. M. McCay. *Science* 77:410-11 Ap 28 '33

Pellagra-preventive value of green cabbage, collards, mustard greens, and kale. G. A. Wheeler and D. J. Hunt. *Pub Health Rep* 48:754-8 Je 30 '33

Practical dietetics with reference to diet in health and disease. A. F. Pattee. 19th ed rev 881p \$2.75 A. F. Pattee, 445 Gramatan av, Mount Vernon, New York '33

Reinforcing a weak spot in our diet. H. V. Moss. *il Sci Am* 148:90-1 F '33

Relative fatigue recovery value of different carbohydrate blends and mixtures. D. A. Laird. *J Ind Hygiene* 15:89-97 Mr '33

What shall I eat? E. M. Barber. 106p \$1.75 Macmillan '33

See also

Food

Nutrition

Vitamins

**DIETHYL ether.** See Ethyl ether

**DIETHYLAMINE**

Reactions of ethylene oxide; the action of ethylene oxide on diethylamine. A. J. W. Headlee, A. R. Collett and C. L. Lazzell. *Am Chem Soc J* 55:1066-9 Mr '33

**DIETHYL phenylmalonate**

Michael condensation; the behavior of diethyl phenylmalonate in the Michael condensation. R. Connor. *bibliog Am Chem Soc J* 55:4597-601 N '33

**DIETHYL sulfide.** See Ethyl sulfide

**DIETHYL zinc.** See Zinc diethyl

**DIFFERENTIAL equations**

Development and program of the differential analyzer; abstract. V. Bush. *Science* 76:519 D 2 '32

Differential equations for electrical engineers. P. Franklin. 299p [bibliog p281-2] Wiley '33

Differential equations from the algebraic standpoint. J. F. Ritt. 172p American mathematical society, New York '32

Elementary treatise on differential equations. A. Cohen. 2d ed rev 337p \$2.40 Heath '33

Synchronous-motor pulling-into-step phenomena. H. E. Edgerton and others. *bibliog diag Elec Eng* 52:707-12 O '33

See also

Laplace's equation

**DIFFRACTION gratings**

General derivation of the formula for the diffraction by a perfect grating. C. Eckart. *Phys R* 44:12-14 Jl 1 '33

## DIFFUSION

Calorimetric method for determining the rates of interdiffusion of reacting liquids. F. Barry and A. K. Smith. bibliog diag Am Chem Soc J 55:2215-30 Je '33

Diffusion as an aid in the analysis of gaseous paraffin hydrocarbon mixtures. R. A. Baxter and L. J. Beckham. bibliog Am Chem Soc J 55:3926-36 O '33

Diffusion of colloidal electrolytes; sodium oleate. M. E. L. McBain. Am Chem Soc J 55:545-51 F '33

Der diffusionsvorgang in der diffusionsbatterie. A. Löffler. diag Zeit Ver Deutsch Ing 76:1253 D 17 '32

Drying of solids; diffusion equations for the period of constant drying rate. E. R. Gilliland and T. K. Sherwood. Ind & Eng Chem 25:1134-6 O '33; Correction. 25:1354 D '33

Equilibrium in the system  $\text{SnO}_2\text{-H}_2\text{-Sn-H}_2\text{O}$ ; indirect calculation of the values of the water gas equilibrium constants. P. H. Emmett and J. F. Shultz. Am Chem Soc J 55:1390-5 Ap '33

Further studies in the rare gases; the diffusion of helium through crystalline substances and the molecular flow through rock masses. W. D. Urry. diags Am Chem Soc J 55:3242-9 Ag '33

Gaseous thermal diffusion—the principal cause of discrepancies among equilibrium measurements on the systems  $\text{Fe}_3\text{O}_4\text{-H}_2\text{-Fe-H}_2\text{O}$ ,  $\text{Fe}_3\text{O}_4\text{-H}_2\text{-FeO-H}_2\text{O}$  and  $\text{FeO-H}_2\text{-Fe-H}_2\text{O}$ . P. H. Emmett and J. F. Shultz. diag Am Chem Soc J 55:1376-89 Ap '33

Movement of diffusible substances in food products. J. Alexander. Science 77:489-90 My 19 '33

Rate of solution of methane in quiescent liquid hydrocarbons. R. D. Pomeroy and others. bibliog diag Ind & Eng Chem 25:1014-19 S '33

Sur la diffusion inter-solide des produits métallurgiques. J. Laissus. il Chimie & Ind 29:515-26 Mr '33

See also

Colloids  
Gases

**DIFFUSION combustion.** See Combustion, Diffusion

**DIFLUOROBENZOPHENONE**

Preparation of 4-fluoro- and 4,4'-difluorobenzophenone. R. D. Dunlop and J. H. Gardner. Am Chem Soc J 55:1665-6 Ap '33

**DIGESTERS (paper making)**

Automatic digester control. J. Rogers. Paper Tr J 96:38-40 Ap 6 '33

B&W-K-C circulating and indirect heating system for the sulphite pulping process. L. Lang. il Paper Tr J 95:26-36 D 1 '32

Comments upon digester circulation methods. G. L. M. Hellstrom. il diags Pulp & Pa of Can 33:491-3 D '32

Digester lining developments. A. F. Richter. Paper Tr J 96:35 F 9 '33

Metallic linings for digesters. W. C. Johnson. il Paper Tr J 96:33-5 Mr 9 '33

Mortered circulation system for sulphite digesters. H. S. Kiaer. diag Paper Tr J 96:32-4 Mr 2 '33

New method of sulphite digester cooking control reduces cooking time. A. H. Stanton and L. H. Brendel. diag Paper Tr J 96:24-5 My 25 '33

Stainless steel linings for vessels used in chemical processes. W. E. Jominy and R. S. Archer. il Paper Tr J 96:28-35 Ap 20 '33; Excerpt. Chem & Met Eng 40:80 F '33

**DIGESTIVE organs****Diseases**

Obscure gastro-intestinal outbreaks ascribed to water supply. C. Wilson. Am Water Works Assn J 25:1053-7; Discussion. 1057-65 Ag '33

**DIHYDROBENZOFURAN**

New synthesis for alkyl and aryl substituted coumaranes. J. B. Niederl and E. A. Storch. bibliog Am Chem Soc J 55:4549-55 N '33

**DIHYDROCHLORIDES**

Acetylene polymers and their derivatives; the dihydrochloride of divinylacetylene. D. D. Coffman, J. A. Nieuwland and W. H. Carothers. Am Chem Soc J 55:2048-51 My '33

**DIHYDRODESOXYMORPHINE**

Catalytic hydrogenation of the halogenomorphides: dihydrodesoxymorphine-D. L. F. Small, K. C. Yuen and L. K. Eilers. Am Chem Soc J 55:3863-70 S '33

**DIHYDROERGOSTEROL**

Action of selenium dioxide on sterols and bile acids; ergosterol and dihydroergosterol. R. K. Callow and O. Rosenheim. Chem Soc J p387-90 Ap '33

**DIHYDROEUGENOL**

Derivatives of dihydroeugenol and certain pharmacological properties of some of the compounds. D. E. Levin and A. Lowy. Am Chem Soc J 55:1995-2000 My '33

**DIHYDROISQUINOLINE**

Attempts to prepare derivatives of 1:2-dihydroisquinoline; new interpretation of J. S. Buck's experiments on the synthesis of so-called 1:2-dihydropapaverine. P. C. Young and R. Robinson. Chem Soc J p275-80 Mr '33

**DIHYDRONAPHTHALENONE**

Asymmetric syntheses; the action of optically active nitrates on  $\alpha$ -tetralone. W. H. Horne and R. L. Shriner. Am Chem Soc J 55:4652-4 N '33

**DIHYDROSEUDOCODEINE**

Reductions in the morphine series; dihydro-pseudocodeine. R. E. Lutz and L. F. Small. Am Chem Soc J 54:4715-30 D '32

**DIHYDROROTENONE**

Rotenone; preparation of dihydrorotenone. H. L. Haller and P. S. Schaffer. Ind & Eng Chem 25:983 S '33

**DIHYDROXYBUTYRIC acid**

C<sub>4</sub>-saccharinic acids; the preparation and resolution of *di-threo*-1,2-dihydroxybutyric acid. J. W. E. Glattfeld and J. W. Chittum. Am Chem Soc J 55:3663-8 S '33

**DIHYDROXYISOBUTYRIC acid**

C<sub>4</sub>-saccharinic acids; further attempts to prepare 2,2'-dihydroxyisobutyric acid; 2,3-dihydroxybutyric acid lactone from glycidol; the preparation of the two iodohydrins of glycerol. J. W. E. Glattfeld and R. Klaas. Am Chem Soc J 55:1114-19 Mr '33

**DIHYDROXYNAPHTHALENE**

Naphthol studies; the chlorination of 1,5-dihydroxynaphthalene. A. S. Wheeler and W. J. Mattox. Am Chem Soc J 55:686-90 F '33

**DIHYDROXYOCTADIENE**

Researches in cyclic acetals; formation of cyclic acetals of 4,5-dihydroxy-2,6-octadiene. C. P. Burt, D. R. Corcoran and I. V. Koerber. Am Chem Soc J 55:2068-70 My '33

**DIHYDROXYPHENYL methylalanine**

Synthesis of 3:4-dihydroxyphenyl-N-methylalanine and a study of its oxidation with relation to its possible function as a precursor of adrenaline. R. D. H. Heard and H. S. Raper. Soc Chem Ind J (Chem & Ind) 51:1075-6 D 30 '32

**DIHYDROXYTARTARIC acid**

Contribution to the study of oil-field water analysis; estimation of sodium by dihydroxytartaric acid. A. H. K. Radjy and C. E. Wood. Inst Pet Tech J 19:845-62 O '33

**DI-iodoacetylene**

Electric dipole moments of nickel carbonyl, di-iodoacetylene, diethyl sulphide, diethylsulphone, and decalin. L. E. Sutton, R. G. A. New and J. B. Bentley. Chem Soc J p652-8 Je '33

**DI-iododicarboxydiphenyl**

Stereochemistry of diphenyls; preparation and resolution of 2,2'-diiodo-4,4'-dicarboxydiphenyl. N. E. Searle and R. Adams. Am Chem Soc J 55:1649-54 Ap '33

**DI-iodoethylene**

Vapour pressure of *trans*-di-iodoethylene. L. F. Broadway and R. G. J. Fraser. Chem Soc J p429-30 Ap '33



**DIISOBUTYLHYDROXYPHENOLS**

Synthesis of diisobutyl mono-, di- and trihydroxyphenols. J. B. Niederl, S. Natelson and E. M. Beekman. bibliog Am Chem Soc J 55:2571-5 Je '33

**DIKES (engineering)**

Additional dike protection for Cincinnati airport. plan Eng N 110:570 My 4 '33

Corewall of 31 caissons sunk under air: Quabbin reservoir of the Boston metropolitan water supply. il diags plan Eng N 111:215-19 Ag 24 '33

New plans for the Mississippi; contraction works stabilize low-water channel. il diags map plan Eng N 111:133-7 Ag 3 '33

Pneumatic caissons for Corewall, Quabbin dike, Mass.; unit prices. diags Eng N 110:72 Ja 12 '33

Reclamation of the Zuiderzee. A. L. Shaw. il diag map Eng N 109:639-43 D 1 '32

Les travaux de fermeture du Zuiderzee (Pays-Bas). maps Génie Civil 101:657-8 D 31 '32

Les travaux de fermeture et d'assèchement du Zuiderzee (Pays-Bas). il diags map Génie Civil 103:245-9 S 9 '33

Wrestling with some of China's rivers. O. J. Todd. il maps Civil Eng 3:304-8 Je '33

See also

Dams	Jetties
Earthwork	Reclamation of land
Embankments	

**DIKETONES**

Relative stability of copper derivatives of  $\beta$ -diketo-compounds. T. S. Moore and M. W. Young. Chem Soc J p2694-709 N '32

Studies on unsaturated 1,4-dicarbonyl compounds; aryl unsaturated 1,4-diketones and ketonic acids derived from citraconic and mesaconic acids, with particular reference to the  $\beta$ -[p-bromobenzoyl]-methylacrylic acids. R. E. Lutz and R. J. Taylor. Am Chem Soc J 55:1168-78 Mr '33

Studies on unsaturated 1,4-dicarbonyl compounds; aryl unsaturated 1,4-diketones and ketonic acids derived from dimethyl maleic and fumaric acids. R. E. Lutz and R. J. Taylor. Am Chem Soc J 55:1593-1601 Ap '33

**DILATOMETER**

Universal dilatometer. R. Holcomb. diag Science 77:261-3 Mr 10 '33

**DILLON, Read and company**

High spots in Dillon. Read investigation. Barron's 13:4 O 9 '33

**DILUTION**

Alignment chart for plant dilution problems. N. M. Wickstand. Chem & Met Eng 40:487 S '33

**DILUTION, Heat of**

Calcium nitrate; heats of dilution of solutions of calcium nitrate in water. W. W. Ewing and A. N. Rogers. Am Chem Soc J 55:3603-9 S '33

Heat of dilution and the partial molal heat capacity of zinc sulfate from the electromotive force of galvanic cells. V. K. La Mer and I. A. Cowperthwaite. Am Chem Soc J 55:1004-13 Mr '33

Partial and integral heats of dilution of cadmium sulfate solutions from electromotive force measurements. V. K. La Mer and W. G. Parks. Am Chem Soc J 55:4343-55 N '33

**DIMESITYL methane**

Study of certain analogs of resolvable diphenyls. M. E. Maclean and R. Adams. bibliog Am Chem Soc J 55:4683-8 N '33

**DIMESITYL sulfone**

Study of certain analogs of resolvable diphenyls. M. E. Maclean and R. Adams. bibliog Am Chem Soc J 55:4683-8 N '33

**DIMETHOXYBORINE**

Hydrides of boron: dimethoxyborine. A. B. Burg and H. I. Schlesinger. Am Chem Soc J 55:4020-5 O '33

**DIMETHOXYPHENYLALKYL sulfides**

Preparation and properties of 2,4-dimethoxyphenyl alkyl sulfides. C. M. Suter and H. L. Hansen. bibliog Am Chem Soc J 55:2080-2 My '33

**DIMETHYLAMINE**

Heat capacities of gaseous mono- and dimethylamine. W. A. Felsing and F. W. Jessen. bibliog diag Am Chem Soc J 55:4418-22 N '33

Quaternary ammonium salts from halogenated alkyl dimethylamines; omega-bromo-heptyl-, -octyl-, -nonyl- and -decyl-dimethylamines. M. R. Lehman, C. D. Thompson and C. S. Marvel. Am Chem Soc J 55:1977-81 My '33

Quaternary ammonium salts from halogenated alkyl dimethylamines; the polymerization of gamma-halogenopropyl dimethylamines. C. F. Gibbs, E. R. Littmann and C. S. Marvel. Am Chem Soc J 55:753-7 F '33

**DIMETHYLCYCLOPENTANE**

1, 1-Dimethylcyclopentane and 2-methylhexane in a Midcontinent petroleum. J. H. Bruun and M. M. Hicks-Bruun. bibliog U S Bur Stand J Research 10:465-73 Ap '33

**DIMETHYL ether. See Methyl ether****DIMETHYLETHYLARSINE**

Formation of organo-metalloidal compounds by micro-organisms; trimethylarsine and dimethylethylarsine. F. Challenger, C. Higginbottom and L. Ellis. Chem Soc J p95-101 Ja '33; Abstract, with discussion. Soc Chem Ind J (Chem & Ind) 52:80 Ja 27 '33

**DIMETHYL fumaric acid**

Studies on unsaturated 1,4-dicarbonyl compounds; aryl unsaturated 1,4-diketones and ketonic acids derived from dimethyl maleic and fumaric acids. R. E. Lutz and R. J. Taylor. Am Chem Soc J 55:1593-1601 Ap '33

Studies on unsaturated 1,4-dicarbonyl compounds; some new derivatives of dimethylfumaric acid. R. E. Lutz and R. J. Taylor. Am Chem Soc J 55:1585-92 Ap '33

**DIMETHYLGLUTACONIC acid**

Chemistry of the glutaconic acids; the catalytic effect of acids on the rate of racemization of *l-trans- $\alpha$* -dimethylglutaconic acid. J. S. Fitzgerald and J. Packer. Chem Soc J p595-600 Je '33

**DIMETHYL glyoxime**

Dimethyl glyoxime reaction for nickel. E. C. Righellato. Chem Age (Lond) 28:574 Je 24 '33

**DIMETHYLHEXANOL**

Dehydration of 2,2-dimethylhexanol-1 and related tertiary alcohols. F. C. Whitmore and J. M. Church. Am Chem Soc J 55:1119-24 Mr '33

**DIMETHYL maleic acid**

Studies on unsaturated 1,4-dicarbonyl compounds; aryl unsaturated 1,4-diketones and ketonic acids derived from dimethyl maleic and fumaric acids. R. E. Lutz and R. J. Taylor. Am Chem Soc J 55:1593-1601 Ap '33

**DIMETHYLNAPHTHALENE**

Preparation of chloromethylnaphthalenes and 1:5-dimethylnaphthalene. A. R. Anderson and W. F. Short. Chem Soc J p485 My '33

**DIMETHYLPENTENE**

Preparation and reactions of 4,4-dimethylpentene-1 (neopentylethylene). F. C. Whitmore and A. H. Homeyer. Am Chem Soc J 55:4555-9 N '33

**DIMETHYLQUINOLINE**

Nitrogen compounds in petroleum distillates: the occurrence of 2,8-dimethylquinoline in the crude kerosene distillate of California petroleum. G. R. Lake and J. R. Bailey. flow sheet Am Chem Soc J 55:4143-5 O '33

Nitrogen compounds in petroleum distillates; the use of sulfur dioxide in the separation of petroleum bases. B. S. Biggs and J. R. Bailey. Am Chem Soc J 55:4141-2 O '33

**DIMETHYL sulfate**

Dipole rotation in crystalline solids. C. P. Smyth and C. S. Hitchcock. Am Chem Soc J 54:4631-47 D '32

**DIMETHYL zinc. See Zinc dimethyl****DIMINISHING returns, Law of**

Diminishing returns of mass production. D. S. Kimball. Factory & Ind Management 84:29-30+ Ja '33

Industry must recognize law of diminishing returns. R. B. Prescott. Iron Age 131:225-7 F 9 '33

**DINAPHTHASPIROPYRANS**

Styrylpyrylium salts; further study of the colour phenomenon associated with benzonaphtha- and dinaphtha-spiropyrans. I. M. Heilbron, R. N. Heslop and F. Irving. *Chem Soc J* p430-4 Ap '33

**DINAPHTHLYS**

Some dinaphthyl bases; reduction of 1:1'-azoxy- and 1:1'-azo-naphthalenes; isolation of 1:1'-hydrazonaphthalene. W. M. Cumming and G. Howie. *Chem Soc J* p133-5 F '33

**DINING cars**

Air-conditioning results with Rock Island diners. *il Ry Age* 94:437-9 Mr 25 '33

General Electric air conditioning for Pennsylvania diner. T. F. Perkinson and F. L. Sahlmann. *il diags Ry Age* 95:402-4 S 16 '33

Meals en route. *il Business Week* p19-20 Mr 29 '33

Natural gas does it better on Texas-Pacific railroad. *il Gas Age* 72:441 N 4 '33

Pullman food; railroads are turning the dining service back to Pullman co. *Business Week* p18 Ja 18 '33

Tourist trains on the London and Northeastern railway. *il Engineering* 136:114-15 Ag 4 '33; *Engineer* 156:112 Ag 4 '33

**DINITRATION.** See Nitration**DINITROBENZENE**

Solid-liquid equilibria in the system nitrobenzene-*m*-dinitrobenzene. D. L. Hammick and T. K. Hanson. *Chem Soc J* p669-70 Je '33

**DINITROBENZOATES**

Identification of amines as 3,5-dinitrobenzoates. C. A. Buehler, E. J. Currier and R. Lawrence. *Ind & Eng Chem Anal* ed 5:277-8 Jl 15 '33

**DINITRODIMETHYLANISIDINES**

Four dinitrodimethyl-*p*-anisidines. H. H. Hodgson and J. H. Crook. *Chem Soc J* p825-7 Jl '33

**DINITROPHENYLHYDRAZONES**

Levulinic acid; the 2,4-dinitrophenylhydrazones of certain of its alkyl esters. M. A. Cowley and H. A. Schuette. *Am Chem Soc J* 55:3463-6 Ag '33

**DINITROSTRYCHOLAMIDE**

Strychnine and brucine; synthesis of dinitrostrycholamide. P. Hill and R. Robinson. *Chem Soc J* p486-8 My '33

**DINITROTOLUENE**

Apparent anomalous lability of the 2-nitro-group in 2:3-dinitrotoluene; an example of the reversed-field effect. H. H. Hodgson and E. W. Smith. *Chem Soc J* p500-1 My '33

Attempts to extend the Mannich reaction to derivatives of 4-methylquinoline and 2:4-dinitrotoluene. W. O. Kernack and W. Muir. *Chem Soc J* p300-2 Mr '33

**Analysis**

Volumetric determination of nitroglycerol and of nitroglycerol and dinitrotoluene in admixture. W. W. Becker. *bibliog Ind & Eng Chem Anal* ed 5:162-4 My 15 '33

**DINOFLAGELLATA**

Red water in La Jolla bay in 1933. W. E. Allen. *Science* 78:12-13 Jl 7 '33

**DINOSAURIA**

Restoration of a horned dinosaur at Yale university. *Science* 78:sup6 Jl 21 '33

**DIORITE**

See also  
Granodiorite

**DIOXANE**

Derivatives of dioxane. J. Böeseken, F. Tellegen and P. C. Henriquez. *Am Chem Soc J* 55:1284-8 Mr '33

Explosive properties of dioxan-air mixtures. G. W. Jones, H. Scaman and R. E. Kennedy. *bibliog diag Ind & Eng Chem* 25: 1283-6 N '33

Properties of electrolytic solutions; conductance as influenced by the dielectric constant of the solvent medium. C. A. Kraus and R. M. Fuoss. *diag Am Chem Soc J* 55:21-36 Ja '33

Properties of electrolytic solutions; the conductance minimum and the formation of triple ions due to the action of Coulomb forces. R. M. Fuoss and C. A. Kraus. *bibliog Am Chem Soc J* 55:2387-99 Je '33

Studies in dielectric polarisation; benzene solutions of pyrones, thiopyrones, and thioketones; dioxan solutions of ureas and thioureas. E. C. E. Hunter and J. R. Partington. *Chem Soc J* p87-90 Ja '33

Synthesis of homologs of dioxane. R. Christ and R. K. Summerbell. *Am Chem Soc J* 55:4547-8 N '33

**DIOXOINDANE**

Action of phosphorus pentachloride on 1,3-dioxoindane. W. H. Hunter and R. E. Jackman. *Am Chem Soc J* 55:2567-70 Je '33

**DIPHENIC acid**

Preparation of certain disubstituted fluoronones by the action of heat upon the corresponding substituted diphenic acids or their derivatives. E. H. Huntress and I. S. Cliff. *bibliog Am Chem Soc J* 55:2559-67 Je '33

**DIPHENOL**

Co-ordination compounds of 2:2'-diphenol. O. L. Brady and E. D. Hughes. *Chem Soc J* p1227-30 S '33

**DIPHENYL**

Dielectric properties of chlorinated diphenyls. A. H. White and S. O. Morgan. *J Fr Inst* 216:635-44 N '33

High-boiling-point organic compounds. J. J. Grebe and E. F. Holser. *diags Mech Eng* 55:369-73 [bibliog p373] Je '33

Hydrogenation of derivatives of diphenyl. C. R. Waldeland, W. Zartman and H. Adkins. *bibliog Am Chem Soc J* 55:4234-7 O '33

Molecular rearrangements involving optically active radicals; the Hofmann rearrangement of the amide of an optically active 2,2'-disubstituted 6-carboxydiphenyl. E. S. Wallis and W. W. Moyer. *bibliog Am Chem Soc J* 55:2598-603 Je '33

Stereochemistry of diphenyl; preparation and properties of 2,2'-difluoro-3,3'-dicarboxy-5,5'-dimethyl-6,6'-dinitrodiphenyl. E. C. Kleiderer and R. Adams. *Am Chem Soc J* 55: 716-19 F '33

Stereochemistry of diphenyls and analogous compounds. R. Adams and H. C. Yuan. *Chem R* 12:261-338 [bibliog p334-8] Ap '33

Stereochemistry of diphenyls; comparison of the racemization of 2,2'-difluoro-6,6'-dicarboxydiphenyl and 2,2'-dimethoxy-6,6'-dicarboxydiphenyl. W. M. Stanley, E. McMahon and R. Adams. *Am Chem Soc J* 55:706-16 F '33

Stereochemistry of diphenyls; preparation and properties of certain 2,2',6,6'-tetramethoxydiphenyls. A. M. VanArendonk, M. E. Cuperly and R. Adams. *Am Chem Soc J* 55:4225-30 O '33

Stereochemistry of diphenyls; preparation and properties of 2,3'-dinitro-6-carboxy-2',6'-dimethoxydiphenyl and 2-nitro-6-carboxy-2'-fluoro-6'-methoxydiphenyl. A. M. VanArendonk, B. C. Becker and R. Adams. *Am Chem Soc J* 55:4230-4 O '33

Stereochemistry of diphenyls; preparation and properties of 2,2',4,4',5,5',6,6'-octamethylidiphenyl-3,3'-disulfonic acid and diphenyl-3,3'-disulfonic acid. A. E. Knauf and R. Adams. *Am Chem Soc J* 55:4704-9 N '33

Stereochemistry of diphenyls; preparation and properties of 2,2',6,6'-tetrafluoro-3,3'-dicarboxy-5,5'-dichlorodiphenyl. E. C. Kleiderer and R. Adams. *Am Chem Soc J* 55:4219-25 O '33

Stereochemistry of diphenyls; preparation and resolution of 2,2'-diiodo-4,4'-dicarboxydiphenyl. N. E. Searle and R. Adams. *Am Chem Soc J* 55:1649-54 Ap '33

Stereochemistry of 2:2'-disubstituted diphenyls; the optical resolution of *o*-(2-dimethylaminophenyl) phenyltrimethylammonium iodide. F. R. Shaw and E. E. Turner. *Chem Soc J* p135-40 F '33



**DIPHENYL**—*Continued*

Substitution in compounds containing two or more phenyl groups; nitration of diphenyl derivatives containing *m*-directing substituents. W. S. M. Grieve and D. H. Hey. *Chem Soc J* p968-72 Ag '33

Systems: diphenyl-diphenylamine, diphenyl-benzophenone and benzophenone-diphenylamine. H. H. Lee and J. C. Warner. *Am Chem Soc J* 55:209-14 Ja '33

Ternary system diphenyl-diphenylamine-benzophenone. H. H. Lee and J. C. Warner. *Il Am Chem Soc J* 55:4474-7 N '33

**DIPHENYL**, Analogs of

Study of certain analogs of resolvable diphenyls. M. E. Maclean and R. Adams. *bibliog Am Chem Soc J* 55:4683-8 N '33

**DIPHENYLACETIC anhydride**

Preparation and pyrolysis of dibenzyl ketone, phenylacetic anhydride and diphenylacetic anhydride. C. D. Hurd, R. Christ and C. L. Thomas. *bibliog Am Chem Soc J* 55:2589-92 Je '33

**DIPHENYLAMINE**

Indicators for determining chromium and vanadium in alloy steels; oxidized diphenylamine sulfonic acid and oxidized diphenylamine. H. H. Willard and P. Young. *bibliog Ind & Eng Chem Anal ed* 5:154-8 My 15 '33

Le liquidus du système diphenylamine-centratite. L. Médard. *Chimie & Ind* 30:277-80 Ag '33

Reaction of formaldehyde with diphenylamine. D. Craig. *Am Chem Soc J* 55:3723-7 S '33

Systems: diphenyl-diphenylamine, diphenyl-benzophenone and benzophenone-diphenylamine. H. H. Lee and J. C. Warner. *Am Chem Soc J* 55:209-14 Ja '33

Ternary system diphenyl-diphenylamine-benzophenone. H. H. Lee and J. C. Warner. *Il Am Chem Soc J* 55:4474-7 N '33

**DIPHENYLAMINE sulfonic acid**

Diphenylamine sulfonic acid as a reagent for the colorimetric determination of nitrates. I. M. Kolthoff and G. E. Noponen. *Am Chem Soc J* 55:1448-53 Ap '33

Indicators for determining chromium and vanadium in alloy steels; oxidized diphenylamine sulfonic acid and oxidized diphenylamine. H. H. Willard and P. Young. *bibliog Ind & Eng Chem Anal ed* 5:154-8 My 15 '33

**DIPHENYLARSINE**

Diarsyls; the interaction of diphenyldiiododiarstyl with alkali, with phenylarsine and with diphenylarsine. F. F. Blicke and L. D. Powers. *bibliog Am Chem Soc J* 55:315-18 Ja '33

Study of phenyl- and diphenylarsine. F. F. Blicke and L. D. Powers. *Am Chem Soc J* 55:1161-7 Mr '33

**DIPHENYLBENZENE**

Halogenation of meta-diphenylbenzene; the monochloro and monobromo derivatives. W. A. Cook and K. H. Cook. *Am Chem Soc J* 55:1212-17 Mr '33

**DIPHENYLBUTYRIC acid**

Hydroxyl derivatives of  $\alpha$ , $\gamma$ -diphenylbutyric acid. E. P. Kohler and R. H. Kimball. *Am Chem Soc J* 55:4632-9 N '33

**DIPHENYLDIOXANE**

Synthesis of homologs of dioxane. R. Christ and R. K. Summerbell. *Am Chem Soc J* 55:4547-8 N '33

**DIPHENYL ether**. See Phenyl ether**DIPHENYLGUANIDINE**

Reactions during vulcanization; the multiple-accelerator effect. H. C. Jones. *Ind & Eng Chem* 25:1009-11 S '33

**DIPHENYLINDOLE**

Action of nitric acid on the 1-acyl-2:3-diphenylindoles. R. C. G. Fennell and S. G. P. Plant. *Chem Soc J* p2872-6 D '32

**DIPHENYLMETHANE**

Color of sulfuric acid solutions of di- and triphenylmethanes. L. C. Anderson. *bibliog Am Chem Soc J* 55:809-12 F '33

Some substitution reactions of 4-aminodiphenylmethane. W. A. Waters. *Chem Soc J* p1060-4 Ag '33

**DIPHENYL oxide**

High-boiling-point organic compounds. J. J. Grebe and E. F. Holser. *diags Mech Eng* 55:369-73 [bibliog p373] Je '33

**DIPHENYL thiocarbazon**

Dithizon als hilfsmittel zum nachweis von schwermetallspuren. H. Fischer. *Angew Chemie* 46:442-6 J1 '33

Zur kenntnis der dithizon-reaktionen. H. Wöbling and B. Steiger. *Angew Chemie* 46:279-81 My 20 '33; Discussion. 46:517 Ag 5 '33

**DIPHENYLENE phenylindene**

1-Diphenylene-3-phenylindene. C. F. Koelsch. *Am Chem Soc J* 55:3394-9 Ag '33

**DIPHENYLENE phenylphenyleneindene**

Indene from  $\alpha$ , $\gamma$ -gamma-bisdiphenylene-beta-phenylalyl alcohol. C. F. Koelsch. *Am Chem Soc J* 54:4744-9 D '32

**DIPHThERIA**

Modification of the vaccine response in rabbits by the application of diphtheria toxin to the vaccination site. C. Armstrong. *bibliog Pub Health Rep* 48:1-7 Ja 6 '33

Trends in diphtheria mortality. E. A. Lane. *Pub Health Rep* 48:473-8 My 5 '33

**DIPLOMATIC and consular service**

Collection of the diplomatic and consular laws and regulations of various countries. A. H. Feller and M. O. Hudson, eds. 2v \$5 Carnegie endowment '33

**DIRECT mail advertising association**

Convention notes of paper, type, printing and exhibits. *Il Ptd Salesmanship* 60:218-21, 265-6+ N '32

Direct-mail association enlarges its field of activity. *Ptd Salesmanship* 62:109+ O '33

Direct mail under NRA; sixteenth annual sales and advertising conference. *Ptd Ink* 165:25-7 O 5 '33

What about this new deal for the D.M.A.A? *Ptd Salesmanship* 60:303+ D '32

**DIRECT selling**. See Canvassing; Marketing—Direct selling**DIRECTION finding apparatus**

Cathode ray oscillography. R. A. W. Watt. *Electrician* 110:160 F 3 '33

Errors in direction-finding calibrations in steel ships due to the shape and orientation of the aerial of the transmitting station. J. F. Coales. *Inst E E J* 73:280-3 S '33; Abstract. *Wireless Eng* 10:434 Ag '33; Discussion. *Inst E E J* 73:292-4 S '33; *Wireless Eng* 10:436 Ag '33

Radio compass developed in H.M. signal school. C. E. Horton and C. Crampton. *diags Inst E E J* 73:284-92 S '33; Abstracts. *Elec R (Lond)* 112:487 Ap 7 '33; *Wireless Eng* 10:434-6 Ag '33; Discussion. *Inst E E J* 73:292-4 S '33; *Wireless Eng* 10:436 Ag '33

Radio direction finder for use on airplanes. *Elec Eng* 52:779-80 N '33

Radio direction finder of simplified type for use on airplanes. *diags Air Commerce Bul* 5:31-3 Ag '33

Wireless direction finding; Marconi-Adcock aerial system. *Il Electrician* 110:513 Ap 21 '33; Same cond. *Elec R (Lond)* 112:594 Ap 23 '33

*See also*

Compass

Radio beacons

**DIRECTORIES**

Buyers' guide; listing various types of equipment required for lifting oil and the leading manufacturers and supply companies that handle such equipment, grouped under their classification. *Oil & Gas J* 32:98-103 Je 22 '33

*See also*

Banks and banking

—Directories

Lawyers—Directories

Museums—Direc-

tories

Petroleum refineries—

Directories

Social register

Trade directories

**DIRIGIBLES**. See Airships**DISABLED**

Legal situation as to second-injury cases and the necessity for separate funds for such cases. C. F. Sharkey. *U S Bur Labor Statistics Bul* 577:146-53; Discussion. 153-8 '33

**DISABLED—Continued**

Medical problems in compensation administration (conclusions from an experience of eleven years' service). C. W. Roberts. U S Bur Labor Statistics Bul 577:159-71; Discussion. 172-5 '33

**Rehabilitation**

Disabled man and his vocational adjustment. R. N. Anderson. 102p [bibliog p101-2] Institute for the crippled and disabled, New York '32  
Report of I.A.I.A.B.C. committee on rehabilitation. U S Bur Labor Statistics Bul 577: 17-18; Discussion. 18-24 '33  
Returns from rehabilitation. E. T. Franks. Nat Safety N 27:53 Mr '33

**DISACCHARIDES**

Sucrose and other disaccharides; Sir James Irvine's "Correction." H. C. Carrington, W. N. Haworth and E. L. Hirst. Am Chem Soc J 55:1084-90 Mr '33

**DISARMAMENT**

Adjournment at Geneva. Economist 116:1176-7 Je 3 '33  
Britain and disarmament. Economist 115:921-2 N 19 '32  
British disarmament proposals. Economist 116:628-9 Mr 25 '33  
Disarmament conference. Economist 116:284-5, 898 F 11, Ap 29 '33  
Disarmament movement. J. E. Harley. Ann Am Acad 168:204-11 Jl '33  
French plan. Economist 115:916-17 N 19 '32  
Geneva disarmament conference of 1932. H. A. Steiner. Ann Am Acad 168:212-19 Jl '33  
Germany and Geneva. Economist 116:1007-8 My 13 '33  
MacDonald plan for disarmament. Am Bankers Assn J 25:56 Je '33  
Men conquer guns. W. W. Van Kirk and P. F. Douglass. 104p pa. 20c Federal council of the churches of Christ in America, 105 E. 22d st, New York '33  
Paris parleys. Economist 117:567-8 S 23 '33  
Scientific disarmament and security; abstracts. V. Lefebure. Soc Chem Ind J (Chem & Ind) 52:263-4 Mr 24 '33; Chem Age (Lond) 28:270 Mr 25 '33  
Security by disarmament. G. N. Robbins. 127p Williams & Norgate Ltd, London '32  
Step towards disarmament; Five-power disarmament declaration. Economist 115:1124-5 D 17 '32  
Time of decision; the impression at Geneva. Economist 116:1118-20 My 27 '33  
U.S.S.R. and disarmament. E. A. Korovine. 70p Carnegie endowment for international peace, Division of intercourse and education, 405 W. 117th st, N.Y. '33

See also

Peace

**DISCOUNT**

See also  
Acceptances  
Interest

**Rates**

Discount rates of central banks. Published in monthly numbers of Federal reserve bulletin  
Federal reserve bank rates. Published in monthly numbers of Federal reserve bulletin

**DISCOUNT, Employees'**

Employee discounts from 10-30 per cent in eight chain systems. Management R 22:90-1 Mr '33

**DISCOUNT, Trade**

Cash discounts benefit both merchants and banks. J. Y. Beaty. Rand McNally Bankers Mo 50:617-18 N '33  
Discount letter award to C. M. Snow. Management Methods 62:168 Ap '33  
In defense of tenth proximo discounts. R. J. Cavanaugh. Chem Markets 31:519 D '32  
Indiana Standard announces additional revisions in its marketing practices. Oil & Gas J 32:25 Je 8 '33  
Marketer's plan benefits cash customers. Nat Pet N 25:10 F 1 '33  
Optional discount. L. G. Peloubet. J Account 55:97-100 F '33; Same. Credit & Fin Management 35:34-5 Mr '33

Standard of Indiana eliminates service station discounts. Nat Pet N 25:15-16+ My 31; 68-9 Je 7; 78+ Je 14 '33

This plan pulled 1,600 lame duck accounts out of the red. M. S. Sullivan. Sales Management 32:163+ F 15 '33; Summary. 33:344 O 10 '33

Unjustified cash discounts. H. F. Hyland. Chem Markets 31:518 D '32

What any industry can do to rationalize prices. R. O. Eastman. Sales Management 33:208-9+ S 1 '33

Why cash discount is valuable to advertising. F. R. Gamble. Ptr Ink 164:12 Jl 20 '33

Why not abolish the cash discount? J. H. Eydeler. Ptr Ink 163:32-3 Je 22 '33

See also

Advertising allowances

Price cutting  
Price policies

**DISCOUNT companies**

See also

National discount company, limited

**DISCRIMINATION**

Is good quality worth while? a psychological test at New York University on individual preferences. E. E. Free. il Radio N 15:140-1+ S '33

**DISEASES**

Inheritance of disease. C. B. Davenport. il diags Sci Am 149:162-4 O '33

Modern health book. G. N. Gillum. 641p [bibliog p622-6] Gillum book co, 4801 Independence av, Kansas City, Mo. '32

Physical impairment and weight; a study of medical examination records of 3,037 men markedly under or over weight for height and age. R. H. Britten. Pub Health Rep 48:926-44 Ag 4 '33

See also

Infectious diseases  
Mental diseases  
Mortality  
Public health

Respiratory organs—  
Diseases  
Skin—Diseases  
Tularemia

**Statistics**

Prevalence of disease. Published in weekly numbers of Public health reports

**DISEASES, Industrial**

Claims stirred up in disease cases. H. H. Rolfe. Nat Underw 37:31+ Ap 27 '33

Compensation recommendations made to Governor Pinchot. East Underw 34:38 Ap 28 '33

Control of occupational disease. A. J. Lanza. Safety Eng 64:268+ D '32

Handling of occupational disease cases criticised. H. H. Bowen. Nat Underw 37:26 My 18 '33

Hazard weights plan is studied for handling occupational disease coverage. Nat Underw 37:25 F 2 '33

Industrial dermatoses. F. Wise and M. B. Sulzberger. Safety Eng 65:27-30, 67-8, 70 Ja-F '33

Insurance experience with occupational diseases. A. R. Lawrence. Safety Eng 65:221-4 Je '33

New occupational disease plan filed. Ins Field (Fire ed) 62:10+ F 16 '33; Nat Underw 37: 29+ F 16 '33

Occupational anthrax in Germany in 1931 and 1932. Int Labour R 28:395-7 S '33

Occupational cancer. Int Labour R 26:693-704, 847-60 N-D '32

Occupational disease act upheld and construed; Illinois. Pub Health Rep 48:1143-4 S 15 '33

Occupational disease and compensation. il Safety Eng 64:190, 192-4, 231-5 O-N '32

Occupational diseases are not generally understood. Nat Underw 36:28 D 15 '32

Occupational diseases become part of compensation rate structure. East Underw 33: 30 D 2 '32; Nat Underw 36:23+ D 1 '32; Spectator 129:33+ D 1 '32

Occupational risk proving expensive. Nat Underw 37:23+ Mr 23 '33

Prevention of industrial diseases of the skin. H. Haldin-Davis. Soc Chem Ind J (Chem & Ind) 52:575-8 Jl 14 '33; Abstract. Chem Age (Lond) 28:509 Je 3 '33



**DISEASES, Industrial—Continued**

- Send out rules on disease coverage. Nat Underw 36:29+ D 29 '32  
 What determines compensability for skin diseases among industrial workers? C. P. McCord. U S Bur Labor Statistics Bul 577:205-17 '33; Same cond. Safety Eng 66:27-30+ JI '33; Discussion. U S Bur Labor Statistics Bul 577:217-24 '33

See also

- |                      |                     |
|----------------------|---------------------|
| Anthrax              | Metal fume fever    |
| Coal miners—Diseases | Miners—Diseases and |
| and hygiene          | hygiene             |
| Infection            | Miners' nystagmus   |
| Lead poisoning       | Miners' phthisis    |
| Lungs—Dust diseases  | Poisons, Industrial |
|                      | Skin—Diseases       |

**Statistics**

- Industrial diseases and poisoning in British factories, 1932. Monthly Labor R 37:864-6 O '33  
 Occupational disease in New York state. A. R. Smith. Safety Eng 65:143-4, 180-2 Ap-May '33

**DISHWASHING machines**

- General Electric dishwashers; with working drawings and installation details. Am Arch 143:112-14 JI '33

**DISINFECTION and disinfectants**

- Alkyl derivatives of halogen phenols and their bactericidal action; bromophenols. E. Klarman and others. Am Chem Soc J 55:4657-62 N '33  
 Alkyl derivatives of halogen phenols and their bactericidal action; chlorophenols. E. Klarman, V. A. Shternov and L. W. Gates. bibliog Am Chem Soc J 55:2576-89 Je '33  
 Bactericidal efficiency of chlorocresol and chloroxyleneol. N. F. Rapps. Soc Chem Ind J 52:175T-6T Je 16 '33  
 Expanding market for liquefied gases through use of disinfecting torch. il Oil & Gas J 32:29 S 14 '33  
 Germicidal effectiveness of chlorine, bromine and iodine. T. D. Beckwith and J. R. Moser. Am Water Works Assn J 25:367-74 Mr '33  
 History and value of germicides. A. R. L. Dohme. Oil Paint & Drug Rep 124:22 N 13 '33  
 Hydroxyphenyl alkyl sulfides. E. Miller and R. R. Read. Am Chem Soc J 55:1224-7 Mr '33  
 Hypochlorites as disinfectants (disinfectants and foodstuffs). H. Rawlinson. Soc Chem Ind J (Chem & Ind) 52:71-4 Ja 27 '33; Discussion. J. Gibson. 52:145-6 F 17 '33  
 Iodine as a bactericide. J Fr Inst 215:115-16 Ja '33  
 Keimtötende wirkung und chemische konstitution der isomeren xyleneole und ihrer monohalogenenderivate. G. Lockemann and T. Kunzmann. bibliog Angew Chemie 46:296-301 My 27 '33  
 Medical aspects of vitamin A as an anti-infective agent. R. G. Turner. J Chem Educ 10:97-8 F '33  
 Preparation of certain cryptophenols. L. H. Farinholt, W. C. Harden and D. Twiss. Am Chem Soc J 55:3383-7 Ag '33  
 Sallex, a new disinfectant and deodorant. Pulp & Pa of Can 34:574+ S '33  
 Ultraviolet rays used to kill germs. H. C. Rentschler. Illum Eng Soc Trans 28:101-2 F '33

See also

- |                                       |               |
|---------------------------------------|---------------|
| Antiseptics                           | Fumigation    |
| Chlorine                              | Sterilization |
| Dyes as antiseptics and disinfectants |               |

**DISINTEGRATORS**

- Disintegrator for yeast cells. W. F. Bruce. diag Science 77:543-4 Je 2 '33  
 Motor-driven disintegrator breaks up sewage solids at Bournemouth, England; abstracts. H. R. Homewood. diag plan Eng N 111:380 S 28 '33; Pub Works 64:22 S '33

**DISKS**

- Indexing by means of disks. H. Coy. diag Am Mach 77:187 Mr 15 '33

- Machine for sorting disks. V. Waitkus. diag Am Mach 77:732 N 8 '33  
 Turning and facing thin metal disks. M. Jacker. diags Mach 39:465-6 Mr '33

**DISMISSAL wage.** See Wages—Dismissal wage

**DISMUTATION**

- Dismutation of some disulphides. J. L. D'Silva and E. W. McClelland. Chem Soc J p2883-7 D '32

**DISODIUM phosphate.** See Sodium phosphates

**DISPERSION**

- Dispersibility of gas black. R. P. Allen and F. K. Schoenfeld. bibliog il Ind & Eng Chem 25:994-7, 1102-6 S-O '33  
 Simple dispersion test for clays. H. Wilson and G. A. Page. il Am Cer Soc J 16:82-5 F '33

- Stabilization of aqueous dispersions of asphalt. A. W. Hixson and J. M. Fain. bibliog il Ind & Eng Chem 24:1336-43 D '32

**DISPERSION of rays**

- Absorption and dispersion of celluloid between 300A and 1000A. H. M. O'Bryan. diag Opt Soc Am J 22:739-48 D '32  
 Continuous absorption of oxygen between 1750 and 1300A and its bearing upon the dispersion. R. Ladenburg and C. C. Van Voorhis. il diags Phys R 43:315-21 Mr 1 '33  
 Quantum theory of dispersion. G. Breit. Rs Mod Phys 4:504-76; 5:91-140 JI '32, Ap '33  
 Rotatory dispersion in the visible and the ultraviolet range of configurationally correlated carbinols, halides and acids. P. A. Levene and A. Rothen. Am Chem Soc J 55:429-30 Ja '33  
 Rotatory dispersion of organic compounds; borotratrates and boromalates. B. Jones. Chem Soc J p951-5 Ag '33  
 Rotatory dispersion of organic compounds; cyclic derivatives of tartaric and malic acids. B. Jones. Chem Soc J p788-96 JI '33  
 Rotatory dispersion of organic compounds; rotatory dispersion and circular dichroism of aldehydic sugars. H. Hudson, M. L. Wolfrom and T. M. Lowry. Chem Soc J p1179-92 S '33; Summary, with discussion. Soc Chem Ind J (Chem & Ind) 52:504 Je 16 '33

**DISPLAY installation association, National.** See National display installation association

**DISPLAY of merchandise**

- Bauer & Black give dealers year's sales plan; stress correct display. L. B. Colby. il Sales Management 32:320-1 Ap 1 '33  
 Christmas display contest is next major activity of Electric refrigeration bureau. N E L A Bul 19:693 N '32  
 Dealers seldom pay for display cases. Ptr Ink 161:64 D 15 '32  
 Display equipment at gasoline service stations. il Pet Age 26:38-9 N '32  
 Display idea that increases sales 50 per cent; Miracul wax company displays two sizes of cans. il Ptr Ink 162:32 F 16 '33  
 Display idea that solved a turnover problem; Kelling nut company. il Ptr Ink 161:32-3 D 1 '32  
 Display ideas that sell. F. D. Gonda. il Sales Management 32:438-9+ Ap 20 '33  
 Display stand that combines art and merchandise. il Adv & Sell 20:sup[Adv Arts] 34 Mr '33  
 15c each for women boosters: Allen lumber company, Peoria. J. B. Mason. il Am Bld 55:54-7 My '33  
 Flexible point-of-sale material is best liked by dealers. il Adv & Sell 163:27-8 Je 15 '33  
 How to get retailers to use mass displays; Best Foods; Kraft-Phenix and Carnation are getting co-operation of both salesman and dealer. il Ptr Ink 163:24-6+ My 18 '33  
 How to widen distribution for a staple product; free rack for display of Columbus Coated Fabrics. G. Johnston. il Ptr Ink Mo 26:34-5 F '33  
 Island cabinets display goods at the point of sale. Nat Pet N 25:47 O 18 '33  
 Kodak display boosts sales 119 per cent. il Ptr Ink Mo 26:36 Mr '33; Sales Management 32:212 Mr 1 '33

**DISPLAY of merchandize—Continued**

- Major companies differ on display of accessories. *Pet Age* 27:42-3 Ja '33
- Manufacturer's decorative materials are used in suggested displays of accessories for March. E. L. Barringer. *il Nat Pet N* 25: 37-40 Mr 8 '33
- Mass display increases Kraft-Phenix sales. *il Adv & Sell* 20:34 D 8 '32
- Open display: the modern way. *Ptr Ink* 162: 30 Ja 19 '33
- Point-of-sale advertising in 1933. *il Ptr Ink* Mo 26:51-8+ Je; 27:36-8 Jl '33
- Redesigning department stores. L. Simonson. *il diags Arch Forum* 58:374-8 My '33
- Signs, cloth, pedestal blocks build effective station displays. E. L. Barringer. *Nat Pet N* 24:39-40 D 28 '32
- These rug displays make retail salesman's job easier. *il Ptr Ink* 164:84-5 Jl 27 '33
- This display is good for both large and small dealers. M. C. Jossem. *Ptr Ink* 161:55-6 N 24 '32
- This display piece helps open new accounts; Bachrach neckties. *il Ptr Ink* 162:76 Mr 30 '33
- Treasure for merchandisers; Griffin lumber co. Hudson Falls, N.Y. O. T. Griffin. *il Am Bld* 54:64-7 Mr '33
- Two types of display pieces help these dealers sell; Curity cheesecloth. L. Davis. *il Ptr Ink* 163:41-2 Je 15 '33
- White caps; they convey a strong merchandising lesson. *Ptr Ink* 163:92 My 11 '33

**See also**

- Exhibits, Traveling  
Manikins, Show window  
Show windows

**DISSOCIATION**

- Complex ions formed by iodine cyanide with cyanide and iodide ions; the vapor pressure, free energy and dissociation of iodine cyanide. D. M. Yost and W. E. Stone. *bibliog Am Chem Soc J* 55:1889-95 My '33
- Dissociation into free radicals of di-*tert*-butyltetradiphenylethane. J. B. Conant and R. F. Schultz. *Am Chem Soc J* 55:2098-104 My '33
- Dissociation of oxygen to 5000°K; the free energy of atomic oxygen. H. L. Johnston and M. K. Walker. *bibliog Am Chem Soc J* 55:187-93 Ja '33
- Dissociation pressures of magnesium ammonium phosphate hexahydrate and some related substances. S. J. Kiehl and H. B. Hardt. *diags Am Chem Soc J* 55:605-18 F '33
- Distribution method for the determination of the dissociation pressures of salt ammoniates. R. P. Seward. *diag Am Chem Soc J* 54:4598-605 D '32
- Kinetics of dissociation of typical hydrocarbon vapors. R. N. Pease and J. M. Morton. *Am Chem Soc J* 55:3190-200 Ag '33
- Kinetics of the unimolecular dissociation of gaseous ethyl bromide. E. L. Vernon and F. Daniels. *Am Chem Soc J* 55:922-34 Mr '33
- Photodissociation of hydrogen peroxide in the presence of hydrogen and carbon monoxide and the recombination of OH radicals. G. von Elbe. *diag Am Chem Soc J* 55:62-9 Ja '33
- Structure of dicarboxy compounds from dissociation and reaction velocity data. J. Greenspan. *Chem R* 12:339-61 [bibliog p360-1] Ap '33
- Thermal equilibrium between oxygen molecules and atoms. G. von Elbe and B. Lewis. *Am Chem Soc J* 55:507-11 F '33

**DISSOCIATION, Electrolytic. See Ionization, Electrolytic****DISSOCIATION, Heat of**

- Heats of dissociation of hydrogen and nitrogen. W. W. Lozier. *Phys R* 44:575-81 O 1 '33

**DISTIBYLS**

- Distibyls; tetra-*p*-bromotetraphenyl- and tetra-*p*-tolylidistibyl; di-*α*-naphthylidostibine. F. F. Blicke and U. O. Oakdale. *Am Chem Soc J* 55:1198-1201 Mr '33

**DISTILLATION**

- Apparatus and methods for precise fractional-distillation analysis. W. J. Podbielniak. *bibliog diags Ind & Eng Chem Anal ed* 5:119-35, 172-8 Mr 15-May 15 '33
- Attempt to separate isotopes by reversible fractional distillation. H. J. Henriques and R. E. Cornish. *J Phys Chem* 37:397-8 Mr '33
- Chemistry of lignin; distillation of alkali lignin in reduced atmosphere of carbon dioxide. M. Phillips and M. J. Goss. *il diag Ind & Eng Chem* 24:1436-41 D '32
- Component distribution trend in commercial turpentine still operation. S. Palkin. *bibliog diag Ind & Eng Chem* 25:95-7 Ja '33
- Dry distillation of residue of waste sulfite liquor. M. Phillips. *bibliog Ind & Eng Chem* 25:991-3 S '33
- Feed-water distillation at the Valenciennes power station. *diag Engineering* 135:116 Ja 27 '33
- Fractional distillation; a contribution to the technique of laboratory fractionation. R. McIntyre. *il Soc Chem Ind J (Chem & Ind)* 52:578-9 Jl 14 '33
- High-pressure rectification; *N*-pentane-*N*-heptane system. L. W. T. Cummings, F. W. Stones and M. A. Volante. *bibliog diags Ind & Eng Chem* 25:728-32 Jl '33
- Research yielding important advances in distillation practice. D. F. Othmer. *il Chem & Met Eng* 40:254-5 My '33
- Separation of the isotopic forms of water by fractional distillation. G. N. Lewis and R. E. Cornish. *Am Chem Soc J* 55:2616-17 Je '33
- Vapor-liquid equilibria of hydrocarbon mixtures. E. C. Bromiley and D. Quiggle. *bibliog Ind & Eng Chem* 25:1136-8 O '33
- Vapor-phase cracking. H. P. A. Groll. *bibliog il diags Ind & Eng Chem* 25:784-98 Jl '33

**See also**

- |                         |                        |
|-------------------------|------------------------|
| Alcohol                 | Petroleum distillation |
| Coal distillation       | Petroleum refining     |
| Coal tar                | Tar distillation       |
| Essential oils          | Water, Distilled       |
| Evaporation             | Wood distillation      |
| Oil distillation        |                        |
| Oil shales—Distillation |                        |

**DISTILLATION apparatus**

- Apparatus and methods for precise fractional-distillation analysis. W. J. Podbielniak. *bibliog diags Ind & Eng Chem Anal ed* 5:119-35, 172-8 Mr 15-May 15 '33
- Automatic pressure-regulating unit for vacuum distillation. E. H. Huntress and E. B. Hershberg. *bibliog il diag Ind & Eng Chem Anal ed* 5:144-6 Mr 15 '33
- Automatic pressure regulators for vacuum distillation; sulfuric acid as a manostat fluid. E. B. Hershberg and E. H. Huntress. *il diags Ind & Eng Chem Anal ed* 5:344-6 S 15 '33
- Computation of distillation apparatus for hydrocarbon mixtures. E. W. Thiele and R. L. Geddes. *bibliog il diags Ind & Eng Chem* 25:289-95 Mr '33
- Design of fractionating columns. J. H. West. *Chem Age (Lond)* 28:477 My 27 '33
- Design of fractionating columns for complex mixtures. A. J. V. Underwood. *Soc Chem Ind J* 52:223T-7T Jl 28 '33
- Distillation dans le vide appliquée aux huiles de graissage. J. Tilman. *diags Chimie & Ind* 30:518-24 S '33
- Distilling water by electricity; electrode boiler installation. *il Chem Age (Lond)* 28:269 Mr 25 '33
- Fractionating column in preparation of acetone. G. R. Robertson. *J Chem Educ* 10:701-5 N '33
- Handling of distilled water in aluminum. H. V. Churchill. *il diag Ind & Eng Chem Anal ed* 5:264-6 Jl 15 '33
- Improved chain-packed distilling column. S. T. Schickel. *diags U S Bur Stand J Research* 11:89-92 Jl '33
- Improved head for laboratory fractionating columns. E. C. Wagner and J. K. Simons. *bibliog diag Ind & Eng Chem Anal ed* 5: 183-4 My 15 '33





**DIVING, Submarine**

Carbon monoxide appears in unexpected places; fumes from engine enter diver's air hose. F. Kelton. *il Nat Safety* N 28:30 S '33

King Neptune on the spot; flooding the bottom of the ocean with light from powerful electric lamps. E. W. Beggs. *Illum Eng Soc Trans* 28:388-9 My '33

**DIVINING rod**

Problem of the divining rod. C. von Klinckowstroem. *il Sci Am* 149:218-19 N '33

Un phénomène de flambement d'arc; la baguette du sourcier. P. Antoine. *Génie Civil* 103:273-6 S 16 '33

**DIVINYLCACETYLENE**

Acetylene polymers and their derivatives; the action of chlorine on divinylacetylene. D. D. Coffman and W. H. Carothers. *Am Chem Soc J* 55:2040-7 My '33

Acetylene polymers and their derivatives; the addition of thio-*p*-cresol to divinylacetylene. W. H. Carothers. *Am Chem Soc J* 55:2008-12 My '33

Acetylene polymers and their derivatives; the dihydrochloride of divinylacetylene. D. D. Coffman, J. A. Nieuwland and W. H. Carothers. *Am Chem Soc J* 55:2048-51 My '33

Cyclization of substituted divinylacetylenes. D. T. Mitchell and C. S. Marvel. *Am Chem Soc J* 55:4276-9 O '33

Reactions of some substituted divinylacetylenes. A. T. Blomquist and C. S. Marvel. *Am Chem Soc J* 55:1655-62 Ap '33

Synthetic drying oils; their manufacture from acetylene. L. Light. *Plastic Prod* 9:279 S '33

**DIVINYL ether**

Certain physical properties of divinyl ether. F. T. Miles and A. W. C. Menzies. *bibliog J Phys Chem* 37:425-30 Ap '33

**DNIETROPOVSK****Bridges**

Russia builds rail-bridge over Dnieper river. C. L. Christensen. *il Eng N* 111:160-1 Ag 10 '33

**DOAK, William N. 1882-1933**

Sketch. *por Ry Age* 95:640 O 28 '33

**DOCKS**

Cherbourg develops port facilities for docking transatlantic liners. V. Delport. *il Marine R* 63:12-14 O '33

Dock extension at Birkenhead. *il map Engineering* 135:498-9 My 5 '33; *Engineer* 155:450 My 5 '33

New coal shipping staith at Howdon-on-Tyne. *il plan Engineer* 154:650-1 D 23 '32; *Engineering* 134:763, 763 D 30 '32

Open-truss bar joists simplify wall construction; rebuilding a dock for the Huron milling co. at Harbor Beach, Mich. J. I. Bennett. *diags Eng N* 110:221 F 16 '33

Southampton dock extensions. *il map Engineering* 135:611-13, 624, pl 35 Je 9 '33

Southampton dock extensions. *il plan Engineer* 156:2-5, 12, 26-8, supp, 52-4 Jl 7-21 '33

**See also**

Bulkheads	Slipways
Dry docks	Terminals
Harbors	Wharves

**Electric equipment**

Southampton docks; electrical equipment. *il Electrician* 111:87 Jl 21 '33; *Elec R (Lond)* 113:155 Ag 4 '33

**Equipment**

New hydraulic power station at Leith. *il diags plan Engineer* 154:616, 620-2 D 16 '32

Some considerations affecting dock equipment. R. M. Dymond. *il diags Inst Mech Eng Proc* 123:805-17 '32

**DOCTORATES. See Degrees, Academic****DOCTORS. See Physicians****DODDS, Harold W.**

Portrait. *Special Lib* 24:147 Ag '33

**DODGE, Clarence C.**

President, American steel warehouse association. *por Steel* 93:19 Jl 17 '33

**DOG collars****Manufacture**

Motion study; trying it on the dog. W. P. Cahill. *il Factory Management* 91:111-13 Mr '33

**DOG food**

For Fido's Christmas. *il Ptr Ink* 161:54 D 22 '32

**Advertising**

And now the dog goes institutional. *il Ptr Ink* 165:50 N 9 '33

Santa Claus signs up the pup for six cans of Ken-L-Ration. *il Sales Management* 31:488 D 1 '32

**DOGS**

Let's go to the dogs; advertising man's best friend. A. Dow. *il Ptr Ink Mo* 26:28-9 Ja '33

**Advertising**

If you are looking for something to advertise . . . puppies. *il Adv & Sell* 21:26+ S 14 '33

**DOGS as guides**

Dogs at work; the Seeing Eye school. *il Fortune* 8:66-7 Jl '33

**DOLomite**

Comparison of blasting methods in trap rock and dolomite quarries; New York trap rock corporation. S. A. Jones. *il diags Explosives Eng* 11:71-4 Mr '33

Dolomite in fertilizers. *Chem & Met Eng* 40:488 Ap '33

Reactivity between dolomite and superphosphate components. W. H. MacIntire and W. M. Shaw. *il Ind & Eng Chem* 24:1401-9 D '32

**DOMES**

Interesting steel dome to be fixed on top of a Roman Catholic church in Bogota. *il Engineer* 156:69 Jl 21 '33; *Engineering* 136:153 Ag 11 '33

Precast light-weight concrete slabs placed on Illinois state capitol dome. *il Concrete* 40:9 D '32

Project of ornamenting the Baha'i temple dome. J. J. Earley. *il Am Concrete Inst J* 4:403-11 Je '33

**DOMESTIC allotment plan. See Agriculture—United States—Farm relief****DOMESTIC appliances**

Have you got a minute? R. K. Leavitt. *il Adv & Sell* 21:21+ Ag 17 '33

**See also**

Electric apparatus	Gas appliances, Domestic
and appliances,	Gas cooking
Domestic	
Electric cooking	

**DOMESTIC architecture. See Architecture, Domestic****DOMESTIC engineering****See also**

Heating	Sanitary engineering
Hot water supply	ing
Lighting	Ventilation
Plumbing	

**DOMESTIC finance**

Is the American family solvent? M. R. Neifeld. *Am Statis Assn J* 28:sup133-9 Mr '33

**See also**

Budget, Household

**DOMINION land surveyors, Association of. See Association of Dominion land surveyors****DONNAN, Frederick George**

Sketch. *por Soc Chem Ind J (Chem & Ind)* 52:746 S 15 '33

**DONNAN equilibrium**

Dependence of the ultrafiltrate from a sol of ferric hydroxide upon rate of ultrafiltration; Donnan equilibrium and pH of sols. J. W. McBain and W. L. McClatchie. *Am Chem Soc J* 55:1315-23 Ap '33

**DOOR bells. See Electric bells****DOORS**

Casting of two huge doors in bronze. F. H. Landolt. *il Metal Ind* 31:90 Mr '33



**DOORS—Continued**

Portfolio of interior doors. Architecture 67: 108-22 F '33

See also

Doorways  
Mine doors

**DOORS, Mechanically operated**

Electric eye opens Nemacolin doors. il diags plan Coal Age 38:77-8+ Mr '33

**DOORWAYS**

Details of a modernized entrance. il diags Am Bld 54:39 F '33

Main entrance, British Empire building, Rockefeller Center, New York; views. Am Arch 143:50-1 J1 '33

Timber entrances; views and plans. Am Arch 143:71-6 S '33

**DOPPLER effect**

Radiation diffusion and the rapidity of escape of resonance radiation from a gas. C. Kenty. bibliog Phys R 42:823-42 D 15 '32

**DORMAN Long and company**

Dorman Long and South Durham. Economist 116:696-8 Ap 1 '33

Steel merger—South Durham's position. Economist 177:82+ J1 8 '33

**DORMANCY (plants)**

Photoperiodism as a cause of the rest period in strawberries. G. M. Darrow and G. F. Waldo. Science 77:353-4 Ap 7 '33

**DORMITORIES**

Furnishings and equipment for residence halls. M. De G. Bryan and E. H. Handy. 95p [bibliog p93-5] Teachers college '33

R.F.C. dormitory and the trouble it can cause. Arch Forum 58:331 Ap '33

**DORR apparatus**

Dorro developments. il diags Water Works & Sewerage 80:229-31 Je '33

**DOTY, Paul, 1869-**

Elected president of the A.S.M.E. por Mach 40:142 N '33

**DOUBLE bonds**

Electronic structures of polyatomic molecules and valence; electronic states, quantum theory of the double bond. R. S. Mulliken. Phys R 43:279-302 F 15 '33

Peroxide effect in the addition of reagents to unsaturated compounds; the addition of hydrogen bromide to allyl bromide. M. S. Kharasch and F. R. Mayo. diag Am Chem Soc J 55:2468-96 Je '33

Quantum mechanics and chemistry with particular reference to reactions involving conjugate double bonds. H. Eyring. Science 77: 158-60 F 10 '33

**DOUBLE cloth.** See Textile fabrics—Double cloth

**DOUGHERTY, Kathryn**

Sketch. H. Powel. Adv & Sell 20:23+ Ap 27 '33

**DOUGHNUTS**

Where drugs and cigars fell doughnuts are making money! Mayflower doughnut corporation, New York. L. M. Hughes. il Sales Management 32:469+ My 1 '33

**DOUGLAS fir**

Bacterial gall disease of the Douglas fir. H. N. Hansen and R. E. Smith. Science 77: 628 Je 30 '33

**DOVER, Delaware**

Water supply

How a losing water works plant was made profitable. L. D. Shank. Pub Works 64:25 Je '33

**DOW chemical company**

Coordinated effort solves Dow's control problems. T. R. Olive. il diags Chem & Met Eng 40:520-5 O '33

House patent department. T. Griswold, jr. Ind & Eng Chem 25:346-8; Discussion. 348-9 Mr '33

**DOW, Jones and company, New York**

Dow, Jones averages, with an explanation of the Dow theory; the Barron's averages. 6th ed 174p Barron's, the national financial weekly, New York '32

**DOW theory**

Studies in stock speculation. F. K. Dodge. Mag of Wall St 51:440-1+ F 4 '33

Study in the price movement; what the Dow theory is and is not saying at the present time. C. J. Collins. Barron's 13:3+ F 13 '33

**DOWNNEY, June Etta, 1875-1932**

Sketch. R. S. Uhrbrock. Science 76:585-6 D 23 '32

**DOWSING.** See Divining rod**DOWTHERM boiler.** See Boilers, Diphenyl oxide**DRAFT**

Air supply and its effect on performance of oil burners and heating boilers. L. E. Seeley, J. H. Powers and E. J. Tavanlar. Heating-Piping 4:823-6 D '32; Excerpts. Heat & Ven 30:46-7 F '33; Dom Eng 141:28-30 Mr '33

Analysis of chimney-draft equations. J. C. Smallwood. Mech Eng 55:32-4 Ja '33

Draft equipment must fit combustion needs. G. C. Daniels. diags Power Pl Eng 37:116-13 Mr '33

Draft in warm air heating. J. H. Spurgeon. il Sheet Metal Worker 24:142-3+, 176-7 My-Je '33

Investigation of chimney performance. J. R. Moynihan. il diags Sibley J 47:3-15+, 27-32+, 43-60+ Ja-Mr '33

See also

Blowers	Dampers
Chimneys	Ventilation
Combustion	

**DRAFT gears**

A.R.A. mechanical division committee report on couplers and draft gears. diags Ry Mech Eng 107:243-4 J1 '33

Draft gear springs; past and present. L. E. Endsley. diag Ry Mech Eng 107:253-5 J1 '33

Draft-key retainers with self-locking cotter. il diag Ry Mech Eng 107:3 Ja '33

Progress in the development of draft gears. L. P. Michael. Ry Age 95:23-4 J1 1 '33

**DRAFT tubes**

Discussion of draft tubes for modern hydraulic turbines. J. S. Ball. diags Can Eng 64:5-9 Je 6; 65:5-9 J1 4; 5-7 Ag 1 '33

**DRAFTING room management**

Rational economy in the drawing office. Engineering 136:429 O 20 '33

**DRAFTING room practice**

Birdseed versus the china egg. A. M. Butts. Am Arch 142:75-6 D '32

Careful handling of drawings and tracings. A. J. Dickson. Mach 40:156 N '33

Drafting room symbols for drawings relating to pipe, pipe fittings, and heating and ventilating equipment. Heat & Ven 30:42A-42B Je '33

Drawing and handicraft competitions. Automobile Eng 23:33 Ja '33

Floating a sketch. F. R. Lorenz. diag Architecture 67:11+ Ja '33

Importance of working drawings, necessary preliminary to the production of any form of coachwork. Automobile Eng 23:39 Ja '33

Kinks for draftsmen. V. H. Kidney. Am Mach 77:572 Ag 30 '33

Production control; a better product at a lower cost. T. M. Landy. Factory & Ind Management 84:65-8 F '33

Simple method of drawing intricate parts in different angular positions. W. H. Haupt. diags Mach 39:441 Mr '33

When weldings are specified. F. W. Shaw. diags Am Mach 76:1231 D 21 '32

See also

Drawing instruments

**DRAFTING rooms**

Equipment

Calibron perspective machine. diag Am Mach 77:160 Mr 1 '33; Mach 39:484 Mr '33

**DRAFTS**

Bank's negligence held to constitute acceptance of draft; suit. Bankers M 127:283-5 S '33

Drafts, replacing checks. are sent by postcard. il Management Methods 62:261 Je '33

Rights of holder of bank draft on failure of bank; suit. Bankers M 126:59-60 Ja '33

**DRAIN tile**

Drain tile code awaits NRA action. Brick & Clay Rec 83:82 S '33

**DRAINAGE**

Drainage canal reclaims swamp land for agriculture. F. Barbegat. il Explosives Eng 11:317 O '33

Explosives drain flooded lands. R. W. McKee. il Explosives Eng 11:213 J1 '33

Flexible lining of tile used for drainage ditch. Galesburg, Ill. il Eng N 110:585 My 11 '33

Improved internal drainage for hydraulic-fill dams. E. M. Moore. diag Eng N 111:224-5 Ag 24 '33

New methods of excavating quicksands. H. Japp. il diags plan Engineer 156:398-402 O 27 '33

Reclamation of the Zuiderzee. A. L. Shaw. il diag map Eng N 109:639-43 D 1 '32

Small shield-driven tunnel lined with trapezoidal blocks completed under seven tracks of the Pennsylvania railroad at Norristown, Pa. il diags Eng N 111:162-4 Ag 10 '33

Les travaux de fermeture et d'assèchement du Zuyderzée (Pays-Bas). il diags map Génie Civil 103:245-9 S 9 '33

*See also*

Dredging	Roads—Drainage
Irrigation	Sewerage
Mine drainage	Zuider Zee
Reclamation of land	

**Greece**

Greece engaged on huge reclamation project. R. H. Chambers. il maps Civil Eng 3:217-21 Ap '33

**Ireland**

Irish land drainage. L. Kettle. Engineer 154: 647-8 D 23 '32

**Mississippi valley**

Cost of pumping for drainage in the upper Mississippi valley. J. G. Sutton. U S Agric Tech Bul 327:1-100 '32

**DRAINAGE, House***See also*

Plumbing  
Sewerage

**DRAINAGE laws****Canada**

Drainage laws affecting lands and roads. W. G. McGeorge. Can Eng 65:9-10+ Ag 22 '33

**DRAMAS***See also*

Advertising—Drama

**DRAPER, John William, 1811-1882**

Portrait. Ind & Eng Chem 25:110 Ja '33

**DRAPER, Walter A.**

Portrait. Transit J 77:362 O 10 '33

**DRAPERY**

New draperies offer outlets for cotton dress goods. il Textile World 83:917 My '33

Textiles in the theatre. F. G. H. Macrae. Am Dyestuff Rep 22:647 O 23 '33

*See also*

Crettonne  
Curtains

**DRAPERY trust, limited**

Annual general meeting, 7th, London. Economist 117:830 O 28 '33

**DRAWING**

Drawing as a basis for etching. G. K. Geerings. il Architecture 67:261-4 My '33

*See also*

Design, Decorative	Mechanical drawing
Fashion drawing	Perspective
Graphic methods	

**DRAWING instruments**

Kukulograph. M. J. Hoferer. il Sci Am 148:31 Ja '33

Wade automatic irregular curve ruler. il Sci Am 149:29 J1 '33

**DRAWING room practice.** See Drafting room practice

**DRAWINGS**

Uses photostats to lower art costs. E. G. Fulton. il diag Inland Ptr 91:34-5 My '33

*See also*

Advertisements, Pic- Architectural draw-  
torial—Drawings ings

**DREDGES**

Alloy steels in construction of Bulolo dredge. W. F. Boericke. il Min & Met 14:247-8 My '33

Capt. Meriwether Lewis; Ockerson; Sainte Genevieve. il diags Marine R 63:23, 25, 28 Ap '33

Description of the property and operations at the Lewiston dredge, Lewiston, Calif. L. K. Requa. diag maps plan U S Bur Mines Information Circ 6660:1-14 '32

Development of limited dredging areas with stacker scow and dragline excavator. W. F. Boericke. il diag Min & Met 14:209-10 Ap '33

Diesel electric drive in dredge Duplex and Diesel pump drive in dredge Geo A. McWilliams. il Marine R 63:18, 20 N '33

Dragon, eight-cubic yard dipper dredger. il diags Engineer 156:132-3 Ag 11 '33

18-foot welded steel sphere serves as boulder trap on new dredge. il Steel 93:27 N 6 '33

George A. McWilliams, Diesel dredge. J. M. Allen. il Marine Eng 38:262-4 J1 '33

Hydraulic dredge of steel embodies new features; Koenig coal & supply co, Detroit. il Steel 91:24+ D 5 '32

Mechanical dredging devices for tin. K. Raute. diags Mech Handling 20:111-13 Ap '33

Methods and costs of dredging auriferous gravels at Lancha Plana, Amador county, Calif. C. G. Patmon. flow sheet diags U S Bur Mines Information Circ 6659:1-16 '32

Middlesex, electric-driven dredge. il Power Pl Eng 36:815 D '32

Persevere, hydraulic-erosion dredger. il Engineering 134:660-1 D 2 '32; Engineer 154:490 N 11 '32

Sand pump dredging; the bar of the river Gironde. il diags map Engineer 155:340-3 Ap 7 '33

Six-yard dipper dredger for Macedonia. il Engineer 155:532 My 26 '33

*See also*

Buckets

**Electric equipment**

Electrical equipment for dredges. C. T. Pearce. il Marine Eng 38:177 My '33

Floating power house; electric equipment on a suction dredge. R. O. Brosemer. il Elec West 71:16-17 Ag '33

**DREDGING**

Dredging methods and costs of the Ross Island sand & gravel co, Portland, Ore. O. E. Perkins. map U S Bur Mines Information Circ 6696:1-10 '33

Ransomes and Rapier steam dredging crane. il Engineering 135:501 My 5 '33; Engineer 155:281 Mr 17 '33

Sand pump dredging; the bar of the river Gironde. il diags map Engineer 155:340-3 Ap 7 '33

West Middlesex sewerage scheme. il map Engineer 155:274, 278-80 Mr 17 '33

*See also*

Dredges	Irrigation canals—
Gold dredging	Cleaning

**Cost**

Dredging Niagara River east channel; unit prices. Eng N 110:608 My 11 '33

**DRESS goods**

Cockling of light-weight dress goods. G. L. Atkinson. Textile Col 55:450-1+ J1 '33

Reducing costs and faults in the preparing and finishing of repp and poplin fabrics. G. L. Atkinson. Textile Col 55:373-4+ Je '33

**DREYFUS, Camille**

Swiss family Dreyfus; Celanese corp. of America. por Fortune 8:50-5, 139-45 O '33

**DRIED eggs.** See Eggs, Dried

**DRIED food.** See Food, Dried

**DRIED milk.** See Milk, Dried



**DRIERS**

- Driers for plastic finishes. C. A. Klebsattel. Plastic Prod 9:360 N '33  
Effects of driers on durability. Oil Paint & Drug Rep Extra ed 122:38-9 N 29 '32  
Metallic driers. bibliog Oil Paint & Drug Rep Extra ed 122:47-9 N 29 '32

**DRILLING and boring (earth and rocks)**

- Auger drills 50-ft. horizontal holes. il Eng & Min J 134:85 F '33  
Boring and sounding equipment used in accelerating swamp fill subsidence. W. Schultz. il diags Explosives Eng 11:109-13 Ap '33  
Control of the silicosis hazard in the hard rock industries; application of the Kelley trap to underground drilling operations. T. Hatch and others. il diags J Ind Hygiene 15:41-56 Ja '33  
Deep well drilling. W. H. Jeffery. 816p [bibliography] Gulf pub. co, Houston, Texas '31  
Diamond-drill sampling practice. W. R. Storms. il diags Eng & Min J 134:58-60 F '33  
Diamond drilling at the United Verde mine. M. G. Hansen. il diags U S Bur Mines Information Circ 6708:1-18 '33  
Drilling placer deposits. J. H. Robertson. il diags Can Min J 53:541-4 D '32  
Geological conditions governing location, drilling, and casing of wells. W. C. Imbt. map Am Water Works Assn J 25:1207-15 S '33  
Grouting dam foundations and construction joints; experience at Calderwood dam. J. B. Hays. il diags plan Civil Eng 3:606-10 N '33  
Installing conduit where excavation is objectionable; use of the hydrauger. il Elec W 101:190-1 F 11 '33  
Keystone blast hole and prospecting drill. il Roads & Sts 76:318 Ag '33  
Piers for superliners; new ocean terminal in New York. C. H. Vivian. il Comp Air M 38:4048-53 F '33  
Portable drill-dust collector demonstrated at New York. il Eng N 110:563 My 4 '33  
Sherwood mines again pioneer—this time in dehydrating and drilling. R. D. Hall. il Coal Age 38:8 Ja '33  
Sondeuse mobile pour l'exécution rapide des forages, du Service des dérivations des eaux de Paris. il diags Génie Civil 101:481-3 N 12 '32  
Strip-pit shooting costs cut by horizontal drilling. R. D. Hall. il diags Coal Age 38:85-6 Mr '33  
Supplementary notes on core drilling in the salt beds of western Texas and New Mexico; tests 13 to 24. E. P. Hayes. U S Bur Mines Information Circ 6679:1-11 '33  
Surveying diamond-drill holes. W. R. Storms. il plans Eng & Min J 134:157-9 Ap '33  
Swansea power station; preliminary operations in shaft sinking by the freezing process. il Electrician 109:619 N 11 '32; Engineer 154:491 N 11 '32; Engineering 134:561 N 11 '32  
Wagon drills prove good roadbuilders. C. H. Vivian. il map Comp Air M 38:4079-83 Mr '33

*See also*

- |                        |                       |
|------------------------|-----------------------|
| Drills, Oil well       | Rock drills           |
| Excavation             | Shaft sinking         |
| Mining methods         | Trenching machinery   |
| Petroleum—Well boring  | Tunnels and tunneling |
| Quarries and quarrying | Wells                 |

**DRILLING and boring (metal working, etc.)**

- Better times; Heald borematics precision boring; illustrations. Iron Age 130:762-3 N 17 '32  
Deep hole drilling. A. L. DeLeeuw. diags Am Mach 76:1021-3 S 28 '32; Discussion. F. W. Shaw. 77:210 Mr 29 '33  
Drill jig used in balancing rotors. J. E. Fenno. diag Mach 39:335 Ja '33  
Drilling a two-piece lever designed for quick replacement. S. A. McDonald. il diags Mach 39:463-4 Mr '33  
Drilling and reaming holes at accurate center distances. G. J. Murdock. diag Am Mach 77:541 Ag 16 '33

- Formulas for operators of jig boring machines. W. W. Johnson. Am Mach 77:124 F 15 '33; Discussion. C. M. Conradson. 77:316 My 10 '33

- Getting accurate results from the jig borer. C. Howard. Am Mach 77:628 S 27 '33  
Grinding drills for deep holes. K. Crabill. diags Am Mach 77:184 Mr 15 '33  
Jig with quick-acting clamp for drilling oil-holes in bearing stud. F. Server. diags Mach 39:717 Jl '33  
Laying out accurately spaced holes. F. W. Curtis. il Mach 39:590 My '33  
Machining aluminum. W. B. Francis. il Metal Ind 31:158 My '33  
Methods of driving straight-shank drills; reference book sheet. T. F. Githens. Am Mach 77:85 F 1 '33  
Simple tool for boring a tapered recess in a blind hole. W. E. Tobolski. diag Mach 39:526-7 Ap '33  
Special tool for boring short recess. diag Mach 39:652 Je '33  
Standards for drilling ends of rails. Ry Age 95:562 O 21 '33  
Trägheitslose zerspanungsmessung beim bohren. H. Schropp. il diags Zeit Ver Deutsch Ing 77:737-9 Jl 8 '33  
Universal jig for drilling collars. C. Kugler. diag Mach 39:257 D '32

*See also*

- |                       |               |
|-----------------------|---------------|
| Broaching             | Metal cutting |
| Machine shop practice | Trepanning    |
- DRILLING and boring machinery**  
Allen multiple-head cam-feed drilling machine. il Iron Age 131:588 Ap 13 '33  
Allen step drilling machine with hydraulic feed. il Am Mach 77:221 Mr 29 '33; Iron Age 131:512 Mr 30 '33  
Artos automatic drilling machine for structural steel shops. il Am Mach 77:704-5 O 25 '33; Iron Age 132:30-1 N 30 '33  
Baker brothers horizontal multiple-spindle drilling and boring machine. il Engineering 136:451 O 20 '33  
Barnes no. H-2 Hydram hydraulic feed drilling machine. il Am Mach 77:574 Ag 30 '33; Automotive Ind 69:283 S 2 '33; Iron Age 132:25 Ag 31 '33; Mach 40:48 S '33  
Cimatol duobore diamond boring machine. il Mach 39:291 D '32; Iron Age 130:927 D 15 '32  
Cleereman high-speed drilling, boring and tapping machines. il Am Mach 77:449-50 Jl 5 '33; Mach 39:742 Jl '33; Iron Age 132:24 Jl 20 '33  
Craley offset boring heads with micrometer adjustment. il Mach 39:746 Jl '33  
Davis & Thompson crankshaft drilling machine. il Am Mach 77:93 F 1 '33  
Davis & Thompson rotomatic twelve-spindle vertical continuous drilling machine. il Am Mach 77:99 F 1 '33  
Drilling and tapping both ends of crankshafts at the rate of fifty per hour; National automatic tool co.'s hydraulic driller and lead-screw tapper. il Mach 39:647-8 Je '33  
Drills highly developed. R. E. Miller. Iron Age 131:51-2 Ja 5 '33  
Ex-Cell-O precision boring machine for steel. il Am Mach 77:161 Mr 1 '33  
Ex-Cell-O single- and double-end junior style precision boring machines. il Am Mach 77:450 Jl 5 '33; Iron Age 132:24-5 Jl 20 '33; Automotive Ind 69:185 Ag 12 '33  
Ferner co. introduces small capacity jig boring unit. il Steel 92:31 F 13 '33  
Five hundred operations cost less than nineteen cents; drilling and tapping operations on Lymcom straight-eight cylinder blocks. il diags Mach 39:654-6 Je '33  
Flexibility features Baker oil-feed drilling machines. il Iron Age 130:928 D 15 '32  
Giddings & Lewis no. 35-F two-spindle horizontal boring, drilling and milling machine. il Am Mach 77:446 Jl 5 '33; Iron Age 132:23 Jl 20 '33  
Heald automatic boring machine for small shop use. il Iron Age 132:24 Jl 13 '33  
Herbert two special-purpose drills. il Engineer 155:383 Ap 14 '33  
Hoefler solid adjustable drillhead. il Am Mach 77:220-1 Mr 29 '33

**DRILLING and boring machinery—Continued**

Hydraulic feed for Leland-Gifford sensitive drilling machines. *il* Am Mach 76:1172 N 23 '32

Jones and Shipman four-spindle drilling machine. *il* Engineer 154:545 N 25 '32; Engineering 134:723 D 16 '32

Kitchen and Wade motor-driven radial drilling machine. *il* Engineer 155:51 Ja 13 '33; Engineering 135:141 F 3 '33

Krause cemented-carbide boring machine. *il* Automotive Ind 68:462 Ap 15 '33

Natco self-contained hydraulic drilling units. *il* Am Mach 77:642 S 27 '33; Iron Age 132:32 O 12 '33; Mach 40:121-2 O '33

Natco special hydraulic feed drilling and boring machine. *il* Automotive Ind 67:665 N 19 '32

Natco special six-way crankshaft oil hole drilling machine. *il* Am Mach 77:545 Ag 16 '33; Mach 40:49-50 S '33

Pearn Richards boring machine for motor lorry back axles. *il* Engineer 155:282 Mr 17 '33; Engineering 135:344 Mr 24 '33

Precision boring. *il* Automotive Eng 22:540-2 N '32

Société Genevoise model MP-2C precision jig boring machine. *il* Am Mach 76:1237-8 D 21 '32

Stand der technik im bohrmaschinenbau. S. Weil. *il* diags Zeit Ver Deutsch Ing 77:795-8 JI 22 '33

Timken drill bit with removable cutters. *il* Ry Mech Eng 107:144 Ap '33

Townsend combination drilling and forming machine. *il* diags Am Mach 77:447 JI 5 '33

Tungsten-carbide tools for drilling slate and marble. J. M. Highducheck. *il* diag Mach 39:407-8 F '33

Two large machine tools made by William Asquith, ltd. *il* Engineer 155:534-6 My 26 '33

*See also*

Broaching machines

Machine tools

Reamers

**Manufacture**

Manufacture and heat treating of twist drills; American twist drill co. J. B. Nealey. *il* Iron Age 131:508-9+ Mr 30 '33

**Tables, calculations, etc.**

Tap drill sizes; reference book sheet. D. R. Miller and I. H. Fullmer. *il* Am Mach 77:245-6 Ap 12 '33

**DRILLING and boring machinery, Portable**

Buma portable motor cylinder boring and honing machines. *il* Engineering 135:229 F 24 '33

Holding portable drills by electromagnets. J. Steiner. *il* Am Mach 77:123 F 15 '33

**DRILLS. See Drilling and boring machinery****DRILLS, Oil well**

New requirements for tool joints used in rotary drilling being considered. R. G. Hamaker. *Oil & Gas J* 31:13 N 24 '32

**Manufacture**

Hughes tool co. plant, started in corner of a building, now requires traffic regulations; invention and manufacture of rock bit for well boring. T. F. Smiley. *il* Oil & Gas J 32:15-16 Je 8 '33

**DRILLS, Rock. See Rock drills****DRINKING fountains**

Fountain for travelers on West Virginia roads. L. P. Street. *il* diag Eng N 110:314-15 Mr 9 '33

Simple cardinal principles for roadside drinking fountains. J. R. McDermott. *il* Roads & Sts 76:259-60 JI '33

**DRINKING water systems**

Century of progress visitors drink super purified water. *il* Water Works & Sewerage 80:303 Ag '33

Water tempers summer heat. *il* Nat Safety N 27:48-9 My '33

**DRIVERS as salesmen**

You can't man delivery trucks with salesmen—or can you? F. DeArmond. *il* Adv & Sell 21:24-5+ S 28 '33

*See also*

Traveling stores

**DRIVEWAYS**

How to design practical curved driveways. E. I. Freese. *diags Am Arch* 143:33-8 S '33  
Portfolio of entrance driveways. *il* Architecture 68:111-26 Ag '33

**DRIVING**

Horse is still with us; safety in milk delivery. W. C. Washburn. *il* Nat Safety N 27:18-20+ Mr '33

**DRONE flies**

Culture of the drone fly, *eristalis tenax*. W. L. Dolley, Jr. and others. *Science* 78:313-14 O 6 '33

**DROP counters**

Telephonic drop counter. C. F. Graham. *diags Science* 77:542-3 Je 2 '33

**DROPS**

Effect of curvature of surface on surface energy; rate of evaporation of liquid droplets; thickness of saturated vapor films. D. J. Woodland and E. Mack, Jr. *Am Chem Soc J* 55:3149-61 Ag '33

**DROSOPHILA**

Demonstration of the central body in the living cell. A. F. Huettner and M. Rabinowitz. *Science* 78:367-8 O 20 '33

Effect of temperature on ever-sporting eye color in *drosophila melanogaster*. J. W. Gowen and E. H. Gay. *Science* 77:312 Mr 24 '33

Observations on early developmental processes in the living egg of *drosophila*. G. P. Child and R. B. Howland. *Science* 77:396 Ap 21 '33

Viability of *drosophila* spermatozoa in sea water. R. B. Howland. *Science* 76:624-5 D 30 '32

**DROUGHTS**

Effect of salinity on the value of water for industrial purposes. S. T. Powell. *Am Water Works Assn J* 25:226-36; Discussion. 236-9 F '33

**DRUG, incorporated**

Data on segregation plan. *Oil Paint & Drug Rep* 124:36 JI 24 '33

Decentralization of Drug, inc. *Barron's* 13:9 S 11 '33

Dissolution approved. *Oil Paint & Drug Rep* 124:40 Ag 14 '33

Drug, inc. disposal of Boots interest vetoed. *Oil Paint & Drug Rep* 123:17+ Ja 16 '33

Drug, inc. split-up has been completed; five new and independent units. *Oil Paint & Drug Rep* 124:16, 23-4 S 4 '33

Drug incorporated to be dissolved; business will be divided into five related groups. *Oil Paint & Drug Rep* 124:17 JI 3 '33

Drug, inc. to dissolve. *Ptr Ink* 164:32 JI 6 '33

Drug, inc.—too big. *Business Week* p11-12 JI 8 '33

Is drug disintegrating? organization chart. *Sales Management* 32:80 Ja 15 '33

Liggett losses shatter dominance of Drug. L. M. Hughes. *Sales Management* 33:66+ JI 15 '33

Outlook for the offspring of Drug. J. D. C. Weldon. *Mag of Wall St* 52:580-1+ S 30 '33

Paring expenses. *Barron's* 13:14 Mr 20 '33

Report for 1932. *Barron's* 13:23 F 27 '33; *Oil Paint & Drug Rep* 123:34 F 27 '33

Speculative audit; favorable and unfavorable factors affecting common-stock values. *Barron's* 13:14 Je 5 '33

Unscrambling Drug, inc. *Econostat* 1:14-15 Je 24 '33

What the Liggett bankruptcy means to Drug. C. L. Harper. *Mag of Wall St* 52:26-7 Ap 29 '33

**DRUG habit**

Malarial fever in narcotic addicts; its possible transmission by the hypodermic syringe. G. H. Faget. *bibliog Pub Health Rep* 48:1031-7 Ag 25 '33



**DRUG habit—Continued**

Survey of drug addiction in California. 50p California. State narcotic committee, Sacramento '32

**DRUG institute of America, incorporated**

Drug industry forms Institute. *Ptr Ink* 163: 53-4 Je 1 '33

Drug institute gives answers to questions covering its genesis, purposes, make-up, official personnel and intended functioning. *Oil Paint & Drug Rep* 123:16+ Je 26 '33

Drug institute of America; its purpose and function. W. Sammons. *Oil Paint & Drug Rep Extra* ed 124:15, 17-18; Discussion. 18-19, 21 O 11 '33

Launched in project to stabilize industry. *Oil Paint & Drug Rep* 123:15-16+ My 29 '33

Meeting of executive committee, New York, June 8. *Oil Paint & Drug Rep* 123:17-18 Je 12 '33

**DRUG jars**

Drug jars and their significance. E. F. Armstrong. *Soc Chem Ind J* (Chem & Ind) 51:1029-30 D 16 '32

**DRUG stores**

New York drug store ownership law voided. *Oil Paint & Drug Rep* 123:16 Ja 16 '33

Shop check list; drug stores. F. A. Pawley. *il Arch Forum* 58:387 My '33

**DRUG trade**

American drug manufacturers' association 22d annual meeting, Hot Springs, Va. *Oil Paint & Drug Rep* 123:19+ My 15; 30+ My 22 '33

American pharmaceutical manufacturers' association 26th annual meeting, Chicago. *Oil Paint & Drug Rep* 123:18-19, 43-4 Je 26; 124:17- JI 3 '33

Bauer & Black give dealers year's sales plan; stress correct display. L. B. Colby. *il Sales Management* 32:320-1 Ap 1 '33

Chain stores. Cooperative drug and hardware chains. 28p U.S. Federal trade commission, Washington '32

Dramatizing the salesman's call; Agfa Ansco corporation. A. Bradbury. *il Ptr Ink* 163:72-3 My 18 '33

Drug wholesaling and NRA codes. H. J. Ostlund. *Oil Paint & Drug Rep Extra* ed 124:34-5 O 11 '33

Druggists' supply men discuss distribution. *Oil Paint & Drug Rep* 123:15+ F 20 '33

Drugs as groceries; grocery stores selling toilet articles and proprietary medicines. *Business Week* p9 F 15 '33

Drugs in grocery stores. *Ptr Ink* 164:76-7 JI 6 '33

Federal wholesale druggists ass'n. argues for right to sell cheaply. *Oil Paint & Drug Rep* 123:17+ Mr 13; 33 Ap 10 '33

How one company ended free deal charge-back nuisance; Wm. S. Merrell company. T. Merrell. *Ptr Ink* 164:41-2 S 14 '33

How Squibb weeks doubled business for 3,000 dealers. C. Eddy. *il Sales Management* 32: 151-3+ F 15 '33

Liggett losses shatter dominance of Drug. L. M. Hughes. *Sales Management* 33:66+ JI 15 '33

Merchandising in city drug stores. E. J. Carroll. *U S Bur For & Dom Com Domestic Commerce Ser* 70:1-18 '32

Merchandising requirements of the drug store package. W. Alderson and B. E. Aiken. *U S Bur For & Dom Com Domestic Commerce Ser* 73:1-36 '32

National retail drug trade council to sue price-cutters. *Oil Paint & Drug Rep* 124: 14 N 6 '33

National wholesale druggists' association 59th annual meeting, French Lick. *Oil Paint & Drug Rep Extra* ed 124:3-46 O 11 '33

New deal at the drug store counter. H. Deutsch. *il Adv & Sell* 21:13-15+ Ag 3 '33

Purchasing policies and practices of chain drug companies. E. F. Witte. *J of Business* 6:1-95 pt 2 Ja '33

Report of N.W.D.A. on credits and collections. *Oil Paint & Drug Rep Extra* ed 124: 24-5 O 11 '33

Report of N.W.D.A. on manufacturers. J. T. Woodside. *Oil Paint & Drug Rep Extra* ed 124:35, 37-8 O 11 '33

Wholesale druggists and manufacturers discuss stabilization of distribution. *Oil Paint & Drug Rep* 123:15+ My 8 '33

Why January 1933 was the best January we ever had; Abbott laboratories. J. F. Stiles, Jr. *il Management Methods* 62:111-13+ Mr '33

*See also*  
Chemistry, Medical  
and pharmaceutical

Drug institute of  
America, incor-  
porated  
Medicines, Proprie-  
tary

**Advertising**

Sales punch without ethical offense for drug products; Abbott laboratories. L. B. Colby. *il Sales Management* 32:472-3+ My 1 '33

*See also*  
Drugs—Laws and  
legislation

**Securities**

Outlook for the offspring of Drug. J. D. C. Weldon. *Mag of Wall St* 52:580-1+ S 30 '33

**Statistics**

Botanical drugs, spices. Published in weekly numbers of *Oil, paint and drug reporter*  
Drugs and fine chemicals. Published in weekly numbers of *Oil, paint and drug reporter*

**Great Britain**

Financial position of the chemical industry. S. H. Withey. *Chem Age* (Lond) 28:216-17 Mr 11 '33

**India**

Development of the pharmaceutical industry in India. *Chem Age* (Lond) 28:52 Ja 21 '33

**Indiana**

Operating results of Indiana retail druggists. G. W. Starr. *diag Indiana Univ Bur of Business Research Indiana Studies in Business* v 1, no 2:1-65 '31

**United States**

Crude drug imports larger in 1932. *Oil Paint & Drug Rep* 123:38 Mr 27 '33

Drug institute assumes stand for distributors; will not offer competitive code until cost question is settled. *Oil Paint & Drug Rep* 124:17+ JI 10 '33

Drug trade codes await President's action on those for retail dealers. *Oil Paint & Drug Rep* 124:19, 32B-32C O 2 '33

Drug trade groups have filed drafts of National recovery act codes. *Oil Paint & Drug Rep* 124:17+ JI 17; 17+ JI 24; 15+ JI 31 '33

Druggists get special status in retail code. *Oil Paint & Drug Rep* 124:15+ O 30 '33

Drugs and pharmaceuticals. Index 13:80-4 Ap '33

F.W.D.A. plans code for co-operative wholesaling. *Oil Paint & Drug Rep* 124:17 JI 10 '33

Good volume of drug sales maintained. R. Brennan. *Dun's R* 41:2-4 Ja 28 '33

Pharmaceutical groups file code for makers; text. *Oil Paint & Drug Rep* 124:15+ Ag 21 '33

Retail druggists draft new code; text. *Oil Paint & Drug Rep* 124:17+ Ag 14 '33

Retail druggists get exemptions from PRA. *Oil Paint & Drug Rep* 124:28A+ Ag 21 '33

Retail druggists told provisions in proposed code not all acceptable. *Oil Paint & Drug Rep* 124:17+ Ag 28; 17+ S 4 '33

Wholesale druggists file code with N.R.A.; text. *Oil Paint & Drug Rep* 124:17+ Ag 14 '33

**DRUG trade conference, National.** *See* National drug trade conference

**DRUGGISTS research bureau**

N.W.D.A. report. *Oil Paint & Drug Rep Extra* ed 124:31+ O 11 '33

**DRUGGISTS' supply corporation**

Annual convention, 20th, New York, Feb. 13. *Oil Paint & Drug Rep* 123:15+ F 20 '33

**DRUGS**

Evolution of drugs. A. Ziefle. *Chemicals* 37:9 D 12 '32

**DRUGS—Continued**

100,000,000 guinea pigs; dangers in everyday foods, drugs, and cosmetics. A. Kallet and F. J. Schlank. 312p \$2 Vanguard press, New York '32

Romance of Empire drugs. Can Chem & Met 17:25-6 F '33

*See also*

Adrenaline	Medicines, Proprietary
Chemistry, Medical and pharmaceutical	Morphine
Chemotherapy	Narcotics
Drug trade	Pharmacy
Hypnotics	Podophyllotoxin

**Laws and legislation**

Advertising and the new food and drugs bill. R. G. Tugwell. Oil Paint & Drug Rep 124: 15-16 S 18 '33; Discussion. F. A. Blair. 124: 15+ O 9 '33

Advertising or Tugwell; a bitter battle develops over the Professor's bill. il Business Week p 13-14 O 28 '33

American drug manufacturers' association report on legislation. Oil Paint & Drug Rep 123:39, 39B My 15 '33

Beat the Tugwell bill! G. A. Nichols. Ptr Ink 165:6, 10-11+ N 2 '33

Capper bill and advertising of medicines and cosmetics. Ptr Ink 164:33, 36-7 Ag 3 '33

Case against the Tugwell bill. il Adv & Sell 22:13-14+ N 9 '33

Case for the Tugwell bill. il Adv & Sell 21: 13-14+ O 26 '33

Defects of food and drugs act. M. L. Bryan. Ptr Ink 164:40 Ag 17 '33

Drug control provisions of proposed U.S. law analyzed. W. G. Campbell. Oil Paint & Drug Rep 123:17+ Je 19 '33

Drug counterfeiting bill put in Senate. Oil Paint & Drug Rep 122:17; Editorial comment. 13 D 19 '32

Drug law revision called hazardous. W. P. Jacobs. Oil Paint & Drug Rep 124:15 O 23 '33

Drug law revision proposals not disclosed at conference with trade. Oil Paint & Drug Rep 123:15+ My 1; 15+ My 8 '33

Drug name prescription revised by U.S. Bureau. Oil Paint & Drug Rep 123:36 F 13 '33

Food and drug act as sent to Congress substitutes a completely new statute; text. Oil Paint & Drug Rep 123:19-21 Je 5 '33

Food and drugs act revision being prepared in Department of agriculture. Oil Paint & Drug Rep 123:15 Ap 10; 17 Ap 17; 15 Ap 24 '33

Food and drugs act revision to have full support of Dept. of agriculture. Oil Paint & Drug Rep 123:17-18 Je 12 '33

Food and drugs bill prepared by Prof. Tugwell. Business Week p10 Je 10 '33

Foods, drugs, teeth; new statute drafted to replace food and drug act. Business Week p12 My 24 '33

Package medicine industry launches campaign against drug law revision. Oil Paint & Drug Rep 124:17-18 O 16 '33

Proprietary association discusses plan of national industrial control and proposed revision of food and drugs act. Oil Paint & Drug Rep 123:17+ My 29 '33

Report of N.W.D.A. on legislation. Oil Paint & Drug Rep Extra ed 124:30-1 O 11 '33

Revision of Federal food and drugs law. M. Handler. Oil Paint & Drug Rep 123:17+ Je 26 '33

Les stupéfiants et la chimie légale. E. Kohn-Abrest. Chimie & Ind 29:1477-90 Je '33

Trademarks for drugs demanded by Congressman Sirovich. Oil Paint & Drug Rep 123:17 Je 19 '33

U.M.M.A. convention discusses formula-labeling provision of Tugwell bill. Oil Paint & Drug Rep 124:15+ S 18 '33

**Manufacture**

Air-conditioning in the drug-manufacturing industry; Eli Lilly and company, Indianapolis. W. A. Hanley. il Ind & Eng Chem 25:9-12 Ja '33

British drug houses, Ltd. il Soc Chem Ind J (Chem & Ind) 52:27-9 Ja 13 '33

Conveyor plant in a drug factory; Boots pure drug company. il diag Engineer 155:366-8, 376 Ap 14 '33

Large works conveying scheme; Boot's pure drug co. il Elec R (Lond) 111:915-16, 917 D 23 '32

**Prices**

Most popular prices for drug store products. Ptr Ink 162:74 Mr 2 '33

DRUMMOND, Jack Cecil, 1891-Sketch. por Soc Chem Ind J (Chem & Ind) 51:1021 D 9 '32

DRUMMOND, William Henry, 1854-1907 Doctor, poet and miner. R. W. Brigstocke. por Can Min J 54:310-11 Ag '33

DRUNKENNESS  
New test for drunken drivers. K. Hansen. Sci Am 148:290+ My '33

DRY cleaning. See Cleaning

**DRY docks**

Box gate at Elderslie dock. il diags Engineer 155:170, 174 F 17 '33

Elderslie dock pumping plant. il Engineer 155: 202 F 24 '33

New graving dock at Southampton. Engineering 135:696-8, pl 38 Je 30 '33

New methods of excavating quicksands. H. Japp. il diags plan Engineer 156:398-402 O 27 '33

Railway dry dock installed at Boulogne-sur-Mer. il Marine R 63:18+ Ag '33; Same. plan Marine Eng 38:287-9 Ag '33

Southampton dock extensions. il Engineer 156:26-8, supp Jl 14 '33

Swan, Hunter, & Wigham Richardson, Ltd. Soc Chem Ind J (Chem & Ind) 52:615 Jl 28 '33

*See also*

Slipways

**DRY goods**

Decline in dry goods sales checked. R. Brennan. Dun's R 41:2-4 Ja 7 '33

Marketing codes; distributor groups draw up recovery plans. Business Week p7-8 Jl 8 '33

National retail dry goods association 22d annual convention. New York. Business Week p6 Ja 25 '33

Retailers discuss quality, price wars, volume sales. Ptr Ink 162:68-70 Ja 26 '33

Stronger selling plan for weaker markets keeps sales and profits soaring; Lederer manufacturing company, Detroit. A. E. McWood. Sales Management 32:478+ My 1 '33

Wholesale dry goods institute, 40 Worth st., New York publishes various bulletins and surveys on dry goods wholesaling

*See also*

Department stores	Textile fabrics
Hosiery	Underwear
Knit goods	

DRY ice. See Carbon dioxide, Solid

**DRYING**

Considérations théoriques et pratiques sur le séchage des bois et autres produits. P. Razous. diags Génie Civil 102:446-9, 466-70 My 13-20 '33

Drying enamels, lacquers and varnishes; improvements in gas fired conveyor ovens. il Chem Age (Lond) 28:222-3 Mr 11 '33

Drying of solids. T. K. Sherwood and E. W. Comings. il Heating-Piping 5:187-90+ Ap '33

Drying of solids; diffusion equations for the period of constant drying rate. E. R. Gilliland and T. K. Sherwood. Ind & Eng Chem 25:1134-6 O '33; Correction. 25:1354 D '33

Drying of solids; mechanism of drying of clays. T. K. Sherwood and E. W. Comings. bibliog il Ind & Eng Chem 25:311-16 Mr '33

Grinding and calcining gypsum in one operation. W. B. Lenhart. il Rock Prod 36:34-7 Ag '33

Humidity and oil sand cores; moisture content of atmosphere influences successful drying. A. S. Coulter. Foundry 61:13+ F '33



**DRYING**—*Continued*

Modern gas heated equipment for industrial drying processes. W. Hind. *il* Gas J (Lond) 201:47-50; Discussion. 50-1 Ja 4 '33

Modern unit heater a production aid; solves many a plant problem other than strictly space heating. *il* Heating-Piping 5:510-12+ O '33

Practice overtakes theory in process drying. Chem & Met Eng 40:256-7 My '33

Simplify your process by combining drying and grinding operations. L. T. Work. *il* diag Chem & Met Eng 40:306-9 Je '33

Trocknen. M. Hirsch. Zeit Ver Deutsch Ing 77:253-4 Mr 4 '33

*See also*

Clay drying	Electric machinery
Coal drying	—Drying
Dehydration	Paint—Drying
Drying agents	Paper drying
Drying apparatus	

**DRYING (food)**

Put idle milk drying plants to work; egg drying. A. K. Epstein. *il* Food Ind 5:308-9 Ag '33

**DRYING (fruits and vegetables)**

Effects of glucose and fructose on the sucrose content in potato slices. J. M. Nelson and R. Auchincloss. Am Chem Soc J 55:3769-72 S '33

Principles of fruit preservation. T. N. Morris. 239p \$5 Van Nostrand '33

**DRYING agents**

Phosphoric anhydride as drying agent. W. A. Bone. Soc Chem Ind J (Chem & Ind) 52:246 Mr 17 '33; Discussion. 52:307-8 Ap 7 '33

Soluble anhydrite as a desiccating agent. W. A. Hammond and J. R. Winthrow. bibliog *il* diag Ind & Eng Chem 25:653-9, 1112-15 Je, O '33

**DRYING apparatus**

Beauty parlors—an undeveloped source of revenue for the gas companies. *il* Am Gas J 129:39 S '33

Buettner turbo drier. *diag* India Rubber W 88: 41 My '33

Considérations théoriques et pratiques sur le séchage des bois et autres produits. P. Razous. *diags* Génie Civil 102:446-9, 466-70 My 13-20 '33

Driers and drying in refractories industry. J. T. Robson. Am Cer Soc J (Bul) 16:2-17 Ja '33

Drying of paper and felts; removal of water vapour by means of warm air. R. Schulze. *diags* Pulp & Pa of Can 33:433-6, 485-7 N-D '32

Dwight Lloyd Oliver high capacity dryer. *diag* Chem & Met Eng 39:625 N '32; Coal Age 37:421-2 N '32; Iron Age 131:910 Je 8 '33

Hay driers; abstract. A. W. Clyde. Mech Eng 55:513 Ag '33

Kontaktrockner für körniges oder mehlformiges Nassgut. L. Eberts. *diag* Zeit Ver Deutsch Ing 77:324-5 Mr 25 '33

Modern chemical plant. J. A. Reavell. *il* diags Soc Chem Ind J 52:133T-9T My 19 '33

Modern waste-heat tunnel driers. T. W. Garve. *diags* Am Cer Soc J 16:118-23 F '33

Ein neuer schacht-trockenapparat. K. Kutzner. *diags* Chemische Fabrik 6:155-6 Ap 5 '33

New process dries raw materials prior to calcination. *diag* Concrete (mill sec) 41:31 S '33

Practice overtakes theory in process drying. Chem & Met Eng 40:256-7 My '33

Le séchage industriel des bois. A. Antoni. *il* diags Génie Civil 101:583-6, 597-602, 626-8 D 10-24 '32

Sewage to fertilizer in gas-fired rotary dryers; Houston, Texas. J. B. Nealey. flow sheet *il* diag Am Gas Assn Mo 15:106-7 Mr '33

Small dryer helps to check-up drying troubles. E. Pagett. *diags* Brick & Clay Rec 83:90-1+ S '33

Taking the guesswork out of cast confectionery drying. O. Windt. *il* diag Food Ind 5: 248-50 Jl '33

Trockenanlage für keramische erzeugnisse. J. Schmarje. *diags* Zeit Ver Deutsch Ing 77: 809 Jl 22 '33

Trockenanlagen für die chemische industrie. H. Piepenstock. *il* Chemische Fabrik 6:sup 13-14 Ag 2 '33

Use of Ter Meer type centrifugal separators in salt works. R. W. Miller. *il* diag Soc Chem Ind J (Chem & Ind) 52:368-70 Ap 28 '33

Washing and drying for small metal parts. *il* Chem Age (Lond) 29:211 S 2 '33

*See also*

Centrifugal machines	Gas ovens
Core ovens	Kilns
Electric ovens	Paper drying

**Clothes**

Large uses of steel in small ways; clothes dryers. *il* Steel 92:32 Mr 20 '33

**Textiles**

Apparatus for scouring small samples of wool and a modified apparatus for determining dry weights. W. C. Miller and D. M. Bryant. *il* diags Textile Inst J 23:T267-73 N '32

Drying problems for special coated fabrics. W. H. Adams. *diags* Melliand 4:580-1 D '32

New developments in return tenters. A. W. Buhlmann. *diags* Melliand 5:32 Ap '33

New high speed Hurricane tenter dryer. *il* Melliand 4:588-9 D '32

**DRYING oils**

Present condition of our knowledge of oils, especially of the drying oils. Kronsbein. Am Dyestuff Rep 22:405-6 Je 19 '33

Rationelle synthesen auf dem gebiet trockenender öle. J. Scheiber. Angew Chemie 46:643-7 O 14 '33

Search for synthetic rubber also yields drying oil; S-D-O. Comp Air M 38:4053 F '33

Studies in the drying oils; influence of several factors on the mechanism of drying of oil films. J. S. Long, A. E. Rheineck and G. L. Ball, jr. *diag* Ind & Eng Chem 25: 1086-91 O '33

Synthetic drying oils; their manufacture from acetylene. L. Light. Plastic Prod 9:279 S '33

**DUBLIN, Ireland****Water supply**

Free water from an electricity scheme; abstract. M. A. Moynihan. Elec R (Lond) 112: 83-4 Ja 20 '33

**DUBUQUE, Iowa****Rapid transit**

So Dubuque went bus. *il* map Bus Transportation 12:128-30 Mr '33

Substitution of buses for street cars. A. H. Smith. *il* map Elec Traction 29:54-6 F '33

**DUCK (textile)**

Accelerated aging test for waterproofed ducks and similar fabrics. W. C. Smith. *il* diags Am Dyestuff Rep 22:114-18 F 13 '33

Bleaching, dyeing and waterproofing boat duck. G. Rice. *il* Textile Col 55:169-70 Mr '33

**DUCLAUX method**

New procedure for the Duclaux method. J. B. McNair. Am Chem Soc J 55:1470-4 Ap '33

**DUCO**

Appeal court holds Duco patent valid. F. D. Boone. Ind & Eng Chem News ed 11:225 Ag 10 '33

Duco; basic patents through which duPont sought to bring all lacquer manufacturers under license declared invalid. Business Week p11-12 D 21 '32

**DÜHRING'S rule**

Method for interpolating data, based on Dühring's rule. J. H. Perry and E. R. Smith. bibliog Ind & Eng Chem 25:195-9 F '33; Abstract. Mech Eng 55:310-11 My '33

**DULCIN**

Benzylbenzaldoxime. E. Wertheim. bibliog Am Chem Soc J 55:2540-3 Je '33

**DULUTH, Minnesota****Sewerage**

Building sewers in winter with city welfare labor. Eng N 110:81 Ja 19 '33  
 Sewage-treatment problem at Duluth. J. Wil-  
 son. il map Civil Eng 3:527-9 S '33

**DUMB waiters**

Baby elevator; Otis standardized automatic  
 dumbwaiter for retail stores. Business  
 Week p13 Je 17 '33

**DUMPING (commercial policy)**

Commissioner of customs defines anti-dumping  
 policy of bureau. Iron Age 130:811 N 24  
 '32

Dumping of gasoline in Canada feared as out-  
 come of higher prices here. Oil & Gas J 32:  
 36 N 9 '33

Electric light bulbs and rubber-soled shoes  
 from Japan come under anti-dumping ban.  
 Business Week p22 S 30 '33

Moroccan phosphate dumped here in 1927. Oil  
 Paint & Drug Rep 122:15+ D 26 '32  
 New source of distress merchandise. H. A.  
 Haring. Adv & Sell 20:17-18+ F 2 '33

**DUMPING appliances**

Application of shovel-type electric drive to  
 other types of materials-handling equip-  
 ment at Pedro de Valdivia. R. W. Barr. il  
 diags Gen Elec R 36:478-81 N '33

Mechanical handling of refuse; how material  
 is conveyed in containers by lorries to de-  
 structor. T. Ruete. il Mech Handling 19:414  
 D '32

New LaPlant-Choate 12-yd. wagon. C. B.  
 Smith. il Can Eng 64:23 F 7 '33

Side-tipping wagon for friable materials. il  
 Mech Handling 20:110 Ap '33

Watson tractor-hitch dumper. S. E. Ack-  
 erman. il Can Eng 64:16 Ja 10 '33

White and sons automatic tipping skip. il  
 diag Engineering 136:230 S 1 '33; Engineer  
 156:217 S 1 '33

**DUN & Bradstreet, inc.**

Dun & Bradstreet (correct). Business Week  
 p14 Mr 8 '33; Comm & Fin 22:215-16 Mr 1  
 '33

Formation. Dun & Bradstreet 41:2-3 Mr 4 '33  
 Municipal finance research. E. Trull. Special  
 Lib 24:148 Ag '33

**DUNKIRK, France****Harbor**

Les travaux d'extension du port de Dun-  
 kerque; la visite du 5 juillet de la Société  
 des ingénieurs civils. J. Dumas. diags plans  
 Génie Civil 103:87-90 Jl 22 '33

**DUNLOP rubber company**

Ordinary general meeting, 34th. Economist  
 116:1093-4 My 20 '33

**DUNN, J. T.**

President-elect of the Society of chemical in-  
 dustry. por Chem Age (Lond) 28:245 Mr 18  
 '33

Presidents, past and present. por Chem Age  
 (Lond) 29:52 Jl 15 '33

**DUPLICATING machines**

Cutting down the cost of forms. F. E. Kunkel.  
 il Elec Traction 29:300 S '33

Done by design; Ditto machine. J. S. Hern-  
 lund. il Factory Management 91:437-9 N '33

Duplicating lowers form cost; Lehigh Valley  
 transit company. Management Methods 62:  
 14-15 Ja '33

Production control system employs Addresso-  
 graph equipment. C. H. Getz. il Iron Age  
 131:502-5+ Mr 30 '33

**DUPLICATING processes. See Copying proc-  
esses****DU PONT de Nemours, E. I., and company**

As a hedge against inflation. J. C. Clifford.  
 Mag of Wall St 52:635-6+ O 14 '33

Du Pont's industrial empire. Econostat 1:  
 14-15 Je 17 '33

Nets \$1.82 on common share in 1932. Oil Paint  
 & Drug Rep 123:22+ F 6 '33

Operating income up 73% for half-year. Oil  
 Paint & Drug Rep 124:14 Jl 31 '33

Speculative audit; favorable and unfavorable  
 factors affecting common-stock values. Bar-  
 ron's 13:14 Jl 31 '33

Stocks I would buy to hold. A. T. Miller. Mag  
 of Wall St 51:680 Ap 1 '33

**DUPRENE**

Commercial uses of rubber, Thiokol and Du-  
 prene with oil and solvents; abstract. W. L.  
 White. Rubber Age 33:69 My '33; Same cond.  
 India Rubber W 88:41 Je '33

Development of a new synthetic rubber. C.  
 M. A. Stine. Soc Chem Ind J (Chem & Ind)  
 52:416-18 My 12 '33

Effect of oils and chemicals on Duprene  
 compounds. O. M. Hayden and E. H. Kris-  
 mann. Ind & Eng Chem 25:1219-23 N '33;  
 Abstract. Rubber Age 33:69 My '33; Same.  
 India Rubber W 88:41 Je '33

Synthetic rubber superior to natural rubber  
 for special purposes; abstract. E. R. Bridge-  
 water. Science 78:sup9 S 15 '33

**DURALUMIN**

Duralumin applied to aircraft construction. W.  
 H. Lewis. il Roy Aeronautical Soc J 37:  
 631-93 Ag '33

Occurrence of CuAl<sub>2</sub> in duralumin. G. L.  
 Clark and H. A. Smith. Phys R 43:305 F 15  
 '33

Occurrence of CuAl<sub>2</sub> in duralumin. L. W.  
 Kempf. Phys R 43:942-3 Je 1 '33

**DURENE**

Some heat capacity data for durene, pent-  
 amethylbenzene, stilbene, and dibenzyl. J.  
 D. Ferry and S. B. Thomas. J Phys Chem  
 37:253-5 F '33

**DURENE association**

Durene movement progress. E. L. Starr.  
 Comm & Fin 22:835 S 20 '33

**DUREZ**

New materials in products and packages. il  
 Adv & Sell 20:sup [Adv Arts] 29 Mr '33

**DURHAM, North Carolina****Water supply**

Metering at Durham. D. M. Williams. Am  
 Water Works Assn J 25:240-3 F '33

**DURSTINE, Roy S.**

Tiger man. Adv & Sell 20:22-3+ Ja 19 '33

**DUST**

Alternating current precipitators for sanitary  
 air analysis. P. Drinker, W. G. Hazard and  
 T. Ishikawa. bibliog diags J Ind Hygiene 14:  
 364-70 D '32

Apparatus for producing low dust concentra-  
 tions of constant composition and a method  
 for the microgravimetric determination of  
 dust; the use of the method in studying  
 dust from the production of beryllium;  
 abstract. H. H. Weber and W. E. Engel-  
 hardt. J Ind Hygiene 15:sup104-5 S '33

Bad air; abstract. J. B. S. Haldane. Science  
 76:sup11 D 9 '32

Dust counting and air sampling apparatus for  
 field surveys. R. C. Stratton, J. B. Ficklen  
 and W. A. Hough. il diag Heat & Ven  
 30:36-8 Ag '33

Dust hazard in porcelain works; abstract.  
 A. Hofbauer-Flatzeck. J Ind Hygiene 15:  
 sup6 Mr '33

Dust in industry. J. J. Bloomfield. il diags  
 Mech Eng 55:229-33+ Ap '33; Excerpts. Nat  
 Safety N 27:33-4+ My '33

Dusts, smokes, mists, and fogs. S. C. Black-  
 tin. Soc Chem Ind J (Chem & Ind) 51:1006-  
 7 D 2 '32; Discussion. 51:1042-3, 1077-8 D  
 16, 30 '32

Effects of certain silicate dusts on the lungs.  
 W. C. Dreessen. il J Ind Hygiene 15:66-78  
 Mr '33

Health aspects of radium dial painting; occu-  
 pational environment. J. J. Bloomfield and  
 F. L. Knowles. bibliog il J Ind Hygiene  
 15:368-82 S '33

Keeping down the dust. E. O. Jones. Nat  
 Safety N 28:15+ N '33

Massive fluorosis of bones and ligaments; ab-  
 stract. P. F. Moller and S. V. Gudjonsson.  
 J Ind Hygiene 15:sup34 My '33



**DUST—Continued**

Occurrence of lead, copper, zinc, and arsenic compounds in atmospheric dusts, and the sources of these impurities. J. T. Dunn and H. C. L. Bloxam. *Soc Chem Ind J* 52: 189T-92T Je 30 '33

Physikalische eigenschaften von industriestauben insbesondere von lagernden staubschichten. R. Meldau. *il diags Zeit Ver Deutsch Ing* 76:1189-95 D 3 '32

Protecting the worker against dust inhalation. P. Drinker. *Nat Safety N* 27:25-6 Mr '33

Quantitative determination of quartz (free silica) in dusts. A. Knopf. *Pub Health Rep* 48:183-90 F 24 '33

Sand and metallic abrasive blasting as an industrial health hazard. J. J. Bloomfield and L. Greenburg. *bibliog il J Ind Hygiene* 15:184-204 J1 '33

Size frequency of industrial dusts. J. J. Bloomfield. *Pub Health Rep* 48:961-8 [bibliog p968] Ag 11 '33

Studies in dust retention; dust retained by the tracheotomized cat. T. Ishikawa and P. Drinker. *bibliog diag J Ind Hygiene* 15: 57-65 Mr '33

Study of 78 workers exposed to inhalation of cryolite dust. S. V. Gudjonsson. *J Ind Hygiene* 15:27-33 Ja '33

See also

Cement dust	Lungs—Dust diseases
Coal dust	Mine dust
Dust removal	Rock dust
Flue dust	

**Bibliography**

Pneumoconiosis, a list of references. 76p World peace foundation '32

**DUST collectors**

Cement industry looks toward byproduct potash recovery; comparison of Multiclone collectors and Cottrell precipitators. P. E. Landolt. *il Chem & Met Eng* 40:345-9 J1 '33

Cloth filters collect stone dust in raw grinding department. *il diag Concrete (mill sec)* 41:37-9 Ja '33

Collecting system is flexible; apparatus for removing dust from swing frame grinders. *il Foundry* 61:19 O '33

Dunston "B" power station; dust collecting and fan equipment. *il Electrician* 111:205-6 Ag 18 '33; *Engineer* 156:217 S 1 '33

Dust elimination in coke-handling plant. *il Mech Handling* 20:271-2 Ag '33

Dust recovery and fume elimination; Dracco fabric filter system. *il Chem Age (Lond)* 28: 429-30 My 13 '33

Effect of tube diameter in cyclonic dust collectors. E. Anderson. *Chem & Met Eng* 40: 525-6 O '33

Investigations on the emission of dust and grit from power-station chimneys in Holland. A. J. ter Linden. *il diags Engineering* 136:353-5 S 29 '33

Modern centrifugal dust collectors. *il Chem Age (Lond)* 27:555 D 10 '32

Operation, maintenance of cloth-screen dust collectors. W. F. Terry. *plan Heating-Piping* 5:259-60+, 304+ My-Je '33

Portable drill-dust collector demonstrated at New York. *il Eng N* 110:563 My 4 '33

Recovers core sand from sand blast; Cleveland foundry of the Aluminum company of America. *il Iron Age* 131:943 Je 15 '33

**DUST explosions**

Reducing dust explosion losses in grain-handling operations. D. J. Price. *il Safety Eng* 65:173-6 My '33

**Venting**

Reducing dust explosion losses in grain-handling operations. D. J. Price. *il Safety Eng* 65:175-6 My '33

Venting dust explosions. H. R. Brown and R. L. Hanson. *bibliog il Chem & Met Eng* 40:116-19 Mr '33; *Same cond. Food Ind* 5: 178-9 My '33; *Abstract. Eng N* 110:436-7 Ap 6 '33

**DUST prevention**

Maintenance of salt-clay highways; experiments with salt in the surface treatment of roads in Nova Scotia. A. R. Chambers. *Can Eng* 63:13-15 D 6 '32

**DUST preventives****Advertising**

Two per cent returns from a five-year-old list; Dow chemical company's humorous appeal to highway officials. *il Ptr Ink* 162:73-4 Ja 19 '33

**DUST removal**

American air-filter co.'s new dynamic dust precipitator. *Can Min J* 54:39 Ja '33

Arresting of flue dust and purification of gases. M. D. Engle. *diags Mech Handling* 20:211-14 J1 '33

Control of industrial dust. J. M. Dallavalle. *il Mech Eng* 55:621-4 O '33; *Abstracts. Iron Age* 132:32A-32B J1 6 '33; *Heat & Ven* 30: 33 N '33

Control of the silicosis hazard in the hard rock industries; application of the Kelley trap to underground drilling operations. T. Hatch and others. *il diags J Ind Hygiene* 15: 41-56 Ja '33

Dedusting coal offers advantages in both cleaning and marketing. K. C. Appleyard. *il Coal Age* 38:54-5, 89-91 F-Mr '33

Dust control an economy measure; Roan antelope copper company. G. E. Lynch. *il diags Eng & Min J* 133:606-8 D '32

Dust elimination in the pottery industry. E. Schramm. *il Am Cer Soc J* 16:205-13 My '33

Dust in industry; shop methods and equipment effective in controlling dust hazards. F. Willson. *il Mech Eng* 55:80-2 F '33

Dust problem in the foundry industry. E. G. Meiter. *il Safety Eng* 66:101-4, 141-3 S-O '33

Electrostatic dust separation. *il Soc Chem Ind J (Chem & Ind)* 52:708-9 S 1 '33; *Same. Electrician* 111:219 Ag 18 '33

Engineering principles of industrial hygiene. A. Zimmerman. *il diags W Soc E J* 38:77-96 Ap '33; *Excerpts (Atmosphere pollution). Chem Markets* 33:136-40 Ag '33

Flue gas dust. J. Mayer. *Power Pl Eng* 37:93 F '33

Good housekeeping at Falks. V. J. Hydar. *il Foundry* 61:10-12+ F '33

Grit emission from power stations; report of committee appointed by Electricity commissioners. *Engineering* 134:714-15 D 16 '32; *Engineer* 154:618-20 D 16 '32; *Elec R (Lond)* 111:923 D 23 '32; *Electrician* 109:810 D 23 '32; *Mech Eng* 55:385 Je '33

Herbert flue gas cleaner. *diags Engineer* 155: supp vi,vii F 17 '33

Importance of velocity characteristics in the design of local exhaust hoods. J. M. Dallavalle. *diags J Ind Hygiene* 15:18-26 Ja '33

Mechanical control of occupational diseases. D. S. Beyer. *Nat Safety N* 28:21-2+ Ag '33

Minimising the nuisance from boiler flue gases. H. E. Wallson. *Chem Age (Lond)* 28:167-8 F 25 '33

Norton-Collins dust extraction system. *diags Coal Age* 38:73 F '33

Pure air; current research projects. *Power* 77: 263-4 My '33

Simon-Carves dust extraction system. *plan Coal Age* 38:107 Mr '33

Smoke and flue dust. *Power* 77:231 My '33

Smoke and pure air activities mark time. *Power* 77:25 Ja '33

Die technische gewährleistung für entstauber unter besonderer berücksichtigung der flugstaubabscheider. R. Nagel. *Zeit Ver Deutsch Ing* 77:1017-18 S 16 '33

See also

Air cleaners	Electric precipitation
Air filters	Exhaust systems
Dust collectors	Flue dust

**DUVEN, Charles J. 1870-**

Charles, decorator extraordinary, fights to preserve his name. *por Sales Management* 32: 70 Ja 15 '33

**DWELLINGS.** See Architecture, Domestic; Houses

**DYE, William David, 1887-1932**

Researches of the late Dr D. W. Dye on the vibrations of quartz. E. H. Rayner. *diags* Inst E E J 72:519-27, pl 1-4 Je '33

**DYE analysis**

Analysis of azine dyes; abstract. R. Bass. Soc Dyers & Col J 49:342 O '33

Detection of *p*-phenylenediamine and other diamines in hair dyes; abstract. C. Griebel and F. Weiss. Soc Dyers & Col J 49:341-2 O '33

Determination of basic dyestuffs by means of silicotungstic acid. E. B. Johnson. Soc Chem Ind J 52:354T O 27 '33

Determination of direct and acid dyes by means of aryl-substituted guanidines. S. R. Trotman and H. Horner. Soc Dyers & Col J 49:256-7 Ag '33

Identifying basic dye mordants. Am Dyestuff Rep 22:430 Jl 3 '33

Identifying tannin in dyed textiles; abstract. K. Hishiyama and S. Tabei. Textile Col 55:399-400 Je '33

Use of stannous chloride in evaluation of dye mixtures. J. A. Kime. Ind & Eng Chem Anal ed 5:151-2 My 15 '33

**DYE factories**

*See also*

Dye laboratories  
Dye manufacture

**Equipment**

What the school of experience has taught a dye-plant operator about construction materials. Chem & Met Eng 40:62-3 F '33

**DYE industry**

Relation of the dye industry to other industries. C. M. A. Stine. Textile Col 55:466 Jl '33

**Advertising**

What makes good copy? Rit learns in series of tests. L. B. Colby. Il Sales Management 32:206-7 Mr 1 '33

**Exhibitions**

Science museum exhibit; development of the dye industry. Il Soc Dyers & Col J 48:299-301 N '32

**Statistics**

Coal-tar dye and chemical census for 1932. Oil Paint & Drug Rep 124:16, 18 Jl 10 '33

Dyestuffs. Soc Dyers & Col J 49:225 Jl '33

Imports of synthetic dyes, 1931-1932. Textile Col 55:39 Ja '33

Textile chemicals, dyestuffs and tanstuffs. Published in weekly numbers of Oil, paint and drug reporter

What the dye industry accomplished in 1932. Chemicals 38:9 Jl 24 '33

World dye production in 1931—162,000 tons. W. T. Daughterty. Chemicals 37:12 D 26 '32

World dye production in 1932 mirror of the depression. C. C. Concannon. Chemicals 38:1+ My 29 '33; Same. Textile Col 55:383-7 Je '33; Excerpts. Am Dyestuff Rep 22:339-40 My 22 '33

**Europe**

European dye cartel in world trade. C. C. Concannon. Oil Paint & Drug Rep 122:14+ D 26 '32; Same. Ind & Eng Chem News ed 11:9-10 Ja 10 '33; Same. Am Dyestuff Rep 22:73-4+ Ja 30 '33; Same. Chemicals 38:1+ Ja 9 '33; Excerpts. Textile Col 55:55-6 Ja '33

**Germany**

What happened to the German dye industry? Chemicals 37:1-2 N 28 '32

**Great Britain**

British dyestuffs act continuance is urged. Oil Paint & Drug Rep 122:16 D 12 '32

British dyestuffs act continued over 1933. Oil Paint & Drug Rep 123:15 Ja 23 '33

Colour users' association; chairman's address. H. S. Smith. Soc Chem Ind J (Chem & Ind) 52:655-60 Ag 11 '33; Same. Soc Dyers & Col J 49:319-23 O '33; Same cond. Chem Age (Lond) 29:123-4 Ag 5 '33

Decline in dyestuffs licences in 1932; a review of the past 12 years. Chem Age (Lond) 29:154 Ag 12 '33

Dyestuffs act renewed for one year. Chem Age (Lond) 27:570 D 17 '32

Dyestuffs industry development committee third report. Soc Dyers & Col J 49:48-52 F '33; Chem Age (Lond) 27:527-8 D 3 '32

Dyestuffs industry; report of the Import duties advisory committee. Chem Age (Lond) 29:247-8 S 16 '33

Dyestuffs output in the United Kingdom increase in 1932. Chem Age (Lond) 28:524 Je 10 '33; Same. Soc Dyers & Col J 49:260 Ag '33

Some aspects of the current dyestuffs situation. F. O. Ashmore. Soc Dyers & Col J 49:5-7; Discussion. 7-9 Ja '33

What Great Britain won under dyestuff control. Chemicals 37:3 D 26 '32

**Italy**

Italian dyestuffs; consistent growth shown in recent years and continued in 1932. Chemicals 38:3 Je 12 '33

**Japan**

Japan dyes. Chemicals 37:12 N 14 '32

Japan would be independent of foreign-origin dyestuff. Chemicals 38:3 O 16 '33

Japanese dye production. S. Makishima. Soc Dyers & Col J 49:259-60 Ag '33

**Latin America**

Cultivating our dyes trade in Latin America. A. T. Marks. Am Dyestuff Rep 22:628+ O 23 '33

**Switzerland**

Geigy developments in direct dyes since 1914. Textile Col 55:619-20 S '33; Same. Melland 5:216 O '33

**United States**

Relation of the dye industry to other industries. Textile Col 55:754 N '33

U.S. dye exports dropped 4,215,000 pounds in 1932 from 1931 total. Chemicals 38:7 Ap 17 '33; Oil Paint & Drug Rep 123:43 Ap 10 '33

U.S. dye import in 1932 off 800,000 lbs. from 1931. Chemicals 38:1-2 Ja 23 '33

U.S. dye output in 1931 some 3% less than in 1930. Chemicals 38:1-2 F 20 '33

Winning back our textile dyes export trade by an organized push. A. T. Marks. Textile Col 55:29-30 Ja '33

**DYE laboratories**

Small dyehouse laboratory; its functions, equipment and efficacy. Textile Col 55:592-3 S '33

Technical service from the dyestuff manufacturer's viewpoint. P. H. Stott. Am Dyestuff Rep 22:407-9+ Jl 3 '33

**DYE manufacture**

Manufacture of sulfide dyestuffs and related colors. J. M. F. Leaper. *diag* Textile Col 54:745-3,815-18; 55:31+, 90-1+, 234-7, 388-91, 550-3+ N '32-F, Ap, Je, Ag '33

*See also*

Dye laboratories

**DYE patents**

Abstracts from British and foreign journals & patents. Published in monthly numbers of Society of dyers and colourists journal

American and foreign new inventions—patent reports. Published in monthly numbers of Melland

Coloring rubber; review of United States patents. J. Rossman. India Rubber W 89:27-8 O; 27-8+ N; 35-7 D '33

Fixing of dyeings, etc. by steaming. Am Dyestuff Rep 21:753 D 19 '32

German azo dyestuff patents. Am Dyestuff Rep 22:431 Jl 3 '33

German vat dyestuffs. Am Dyestuff Rep 22:483 Jl 31 '33

Monthly list of British and foreign patents. Published in monthly numbers of the Society of dyers and colourists journal

New patents. Published in bi-weekly numbers of American dyestuff reporter

United States patents. Published in monthly numbers of Textile colorist

**DYE plants.** *See* Dyes and dyeing—Natural dyes



**DYE research**

Absorption of direct dyestuffs by cellulose. S. M. Neale and W. A. Stringfellow. *Chem Age (Lond)* 29:5-6 J1 1 '33; Same. *Textile Inst J* 24:P145-9 J1 '33

Application of infra-red photography to textiles. P. W. Cunliffe. pl table *Soc Dyers & Col J* 49:73-6 Mr '33

Dyeing with substantive dyestuffs; abstract. E. A. Rakhine and N. F. Ivanov. *Textile Col* 55:328 My '33

Dyestuffs as field for academic research. R. E. Rose. *Ind & Eng Chem* 25:1028-30 S '33

Quantitative research on the dyeing of viscose yarns. J. Boulton and others. bibliog *Textile Inst J* 24:P113-28 J1 '33; Excerpts. *Am Dyestuff Rep* 22:648-50 O 23 '33; Discussion. *Textile Inst J* 24:P128-9 J1 '33

Some observations on the quantitative description of the dyeing properties of direct cotton colours. S. M. Neale. *Soc Chem Ind J* 52:88T-90T Mr 31 '33; Same. *Am Dyestuff Rep* 22:344-6 My 22 '33

See also

Dye laboratories

**DYE stripping.** See Dyes and dyeing—Stripping

**DYE testing**

Apparatus for testing fastness to light; abstract. diag *Soc Dyers & Col J* 49:273 Ag '33

Conditions of temperature and relative humidity in testing fastness to light by means of artificial illumination. R. O. Hall. bibliog *diag Am Dyestuff Rep* 22:437-41+ J1 17 '33

Development of a laboratory method for testing the fastness to fulling of dyed wool. B. A. Ryberg. *il Am Dyestuff Rep* 21:662-6+ N 21 '32

New process to determine the degree of oxidation of logwood extracts. P. Heermann. *Melliand* 4:623-4, 666-7 Ja-F '33

Practical processing and dyeing of hosiery. N. D. White. *il Textile Col* 55:603-6+ S '33

Problem of light exposure tests. J. Grant. *Chem Age (Lond)* 29:4 J1 1 '33

Testing of dyes and chemicals for mill use. B. S. Hillman. *Textile Col* 55:228-31, 307-10 Ap-May '33

See also

Dyes, Fastness of

**DYEHOUSES****Accounting**

Cost accounts for dyers and finishers. J. R. Blyth. *Soc Dyers & Col J* 49:127-32; Discussion. 132 My '33

**Equipment**

Haveg—an acid and corrosion-resistant material. *il Am Dyestuff Rep* 22:33-4 Ja 2 '33; Same. *Melliand* 4:638 Ja '33

Materials for dye kettle construction as related to the economical production of true shades. H. B. Burke. *Am Dyestuff Rep* 22:351-2+ Je 5 '33

Mechanical handling of textile fabrics. G. L. Atkinson. *diags Mech Handling* 20:251-3 Ag '33

Modern materials for dye-house equipment. J. F. Springer. *Textile Col* 53:842-4; 54:340-2, 413-14+; 54:6-9; 54:699-702, 773-4; 55:190-3+; 406-9 D '31, My-Je, Ag, O-N '32, Mr, Je '33

**Laboratories**

See Dye laboratories

**Management**

Organization and operation of the modern dyehouse. O. W. Clark. *Am Dyestuff Rep* 22:463-6 J1 31 '33

**DYEING machines**

Abbott dyeing process. *il Melliand* 4:584 D '32; *Soc Dyers & Col J* 49:23-4 Ja '33

All-electric jig gives constant speed and tension; abstract. C. E. Robinson, L. M. Start and B. M. Horter. *diag Textile World* 82:1178-9 D '32

Dyeing of loose cotton; continuous machines in Soviet Russia and in the United States. J. Brandwood. *Chem Age (Lond)* 29:398 O 28 '33

Improvements in winch dyeing machines. A. J. Hall. *diag Textile Col* 55:621-2 S '33

Machine dyeing of cotton on cross-spools. K. Roland. *Am Dyestuff Rep* 22:488+ Ag 14 '33

New dyeing machine made by the Longcose engineering company of Leeds. *diag Textile Col* 55:329-30 My '33

Rice, Barton & Fales constant-speed jig. *il Textile World* 82:1004 N '32

Some examples of modern finishing machinery development. W. J. Norton. *il diags Textile Inst J* 24:P236-8 S '33

**DYERS**

Students of today—the textile dyers of tomorrow. A. H. Grimshaw. *Am Dyestuff Rep* 22:85-7 Ja 30 '33

Treatment of print works dermatitis. J. R. Hannay. *Soc Dyers & Col J* 48:255 S '32; Same. *Textile Col* 55:34 Ja '33; Discussion. *Soc Dyers & Col J* 48:255-6 S '32

**DYES, Fastness of**

After-treatment methods in hosiery dyeing. R. O. Framlington. *Textile Col* 55:476-8 J1 '33

Bleeding of dyed wool. *Textile Col* 55:401-2 Je '33

Causes and prevention of light-instability in chrome yellow; abstract. H. Wagner and others. *Soc Dyers & Col J* 49:267-8 Ag '33

Colour and colour fastness from the point of view of the retail distributor. J. G. Williams. *Soc Dyers & Col J* 48:222-3 J1 '33

Color fastness problems of the dye house. D. A. Gryder. *Am Dyestuff Rep* 21:723-5 D 19 '32; Same abr. *Chem Age (Lond)* 28:550-1 Je 17 '33

Conditions of temperature and relative humidity in testing fastness to light by means of artificial illumination. R. O. Hall. bibliog *diag Am Dyestuff Rep* 22:437-41+ J1 17 '33

Development of a laboratory method for testing the fastness to fulling of dyed wool. B. A. Ryberg. *il Am Dyestuff Rep* 21:662-6+ N 21 '32

Dyed wool fast to sea water; abstract. G. Rudolph. *Textile Col* 55:617-18 S '33

Fading of dyed fabrics under the influence of sulphur gases in the atmosphere. A. T. King. *Chem Age (Lond)* 29:50 J1 15 '33

Fastness of dyed wool to wet treatment; abstract. F. L. Goodall. *Textile Col* 55:112 F '33

Fastness of dyeings on rayon; abstract. G. Bruyere. *Textile Col* 55:617 S '33

Fastness of wool dyeings to wet treatments. F. L. Goodall. *Soc Dyers & Col J* 49:97-101; Discussion. 101-2 Ap '33

Fastness to washing of dyed wool. B. A. Ryberg. *Am Dyestuff Rep* 22:275-7 Ap 24 '33

Problem of light exposure tests. J. Grant. *Chem Age (Lond)* 29:4 J1 1 '33

Report on fastness to light. *Am Dyestuff Rep* 22:43-4 Ja 16 '33

Some reasons for the fading of sunfast fabrics. E. C. Husted. *il Melliand* 4:686-7 F '33

**DYES, Removal of.** See Dyes and dyeing—Stripping

**DYES and dyeing**

Abbott dyeing process. *il Melliand* 4:584 D '32

Absorption of direct dyestuffs by cellulose. S. M. Neale and W. A. Stringfellow. *Chem Age (Lond)* 29:5-6 J1 1 '33; Same. *Textile Inst J* 24:P145-9 J1 '33; Abstract. *Textile Col* 55:618 S '33

Color fastness problems of the dye house. D. A. Gryder. *Am Dyestuff Rep* 21:723-5 D 19 '32; Same abr. *Chem Age (Lond)* 28:550-1 Je 17 '33

Constant temperature baths for dyeing. C. E. Mullin. *Textile Col* 55:11-12+ Ja '33

Dyehouse troubles. M. Mackenzie. *Am Dyestuff Rep* 22:660-2 N 6 '33

Dyeing and finishing troubles caused by mold fungi or mildew. R. Cowan. *Am Dyestuff Rep* 21:690-2 D 5 '32

**DYES and dyeing—Continued**

- Dyeing and processing of knit goods. W. F. Christman. *Am Dyestuff Rep* 22:210-11 Mr 27 '33
- Dyeing cellulose materials with reference to the structure of cellulose. R. E. Rose. *Ind & Eng Chem* 25:1265-8 N '33
- Dyeing fabrics for the window display industry. G. Rice. *Textile Col* 55:682+ O '33
- Dyeing textiles for weight reducing girdles and corsets. G. Rice. *il Textile Col* 55:126-7 F '33
- Dyer's responsibility. G. L. Atkinson. *Am Dyestuff Rep* 22:585-6 S 25 '33
- Dyes and measuring dyeing; abstract. O. Heinrich. *Textile Col* 55:327-8 My '33
- Geigy developments in direct dyes since 1914. *Textile Col* 55:619-20 S '33; Same. *Melliand* 5:216 O '33
- Historical facts pertaining to the use of onion skins in the art of dyeing. C. D. Mell. *Textile Col* 55:626-7 S '33
- Is dyeing to sample always possible? abstract. O. Pennenkamp. *Am Dyestuff Rep* 22:460 JI 17 '33
- Manufacture of colored gasolines requires use of dyes of high solubility and fastness. R. G. Clarkson. *il Oil & Gas J* 31:50 Mr 30 '33
- Materials for dye kettle construction as related to the economical production of true shades. H. B. Burke. *Am Dyestuff Rep* 22:351-2+ Je 5 '33
- Modern wetting, scouring and dyeing agents. W. W. Bray. *Am Dyestuff Rep* 22:247-50; Discussion. 250-2 Ap 10 '33
- New British dyestuffs. *Chem Age (Lond)* 28:123 F 11 '33
- Practical notes from an indigo dyehouse. plan *Textile Col* 55:163-4 Mr '33
- Production of level shades; abstract. C. Skip-ton. *Textile Col* 55:471 JI '33
- Sample cards and dyestuffs. Published in monthly numbers of *Melliand*
- Special converting methods used for pile fabrics. B. S. Hillman. *diags Textile Col* 55:521-4+, 598-600 Ag-S '33
- Textile plant problems. A. C. Estey. *Textile Col* 55:483-5+, 559-61 JI-Ag '33
- Theory of the dyeing process; abstract. A. Porai-Koschitz and others. *Soc Chem Ind J* 52:sup666 Ag 18 '33
- See also*
- |                                 |                                  |
|---------------------------------|----------------------------------|
| Alizarin                        | Dye testing                      |
| Aniline black                   | Dyeing machines                  |
| Black                           | Dyes, Fastness of                |
| Bleaching                       | Indigo                           |
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| Color matching                  | Sulfur dyes                      |
| Color printing                  | Textile printing                 |
| Dye industry                    | Wetting agents                   |
| Dye manufacture                 | Yellow                           |
| Dye patents                     |                                  |

**Bibliography**

- Abstracts from British and foreign journals & patents. Published in monthly numbers of *Society of dyers and colourists journal*
- Foreign publications. Published in monthly numbers of *Textile colorist*

**Chemistry**

- Adsorption of Ponceau 4R (new coccine) and methylene blue by lead sulfate and the influence of adsorbed Ponceau on the speed of kinetic exchange. I. M. Kolthoff and C. Rosenblum. *Am Chem Soc J* 55:2664-72 JI '33
- Alumina lakes. W. D. Bancroft and E. C. Farnham. *J Phys Chem* 36:3127-37 D '32
- American chemical society meeting, Washington; abstracts of papers. *Oil Paint & Drug Rep* 123:22-3 Ap 3; 30C-30D Ap 17 '33
- Avoidance of halo in the use of basic-hydro-sulphite and vat color discharges. *Textile Col* 55:158-62 Mr '33
- Blue sodium salt of rhodamine-B and some related substances. W. R. Brown and F. A. Mason. *Chem Soc J* p1264-9 S '33
- Building of molecules for the textile industry. R. E. Rose. *Am Dyestuff Rep* 22:47-54 Ja 16 '33
- Character of the diazonium group; a new method of preparing mixed disazo dyestuffs. H. A. J. Schoutissen. *Am Chem Soc J* 55:4541-5 N '33
- Chemical theory of dyeing; effect of pH values on combining capacity of dyes. *Chem Age (Lond)* 27:603 D 24 '32
- Colour and constitution from the standpoint of recent electronic theory. H. H. Hodgson. *Soc Dyers & Col J* 49:213-16 JI '33
- Cotton, and the dye chemist. W. S. Calcott. *il Textile Col* 55:165-8 Mr '33; Same abr. *Chemicals* 38:12 Mr 20 '33
- Cyanine dyes. M. Q. Doja. *Chem R* 11:273-321 [bibliog p315-21] D '32
- Development of the stabilized insoluble azo dyes in fast color production. P. L. Mann. *Am Dyestuff Rep* 22:559-60 S 11 '33
- Dyestuffs as field for academic research. R. E. Rose. *Ind & Eng Chem* 25:1028-30 S '33
- Insoluble azo-dyestuffs containing sulphur. *Chem Age (Lond)* 28:187 Mr 4 '33
- Ketanimine dyestuffs and their derivatives. D. F. J. Lynch and J. D. Reid. *bibliog Am Chem Soc J* 55:2515-20 Je '33
- Kolloidchemische vorgänge beim färben von baumwolle. A. Schaeffer. *bibliog Angew Chemie* 46:618-22 S 30 '33
- Measurement of oxidation-reduction potentials in glacial acetic acid solutions. J. B. Conant and B. F. Chow. *Am Chem Soc J* 55:3745-51 S '33
- Modern ideas concerning the direct dyes and cellulose from the viewpoint of substantivity. S. M. Neale and L. H. Griffiths. *bibliog Am Dyestuff Rep* 22:651-4 N 6 '33
- Potential of free radicals of the triphenyl-methyl type in glacial acetic acid solutions. J. B. Conant and B. F. Chow. *Am Chem Soc J* 55:3752-8 S '33
- Potentiometric studies on semiquinones. L. Michaelis and E. S. Hill. *Am Chem Soc J* 55:1481-94 Ap '33
- Preparation of 4:4'-bisdiethylamino-2:2'-dimethoxytriphenylcarbinol. W. R. Brown and F. A. Mason. *Chem Soc J* p1269-70 S '33
- Rapid fast, rapidogen and rapidazol colours; their development, constitution and application. *Chem Age (Lond)* 27:597 D 24 '32
- Recent advances in the physical chemistry of dyestuff solutions. S. M. Neale. *Am Dyestuff Rep* 22:237-8 Ap 10 '33
- Recent investigations into the behaviour of direct cotton dyes. S. M. Neale. *Soc Dyers & Col J* 49:216-17; Discussion. 217-18 JI '33
- Stability of diazo solutions; abstract. P. P. Viktorov. *Textile Col* 55:45 Ja '33
- Structure of para red and related dyestuffs. F. A. Mason. *Soc Dyers & Col J* 48:293-5 N '32
- Studies on oxidation-reduction; aposafranines. R. D. Stiehler and W. M. Clark. *Am Chem Soc J* 55:4097-109 O '33
- Studies on oxidation-reduction; simple safranines. R. D. Stiehler, Tung-Tou Chen and W. M. Clark. *Am Chem Soc J* 55:891-907 Mr '33
- Sulfur dioxide in the textile industry. A. K. Scribner. *Am Dyestuff Rep* 22:185-7 Mr 13 '33
- Synthesis of acenaphthene-*peri*-metathiazines and of some dyes derived therefrom. M. T. Bogert and R. B. Conklin. *Am Chem Soc J* 55:1705-10 Ap '33
- Systematic habit-variation in potassium chlorate crystals produced by dyes; abstract. H. E. Buckley and W. C. Cocker. *Soc Dyers & Col J* 49:267 Ag '33
- Titanium compounds and their uses in dyeing and printing. *Textile Col* 55:174-5 Mr '33
- Verein deutscher chemiker in Würzburg; fachgruppe für chemie der farben- und textilindustrie. *Angew Chemie* 46:414-17 Je 24 '33

*See also*  
Flavones



DYES and dyeing—*Continued*

## Cotton

Application of infra-red photography to textiles. P. W. Cunliffe. pl table Soc Dyers & Col J 49:73-6 Mr '33

Behaviour in chemicking of materials dyed with some vat and insoluble azo dyes. D. A. Derrett-Smith and C. R. Nodder. *Il Textile Inst J* 23:T293-308 N '32

Behavior of vat dyed cotton during chemicking. *Textile Col* 55:475+ J1 '33

Causes of some failures in dyeing. R. Schmidt. *Am Dyestuff Rep* 22:31 Ja 2 '33

Discussion of the effect of aging on sulphur black dyed fabrics and the effect of certain well-known after-treatments. B. L. Hathorne. *Melliand* 4:622 Ja '33

Dyeing cellulose materials with reference to the structure of cellulose. R. E. Rose. *Ind & Eng Chem* 25:1265-8 N '33

Dyeing colored cotton in black shades; abstract. P. Dory. *Textile Col* 55:618 S '33

Dyeing of cotton materials with indigosol dyes. K. Stierwaldt. *Textile Col* 55:689-91 O '33

Dyeing of loose cotton; continuous machines in Soviet Russia and in the United States. J. Brandwood. *Chem Age (Lond)* 29:398 O 28 '33

Dyeing reds on cottons. *Textile Col* 55:399 Je '33

Examination of mercerised hosiery yarns. D. A. Clibbens and A. Geake. pls *Textile Inst J* 24:T255-72 Je '33

Faults in dyeing. *Textile Col* 55:327 My '33

Friction marks in dyeing cotton goods. C. E. Mullin. *Textile Col* 55:369-70 Je '33

pH control in dyeing and printing cotton. C. E. Mullin. *Textile Col* 55:155-7+ Mr '33

Influence of certain vat dyestuffs on the tendering of cellulose when exposed. C. M. Whittaker. *Soc Dyers & Col J* 49:9-17 Ja '33; Summary. *Chem Age (Lond)* 27:511 N 26 '32; Summary. *Textile Col* 55:45 Ja '33; Discussion. *Soc Dyers & Col J* 49:17-19 Ja '33

Influence of certain vat dyestuffs on the tendering of cellulose when exposed; final figures. C. M. Whittaker. *Soc Chem Ind J* 52:140T My 19 '33

Kolloidchemische vorgänge beim färben von baumwolle. A. Schaeffer. bibliog *Angew Chemie* 46:618-22 S 30 '33

Machine dyeing of cotton on cross-spools. K. Roland. *Am Dyestuff Rep* 22:488+ Ag 14 '33

Manufacture and dyeing of cotton and rayon materials; the past year's technical developments. *Chem Age (Lond)* 28:49-51 Ja 21 '33

Modern ideas concerning the direct dyes and cellulose from the viewpoint of substantivity. S. M. Neale and L. H. Griffiths. bibliog *Am Dyestuff Rep* 22:651-4 N 6 '33

New possibilities in the lubrication of textile fibers. C. B. Ordway. *Am Dyestuff Rep* 22:638-40 O 23 '33

Oxycellulose and hydrocellulose; their detection, properties, and probable differences in constitution. H. A. Thomas. *Soc Chem Ind J* 52:79T-86T Mr 31 '33; Same. *Am Dyestuff Rep* 22:355-6, 371-7 Je 5 '33; Abstract. *Textile Col* 55:547+ Ag '33

Periodic variations in hank processed yarn and the patterns produced by them in stocking fabrics. D. A. Clibbens and A. Geake. pls *Textile Inst J* 24:T221-32 Je '33

Place of technical men in the textile industry. H. H. Willis. *Am Dyestuff Rep* 22:207-10 Mr 27 '33; Same. *Melliand* 4:705-7 Mr '33

Practical experiences in the dyeing with vat colors on cotton, rayon, silk and wool. W. Kosche. *Il Melliand* 5:170-2, 210 Ag-S-O '33

Prussian blue for dyeing cottons; abstract. E. Justin-Mueller. *Textile Col* 55:399 Je '33

Recent developments in the application of fast colors on cotton. S. H. Williams. *Am Dyestuff Rep* 22:574-6 S 25 '33

Recent investigations into the behaviour of direct cotton dyes. S. M. Neale. *Soc Dyers & Col J* 49:216-17; Discussion. 217-18 J1 '33

Science of stockings. R. H. Pickard. *Soc Chem Ind J (Chem & Ind)* 51:977-8 N 25 '32

Skein dyeing and finishing of cotton chenille yarns. A. H. Leonard. *Am Dyestuff Rep* 22:417-18, 422 J1 3 '33

Some observations on the behaviour of vat dyestuffs on cotton. F. Scholefield and H. A. Turner. bibliog *Textile Inst J* 24:P130-42; Discussion. P143-4 J1 '33

Some observations on the quantitative description of the dyeing properties of direct cotton colours. S. M. Neale. *Soc Chem Ind J* 52:88T-90T Mr 31 '33; Same. *Am Dyestuff Rep* 22:344-6 My 22 '33

Special converting methods used for pile fabrics; dyeing of cotton plush for the automobile trade. B. S. Hillman. *Textile Col* 55:522-4 Ag '33

Substantive dyeing of cellulosic fibres; abstract. P. Ruggli. *Soc Dyers & Col J* 49:272 Ag '33

Textile dyeing, bleaching and finishing. W. Woosnam. *Comm & Fin* 22:77-8 Ja 11 '33

Über niedrig acetylierte, faserzellulosen. A. Rheiner. *Il Angew Chemie* 46:675-81 O 28 '33

Use of ammonium sulfate in the dyeing of sulfur colors. J. H. Troutman. *Textile Col* 55:513-15 Ag '33

See also

Calico printing

## Cotton—artificial silk

Cotton-rayon printing. R. Cottrell. *Textile World* 83:1824 O '33

Dischargeable dyestuffs; their application to cotton-rayon fabrics. R. Cottrell. *Textile World* 83:1439 Ag '33

Dyeing hose containing cotton and viscose rayon; abstract. G. Rudolph. *Textile Col* 55:546 Ag '33

Dyeing of mixed weaves of cotton and artificial silk. G. H. Deutscher. *Am Dyestuff Rep* 22:29 Ja 2 '33

Dyeing of viscose-cotton unions. *Textile Col* 54:822-3 D '32

Dyeing viscose rayon and cotton fabrics. A. J. Hall. *Textile Col* 55:41-2 Ja '33

Dyeings on cotton-viscose linings. *Chem Age (Lond)* 27:567 D 17 '32

Rayon dyeing and finishing. B. L. Hathorne. *Am Dyestuff Rep* 22:553-6 S 11 '33

## Cotton—wool

Dyeing of curl-cloth. D. Kermode. *Textile Col* 55:261-2 Ap '33

Dyeing of wool mixed fabrics. P. H. Stott. *Am Dyestuff Rep* 22:280-3; Discussion. 283-4 Ap 24 '33

## Food

See Coloring matter in food

## Fur

Action of bichromate in the dyeing of furs. A. Dohogne and G. Rezabeck. *Textile Col* 55:554+ Ag '33

Air conditioning in the fur industry. C. B. Harris. *diag Heat & Ven* 30:14 O '33

Bichromates in fur dyeing. *Chem Age (Lond)* 27:604 D 24 '32

Chrome-dressed furs are not mothproof. C. O. Clark. *Soc Dyers & Col J* 49:319 O '33

Fur dyeing. E. Beeley. *Soc Dyers & Col J* 49:218-22 J1 '33

## Hair

Detection of *p*-phenylenediamine and other diamines in hair dyes; abstract. C. Griebel and F. Weiss. *Soc Dyers & Col J* 49:341-2 O '33

## History

Dyeing throughout the ages. *Textile Col* 54:676-7+, 806-7+; 55:26-8+ O, D '32-Ja '33

Glimpses into the past of the dyeing industry. C. C. Curtiss. *Am Dyestuff Rep* 22:201-2+ Mr 27 '33

Historical survey of dyestuffs and dyeing. B. C. Bond. *Am Dyestuff Rep* 22:491-2, 503-7 Ag 14 '33

DYES and dyeing—*Continued*

## Hosiery

- After-treatment methods in hosiery dyeing. R. O. Framlington. Textile Col 55:476-8 J1 '33
- Avoiding defects in dyeing silk and rayon hosiery. G. H. Clifton. II Textile World 83: 1102 Je '33
- Dyeing hose containing cotton and viscose rayon; abstract. G. Rudolph. Textile Col 55:546 Ag '33
- Practical processing and dyeing of hosiery; cotton, wool, silk, rayon and combinations of these fibers. N. D. White. II Textile Col 55:299-302, 371-2+, 446-9, 517-20+, 603-6+, 667-70, 741-3 My-N '33 (to be cont)
- Rayon dyeing and finishing; dyeing and finishing of rayon-containing hosiery. B. L. Hathorne. Am Dyestuff Rep 22:508-9, 533-5, 553-6 Ag 14-S 11 '33
- Science of stockings. R. H. Pickard. Soc Chem Ind J (Chem & Ind) 51:977-8 N 25 '32

## Ink

- Blue dye as evidence of the age of writing. C. E. Waters. Ind & Eng Chem 25:1034-5 S '33
- Colored waterproof drawing inks. E. W. Zimmerman. Ind & Eng Chem 25:1033-4 S '33; Same. Textile Col 55:758+ N '33

## Leather

- Application of pigment finishes to light leather manufacture; abstract. W. D. Brown. Soc Dyers & Col J 49:121 Ap '33
- Chemical theory of dyeing; effect of pH values on combining capacity of dyes. Chem Age (Lond) 27:603 D 24 '32
- Dyeing of chrome leathers. Chem Age (Lond) 27:499 N 26 '32
- Dyeing of glove leather. D. Woodroffe. Chem Age (Lond) 28:410 My 6 '33
- Goat skin dyeing in Nigeria. Chem Age (Lond) 29:214 S 2 '33
- Improved method of applying basic dyes to leather. M. C. Lamb and G. M. Roocke. Soc Dyers & Col J 49:105-6 Ap '33
- Influence of pH in the dyeing of leather. M. C. Lamb and L. Goldman. Soc Dyers & Col J 49:257-8 Ag '33
- Titanium compounds and their uses in dyeing and printing. Textile Col 55:174-5 Mr '33

## Mordants

- Action of bichromate in the dyeing of furs. A. Dohogne and G. Rezabeck. Textile Col 55:554+ Ag '33
- Dyeing wool with alizarine. P. S. Chetti. Textile Col 54:808-12 D '32
- Identification of tannin-antimony and katanol mordants in basic dyed cotton; abstract. K. Hishiyama and S. Tabel. Textile Col 55: 259 Ap '33
- Identifying basic dye mordants. Am Dyestuff Rep 22:430 J1 3 '33
- Mordanting vegetable fibers; abstract. J. P. Sisley. Textile Col 55:45 Ja '33
- Titanium salt in dyeing; abstract. Textile Col 55:113 F '33

## Natural dyes

- Black dye from the salt-bush. C. D. Mell. Textile Col 55:489 J1 '33
- Brief history of alkanet dyes. C. D. Mell. Textile Col 55:196-8 Mr '33
- Dyeing and sizing materials from plantains. C. D. Mell. Textile Col 55:415-16 Je '33
- Dyes and tans from the species of myrica. C. D. Mell. Textile Col 55:117-18 F '33
- Introduction and use of ling for dyeing yellow. C. D. Mell. Textile Col 55:118-19 F '33
- Natural colouring matters and their analogues. R. Robinson. Soc Chem Ind J (Chem & Ind) 52:737-42 S 15 '33; Abstract, with discussion. Chem Age (Lond) 29:226-8 S 9 '33
- New flavon color from acacia; abstract. K. Brass. Textile Col 55:617 S '33
- Post-war progress in various industries; tanning materials, natural dyestuffs, etc. O. Wilson. Ind & Eng Chem 25:105-6 Ja '33

Purple dyes from the fruit of the damson tree. C. D. Mell. Textile Col 55:702 O '33

## See also

Indigo  
Logwood

## Paper

- Colouring in a fine paper mill. H. G. McNeil. Pulp & Pa of Can 34:407-9 Je '33
- Dyeing of paper; suitable colors and methods for their use. A. Walter. Pulp & Pa of Can 34:33-5+, 192 Ja-F '33

## Physiological effect

- Dermatitis following the wearing of dyed fabrics. E. M. Killick and J. T. Ingram. Soc Dyers & Col J 49:108-9 Ap '33
- Treatment of print works dermatitis. J. R. Hannay. Soc Dyers & Col J 48:255 S '32; Same. Textile Col 55:34 Ja '33; Discussion. Soc Dyers & Col J 48:255-6 S '32

## Rubber

- Coloring rubber; review of United States patents. J. Rossman. India Rubber W 89: 27-8 O; 27-8+ N; 35-7 D '33
- Dyeing transparent balloons. India Rubber W 87:40 D '32
- Dyes for rubber latex. K. Pfister. Oil Paint & Drug Rep 123:26 Ap 10 '33

## Silk

- Aniline black on silk. B. S. Hillman. diag Melland 4:570-2, 620-2 D '32-Ja '33
- Avoiding defects in dyeing silk and rayon hosiery. G. H. Clifton. II Textile World 83: 1102 Je '33
- Developed dyeings on weighted silk; German patent. Am Dyestuff Rep 22:538 Ag 28 '33
- Dyeing and redyeing silk hosiery. N. D. White. Textile Col 55:371-2+ Je '33
- Notes on silk dyeing. Textile Col 55:772+ N '33
- Rapid method of determining the nature of mixability of raw silk. C. W. Meyers. Am Dyestuff Rep 22:644-5 O 23 '33
- Silk dyeing. C. M. Keyworth. Soc Dyers & Col J 49:245-8 Ag '33; Abstracts. Chem Age (Lond) 28:74 Ja 28 '33; Textile Col 55: 256 Ap '33; Discussion. Soc Dyers & Col J 49:248-50 Ag '33
- Special converting methods used for pile fabrics. B. S. Hillman. diag Textile Col 55:598-600 S '33

## Silk—artificial silk

- Rayon dyeing and finishing. B. L. Hathorne. Am Dyestuff Rep 22:553-6 S 11 '33
- Some cases of mildew on silk-cellulose acetate materials. F. V. Davis. Textile Inst J 24: T86-9 F '33

## Silk—wool

- Dyeing of wool mixed fabrics. P. H. Stott. Am Dyestuff Rep 22:280-3; Discussion. 283-4 Ap 24 '33

## Silk, Artificial

- Avoiding defects in dyeing silk and rayon hosiery. G. H. Clifton. II Textile World 83: 1102 Je '33
- Dyeing acetate rayon; abstract. K. Lauer. Textile Col 55:112 F '33
- Dyeing acetate rayon with aniline black. Textile Col 55:258 Ap '33
- Dyeing cellulose materials with reference to the structure of cellulose. R. E. Rose. Ind & Eng Chem 25:1265-8 N '33
- Dyeing viscose rayon; abstract. Textile Col 55:183 Mr '33
- Dyeing viscose yarns; abstract. J. Boulton and others. Textile Col 55:760 N '33
- Fastness of dyeings on rayon; abstract. G. Bruyere. Textile Col 55:617 S '33
- Influence of certain vat dyestuffs on the tendering of cellulose when exposed. C. M. Whittaker. Soc Dyers & Col J 49:9-17 Ja '33; Summary. Chem Age (Lond) 27:511 N 26 '32; Discussion. Soc Dyers & Col J 49: 17-19 Ja '33
- Loss of luster of acetate silk in hot baths. W. Stahl. Am Dyestuff Rep 22:431-2+ J1 3 '33



**DYES and dyeing—Silk, Artificial—Continued**

- Manufacture and dyeing of cotton and rayon materials; the past year's technical developments. *Chem Age (Lond)* 23:49-51 Ja 21 '33
- Methods of manufacturing rayon; factors affecting dye affinity. W. B. Sellars. *Am Dyestuff Rep* 22:131-4 F 13 '33
- New problems in processing acetate fabrics faced by knit goods dyer. E. F. Cleveland. *il Textile World* 83:734 Ap '33
- Quantitative research on the dyeing of viscose yarns. J. Boulton and others. *bibliog Textile Inst J* 24:P113-28 Jl '33; Excerpts. *Textile Col* 55:548-9 Ag '33; *Am Dyestuff Rep* 22:648-50 O 23 '33; Discussion. *Textile Inst J* 24:P128-9 Jl '33
- Rayon and its dye selectivity. A. E. Sunderland. *diags Textile Col* 55:458-62+ Jl '33
- Rayon dyeing and finishing. B. L. Hathorne. *Am Dyestuff Rep* 22:239-40, 259-60+, 291-4, 325-7, 353-4+, 382-4+, 410-12+, 455-6, 481-2, 508-9, 533-5, 553-6, 627-8, 654, 655-8, 693-4, 709-12+ Ap 10-24, My 22-S 11, O 23-N 20 '33
- Rayon enters new field; new dyeing process with bright acid colors. B. L. Hathorne. *il Meliand* 4:688 F '33
- Rayon waste and some of the difficulties in dyeing it. C. E. Mullin. *Textile Col* 55:225-7+ Ap '33
- Recent ideas in dyeing acetate rayon. H. Yorke. *Textile Col* 55:698-700 O '33
- Saponification of acetate rayon preparatory to dyeing; abstract. H. Bertram. *Textile Col* 55:403 Je '33
- Some causes of uneven dyeing rayon. C. E. Mullin. *Textile Col* 55:99-100 F '33
- Vat dyeing viscose yarn; abstract. W. L. Wilson. *Textile Col* 55:687 O '33
- Vat dyes on regenerated cellulose artificial silks. W. M. Todd. *Soc Dyers & Col J* 49:312-15; Discussion. 315-16 O '33
- Viscose dyeing; an exact method for the determination of dyeing affinity of viscose yarn. S. M. Neale. *Textile Col* 55:739-40 N '33
- Well-scoured fabrics lighten burden of knit-goods dyer. E. F. Cleveland. *il diags Textile World* 83:57 Ja '33

*See also*

- |                   |                      |
|-------------------|----------------------|
| Dyes and dyeing—  | Dyes and dyeing—     |
| Cotton—artificial | Wool—artificial silk |
| silk              | Silk, Artificial—    |
|                   | Printing             |

**Spray dyeing**

- Spray-dyeing and its importance for woolen fabrics. R. Sansone. *il diags Textile Col* 54:385-6, 449-50+, 767-70; 55:87-9, 479-82 Je-Jl, N '32, F, Jl '33

**Standards**

- Dye standards adopted. *Oil Paint & Drug Rep* 124:25 Jl 17 '33
- Dye standards list revised by Customs bureau. *Oil Paint & Drug Rep* 122:49 D 12 '32

**Straw**

- Dyeing various straw plaits; abstract. W. Fehre. *Textile Col* 55:617 S '33

**Stripping**

- New stripping agent for dyed materials. L. G. Lawrie. *Soc Dyers & Col J* 49:309-11 O '33; Excerpt. *Chem Age (Lond)* 23:337 Ap 15 '33; Discussion. *Soc Dyers & Col J* 49:311-12 O '33
- White and colored discharges on acetate silks. *Textile Col* 55:322 My '33

**Vat dyes**

- Ageing vat colors. R. E. Rupp. *Am Dyestuff Rep* 21:727-8, 737; Discussion. 737-9 D 19 '32
- Avoidance of halo in the use of basic-hydro-sulphite and vat color discharges. *Textile Col* 55:158-62 Mr '33
- Behaviour in chemicking of materials dyed with some vat and insoluble azo dyes. D. A. Derrett-Smith and C. R. Nodder. *il Textile Inst J* 23:T293-308 N '32

- Behavior of vat dyed cotton during chemicking. *Textile Col* 55:475+ Jl '33
- Checking up on vat values; abstract. J. Hausner. *Am Dyestuff Rep* 22:538-9 Ag 28 '33
- Improved vat dyeing process; abstract. Frank. *Textile Col* 55:184 Mr '33
- Influence of certain vat dyestuffs on the tendering of cellulose when exposed. C. M. Whittaker. *Soc Dyers & Col J* 49:9-17 Ja '33; Summary. *Chem Age (Lond)* 27:511 N 26 '32; Summary. *Textile Col* 55:45 Ja '33; Discussion. *Soc Dyers & Col J* 49:17-19 Ja '33
- Influence of certain vat dyestuffs on the tendering of cellulose when exposed; final figures. C. M. Whittaker. *Soc Chem Ind J* 52:140T My 19 '33
- Influence of direct sunlight on vat colors in the reduced state. A. E. Weber. *Am Dyestuff Rep* 22:157-60; Discussion. 160-1 F 27 '33
- Peregal O—a dispersing agent for vat dyes. A. J. Hall. *Textile Col* 55:188-9 Mr '33
- Practical experiences in the dyeing with vat colors on cotton, rayon, silk and wool. W. Kosche. *il Meliand* 5:170-2, 210-12 Ag-S-O '33
- Printing troubles and their scientific aid. M. W. Alling. *il diags Am Dyestuff Rep* 21:747-9 D 19 '32
- Reaction tables for vat dyestuffs and indig-ols. *Melliand* 5:228 O '33
- Some observations on ageing problems. H. B. Briggs. *Textile Inst J* 24:P150-5 Jl '33; Same cond. *Textile Col* 55:525-6 Ag '33; Discussion. *Textile Inst J* 24:P155 Jl '33
- Some observations on the behaviour of vat dyestuffs on cotton. F. Scholefield and H. A. Turner. *bibliog Textile Inst J* 24:P130-42; Discussion. P143-4 Jl '33
- Vat dyes on regenerated cellulose artificial silks. W. M. Todd. *Soc Dyers & Col J* 49:312-15; Discussion. 315-16 O '33

*See also*

Ciba yellow

**Wool**

- Application of infra-red photography to textiles. P. W. Cunliffe. *pl table Soc Dyers & Col J* 49:73-6 Mr '33
- Bleeding of dyed wool. *Textile Col* 55:401-2 Je '33
- Causes of crocky dyeings on suiting fabrics. G. Rice. *il Textile Col* 55:414+ Je '33
- Development of a laboratory method for testing the fastness to fulling of dyed wool. B. A. Ryberg. *il Am Dyestuff Rep* 21:662-6+ N 21 '32
- Disazo dyestuffs for wool (anthrone series); German patent. *Am Dyestuff Rep* 22:459 Jl 17 '33
- Dyed wool fast to sea water; abstract. G. Rudolph. *Textile Col* 55:617-18 S '33
- Dyeing bright colors on grey wool. R. Sansone. *Textile Col* 55:311-12 My '33
- Dyeing carpet yarns; abstract. H. Jackson. *Textile Col* 55:472 Jl '33
- Dyeing of wool mixed fabrics. P. H. Stott. *Am Dyestuff Rep* 22:280-3; Discussion. 283-4 Ap 24 '33
- Dyeing wool for the heather drape suitings. G. Rice. *il Textile Col* 55:120+ F '33
- Dyeing wool with alizarine. P. S. Chetti. *Textile Col* 54:808-12 D '32
- Dyes and tans from the species of myrica. C. D. Mell. *Textile Col* 55:117-18 F '33
- Effect of acid dyes on animal fibers; abstract. E. Eloed. *Textile Col* 55:543 Ag '33
- Fast chrome colors in wool printing. *Textile Col* 55:624-5 S '33
- Fastness of dyed wool to wet treatment; abstract. F. L. Goodall. *Textile Col* 55:112 F '33
- Fastness of wool dyeings to wet treatments. F. L. Goodall. *Soc Dyers & Col J* 49:97-101; Discussion. 101-2 Ap '33
- Fastness to washing of dyed wool. B. A. Ryberg. *Am Dyestuff Rep* 22:275-7 Ap 24 '33
- Formation and identification of copper stains on wool; precipitation of sulphides in dyeing. N. T. White. *Textile Col* 55:750-1 N '33

**DYES and dyeing—Wool—Continued**

- Insoluble azo colors on wool; abstract. A. Wahl. Textile Col 55:46 Ja '33
- Modern processes in wool dyeing. G. Wallace. Textile Col 54:836-9; 55:114-16+, 263-6, 342-3, 695-7 D '32, F, Ap-My, O '33 (to be cont)
- Mordant green dyes for wool; abstract. G. Raeman. Textile Col 55:471 JI '33
- Protection of wool in vat dye printing. A. J. Hall. Textile Col 55:623 S '33
- Spray-dyeing and its importance for woolen fabrics. R. Sansone. il diags Textile Col 54: 385-6, 449-50+, 767-70; 55:87-9, 479-82 Je-JI, N '32, F, JI '33
- Structure of the wool fibre; its relation to the dyeing and finishing processes of the wool textile trade. J. B. Speakman. bibliog Soc Dyers & Col J 49:180-92; Discussion. 192-4 Je '33
- Wetting agents in textile processing; influence of wetting agents upon the adsorption of acid and basic dyes by wool. H. A. Neville and C. A. Jeanson. Am Dyestuff Rep 22:618+ O 9 '33
- Wool dyeing. E. W. Pierce. Am Dyestuff Rep 22:128-30 F 13 '33
- Wool fibers and bichrome. Melland 5:206 O '33
- Wool impoverishment in hydrosulphite discharge processes; abstract. R. Haller. Textile Col 55:546-7 Ag '33

*See also*

Woolen and worsted printing

**Wool—artificial silk**

- Dyeing and printing results on wool-viscose mixtures; abstract. W. Taussig. Textile Col 55:759 N '33
- Printing of wool viscose. Textile Col 55:92 F '33

**DYES and dyeing, Photographic**

- Dyes and colours in photography. C. Bonamico and T. T. Baker. Soc Dyers & Col J 49:103-5 Ap '33
- Photographic emulsion; the mechanism of hypersensitization. B. H. Carroll and D. Hubbard. bibliog U S Bur Stand J Research 10: 211-28 F '33
- Photographic reversal by desensitizing dyes. B. H. Carroll and C. M. Kretschman. diags pl U S Bur Stand J Research 10:449-64 Ap '33
- Photographic sensitizers. H. V. Horton. Soc Chem Ind J (Chem & Ind) 52:495 Je 16 '33
- Recent advances in sensitizers for the photography of the infrared. L. G. S. Brooker, F. M. Hamer and C. E. K. Mees. bibliog il Opt Soc Am J 23:216-22 Je '33
- Tricarbocyanines. N. I. Fisher and F. M. Hamer. Chem Soc J p189-93 F '33; Abstract, with discussion. Soc Chem Ind J (Chem & Ind) 52:126-7 F 10 '33
- Uses of dyes in photography. O. Bloch. Soc Dyers & Col J 49:106 Ap '33

**DYES as antiseptics and disinfectants**

- Ketoniimine dyestuffs and their derivatives. D. F. J. Lynch and J. D. Reid. bibliog Am Chem Soc J 55:2515-20 Je '33

**DYMAXION car.** See Automobiles—Design**DYNAMIC braking.** See Braking, Dynamic**DYNAMICS***See also*

Aerodynamics  
Hydrodynamics  
Thermodynamics  
Tops

**DYNAMITE**

- Dynamite; forerunner of progress. J. Barab. il Explosives Eng 11:135-40 My '33
- Dynamite in the machine shop; small charge in cannon loosens frozen pin. W. C. Betz. il Explosives Eng 11:26 Ja '33
- Regulations for handling and use of dynamite. il Pulp & Pa of Can 34:499-500 Ag '33

*See also*

Blasting

**DYNAMOMETER**

- Car rolls in huge hoops in new chassis dynamometer; patent. diag Automotive Ind 69:399 S 30 '33

Electrical dynamometer; new all-electric apparatus for testing aero engines. il Electrician 111:512-13 O 27 '33

- Farrel-Birmingham transmission dynamometer. il Aero Digest 22:52 Ja '33; Automotive Ind 68:214 F 18 '33; Aviation Eng 8:26 F '33
- Improved engines demand and get improved testing dynamometers. il Elec J 30:19 Ja '33
- Mechanisch-optischer leistungs- und drehzahlmesser. P. Müller. diags Zeit Ver Deutsch Ing 77:758 JI 15 '33

**DYNATRON**

- Applications of the dynatron. M. G. Scroggie. diags Wireless Eng 10:527-40 [bibliog p539-40] O '33
- Effect of the curvature of the characteristic on the frequency of the dynatron generator. E. B. Moullin. Inst E E J 73:186-95 Ag '33
- Inter-electrode capacitance of the dynatron, with special reference to the frequency stability of the dynatron generator. G. B. Baker. Inst E E J 73:196-201; Discussion. 201-3 Ag '33
- Voltage amplification with high selectivity by means of the dynatron circuit. F. M. Colebrook. diags Wireless Eng 10:69-73 F '33

**E****EAGLES**

- Bald eagle. Science 77:sup8 F 17 '33
- Portfolio of the eagle in sculpture. il Architecture 67:293-308 My '33

**EAGLES, Fossil**

- Eagles and eagle-like vultures of the Pleistocene of Rancho La Brea. H. Howard. 82p [bibliog p81-2] Carnegie institution of Washington, Washington '32
- Pleistocene eagles. Science 76:sup10 N 18 '32

**EAR**

- Ear region and the foramina of the cynodont skull. G. G. Simpson. bibliog diags Am J Sci 5th ser 26:285-94 S '33
- Function of the round window. E. Culler, G. Finch and E. S. Girden. Science 78:269-70 S 22 '33

**EARTH**

- Riddle of the earth: efforts to read it. F. Ehrenfeld. il J Fr Inst 216:289-327 S '33

*See also*

Caves	Meteorology
Earth temperature	Mines and mineral resources
Geography	Ocean
Geological time	Ore deposits
Geology	Paleogeography
Geophysics	Paleontology
Glacial geology	Physical geography
Magnetism, Terrestrial	Water, Underground

*Corona*

- Earth's corona. L. Vegard. Science 77:sup9 My 5 '33

*Internal structure*

- Depths of the earth. R. A. Daly. Geol Soc Bul 44:243-64 Ap '33; Same cond. Science 77:95-102 Ja 27 '33

*Motion in space*

- Absolute motion of the solar system and the orbital motion of the earth determined by the ether-drift experiment. D. C. Miller. Science 77:587-8 Je 16 '33

- Ether-drift experiment and the determination of the absolute motion of the earth. D. C. Miller. il diags Rs Mod Phys 5:203-42 JI '33

*Rotation*

- Foucault experiment. Science 77:sup9 Ja 27 '33

*Surface*

*See also*  
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Mountains



**EARTH currents**

Submarine cables; testing in the presence of earth currents on board ship. D. K. McCleery, diags Electrician 111:473-5 O 20 '33 (to be cont)

Tilt of radio waves and their penetration into the earth; editorial. diags Wireless Eng 10: 587-91 N '33

**EARTH movements**

Land levels in the North. B. Gutenberg. Science 78:sup5 Ag 11 '33

Land movements and sedimentation. M. Y. Williams. Geol Soc Bul 43:993-1002 D '32

La résistance des constructions aux mouvements vibratoires. A. Klein. Génie Civil 102: 349-52, 371-5 Ap 15-22 '33

See also

Earthquakes

Landslides

Mine subsidences

**EARTH pressure**

Distribution of pressure under a footing. F. J. Converse. il diags Civil Eng 3:207-9 Ap '33

Minimum-section trapezoidal mass-concrete retaining walls. C. G. Reddington. Engineering 135:644 Je 16 '33

Surcharge chart. S. Gisser. Eng N 110:63 Ja 12 '33

See also

Dams

Earthwork

Retaining walls

**EARTH temperature**

Underground waters and subsurface temperatures of the Woodbine sand in northeast Texas. F. B. Plummer and E. C. Sargent. Texas U Bul 3138:1-178 [bibliog p101-10] '31

**EARTHING.** See Electric distribution—Grounding

**EARTHQUAKE insurance.** See Insurance, Earthquake

**EARTHQUAKES**

Between one and two percent of U. S. area in earthquake belt. W. O. Lincoln. Spectator 130:25 Mr 16 '33

Effects of earthquakes on waters of the earth. N. H. Heck. Science 77:sup9 My 5 '33

Location of earthquake epicenters. S. Taber. Science 78:283 S 29 '33

Measuring earthquake intensity in pounds per square foot. H. M. Westergaard. Eng N 110: 504 Ap 20 '33

La prévision des tremblements de terre à courte échéance. Génie Civil 102:496-7 My 27 '33

Reporting earthquakes. Science 77:sup5 F 24 '33

**Arkansas**

Earthquake risks in Arkansas. G. C. Branner and J. M. Hansell. 13 l maps pls Arkansas. Geol. survey, Little Rock '33

**California**

Better construction in earthquake zone recommended by jury. Eng N 110:480-1 Ap 13 '33

Building damage sustained in California earthquake. J. I. Ballard. il Eng N 110:378-81 Mr 23 '33

California utilities aided communities after 'quake. il Elec W 101:377 Mr 25 '33

California utilities little damaged by severe earthquake. Elec W 101:337 Mr 18 '33

Destructive earthquake centers on Long Beach. il map Eng N 110:353-5 Mr 16 '33

Destructive earthquake motions measured for first time; accelerograph records at three stations in southern California. N. H. Heck and F. Neumann. Eng N 110:804-7 Je 22 '33

Earthquake again proves efficiency of concrete construction. Concrete 41:9 Ap '33

Earthquake and fire protection; a consolidated report of six California companies. G. F. Prussing. il Am Pet Inst Proc 14M(1):25-32 My '33

Earthquake causes temporary shutdown at Signal Hill, damage small. Nat Pet N 25:23-4 Mr 15 '33

Earthquake damage analyzed by Long Beach officials. C. D. Wailes, Jr. and A. C. Horner. il Eng N 110:684-6 My 25 '33

Effect of earthquake on southern California gas systems. A. F. Bridge. il Am Gas Assn Mo 15:175-8 My '33

Electric utilities in southern California suffer little damage from quake. Elec West 70:136 Ap '33

Emergency sanitation following the California earthquake. Pub Works 64:41 Jl '33

Fall of columns during the Long Beach earthquake. T. Clements. map Science 78:100-1 Ag 4 '33; Discussion. H. O. Wood. 78:281-2 S 29 '33

Greater use of concrete would have saved lives and property in earthquake area. E. Shaw. il Rock Prod 36:36 Mr '33

High seismic factors in recent earthquake. L. H. Nishkian. Eng N 110:476 Ap 13 '33

Inglewood fault regarded as important factor in minimizing earthquake effect on oil fields. L. G. E. Bignell. maps Oil & Gas J 31:8+ Mr 16 '33

Long Beach earthquake. H. O. Wood and others. Science 78:147-9 Ag 18 '33

Long Beach earthquake a triumph for concrete construction. E. P. Dale. il Concrete 41:10 Je '33

Long Beach earthquake emphasizes known facts. W. L. Huber. il Eng N 110:474-5 Ap 13 '33

Long Beach gas lines damaged by earthquake. Gas Age 71:319 Mr 25 '33

Los Angeles quakes; list of shocks recorded. Weekly Underw 128:538 Mr 18 '33

More earthquakes expected in southern California. B. Willis. Science 77:sup7-8 Mr 24 '33

Reinforced concrete in the Long Beach earthquake. N. B. Green. il Eng N 110:560-2 My 4 '33

Southern California earthquake. Science 77:sup 8 Mr 17 '33

Strong-motion records of Long Beach earthquake. N. H. Heck. Eng N 110:442-3 Ap 6 '33

Structural damage by earthquake in Long Beach. Can Eng 65:18 O 10 '33

Technical group reports on Los Angeles earthquake hazard. Eng N 110:853 Je 29 '33

Treatment of water supply after Long Beach earthquake. R. F. Goudey. il Eng N 111:502-3 O 26 '33

**Nevada**

Nevada earthquake of December 20, 1932. V. P. Gianella. il Min & Met 14:300-1 Jl '33

**Palestine**

Earthquakes in the Holy Land. B. Willis. Science 77:351 Ap 7 '33

**EARTHQUAKES and building**

Anti-earthquake building code proposed in California. il Brick & Clay Rec 83:95-6 S '33

Better construction in earthquake zone recommended by jury. Eng N 110:480-1 Ap 13 '33

Building damage sustained in California earthquake. J. I. Ballard. il Eng N 110:378-81 Mr 23 '33

Buildings in earthquake zones. Can Eng 64: 12 My 16 '33

Destructive earthquake centers on Long Beach, California. il map Eng N 110:353-5 Mr 16 '33

Earthquake again proves efficiency of concrete construction. Concrete 41:9 Ap '33

Earthquake and fire protection; a consolidated report of six California companies. G. F. Prussing. il Am Pet Inst Proc 14M(1):25-32 My '33

Earthquake damage analyzed by Long Beach officials. C. D. Wailes, Jr. and A. C. Horner. il Eng N 110:684-6 My 25 '33

Earthquake design for bank buildings; four new branches of the Mitsui bank in Japan. P. F. Pape. il diags plans Eng N 110:457-60 Ap 13 '33

Earthquake hazard and earthquake protection. Civil Eng 3:481 Ag '33

Earthquake possibility in New York. Weekly Underw 128:641+ Ap 1 '33

**EARTHQUAKES and building—Continued**

- Effect of earthquakes on engineering structures; abstract. F. W. Furkert. *Engineering* 135:478 Ap 28 '33
- Engineering lessons of the Long Beach quake. R. R. Martel. *Science* 78:149 Ag 18 '33
- Faulty construction accused for California earthquake damage. *Brick & Clay Rec* 82:125-6 Ap '33
- Fire experts knew of bad school structures in California. *Weekly Underw* 128:633 Ap 1 '33
- Greater use of concrete would have saved lives and property in earthquake area. E. Shaw. *il Rock Prod* 36:36 Mr '33
- High seismic factors in recent earthquake. L. H. Nishkian. *Eng N* 110:476 Ap 13 '33
- Influence of earthquakes on structural design; abstract. H. C. E. Cherry. *Engineering* 135:478 Ap 28 '33
- Long Beach earthquake a triumph for concrete construction. E. P. Dale. *il Concrete* 41:10 Je '33
- Long Beach earthquake emphasizes known facts. W. L. Huber. *il Eng N* 100:474-5 Ap 13 '33
- Masonry cements must be pre-mixed; California earthquake discloses need for control. R. E. Davis. *Concrete* 41:5-6 N '33
- National board issues report on recent California earthquake. *East Underw* 34:21 Je 16 '33
- Needless damage was caused by the earthquake at Long Beach. *il Arch Forum* 58:337-4 Ap '33
- New California building law makes lateral force design mandatory. *Eng N* 110:722 Je 1 '33
- New unit for earthquake-proof reinforced brick masonry. *il Brick & Clay Rec* 82:127-8 Ap '33
- Prevention of earthquake damage. *Science* 78:85 Jl 28 '33
- Reinforced concrete in the Long Beach earthquake. N. B. Green. *il Eng N* 110:560-2 My 4 '33
- Reinforced concrete wins approval as shock-proof construction. B. Willis. *Concrete* 41:5 My '33; Same. *Can Eng* 65:9 S 5 '33
- La résistance des constructions aux mouvements vibratoires. A. Klein. *Génie Civil* 102:349-52, 371-5 Ap 15-22 '33
- Seismic braced building is safe. *Steel* 92:31 Mr 20 '33
- Structural damage by earthquake in Long Beach, Calif. *Can Eng* 65:18 O 10 '33
- Talk that saved fire companies writing earthquake insurance many bags of gold. B. Willis. *il Weekly Underw* 128:533+ Mr 18 '33
- Technical group reports on Los Angeles earthquake hazard. *Eng N* 110:853 Je 29 '33
- Unnecessary destruction. *Eng N* 110:357 Mr 16 '33
- EARTHS, Rare**
- Crystalline fields of Pr, Nd and Yb from paramagnetic susceptibilities. W. G. Penney. *Phys R* 43:485-90 Mr 15 '33
- Langmuir award of the American chemical society to Frank Harold Spedding. *Science* 78:233 S 15 '33
- Observations on the rare earths. G. R. Sherwood, B. S. Hopkins and G. Hughes. *Am Chem Soc J* 55:3117-23 Ag '33
- Observations on the rare earths; the magnetic susceptibilities of europium and ytterbium salts. G. Hughes and D. W. Pearce. *Am Chem Soc J* 55:3277-9 Ag '33
- Observations on the rare earths; the transference numbers of the chlorides of neodymium, samarium and gadolinium. G. Hughes and others. *Am Chem Soc J* 55:3236-42 Ag '33
- Occurrence and industrial possibilities of monazite in the black sands on the Orissa coast. S. B. Roy. *Soc Chem Ind J (Chem & Ind)* 52:745 S 15 '33
- Les terres rares. *Génie Civil* 102:404-5 Ap 29 '33

Thorium and the rare earths; difficulties of separation and identification. J. N. Friend. *Chem Age (Lond)* 28:101-2 F 4 '33

*See also*  
Cyrtoelite  
Illinium  
Lanthanum  
Neodymium

Praseodymium  
Samarium  
Ytterbium  
Yttrium

**Analysis**

Microabsorption spectra. C. R. Naeser and B. S. Hopkins. *diag Ind & Eng Chem Anal* 5:358 S 15 '33

**EARTHWORK**

- Building large earth dams with C.C.C. labor; Winooski River flood-control project in Vermont. *il diags Eng N* 111:551-6 N 9 '33
- Construction management stressed over technique; World's fair, Chicago. J. Stewart. *il Eng N* 110:292-3 Mr 2 '33
- Construction of the Hoover dam. W. R. Nelson. *il diag plans Comp Air M* 38:4069-74 Mr '33
- Design and construction of rolled-earth dams. R. R. Proctor. *il Eng N* 111:245-8, 286-9, 348-51, 372-6 Ag 31-S 7, 21-28 '33
- Le matériel moderne des travaux publics (terrassements). C. Moreau. *diags Soc Ing Civils Bul* 86:237-423, pls 214-16 Mr '33
- Studies in compaction of earth fills. *Pub Works* 64:41 Ag '33

*See also*

Dams	Filling
Dikes (engineering)	Foundation soils
Drainage	Foundations
Dredging	Hydraulic filling
Drilling and boring (earth and rocks)	Levees
Earth pressure	Railroads—Earthwork
Embankments	Roads—Grading
Excavation	Soil mechanics
	Tunnels and tunneling

**EAST PROVIDENCE, Rhode Island****Water supply**

Experience with ammonia-chlorine treatment of the East Providence water supply. J. V. Turner and C. L. Pool. *N E Water Works Assn J* 47:13-21 Mr '33

**EASTER**

Adjusting for the changing date of Easter in economic series. J. Homan. *Am Statist Assn J* 28:328-32 S '33

**EASTERN ice association**

Middle Atlantic states and Eastern ice associations unite as Eastern states ice assn. *Refrig W* 68:26-9 Ap '33

**EASTMAN, Joseph Bartlett**

Appointed federal co-ordinator. *por Ry Age* 94:899-900 Je 24 '33

**EASTMAN Kodak company**

Eastman has satisfactory year. *Econostat* 1:14-15 Ap 22 '33

Trade name familiar to the world. *Mag of Wall St* 53:27+ O 28 '33

**EASTON, Pennsylvania****Water supply**

Better drinking water for Easton. A. S. Park. *il Comp Air M* 38:4123-3 My '33

New filtration plant of Easton. R. W. Haywood, jr. *il Water Works & Sewerage* 80:349-53 O '33

**EATON, Cyrus**

Cleveland reunion; Cyrus Eaton and the Van Sweringens break into the news together again. *Business Week* p20-1 Je 17 '33

**EAU CLAIRE, Wisconsin****Rapid transit**

Another recruit in the all-bus army. *il map Bus Transportation* 12:193-4 My '33

**EAVES**

Portfolio of eaves returns on masonry gables. *il Architecture* 67:355-70 Je '33

Various residential eave details; working drawings. J. G. Stewart. *Architecture* 67:215 Ap '33



**EBONITE**

- Ebonite; the nature and properties of an important electrical material. F. A. Middleton. *il Elec R (Lond)* 112:77-8 Ja 20 '33
- Plastics; their use in dentistry. C. S. Gibson. *Soc Chem Ind J (Chem & Ind)* 51:669-71 Ag 18 '33
- Technique of ebonite manufacture. F. A. Middleton. *Elec R (Lond)* 113:311 S 8 '33
- Use of ebonite in chemical works. *Chem Age (Lond)* 28:266 Mr 25 '33

**EBULLITION.** See Boiling**ECCENTRICS (machinery)**

- Das gleichgewicht des spannexzenters. G. Grüss. *diags Zeit Ver Deutsch Ing* 77:741-7 Jl 8 '33

**ECLIPSES, Solar**

- Continuous Kennelly-Heaviside layer records of a solar eclipse. H. R. Mimno and P. H. Wang. *il diags Inst Radio Eng Proc* 21:529-45 Ap '33
- Eclipse and radio. S. Kaufman. *il Radio N* 14:457-9+ F '33
- Eclipse, bad weather, and a new way out. H. N. Russell. *il map Sci Am* 147:338-9 D '32
- Eclipse cinematography. P. Bourgeois and J. F. Cox. *R Sci Instr* 4:340-1 Je '33
- Eclipse cinematography. S. A. Korff. *R Sci Instr* 4:86-7 F '33
- Franklin Institute eclipse expedition. J. Stokley. *il J Fr Inst* 214:735-46 D '32
- Observations in transmission during the solar eclipse of August 31, 1932. J. R. Martin and S. W. McCuskey. *il diags map Inst Radio Eng Proc* 21:567-73 Ap '33
- Observations of the effective height of the Kennelly-Heaviside layer and field intensity during the solar eclipse of August 31, 1932. G. W. Kenrick and G. W. Pickard. *il Inst Radio Eng Proc* 21:546-66 Ap '33
- Photometry of solar eclipse phenomena. C. H. Sharp and others. *il diags Opt Soc Am J* 23:234-45 Jl '33
- Reversal of the pinhole image. E. C. Bryant. *Science* 77:428 My 5 '33
- Solar eclipse problems. J. H. Moore. *Science* 77:375-82 Ap 21 '33

**ÉCOLE centrale des arts et manufactures**

- Les nouveaux ateliers et laboratoires de l'école centrale des arts et manufactures. L. Guillet. *il Génie Civil* 103:269-73 S 16 '33

**ÉCOLE de physique et de chimie industrielles**

- Le cinquantenaire de l'École de physique et de chimie industrielles de la Ville de Paris. plans *Génie Civil* 102:413-16 My 6 '33
- L'exposition du cinquantenaire de l'École de physique et de chimie industrielles de la ville de Paris. *il Génie Civil* 102:522-4 Je 3 '33

**ÉCOLE supérieure des mines de Paris**

- Remise de la croix de la Légion d'honneur à l'École supérieure des mines de Paris, pour le 150<sup>e</sup> anniversaire de sa fondation. *Génie Civil* 103:44-5 Jl 8 '33

**ECOLOGY**

See also

- Botany—Ecology

**ECONOMETRIC society**

- Joint sessions with other societies, Chicago, June 28-30. *Science* 78:80-2 Jl 28 '33

**ECONOMIC conditions**

- Business abroad. Published in weekly numbers of Business week
- Coming struggle for power. J. Strachey. 399p \$3 Covici Friede, New York '33
- Democracy, debts and disarmament. W. Newbold. 343p \$3 Dutton '33
- Economic conditions and the engineer. C. Field. *Elec Eng* 52:149-51 Mr '33
- Economic conditions in foreign countries, 1932-1933. 61p \$2 National industrial conference board, New York '33
- Economic developments; a graphic record. 16 numb I National industrial conference board, inc, New York '33 [lithographed]
- Economic world today. F. Morley, ed. 396p pa \$1 Univ. of Chicago press '33
- Economics of a changing world. H. V. Hodson. 260p \$2.50 Harrison Smith & Robert Haas, New York '33

- Effect of depreciated currencies, as shown by official statistics. R. S. Tucker. *Annalist* 41:595-6 Ap 28 '33

**Facts and factors in economic history. 757p**

- Harvard univ. press '32
- Faith! M. C. Taylor. *Steel* 93:10 O 30 '33
- Financial situation abroad. Published in monthly numbers of Bankers magazine
- General conditions abroad. Published in monthly numbers of Guaranty survey
- Great illusion 1933. N. Angell. 308p \$2.50 Putnam '33

**Heritage and promise of 1933. J. S. Lawrence.**

- Bradstreet's 61:119-20 Ja 28 '33
- History repeats itself; reprinted from Macaulay's Essay on Southey's colloquies on society published in Edinburg review, January, 1830. *Prof Eng* 18:6 Ja '33

- How is rest of world faring? R. K. Martin and G. R. Parkin. *Barron's* 13:9 Jl 17 '33

- Management looks ahead. R. Dickinson. *Ptr Ink* 163:3-5+ Ap 20 '33

- Morning after. *Economist* 117:265-6 Ag 5 '33

- 1929-1932: a study in contrasts; monetary factor makes for economic recovery. D. L. Saunders. *Barron's* 12:3+ D 19 '32

- Our present discontents. C. Brooks. 333p \$2.75 Holt '33

- Political aspects of the world depression. J. A. Salter. 21p 60c Oxford '32

- Proceedings of the Institute of public affairs, seventh annual session, Athens, Georgia, May 8-16, 1933. 174p pa \$1.50 Institute of public affairs, University of Georgia, Athens '33

- La reconstruction est-elle commencée? M. Lambert. *Chimie & Ind* 29:713-17 Mr '33

- Recovery efforts well-timed. L. P. Ayres. *Barron's* 13:7 Ag 21 '33

- Réflexions sur la crise économique. A. Daudet. *Chimie & Ind* 29:209-14 Ja '33

- Through the economic kaleidoscope. Published in weekly numbers of Commerce and finance

- Trade revival in other countries, as measured by official index numbers. W. W. Case. *Annalist* 42:117 Jl 28 '33

- Way of escape. P. H. Gibbs. 300p \$3 Harper '33

- World adrift. R. L. Buell. 38p pa 25c Foreign policy assn, New York; World peace foundation, Boston '33

- World advance begins. T. M. Knappen. *Mag of Wall St* 52:420-1 Ag 19 '33

- World economic crisis, 1929-1932. P. Einzig. 178p \$2.25 Macmillan '33

- World economic flashes. E. Greenwood. *il Mag of Wall St* 53:16-17+ O 28; 64-5 N 11 '33

- World economic survey. *Economist* 117:705-6 O 14 '33

- World economic survey, 1932-33. 345p \$2; pa \$1.50 World peace foundation '33

- World in 1932—and 1933. *Business Week* p22-3 D 28 '32

See also

- Business conditions

- Business depression

- Prosperity

- also subdivision Economic conditions under names of countries and regions, e.g. France—Economic conditions; Germany—Economic conditions; Poland—Economic conditions, United States—Economic conditions

**Bibliography**

- What to read on current economic affairs. Cleveland Pub Lib Business Information Bur Bul v3, no5:1-2 '32

**ECONOMIC conferences**

See also

- World economic conference, 1933

**ECONOMIC councils**

- Corporate state—the Duce's economic powers. *Economist* 116:1133-4 My 27 '33

- Framework of an ordered society. A. Salter. 60p 75c Macmillan '33

- Review of the economic councils in the different countries of the world. E. Lindner. 105p League of nations, Geneva '32

**ECONOMIC credit council**

Council to counsel; the N.A.C.M. P. Haase.  
Credit & Fin Management 35:14-15, 35 F '33

**ECONOMIC history**

See also

Europe—Economic history      United States—Economic history

**ECONOMIC lot sizes.** See Quantities (in production)**ECONOMIC planning**

Bag of tricks won't do! what to do and how to do it has now become when to do and where to do it. W. N. Polakov. Factory & Ind Management 84:51-3+ F '33

Balancing of economic forces; an analysis of twenty-three plans for business stabilization. Mech Eng 55:295-304 My '33

Balancing technocracy. L. W. W. Morrow. Elec W 101:60-2 Ja 14 '33

Can business govern itself? E. L. Heermance. 265p \$3 Harper '33

Century of progress—what next? K. T. Compton. W Soc E J 38:197-202 Ag '33; Same cond. Il Mech Eng 55:478-80 Ag '33

Enough for everybody. A. M. Newman. 188p \$1.25 Bobbs '33

Human aspects of business in the new consumption era. H. W. Hess. Ann Am Acad 165:116-24 Ja '33

If economic theory could be tested in the laboratory! R. G. G. Bousfield. Factory & Ind Management 83:456 D '32

Long-range planning and the future of business. D. Friday. Il Civil Eng 3:134-6 Mr '33

Management of the future. H. Quigley. Electrician 110:250-1 F 24 '33

National industrial planning is not feasible. V. Jordan. Iron Age 132:26B-26D+ JI 20 '33

New social order. W. Lippmann. 28p pa 25c Day '33

Organik als wissenschaft. C. Klotzsch. Zeit Ver Deutsch Ing 76:295-8 Mr 18 '33

Planned economy. Guaranty Survey 12:7-10 F '33

Planned economy and a planned price level. B. M. Anderson, jr. Chase Econ Bul 13:3-23 Je 9 '33

Planners' comedy of errors; a half-year's record of achievements not wanted. S. Axley. Barron's 13:3+ O 16 '33

Planning for changed needs. R. D. Kohn. Arch Rec 73:294+ Ap '33

Planning for planning; principles for the organization of state and regional planning on a national scale. J. L. Crane, jr. Civil Eng 3:525-6 S '33

Plans for a plan. W. C. Mitchell. Credit & Fin Management 35:35+ F '33

Power as a factor in economic readjustments. W. N. Polakov. Ann Am Acad 165:31-7 Ja '33

Problems of public enterprise. W. Rautenstrauch. Il Mech Eng 55:147-50 Mr '33

Rationalization movement in German industry. R. A. Brady. 466p \$5 Univ. of California press, Berkeley '33

Readings in economic planning. J. G. Frederick. 359p Business bourse, 80 W 40th St, New York '32

Scientific management and economic planning. H. Haan. Ann Am Acad 166:66-74 Mr '33

Scientific management and economic planning; a philosophy and technique of progressive industrial stabilization. H. S. Person. Taylor Soc Bul 17:204-28 D '32

Trade association's part in coordinate planning. E. L. Heermance. Mech Eng 55:101-4 F '33

See also

Stabilization in industry

**ECONOMIC planning, International**

Blueprint economics. A. Salter. Credit & Fin Management 35:12-13+ Ja '33

International planning of public works. T. G. States. 24p Geneva research center, Geneva '32

World economic reconstruction; a criticism of the economic resolution adopted by the International labour conference. G. Cassel. Int Labour R 26:644-8 N '32

**ECONOMIC policy**

Agenda for restoration of confidence and stability. E. W. Kemmerer. Trust Companies 56:417-22 Ap '33

Appraisal of American industry; international peace, coordination and control of industry, and debt cancellation. T. F. Woodlock. Management R 22:99-103 Ap '33

Balanced employment. L. S. Chadwick. 234p \$2 Macmillan '33

Balancing of economic forces; an analysis of twenty-three plans for business stabilization. Mech Eng 55:295-304 My '33; Discussion. L. P. Alford. 55:345-6 Je '33

Bankers and engineers can restore our former prosperity; promotion of new industries. M. Bjorndal. Bankers M 125:575-8 D '32

Blueprint economics. A. Salter. Credit & Fin Management 35:12-13+ Ja '33

Comfort and good hope; reprint from an essay by Thomas B. Macaulay. Rand McNally Bankers Mo 50:581 N '33

Conservative's viewpoint and problems. M. C. Rorty. Econostat 1:17 Ap 29 '33

Construction's proposals for a way out. Eng N 110:112 Ja 26 '33

Counter-attack; a battle plan to defeat the depression. M. E. Tydings. 141p \$1.25 Bobbs '33

Credit & peace; a way out of the crisis. F. Mlynarski. 92p \$1.25 Macmillan '33

Current economic problems. D. Lawrence. Oil Paint & Drug Rep Extra ed 122:25-6 N 29 '32

Degenerate democracy. H. S. McKee. 143p \$1.50 Crowell '33

Democracy, debts and disarmament. W. Newbold. 343p \$3 Dutton '33

Do we need a department of the consumer? R. S. Lynd and A. C. Hanson. Adv & Sell 20:15+ Ja 5 '33

Economic cycles and crises. W. C. Schluter. 378p \$2.50 Sears pub. co, New York '33

Economic disarmament; League of nations' preparatory commission. Business Week p2-3 F 1 '33

Economic foundations of fascism. P. Einzig. 156p \$3 Macmillan '33

Economic functions of the state. R. H. Soltau. 176p Pitman '32

Economic lessons of 1929-1931; the first eleven bulletins of the Unclaimed wealth utilization committee. Geneva. 94p P. S. King & son, Ltd, London '32

Economic nationalism. A. R. Orage. Fortune 8:56-7+ N '33

Economic revolution in 6 months. J. S. Lawrence. Econostat 1:9-10 JI 8 '33

Economic world today. F. Morley, ed. pa \$1 Univ. of Chicago press '33

Economists prescribe debt adjustment, tariff revisions, loyalty to gold. Business Week p 14+ Ja 11 '33

End of economic nationalism. S. Bell. Comm & Fin 22:329 Ap 12 '33

End the crisis! F. Somary. 111p \$1 Dutton '33

Era of public enterprise. W. Rautenstrauch. Elec Eng 52:234-6 Ap '33

From chaos to control. N. Angell. 208p \$2 Century co. '33

Future of capitalism in a mechanised world. A. Salter. Fortune 7:60-3 Ap '33

La gestion des entreprises de la crise à la reprise. P. Maquenne. Chimie & Ind 29:215-23 Ja '33

How labor would restore buying power of 11,000,000. C. M. Wright. Ptr Ink 162:17-20 Mr 2 '33

How to restore values. A. W. Benkert. 32p pa 25c Day '33

If economists were kings—. Economist 116:955-6 My 6 '33

Industrial discipline and the governmental arts. R. G. Tugwell. 241p \$2.50 Columbia univ. press '33; Review. Pub Util 12:34-6 JI 6 '33

Interdependent world and its problems. R. Muir. 204p \$1.75 Houghton '33

International economics. R. F. Harrod. 211p \$1.25 Harcourt '33

Lasting prosperity. A. G. McGregor. 151p \$2.25 Pitman '33



ECONOMIC policy—*Continued*

- Liberalization of anti-trust laws asked to meet tire price evils; statement before the Senate committee on finance. P. L. Litchfield. *Rubber Age* 32:378-9 Mr '33
- Means and ends. A. J. Penty. 116p Faber & Faber, Ltd, London '32
- Means to prosperity. J. M. Keynes. 37p pa 30c Harcourt '33
- Mechanics of recovery. H. C. Dickinson. S A E J 32:45-53+ F '33; Excerpt. *Automotive Ind* 68:129-30 F 4 '33
- Mr Roosevelt's economic platform. *Nation's Business* 20:17+ D '32
- Nationalism defeating internationalism; World economic conference. J. C. Cresswill. *Mag of Wall St* 52:261-2+ J1 8 '33
- New era's new year; Is depression subsiding and prosperity returning? E. A. Filene. *Bradstreet's* 61:200-1+ Ja 28 '33
- New prosperity. B. London. 67p B. London, 21 E. 40th st, New York '33
- Next four years; economic views which will guide the President-elect. *Bradstreet's* 61:117-18 Ja 28 '33
- Parade of the experts before the Senate finance committee. *Business Week* p3 Mr 1 '33
- Permanently curing depressions. M. H. Raymond. 128p \$2 Baker and Taylor co, New York '33
- Perpetual prosperity; the Hull plan. G. H. Hull, jr. 355p New Era pub. co, 5 E. 54th st, New York '33
- Plans for speeding economic recovery in America; a symposium. *Sales Management* 32:279-308 sec 2 Mr 15 '33
- Private enterprise. V. Jordan. *Elec Eng* 52:236-7 Ap '33
- Problem of purchasing power. R. E. Flanders. *Il Mech Eng* 55:595-602 O '33
- Problems of peace, seventh series. G. P. Gooch and others. 295p \$2.50 Oxford '33
- Production and purchasing power; a study in support of a view expressed in the first A.E.C. report on economic balance. C. A. Norman. *Il Mech Eng* 55:549-55 S '33
- Prohibiting poverty. P. M. Martin. 134p Pres-tonia Mann Martin, 116 W. 16th st, New York '33
- The remedy. H. C. Dickinson. S A E J 32:15-16 Ap '33
- Road to business recovery. G. V. Cox. W Soc E J 38:260-5; Discussion. 265-6 O '33
- Road to recovery. *Management R* 22:108 Ap '33
- Roosevelt talked business with me. M. Edwards. *Il Nation's Business* 20:14-16+ D '32
- Steps toward recovery. P. T. Moon, ed. *Acad of Political Sci Proc* 15:1-135 Ja '33
- Tasks of the economic conference. M. D. Gould. *Barron's* 13:3+ My 1 '33
- This changing world. S. S. Fels. 295p \$2.50 Houghton '33
- Triopoly—or class war? R. Segal. 217p \$2 Duffield and Green, New York '33
- Urges federal control of all financing. F. P. Garvan. *Oil Paint & Drug Rep* 123:20 F 27 '33
- View of Europe, 1932. P. van Zeeland. 153p \$1.75 Johns Hopkins press, Baltimore '33
- War debts and world prosperity. H. G. Moulton and L. Pasvolksky. 498p \$3 Pub. for Brookings institution by Century co. '32; Review. *Annalist* 40:739 D 2 '32
- Way out and the way beyond; or, Out of depression in sixty days. F. J. Kunnecke. 99p F. J. Kunnecke, Univ. of Dayton, Dayton, Ohio '33
- What is a democratic approach to economic problems? O. Tead. *Ann Am Acad* 165:101-8 Ja '33
- Whither are we going? international viewpoint of dominating economic and currency problems. S. Metz. *Trust Companies* 56:541-3; 57:41-3 My, J1 '33
- Why canal boat prosperity today? C. B. Kuhlmann. *Il Credit & Fin Management* 35:10-12+ N '33
- World depression, world recovery. H. D. Gideonse. 22p pa 25c American library assn, Chicago '33
- World prosperity as sought through the economic work of the League of nations. W. McClure. 613p \$4 Macmillan '33
- Younger generation looks ahead; American civilization will have to be rebuilt on new economic policies. *Mag of Wall St* 51:634+ Ap 1 '33

## See also

- |  |                                 |
|--|---------------------------------|
| Capitalism   | Industry and state              |
| Commercial policy  | Money                           |
| Dumping (commercial policy)  | Municipal ownership             |
| Economic councils  | Public works—Economic aspects   |
| Economic planning  | Subsidies                       |
| Free trade and protection  | Tariff                          |
| Government ownership   | World economic conference, 1933 |
| Government regulation of industry  |                                 |
| also subdivision   | Commercial policy and           |
| Economic policy under names of countries, e.g. United States—Economic policy |                                 |

## Washington conferences

- Europe comes to Washington to attack major problems for the World economic conference. *Business Week* p3-4 My 3 '33
- Little economic conference. *Business Week* p5-6 Ap 19 '33
- World and Washington. *Economist* 116:894-5 Ap 29 '33

## ECONOMIC statistics

- Statistics in the service of economics. I. Fisher. *Am Statis Assn J* 28:1-13 Mr '33
- Volkswirtschaftlicher elementarvergleich. W. Guth. *Zeit Ver Deutsch Ing* 77:1100-1 O 7 '33

## See also

- |                           |                       |
|---------------------------|-----------------------|
| Cost of living—Statistics | Industrial statistics |
| Employment—Statistics     | Production—Statistics |

## ECONOMICS

- A B C of economics. E. Pound. 127p Faber and Faber, London '33
- Aspects of the rise of economic individualism. H. M. Robertson. 223p \$3.50 Macmillan '33
- Business man looks at economics; a layman's test of sound principles. W. Van Riper. *Annalist* 42:372-3 S 22 '33; Discussion. F. A. Bradford. 42:467 O 13 '33
- Common sense of political economy, and selected papers and reviews on economic theory. P. H. Wicksteed. 2v [bibliog v2 p863-4] Routledge '33
- Criticism of the economic system. *Nat City Bank* p188-91 D '32
- Debt and production. B. Jones. 147p Day '33
- Demand for labor. *Nat City Bank* p76-9, 93-5 My-Je '33
- Development of economics. W. A. Scott. 540p Century co. '33
- Digest of economics. T. J. Lovely. 366p Globe book co, New York '33
- Economic citizenship. R. O. Hughes. 349p Allyn and Bacon, Boston '33
- Economic citizenship. W. W. Soper. 317p Macmillan '33
- Economic scares. E. Cannan. 135p P. S. King & son, Ltd, London '33
- Economics and politics. M. J. Bonn. 36p \$1 Houghton '32
- Economics of a changing world. H. V. Hodson. 260p \$2.50 H. Smith & R. Haas, New York '33
- Economics of production and exchange. J. Stephenson and N. Branton. 474p Pitman '32
- Economics of welfare. A. C. Pigou. 4th ed 837p \$6.50 Macmillan '32
- Elementary economics. F. R. Fairchild, E. S. Furniss and N. S. Buck. rev ed 2v 609p; 663p Macmillan '32
- Elements of economics. C. R. Fay. rev ed 629p Macmillan '32

**ECONOMICS—Continued**

- Engineering economist of the future. D. S. Kimball. *Elec Eng* 52:526-8 Ag '33; Same. *Mech Eng* 55:471-4 Ag '33; Abstract. *Iron Age* 132:31+ Ag 10 '33; Discussion. C. F. Hirshfield. *Elec Eng* 52:582-3 Ag '33; Excerpt. *Mech Eng* 55:489-90 Ag '33
- Engineers must now turn from economy to economics; discussions at the joint meetings of the A.I.E.E., A.S.M.E., A.S.T.M. and the Econometric society. *Elec W* 102: 48-9 Jl 8 '33
- Framework of an ordered society. A. Salter. 60p 75c Macmillan '33
- Fundamentals of economics. R. O. Hughes. 507p [bibliog p495-8] Allyn and Bacon, Boston '32
- Great technology; social chaos and the public mind. H. Rugg. 308p \$2.50 Day '33
- Industrial economics. J. W. Roe. *J Eng Educ* 23:699-707 My '33
- Industry and society. A. J. Todd. 626p \$3.75; Students' ed \$3 Holt '33
- Masses vs. classes; the people's right to economic security. B. A. Mason. 141p [bibliog p139-41] California university press, Los Angeles '32
- Mind and money. J. T. MacCurdy. 319p Faber & Faber Ltd, London '32
- Money versus man. F. Soddy. 121p \$1.25 Dutton '33
- Monopoly versus freedom. J. Mill. 55p Roland Swain co, Philadelphia '33
- Must science ruin economic progress? J. Stamp. *Engineer* 156:294 S 22 '33
- New introduction to economics. H. L. Lutz, E. W. Foote and B. F. Stanton. 512p Row, Peterson and co, Philadelphia '33
- Our economic life in the light of Christian ideals. 161p Federal council of the churches of Christ in America, New York '32
- Plenocracy; the science of creating abundance for all. S. R. Maxwell. 335p \$1; Popular ed 50c Citizens' universal service, 6 N. Michigan av, Chicago '33
- Popular financial delusions. R. L. Smitley. 338p \$3 Roland Swain co, Philadelphia '33
- Prices. G. F. Warren and F. A. Pearson. 386p \$3.90 Wiley '33
- Principles of social economy. V. Fallon. 576p \$3.20 Benziger brothers, New York '33
- Progress of NRA. S. Bell. *Comm & Fin* 22: 849-50 S 27 '33
- Prolegomena to relativity economics. R. W. Souter. 171p \$2.50 Columbia univ. press '33
- Social credit. C. H. Douglas. 3d ed rev & enl 212p \$2 W. W. Norton & co, inc, New York '33
- Statistics in the service of economics. I. Fisher. *Am Statis Assn J* 28:1-13 Mr '33
- Technology and social progress. W. Rautenstrauch. *Paper Tr J* 96:36-43; Discussion. 43-6 Ap 13 '33
- Thorstein Veblen; a chapter in American economic thought. R. V. Teggart. *Univ of Calif Pub in Economics* v2, no1:1-126 [bibliog p118-24] '32

**See also**

Advertising—Economic aspects  
Agriculture—Economic aspects  
Balance of payments  
Banks and banking  
Business  
Capital  
Capitalism  
Commerce  
Communication and traffic  
Competition  
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Cooperation  
Cost of living  
Credit  
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Industrial relations  
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Rent  
Saving  
Single tax  
Socialism  
Speculation  
Statistics  
Strikes and lockouts  
Tariff  
Taxation  
Trade unions  
Transportation  
Trusts, Industrial  
Wages

**Bibliography**

- Book reviews. Published in quarterly numbers of the *Journal of business* of the University of Chicago
- Monthly book supplement. *Economist* 117: suppl-8 S 9 '33 [cont monthly]

**Study and teaching**

- Academic view of the deal; college teachers of economics are waiting for the experiment to prove itself. *il Am Bankers Assn J* 26:28-9+ N '33
- Economics in engineering education. W. D. Ennis. *J Eng Educ* 23:543-9 Mr '33
- Visual outline of economics. R. S. Ford. 112p pa 75c Longmans '33

**ECONOMICS, Mathematical**

- Contributions of the mathematician to economics. C. F. Roos. *Mech Eng* 55:486-7; Discussion. H. Schultz. 487-8 Ag '33
- Elements of economics mathematically interpreted. J. K. Mehta. 280p Routledge '32

**ECONOMISTS**

- Economists on trial. *Economist* 116:1291-2 Je 17 '33

**ECONOMIZERS, Fuel. See Fuel economizers****ECUADOR**

- South American countries. S. Bell. *Comm & Fin* 22:126 F 1 '33

**Economic conditions**

- Economic conditions in Ecuador; abstract of report. R. M. Kohan. *Chem Age (Lond)* 28:460 My 20 '33; *Engineering* 135:466-7 Ap 28 '33

**EDELEANU, L.**

- Presentation of Redwood medal. *por Inst Pet Tech J* 18:898-900 N '32

**EDELEANU process. See Petroleum refining—Edeleanu process****EDER'S reaction**

- Catalysis of Eder's reaction by cobalt compounds. G. H. Cartledge and T. G. Djang. *Am Chem Soc J* 55:3214-21 Ag '33

**EDER'S solution**

- Complex compounds in Eder's solution. G. H. Cartledge and S. L. Goldheim. *Am Chem Soc J* 55:3583-94 S '33

**EDGERTON, James C. 1896-**

- New faces and new policies in Washington. *por Aviation* 32:232, 233 Ag '33

**EDISON, Thomas Alva, 1847-1931**

- Thomas Alva Edison, the youth and his times. W. E. Wise. 252p [bibliog p245-52] Rand, McNally & co, Chicago '33

**Memorials**

- New Edison foundation to establish memorials. *Elec W* 101:212 F 18 '33

**EDISON electric illuminating company of Boston**

- Annual report, 1932. *Barron's* 13:15 F 27 '33

**EDISON electric institute (successor to National electric light association)**

- Annual meeting, 1st, Chicago, June 5. *Elec W* 101:748-54 Je 10 '33; *Pub Util* 12:44-5 Jl 6 '33; *Edison Elec Inst Bul* 1:53-4 Je '33
- Convention is called to dissolve N.E.L.A.; constitution of Edison electric institute. *N E L A Bul* 20:59-62 F '33
- Edison electric institute formed; with constitution. *Elec W* 101:49-50 Ja 14 '33
- Engineers prepare for E.E.I. régime. *Elec W* 101:468 Ap 15 '33
- Institute begins its work; organization, committees, plans, constitution. *Edison Elec Inst Bul* 1:1-4 Ap '33



**EDISON electric institute—Continued**

New deal in kilowatts. Pub Util 11:234-7 F 16 '33

Organization. Pub Serv Management 54:57 F '33; Gas Age 71:73 Ja 21 '33; Power Pl Eng 37:104 F '33

Power industry makes a clean sweep. Forbes 31:11-12 F 1 '33

President's address. G. B. Cortelyou. Edison Elec Inst Bul 1:55-8+ Je '33

Utility ethics. Business Week p12 Ja 25 '33

**EDISON medal**

Award of the Edison medal to Bancroft Gherardi. Science 76:562 D 16 '32

Edison medal for 1932 presented to Bancroft Gherardi; addresses by G. Dunn and H. P. Charlesworth. Elec Eng 52:126-9 F '33

**EDITORS**

Business by-paths; trade publication editor. Econostat 1:19 Ap 15 '33

What the consumer wants he should have. O. L. Wiese. Ptr Ink Mo 27:52+ J1 '33

**EDMONTON journal****Library**

Newspaper libraries; the Edmonton journal. Z. P. Trotter. Special Lib 23:427-8 D '32

**EDUCATION**

Architectural education; a letter from a friend. H. F. Cunningham. Architecture 68:147-9+ S '33

From chaos to control. N. Angell. 208p \$2 Century co. '33

New responsibilities of educators. D. C. Roper. Comm & Fin 22:727-9 Ag 23 '33

Technical curricula and liberal education. R. P. Baker. Il Mech Eng 55:23-6 Ja '33

Unity as an educational ideal. E. M. Hopkins. Harvard Business R 11:409-17 J1 '33

**See also**

Architectural education Learning, Psychology of

Business education Libraries

Chemical education Medical colleges

Colleges and universities Mining schools and

Education of workers education

Employees, Training of Radio in education

Engineering education Teachers

Industrial education Technical education

also subdivision Study and teaching under

special subjects, e.g. Engineering—Study

and teaching

**Bibliography**

Education index, July 1932-June 1933; a cumulative author and subject index to a selected list of educational periodicals, books and pamphlets. 646p Wilson, H. W. '33

**Periodicals****Bibliography**

Classified list of educational periodicals. 15p Educational press assn. of America, Washington, D.C. '32

**Great Britain**

Education and the means test. Economist 115: 918-19 N 19 '32

**Palestine**

Education in Palestine. K. Totah. Ann Am Acad 164:155-66 N '32

Jewish education in Palestine. I. B. Berkson. Ann Am Acad 164:139-54 N '32

**United States**

Problems of education in the United States. C. H. Judd. 214p \$2.50 McGraw-Hill '33

**EDUCATION, Higher**

Financial outlook for higher education in the next decade. C. R. Mann. J Eng Educ 24: 125-8 O '33

**EDUCATION of adults**

Adult education and the public library. C. W. Mason. Lib J 58:830-2 O 15 '33

Adult education and the social scene. R. Kotinsky. 208p [bibliog p193-9] Appleton-Century '33

Adult education in relation to libraries. H. A. Miers. Lib J 58:333-41 Ap 15 '33

Occupations of students of Cleveland college for adults. Monthly Labor R 36:806-7 Ap '33

Public adult education in California. Monthly Labor R 36:1290-1 Je '33

Rural adult education. B. Y. Landis and J. D. Willard. 229p [bibliog p203-23] \$1.75 Macmillan '33

Social planning and adult education. J. W. Herring. 138p \$1.25 Macmillan '33

**EDUCATION of women**

Geology; an easier study for boys or for girls? G. Richards. Science 76:434-5 N 11 '32; Discussion. K. Ver Steeg. 77:169 F 10 '33

**EDUCATION of workers**

Build men or get out. A. G. Ruthven. S A E J 33:sup13-15 Ag '33

Labor and the challenge of the new leisure. S. Miller, jr. Harvard Business R 11:462-7 J1 '33

Report on Workers' education bureau, 1931-32. Monthly Labor R 36:328-9 F '33

School for jobless. Business Week p23 F 8 '33

Self-help is basis of training plan; Pacific service employees association. A. Barrell. chart Elec West 70:152-3 My '33

**See also**

Employees, Training

**or**

Vocational education

**EDUCATIONAL advertising.** See Advertising, Educational

**EDUCATIONAL research****Bibliography**

Bibliography of research studies in education, 1930-1931. E. A. Wright and R. A. Gray, comps. U S Office of Educ Bul 1932 no 16: 1-459 '32

**EELS, Electric.** See Electric eels

**EFFICIENCY**

Deficient diet and mental efficiency. M. F. Fritz. Science 77:sup9 Ja 13 '33

Diurnal variation in efficiency; abstract. N. Kleitman. Science 76:570 D 16 '32

Human seeing-machine. M. Luckiesh and F. K. Moss. bibliog Il Illum Eng Soc Trans 27:699-72; Discussion. 722-4 N '32

**EFFICIENCY, Industrial**

Business and science. R. J. Mackay, ed. 311p British assn. for the advancement of science, London '32

Business rationalisation, its dangers and advantages considered from the psychological and social standpoints. C. S. Myers. 76p [bibliog p73] Pitman '32

Factory lighting; influence on production. A. E. Iliffe. Il Automobile Eng 22:577-8 D '32

Fatigue and work efficiency; abstract. D. B. Dill and O. S. Lovekin. Safety Eng 65:54 F '33

Gegenwartsfragen der technischen betriebswirtschaft. F. Rosdeck. Il plans Stahl & Eisen 52:1133-44 N 24 '32; Discussion. 52: 1239-42 D 15 '32

How not to run a plant. Am Mach 77:499-500 Ag 2 '33

Increasing return; a study of the relation between the size and efficiency of industries with special reference to the history of selected British & American industries, 1850-1910. G. T. Jones. 300p Cambridge university press, London '33

Industrial psychology in practice. H. J. Welch and G. H. Miles. xiii,249p [bibliog pix-x] \$2.50 Pitman '32

Measuring operating performance by the kilo man-hour. L. P. Alford and J. E. Hannum. Mech Eng 54:821-4+ D '32

Modernization of production and reduction of costs discussed at a conference held at Case school of applied science, Cleveland, May 11-12. Iron Age 131:791-2 My 18 '33

Organizations for the promotion of management research; the management activities of the American society of mechanical engineers. Int Management Inst Bul 7:66-9 [bibliog p77] My '33

**EFFICIENCY, Industrial—Continued**

- Organizations for the promotion of management research; the Reichskuratorium für wirtschaftlichkeit and its work. chart (supp) Int Management Inst Bul 7:1-4 Ja '33  
 True efficiency in industry. J. H. West. Chem Age (Lond) 29:101 J1 29 '33  
 What are your lighting costs? C. E. Weitz. il System 62:440-1+ O '33

*See also*

- |                        |                           |
|------------------------|---------------------------|
| Ability tests          | Machine shop management   |
| Business management    | Machinery, Replacement of |
| Employment management  | Machinery in industry     |
| Executives             | Motion study              |
| Factory management     | Office management         |
| Fatigue                | Planning                  |
| Foremen                | Routing systems           |
| Industrial engineering | Schedules                 |
| Industrial management  | Standardization           |
| Labor productivity     | Time study                |

**EFFLORESCENCE**

- Deterioration of domestic chimneys. J. E. Maconachie. il Can Chem & Met 16:270-4, 292-5 N-D '32

**EGG white**

- Beating properties of egg white. W. C. Henry and A. D. Barbour. bibliog il Ind & Eng Chem 25:1054-8 S '33

**EGGS**

- Butter and eggs; prices are rising. Business Week p10 D 7 '32  
 Malvaceous plants as a cause of pink white in stored eggs. F. W. Lorenz, H. J. Almquist and G. W. Hendry. Science 77:606 Je 23 '33  
 Method and the apparatus for the study of permeability of gases through the bird's eggshell. A. L. Romanoff. diag Science 77:393-4 Ap 21 '33  
 Scrambled egg code. Business Week p4 S 9 '33

- Vitamin D potency of egg yolk from irradiated hens. G. H. Maughan and E. Maughan. Science 77:198 F 17 '33

**Analysis**

- Simplified method for microdetermination of iodine in eggs. H. J. Almquist and J. W. Givens. Ind & Eng Chem Anal ed 5:254 J1 15 '33

**Preservation**

- Storing eggs in Belgium in inert gas under refrigeration; Lescarde-Everaert method. W. Pohlmann. il Food Ind 5:456-7 N '33

**Statistics**

- Some trend possibilities in poultry and eggs. Food Ind 5:54-5 F '33

**Storage**

- Profits and losses in egg storage. E. A. Duddy and D. A. Revzan. J of Business 6:226-39 J1 '33  
 Storing eggs in Belgium in inert gas under refrigeration; Lescarde-Everaert method. W. Pohlmann. il Food Ind 5:456-7 N '33

**EGGS, Dried**

- Put idle milk drying plants to work; egg drying. A. K. Epstein. il Food Ind 5:308-9 Ag '33

**EGGS, Frozen**

- Gelation of frozen egg magma. A. W. Thomas and M. I. Bailey. bibliog il diag Ind & Eng Chem 25:669-74 Je '33

**EGGS of frogs. See Frogs—Eggs****EGYPT***See also*

- Finance—Egypt  
 Irrigation—Egypt

**Antiquities**

- Chemistry in the service of Egyptology. L. C. Newell. il J Chem Educ 10:259-66 My '33

*See also*

- Tut-Ankh-Amen

**Industries and resources**

- Industrial notes from Egypt. Soc Chem Ind J (Chem & Ind) 52:53-5, 523-4 Ja 20, Je 23 '33

**EHRENFEST, Paul, 1880-1933**

- Sketch. G. E. Uhlenbeck, S. Goudsmit and G. H. Dieke. Science 78:377-8 O 27 '33

**EIFFEL tower**

- Mammoth electric clock on the Eiffel tower. il Elec R (Lond) 113:244 Ag 25 '33

**EINSTEIN, Albert**

- Case against Einstein. A. Lynch. 275p \$3 Dodd '33

- In honor of Professor Einstein; greeting on behalf of American scientists. K. T. Compton. Science 77:271-2 Mr 17 '33

- Professor Einstein accepts chair of mathematical physics at the College of France; open letter to the Prussian academy. Science 77:444 My 12 '33

- Professor Einstein and Abbe Lemaitre; discussion of the cosmical constant. R. M. Langer. Science 77:sup8 Ja 27 '33

- Professor Einstein and the Prussian academy. Science 77:346 Ap 7 '33

**EINSTEIN unitary field theory**

- Projective relativity and the Einstein-Mayer unified field theory. B. Hoffmann. Phys R 43:615-19 Ap 15 '33

**EJECTING devices (machine work)**

- Automatic feed and ejection for press tools. J. F. Cavanagh. diags Am Mach 77:122-3 F 15 '33

**EJECTION. See Landlord and tenant****ELAIDYL alcohol**

- Isomeric 9:10-dihydroxyoctadecyl alcohols produced by oxidation of *cis*- and *trans*- $\Delta^9$ : $\Delta^{10}$ -octadecenyl (oleyl and elaidyl) alcohols. G. Collin and T. P. Hilditch. Chem Soc J p246-8 Mr '33

**ELASTIC fabrics**

- Covered rubber threads. G. Rice. il India Rubber W 88:38 S '33

- Dyeing textiles for weight reducing girdles and corsets. G. Rice. il Textile Col 55:126-7 F '33

- Lastex; style merchandise. Business Week p12 N 30 '32

- Rubber textiles take on a new form and offer new possibilities; Lastex. il Textile World 83:50-1 Ja '33; Same. India Rubber W 87:23-4 F '33

- Tension in elastic warps. Textile World 83:757 Ap '33

*See also*

- Rubber thread

**ELASTICITY**

- Determining the effective value of Young's modulus. R. R. Wiese. diags Aero Digest 23:40-2 S '33

- Development of apparatus and technique for measuring elasticity of mass concrete. E. N. Vidal. il Am Concrete Inst J 5:41-7 S '33

- Elastic properties of various materials and their effect on the transmission of vibrations. B. E. Eisenhour and F. G. Tyzzer. diags J Fr Inst 214:691-707 D '32

- Elasticity of cast iron under compression. diag Locomotive 39:174-5 Ap '33

- Elastische formänderungen der hölzer. J. Stamer and H. Sieglerschmidt. Zeit Ver Deutsch Ing 77:503-5 My 13 '33

- New method for the measurement of the moduli of elasticity of materials. P. Le Rolland and P. Sorin. diag Engineer 156:sup [Metallurgist] 63-4 Ag 25 '33

- Nouvelle méthode de détermination des modules d'élasticité. P. Le Rolland and P. Sorin. Génie Civil 102:213-14 Mr 4 '33

- Physical structure of elastic colloids. W. F. Busse. J Phys Chem 36:2862-79 D '32

- Some applications of the absolute differential calculus to physics. C. Kaplan. Phys R 43:137-42 Ja 15 '33

- Some shear phenomena in a loaded soil mass. D. P. Krynine. il diags plan Civil Eng 3:574-6 O '33

- Study of gels by physical methods. E. Hattschek. il diags J Phys Chem 36:2994-3009 D '32



**ELASTICITY—Continued**

Temperature coefficient of the moduli of metals and alloys used as elastic elements. G. H. Keulegan and M. R. Houseman. *il diags U S Bur Stand J Research* 10:289-320 Mr '33  
 Temperature dependence of Young's modulus for nickel. J. Zacharias. *diags Phys R* 44: 116-22 J1 15 '33

Thermal effects in elastic and plastic deformation. M. F. Sayre. *bibliog Am Soc T M Proc* 32 pt 2:584-92; Discussion. 593-606 '32

*See also*

Deformations (mechanics)	Photoelasticity
Fatigue in metals	Plasticity
Hysteresis (mechanics)	Poisson's ratio
	Strains and stresses
	Strength of materials

**ELDER, Orr J.**

Sketch. C. Rheinstrom. *Adv & Sell* 21:20, 32 O 26 '33

**ELECTRIC advertising.** *See* Electric signs**ELECTRIC alarms**

Eliminating damp coal difficulties. H. M. Spring. *diag Power Pl Eng* 37:145 Mr '33  
 Guarding remote control against ground faults. G. H. Landis and H. A. McLaughlin. *il diags Elec W* 101:76-8 Ja 14 '33  
 No-coal alarm for pulverizer coal feeder. H. M. Spring. *diag Power* 77:85 F '33  
 Private alarm system model of efficiency; Los Angeles fire alarm co. *il Elec West* 70:164 My '33  
 Protecting the plant by remote control. R. K. Hyde. *il Nat Safety N* 27:31-2 Ja '33  
 Remote alarms by carrier current over distribution circuits. F. B. Doolittle. *il diag Elec W* 101:172-3 F 4 '33

*See also*

Fire alarms

**ELECTRIC and musical instruments, limited**

Advantages of the merger. *Economist* 115:899 N 12 '32

**ELECTRIC anesthesia**

Effects of alternating currents upon cutaneous sensory thresholds. I. M. Thompson. *Science* 78:268-9 S 22 '33  
 Local electric anesthesia. F. Peterson. *Science* 77:326 Mr 31 '33  
 Method of outlining cutaneous nerve areas. I. M. Thompson and V. T. Inman. *diags Science* 77:216-17 F 24 '33

**ELECTRIC apparatus and appliances**

Electrical products developed in 1932. H. D. James. *il Arch Rec* 73:67-71 Ja '33  
 General Electric new Magnet appliances. *il Elec R (Lond)* 113:460 O 6 '33  
 Industrial, agricultural, and domestic applications of electricity, including illumination and tariffs; a review of progress. R. B. Matthews. *Inst E E J* 72:132-40 F '33  
 Machines that think. T. Ross. *il diags Sci Am* 148:206-8 Ap '33  
 Manufacturers' equipment; factory and workshop tools. *il Electrician* 109:691-3 N 25 '32  
 New applications, and the expansion of recent uses of electricity. G. F. Sills. *Inst E E J* 72:45-50 Ja '33; Abstracts. *Electrician* 109: 503-4 O 21 '32; *Elec R (Lond)* 111:600-1 O 21 '32  
 New equipment and appliances. Published in weekly numbers of *Electrician*  
 Some General Electric developments during 1932. J. Liston. *il N E L A Bul* 20:33-8+ Ja '33

Westinghouse engineering developments in 1932. C. A. Powell. *il N E L A Bul* 20:39-42 Ja '33

*See also*

Armatures	Electric converters
Automobiles—Electric equipment	Electric furnaces
Brakes, Electric	Electric generators
Clocks, Electric	Electric instruments
Coils	Electric machinery
Commutators	Electric meters
Condensers (electricity)	Electric motors
	Electric protective apparatus
Electric cables	Electric rectifiers
Electric circuit breakers	Electric transformers
	Electricity in mining

Photoelectric cells  
 Potentiometers  
 Radio apparatus  
 Reactors  
 Refrigerators, Electric

Relays  
 Rheostats  
 Selsyn apparatus  
 Storage batteries

**Exhibitions**

Appliance exposition, sales convention and industry meeting make four days of history. *il Elec West* 70:31 Ja '33  
 British industries fair. *il Electrician* 110:224-6, 257-70, 301-3 F 17-Mr 3 '33; *Elec R (Lond)* 112:219-38, 267-70 F 17-24 '33  
 Cardiff engineering exhibition. *Elec R (Lond)* 111:788 N 25 '32; *Electrician* 109:724 D 2 '32  
 Features of the I.M.E.A. exhibition. *il Elec R (Lond)* 112:809-14 Je 9 '33; *Electrician* 110:786-8 Je 16 '33  
 How Fresno did it. *Elec West* 71:10 Ag '33  
 Impressions of the I.M.E.A. exhibition at Bournemouth. *il Elec R (Lond)* 112:846-7 Je 16 '33  
 Leipzig technical fair; improved types of switchgear. *il diags Engineer* 155:295-7 Mr 24 '33  
 New German appliances; some exhibits at the Leipzig fair. E. O. Taylor. *il diags Electrician* 110:416 Mr 31 '33  
 Public health and municipal transport exhibition, Islington. *Elec R (Lond)* 111:748 N 18 '32  
 Shipping and engineering; some of the electrical features at the Olympia exhibition. *il Electrician* 111:318-20 S 15 '33

*See also*

Chicago—World's fair, 1933—Electric exhibits

**Failures**

Electrical apparatus troubles; results of questionnaire by Committee on apparatus troubles. N.E.L.A. J. D. Bowles. *N E L A Bul* 20:13-16+ Ja '33

**Manufacture**

Combination-type dies reduce cost of die-cast electrical appliance parts. J. A. Schultz, Jr. *il Iron Age* 132:23 Ag 10 '33  
 Plastics; their use in the electrical industry. K. G. Maxwell. *il Soc Chem Ind J (Chem & Ind)* 52:755-8 S 22 '33; Abstracts. *Electrician* 111:52-3 J1 14 '33; *Elec R (Lond)* 113:16 J1 7 '33  
 Service requirements of insulating varnishes. R. H. Arnold and L. E. Frost. *il Ind & Eng Chem* 25:133-5 F '33

**Marketing**

G-E goes in for exclusive retail outlets. *Pt Ink* 161:50 N 17 '32

**Merchandizing**

Building load by selling industrial heating; Northwest electric light and power association committee report. *Elec West* 70:257-8 Je '33  
 Collective action for profits. L. W. W. Morrow. *Elec W* 101:380-3 Mr 25 '33  
 Commercial cooking; Northwest electric light and power association committee report. *Elec West* 70:255-7 Je '33  
 Commercial forces dig in to hold the load lines intact. *il Elec West* 70:56-67 F '33  
 Concluding specifically; summary of the real needs of the industry for fair and healthy distribution of industrial equipment. F. E. Boyd. *Elec West* 69:240-2 D '32  
 Co-operative marketing on a national scale; recommending an organization co-ordination between the four national associations of the electrical industry. H. P. Liversidge. *Elec W* 101:412-13 Ap 1 '33  
 Ithaca plan proves out; co-operative merchandising. *Elec W* 101:577-80 My 6 '33  
 Mountain states utilities and retailers adopt code. *Gas Age* 71:632 Je 17 '33  
 Philadelphia's experience in co-operation. E. Whitehorne. *il Elec W* 101:612-16 My 13 '33  
 Retailing for profits. L. W. W. Morrow. *Elec W* 101:547-50 Ap 29 '33

**ELECTRIC apparatus and appliances**—Merchandizing—*Continued*  
 Rocky Mountain units frame merchandising code. Elec W 102:2 J1 1 '33  
 Sales barriers. Elec West 70:123-4 Ap '33

*See also*  
**Electric apparatus and appliances, Domestic**—Merchandizing  
**Electric industries and appliances, Domestic**—Retail trade)

#### Standards

List of inspected electrical appliances, May, 1933. 247p National board of fire underwriters, 207 East Ohio st, Chicago '33 [revised semiannually]

Quality mark for electrical apparatus. Elec R (Lond) 112:44 Ja 13 '33

**ELECTRIC apparatus and appliances, Domestic**  
 Criticisms of domestic apparatus; abstract. H. C. Gamble. Elec R (Lond) 112:487-8; Discussion. 488 Ap 7 '33  
 Customer sales manual; illustrations of equipment. Elec West 71:10-51 O '33  
 Domestic apparatus in France. il Elec R (Lond) 112:413 Mr 24 '33  
 Domestic applications of electricity. R. B. Matthews. Inst E E J 72:136-9 F '33  
 Electrical housekeeping. il Elec J 30:40 Ja '33  
 Electricity in the home; description and illustrations of equipment with index to manufacturers. il Elec R (Lond) 113:481-523 O 13 '33

Equipment for the autumn trade. il Electrician 111:370-87 S 29 '33

Household appliances; a sales letter to a friend who is about to open a residential club. M. G. Reading. Electrician 110:413 Mr 31 '33

Spring trade promotion; new equipment and apparatus for the domestic consumer. il Electrician 110:420-30 Mr 31 '33

This matter of quality in appliances. E. Whitehorne. Elec W 101:488-9 Ap 15 '33

Washers, toasters, cleaners, other electrical appliances, follow the redesign road of the refrigerators. Business Week p12-13 S 2 '33

*See also*  
 Electric cooking  
 Electric heaters  
 Electric irons  
 Electric stoves  
 Electric water heaters  
 Electricity in the home  
 Refrigerators, Electric

#### Exhibitions

Domestic apparatus at Leipzig. V. Ripley. il Elec R (Lond) 112:378 Mr 17 '33

Ideal home exhibition at Olympia. Electrician 110:431 Mr 31 '33; Elec R (Lond) 112:451 Mr 31 '33

Paris fair. il Elec R (Lond) 112:768 Je 2 '33

#### Merchandizing

Analysis of appliance sales of department stores by electrical merchandising joint committee. N E L A Bul 19:759 D '32

Appliance sales shift; manufacturers look for distribution through department stores. il Business Week p7-8 D 14 '32

Appliances; round table discussion. Elec West 70:206-8 Je '33

Department store financing of consumer purchases of electrical household appliances. K. Dameron. N E L A Bul 20:26-8 Ja '33

Department store takes on specialty appliances; Meier & Frank, Portland. il Elec West 70:98-9 Mr '33

Direct and specialty selling still have their place; developments in electrical field. A. P. Hirose. Ptr Ink 162:63-6 Ja 26 '33

Domestic exhibits on wheels. il Elec R (Lond) 112:199 F 10 '33

Free-wiring corporation as an inducement to greater sales to homes. Elec W 101:524-5 Ap 22 '33

Hitching a related product to a faster seller; Westinghouse is tying its electric ironer to its washer. N. L. Myers. il Ptr Ink 163:44-6 Je 8 '33

Home appliance; Northwest electric light and power association committee report. Elec West 70:262 Je '33

How Central Hudson builds load through dealers; five-year experience first merchandised aggressively, then gradually withdrew and built up dealer sales. E. Whitehorne. il plan map Elec W 102:213-19 Ag '33

Male demonstrator. A. C. Hazel. Elec R (Lond) 113:258 Ag 25 '33

Plot your sales. Elec West 71:9-10 Ag '33

Take the product to the prospect; motorized traveling kitchens. il Elec West 70:17-18 Ja '33

This miniature is selling medium, display piece and toy; General Electric kitchen. il Ptr Ink 162:100 Ja 19 '33

Utility—department store relationship. W. R. Putnam. N E L A Bul 20:63-5 F '33

Virginia plan for installment financing. E. Whitehorne. Elec W 102:57-9 J1 8 '33

Woman demonstrator. M. G. Reading. Elec R (Lond) 113:216-17 Ag 18 '33

Women demonstrators; E. A. W. committee's report on showroom training. Electrician 110:68 Ja 20 '33

*See also*  
**Electric utilities—Appliance selling**

#### Repair

Apparatus on hire; revenue obtained and cost of repairs in Epsom U.D.C. area. H. W. Watts. Electrician 109:840-1 D 30 '32; Abstract. Elec R (Lond) 111:954 D 30 '32

Maintenance of domestic apparatus. H. G. F. Gamble. Elec R (Lond) 112:872 Je 16 '33

**ELECTRIC apparatus industry**  
 Concluding specifically; summary of the real needs of the industry for fair and healthy distribution of industrial equipment. F. E. Boyd. Elec West 69:240-2 D '32

Indiana Supreme court rules on merchandising. Elec W 102:582 N 4 '33

Retailing for profits. L. W. W. Morrow. Elec W 101:547-50 Ap 29 '33

Wholesalers declare for self-regulation. Elec West 70:88-9 Mr '33

Wholesaling for profits. L. W. W. Morrow. Elec W 101:798-801 Je 17 '33

*See also*  
**Electric apparatus and appliances—Merchandizing**  
**Electric apparatus and appliances, Domestic—Merchandizing**  
**Electric industries**

#### Great Britain

Imported electrical accessories; application for a marking order. Elec R (Lond) 112:570 Ap 21 '33; Electrician 110:522 Ap 21 '33

#### United States

Profits on current business. L. W. W. Morrow. Elec W 101:316-20 Mr '11 '33; Excerpt. Am Mach 77:211-12 Mr 29 '33

**ELECTRIC arc**

Arc control and circuit-breaker design. il diags Engineering 135:8-9 Ja 6 '33

Circuit-interruption primer. W. M. Leeds and T. E. Browne, jr. il Elec J 30:106-7, 156-9 [bibliog p159] Mr-Apr '33

Electric arc and arc resistance furnaces and their power factor. A. Wejnarth. diags Electrochem Soc Trans 63 (preprint 34):355-89 My '33

Electric arc discharge in water. H. D. Carter and A. N. Campbell. diags Electrochem Soc Trans 63 (preprint 22):221-5 My '33

Grid-controlled rectifier. Electrician 110:228, 254-5 F 17-24 '33

High-velocity vapor stream in the vacuum arc. R. C. Mason. bibliog diags Elec Eng 52:702-5 O '33

Ignitron control; method of control for mercury arc devices. J. Slepian and L. R. Ludwig. il Power Pl Eng 37:218-19 My '33; Abstract. Sci Am 149:28 J1 '33

Incandescent lamps as mercury-arc ballast. L. J. Buttolph. il diags Gen Elec R 36:482-5 N '33

Momentum transfer to cathode surfaces by impinging positive ions in a helium arc. E. S. Lamar. diags Phys R 43:169-76 F 1 '33



**ELECTRIC arc—Continued**

New method of initiating the cathode of an arc. J. Slepian and L. R. Ludwig. *diags* Elec Eng 52:605-8 S '33

Practical methods of starting the conduction in mercury arcs. L. J. Buttolph and D. W. Dana. *il diags R Sci Instr* 4:206-15 Ap '33

*See also*

Electric lamps, Arc Electric welding, Arc  
Electric lamps, Mer-  
cury vapor

**ELECTRIC associations**

Co-operative marketing on a national scale; recommending an organization co-ordination between the four national associations of the electrical industry. H. P. Liversidge. Elec W 101:412-13 Ap 1 '33

Directory of electrical associations. Elec W 101:48; 102:32 Ja 7, J1 1 '33

*See also*

Electrical contractors' associations

**Great Britain**

Presidential address; work of the I.M.E.A. and its sister associations; abstracts. G. Porter. *Electrician* 110:760-2 Je 16 '33; Elec R (Lond) 112:848 Je 16 '33

Work of the associations, 1932. *Electrician* 110:124-30 Ja 27 '33

**ELECTRIC batteries**

Galvanic cells containing potassium triphenylmethyl. H. E. Bent and E. S. Gilfillan, jr. *Am Chem Soc J* 55:247-9 Ja '33

Lead-mercurous acetate voltaic cell with acetic acid as the solvent. G. Tarbutton and W. C. Vosburgh. *Am Chem Soc J* 55:618-24 F '33

Mt Everest expedition; British-made batteries for transmission and reception. *il Electrician* 110:392 Mr 24 '33

Seat of the electromotive force in voltaic cells. M. deK. Thompson. *Electrochem Soc Trans* 63 (preprint 12):113-15 My '33

Six-inch paper-lined dry cell. R. A. Clausen. *flow sheet diag Electrochem Soc Trans* 64 (preprint 7):69-81 S '33

Student's radio physics course. A. A. Ghirardi. *Radio N* 14:432-3+ Ja '33

*See also*

Electrolytic cells Standard cells  
Photoelectric cells Storage batteries

**ELECTRIC bells**

Ten cents a ring; coin control for door bells. *il Am Bld* 55:44 J1 '33

**ELECTRIC boats**

Will it come back? electric launch. *il Sci Am* 148:123 F '33

**ELECTRIC bond and share company**

Bond & Share's reverses. *Econostat* 1:13+ Je 3 '33

Report for 1932. *Barron's* 13:9 Ja 30 '33

Service contracts in the Electric bond and share company. N. S. Buchanan. *J Land & Pub Util Econ* 9:283-96 Ag '33

**ELECTRIC brakes. See Brakes, Electric****ELECTRIC bus lines**

Trackless bus with underground current collection. *plans Elec Traction* 29:195 J1 '33

**ELECTRIC cable reels**

Collapsible reel facilitates cable coiling. *il diags Coal Age* 38:165-6 My '33

Variable-feed mechanism for cable-winding guide. C. Haggerty. *il diags Mach* 40:20-1 S '33

**ELECTRIC cables**

Attenuation; alternating and pulsating currents in loaded cable. M. Marro. *Electrician* 110:383 Mr 24 '33

Buried cable simplifies rural substation design. L. M. Grow. *il diags Elec W* 101:426 Ap 1 '33

Cable charging; underlying principles. F. G. W. Tree. *Elec R (Lond)* 112:188 F 10 '33

Cable developments discussed by committee. W. A. Del Mar. *Elec Eng* 52:100-1 F '33

Cable-making progress. C. J. Beaver. *il Elec R (Lond)* 112:863-4 Je 16 '33

Cable technique; progress in 1932. E. Bowden. *Electrician* 110:115-16 Ja 27 '33

Cable vs. open wires for service drops. *il Elec W* 101:521 Ap 22 '33

Communication by carrier in cable. A. B. Clark and B. W. Kendall. *il diags Elec Eng* 52:477-81 J1 '33; Same. *Bell System Tech J* 12:251-63 J1 '33

Concentric cables used in Pennsylvania railroad electrified system. *Ry Age* 94:301 F 25 '33

Gas-filled cable tested; shows many advantages. C. J. Beaver. *Elec W* 101:441 Ap 8 '33

N.E.L.A. underground systems committee meeting. N E L A Bul 19:700-1 N '32

New cable tests advance performance; discussion at A.I.E.E. meeting. *Elec W* 102:44-5 J1 8 '33

New reactors limit voltage rise on network cables. C. A. Woodrow. *il diags Elec W* 100:822-4 D 17 '32

New service-entrance cable co-operatively developed. *il Elec W* 102:442 S 30 '33

Oil-filled cable service without electrical failure. *Elec W* 101:50 Ja 14 '33

Paris H.T. congress; cable section. *Electrician* 111:198-9, 228 Ag 18-25 '33

Pressure cable; discussion of paper by E. Bowden and F. W. Main. *Electrician* 110:354 Mr 17 '33

Progress report on deterioration of oils and papers under corona discharge; abstract. K. S. Wyatt. *Elec Eng* 52:102-3 F '33

Rubber and gutta percha. F. A. Middleton. *Elec R (Lond)* 111:774-5 N 25 '32

Satisfactory experience with 8-kv. aerial cable. G. H. Underhill. *Elec W* 102:56 J1 8 '33

Service cable development under new code. O. K. Coleman. *il Elec W* 102:245-7 Ag 19 '33

Ships' electric cables. J. Dummelow. *Elec R (Lond)* 112:592 Ap 28 '33

Three new types of rubber-insulated cable. *Eng & Min J* 134:441-2 O '33

Voltage regulation of distribution cables; cost data. H. R. Searing and E. R. Thomas. *Elec Eng* 52:554-8 Ag '33

*See also*

Cables, Submarine	Electric wire
Electric conductors	Insulation (electric)
Electric conduits	Telephone cables
Electric lines	

**Failures**

Cable cracks and cures. R. W. Drake. *diags Maintenance Eng* 90:448-51+ D '32

Cable experience shows ups and downs. *Elec W* 102:274-6 Ag 26 '33

Detector locates low-resistance open faults. S. Matsuda. *diag Elec W* 102:209 Ag 12 '33

Where did it go? disappearance of conductor inside cable. *il Elec W* 102:207 Ag 12 '33

**Installation**

Brooklyn-New York power cables. *il diag Engineer* 155:110-11, 118 F 3 '33

Chart saves time in estimating underground costs. H. T. Sexton. *Elec W* 101:334-5 Mr 11 '33

Laying power cables in the bed of the East river. R. G. Skerrett. *il Comp Air M* 38:4191-4 Ag '33

Riser support without cable grip. W. W. Wishard. *diags Elec W* 102:623 N 11 '33

Rural installations. T. C. Gilbert. *Electrician* 110:730-2, 792-3 Je 9-16 '33

Supporting risers and horizontal runs. V. Kellems. *il diags Elec W* 102:84-7 J1 15 '33

Underground conduit installed with no street excavation; laterals for fire alarm system in Tulsa pushed through the ground. S. J. Kline. *il diags Elec W* 102:314-16 S 2 '33

**Joints**

Cable jointing. J. S. Simmonds. *il Elec R (Lond)* 112:865-6 Je 16 '33

Eliminates heating trouble on stranded cable joints. A. E. Nessler. *diags Factory Management* 91:464-5 N '33

**Manufacture**

Chemical engineering in cable manufacture. *il Chem Age (Lond)* 27:553 D 10 '32

**ELECTRIC cables—Manufacture—Continued**

Isolierstoffe der kabelindustrie unter besonderer berücksichtigung der celluloseester. P. Nowak. *Angew Chemie* 46:584-7 S 16 '33

Rural cable works; Edison Swan cables, Ltd. *il Elec R (Lond)* 111:741-2 N 18 '32  
Stranded in Prescot; B.I. film shows distinct advance on former similar efforts. *il Electrician* 110:142 Ja 27 '33

**Painting**

Painting a 4,482-ft. span across the Carquinez Straits at end of San Francisco bay. *il Elec W* 101:197 F 11 '33

**Protection**

Protective coatings for cable leads; the merits of nitrocellulose lacquer. J. S. Gourlay. *Elec R (Lond)* 112:734-5 My 26 '33

**Repair**

Cable cracks and cures. R. W. Drake. *diags Maintenance Eng* 90:448-51+ D '32

**Sheathing**

Cable corrosion reduced by external grease film. *Elec W* 101:121 Ja 28 '33

Control through spectroscopy. E. S. Dreblow and A. Harvey. *Ind & Eng Chem* 25:823-4 J1 '33

Desirable characteristics in lead cable sheaths. W. H. Bassett, jr. *Elec W* 101:254 F 25 '33

Method of preparation of lead and lead alloy cable sheath for microscopic examination. W. H. Bassett, jr. and C. J. Snyder. *biolog il Am Soc T M Proc* 32 pt 2:558-68; Discussion. 569-75 '32

Progress in mitigating cable sheath electrolysis. F. E. Reeves and C. F. Avila. *diags Elec W* 101:720-2 Je 3 '33

Sheath grounds affect traveling waves in cables. E. Beck. *il diag Elec Eng* 52:238-9 Ap '33

**Specifications**

Paper-insulated cables. *Elec R (Lond)* 112:553-4 Ap 21 '33

**Tables, calculations, etc.**

Current in conductors; best value of density with decreasing current. F. G. Baily. *Electrician* 109:716 D 2 '32; Discussion. S. A. Swann. 109:788-9 D 16 '32

Impedance curves of a composite cable. M. I. Pupin. *Elec Eng* 52:115-18 F '33

Short-time fusing of copper cables. R. J. Coe. *Elec W* 101:205-6 F 11 '33

Thermal transients and oil demands in cables. K. W. Miller and F. O. Wollaston. *Elec Eng* 51:858-63 D '32

Traveling wave voltages in cables. H. G. Brinton, F. H. Buller and W. J. Rudge, jr. *biolog Elec Eng* 52:559-64 Ag '33

**Temperature**

Dielectrics; effect of temperature change on resistivity. D. K. McCleery. *diags Electrician* 109:745-6 D 9 '32

Thermal transients and oil demands in cables. K. W. Miller and F. O. Wollaston. *Elec Eng* 51:858-63 D '32

**Terminals**

Oil under pressure used in 16.5-33-kv. change-over. G. H. Logan. *diags Elec W* 102:318 S 2 '33

Terminal chambers for power transformers. F. L. Snyder. *il Elec J* 30:70-2 F '33

Termination of control cables at switchboards. W. B. Morton. *diags Elec W* 101:490-1 Ap 15 '33

**Testing**

Accelerated aging tests on high voltage cable. D. W. Roper. *biolog Elec Eng* 52:371-7 Je '33

Cable fault localisation; a new self-contained a.c. capacity bridge. W. L. Beck and G. F. Shotton. *il diags Elec R (Lond)* 113:419-20 S 29 '33

Compact portable 300-kv. testing set. *il diags Elec W* 102:624 N 11 '33

Corona loss at 220-330 kv; tests made at the Ryan laboratory, Stanford University, Calif. J. S. Carroll and B. Cozzens. *il diag Elec Eng* 52:178-83 Mr '33

Detector locates low-resistance open faults. S. Matsuda. *diag Elec W* 102:209 Ag 12 '33

Faults not healed by new test for location. *il Elec W* 100:851-2 D 24 '32

Finding a multi-core cable fault. *diag Elec R (Lond)* 113:129 J1 28 '33

Impedance characteristics of copper-covered-steel conductors. Edison *Elec Inst Bul* 1:32+ My '33

Ionization in cable dielectrics. P. Dunsheath. *Inst E E J* 73:321-49 [bibliog p348-9] O '33; Abstracts. *Electrician* 110:325-7 Mr 10 '33;

*Elec R (Lond)* 112:344 Mr 10 '33; Discussion. *Inst E E J* 73:349-63 O '33; *Elec R (Lond)* 112:376-7, 379 Mr 17 '33; *Electrician* 110:354 Mr 17 '33

Locating power cable faults by means of a constant current transformer with short circuiting switch. W. P. Taylor. *il diag Elec Eng* 51:870-2 D '32

Low voltage network cable of a new type. H. O. Anderson and M. C. Cheney. *il plans Elec Eng* 52:682-7 O '33

New tests disclose causes of cable deterioration; abstracts. K. S. Wyatt, E. W. Spring and C. H. Fellows. *il diag Elec W* 102:22-6 J1 1 '33; *Elec Eng* 52:450-4 J1 '33

New type network cable subjected to field tests. *Elec W* 101:406 Ap 1 '33

Sheath grounds affect traveling waves in cables. E. Beck. *il diag Elec Eng* 52:238-9 Ap '33

X-ray studies of the insulating materials in high tension cables; abstract. G. L. Clark and J. N. Mrgudich. *Elec Eng* 52:101-2 F '33

**ELECTRIC capacitors.** See **Condensers (electricity)**

**ELECTRIC capacity**

Capacitance of a guard-ring sphere-gap. G. Yoganandam. *Inst E E J* 71:830-2 N '32

Inter-electrode capacitance of the dynatron, with special reference to the frequency stability of the dynatron generator. G. B. Baker. *Inst E E J* 73:196-201; Discussion. 201-3 Ag '33

Measurement of the power factor and capacitance of a condenser by comparison with a mutual inductance. A. W. Smith. *diags R. Sci Instr* 4:280-4 My '33

**ELECTRIC charges**

Cable charging; underlying principles. F. G. W. Tree. *Elec R (Lond)* 112:188 F 10 '33

Determination of  $e/m$  by means of photo-electrons excited by X-rays. G. G. Kretschmar. *biolog il diags Phys R* 43:417-23 Mr 15 '33

Determination of  $e/m$  for an electron by a new deflection method. F. G. Dunnington. *diags Phys R* 43:404-16 Mr 15 '33

Possibility of electric charges. A. Landé. *Phys. R* 44:689 O 15 '33

**ELECTRIC circuit breakers**

A.E.G. 220-kv. air-blast breaker rated 1,500,000 kva. *Elec W* 102:580 N 4 '33

Arc control and circuit-breaker design. *il diags Engineering* 135:8-9 Ja 6 '33

Arc-rupturing device takes novel forms; circuit breakers manufactured by Ateliers de construction électriques de Delle, Villeurbanne, France. *diag Elec W* 102:601 N 4 '33

Automatic switching for system ties. E. B. Ellett. *diags Elec J* 30:295-7 J1 '33

Breaker sets new record for high-speed, heavy-current interruption. *il Elec J* 30:12 Ja '33

Circuit breaker kVa. *Electrician* 110:16, 42, 72, 132, 162 Ja 6-F 3 '33

Circuit breaker tripping. R. L. deLoache. *il diags Elec J* 30:329-32 Ag '33

Circuit breakers; influence of arc control on size and cost. W. A. Coates. *diags Electrician* 110:583-4 My 5 '33

Circuit-interruption primer. W. M. Leeds and T. E. Browne, jr. *il Elec J* 30:106-7, 156-9 [bibliog p159] Mr-Apr '33



**ELECTRIC circuit breakers—Continued**

- Compression-type low-voltage air circuit breaker. D. C. Prince. *il diag Gen Elec R* 36:315-18 J1 '33
- Cost of installing four breakers and related bushing pots. *Elec W* 101:230 F 18 '33
- De-ion circuit breakers for steel-mill service. R. C. Dickinson. *il diags Elec J* 30:415-17 O '33
- Design for progress. J. B. MacNeill. *il Elec W* 101:444-8 Ap 8 '33
- Developments in the electrical industry during 1932; switchgear. J. Liston. *il Gen Elec R* 36:54-63 Ja '33
- Developments on circuit-breaker design; editorial. *Engineering* 135:47-8 Ja 13 '33
- Engineering features of oil-blast action. D. C. Prince. *diags Gen Elec R* 36:361-3 Ag '33
- Die entwicklung des druckgasschalters zum wirtschaftlichen gebrauchsschalter. W. Uebermuth. *il diags Zeit Ver Deutsch Ing* 77:40-4 Ja 14 '33
- Ferguson, Paulin new ring-main unit. *il Elec R (Lond)* 113:320 S 8 '33; *Electrician* 111:325 S 15 '33; *Engineer* 156:240 S 8 '33
- Ferguson, Paulin new switching kiosk. *il Engineer* 155:201-2 F 24 '33; *Engineering* 135:234 F 24 '33; *Electrician* 110:203 F 10 '33
- General Electric circuit breakers. *il Coal Age* 38:107 Mr '33
- General Electric type AB-2 enclosed air circuit breakers. *il Power Pl Eng* 37:102 F '33
- High-speed circuit breakers; their application to remote-controlled traction substations. H. C. Harris. *diags Elec R (Lond)* 112:516 Ap 14 '33
- High voltage circuit breaker and its competitor, the high voltage fuse; abstracts. W. D. D. Fenton. *Electrician* 110:564 Ap 28 '33; *Elec R (Lond)* 112:597 Ap 28 '33; *Engineer* 155:558 Je 2 '33
- Johnson and Phillips automatic re-closing circuit breakers. *il Engineer* 156:414 O 27 '33
- Keeping the line in service by rapid reclosing. S. B. Griscom and J. J. Torok. *il Elec J* 30:201-4 My '33
- Leipzig technical fair; improved types of switchgear. *il diags Engineer* 155:295-7 Mr 24 '33
- Low-voltage breakers. V. A. Brown. *il Elec R (Lond)* 112:373-4 Mr 17 '33
- M. and C. Switchgear, 3,300-volt metal-clad oil-break switchgear. *il Engineering* 136:346 S 22 '33
- Making breakers serve double purpose. *il diag Elec W* 102:143 J1 29 '33
- Modern performance from old breakers by applying de-ion grids. H. G. MacDonald. *il Elec J* 29:573-5 D '32
- New Blackburn Meadows generating station of the Sheffield corporation. *Engineering* 135:378-82, pls 24-5 Ap 7 '33; *Engineer* 155:356 Ap 7 '33; *Electrician* 110:451-3 Ap 7 '33
- New ideas for high voltage circuit breakers. C. A. Church and N. R. Damon. *diags Elec Eng* 52:247-8 Ap '33; *Abstract. Engineer* 155:522-3 My 26 '33
- New switching plan in Diesel plant; new station of the Department of light and power, Vernon, California. H. W. Young. *il diags Elec J* 30:258-9 Je '33
- Oil-blast circuit breakers of medium capacity. H. E. Strang. *il diags Gen Elec R* 36:94-8 F '33
- Oil circuit-breaker design and performance. H. Pearce and T. T. Evans. *il diags Inst E E J* 71:703-21; *Discussion*. 721-36 N '32
- Oil circuit breakers; new single-break cross jet explosion pot type. D. R. Davies and E. I. Pilcher. *il diags Electrician* 111:200-2 Ag 18 '33; *Same cond. Engineer* 156:159-60 Ag 18 '33
- Oil-less circuit breaker; Brown-Boveri co. *il diag Electrician* 110:703 Je 2 '33; *Engineer* 156:120 Ag 4 '33
- Oilless circuit breakers introduced by A.E.G. electrical co. *il Elec R (Lond)* 113:154 Ag 4 '33
- Paris H.T. congress; circuit breakers with little or no oil. *Electrician* 111:8, 50-1 J1 7-14 '33
- Power for circuit breaker solenoids; rectox type of rectifier. W. W. Brainard. *il diags Elec J* 30:189-91 My '33
- Principle of de-ion arc extinction spreads. *il Elec J* 30:11 Ja '33
- Protective interlocking schemes used on Philadelphia system. C. S. Schifreen. *il Elec W* 100:792-5 D 10 '32
- Relays and breakers improved; discussion at A.I.E.E. meeting. *Elec W* 102:45-6 J1 8 '33
- Reyrolle and company 132-kv. metal-clad switchgear. *il diags Engineering* 136:358-9 S 29 '33
- Reyrolle gate-end box. *il diags Engineering* 135:248-9 Mr 3 '33
- Reyrolle quick-action oil-immersed circuit breaker. *Engineering* 135:249, pl 16 Mr 3 '33
- 66-kv. outdoor metal-clad switchgear for Bankside substation, London. *il diags Engineering* 136:109-11 Ag 4 '33
- Switch operation records pay their keep. *il Elec W* 100:815 D 17 '32
- Switchgear and Cowans internal isolation switchgear. *il Electrician* 110:20 Ja 6 '33
- Switchgear; successful C.E.B. substation innovations. C. C. Garrard. *il Electrician* 110:98-9 Ja 27 '33
- Synchronizing with 220-kv. breakers. O. R. Bulkeley and A. A. Kroneburg. *il diags Elec West* 71:24-6 J1 '33
- Thermal gas closing mechanism for oil circuit breakers. *il Engineer* 156:415 O 27 '33; *Engineering* 136:474 O 27 '33
- 33-kv. oil-filled metal-clad switchgear for Swansea. *il diag Engineering* 136:193 Ag 25 '33
- Timing oil breakers. G. F. Sargent and C. H. M. White. *diags Elec W* 102:241 Ag 19 '33
- Wax-operated switches. A. G. Bullen. *Elec R (Lond)* 112:152-3 F 3 '33

**See also**

Electric fuses  
Electric switches

**Inspection**

- Cutting cost of inspection and maintenance. *Elec W* 101:364-5 Mr 18 '33
- Scheduling breaker inspection reduces maintenance costs. T. J. Allen and W. P. Speir. *Elec W* 101:266-8 F 25 '33

**Manufacture**

- Circuit breaker production; Mansfield works, Westinghouse electric & mfg. co. C. M. Richardson. *il Am Mach* 76:1222-3 D 21 '32
- Electric heating of steel plates for electric circuit breakers. A. W. Hill. *il Power Pl Eng* 37:131 Mr '33

**Protection**

- Fighting oil breaker fires. G. S. Diehl and W. T. Crook, jr. *Elec W* 102:153 J1 29 '33

**Repair**

- Problems and economies of rebuilt oil switches. R. E. Rowley, jr. *Elec West* 69:231-3 D '32

**Small size**

- General Electric breakers to replace fuses. *Power Pl Eng* 37:231 My '33
- Small automatic circuit breakers. *diags Engineer* 155:433 Ap 28 '33

**Testing**

- Curve-drawing device tests oil breaker travel. M. S. Schneider and S. Goldsmith. *il Elec W* 102:474 O 7 '33
- 1,500,000 kVA alternator and switchgear testing plant. *il Engineer* 154:668, 672-3 D 30 '32
- Reyrolle short-circuit testing station. *il plans Engineering* 136:432-4, pl 15 O 20 '33
- Short-circuit testing of switchgear. *il diags Engineering* 136:212-14, pl 9 S 1 '33
- System performance tested with 600 short circuits; Indianapolis power & light company. E. G. Ralston and E. H. Klemmer. *il diags Elec W* 101:192-5 F 11 '33
- Testing a power system; Indianapolis 132-kv system. A. W. Hill; P. O. Langguth and R. M. Smith. *il diags Elec J* 30:90, 95-102 Mr '33

**ELECTRIC circuit breakers—Testing—Cont.**

Testing circuit breakers for interrupting capacity. R. M. Spurck and W. F. Skeats. *Elec W* 102:18-21 J1 1 '33

**ELECTRIC circuits**

Alternating current circuits. M. P. Weinbach. 417p \$4.50 Macmillan '33

Applications of resonance. G. W. Preston. *diags Elec R (Lond)* 112:896-7 Je 23 '33

Audio-frequency constants of circuits and telephone lines. S. P. Chakravarti. *diags Inst E E J* 72:416-22 My '33

Current transformers; methods of interconnection in three-phase circuits. G. W. Stubbings. *diags Elec R (Lond)* 113:278 S 1 '33

Direct current bushing transformer. A. S. Fitzgerald. *il diags J Fr Inst* 214:709-3 D '32

Electrical circuits and machinery. v 1, Continuous currents. J. H. Morecroft and F. W. Hehre. 2d ed 457p \$4 Wiley '33

Equivalent circuit for the four-winding transformer. F. M. Starr. *diags Gen Elec R* 36:150-2 Mr '33

Film cutouts for series street-lighting circuits. S. B. Kraut. *il diags Elec J* 30:362-3 S '33

Four-wire circuits; various methods of metering energy. G. W. Stubbings. *diag Elec R (Lond)* 112:858 Je 16 '33

Higher distribution circuit capacities is the trend. S. H. Farace. *Elec W* 102:572-3 O 28 '33

Injuries produced by contact with electric circuits; experimental investigations at The Johns Hopkins university. W. B. Kouwenhoven and O. R. Langworthy. *bibliog il J Fr Inst* 215:1-26 Ja '33

Mechanical analogs of electric circuits. R. W. Adams. *table il Elec Eng* 52:59 Ja '33

Network synthesis. C. M. Gewertz. 257p [bibliog p255-7] Williams & Wilkins '33

New method of calculating circuits; a short-circuit current solution. W. B. Kouwenhoven and M. W. Pullen. *diags Elec Eng* 52:776-9 N '33

Non-linear circuits applied to relays. C. G. Suits. *il Elec Eng* 52:244-6 Ap '33

Power, power factor, and reactive volt-amperes. C. L. Fortescue. *diags Elec Eng* 52:319-23 My '33

Reactive and fictitious power. V. G. Smith. *Elec Eng* 52:268-70 Ap '33

Rectifier and reactor combinations produce interesting non-linear circuits. *diags Power Pl Eng* 37:219-20 My '33

Simple relays given precision by resonant circuits. C. G. Suits. *diags Elec W* 101:140 Ja 28 '33

Surge voltage in secondary circuits; abstract and discussion. W. G. Young. *Textile World* 82:1183 D '32

Symmetrical components as applied to the analysis of unbalanced electrical circuits. C. F. Wagner and R. D. Evans. 437p [bibliog p391-402] \$5 McGraw-Hill '33

*See also*

Electric conductors	Electric transmission
Electric distribution	Impedance
Electric lines	Radio circuits
Electric rectifiers	Short circuits

**ELECTRIC clocks.** See Clocks, Electric

**ELECTRIC codes**

Electricity in buildings; recommendations to L.C.C. with respect to equipment, lifts and escalators. *Electrician* 109:756 D 9 '32

New code adopted in San Francisco. *Elec West* 71:30 Ag '33

Report of I.A.I.A.B.C. electrical safety code committee. U S Bur Labor Statistics *Bul* 577:13-14 '33

*See also*

National electrical code

**ELECTRIC communication**

Modern communication systems. F. Lüschen. *diags Inst E E J* 71:776-87, pl 1-4; Discussion. 787-98 N '32

*See also*

Radio communication

Telegraph

Telephone

**ELECTRIC condensers.** See Condensers (electricity)

**ELECTRIC conductivity**

Analytical determination and conductance of sulfuric acid in anhydrous acetic acid. W. C. Eichelberger and V. K. La Mer. *Am Chem Soc J* 55:3635-8 S '33

Anomalous electrolytes; the electrical conductivity of solutions of iodine and cyanogen iodide in pyridine. L. F. Audrieth and E. J. Birr. *Am Chem Soc J* 55:668-73 F '33

Application of conductivity measurement of nitric acid concentration to plant control. H. M. Coster. *il diags Ind & Eng Chem* 25:980-2 S '33

Application of the double layer theory of Otto Stern. F. Urban and H. L. White. *J Phys Chem* 36:3157-61 D '32

Conductance of bases in liquid ammonia. W. W. Hawes. *diag Am Chem Soc J* 55:4422-30 N '33

Conductivities of aspartic acid and of glutamic acid and certain of their salts and the influence of temperature thereon. S. Miyamoto and C. L. A. Schmidt. *tables Univ of Calif Pub in Physiology* v 8, no 2:9-20 '32

Conductivity in the three-component system oleic acid-potassium oleate-water. J. W. McBain and A. Stewart. *Chem Soc J* p928-32 Ag '33

Conductivity measurements of thorium and other jelly-forming systems. S. Prakash. *bibliog J Phys Chem* 37:907-16 O '33

Conductivity of Grignard reagents in ether solutions. W. V. Evans and F. H. Lee. *Am Chem Soc J* 55:1474-7 Ap '33

Conductivity of rare gases irradiated by their own resonance radiations. O. S. Duffendack and R. W. Smith. *Phys R* 43:586-7 Ap 1 '33

Conductivity of sodium iodide solutions at 25° and the limiting conductance of the iodide ion. P. A. Lasselle and J. C. Aston. *il Am Chem Soc J* 55:3067-71 Ag '33

Conductivity of tetramethylammonium salts in methyl and ethyl alcohol. T. H. Mead, O. L. Hughes and H. Hartley. *Chem Soc J* p1207-14 S '33

Correlation of stream potentials and surface conductance. H. L. White, F. Urban and E. A. Van Atta. *J Phys Chem* 36:3152-6 D '32

Deutsche Bunsen-gesellschaft für angewandte physikalische chemie e.V.; elektrolytische leitfähigkeit unter extremen Bedingungen. *Angew Chemie* 46:447-52 J1 1 '33

Effect of accelerators and antioxidants on electrical characteristics and water absorption of vulcanized rubber insulation. J. H. Ingmanson, C. W. Scharf and R. L. Taylor. *il diag Ind & Eng Chem* 25:83-7 Ja '33

Effect of atmospheric humidity and temperature on the relation between moisture content and electrical conductivity of cotton. A. C. Walker. *bibliog Textile Inst J* 24:1145-60 Ap '33

Effect of temperature and frequency on the dielectric constant, power factor, and conductivity of compounds of purified rubber and sulphur. A. H. Scott, A. T. McPherson and H. L. Curtis. *diags U S Bur Stand J Research* 11:173-209 Ag '33

Electrical conductivities of liquid mixtures of phenol-aniline, phenol-*p*-toluidine, and phenol-*m*-cresol. O. R. Howell and H. G. B. Robinson. *Chem Soc J* p1032-7 Ag '33

Electrical conductivities of mixtures of sulfuric acid, acetic acid and water. N. F. Hall and H. H. Voge. *bibliog Am Chem Soc J* 55:239-46 Ja '33

Electrical conductivities of solutions of water in sulfur dioxide. M. deK. Thompson and F. C. Jelen. *diag Electrochem Soc Trans* 63 (preprint 10):91-105 My '33



**ELECTRIC conductivity—Continued**

- Electrical conductivity of aluminium wire. A. J. Field and J. H. Dickin. *Engineering* 135: 473-5 Ap 28 '33
- Electrical conductivity of commercial dielectrics and its variation with temperature. J. D. Clark and J. W. Williams. *bibliog diags J Phys Chem* 37:119-31 Ja '33
- Electrical conductivity of mixed salt solutions. A. K. Smith and R. A. Gortner. *bibliog J Phys Chem* 37:79-86 Ja '33
- Electrical conductivity of silicic acid gel mixtures during gelation. C. B. Hurd and H. J. Swanker. *Am Chem Soc J* 55:2607 Je '33
- Electrical properties of glass. J. T. Littleton and G. W. Morey. 184p \$3 Wiley '33
- Electron theory of metallic conduction. J. C. Slater. *Science* 77:595-7 Je 23 '33
- Equivalent conductance of aqueous barium hydroxide solutions. H. G. Leopold and J. M. Luck. *Am Chem Soc J* 55:2655-6 Ji '33
- Graphitic silicon, heat-treatment, and the electrical conductivity of aluminium; abstract and discussion. L. H. Callendar. *Engineering* 135:327 Mr 24 '33
- Hardening and corrosion of Portland cement; the electrical conductivity of setting cements; abstract. K. E. Dorsch. *Rock Prod* 36:42 Je '33
- Influence of ash constituents on the electrical conduction of cotton. A. C. Walker and M. H. Quell. *Textile Inst J* 24:T123-30 Mr '33
- Influence of small amounts of dissolved silicates on the conductance of conductivity water and very dilute solutions of electrolytes. T. I. Taylor. *bibliog J Phys Chem* 37: 765-77 Je '33
- Ionization constant of monochloroacetic acid, at 25°, from conductance measurements. B. Saxton and T. W. Langer. *diag Am Chem Soc J* 55:3638-45 S '33
- Low temperatures and low-temperature phenomena. J. C. McLennan. *Engineering* 135: 165-6 F 10 '33
- Photoelectric and metastable atom emission of electrons from surfaces in the rare gases. C. Kenty. *diag Phys R* 43:181-93 F 1 '33
- Possible explanation of superconductivity. J. Frenkel. *Phys R* 43:907-12 Je 1 '33
- Praktische anwendung der leitfähigkeitsmessung im betrieb. H. Reichelt. *diags Chemische Fabrik* 6:341-2 Ag 16 '33
- Properties of electrolytic solutions; conductance as influenced by the dielectric constant of the solvent medium. C. A. Kraus and R. M. Fuoss. *diag Am Chem Soc J* 55:21-36 Ja '33
- Properties of electrolytic solutions; conductance of sodium trimethylstannide and of the sodium salts of certain phenols and thiols in liquid ammonia. C. A. Kraus and E. G. Johnson. *Am Chem Soc J* 55:3542-7 S '33
- Properties of electrolytic solutions; conductance of sodium triphenylstannide, sodium triphenylgermanide and sodium triphenylmethide in liquid ammonia. C. A. Kraus and W. H. Kahler. *diag Am Chem Soc J* 55:3537-42 S '33
- Properties of electrolytic solutions; conductance of some salts in benzene. R. M. Fuoss and C. A. Kraus. *diag Am Chem Soc J* 55: 3614-20 S '33
- Properties of electrolytic solutions; conductance of some ternary salts in liquid ammonia. C. A. Kraus and P. B. Bien. *Am Chem Soc J* 55:3609-14 S '33
- Simple cell for the study of conductance. H. B. Gordon. *diag J Chem Educ* 10:440-1 Ji '33
- Some remarks on the frequency dependence of superconductivity and ferromagnetism. R. Sängner. *bibliog Phys R* 44:302-7 Ag 15 '33
- Superconductivity in metals. E. L. Hill. *R Sci Instr* 4:3-6 Ja '33
- Superconductivity of metals observed at low temperatures; abstracts. J. C. McLennan. *Electrician* 110:328 Mr 10 '33; *Elec R (Lond)* 112:344-5 Mr 10 '33
- Water-jet conductivity. *il Elec R (Lond)* 113: 48 Ji 14 '33
- See also*
- Dielectric constants      Electrolytes—Conductivity
- Dielectrics      ductivity
- Electric conductors      Hall effect
- Electric resistance
- ELECTRIC conductors**
- Carrying capacities at fixed voltage drops. W. W. McCulloch. *Elec W* 101:331 Mr 11 '33
- Commercial copper wires; properties, national electrical code ratings and required conduit sizes; data sheet. *Power* 77:84 F '33
- Corner metals of electrical distribution: copper, aluminium, and lead. F. J. Brislee. *Soc Chem Ind J (Chem & Ind)* 52:447-51 My 26 '33; *Abstract. Chem Age (Lond)* 28:366 Ap 22 '33
- Current in conductors; best value of density with decreasing current. F. G. Baily. *Electrician* 109:716 D 2 '32; *Discussion. S. A. Swann. 109:788-9 D 16 '32*
- Determining conductor clearances at transpositions. R. M. Walker. *Elec W* 102:282 Ag 26 '33
- Electromagnetic forces on conductors with bends, short lengths, and cross-overs. C. W. Frick. *diags Gen Elec R* 36:232-42 My '33
- Electro-physics; a review of progress. N. R. Campbell. *Inst E E J* 72:156-7 F '33
- Engineering calculation of inductance and reactance for rectangular bar conductors. O. R. Schurig. *Gen Elec R* 36:228-31 My '33
- Impedance characteristics of copper-covered-steel conductors. *Edison Elec Inst Bul* 1:32+ My '33
- Modern radio practice in using graphs and charts. J. M. Borst. *chart Radio N* 14:666-7+ My '33
- Mutual impedance of grounded wires for horizontally stratified two-layer earth. J. Riordan and E. D. Sunde. *Bell System Tech J* 12:162-77 Ap '33
- Mutual impedance of grounded wires lying on or above the surface of the earth. R. M. Foster. *Bell System Tech J* 12:264-87 Ji '33
- Overhead conductors of steel reinforced copper for transmission lines; comparison with aluminum conductors. H. Bough. *il Electrician* 109:838-9 D 30 '32
- Paris H. T. congress; vibration of conductors. *Electrician* 111:288-9 S 8 '33
- Size of conductors for three-phase motor load. *Power* 77:320, 434-5 Je, Ag '33
- Skin effect in rectangular conductors. H. C. Forbes and L. J. Gorman. *diag Elec Eng* 52:636-9 S '33; *Discussion. H. B. Dwight. 52:724-5 O '33*
- Sodium in pipes successful as electrical conductor. R. H. Boundy. *il Elec W* 100:852 D 24 '32
- Subdivided conductors in shell-type transformers. R. L. Brown. *diags Elec J* 30:119-20 Mr '33
- Tubular busbars; their deflection characteristics when applied to outdoor sub-stations. A. M. Spruce. *il Elec R (Lond)* 112:484 Ap 7 '33
- See also*
- Busbars      Electric transmission
- Electric cables      sion
- Electric lines—Construction      Electric wire
- Insulation (electric)
- Semi-conductors**
- Photoeffects in semi-conductors. B. Lange. *diags Electrochem Soc Trans* 63 (preprint 8):69-81 My '33
- Quantum theory of semi-conductors. E. L. Hill. *R Sci Instr* 4:186-8 Ap '33
- ELECTRIC conduits**
- Carrying capacities at fixed voltage drops. W. W. McCulloch. *Elec W* 101:331 Mr 11 '33
- Economical underground ducts. J. H. Wilson. *Elec W* 101:301-2 Mr 4 '33
- Fibre conduit for underground wires and cables. *il Electrician* 111:97 Ji 21 '33
- Installing conduit where excavation is objectionable; use of the hydrauger. *il Elec W* 101:190-1 F 11 '33

**ELECTRIC conduits—Continued**

- Legitimate chiseling; installing underfloor conduit systems in old buildings. D. Coyle. il Elec West 70:93 Mr '33
- Numbering conduit systematically. G. F. Sargent and C. H. M. White. diag Elec W 100:701 N 19 '32
- Riser support without cable grip. W. W. Wishard. diags Elec W 102:623 N 11 '33
- River Hooghly tunnel. C. M. Norrie. Engineering 135:41 Ja 13 '33
- Termination of control cables at switchboards. W. B. Morton. diags Elec W 101:490-1 Ap 15 '33
- Underground conduit installed with no street excavation; laterals for fire alarm system in Tulsa pushed through the ground. S. J. Kline. il diags Elec W 102:314-16 S 2 '33

**ELECTRIC connectors**

- Simplified wiring system; Scruit connectors. il Elec R (Lond) 112:940 Je 30 '33

**ELECTRIC contactors**

- Auxiliary contactor stops arcing in starting rheostats. diag Coal Age 38:132 Ap '33
- Behavior of industrial control devices under short circuit. B. W. Jones. il Gen Elec R 36:441-6 O '33
- Electric oil-well equipment; contactor control gear for Burma. il Elec R (Lond) 112:412 Mr 24 '33
- Use of timetactors in modern motor starters. E. Frisch. il diag Elec J 30:117-18+ Mr '33

**ELECTRIC contacts**

- Electrical contact of busbar joints. C. L. Denault. il Elec J 30:281-3 Jl '33
- Keep electrical contacts clean! B. W. Jones. Maintenance Eng 91:4-5 Ja '33

**ELECTRIC contractor-dealers**

- Contracts in the spring; prospects of increasing business from the grid. H. R. Taunton. Elec R (Lond) 112:55-6 Ja 13 '33
- Motor shop turns manufacturer. il Elec West 70:97 Mr '33
- Retailing for profits. L. W. W. Morrow. Elec W 101:547-50 Ap 29 '33

**ELECTRIC contractors**

- Contractors' viewpoint on wiring and the code. L. E. Mayer. Elec W 102:541 O 21 '33
- Electrical contracting code includes transmission and distribution. Elec W 102:292-3 S 2 '33
- Electrical contractors' association 8th conference, Torquay. Electrician 111:31-46 Jl 14 '33
- Grid and the small contractor. F. D. Parker. Elec R (Lond) 113:562 O 20 '33; Discussion. J. Orringe. 113:633 N 3 '33
- Our 14 points for durable industry cooperation. L. Flatland. Elec West 70:201-2 Je '33
- Rewiring drive brings results. R. A. Palmer. il Elec W 101:141-2 Ja 28 '33
- Whose responsibility is sub-standard material? W. B. Ford. Elec West 70:163 My '33

**Advertising**

- Hidden business is dug out by co-operative effort; how five electrical contractors in town of 30,000 got customers. il Ptr Ink 161:47-8 D 29 '32

**ELECTRIC control**

- Application of shovel-type electric drive to other types of materials-handling equipment at Pedro de Valdivia. R. W. Barr. il diags Gen Elec R 36:478-81 N '33
- Automatic and remotely controlled pumping stations. il Pub Works 64:13-14 N '33
- Automatic combustion control keeps steam pressure constant. il diags Power 77:202-4 Ap '33
- Automatic control of meter proving machines. P. B. R. Baas. il Gas Age 71:569-70 Je 3 '33
- Automatic screw down control, brought out by Electric controller & mfg. co. il Iron Age 132:38+ O 19 '33
- Automatic sewage pumping; control of oil-engine driving pump. diag Elec R (Lond) 113:46-7 Jl 14 '33
- Automatic switching for system ties. E. B. Ellett. diags Elec J 30:295-7 Jl '33

- Balanced relay equalizes material input and output. H. Van Rosen. diag Elec W 101:327 Mr 11 '33
- Barber-Colman 12-in. motor-operated valve. diags Iron Age 132:26 Ag 17 '33
- Behavior of industrial control devices under short circuit. B. W. Jones. il Gen Elec R 36:441-6 O '33
- Billet scale removed with relay-controlled spray. R. M. Bayle. il diag Elec W 101:723-4 Je 3 '33
- Brown mercury-switch thermometer controller. Power Pl Eng 37:491-2 N '33
- Control equipment for locomotives in gaseous mines and tunnels. B. Woodward. il Gen Elec R 36:106-8 F '33
- Control features of 115-ton 800-hp. Diesel-electric locomotive on Erie railroad. C. A. Brancke. il Gen Elec R 36:364-7 Ag '33
- Control panel for an oscillograph laboratory. R. T. Pennoyer and S. O. Evans. il diags Gen Elec R 36:389-93 S '33
- Controlling the density of solutions electrically; Ly-O-Stat. H. M. Pillars. diag Elec W 101:286 Mr 4 '33
- Developments in the electrical industry during 1932; control devices. J. Liston. il Gen Elec R 36:22-5 Ja '33
- Electric control that varies throw of crank while machine is running. A. Beusch. diags Mach 39:383-4 F '33
- Electrically operated mobile cranes; three methods of control. il Elec R (Lond) 113:116 Jl 28 '33
- Floating power house; electric equipment on a suction dredge. R. O. Brosemer. il Elec West 71:16-17 Ag '33
- Guarding remote control against ground faults. G. H. Landis and H. A. McLaughlin. il diags Elec W 101:76-8 Ja 14 '33
- Handling gravel for a man-made mountain; Hoover Dam project. E. A. Slater. il Elec J 30:154-5 Ap '33
- Ignitron control; method of control for mercury arc devices. J. Slepian and L. R. Ludwig. il Power Pl Eng 37:218-19 My '33; Abstract. Sci Am 149:28 Jl '33
- Lighthouses; automatic control of electric supply, using acetylene gas as standby. J. O. Hinds. diag Electrician 110:704-5 Je 2 '33
- Lock electrification in France; Suresnes installation on the Seine. il Elec R (Lond) 113:223 Ag 18 '33
- Low-current starting of 1000-kw converters; the conversion equipment of the Cincinnati Times-Star. L. O. Dorfman and E. L. Blankenbeker. il diag Elec J 30:418-20 O '33
- Magnetic attachment added to hoisting engine stop. il Coal Age 38:312 S '33
- Metal-clad switchgear, automatic protection, and remote control; discussion. Inst E E J 73:88-91 Jl '33
- Metering and control systems improved by centralization. il Power 77:28-9 Ja '33
- Method of control for gas filled tubes. C. Stansbury. il diags Elec Eng 52:190-4 Mr '33
- Motor and control applications in new anthracite breaker. R. A. Hopkins. il diags Elec W 101:516-19 Ap 22 '33
- New and much faster supervisory control; polaricode. il Elec J 30:9 Ja '33
- New method of initiating the cathode of an arc. J. Slepian and L. R. Ludwig. diags Elec Eng 52:605-8 S '33
- Pipe line pumping and automatic control. J. Fies. il diags Elec Eng 52:29-34 Ja '33
- Le poste central à commande électrique des aiguilles et signaux de la gare du Nord, à Bucarest. diag Génie Civil 102:258-9 Mr 18 '33
- Principal developments in electrical control equipment. il Factory Management 91:390-2 O '33
- Rectifier and reactor combinations produce interesting non-linear circuits. diags Power Pl Eng 37:219-20 My '33
- Rectox unit saves extra control circuit; remote motor-driven pumping unit at Rainier national park. diag Elec W 101:515 Ap 22 '33



**ELECTRIC control—Continued**

- Remote control replaces interlocking on the Wabash. *il Ry Age* 94:633-4 Ap 29 '33
- Remote control switch replaces interlocker on Missouri Pacific. *il Ry Age* 94:475-6 Ap 1 '33
- Safety for locomotive runner dictates changes in control equipment. *il diags Coal Age* 38:24-6 Ja '33
- Ships' deck machinery; the development of the Ward-Leonard system of control. R. H. Jackson. *il diags Elec R (Lond)* 112:445-6 Mr 31 '33
- 16 money-saving controls. G. A. Van Brunt. *Factory Management* 91:98-9 Mr '33
- Speed control for Diesel-electric systems; Gebus system. *diag Elec R (Lond)* 113:454 O 6 '33
- Spring water lifted 3000 feet at Grand Canyon. L. J. Cissna. *il Elec J* 30:142-4 Ap '33
- Starting a motor-generator substation after plant shut-down. S. Ein. *diag Elec W* 102:505 O 14 '33
- Supervisory control for pumping stations. R. C. Allen. *il Elec J* 30:183-6 My '33
- Supervisory system controls pump house; Grand Canyon pumping plant of the Santa Fe. *il Elec West* 70:94-6 Mr '33
- Tension reels for strip mills. F. Mohler. *il diags Iron Age* 132:18-22 O 5 '33
- Time delay undervoltage mechanism on electrical control apparatus; Georgia power company. E. M. Clapp. *N E L A Bul* 19:683-5 N '32
- Waterway locks; rapid application of electric operation in France. *il Electrician* 110:673-4 My 26 '33

*See also*

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|--|--|
| Carrier current control                      | Electric substations—                    |
| Electric contactors                          | Supervisory control                      |
| Electric controllers                         | Electric switches                        |
| Electric motors—Control                      | Elevators, Electric—Control              |
| Electric motors, Alternating current—Control | Hydroelectric plants—Automatic operation |
| Electric plants (central stations)—          | Pumping machinery, Electric—Control      |
| Supervisory control                          | Selsyn apparatus                         |
| Electric substations                         | Valves—Electric control                  |
| —Remote control                              | Voltage regulation                       |

**ELECTRIC controllers**

- General Electric selective acceleration for car control. *il Transit J* 77:157 My '33
- New developments in synchronous motor control. M. N. Halberg. *il diag Gen Elec R* 36:244-9 My '33
- Regeln mittels wärmedehnung. A. Grunwald and M. Büchting. *diags Zeit Ver Deutsch Ing* 77:249 Mr 4 '33

*See also***Electric contactors****ELECTRIC converters**

- Controlling tank current in copper works. W. C. Noddings. *Elec W* 101:238-9 F 18 '33
- Kandó phase converter; new type of locomotive on the Hungarian state railway. *il Electrician* 110:39-40 Ja 13 '33
- Stromrichter; dampf-entladungsgefässe und spannungsregelnde gleichrichter. O. Löbl. *il diags Zeit Ver Deutsch Ing* 77:605-9 Je 10 '33
- Stromrichter; wechsellrichter und umrichter. O. Löbl. *diags Zeit Ver Deutsch Ing* 77:684-90 Je 24 '33
- System of thermionic converters for the transmission of energy by continuous current; abstract. M. Sitnikov. *Electrician* 111:172 Ag 11 '33

*See also***Frequency changers****ELECTRIC converters, Synchronous**

- Flashover troubles corrected on rotary-converter commutator. T. E. Miller. *diag Power* 77:147 Mr '33; *Abstract, Coal Age* 38:165 My '33
- Humidity control prevents a.c. brush disintegration. E. F. Bracken. *Elec W* 102:410-11 S 23 '33

- Low-current starting of 1000-kw converters; the conversion equipment of the Cincinnati Times-Star. L. O. Dorfman and E. L. Blankenbaker. *il diag Elec J* 30:418-20 O '33
- Mercury rectifiers vs. rotary converters. O. M. Ward. *plans Elec Eng* 52:194-6 Mr '33
- Paralleling synchronous converters with motor-generator sets. S. Ein. *Elec J* 30:265 Je '33
- Patriarch converter still active in a large middle-western steel mill. S. Ein. *diag Elec J* 30:126 Mr '33

**ELECTRIC cooking**

- Combination utilities should not suppress electric cooking. G. W. Van-Derzee. *N E L A Bul* 19:659-60 N '32
- Commercial cooking and baking. W. Easton. *il Elec R (Lond)* 113:75-7 JI 21 '33
- Commercial cooking; Northwest electric light and power association committee report. *Elec West* 70:255-7 Je '33
- Developments in the electrical industry during 1932; heating appliances. J. Liston. *il Gen Elec R* 36:36-7 Ja '33
- Electric cooking; domestic and commercial; abstracts. P. J. Robinson and E. E. Hoadley. *Elec R (Lond)* 112:851 Je 16 '33; *Electrician* 110:777-81 Je 16 '33; *Engineer* 155:619 Je 23 '33; *Engineering* 136:48 JI 14 '33; *Discussion, Electrician* 110:781 Je 16 '33; *Engineer* 155:619 Je 23 '33; *Elec R (Lond)* 112:904 Je 23 '33; *Engineering* 136:48-9 JI 14 '33
- Electric cooking in hospital kitchens. *il Elec R (Lond)* 113:81 JI 21 '33
- Electric cooking on the continent. F. Mörtzsch. *Elec R (Lond)* 112:772-3 Je 2 '33
- Electric hot-plate performance. *Elec R (Lond)* 111:743 N 18 '32
- Electricity in the home; cooking equipment. *il Elec R (Lond)* 113:492-5 O 13 '33
- Hospital heating and cooking; electrical equipment in two Plymouth institutions. M. O. F. England. *il Elec R (Lond)* 111:881, 884 D 16 '32
- Hot-plate developments. *il Elec R (Lond)* 113:348 S 15 '33
- How gas and electricity compare for cooking. R. J. Rutherford. *Gas Age* 72:39-40 JI 8 '33
- Large cooking equipment; a comprehensive range of appliances for restaurants and similar establishments. *il Elec R (Lond)* 112:777 Je 2 '33
- New Hampshire company teaches electric cookery by the laboratory method. *il N E L A Bul* 20:95 F '33
- No wind can blow out this picnic fire. *il Elec West* 70:132-3 Ap '33
- Quick-heat hot-plate switch. *Elec R (Lond)* 113:343 S 15 '33
- Surmounting cooking competition; with cost data. R. M. Conner. *Am Gas Assn Mo* 15:90-3 Mr '33
- Teaching electric cookery by laboratory method. *il Elec W* 101:355 Mr 18 '33
- Theater cooking schools play to full houses. *il Elec West* 71:5 S '33
- Versuche mit hochleistungsplatten für elektrische haushalter. M. Howald. *il Zeit Ver Deutsch Ing* 76:1228 D 10 '32
- Vitamin cookery. *il Elec West* 71:12 O '33

*See also***Electric stoves****Cost**

- Surmounting cooking competition. R. M. Conner. *Am Gas J* 138:42 Mr '33

**ELECTRIC cords**

- Stamping out cord menace. J. A. Smith. *il Elec W* 102:564 O 28 '33

**Advertising**

- How one association meets the cheapened quality problem; Electric cord manufacturers. *Ptr Ink* 162:80-1 F 9 '33

**ELECTRIC current converters. See Electric converters****ELECTRIC current inverters. See Electric inverters**

**ELECTRIC current limiter**

- Current-limiting reactors; abstracts. H. C. Goodman. *diag Elec R (Lond)* 111:925-6 D 23 '32; *Electrician* 110:3 Ja 6 '33; Discussion. *Elec R (Lond)* 111:926 D 23 '32; *Electrician* 110:3-9 Ja 6 '33
- English electric co.'s d.c. limiter. *il diags Engineer* 155:484-5 My 12 '33
- Reducing peak loads cuts power costs. E. T. Moore. *il Power* 77:476-8 S '33

**ELECTRIC current rectifiers.** See **Electric rectifiers****ELECTRIC currents**

- Attenuation; alternating and pulsating currents in loaded cable. M. Marro. *Electrician* 110:383 Mr 24 '33
- Current in conductors; best value of density with decreasing current. F. G. Bailly. *Electrician* 109:716 D 2 '32; Discussion. S. A. Swann. 109:788-9 D 16 '32
- Decrement of short-circuit currents. C. F. Wagner. *diags Elec J* 30:113-16, 169-72, 205-11 Mr-May '33
- Determination of neutral currents. J. E. Howard. *diags Elec R (Lond)* 112:559 Ap 21 '33

Direct and alternating currents, theory and machinery. E. A. Loew. 656p \$4.50 McGraw-Hill '33

Electric current from electrostatic machines. R. J. Van de Graaff. *Science* 78:sup5 S 22 '33

Engineering acoustics. *Electrician* 110:860-1; 111:13-14, 64-5, 92-3, 120-1 *Je* 30-Jl 28 '33

Fault currents low with heavy power capacity. H. W. Papst. *il Elec W* 102:208-9 Ag 12 '33

Pulsating currents; their advantage for telephony. M. Marro. *diags Electrician* 111:144 Ag 4 '33

R.M.S. current value of a duty cycle. A. van Niekerk. *Elec J* 30:153 Ap '33

Super-tension d.c. transmission. H. Rissik. *Engineer* 155:430-1 Ap 28 '33

Theory of transients; computation of transient currents in salient pole alternators with dampers. W. H. Ingram. *Electrician* 110:615-16 My 12 '33

This thing called power factor. *Power Pl Eng* 36:718-22, 765-7, 816-20; 37:87-9, 138-40 O-D '32, F-Mr '33

Will direct current serve for future transmission? C. W. Stone. *Elec W* 101:247 F 25 '33

**See also**

- |                              |                         |
|------------------------------|-------------------------|
| Electric measurements        | Electric waves          |
| Electric transformers        | Hall effect             |
| Electric transient phenomena | Reactive current (term) |

**ELECTRIC currents, Alternating**

Alternating current circuits. M. P. Weinbach. 417p \$4.50 Macmillan '33

Method for the investigation of the impedance of the human body to an alternating current. M. A. B. Brazier. *diag Inst E E J* 73:204-9 Ag '33

Ripple voltage of rectifiers; influence of higher a.c. harmonics. H. Geise and W. Plathner. *Electrician* 109:714-16 D 2 '32

Short wave h.f. currents; their heating effects—short wave diathermy. H. H. U. Cross. *diags Electrician* 109:683-4 N 25 '32

String controlled alternating-current source. L. H. Stauffer. *diag R Sci Instr* 4:483-5 S '33

**ELECTRIC cutouts**

Film cutouts for series street-lighting circuits. S. B. Kraut. *il diags Elec J* 30:362-3 S '33

**See also**

Electric fuses

**ELECTRIC cutting**

Burning through metal barriers underwater. R. G. Skerrett. *il diag Comp Air M* 38:4035-8 Ja '33

**ELECTRIC discharges**

Behavior of dichlorodifluoromethane and of chlorotrifluoromethane in the electric discharge. N. V. Thornton, A. B. Burg and H. I. Schlesinger. *diag Am Chem Soc J* 55:3177-82 Ag '33

Breakdown of glass under cold cathode discharge; abstract. W. H. Bennett. *Elec Eng* 52:102 F '33

Chemical action in the glow discharge; the decomposition of nitrogen dioxide and the nitrogen dioxide equilibrium. A. K. Brewer and P. D. Kueck. *bibliog J Phys Chem* 37:889-96 O '33

Chemical action in the glow discharge; the dissociation of ammonia. J. W. Westhaver. *bibliog J Phys Chem* 37:897-906 O '33

Combustion of gases in electric discharges. G. I. Finch. *Soc Chem Ind J (Chem & Ind)* 51:978-9 N 25 '32; Discussion. 51:1003-6 D 2 '32

Control of current across a spark gap by means of an external magnetic field. R. F. Earhart and H. A. Carlock. *diags J Fr Inst* 215:179-87 F '33

Corona and spark discharge in gases. J. D. Stephenson. *diags Inst E E J* 73:69-82 [bibliog p81-2] Jl '33

L'éclairage par tubes à décharge électrique à basse tension. A. Aycoberry. *il diags Soc Ing Civils Bul* 85:1159-76 S '32

Effect of positive space charge in collector analysis of discharges. R. H. Sloane and K. G. Emeleus. *diag Phys R* 44:333-7 S 1 '33

Electric arc discharge in water. H. D. Carter and A. N. Campbell. *diag Electrochem Soc Trans* 63 (preprint 22):221-5 My '33

Formation of ozone in the alternating current corona discharge with tubes coated with paraffin, stearic acid and platinum. H. G. Thode and A. C. Grubb. *bibliog diag Electrochem Soc Trans* 63 (preprint 29):297-314 My '33

High-frequency phenomena in gases. K. K. Darrow. *bibliog diags Bell System Tech J* 11:576-607; 12:91-118 O '32-Ja '33

Nature of active nitrogen. J. Okubo and H. Hamada. *Phys R* 42:795-9 D 15 '32

Polymérisation et dédoublement des carbures d'hydrogène sous l'influence de l'effluve électrique. R. Vanier de Saint-Aunay. *bibliog diags Chimie & Ind* 29:1011-25 My '33

Positive ion current at the cathode in the glow discharge. A. K. Brewer and R. R. Miller. *diag Phys R* 42:786-94 D 15 '32

Practical methods of starting the conduction in mercury arcs. L. J. Buttolph and D. W. Dana. *il diags R Sci Instr* 4:206-15 Ap '33

Radiation diffusion and the rapidity of escape of resonance radiation from a gas. C. Kenty. *bibliog Phys R* 42:823-42 D 15 '32

Recombination radiation in the cesium positive column. F. L. Mohler. *U S Bur Stand J Research* 10:771-80 *Je* '33

Scattering of electrons by ions and the mobility of electrons in a cesium discharge. C. Boeckner and F. L. Mohler. *U S Bur Stand J Research* 10:357-63 Mr '33

Secondary emission from collectors in neon discharge. C. Spiwak and E. Reichrudel. *Phys R* 42:580-1 N 15 '32

Spark-gap breakdown. R. Hellman. *Electrician* 110:31-2 Ja 13 '33

**See also**

- |                                |                     |
|--------------------------------|---------------------|
| Corona (electricity)           | Ionization, Gaseous |
| Electrons—Emission from metals | Vacuum tubes        |
|                                | X rays              |

**ELECTRIC distribution**

Advice on rural electrification; abstract. R. M. Charley. *Elec R (Lond)* 112:84 Ja 20 '33

Analysis of the costs of electricity supply and distribution in Great Britain, with some suggestions as to the causes of and remedies for the slow rate of development. J. M. Kennedy and D. M. Noakes. *Inst E E J* 73:97-113 Ag '33; Abstracts. *Elec R (Lond)* 112:156 F 3 '33; *Electrician* 110:154 F 3 '33; Discussion. *Inst E E J* 73:113-68 Ag '33; *Elec R (Lond)* 112:194, 243-4 F 10-17 '33; *Electrician* 110:219 F 17 '33



**ELECTRIC distribution—Continued**

- Automatic switching for system ties. E. B. Ellett. diags Elec J 30:295-7 J1 '33
- Buried system preserves beauty of famous resort; Crater Lake national park. il map Elec West 70:8-9 Ja '33
- Colorado River aqueduct; 1933's outstanding electrical project. map Elec West 70:53-4 F '33
- Corner metals of electrical distribution: copper, aluminium, and lead. F. J. Brislee. Soc Chem Ind J (Chem & Ind) 52:447-51 My 26 '33
- Destructive voltage-rises on low-tension bus-bars; a suggestion. H. P. McGraw. Inst E E J 72:402-12 My '33
- Distribution flexibility in Plymouth motor car plant. diag Elec W 101:483 Ap 15 '33
- Distribution in Paris; new underground substations of the C.P.D.E. C. J. O. Garrard. il diags plan Electrician 110:733-5 Je 9 '33
- Electric power and light for a Century of progress. il diags plan Power Pl Eng 37:292-4 J1 '33
- Electrical distribution in a modern skyscraper; Gulf building, Pittsburgh. J. C. Runyon. il diags Elec J 30:245-9 Je '33
- Electrical equipment of the Chicago post office. C. A. Carpenter. diags W Soc E J 38:266-73+ O '33; Excerpts. Elec W 102:108-9 J1 22 '33
- Electricity for the World's fair. J. L. McConnell. il plans Elec W 101:699-704 My 27 '33
- Electricity supply of Paris. C. J. O. Garrard. maps Electrician 110:289-91 Mr 3 '33
- Generation and distribution of power in the Province of Ontario. F. A. Gaby. il Engineering 134:399-402 S 30 '32; Same cond. Can Eng 63:7-12 D 27 '32
- Heat dissipation from network manholes. L. A. Nettleton. diags Elec W 102:369-72 S 16 '33
- Higher distribution circuit capacities is the trend. S. H. Farace. Elec W 102:572-3 O 28 '33
- Impulse tests on distribution transformers. C. F. Harding and C. S. Sprague. il diags Elec Eng 52:678-82 O '33
- Industrial terminal innovations; Port of New York Authority's new inland freight station, New York. il diags Elec W 101:198-202 F 11 '33
- Influence of mercury-arc rectifiers upon the power factor of the supply system. H. Risik. Inst E E J 72:435-55 [bibliog p450-1] My '33
- Lighting heads the list of special facilities; World's fair, Chicago. J. L. McConnell. il diags Eng N 110:284-5 Mr 2 '33
- Low power costs from Diesel-electric plant; Hudson River stone corporation. O. J. de Gaetano. il diag Eng & Min J 134:11-13 Ja '33
- Low-voltage distribution; a simplified method for signalling, lighting and telephone systems. J. Gardner. il Elec R (Lond) 113:344-5 S 15 '33
- Low-voltage rural supplies; overcoming difficulties of economical distribution. diags Elec R (Lond) 113:148 Ag 4 '33
- Lower-cost underground construction for low-density areas. C. E. Hickey. diags plan Elec W 102:154-7 J1 29 '33
- Mercury rectifiers for 250-volt supply. C. A. Butcher. Elec Eng 52:119-21 F '33
- Modernization of the River Rouge power plant of the Ford motor company. T. Harvey. il diag Gen Elec R 36:262-8 Je '33
- Network distribution; round table discussion. Elec West 70:215-17 Je '33
- Nouveaux dispositifs de synchronisation pour la mise en parallèle de réseaux à courant alternatif. Heyne. diags Génie Civil 103:356-7 O 7 '33
- Operation diagrams simplify relaying problems. R. C. Ericson. map Elec W 101:106-8 Ja 21 '33
- Pertinent facts in primary distribution economics. D. K. Blake. Elec W 101:508-12 Ap 22 '33
- Power supply for the Pennsylvania railroad. J. V. B. Duer. il diags map Elec Eng 52:111-15 F '33
- Power transmission and distribution, 1932-33. Elec Eng 52:746-7 N '33
- Primary network economical for medium-load densities. J. S. Parsons and L. M. Olmsted. diag Elec W 101:835-8 Je 24 '33
- Principal developments in electrical distribution equipment. il Factory Management 91:440-2 N '33
- Progress in the production and transmission of heat and power; distribution of electricity. il Paper Tr J 96:101+ F 16 '33
- Pyranol affords far smaller secondary network units. H. R. Turner and W. T. McLachlan. il diag Elec W 101:726-7 Je 3 '33
- Rural electrification; planning a 33-kV scheme. F. Gurney. Elec R (Lond) 111:808-9 D 2 '32
- Save money on secondary distribution. D. K. Blake. Elec W 102:402-5 S 23 '33
- Sequence principles used for network relaying. H. R. Searing and R. E. Powers. diags Elec Eng 52:694-7 O '33
- Sequence relay for network protectors. H. S. Orcutt and M. A. Bostwick. il diags Elec Eng 52:689-94 O '33
- Simple scheme for customer-service-continuity records. W. R. Hamilton. Elec W 101:65-6 Ja 14 '33
- Solid intermeshed distribution. P. F. Stritzl. il diag Elec R (Lond) 113:303 S 8 '33
- Springfield, Mass. network to return costs inside of four years; with cost data. Elec W 102:630-1 N 11 '33
- System connections; a comparison of methods. W. T. Taylor. diag Elec R (Lond) 113:80 J1 21 '33
- System losses kept down by constant attention. Elec W 101:554 Ap 29 '33
- Trend continues toward automatic regulation of frequency. R. Brandt. Elec W 101:136-7 Ja 28 '33
- Unsymmetrical regulation works well with rural feeders. H. B. Phelps. diags Elec W 101:802-4 Je 17 '33
- Use of metal enclosed switchgear in paper mill electrification. M. H. Hobbs. bibliog il diags Paper Tr J 96:37-42 Mr 16 '33
- Voltage drop in distribution. Electrician 111:478, 525, 555 O 20-N 3 '33
- Voltage drop in rural areas; the case for single-phase distribution. W. A. Turnbull. il Elec R (Lond) 112:857-8 Je 16 '33
- Voltage regulation of distribution cables; cost data. H. R. Searing and E. R. Thomas. Elec Eng 52:554-8 Ag '33
- When flexibility dictates—flexible power. il Factory Management 91:271 J1 '33

**See also**

Busbars	Electric service,
Electric cables	Rural
Electric conductors	Electric substations
Electric conduits	Electric transformers
Electric converters	Electric transmission
Electric currents	Electric wiring
Electric lines	Electric wiring, Interior
Electric plants—Interconnection	Street lighting
Electric power	Voltage regulation
Electric rectifiers	

**Change over to alternating current**

- Change-over of low-tension distribution systems from direct current to alternating current. H. Blades and A. C. MacQueen. Inst E E J 71:737-54; Discussion. 754-75 N '32
- Changing elevator drives from direct- to alternating-current supply. C. P. Hamilton. il Gen Elec R 36:486-7 N '33
- New power system for West Point. A. Staudinger. il Elec J 30:50-4+ F '33

**Cost**

- Analysis of the costs of electricity supply, and its application in relation to various types of consumers. E. H. E. Woodward and W. A. Carne. diag Inst E E J 71:852-93 D '32; Discussion. 71:893-910; 72:358-62 D '32, Ap '33

**ELECTRIC distribution—Cost—Continued**

- Are ratepayers paying too much for power? discussion of M. L. Cooke's "Paying too much for electricity" in the New Republic. H. C. Spurr. Pub Util 11:173-7 F 2 '33
- Capital expenditures decrease; tabulation. Elec W 101:43 Ja 7 '33
- Common fallacies about the average cost of distributing power. H. W. Reed. Pub Util 12:516-23, 567-76 O 26-N 9 '33
- Common neutral has savings possibilities. L. J. Corbett. Elec W 100:755-6 D 3 '32
- Cost of 200-kv. sectionalizing station. diag Elec W 100:879 D 31 '32
- Distribution cost of electric energy with special reference to the residence and rural customer. C. W. Pike. 42p J. B. Lyon co, Albany, N.Y. '33
- Distribution costs of electric service; discussion of paper by C. W. Pike. C. Bary. Elec W 102:248-52 Ag 19 '33
- Distribution costs subjected to new analysis at the meeting of the Institute of public engineering. C. W. Pike and others. Elec W 101:348-51 Mr 18 '33
- Domestic usage fixes distribution costs. S. Ferguson. Elec W 101:295-6 Mr 4 '33
- Electrical distribution costs discussed by Institute of public engineering. Elec W 101:116-17 Ja 28 '33
- Inquiry into the costs of distributing power. Pub Util 11:290-6 Mr 2 '33
- Institute to study distribution cost founded. Pub Util 11:61-2 Ja 5 '33
- Plant location in relation to coal, water and electric load. T. G. LeClair. map Elec W 102:375-6 S 16 '33; Discussion. 102:702 N 25 '33
- St Lawrence tied to promotion of domestic load. Elec W 101:389-91 Mr 25 '33
- 3-phase, 4-wire costs analyzed. R. E. Lloyd. Elec West 69:224-6 D '32
- Variable elements in the cost of distribution of electrical energy. N. H. Gibson. maps Edison Elec Inst Bul 1:83-90 Je '33; Abstract. Elec W 101:749-50 Je 10 '33; Discussion. Edison Elec Inst Bul 1:90-2 Je '33; Elec W 101:750-1 Je 10 '33
- What electricity costs in the home and on the farm; a symposium. M. L. Cooke, ed. 231p New republic, inc, New York '33
- What the grid will save. D. J. Bolton. Elec R (Lond) 112:81-2 Ja 20 '33
- Which seems to leave only Mr. Cooke in the dark; expert power board member opines overcharge by industry. T. F. Woodlock. Pub Serv Management 54:22 Ja '33

**Grounding**

- Common neutral has savings possibilities. L. J. Corbett. Elec W 100:755-6 D 3 '32
- Earthing problem. T. C. Gilbert. il diags Electrician 111:36-40 Jl 14 '33; Abstract. Elec R (Lond) 113:8-9 Jl 7 '33; Discussion. Electrician 111:40-1 Jl 14 '33
- Earthing the neutral point. W. T. Taylor. Elec R (Lond) 112:520 Ap 14 '33
- Ground interconnection saves service. F. E. Hill. diag Elec W 102:595 N 4 '33
- Immunity from shock; tests of the artificial earthing system. S. H. Parsonage. Elec R (Lond) 113:78 Jl 21 '33
- Interconnection of electric circuits with water piping systems. J. B. Downer. Am Water Works Assn J 25:212-25 F '33
- More testimony for ground wires. Elec W 101:482-3 Ap 15 '33
- Multiple earthed neutrals. T. C. Gilbert. Elec R (Lond) 112:482 Ap 7 '33
- Opinions on grounding practices differ. Power 77:544-5 O '33
- Overhead line towers; earth resistances. G. F. Tagg. Engineer 155:422-3 Ap 28 '33; Discussion. 155:505 My 19 '33
- Problem in grounding. G. A. Waters. diags Nat Safety N 27:27 F '33
- Promiscuous electric grounding on water service pipes and mains. N. S. Hill, jr, C. F. Meyerherm, and M. W. Cowles. Am Water Works Assn J 25:1418-30 O '33
- Resistance of earth electrodes. P. D. Morgan and H. G. Taylor. Inst E E J 72:515-18 Je '33

Sheath grounds affect traveling waves in cables. E. Beck. il diag Elec Eng 52:238-9 Ap '33

Special tower grounds extended to 150-kv. lines. il Elec W 100:858 D 24 '32

System reliability. W. T. Taylor. Elec R (Lond) 112:932 Je 30 '33

*See also*  
Electric transformers  
—Grounding

**Grounds and faults**

- Automatic oscilloscope supplies the proof; almost simultaneous lightning strokes on two sides of paired circuit. G. W. Gerrell. diags Elec W 102:594 N 4 '33
- Carrier-current relaying simplified. P. Sporn and C. A. Muller. il diags Elec W 102:556-60 O 28 '33
- Dealing with faults. L. A. Gripper. Elec R (Lond) 112:874 Je 16 '33
- Decrement of short-circuit currents. C. F. Wagner. diags Elec J 30:113-16, 169-72, 205-11 Mr-May '33
- D.c. pilot-wire loop protects 66-kv. cable circuits. J. H. Neher. il diags Elec W 101:384-7 Mr 25 '33
- Fault currents low with heavy power capacity. H. W. Papst. il Elec W 102:208-9 Ag 12 '33
- Fault location in a.c. networks. A. Bied. diags Elec R (Lond) 112:160 F 3 '33
- Faults, and their clearance on large networks. R. O. Kapp and C. G. Carrothers. diags Inst E E J 71:685-702; Discussion. 721-36 N '32
- Faults not healed by new test for location. il Elec W 100:851-2 D 24 '32
- Foreign practice on arcing-ground suppressors, committee report. Edison Elec Inst Bul 1:183-4 S '33
- Ground detector for electrical distributing systems. W. R. Carmichael. diag Rock Prod 36:30 Ap '33
- Guarding remote control against ground faults. G. H. Landis and H. A. McLaughlin. il diags Elec W 101:76-8 Ja 14 '33
- Keeping the line in service by rapid reclosing. S. B. Griscom and J. J. Torok. il Elec J 30:201-4 My '33
- Locating power cable faults by means of a constant current transformer with short circuiting switch. W. P. Taylor. il diag Elec Eng 51:870-2 D '32
- Low voltage network cable of a new type. H. O. Anderson and M. C. Cheney. il plans Elec Eng 52:682-7 O '33
- Mutual induction between power and telephone lines under transient conditions. W. G. Radley and H. J. Josephs. bibliog Inst E E J 72:259-64 Mr '33
- New reactors limit voltage rise on network cables. C. A. Woodrow. il diags Elec W 100:822-4 D 17 '32
- Outages, service standards and investment. S. M. Dean. Edison Elec Inst Bul 1:113-22; Discussion. 122-6+ Jl '33
- Overhead line protection; application of the Petersen coil. D. Bryan. diags Elec R (Lond) 113:180-1 Ag 11 '33
- Photo-electric ground detector gives remote indication. Elec W 101:202 F 11 '33
- Power limit of a transmission system. W. S. Peterson. diag Elec Eng 52:569-72 Ag '33
- Sectionalizing switches automatically maintain service. H. L. Sampson. diag Elec W 101:545 Ap 29 '33
- Short-circuit tests prove primary network. R. J. Salsbury and H. S. Moore. diags Elec W 100:849-51 D 24 '32
- Solution of the two-machine stability problem. H. L. Byrd and S. R. Pritchard, jr. diags Gen Elec R 36:81-93 F '33
- Testing a power system; Indianapolis 132-kv system. A. W. Hill; P. O. Languth and R. M. Smith. il diags Elec J 30:90, 95-102 Mr '33

*Use of communication facilities in transmission line relaying. J. H. Neher. bibliog il diags Elec Eng 52:162-8 Mr '33*  
*See also*  
Short circuits



**ELECTRIC distribution—Continued****Primary network units**

Network unit used for radial in residence area. F. S. Clark. Elec W 100:725 N 26 '32  
 Primary network experience at Boston; abstract. W. B. Elmer. Elec W 101:616 My 13 '33

**Tables, calculations, etc.**

Chart saves time in estimating underground costs. H. T. Sexton. Elec W 101:334-5 Mr 11 '33  
 Determination of neutral currents. J. E. Howard. diags Elec R (Lond) 112:559 Ap 21 '33  
 Graphical determination of the symmetrical components in a 3-phase unbalanced system. R. Laplante. Elec Eng 51:886-7 D 32; Discussion. 52:280-1 Ap '33  
 Metering of symmetrical components. G. R. Shuck. bibliog diags Elec Eng 52:536-43 Ag '33  
 New theorem for active networks. A. T. Starr. diags Inst E E J 73:303-8 S '33  
 Notes on symmetrical components. Electrician 109:644, 687, 720 N 18-D 2 '32  
 Symmetrical components. L. V. Bewley. Elec Eng 52:647-8 S '33  
 Unbalanced 3-phase systems; formulæ for calculating magnitude of components. S. A. Stigant. Electrician 111:230-2 Ag 25 '33  
 Uses of synchronous machine quantities in system studies. W. M. Hanna. Gen Elec R 36:116-28 Mr '33

**ELECTRIC dollar. See Money****ELECTRIC double layer**

Application of the double layer theory of Otto Stern. F. Urban and H. L. White. J Phys Chem 36:3157-61 D '32

**ELECTRIC driving**

All-electric jig gives constant speed and tension; abstract. C. E. Robinson, L. M. Start and B. M. Horter. diag Textile World 82: 1178-9 D '32  
 Application of shovel-type electric drive to other types of materials-handling equipment at Pedro de Valdivia. R. W. Barr. il diags Gen Elec R 36:478-81 N '33  
 Applying alternating-current motors. Elec J 30:44 Ja '33  
 Changing elevator drives from direct- to alternating-current supply. C. P. Hamilton. il Gen Elec R 36:486-7 N '33  
 Choosing the right drive; the variable speed units. W. Staniar. il Iron Age 132:18-22 O 19 '33  
 Combining group and unit drives for greatest economy. V. A. Hanson. Chem & Met Eng 39:612-13 N '32  
 Control of motors driving ventilating fans. S. R. Lewis. il diags Heating-Piping 5:100-6 D '32  
 Controlling motors for temperature control systems, compressors, oil burners, stokers. S. R. Lewis. il diags Heating-Piping 5:100-4 F '33  
 Developments in the electrical industry during 1932; motor applications. J. Liston. il Gen Elec R 36:26-7 Ja '33  
 Discharging grain; a modern automatic electrical system. R. N. Tweedy. il plan Elec R (Lond) 112:337-8 Mr 10 '33  
 Dual drive improves steam-plant economy. E. C. Dieffenbach. Power 77:246 My '33  
 Electric bulk unloader saves stevedoring costs. il Elec West 70:159 My '33  
 Electric-driven dredge; Middlesex. il Power Pl Eng 36:815 D '32  
 Electrical equipment for bascule, lift, and swing bridges. H. H. Vernon. il Gen Elec R 36:450-4 O '33  
 Electrically vibrated screens. J. Dummelow. il Elec R (Lond) 112:76 Ja 20 '33  
 Fitting motors and clutches to high-inertia loads. R. S. Elberty. il Elec W 101:92-4 Ja 21 '33  
 Flat belt drives cut power transmission costs. il Power 77:189-90 Ap '33  
 For given loads, what drives? H. M. French. il Factory Management 91:234-6 Je '33

Gearmotor problems; abstract. R. S. Marthens. Iron Age 131:754 My 11 '33  
 Gears and motor become as one. il Elec J 30:21 Ja '33  
 Gears and motors combine into new power unit type; Falk corporation. P. C. Day. diags Elec W 101:328-9 Mr 11 '33  
 Get the speed you need with variable-voltage control. P. W. Arnola. il diags Factory Management 91:218-20 Je '33  
 Group or individual drive? A. G. Powell. il Elec R (Lond) 112:627 My 5 '33  
 Handling plant transmission. il diags Mech Handling 19:351-3; 20:34-6 O '32, Ja '33  
 Individual and group drives; investment and operating cost data. R. Drake. il Maintenance Eng 90:237-42, 287-92, 317-21, 352-6, 387-91 Je-O '32; Abstract. Mech Eng 55:187-9 Mr '33  
 Kolbenkompressor mit unmittelbarem antrieb durch synchronmotor. H. v. Selzam and B. Lang. il Zeit Ver Deutsch Ing 77:980-2 S 9 '33  
 Lamp flicker traced to critical compressor resonance. il Elec W 101:300-1 Mr 4 '33  
 Many new motors for special drives. il Elec J 30:20 Ja '33  
 Motor duty cycles computed by new method. T. R. Rhea. il Elec W 102:236-9 Ag 19 '33  
 Motor polishing machines. il Elec R (Lond) 113:13-14 Jl 7 '33  
 Motorized speed reducers and their applications. F. Richardz. il Mach 39:508-9 Ap '33  
 Motorized speed reducers make savings in cost and weight possible. M. H. Nelson. Mach 40:111 O '33  
 Motorizing a ditch dredger; gas-electric dredger lowers operating costs and reduces canal maintenance. R. E. Bear. il Elec West 70: 117-19 Ap '33  
 No more costly shutdowns with this modern power transmission; Buffalo flour mills company. il Factory Management 91:349-50 S '33  
 Plymouth motor car corporation collects dividends from power-factor improvement. Elec W 101:330 Mr 11 '33  
 Reducing peak loads cuts power costs. E. T. Moore. il Power 77:476-8 S '33  
 Saves \$40 a month by correcting overmotoring. G. A. Ehrhardt. il diag Factory Management 91:326 Ag '33  
 Scandinavian sectional meeting of the World power conference. Engineering 136:268-71 S 8 '33  
 Service reliability keynote of anthracite breaker design. R. A. Hopkins. il diags Elec W 101:484-6, 516-19, 583 Ap 15-22, My 6 '33  
 Sizes and types of electric drives in Michigan copper and iron mines. Elec W 101:457 Ap 8 '33  
 Speed-torque curves—how they picture crane performance. A. A. Merrill. il diags Steel 93:25-8 Jl 31; 23-6 Ag 21; 27-30 S 4 '33  
 Synchronized drives without mechanical connection. H. W. Reding. il diags Elec J 30: 277-80 Jl '33  
 Synchronized mechanical motion without mechanical connection. C. W. Drake. il diags Maintenance Eng 90:441-3 D '32  
 Synchronous-motor applications. Elec J 30:175 Ap '33  
 Synchronous ties. H. A. Winne. il diags Gen Elec R 36:129-35 Mr '33  
 Uses of electricity on the site of civil engineering works. G. T. Allcock. Engineering 135:632 Je 9 '33  
 Utilizing multi-speed a.c. motor on reversing table drive. diag Elec W 101:173 F 4 '33  
 Variable-voltage oil drilling equipment. A. H. Albrecht. il diags Elec Eng 52:617-21 S '33  
 Vertical-lift bridges with synchronous motors. W. L. Six. il diags Eng N 111:402-3 O 5 '33  
 Voltage for auxiliary d.c. motors; with cost data. G. Fox. il Blast F & Steel Pl 21: 409-11+ Ag '33  
 Voltage variation; its effect in the shop. A. W. Forbes. Am Mach 77:555 Ag 30 '33  
 What modern group drive is. V. A. Hanson. il diags Factory Management 91:397-9 O '33

**ELECTRIC driving—Continued**

When flexibility dictates—flexible power. *il*  
 Factory Management 91:271 J1 '33

*See also*

Electric motors	Machine tools—Elec-
Electric tools, Port-	tric driving
able	Mine hoisting, Elec-
Electricity in mining	tric
Elevators, Electric	Pumping machinery,
Hoisting machinery,	Electric
Electric	Ship propulsion, Elec-
	tric

**Bakeries**

Electrical rehabilitation pays us \$15,000;  
*il* Elec J 30:22 Ja '33  
 General baking company purchases power.  
 J. G. Coffin. *il* Factory Management 91:121-  
 3 Ap '33  
 Electrification of a biscuit factory; Macfar-  
 lane, Lang and co. Osterley Park, Middle-  
 sex. *il* Engineer 155:271-2 Mr 17 '33; Elec-  
 trician 110:496 Ap 14 '33

**Cement plants**

Screw conveyor and bucket elevator drives.  
 T. N. Haffner. *il* diag Rock Prod 36:25-7  
 O '33

**Construction equipment**

Billions of kilowatt-hours used at Hoover dam.  
*il* Elec J 30:22 Ja '33  
 Special power tools speed transmission line  
 erection. W. B. Flynn. *il* Elec W 101:138-9  
 Ja 28 '33

**Cost**

Power transmission in the cotton textile in-  
 dustry. V. A. Hanson. *il* Melliand 5:193-6,  
 233-6 O-N '33

**Cotton mills**

Cotton mill change-over. G. T. Allcock. *il*  
 Elec R (Lond) 112:695-7 My 19 '33  
 Courageous electrical pioneers, Columbia mills  
 company. J. W. Hammond. *il* Melliand 5:  
 89-91 Je-J1 '33  
 Group and unit drive combination effects sav-  
 ings. Textile World 83:934 My '33  
 Power transmission in the cotton textile in-  
 dustry. V. A. Hanson. *il* Melliand 5:193-6,  
 233-6 O-N '33

**Gas works**

Electricity in gasworks. C. H. S. Tupholme.  
*il* diag Elec R (Lond) 112:701-2 My 19 '33  
 Motors for elevators and hoists in gas and  
 coke plants. E. J. Tournier. *il* diag Gas Age  
 71:53-6 Ja 21 '33

**Ice plants**

Large ice factory at Grimsby. *il* Elec R  
 (Lond) 113:147-8, 149 Ag 4 '33

**Machine tools**

*See* Machine tools—Electric driving

**Paper mills**

Bruce, Peebles and company's pulp-beater  
 rolls with internal electric drive. *il* Engi-  
 neering 136:48 J1 14 '33  
 Complete overload protection extends life of  
 motor and reduces maintenance. R. R.  
 Baker. *il* Paper Tr J 97:22-3 J1 13 '33  
 Electrical department; Ontario paper co.  
 W. L. Eliason. *il* Pulp & Pa of Can 34:385-7  
 Je '33  
 G-E variable voltage winder drive with re-  
 generative braking of the unwinding reel  
 installed at the Bogalusa paper co, Bogalu-  
 sa, La. D. R. Shoults. *il* diag Paper Tr J  
 96:21-2 Je 8 '33  
 Large economies effected by new paper mill  
 drives. *il* Elec J 30:28 Ja '33  
 Limits of accuracy for the draw-regulation  
 of sectional-driven paper-making machines;  
 abstract. H. T. Caloniun. Engineering 136:  
 269 S 8 '33  
 Paper machine modernized by electronic speed  
 regulator; Cherry River paper company. D.  
 F. Cronin and C. W. Drake. *il* diag Elec W  
 102:538-40 O 21 '33  
 Present practice in sectional paper machine  
 drives. R. H. Rogers. Power PI Eng 37:140-  
 1 Mr '33

Synchronous motor control. D. R. Shoults. *il*  
 diag Paper Tr J 96:34-7 Ap 6 '33

**Power plant auxiliaries**

First synchronous motors for power plant  
 auxiliaries. Elec W 101:89 Ja 21 '33  
 Hydraulic variable-speed a.c. couplings. *il*  
 diag Elec R (Lond) 111:705 N 11 '32  
 Power station auxiliaries. J. W. A. Aberne-  
 thy. *il* Elec R (Lond) 113:590 O 27 '33; Dis-  
 cussion. 113:626-7 N 3 '33

**Printing offices**

High speed a.c. drive for multiple-unit  
 presses. G. L. Beaver. *il* Elec West 71:20  
 S '33  
 Rotary printing machinery; some typical ap-  
 plications of electric control apparatus.  
 C. H. S. Tupholme. *il* Elec R (Lond) 111:  
 813-14 D 2 '32

**Refrigerating plants**

Power drive in refrigerating plants. E. W.  
 O'Brien. Refrig Eng 25:358+ Je '33  
 Refrigeration in the Far East. *il* Elec R  
 (Lond) 113:357 S 15 '33  
 Synchronous motors for refrigeration service;  
 comparison with induction motors. M. N.  
 Halberg. *il* Refrig Eng 25:193-7 Ap '33

**Rock products plants**

Modernize rock crusher drive with syn-  
 chronous motor. F. A. Westbrook. *il* Con-  
 crete (mill sec) 41:39 Ja '33  
 Obsolescence of electric drives in the rock  
 products industry. R. H. Rogers. *il* Rock  
 Prod 35:65-70 D 31 '32

**Rolling mills**

Bemerkenswertes walzwerk-sondergetriebe. *il*  
 diag Stahl & Eisen 53:892-3 Ag 24 '33  
 Circle diagram—application to steel-mill  
 drives. A. van Nierkerk. diags Elec J 30:  
 405-7 O '33  
 Conserving power by electric drag. A. L.  
 Krause. *il* diag Blast F & Steel P1 21:211-12  
 Ap '33  
 Controlling operation of Steckel mills. F.  
 Mohler. *il* diag Iron Age 130:756-7+ N 17  
 '32  
 Curing bad commutation on roll-drive motors.  
 S. Ein. diag Elec W 101:197 F 11 '33  
 Electrical penetration; steel works develop-  
 ments at Motherwell. *il* Electrician 110:466  
 Ap 7 '33  
 Electrified steel mill; Dalzell steel and iron  
 works. *il* Elec R (Lond) 112:559 Ap 21 '33  
 Epic story of the first big steel mill motors;  
 beginning of the great Gary steel plant.  
 J. W. Hammond. *il* Iron Age 132:8-11 Ag  
 24 '33  
 Hot strip rolling mills; electrical operation of  
 works at Riversdale, Ill. F. J. Taylor. *il*  
 Electrician 110:707 Je 2 '33  
 Steel mills' toughest motor job; automatic  
 sheet catchers. G. A. Caldwell. *il* diags  
 Elec J 30:399-404 O '33  
 Synchronous motors in rolling mill service. S.  
 P. Bordeaux and R. N. Early. bibliog Elec  
 Eng 61:855-8 D '32  
 Tension reels for strip mills. F. Mohler. *il*  
 diags Iron Age 132:18-22 O 5 '33

**Rubber factories**

Pioneer's vision realized; first complete elec-  
 trification of entire industrial plant; Good-  
 rich plant. N. S. Braden. *il* Elec J 30:410-12  
 O '33

**Sawmills**

Mill operates on full-time schedule; new mill  
 of the Seaboard lumber co. *il* Elec West 70:  
 12-13 Ja '33

**Ships' auxiliaries**

Alternating current for auxiliaries in the  
 navy. Marine Eng 38:423 N '33  
 Auxiliaries electrified on Grace Line steam-  
 ships. Elec Eng 52:95 F '33  
 Caribia, first of two, twin screw. German mo-  
 torships. *il* diags Marine R 63:10-14 My '33  
 Developments in the electrical industry dur-  
 ing 1932; marine equipment. J. Liston. *il*  
 Gen Elec R 36:10-15 Ja '33



**ELECTRIC driving—Ships' auxiliaries—Cont.**

Electrification of merchant ships with a-c auxiliaries. F. V. Smith. *il Marine Eng* 38: 368-75 O '33

**Textile mills**

Ball-bearing motor solved a problem at Chiquola. F. A. Westbrook. *il Textile World* 83:581 Mr '33

Changed drives, and stayed in business; Foster yarn, inc. L. K. Urquhart. *il plans Factory Management* 91:127-9 Ap '33

Electric motors; new types for silk spinning. H. C. E. Jacoby. *Electrician* 110:457 Ap 7 '33

Electricity and its application in textile works with special reference to the linen industry. R. H. Friend. *il Textile Inst J* 24:P265-70 O '33

Individual electric drive for full-fashioned hosiery machines. W. Hildebrandt. *il diags Melland* 4:439-41, 576-9, 617-19, 668-70 O, D '32-F '33

Kraftbedarf und ungleichförmigkeitsgrad beim webstuhl. F. Oertel. *diags Zeit Ver Deutsch Ing* 77:437-41 Ap 29 '33

Power transmission in textile mills. A. C. Woodbury. *il Melland* 5:1-3 Ap '33

Revised silk mill drive brings benefits. C. W. Turner. *Elec W* 102:437 S 30 '33

Simple control makes practicable long-sought variable-speed spinning. *il Elec J* 30:29 Ja '33

Two-speed spinning frame drive increases output. *Elec W* 102:253 Ag 19 '33

**See also**

Electric driving—  
Cotton mills

**Woodworking shops**

Electricity in woodworking; works of Messrs. Wootton & co, ltd. *il Elec R (Lond)* 113: 85 Jl 21 '33

**ELECTRIC eels**

Electric eels. H. H. U. Cross. *Electrician* 110: 192 F 10 '33

**ELECTRIC elevators. See Elevators, Electric****ELECTRIC engineering**

Abstracts of papers at A.I.E.E. summer convention. *Elec Eng* 52:412-19 Je '33; Summarized review of discussions. 52:578-82, 643-6 Ag-S '33

A.I.E.E. winter convention; abstracts of papers. *Power* 77:101 F '33

Continued engineering progress reported at A.I.E.E. winter convention. *Elec W* 101:113-14 Ja 28 '33

Developments in America; review of technical progress during 1932. J. Liston. *Electrician* 110:117 Ja 27 '33

Developments in the electrical industry during 1932. J. Liston. *il diags Gen Elec R* 36:7-71 Ja '33

Electrical developments in 1932. *il Power Pl Eng* 36:32-5 Ja '33

Electrical engineering in 1932. *il Engineer* 155:9-13, supp 4-5 Ja 6 '33

Electrical technology. H. Cotton. 2d ed 468p \$3.75 Pitman '32

Experimental electrical engineering and manual for electrical testing. V. Karapetoff and B. C. Dennison. 4th ed 781p \$6 Wiley '33

Inaugural address before Institution of electrical engineers. E. W. Marchant. *Inst E E J* 72:1-10 Ja '33; Abstracts. *Electrician* 109: 531-2 O 28 '32; *Elec R (Lond)* 111:637 O 28 '32; *Engineer* 154:434 O 28 '32

Insulation co-ordination and impulse testing; abstracts of papers at A.I.E.E. meeting. *Elec W* 101:156-8 F 4 '33

Modern trend of electrical engineering. L. H. Crowther. *Inst E E J* 72:79-83 Ja '33

New applications, and the expansion of recent uses of electricity. G. F. Sills. *Inst E E J* 72:45-50 Ja '33; Abstract. *Electrician* 109: 503-4 O 21 '32

Paris H.T. congress; turbo-alternators and transformers. *Electrician* 111:7-8 Jl 7 '33

Principles and practice of electrical engineering. A. Gray and G. A. Wallace. 4th ed 538p \$4 McGraw-Hill '33

La VII<sup>e</sup> session de la Conférence internationale des grands réseaux électriques (Paris 16-24 juin 1933). *Génie Civil* 103:139-41, 158-60 Ag 5-12 '33

Significance of Professor Thomson's work in the development of electrical engineering. K. T. Compton. *Science* 77:415-18 My 5 '33

Some new things in electrical engineering. S. M. Kintner. *W Soc E J* 38:154-68 Je '33

Standard handbook for electrical engineers. F. F. Fowle, ed. 6th ed 2790p \$7 McGraw-Hill '33

Use of the motion camera for testing electrical apparatus. W. Wilson. *Engineering* 136:381-2, pl 12-13 O 6 '33; Abstracts. *Engineer* 156:255-6 S 15 '33; *Elec R (Lond)* 113: 349 S 15 '33; *Electrician* 111:313 S 15 '33

**See also**

Armatures  
Automobiles—Electric equipment  
Commutators  
Electric apparatus and appliances  
Electric distribution  
Electric driving  
Electric generators  
Electric heating  
Electric lighting  
Electric lines  
Electric machinery  
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Electricity on the farm  
Electricity supply  
Hydroelectric plants

Prospecting—Electric methods  
Radio communication and other headings beginning Radio  
Railroads—Electric equipment  
Railroads—Electrification  
Ship propulsion, Electric  
Ships—Electric equipment  
Steel works—Electric equipment  
Telegraph  
Telephone  
Voltage regulation  
Watt hour meters  
Wattmeters

**Bibliography**

Journal of the Institution of electrical engineers: Index to vols. 60 to 69, 1922-1931. 263p Spon '33

**Dictionaries**

McDonald's electrical dictionary. G. McDonald. 178p \$1.50 Meador pub. co, 470 Atlantic av, Boston '33

**Estimates**

Man-hour electrical estimating manual. T. Heinzerling. 382p Rurick press, inc, New York '32

**History**

Electricity—the silent partner of industry; World's fair exhibits. *il Power Pl Eng* 37: 256-9 Je '33

Progress of the electrical industry during the last 30 years. R. M. Longman. *Inst E E J* 72:63-8 Ja '33

**Laboratory manuals**

Electrical engineering laboratory manual. S. P. Smith. 153p 3s 6d Oxford '33

Experimental electrical engineering. E. T. A. Rapson. 166p Pitman '32

**Safety devices and measures**

Earthing problem. T. C. Gilbert. *il diags Electrician* 111:36-40 Jl 14 '33; Abstract. *Elec R (Lond)* 113:8-9 Jl 7 '33; Discussion. *Electrician* 111:40-1 Jl 14 '33

Immunity from shock; tests of the artificial earthing system. S. H. Parsonage. *Elec R (Lond)* 113:78 Jl 21 '33

Problem in grounding. G. A. Waters. *diags Nat Safety N* 27:27 F '33

Shockproof supply services. G. E. Moore. *Elec R (Lond)* 111:882-3 D 16 '32

**See also**

Electric protective apparatus

Insulation (electric)

also subdivision Safety devices and measures and subdivision Protection under special headings, e.g. Electric plants (central stations)—Safety devices and measures; Electric lines—Protection; Electric motors—Protection

## ELECTRIC engineering—Continued

## Study and teaching

- Engineering schools and the changed conditions. V. Karapetoff. *Elec Eng* 52:604-5; Discussion. C. L. Dawes. 647 S '33  
 Inaugural address before Institution of electrical engineers. E. W. Marchant. *Inst E E J* 72:1-4 Ja '33; Abstracts. *Electrician* 109: 531-2 O 28 '32; *Elec R* (Lond) 111:637 O 28 '32  
 Training electrical engineers; the significance of the national certificates. J. V. Brittain. *il Elec R* (Lond) 112:151 F 3 '33

## Tables, calculations, etc.

- Adjusted synchronous reactance and its relation to stability. H. B. Dwight. *diags Gen Elec R* 35:609-14 D '32  
 Calculating surge-generator waves. P. H. McAuley and F. R. Benedict. *il diags Elec J* 30:326-8 Ag '33  
 Decrement of short-circuit currents. C. F. Wagner. *diags Elec J* 30:113-16, 169-72, 205-11 Mr-May '33  
 Electromagnetic forces on conductors with bends, short lengths, and cross-overs. C. W. Frick. *diags Gen Elec R* 36:232-42 My '33  
 Engineering calculation of inductance and reactance for rectangular bar conductors. O. R. Schurig. *Gen Elec R* 36:228-31 My '33  
 Evaluation of recorder charts. J. Dalchau. *Elec R* (Lond) 112:736 My 26 '33  
 Mechanical device for calculating impedances. G. O. Harrison. *diag Elec J* 30:130 Mr '33  
 Mercury vapour rectifiers; commutation in multiphase apparatus. T. D. Oswald. *il Electrician* 111:339-40 S 22 '33  
 New method of calculating circuits; a short-circuit current solution. W. B. Kouwenhoven and M. W. Pullen. *diags Elec Eng* 52:776-9 N '33  
 Phase rotation; the theory of the Varley test. G. W. Stubbings. *Electrician* 111:502-3 O 27 '33  
 Power limits of synchronous machines. E. Clarke and R. G. Lorraine. *bibliog diags Elec Eng* 52:780-7 N '33  
 Power, power factor, and reactive voltamperes. C. L. Fortescue. *diags Elec Eng* 52: 319-23 My '33  
 R.M.S. current value of a duty cycle. A. van Niekerk. *Elec J* 30:153 Ap '33  
 Regulation chart for automatic voltage regulators. C. Heyel and W. R. Weise. *Elec J* 30:250-2 Je '33  
 Resonance method of wave-form analysis. C. F. J. Morgan. *Inst E E J* 71:819-29 [bibliog p828-91 N '32; Abstract. *Electrician* 110: 161 F 3 '33  
 Simplified method of applying instrument transformer correction factors to wattmeter readings. C. O. Werres. *Gen Elec R* 36: 462-3 O '33  
 Statistics; informative curves from prosaic figures. D. Harvey. *bibliog Elec J* 30:110-12 Mr '33  
 Steady state stability of composite systems. S. B. Cray. *bibliog diags Elec Eng* 52:787-92 N '33  
 Tedious calculations made easy; Pennsylvania railroad electrified system; use of calculating board. *il Ry Age* 94:300 F 25 '33  
 Theory of transients; computation of transient currents in salient pole alternators with dampers. W. H. Ingram. *Electrician* 110:615-16 My 12 '33  
 Unbalance factor and theory of unbalance in 3-phase triangles. J. H. Baker. *diags Elec Eng* 52:510-11 Jl '33  
 Unsymmetrical short circuits. *Electrician* 111: 262, 290, 321, 346 S 1-22 '33  
 Uses of synchronous machine quantities in system studies. W. M. Hanna. *Gen Elec R* 36:116-28 Mr '33

## See also

- Electric distribution—  
 —Tables, calculations, etc.  
 Electric transmission  
 —Tables, calculations, etc.

## Terminology

- Reactive current; two distinct definitions. G. W. Stubbings. *Elec R* (Lond) 112:303 Mr 3 '33

## See also

- Reactive power

## ELECTRIC engineers

- Future prospect for electrical engineers. E. W. Marchant. *Inst E E J* 73:210-12 Ag '33  
 Institution of electrical engineers; brief biographies of the new chairmen. *pors Elec R* (Lond) 113:545-7 O 20 '33  
 Steel-mill electrical engineer. W. E. Miller. *Elec J* 30:421-2 O '33  
 Training electrical engineers; the significance of the national certificates. J. V. Brittain. *il Elec R* (Lond) 112:151 F 3 '33  
 Varley brothers; Cromwell Fleetwood Varley and Samuel Alfred Varley. A. G. Lee. *bibliog Inst E E J* 71:958-64 D '32

## See also

- American institute of  
 electrical engineers

## ELECTRIC equipment

- Advances in electrical equipment. *il Manuf Rec* 101:38-9 D '32  
 Developments in the electrical industry during 1932. J. Liston. *il diags Gen Elec R* 36:7-71 Ja '33  
 Economic conference; electrical features at the new Geological museum. *il Electrician* 110:810 Je 16 '33  
 Electrical developments during the past year. A. F. Kenyon. *Blast F & Steel Pl* 21:38-9 Ja '33  
 Electrical developments emphasize improved operation. *il Power* 77:26-7 Ja '33  
 Electrical stores; single storey building of 80 000 sq. ft. for G. E. C. Witton. *il Electrician* 110:716 Je 2 '33  
 Electricity plays leading role in civic opera group; San Francisco's new War memorial opera house and Veterans' building. *il Elec West* 70:20-7 Ja '33  
 General power applications in 1932. *Elec Eng* 52:385-6 Je '33  
 Motors, electrical and elevator equipment. *il diags Power* 76:365-9 Mid-D '32  
 N.E.L.A. electrical apparatus committee meeting. *N E L A Bul* 19:695-6 N '32  
 N.P.L. test tank; electrical equipment for shipbuilding research at Teddington. *Electrician* 109:699 N 25 '32  
 Principal developments in electrical distribution equipment. *il Factory Management* 91: 440-2 N '33  
 Progress of the electrical industry during the last 30 years. R. M. Longman. *Inst E E J* 72:63-8 Ja '33  
 Substantial electrical installations reduce maintenance costs. M. Phillips. *il diags Power* 77:244-5 My '33  
 When electrical equipment gets wet. E. C. Dieffenbach. *il diags Factory Management* 91:186-8 My '33

## See also

- |   |  |
|---|--|
| Amusement parks—<br>Electric equipment        | Electric instruments                             |
| Automobiles—Electric equipment                | Electric lighting                                |
| Bridges, Movable—<br>Electric equipment       | Electric plants (central stations)—<br>Equipment |
| Chemical plants—<br>Electric equipment        | Electric power                                   |
| Cranes, derricks, etc.<br>—Electric equipment | Electric wire                                    |
| Dairies—Electric equipment                    | Electricity in mining                            |
| Electric apparatus and appliances             | Hospitals—Electric equipment                     |
| Electric cables                               | Railroads—Electric equipment                     |
| Electric control                              | Rolling mills—Electric equipment                 |
| Electric fittings                             | Ships—Electric equipment                         |
|   | Switchboards                                     |

## Bibliography

- Maintenance Engineering 1932 equipment news index. *Maintenance Eng* 91:30-2 Ja '33



**ELECTRIC equipment—Continued****Manufacture**

- Cellulose derivatives; uses in the electrical industries. J. S. Gourlay. *Electrician* 109: 602-3 N 11 '32
- Fabrication by welding; some typical examples from electrical factories. E. D. Lacy. *il Elec R (Lond)* 112:80 Ja 20 '33
- Impregnation varnishes; evaporation of solvents and the oxidation of varnishes used for electrical windings, etc. D. Texier. *diags Electrician* 109:666-71 N 25 '32
- Insulations; enamels, paints, etc. H. Warren. *Electrician* 111:281-2 S 8 '33
- Switchgear and equipment; the products of a new manufacturing concern. *il diag Elec R (Lond)* 111:780 N 25 '32

**Safety devices and measures**

- Are your equipment cases alive? device for detecting live condition of transformer case. J. D. Pease. *diag Power Pl Eng* 37:358 Ag '33
- Electricity and its safe use in everyday life. A. C. Cramb. *Electrician* 110:699-700; Discussion. 700 Je 2 '33
- Fires on ships; abstract. E. L. Champness. *Electrician* 109:638 N 18 '32
- Hold-off cardholder for use near live equipment. F. W. Sulewsky. *diag Elec W* 101:299 Mr 4 '33
- Killing electrical transmission lines. S. Einplan. *Power Pl Eng* 37:463 N '33
- List of inspected electrical appliances, April, 1932. 272p. National board of fire underwriters, 207 East Ohio st, Chicago '32 [revised semiannually]
- Maintaining electrical equipment for safe service. G. A. Waters. *diags Nat Safety N* 26:20-2+ D '32
- Shock threshold fixes appliance insulation resistance. G. Thompson. *Elec W* 101:793-5 Je 17 '33

**Testing**

- Some recent developments in electromagnetic inspection and test equipments. B. M. Smith. *il Gen Elec R* 36:368-70 Ag '33

**ELECTRIC fans**

- Air motion. H. A. Brod. *Elec West* 70:246 Je '33
- Developments in the electrical industry during 1932; electric fans. J. Liston. *il Gen Elec R* 36:38-9 Ja '33
- New fans. *il Elec R (Lond)* 112:907 Je 23 '33

**ELECTRIC fans, Ventilating**

- Cow comfort means more milk; electric fans for cow barns. *il Elec J* 30:116 Mr '33
- How to select the proper motors for ventilating-fan drives. C. P. Hamilton. *il Power* 77:406-8 Ag '33
- Residence cooling with fans. S. S. Sanford. *Elec W* 100:735 N 26 '32
- Roof ventilators automatically controlled. *il Sheet Metal Worker* 24:224-5 Jl '33

**ELECTRIC field**

- Effect of an electric field on the flame temperature of combustible gas mixtures. B. Lewis and C. D. Kreutz. *Am Chem Soc J* 55:934-8 Mr '33
- Electromagnetic effects in stellar atmospheres. J. A. Anderson. *Elec Eng* 52:621-3 S '33
- Engineering acoustics; electric and magnetic fields. *Electrician* 110:741-2 Je 9 '33
- High-frequency phenomena in gases. K. K. Darrow. *bibliog diags Bell System Tech J* 11:576-607; 12:91-118 O '32-Ja '33
- Propagation of flame in electric fields; the effects of transverse fields. E. M. Guenault and R. V. Wheeler. *pl diags Chem Soc J* p2788-93 N '32
- Radiation characteristics of a vertical half-wave antenna. J. A. Stratton and H. A. Chinn. *diags Inst Radio Eng Proc* 20:1892-1913 D '32
- Relations of stellar electricity and magnetism to the phenomena of the sun's atmosphere. R. Gunn. *diags Science* 76:577-3 D 23 '32
- Uncertainty theory and the electric field of a particle. G. Lemaitre. *Science* 77:sup 6 F 10 '33

**ELECTRIC fires**

- Electric fires at mines. A. R. Webster. *Can Min J* 54:343-5 S '33

**ELECTRIC fittings**

- Domestic plugs and sockets; a criticism of attempts to standardise round pins. R. W. Willis. *Elec R (Lond)* 113:113 Jl 28 '33
- Electricity in the home; installation materials. *il Elec R (Lond)* 113:516-22 O 13 '33
- Die entwicklung des elektrischen installationsmaterials. R. Zaudy. *il diags Zeit Ver Deutsch Ing* 77:643-6 Je 17 '33
- Heating of lamp fittings and connectors; abstracts. P. D. Morgan; H. G. Taylor and W. Lethersich. *il diag Elec R (Lond)* 112: 561-2 Ap 21 '33; *Electrician* 110:515 Ap 21 '33; *Engineer* 155:436 Ap 28 '33; Discussion. *Elec R (Lond)* 112:596 Ap 28 '33; *Electrician* 110: 618 My 12 '33
- Insulating panels; materials for use in switchboards and mountings. A. R. Dunton. *il Electrician* 109:672-5 N 25 '32
- Lectro-Linx plugs of novel design. *il Electrician* 110:235 F 17 '33
- Low-cost laboratory unit for lighting and appliances. S. E. Pond and O. Meier, Jr. *diag Science* 77:585-6 Je 16 '33
- New wiring system; design of Silvertown junction box making for easy installation. *il Electrician* 109:762 D 9 '32
- Rewirable outdoor Henley Isco. *il diag Electrician* 109:759 D 9 '32
- Reyrolle electric plugs and sockets. *il Engineer* 156:94 Jl 28 '33
- Simplifying terminal facilities for control boards. G. F. Sargent and C. H. M. White. *diags Elec W* 101:642-3 My 20 '33

**Manufacture**

- Micanite building economies. A. A. C. Dickson. *Elec R (Lond)* 112:564 Ap 21 '33

**ELECTRIC furnaces**

- Canadian electric furnace industry. A. Stansfield. *Electrochem Soc Trans* 63 (preprint 18):167-81 My '33; Excerpts. *Can Chem & Met* 17:125-8 Je '33
- Continuous furnace brazing of steel. C. L. West. *il Steel* 93:25-8 O 23 '33; Excerpts. *Iron Age* 132:15-16+ Jl 27 '33
- Cooley electric muffle furnace for laboratories and tool rooms. *il Iron Age* 132:43 S 28 '33
- Copper brazing. C. L. West. *il Metal Prog* 24: 44-8 Jl '33
- Determination of maximum current carrying capacity of furnace electrodes. B. L. Bailey and R. R. Ridgway. *diags Electrochem Soc Trans* 63 (preprint 16):147-62 My '33; Abstract. *Elec W* 101:801 Je 17 '33
- Do's and don'ts of electric furnace operation. J. C. Woodson. *il Factory & Ind Management* 84:19-20+ Ja '33
- Electric arc and arc resistance furnaces and their power factor. A. Wejnarth. *diags Electrochem Soc Trans* 63 (preprint 34):355-89 My '33
- Electric furnace co. new continuous brazing furnace. *il Automotive Ind* 69:509 O 28 '33
- Electric heat assumes new tasks. *il Elec J* 30:24-6 Ja '33
- Electric resistance furnace co. self-regulating induction furnace. *il diags Engineer* 156: 251-2 S 15 '33
- Electrical heating; reports at World power conference. *Engineer* 156:82 Jl 28 '33
- Elektrische hochtemperaturöfen mit unedlen metallischen heizleitern. F. Lauster. *il diags Zeit Ver Deutsch Ing* 77:696-7 Jl 1 '33
- Elektrische öfen für die chemische und metallindustrie. M. Pirani. *Chemische Fabrik* 6:242-5 Je 7 '33
- Fabricating products by electric furnace brazing. H. M. Webber. *il diags Mach* 39: 520-4 Ap '33
- Furnaces and kilns; progress in 1932. E. P. Barfield. *Electrician* 110:103 Ja 27 '33
- Low cost and high quality in electric furnaces. H. M. Webber. *il Metal Prog* 23:34-7 My '33

**ELECTRIC furnaces—Continued**

- Un nouveau type de four à induction. Neiss. diags Génie Civil 102:356 Ap 15 '33  
 Practical slants on electric furnace brazing. H. M. Webber. il diags Am Mach 76:1153-5 N 23 '32  
 Vertical, vacuum, split-tube, graphite-resistance furnace. R. D. Evans. il diags R Sci Instr 4:391-3 Jl '33  
 Wire for resistance furnaces. A. G. Arend. Elec R (Lond) 113:248 Ag 25 '33

**See also**

- Electric heaters**      **Electric ovens**  
 Electric heating, Industrial

**Charging**

- Elektroschmelzöfen mit korbbeschiebung und drehbarem ofengefäß. O. Ney. il diag Zeit Ver Deutsch Ing 77:695-6 Jl 1 '33

**Control**

- Laboratory apparatus for producing a controlled temperature program. W. B. Warren. diag Ind & Eng Chem Anal ed 5:285-6 Jl 15 '33

**Hydrogen atmosphere**

- Copper-hydrogen welding a quantity-production process; abstracts. W. W. Anderson. il Iron Age 131:538-9 Ap 6 '33; Aviation Eng 8: 14+ Ap '33  
 Electricity welds in unique way; Bundy tubing company. T. M. Rude. il Elec W 101:487 Ap 15 '33  
 Large furnace with a hydrogen atmosphere at the Swindon works. il Elec R (Lond) 113:246 Ag 25 '33  
 Mass production welding; Zeppelin copper-hydrogen-electric furnace. il Sci Am 149: 118-19 S '33

**Lining**

- Preparation of a chrome ore or magnesia cement for lining an Ajax Wyatt induction furnace; abstract. P. S. Kingsley. Metal Prog 23:50 Je '33

**Refractories**

- High temperature furnace using graphite crucible. D. A. Moulton. diags Brick & Clay Rec 83:132 O '33  
 Highly refractory cements for electric furnaces. Comp Air M 38:4109 Ap '33  
 Kohlenstoffsteine für elektrische schmelzöfen. C. Kuhlmann. il Stahl & Eisen 53:306 Mr 23 '33  
 Sinterkorund; a new high temperature insulating material for electric furnaces. Electrician 110:729 Je 9 '33  
 Tercoed; a new refractory brick for electric furnaces. G. S. Diamond. Electrochem Soc Trans 63 (preprint 31):323-6 My '33; Abstract. Iron Age 131:896+ Je 8 '33

**ELECTRIC furnaces, Annealing**

- Birmingham annealing furnace. Electrician 110:51 Ja 13 '33  
 Blankglühofenanlagen bauart Brown Boveri-Grünwald. H. Nathusius. il diags Zeit Ver Deutsch Ing 76:1221-4 D 10 '32  
 Bright annealing coils of strip in mass production; Cuyahoga works, American steel & wire co, Cleveland. il Metal Prog 24:19-21 Ag '33  
 Cold-rolled strip bright annealed in controlled gas atmosphere. L. E. Browne. il diag Steel 93:25-7 O 30 '33  
 Electric furnace co. inexpensive controlled atmosphere furnaces. il Automotive Ind 69: 510 O 28 '33  
 Electric furnace for annealing bright copper sheets. il Engineering 136:452 O 20 '33  
 Electric furnaces advantageous for bright annealing cold strip. diag Elec W 102:121-2 Jl 22 '33  
 Large furnace with a hydrogen atmosphere at the Swindon works. il Elec R (Lond) 113:246 Ag 25 '33

**ELECTRIC furnaces, Enameling**

- Industrial electric heating; porcelain enameling. N. R. Stansel and L. C. Athy. il Gen Elec R 36:194-200 Ap '33

- Industrial electric heating; porcelain enameling furnaces. N. R. Stansel and K. E. Kjolseth. il diags plan Gen Elec R 36:275-81 Je '33

- Photo-cell control and electric heat for vitreous enameling. il Elec W 100:848 D 24 '32

**ELECTRIC furnaces, Forging**

- Practical methods for heating solids by induction. E. F. Northrup. diags Iron Age 131: 165+ Ja 26 '33

**ELECTRIC furnaces, Foundry**

- Electric furnace retired after fifteen years of continuous service. il Foundry 61:20 Ap '33  
 Electrical melting of aluminium. E. F. Russ. Engineer 154:sup[Metallurgist] 180 D 30 '32  
 Heroult type, three-phase electric melting furnace for small production. il Foundry 60: 68 D '32  
 Ein neuer induktions-elektroschmelzofen. K. Thomas. diag Stahl & Eisen 52:1290-1 D 29 '32  
 Redesigns electric furnace for smaller capacity; West steel casting co, Cleveland. R. R. West. il diags Steel 92:23-5 Je 19 '33; Same. Foundry 60:18-19+ D '32

**ELECTRIC furnaces, Heat treating**

- Case hardening steel; modern electrical methods. J. Dummelow. il Elec R (Lond) 113: 115-16 Jl 28 '33  
 Developments in the electrical industry during 1932; industrial heating. J. Liston. il Gen Elec R 36:332-4 Ja '33  
 Eaton heat-treating oven. il Automotive Ind 68:592 My 13 '33  
 Electrical strip—a new product; manufacturing process in Republic plant. F. L. Prentiss. il Iron Age 132:18-20 N 2 '33  
 Factors affecting the economies of electric heating. A. G. Robiette. il Engineering 135: 284-7 Mr 10 '33; Discussion. 135:338 Mr 24 '33  
 Heat transfer in electric furnaces. E. G. Fliegehen. diags Engineer 156:377-9 O 20 '33  
 Heat treating and carburizing at National Acme plant. F. L. Prentiss. il Iron Age 132:14-17+ O 12 '33  
 Heat treatment furnaces. il diag Automobile Eng 23:215-18 Je '33  
 Heat treatment of aluminum castings. W. S. Scott. il diags Metal Prog 24:21-4 S '33  
 Large heat-treatment furnaces. Elec R (Lond) 111:860 D 9 '32  
 Leeds & Northrup Vapocarb Hump method for hardening. il Am Mach 77:706 O 25 '33  
 Low-temperature metal treatment; the scope for the modern electric furnace. A. J. T. Eyles. il diag Elec R (Lond) 111:848 D 9 '32  
 Modernization in manufacture at Cleveland tractor company. il Elec W 102:497-8 O 14 '33  
 Modernizing the plant with electric heating equipment. A. N. Otis. il Steel 92:23-6 Je 12 '33  
 Nitralloy hardening; a new heat-treatment furnace designed for handling large quantities. il Automobile Eng 23:56 F '33  
 Normalizing steel castings. W. S. Scott. il Iron Age 132:20-3 S 21 '33  
 Les perfectionnements récents des fours électriques pour le traitement de l'acier. V. Paschkis. diags Génie Civil 101:632-4 D 24 '32  
 Practical methods for heating solids by induction; abstracts. E. F. Northrup. diags Iron Age 131:165+, 310-11+ Ja 26, F 23 '33; Steel 92:21-4 Mr 6; 23-6 Mr 20 '33; Elec W 101:252-4 F 25 '33  
 Refined fuels, so-called, for heat treating. R. M. Keeney. Iron Age 131:827-8 My 25 '33  
 Silicon steel strip is annealed in continuous electric furnace; Republic steel corporation. A. N. Otis. il Steel 93:21-3 N 13 '33  
 Temperature atmosphere problem in high speed steel. S. Tour. bibliog il diag Am Soc Steel Tr Trans 21:269-80 Mr '33; Same cond. Iron Age 130:574-6 O 13 '32; Discussion. Am Soc Steel Tr Trans 21:280-8 Mr '33  
 Wild-Barfield electric heat treatment furnace. il Chem Age (Lond) 27:485 N 19 '32



**ELECTRIC furnaces, Heat treating—Continued****Control**

Bright annealing and normalizing in controlled-atmosphere electric furnaces. R. R. La Pelle and C. H. Carpenter. *il Iron Age* 132:28-31+ S 28 '33

**ELECTRIC furnaces, Heating**

Electric heating of steel plates for electric circuit breakers. A. W. Hill. *il Power Pl Eng* 37:131 Mr '33

**ELECTRIC furnaces, High frequency**

Die entschweifung von stahl im kernlosen induktionsofen durch alkalien. H. Siegel. *Stahl & Eisen* 53:646-52 Je 22 '33

Entwicklung der metallurgischen hochfrequenzöfen. M. Tama. *il diags Zeit Ver Deutsch Ing* 77:199-202 F 25 '33

High-frequency valve-operated induction furnaces. H. Hirst. *diags Inst E E J* 71:965-6 D '32

Melting equipment in the non-ferrous industry. R. H. Stone. *il diag Metal Ind* 31:201-3 Je '33

Practical methods for heating solids by induction; abstracts. E. F. Northrup. *diags Iron Age* 131:165+, 310-11+ Ja 26, F 23 '33; *Steel* 92:21-4 Mr 6; 23-6 Mr 20 '33; *Elec W* 101:252-4 F 25 '33

Steel melting in coreless induction furnaces. Bardenheuer and Bottenberg. *diags Engineer* 156:sup [Metallurgist] 55-8 Ag 25 '33

Witton high-frequency electric furnaces. *il diag Elec R (Lond)* 111:706 N 11 '32

Witton high-frequency electric melting furnace; abstract. V. O. Cutts. *Mech Eng* 55:254-5 Ap '33

Zur entwicklung des kernlosen induktionsofens. H. Wentrup. *Stahl & Eisen* 53:1065 O 12 '33

**ELECTRIC furnaces, Iron founding**

Electric furnace cast iron in the Detroit territory. H. J. Hall. *il Elec W* 101:796-7 Je 17 '33

Electric furnace cast iron in the jobbing foundry; Atlas foundry co, Detroit. W. B. Crawford and R. B. Crawford. *il Iron Age* 131:700-2+ My 4 '33; Discussion. C. L. Frear. *131:950 Je 15 '33*

Electric furnace casts all types of ferrous metals; Belle City malleable iron co, Racine, Wis. F. G. Steinebach. *il Foundry* 61:10-12+ S '33

Gray iron cast to engineering specifications; Eaton-Erb foundry co. F. Erb and E. Bremer. *il Foundry* 61:10-12+ Ap '33

Gray iron production in the direct-arc acid-lined electric furnace. C. L. Frear. *Iron Age* 131:1041 Je 29; 132:18 Ag 17 '33; *Excerpt. Elec W* 102:87 J1 15 '33

No more ringing door bells in this foundry's sales; D. J. Ryan foundry company, Ecorse, Mich. *Iron Age* 131:939+ Je 15 '33

**See also**

Iron founding, Electric

**ELECTRIC furnaces, Metallurgical**

Aluminium industry in Scotland. G. Boex. *diags Engineering* 135:633-6 Je 9 '33

Contamination of nickel crystals grown in a molybdenum resistance furnace. A. Dingwall, J. Zacharias and S. L. Siegel. *il diag Electrochem Soc Trans* 63 (preprint 36):395-400 My '33

Electric furnace and its products in the U.S.S.R. C. H. Vom Baur. *Electrochem Soc Trans* 63 (preprint 35):391-4 My '33

Electric furnace designed for low production periods by Samuel Arnold. *il Steel* 91:32 N 21 '32

Ferromanganese and spiegel from electric furnaces. B. M. Suslov. *Metal Prog* 24:56 O '33

Furnace transformers. S. S. Cook. *il diags Elec J* 30:359-61 S '33

Large-current furnace transformers. *Elec R (Lond)* 113:281 S 1 '33

Witton high-frequency electric melting furnace; abstract. V. O. Cutts. *Mech Eng* 55:254-5 Ap '33

**See also**

Electric furnaces, Heat treating

Electric furnaces, Steel making

**ELECTRIC furnaces, Non-ferrous melting**

Melting equipment in the non-ferrous industry. R. H. Stone. *il diag Metal Ind* 31:201-3, 241-4 Je-J1 '33

**ELECTRIC furnaces, Steel making**

Advantages of Soderberg electrodes. F. Giolitti. *Metal Prog* 23:47-8 Ap '33

Electric furnace is retired after 15 years of service. *il Steel* 93:34 N 6 '33

Elektroschmelzöfen mit korbbeschickung und drehbarem ofengefäß. O. Ney. *il diag Zeit Ver Deutsch Ing* 77:695-6 J1 1 '33

History of the basic electric furnace; abstract. E. Mathieu. *Engineering* 135:172 F 10 '33

Manufacture of stainless iron from ferrochromium, from scrap, or from ore. A. L. Feild. *il Metal Prog* 23:13-17 F '33

Nozzle and stopper rod assemblies. H. V. Beasley. *diag Blast F & Steel Pl* 21:581-6 N '33

Practical electric steel melting. C. C. Downie. *Engineer* 154:sup [Metallurgist] 175-6 N 25 '32

Russian steel mill capacity is 15 per cent electrified. C. H. Vom Baur. *Iron Age* 131:955 Je 15 '33

Steel melting in coreless induction furnaces. Bardenheuer and Bottenberg. *diags Engineer* 156:sup [Metallurgist] 55-8 Ag 25 '33

**ELECTRIC fuses**

Bakelite sealing chambers for cable entry. *il Electrician* 110:235-6 F 17 '33

Behavior of industrial control devices under short circuit. B. W. Jones. *il Gen Elec R* 36:441-6 O '33

Burned-out meters. E. V. Sundt. *il Radio N* 14:728+ Je '33

Carbon-tetrachloride or porcelain fuses? abstract. G. H. Dean. *Elec R (Lond)* 112:120-1 Ja 27 '33

Co-ordinating fuses and relays for distribution reliability. G. F. Lincks. *diag Elec W* 102:140-3 J1 29 '33; Discussion. E. Boothe. *102:446-7 S 30 '33*

Fuse link improvement gives co-ordinated protection. G. F. Lincks. *il diags Elec W* 102:602-4 N 4 '33

Fuse plug for electrical circuits. *Engineering* 134:667 D 2 '32

Fusible cutouts. F. C. Bryan. *diags Electrician* 110:554-6 Ap 28 '33

High voltage circuit breaker and its competitor, the high voltage fuse; abstracts. W. D. D. Fenton. *Electrician* 110:564 Ap 28 '33; *Elec R (Lond)* 112:597 Ap 28 '33; *Engineer* 155:558 Je 2 '33

How cut down cost of fuse outages? machine shop of the Railway & industrial engineering company. *Elec W* 102:631 N 11 '33

Ironclad switch and fuse gear. *il Elec R (Lond)* 113:281 S 1 '33

New high-voltage transformer fuse. *il diag Elec R (Lond)* 112:46 Ja 13 '33

Oil switch-fuse developments; rotary equipment for 33-kV, and a special spring-loaded element. *il diags Elec R (Lond)* 111:740 N 18 '32

132 kV oil-blast B.T.H. fuse. *il Electrician* 110:745-6 Je 9 '33; *Elec R (Lond)* 112:901 Je 23 '33; *Engineer* 156:95 J1 28 '33; *Elec W* 102:231 Ag 19 '33

Wax-operated switches. A. G. Bullen. *Elec R (Lond)* 112:152-3 F 3 '33; Abstract. *Elec W* 101:217 F 18 '33

**ELECTRIC generators**

Automatic water turbine-generator unit. *il Sci Am* 149:182 O '33

Compound generator made to serve control and battery; zinc plant substation of the Anaconda copper mining company. W. C. Noddings. *Elec W* 100:859 D 24 '32

Conserving power by electric drag. A. L. Krause. *il diag Blast F & Steel Pl* 21:211-12 Ap '33

**ELECTRIC generators—Continued**

- Developments in the electrical industry during 1932; steam turbine-generators. J. Liston. *il Gen Elec R* 36:9-10 Ja '33
- Un générateur d'impulsions électriques fonctionnant à 3 millions de volts. A. d'Arsonval. *Génie Civil* 103:42-3 JI 8 '33
- Modernizing generator connections. F. A. Westbrook. *il Elec W* 101:449 Ap 8 '33
- Pooley and Austin improved arc welding generator. *il diag Engineer* 155:633 Je 23 '33
- Turbine reliability from operating records; study of 346 turbines, one to 18 yr. of operation. *Power Pl Eng* 37:167-8 Ap '33

*See also*

- |                           |                      |
|---------------------------|----------------------|
| Armatures                 | Electric plants      |
| Electric machinery        | Hydroelectric plants |
| Electric motor generators |                      |

**Care**

- Upkeep of electric motors and generators. F. V. Smith. *Power Pl Eng* 37:461-3 N '33

**Cooling**

- Turbine generator ventilation. C. J. Fecheimer. *il diags J Fr Inst* 216:505-32 O '33

**Design**

- Generator design; the Kaplan turbine as an influence; cost data. H. A. Sieveking. *diag Electrician* 110:796-7 Je 16 '33

**Manufacture**

- Ford makes starters and generators in model small plant. B. Finney. *il Iron Age* 132:10-14+ N 9 '33

**Testing**

- Checking phase sequence by lamp and coil. O. A. Helland. *diags Elec J* 30:129 Mr '33
- ELECTRIC generators, Alternating current**
- Adjusted synchronous reactance and its relation to stability. H. B. Dwight. *diags Gen Elec R* 35:609-14 D '32
- Boulder Dam generators ordered. *Elec Eng* 52:796-7 N '33
- Capetown's 33-kV turbo-alternator. *il Elec R (Lond)* 112:449-50 Mr 31 '33
- Characteristics of alternators. *diag Electrician* 110:519, 563, 590, 624, 652, 682 Ap 21-My 26 '33
- Direct generation at 33 kV; record at Brimsdown. *il Electrician* 110:798-9 Je 16 '33
- Electric system and generator practice. *il Power Pl Eng* 36:36-9 Ja '33
- Generator for low frequencies. J. I. Hull. *il diags Elec Eng* 52:631-6 S '33
- High frequency for arc welding. G. A. Johnstone. *il diag Elec Eng* 52:14-16 Ja '33; *Abstract. Mech Eng* 55:262 Ap '33
- High voltage generators; why flexible insulation was adopted by British and American manufacturers of high speed alternators. *Electrician* 109:717 D 2 '32
- Inverters, rectifiers and low-frequency generators; abstracts of papers at A.I.E.E. meeting. *diag Elec W* 101:163-4 F 4 '33
- New theorem for active networks. A. T. Starr. *diags Inst E E J* 73:303-8 S '33
- Oil electric sets at World's fair. *il Power Pl Eng* 37:481 N '33
- 1,500,000 kVA alternator and switchgear testing plant. *il Engineer* 154:668, 672-3 D 30 '32
- Peripheral turbine speed 346 miles per hour; Siemens 80,000-kva. alternator. *diag Elec W* 102:252-3 Ag 19 '33
- Sine-wave alternator for meter testing. *il diag Engineering* 136:240 S 8 '33
- 67,200-kW. turbo-alternator for the Battersea station of the London power company. *il diags Engineering* 135:585-7, 588, 667-8, pl 34, 37 Je 2, 23 '33; *Engineer* 155:546-50, 552 Je 2 '33
- Stromerzeugung bei 36 000 V. R. H. Parsons. *Zeit Ver Deutsch Ing* 77:953-4 S 2 '33
- Theory of transients; computation of transient currents in salient pole alternators with dampers. W. H. Ingram. *Electrician* 110:615-16 My 12 '33
- Turbo-alternator development; abstract. E. Wilczek. *Electrician* 111:7 JI 7 '33

**Control**

- Diode regulators; a simple method of voltage control. *il diags Elec R (Lond)* 111:886 D 16 '32

**Cooling**

- Le refroidissement des turboalternateurs par circulation d'hydrogène. *diags Génie Civil* 102:69 Ja 21 '33
- Works of Messrs. C. A. Parsons and company, limited; cooling systems for turbo-generators. *il diags Engineering* 134:647-8 D 2 '32

**Design**

- Generation at 33 kv. proved by performance. J. Rosen. *il Elec W* 101:584-6 My 6 '33

**Parallel operation**

- Field switch opens again. E. H. Stivender. *Power Pl Eng* 37:428-30 O '33
- Non-unilateral oscillations; governor-controlled engine-driven generators. M. Stone. *diags J Fr Inst* 214:633-46 D '32

**Testing**

- Field tests on 16,667-kv-a. waterwheel-driven generators for the Rock Island development. D. E. Brainard. *il plan Gen Elec R* 35:615-21 D '32
- Works of Messrs. C. A. Parsons and company, limited. *il diags Engineering* 134:728-30 D 23 '32

**ELECTRIC generators, Direct current**

- Centrifugal air cleaners serve railway equipment. M. J. Baldwin. *diag Elec Eng* 51:869-70 D '32
- Electroplating generators. C. J. Schwarz. *Metal Ind* 31:197, 245-6, 268-70, 308-9, 343-4 Je-O '33; *Discussion. M. M. Rose. 31:309-10 S '33*
- Kohler small, low-cost electric plant for yacht and boat service. *il Marine Eng* 38:404 N '33
- Radio physics course. A. A. Ghirardi. *diags Radio N* 15:370-1 D '33
- Reducing radio interference from commutating machines. C. V. Aggers and W. E. Pakala. *diags Elec J* 30:423-7 O '33
- Selective devices for reducing ripples in d-c systems. Edison Elec Inst Bul 1:190 S '33

**ELECTRIC generators, Portable**

- Portable electric generator designed by B.E.N. Patents, Ltd. *il Engineer* 155:176 F 17 '33

**ELECTRIC generators, Synchronous**

- Field switch opens again. E. H. Stivender. *Power Pl Eng* 37:428-30 O '33
- Power limits of synchronous machines. E. Clarke and R. G. Lorraine. *bibliog diags Elec Eng* 52:780-7 N '33
- Steady state stability of composite systems. S. B. Cray. *bibliog diags Elec Eng* 52:787-92 N '33
- Uses of synchronous machine quantities in system studies. W. M. Hanna. *Gen Elec R* 36:116-28 Mr '33

**ELECTRIC hammers**

- Ein neuer elektrisch betriebener gesenkhämmer. *il diags Stahl & Eisen* 53:674-5 Je 29 '33

**ELECTRIC heaters**

- Air heaters; industrial applications. S. Z. Owen. *Elec J* 30:77-8 F '33
- Built-in electric fire. W. K. Fleming. *il Elec R (Lond)* 113:449-50 O 6 '33
- Construction and application of Calrod heating units. R. M. Cherry and F. E. Finlayson. *il diags Gen Elec R* 36:354-60, 411-15 Ag-S '33
- Domestic cooking and heating; impressions of a visit to Castle Bromwich. *il Elec R (Lond)* 112:269-70 F 24 '33
- Electric heat midgates are timely load builders. *N E L A Bul* 20:97 F '33
- Electricity in the home; space heating equipment. *il Elec R (Lond)* 113:485-92 O 13 '33
- Heating and door control developments. *il Elec Traction* 29:342 O '33
- Making high-speed Calrod. C. H. Hannon. *il Gen Elec R* 36:409-10 S '33

*See also*

- |                   |                        |
|-------------------|------------------------|
| Electric furnaces | Electric stoves        |
| Electric ovens    | Electric water heaters |



**ELECTRIC heating**

- Air heating. C. W. Larue. *Elec West* 70:242-3 Je '33
- Electric heat for humidity control in sugar storage warehouse. D. T. Waby. *il Elec W* 102:409-10 S 23 '33
- Electric thermal storage installation at Bank-side. *il Engineer* 156:94 JI 28 '33; Same. *Electrician* 111:103 JI 21 '33
- Heating a football grandstand. *il Heat & Ven* 30:43 Ap '33
- Heating by low-temperature radiation. *il Elec J* 30:38 Ja '33
- Heating of buildings; Tootal Broadhurst Lee heating and ventilating installation. *Electrician* 110:432 Mr 31 '33
- Hospital heating and cooking; electrical equipment in two Plymouth institutions. M. O. F. England. *il Elec R (Lond)* 111:881, 884 D 16 '32
- House heated by pump with 5 to 1 pick-up ratio. G. Wilkes and R. E. Marbury. *il diag Elec W* 100:828-31 D 17 '32
- Low-temperature heating systems. *il Elec R (Lond)* 112:40-1 Ja 13 '33
- Relative fuel economy of electricity, gas, oil, and solid fuel, as heating agents. A. H. Barker. *Inst E E J* 72:269-95 Ap '33; Abstracts. *Electrician* 109:742 D 9 '32; *Elec R (Lond)* 111:816-17 D 2 '32; *Mech Eng* 55:121 F '33; Discussion. *Inst E E J* 72:295-312, 431-4; 73:452-3 Ap-May, O '33; *Electrician* 109:742, 820 D 9, 23 '32; *Elec R (Lond)* 111:852, 889-90 D 9-16 '32
- Space and water heating; progress in 1932. J. I. Bernard. *Electrician* 110:113-14 Ja 27 '33
- These two jobs show application of electric heating to office buildings. L. P. Hynes. *il Heating-Piping* 5:358-60 JI '33
- 31 Canadian homes complete season of electric heat. *Elec W* 102:284-5 Ag 26 '33
- Warming buildings by electricity. J. Lesser. *Elec R (Lond)* 113:382 S 22 '33

See also

Boilers, Heating—  
Electric heating

**Panel system**

- Air at 63 and walls at 80 give comfort in this panel heating job. L. W. Schad. *il diag Dom Eng* 141:45-7+ Ja '33
- Obtaining comfort conditions by controlled radiation from electrically heated walls. L. W. Schad. *bibliog il Elec Eng* 52:467-71 JI '33

**ELECTRIC heating, Industrial**

- A.C.F. Berwick electric metal heaters. *il Am Mach* 76:1243-4 D 21 '32
- Aus der elektrowärme-ausstellung Essen 1933. *il Zeit Ver Deutsch Ing* 77:842-3 Ag 5 '33
- Basis for determining sales effort justified. J. D. Frantz. *Elec W* 101:724-5 Je 3 '33
- Die bedeutung der elektrowärmetechnik für die industrie. G. Dettmar. *bibliog Zeit Ver Deutsch Ing* 77:693-4 JI 1 '33
- Building load by selling industrial heating; Northwest electric light and power association committee report. *Elec West* 70:257-8 Je '33
- Concrete hardened by electrocution. *Sci Am* 143:121 F '33
- Construction and application of Calrod heating units. R. M. Cherry and F. E. Finlayson. *il diags Gen Elec R* 36:354-60, 411-15 Ag-S '33
- Cost cut on motor job by electric brazing. A. Finkenstein and M. W. Brewster. *il diags Steel* 92:21-3 F 27 '33
- Electric furnace co. induction heater preheats sheet rolls electrically. A. G. Robiette. *il Iron Age* 131:782+ My 18 '33
- Electric heat assumes new tasks. *il Elec J* 30:24-6 Ja '33
- Electric sweating cuts orange curing costs. W. R. Chawner. *il Elec West* 70:126 Ap '33
- Electricity for curing is now used successfully. H. O. West. *il Rubber Age* 32:169-70 D 10 '32
- L'exposition du chauffage électrique d'Essen (Ruhr). H. Grossmann. *Chimie & Ind* 30:725-9 S '33

Factors affecting the economies of electric heating. A. G. Robiette. *il Engineering* 135:284-7 Mr 10 '33; Discussion. 135:338 Mr 24 '33

- Favors electric heat for fusing caustic. J. Hedalen. *Elec W* 101:792 Je 17 '33
- Induction heater for liquids and gases. O. Neiss. *diags Elec R (Lond)* 112:78 Ja 20 '33
- Inductive electric heating in chemical plants. R. D. Center. *diags Chem & Met Eng* 39:617-19 N '32
- Industrial electric heating. N. R. Stansel. 444p \$5 Wiley '33
- Industrial electric heating; porcelain enameling. N. R. Stansel and L. C. Athy. *il Gen Elec R* 36:194-200 Ap '33
- Industrial electric heating; porcelain enameling furnaces. N. R. Stansel and K. E. Kjolseth. *il diags plan Gen Elec R* 36:275-81 Je '33
- Low cost and high quality in electric furnaces. H. M. Webber. *il Metal Prog* 23:34-7 My '33
- Marking plastic materials by branding. Mach 39:496C Mr '33
- Modern chemical plant. J. A. Reavell. *il diags Soc Chem Ind J* 52:133T-9T My 19 '33
- Modernizing the plant with electric heating equipment. A. N. Otis. *il Steel* 92:23-6 Je 12 '33
- Molasses heating for feed mills. D. E. Blandy. *il Elec W* 101:822 Je 24 '33
- Plymouth uses induction type ovens to bake enamel on steel parts. E. L. Bailey. *il Iron Age* 132:23+ S 14 '33
- Practical methods for heating solids by induction; abstracts. E. F. Northrup. *diags Iron Age* 131:165+, 310-11+ Ja 26, F 23 '33; *Steel* 92:21-4 Mr 6; 23-6 Mr 20 '33; *Elec W* 101:252-4 F 25 '33

Resistance baths for small tools. A. E. Bellis. *il diags Am Mach* 77:302-3 My 10 '33

Small transformers solve big problems. M. O. Marsh. *il diag Maintenance Eng* 91:38-9 F '33

See also

Boilers—Electric heating	Electric ovens
Electric furnaces	Electric water heaters
Electric furnaces, Heat treating	Electric welding
	Sterilizers, Electric

**ELECTRIC heating elements**

- Bray Chromalox strip and ring heating elements. *il Electrician* 110:396 Mr 24 '33
- Nomographic chart for determining heating unit design. T. C. Patton. *Chem & Met Eng* 40:150-1 Mr '33

**ELECTRIC hoists.** See Cranes, derricks, etc.—Electric equipment; Mine hoisting, Electric

**ELECTRIC ignition**

- Coil ignition of some explosive gaseous mixtures. B. W. Bradford, G. I. Finch and A. M. Prior. *pl Chem Soc J* p227-32 Mr '33
- Lighting pulverized coal safely. *il Power* 77:463 S '33

**ELECTRIC industries**

- Collective action for profits. L. W. W. Morrow. *Elec W* 101:350-3 Mr 25 '33
- Co-operative marketing on a national scale; recommending an organization co-ordination between the four national associations of the electrical industry. H. P. Liversidge. *Elec W* 101:412-13 Ap 1 '33
- Evaluating our national coordinated promotional programs. J. E. Davidson. *Edison Elec Inst Bul* 1:69-71 Je '33; Same cond. *Elec W* 101:762-3 Je 10 '33
- For price—but what a price! value of electric manufacturers' research work. W. R. Marshall. *Elec West* 70:192-3 Je '33
- Nation's electrical wholesalers begin victory contest. *Sales Management* 32:26 Ja 1 '33
- Our industry's future. G. B. Cortelyou. *Elec W* 100:780-1 D 10 '32
- Ranges rented to spur Hartford's range sales. *il Elec W* 101:324-6 Mr 11 '33
- Wholesalers' trade rules approved by Federal trade commission. *Elec W* 100:867 D 31 '32

**ELECTRIC industries—Continued**

Your job and mine. J. C. Parker. Elec W 100: 825-6 D 17 '32

*See also*

Electric apparatus and appliances—  
Merchandizing  
Electric apparatus industry  
Electric contractors  
Electric utilities

Electrochemical industries  
Electrometallurgy  
Electroplating  
Radio apparatus industry

**Accounting**

Electrical trade costing. S. H. Withey. Electrician 109:449, 634, 837; 110:216, 353, 589 O 7, N 18, D 30 '32, F 17, Mr 17, My 5 '33

**Advertising**

Advertising and its immediate job. A. C. Joy. Elec West 70:203 Je '33  
Home town advertising that reaches home. il Elec West 70:154-5 My '33  
How Westinghouse backs up its broadcasts at dealers' stores. F. R. Kohnstamm. il Adv & Sell 21:42-3 O 26 '33  
This direct mail is geared to the salesman's work; General Electric campaign. Ptr Ink 163:40-2 Je 1 '33  
Utility advertising; Northwest electric light and power association committee report. il Elec West 70:231-3 Je '33

**Exhibitions**

Building centre; list of electrical manufacturers and their exhibits at New Bond street. Electrician 109:651 N 18 '32  
Century of progress exhibition; electricity at the forthcoming Chicago show. il Electrician 110:134 Ja 27 '33  
Electricity at work; exhibit of the electric light and power industry at a Century of progress. E. W. Lloyd. il Elec W 101:681-3 My 27 '33

*See also*

Electric apparatus and appliances—  
Exhibitions

**Finance**

Business and financial status of representative electrical manufacturers; tabulation. Elec W 101:46-7 Ja 7 '33  
Cost of installment buying. L. A. Froman. Harvard Business R 11:231-3 Ja '33  
Virginia plan for installment financing. E. Whitehorne. Elec W 102:57-9 Jl 8 '33

**Statistics**

Business and financial status of representative electrical manufacturers; tabulation. Elec W 101:46-7 Ja 7 '33  
Chart traces course of electrical industry during four and a half critical years. Elec W 102:123 Jl 22 '33  
Fifteenth census of United States, 1930: census of distribution, trade series, wholesale electrical trade. 68p Census bureau, Washington '33  
Manufacturers hit but courageous. il Elec W 101:44-5 Ja 7 '33  
Surplus capacity a myth. Elec W 102:145 Jl 29 '33  
Total exports of electrical goods from nine countries, 1928-1931; tabulation. Elec W 100: 795 D 10 '32  
World's electrical exports. Elec R (Lond) 111: 728 N 11 '32

**Argentina**

Argentine electrical market. Elec R (Lond) 113:193-4 Ag 11 '33  
Electrical imports of Argentina, 1931. Elec R (Lond) 112:57 Ja 13 '33  
Electrical imports of Argentina in 1932; tabulation. Elec R (Lond) 113:324 S 8 '33  
Electrical trade in Argentina. Electrician 111: 122 Jl 28 '33

**Australia**

Australian developments. Electrician 111:416-17 O 6 '33  
Australian electrical imports, 1931-32; tabulation. Elec R (Lond) 112:911 Je 23 '33

Australian import duties on electrical goods.

Electrician 110:399 Mr 24 '33  
Electricity in Australia. il Electrician 110: 351-2, 702 Mr 17, Je 2 '33  
Import duties; electrical machines and accessories. Electrician 110:602 My 5 '33  
Improvement in Australia. Electrician 111:54-5 Jl 14 '33  
Supply in Australia. Electrician 110:191 F 10 '33

**Belgium**

Belgian foreign electrical trade. Elec R (Lond) 113:324 S 8 '33  
Electricity in Belgium. Electrician 110:710 Je 2 '33  
Trade prospects in Belgium. Elec R (Lond) 112:820 Je 9 '33

**Canada**

Canadian electrical notes. Elec R (Lond) 113: 597 O 27 '33  
Canadian electrical trade, year ended March 31. Elec R (Lond) 113:56 Jl 14 '33  
Electrical industry in Canada, 1931. Electrician 110:437 Mr 31 '33  
Electrical notes from Canada. Elec R (Lond) 113:429 S 29 '33  
Position in Canada. Elec R (Lond) 113:359 S 15 '33  
Steady increase in use of electricity. D. C. Durland. Can Eng 64:11-12 Ja 17 '33

**Ceylon**

Ceylon's electrical imports. Elec R (Lond) 112:727 My 19 '33

**Chile**

Electrical contractors' supplies for Chile. Elec R (Lond) 112:568 Ap 21 '33  
Electrical supplies for Chile. il Elec R (Lond) 112:164 F 3 '33

**Egypt**

Egypt's electrical imports. Elec R (Lond) 112: 784 Je 2 '33

**Germany**

Economic conditions in Germany. Electrician 109:700 N 25 '32  
German electrical exports, 1932. Elec R (Lond) 112:200 F 10 '33  
German electrical industries. Elec R (Lond) 111:932 D 23 '32  
German electrical industry. Elec R (Lond) 113:323 S 8 '33  
Germany's electrical statistics reflect industry sag. Elec W 100:858 D 24 '32  
76 per cent of German homes have electricity. Elec W 101:294 Mr 4 '33

**Great Britain**

B.E.A.M.A. annual meeting. Electrician 110: 387 Mr 24 '33; Elec R (Lond) 112:414 Mr 24 '33  
British overseas electrical trade in 1932. Elec R (Lond) 112:92-3 Ja 20 '33  
Electrical export trade. Elec R (Lond) 112: 21 Ja 6 '33  
Electrical exports. il Electrician 110:245-6, 247 F 24 '33  
Fair trading policy; work of committee D completed. Electrician 111:116 Jl 28 '33  
Gas and electricity. Economist 116:626-7 Mr 25 '33  
Great Britain's electrical exports in 1931; tabulation. Elec R (Lond) 111:716 N 11 '32  
Great Britain's electrical imports in 1931; tabulation. Elec R (Lond) 111:752 N 18 '32  
Manufacturing activities, 1932. il Electrician 110:136-7 Ja 27 '33  
Overseas trade in 1932. Electrician 110:123 Ja 27 '33  
Overseas trade; 1931 and 1932 compared. Electrician 110:77 Ja 20 '33  
Service in the electrical industry. I. Sclar. Inst E E J 72:75-9 Ja '33  
Some aspects of the electrical industry in relation to Great Britain's economic position. A. C. Livesey. Inst E E J 72:37-40 Ja '33; Abstracts. Electrician 109:502-3 O 21 '32; Elec R (Lond) 111:599-600 O 21 '32  
Work of committee D; annual dinner of the Electrical wholesalers' federation. Elec R (Lond) 112:201 F 10 '33



**ELECTRIC Industries—Continued****India**

Contractors' supplies for India. Elec R (Lond) 112:129 Ja 27 '33  
 Indian electrical imports. Elec R (Lond) 112:675; 113:429 My 12, S 29 '33  
 Indian import market for year ended March 31. Elec R (Lond) 113:91 Jl 21 '33  
 Trade with India. Electrician 110:392 Mr 24 '33

**Italy**

Conditions in Italy. il Electrician 110:585 My 5 '33  
 Electricity in Italy. Electrician 110:189 F 10 '33  
 Italy increases electrical development. Elec W 100:697 N 19 '32  
 Italy using more electricity. A. Giordani. Elec W 100:754 D 3 '32  
 Italy's foreign electrical trade; 1930 and 1931 figures compared. Elec R (Lond) 111:839 D 2 '32

**Japan**

Japanese lamp industry. Elec R (Lond) 112:351 Mr 10 '33  
 Japanese trade. Electrician 110:596 My 5 '33

**Malay Peninsula**

Electrical imports of British Malaya. Elec R (Lond) 112:820 Je 9 '33

**Netherlands**

Conditions in the Netherlands. Electrician 111:99 Jl 21 '33  
 Dutch electrical imports and exports, first six months of 1932 and 1933. Elec R (Lond) 113:324 S 8 '33  
 Dutch electrical imports and exports, 1931 and 1932. Elec R (Lond) 112:316 Mr 3 '33

**New South Wales**

Electrical safety; committee appointed by Premier of New South Wales. Electrician 110:645-6 My 19 '33

**New Zealand**

New Zealand's electrical trade, 1932. Elec R (Lond) 113:225 Ag 18 '33

**Philadelphia**

Philadelphia's experience in co-operation. E. Whitehorne. il Elec W 101:612-16 My 13 '33

**Portugal**

Economic conditions in Portugal. Electrician 109:648 N 18 '32

**Russia**

Russian electrical notes. Elec R (Lond) 111:829 D 2 '32  
 Soviet electrical manufacturing troubles. Elec R (Lond) 113:186 Ag 11 '33  
 Soviet progress; development of the electrical manufacturing side to reduce imports. Electrician 110:342 Mr 10 '33

**Scotland**

Committee D; history and results of the fair trading conference. W. Finlay. Electrician 111:341-2 S 22 '33

**South Africa**

Domestic progress in South Africa. il Elec R (Lond) 111:922 D 23 '32  
 Electrical progress in South Africa. E. Poole. il Elec R (Lond) 112:423 Mr 24 '33  
 Import duties; electrical machines and accessories. Electrician 110:602 My 5 '33  
 Optimism in South Africa. il Electrician 110:249+ F 24 '33  
 Rhodesian electrical market. Elec R (Lond) 113:56 Jl 14 '33  
 South African electrical imports during 1932. Elec R (Lond) 113:225 Ag 18 '33  
 South African notes. Electrician 109:747; 110:156 D 9 '32, F 3 '33  
 South African outlook. Electrician 110:561, 853; 111:145, 499 Ap 28, Je 30, Ag 4, O 27 '33

**Spain**

Electricity in Spain. Electrician 110:595 My 5 '33

**Switzerland**

Swiss foreign electrical trade. Elec R (Lond) 113:599 O 27 '33

**United States**

Appliances lead sales in electrical trade. R. Brennan. Dun's R 40:2-4 N 26 '32  
 Electrical goods, new orders, quarterly, 1922-1932. Survey of Cur Business 13:19 Ag '33  
 Manufacturers record deficits. Elec W 101:11-12 Ja 7 '33  
 Manufacturing code approved. Elec W 102:242-4, 307 Ag 19, S 2 '33  
 Refrigerators lead sales in electrical supply trade. Dun & Bradstreet 41:16-18 My '33  
 United States electrical exports, 1931; tabulation. Elec R (Lond) 112:20 Ja 6 '33  
 United States electrical exports, 1932; tabulation. Elec R (Lond) 112:426 Mr 24 '33  
 United States foreign electrical trade, 1932. Elec R (Lond) 113:463 O 6 '33  
 Wholesalers code presented; text. Elec W 102:323-5 S 9 '33

**Western states**

Commercial forces dig in to hold the load lines intact. il Elec West 70:56-67 F '33

**ELECTRIC insect traps.** See Insect traps

**ELECTRIC inspection**

Inspectors—traffic officers of the industry. F. D. Weber. Elec West 70:200-1 Je '33

**ELECTRIC instruments**

Alternating-current bridges for measurements of electrical insulating materials. W. A. Ford and S. I. Reynolds. il diags Gen Elec R 36:99-105 F '33

Application of electric methods of measurement and testing. D. H. Bishop. Inst E E J 72:51-5 Ja '33

Board speeds testing of network relays. il diags Elec W 101:268-9 F 25 '33

Bridge and condensers for the precision measurement of dielectric constant and power factor at frequencies below  $10^5$  cycles per second; abstract. A. V. Astin. Elec Eng 52:104 F '33

Cable fault localisation; a new self-contained a.c. capacity bridge. W. L. Beck and G. F. Shoter. il diags Elec R (Lond) 113:419-20 S 29 '33

Circuit analyzer. L. J. Lunas. il diags Elec J 30:376 S '33

Commercial power-factor measurements. R. M. Rowell. diags Gen Elec R 36:493-500 N '33

Condensers in measuring; instruments which employ capacity variations. R. Leonhardt. il diags Elec R (Lond) 113:245-6 Ag 25 '33

Crompton Parkinson, Ltd. new potential indicator for high-tension a.c. circuits. Electrician 111:69 Jl 14 '33

Developments in the electrical industry during 1932; meters and instruments. J. Liston. il Gen Elec R 36:63-6 Ja '33

Electric strain meter and its use in measuring internal strains. R. E. Davis and R. W. Carlson. il diags Am Soc T M Proc 32 pt2: 793-801 '32

Electrical instruments and measurements, 1932-33. Elec Eng 52:766-7 N '33

Electrical measurement; new instruments and developments. J. Plummer. il diag Electrician 111:506-9 O 27 '33

Electrical measuring instruments; abstracts. F. C. Knowles. Electrician 110:81 Ja 20 '33; Elec R (Lond) 112:121 Ja 27 '33

Die elektrische fernmessung im dienste der gasfernversorgung. W. Wunsch. il diags map Zeit Ver Deutsch Ing 77:658-62 Je 24 '33

Equipment and methods employed at the National physical laboratory for the testing of alternating-current instruments. R. S. J. Spilsbury. bibliog diags Inst E E J 72:30-6 Ja '33

**ELECTRIC instruments—Continued**

For facts ask meters. R. H. Rogers. *il* Factory Management 91:150-2 Ap '33

Future progress in electrical measuring instruments. C. V. Drysdale. *diags* Inst E E J 72:365-84 My '33; Discussion. 73:317-18 S '33

General electric co.'s electric timer for automatic application. *Aero Digest* 23:47 S '33

Improving sensitive instrument springs. R. W. Carson and P. MacGahan. *Elec J* 30:82 F '33

Indicating apparatus temperatures. H. W. Papst. *diags* Elec J 30:413-14 O '33

Industrial instruments for plant control. *il* *diags* Chem Age (Lond) 27:452-5 N 12 '32

Interesting experiences in locating pipe lines; wireless locator. R. W. Esty. *il* *diags* Water Works & Sewerage 80:323-6 S '33

Locating power cable faults by means of a constant current transformer with short circuiting switch. W. P. Taylor. *il* *diag* Elec Eng 51:870-2 D '32

Measuring the moistness of paper; Siccometer. *diag* Elec R (Lond) 112:650 My 5 '33

Mechanical factor of merit with respect to electrical instruments. J. H. Goss. *diags* Gen Elec R 36:188-91 Ap '33

Meters and instruments; progress in 1932. A. C. Jolley. *Electrician* 110:99-100 Ja 27 '33

Meters and instruments; recent developments and improvements in the design of measuring equipment and accessories. *il* *diags* *Electrician* 111:514-24 O 27 '33

Metropolitan-Vickers new electrical instruments. *il* *Engineer* 155:177 F 17 '33

New high-voltage bridge measures low power factors. *il* *Elec W* 101:121 Ja 28 '33

New method for controlling thickness of rubber coatings; Idometer. O. P. Van Steewen. *il* *diags* Rubber Age 34:13-14 O '33

New method of measuring speed. F. N. Tompkins. *diag* Elec J 30:269 Je '33

Portable power factor apparatus for studying the deterioration of insulation; abstract. F. C. Doble. *Elec Eng* 52:104 F '33

Portable test board, an aid in electrical trouble shooting. J. A. Fitzgerald. *il* *diags* Bus Transportation 11:507 D '32

Sensitivity is outstanding feature of newest instruments. *il* *Elec J* 30:26-7 Ja '33

Some electrical methods of remote indication. C. Midworth and G. F. Tagg. *diags* Inst E E J 73:33-43; Discussion. 44-8 Jl '33

Standard of phase angle. C. W. LaPierre and A. R. Hand. *il* *diags* Gen Elec R 36:506-7 N '33

Summarized review of some A.I.E.E. summer convention discussions. *Elec Eng* 52:579-80 Ag '33

Testing instrument coils; W. H. Joens & co. Düsseldorf. *diag* Elec R (Lond) 111:880 D 16 '32

Thwing resistometer. *il* Paper Tr J 96:21 Je 1 '33

Trub, Tauber earth resistance measuring system. *diag* *Electrician* 111:294-5 S 8 '33

*See also*

Deaf, Instruments for  
Dynamometer  
Electric apparatus and appliances  
Electric measurements  
Electric meters  
Electric testing  
Electrotherapeutics  
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Galvanometers  
Oscillators  
Photoelectric cells  
Potentiometers  
Prospecting—Electric methods  
Radio measurements  
Recording instruments, Electric  
Synchroscope  
Voltmeters

**Exhibitions**

Advances in electrical instruments; apparatus seen at the Physical society's exhibition. A. C. Jolley. *Elec R* (Lond) 112:9-10 Ja 6 '33

Physical society's 23d annual exhibition. *il* *Engineer* 155:37-9, 64-6, 90-2 Ja 13-27 '33; *Engineering* 135:49-52, 77-9, 94-7, 166-9 Ja 13-27, F 10 '33; *Elec R* (Lond) 111:955-60 D 30 '32; *Electrician* 110:12-15, 51 Ja 6-13 '33; *Wireless Eng* 10:74-7 F '33

Royal society exhibits at the conversazione. *il* *Electrician* 110:671-2 My 26 '33; *Elec R* (Lond) 112:738 My 26 '33

**Manufacture**

Time-switch and meter works; Venner time switches, ltd. *il* *Elec R* (Lond) 111:707 N 11 '32

Useful instrument alloy; Mumetal. W. F. Randall. *il* *Elec R* (Lond) 112:42 Ja 13 '33

**ELECTRIC inverters**

Inverters, rectifiers and low-frequency generators; abstracts of papers at A.I.E.E. meeting. *diag* *Elec W* 101:163-4 F 4 '33

Parallel type of inverter. F. N. Tompkins. *diags* *Elec Eng* 52:253-6 Ap '33

Relaxation inverter and d. c. transformer. H. J. Reich. *diags* R Sci Instr 4:147-52 Mr '33

**ELECTRIC irons**

Developments in the electrical industry during 1932; flatplate ironer. J. Liston. *il* *Gen Elec R* 36:37-8 Ja '33

Electricity in the home; flat irons. *il* *Elec R* (Lond) 113:507 O 13 '33

*See also*

Ironing machines

**ELECTRIC laboratories**

Electrical research; study of upper atmosphere at Halley Stewart laboratory. *Electrician* 110:620 My 12 '33

Equipment and methods employed at the National physical laboratory for the testing of alternating-current instruments. R. S. J. Spilsbury. *bibliog* *diags* Inst E E J 72:30-6 Ja '33

Equipment of electrical laboratories at Bradford. *Electrician* 111:176 Ag 11 '33

Les nouvelles installations à 3 millions de volts, du Laboratoire Ampère de la Compagnie générale d'électrocéramique, à Ivry-Port, près Paris. J. Dumas. *il* *diags* *Génie Civil* 103:12-15 Jl 1 '33

Reyrolle short-circuit testing station. *il* plans *Engineering* 136:432-4, pl 15 O 20 '33

Three-million-volt testing laboratory; Compagnie générale d'électrocéramique, Ivry, Paris. *il* *Elec R* (Lond) 113:594 O 27 '33

3,000,000-volt testing plant; laboratory of the Compagnie générale d'électro-céramique at Ivry. *il* *Engineer* 156:20 Jl 7 '33

**ELECTRIC lamps**

Built-in quality wins mass sales; Wirecraft snubs price cutters. *Sales Management* 33: 123 Ag 1 '33

Combination luminaries. J Fr Inst 215:220 F '33

Developments in the electrical industry during 1932; lighting. J. Liston. *il* *Gen Elec R* 36: 67-71 Ja '33

L'éclairage par tubes à décharge électrique à basse tension. A. Aycoberly. *il* *diags* Soc Ing Civils Bul 85:1159-76 S '32; Same cond. *Génie Civil* 101:511-12 N 19 '32

Electric discharge lamps and their application to public lighting. G. H. Wilson. *il* *Illum Engr* 26:231-4 O '33; Abstract. *Elec R* (Lond) 113:314 S 8 '33; Discussion. *Illum Engr* 26:235 O '33

Gaseous discharge lamps and their commercial application. D. R. Grandy. *il* N E L A Bul 20:77-9+ F '33

Gaseous discharge lamps; progress achieved during 1932. C. C. Paterson. *il* *Electrician* 110:104 Ja 27 '33

Getting the economic life out of street lamps. *Elec W* 101:258 F 25 '33

Hospital lighting. F. C. Raphael. *il* *diags* plan *Illum Engr* 26:118-25; Discussion. 125-8 My '33

Hot-cathode gas lamps. *il* *diags* *Elec R* (Lond) 113:251-2 Ag 25 '33

How rare gases give beauty to lighting. A. P. Peck. *il* Sci Am 149:154-5 O '33

Lamp flicker traced to critical compressor resonance. *il* *Elec W* 101:300-1 Mr 4 '33

Lamps and lighting; discussions at Association of public lighting engineers meeting. *Elec R* (Lond) 113:351-2 S 15 '33; *Electrician* 111:315-16 S 15 '33





**ELECTRIC lamps, Incandescent—Continued****History**

Telephone invented by Bell, perfected by Edison with his transmitter, while incandescent and phonograph are Edison's. Pub Serv M 54:123 Ap '33

**Manufacture**

One plant to do the work of two—conveyors did it; Westinghouse lamp company. W. C. Hipple. il Factory Management 91:165-8 My '33; Same. Mech Handling 20:280-3 S '33

**Merchandizing**

G.E. merchandizing plan wins five-and-ten support. A. E. Graham. Adv & Sell 20:17-18 F 16 '33

Mazda's experiences with consignment selling. O. F. Rost. Adv & Sell 21:28+- O 12 '33

Microphone in chain store; sales meeting listens in at Nela Park. il Ptr Ink 164:87-8 Ag 17 '33

Quota realized: 190 per cent four-month "Gold Rush" brings General electric supply corporation \$854,500 in new lamp contracts. Ptr Ink 165:29+- N 2 '33

**ELECTRIC lamps, Mercury vapor**

Dimming of hot-cathode gaseous-discharge lamps. W. F. Westendorp. il diags Gen Elec R 36:488-92 N '33

Dual-purpose lighting in Ohio schools; Laurel school, Shaker Heights, Ohio. Illum Eng Soc Trans 28:557-8 Jl '33

Electric discharge lamps; characteristics of the high-pressure mercury-vapor type. J. W. Ryde. Elec R (Lond) 113:583-4 O 27 '33

Escure discharge lamp. il Elec R (Lond) 113:421 S 29 '33

Improved capillary mercury vapor lamp. A. Hollaender and J. F. Stauffer. Science 78:62 Jl 21 '33

Incandescent lamps as mercury-arc ballast. L. J. Buttolph. il diags Gen Elec R 36:482-5 N '33

Light production; recent researches and new forms of gaseous discharge lamp. il Electrician 109:807 D 23 '32

Line intensity and energy distribution in high and low-pressure mercury arcs. L. B. Johnson and L. Burns. Opt Soc Am J 23:55-9 F '33

Mercur lamp; new form of mercury vapour floodlighting at Bournemouth. il Electrician 110:806 Je 16 '33

New gaseous light source is energized by induction. il Elec W 100:553 O 22 '32; Same abr. Mech Eng 55:186-7 Mr '33

Practical methods of starting the conduction in mercury arcs. L. J. Buttolph and D. W. Dana. il diags R Sci Instr 4:206-15 Ap '33

Removing heat from high-intensity lighting; combination of mercury vapor and incandescent lamps. il diags Elec W 101:480-1 Ap 15 '33

Spectra of potassium and sodium in the mercury arc. D. A. Wells and I. Balinkin. il diags Opt Soc Am J 23:105-8 Mr '33

Ultraviolet luminescent effects and their uses. A. Strobl and R. L. Zahour. il Illum Eng Soc Trans 28:612-18 Jl '33

**ELECTRIC lamps, Neon**

Artificial sunlight; application for illuminating London restaurant. il Electrician 110:864 Je 30 '33

Dimming of hot-cathode gaseous-discharge lamps. W. F. Westendorp. il diags Gen Elec R 36:488-92 N '33

How rare gases give beauty to lighting. A. P. Peck. il Sci Am 149:154-5 O '33

Make and sell neon signs. G. S. Wells. il Sheet Metal Worker 23:487+-, 531-2 N-D '32

Modern electric signs. C. Higgins. Electrician 110:296 Mr 3 '33

Neon sign protection; improvements in equipment reducing risk of fire. E. A. Beavis. il diag Elec R (Lond) 113:309-10 S 8 '33

Neon signs for vans. Automobile Eng 23:155 Ap '33

Neon signs—patent regulations and sales suggestions. G. S. Wells. il Sheet Metal Worker 24:9+- Ja '33

Neon tube characteristics. R. W. Lohman. il diag Elec Eng 52:304-7 My '33

New neon electrode has low voltage drop. Illum Eng Soc Trans 28:561-2 Jl '33

New system of artificial daylight; Claudegen portable unit. il Chem Age (Lond) 28:511 Je 3 '33

Projector type light flux generator for testing light sensitive devices. E. B. Kurtz and J. L. Potter. il Inst Radio Eng Proc 21:1599-1602 N '33

Rare gases become common chemicals. F. P. Gross. Chem Markets 32:116-18 F '33

Rotation of neon tubes. diags Electrician 111:268 S 1 '33

Sign equipment. il Electrician 111:60-3 Jl 14 '33

**ELECTRIC lamps, Photoflash**

Demonstration based on the photoflash lamp. H. Kammin. diags J Chem Educ 10:566-7 S '33

New photoflash lamp for amateur use announced. Illum Eng Soc Trans 28:633-4 S '33

New photographic flashometer developed. Illum Eng Soc Trans 27:764-6 D '32

Photography with semi-invisible flashes. J. H. Kurlander. il Sci Am 149:172 O '33

Removing the flash from photoflash bulbs. Illum Eng Soc Trans 28:633 S '33

**ELECTRIC lamps, Sodium vapor**

Contrasts in sodium-vapor light. M. Luckiesh. Elec W 101:827-8 Je 24 '33

Indoor sodium lamps have been developed; abstracts. J. W. Marden. Elec W 101:815 Je 24 '33; Illum Eng Soc Trans 28:558-9 Jl '33

Light production; recent researches and new forms of gaseous discharge lamp. il Electrician 109:807 D 23 '32

Luminous discharge tube lighting. C. C. Pateron. il diags Illum Engr 25:308-18 D '32; Abstracts. Electrician 109:637-8, 682 N 18-25 '32; Engineer 154:519 N 18 '32; Elec R (Lond) 111:709-10 N 11 '32

New light; sodium vapor lamps now a commercial possibility. Business Week p13 Jl 1 '33

Philips sodium lamp for colorimetry. il Chem Age (Lond) 28:145 F 18 '33

Sodium discharge lamps. diag Engineer 155:281 Mr 17 '33

Sodium gas-discharge lamp; a new lighting installation on the Croydon by-pass road. il diag Elec R (Lond) 111:851 D 9 '32; Electrician 109:741 D 9 '32; Illum Engr 26:13-14 Ja '33

Sodium-vapor lamps used on half mile of highway. il Elec W 101:815 Je 24 '33; Roads & Sts 76:296 Ag '33; Sci Am 149:127 S '33; Illum Eng Soc Trans 28:631-2 S '33

Visual acuity and sodium-vapor light. M. Luckiesh and F. K. Moss. diag J Fr Inst 215:401-10 Ap '33

Visual acuity under sodium light. M. Luckiesh. Elec W 102:61-2 Jl 8 '33; Same. Illum Eng Soc Trans 28:694-5 S '33

Yellow sodium vapor light. M. Luckiesh and F. K. Moss. Science 78:sup8 O 27 '33

**ELECTRIC lamps, Toy**

Toy lamps have wide field. Illum Eng Soc Trans 28:468 Je '33

**ELECTRIC lamps, Tungsten**

Advantages of Mazda CX lamps versus carbon-filament lamps for infra-red units. L. C. Porter and J. P. Ditchman. Illum Eng Soc Trans 28:465-6 Je '33

Characteristic equations of vacuum and gas-filled tungsten-filament lamps. L. E. Barbrow and J. F. Meyer. U S Bur Stand J Research 9:721-32 D '32

Good reflectors help whiten daylight quality. M. Luckiesh. Elec W 102:26 Jl 1 '33

Mazda lamps for color photography. R. E. Farnham. Illum Eng Soc Trans 28:637-8 S '33

**ELECTRIC light fixtures**

Controlled light; details of reflector fittings for indoor and outdoor illumination. il Electrician 110:436 Mr 31 '33



**ELECTRIC light fixtures—Continued**

- Cost of neglected maintenance. S. G. Hibben. Elec W 101:332-4 Mr 11 '33
- Electricity in the home; lighting fittings. il Elec R (Lond) 113:481-4 O 13 '33
- Examples of lighting for decoration and festivity. G. R. LaWall and C. M. Cutler. il diag Illum Eng Soc Trans 28:239-56; Discussion. 257-62 Mr '33
- Heating of lamp fittings and connectors; abstracts. P. D. Morgan, H. G. Taylor and W. Lethersich. il diag Elec R (Lond) 112:561-2 Ap 21 '33; Electrician 110:515 Ap 21 '33; Engineer 155:436 Ap 28 '33; Discussion. Elec R (Lond) 112:596 Ap 28 '33; Electrician 110:618 My 12 '33
- Hospital lighting. F. C. Raphael. il diag plan Illum Engr 26:118-25; Discussion. 125-8 My '33
- Indirect portable increases home revenue. D. W. Atwater. Elec W 102:500 O 14 '33
- Large unit for Cape Town which will handle over 20 kW. il Electrician 111:70 Jl 14 '33
- Lighting fixtures, Rockefeller Center; illustrations. Architecture 67:153 Mr '33
- Methods used to select commercial lighting fixtures. K. Staley. Elec W 102:494-6 O 14 '33
- Modern lighting from age-old luminaires. A. L. Powell. il Illum Eng Soc Trans 28:394-6 My '33
- See also  
Reflectors

**Merchandizing**

- Increasing home-lighting sales. R. E. Fisher. il Elec W 101:768 Je 10 '33

**ELECTRIC lighting**

- Association of public lighting engineers' conference at Margate. il Electrician 111:296, 315-17 S 8-15 '33; Elec R (Lond) 113:313-14 S 8 '33
- Commercial and industrial lighting; Northwest electric light and power association committee report. Elec West 70:246-51 Je '33
- Contrasts in sodium-vapor light. M. Luckiesh. Elec W 101:827-8 Je 24 '33
- Controlled light for the laboratory and works; new illuminating equipment; G.V.D. illuminators. il Chem Age (Lond) 28:386 Ap 29 '33
- Development of street lighting by electricity in the Irish Free State. F. X. Algar. Illum Engr 26:236-9; Discussion. 239 O '33
- Developments in the electrical industry during 1932; lighting. J. Liston. il Gen Elec R 36:67-71 Ja '33
- Electric light flicker. A. Skowron. Elec R (Lond) 112:774 Je 2 '33
- Electric lighting of buildings. A. B. Read and J. W. T. Walsh. Inst E E J 72:93-103 F '33; Abstracts. Electrician 109:586 N 4 '32; Elec R (Lond) 111:670-1 N 4 '32; Engineering 134:570 N 11 '32; Illum Engr 25:330 D '32; Discussion. Inst E E J 72:103-12; 73:82-7 F, Jl '33; Electrician 109:606 N 11 '32; Elec R (Lond) 111:708-9 N 11 '32
- Examples of progress in commercial and street lighting; illustrations. Elec W 102:334-5 S 9 '33
- Farm lighting systems. C. A. Logan. Kansas State College Eng Exp Sta Bul 30:1-58 '32
- Gaseous discharge lamps and their commercial application. D. R. Grandy. il N E L A Bul 20:77-9+ F '33
- Guide to better home lighting. Elec W 102:338-9 S 9 '33
- Heating effect of artificial lighting. W. Sturrock and J. H. Walker. il diag Heating-Piping 5:581-9 N '33; Excerpts. Elec W 102:377-9 S 16 '33; Abstract. Heat & Ven 30:40-1 O '33
- Home lighting; Northwest electric light and power association committee report. Elec West 70:263-6 Je '33
- How much light? Elec Eng 52:716-19 O '33
- How to get the most light for your money. Pub Serv M 55:22 Jl '33
- How wire sizes affect lighting economy. W. H. Horton. Am Arch 143:19-22 Mr '33
- Industry drive to develop lighting business. G. E. Whitwell. Elec W 102:332-3 S 9 '33
- Lamp inspections prevent ill-advised economy of light. M. W. Ross. Elec W 102:473 O 7 '33
- Lighted house plants offer profitable new field. Illum Eng Soc Trans 28:634-5 S '33
- Lighting and architecture; conferences between architects and lighting experts at the Lighting service bureau. Electrician 110:139 Ja 27 '33
- Lighting design; 27th E.L.M.A. course. Electrician 110:679 My 26 '33
- Lighting fields to explore with profit. M. E. Skinner. Edison Elec Inst Bul 1:103-6+ Jl '33; Same cond. Elec W 101:774-6 Je 10 '33; Discussion. Edison Elec Inst Bul 1:107-10 Jl '33
- Lighting of commercial buildings. H. C. Wheat. Electrician 110:220 F 17 '33
- Lighting of the Masonic peace memorial. il Illum Engr 26:214-16 S '33; Same cond. Elec R (Lond) 113:111, 122-3, 128 Jl 28 '33
- Lighting progress; extracts from the annual report on Progress in illumination by the technical committee of the illuminating engineering society. Electrician 111:476-7 O 20 '33; Elec R (Lond) 113:555 O 20 '33
- Lighting; round table discussion. Elec West 70:210-11 Je '33
- Luminous discharge tube lighting. C. C. Paterson. il diag Illum Engr 25:308-18 D '32; Abstracts. Electrician 109:637-8, 682 N 18-25 '32; Engineer 154:519 N 18 '32; Elec R (Lond) 111:709-10 N 11 '32
- New approach opens new profession; popularity of classes in new method of selling lighting. F. B. Rae, jr. Elec W 102:638 N 11 '33
- Outdoor lighting noteworthy in 1932. il Elec J 30:30-2 Ja '33
- Probable applications of gaseous-tube lighting. W. Harrison. il Elec W 100:694-7 N 19 '32
- Quality measurements for lighting equipment. A. A. Brainerd. il Illum Eng Soc Trans 28:526-33; Discussion. 533-6 Je '33
- Recent developments in electric lighting; abstracts. W. J. Jones. Electrician 109:752 D 9 '32; Illum Engr 26:2 Ja '33
- Relighting a banking room; American trust company, Charlotte, N.C. R. A. Palmer. il Elec W 101:297-8 Mr 4 '33
- Removing heat from high-intensity lighting. il diag Elec W 101:480-1 Ap 15 '33
- Sell the outdoors. il Elec West 71:16-17 Jl '33
- Selling outdoor lighting by demonstration. G. K. Hardacre. il Elec W 102:628-30 N 11 '33
- Service calls help customers and develop new business. il Elec W 101:204-5 F 11 '33
- Some observations on the lighting conditions for basic industries in Sheffield. R. W. Daniel. Illum Engr 26:207-11 S '33
- Street lighting improvements. C. C. Paterson. Elec R (Lond) 112:871 Je 16 '33
- Street lighting in the small town. C. P. Eliot. Elec West 70:124-5 Ap '33
- Street lighting of Paris. J. W. Partridge. il Electrician 111:285-6 S 8 '33; Same. Illum Engr 26:241-3 O '33
- Suggestions for local lighting sales. M. E. Skinner. Elec W 102:336-8 S 9 '33
- Testing specifications for lighting equipment. Illum Eng Soc Trans 28:479-525 Je '33
- Unilever house. il Electrician 109:635-6 N 18 '32
- Use of ultraviolet sources for the general illumination of interiors. A. B. Oday and L. C. Porter. il diag Illum Eng Soc Trans 28:121-43; Discussion. 143-52 F '33
- What home owners want. Elec W 100:887-91; 101:299 D 31 '32, Mr 4 '33

**See also**

- |                          |                         |
|--------------------------|-------------------------|
| Airports—Lighting        | Electric lamps          |
| Airways—Lighting         | Electric plants         |
| Athletic fields—Lighting | Electric signs          |
| Automobiles—Lighting     | Electric wiring         |
| Caves—Lighting           | Electricity on the farm |
| Church lighting          | Factories—Lighting      |
| Daylight, Artificial     | Glare                   |

**ELECTRIC lighting—Continued**

Lighting                      Photometry  
 Mine lighting              Stage lighting  
 Moving picture            Street lighting  
 theaters—Lighting        Theaters—Lighting  
 Office lighting            Tunnel lighting

**Control**

Building commercial load with a time switch.  
 H. H. Webb. il Elec W 101:224 F 18 '33  
 Controlled light; an unusual installation at  
 the London university. il Electrician 110:  
 527 Ap 21 '33; Chem Age (Lond) 29:113 JI  
 29 '33

Convenience control of residence lighting.  
 J. C. Runyon. diags plans Elec W 102:349-  
 51 S 9 '33

Dimming of hot-cathode gaseous-discharge  
 lamps. W. F. Westendorp. il diags Gen Elec  
 R 36:488-92 N '33

Fountain lighting; control of mobile color. H.  
 E. Lippman. il diags Elec J 30:197-200 My  
 '33

Identification tag for the airport; distinctive  
 indication of airport boundaries—periodic  
 change of brilliancy of lights. W. P. Simp-  
 son. diags Gen Elec R 36:326-7 JI '33

Lighthouses; automatic control of electric sup-  
 ply, using acetylene gas as standby. J. O.  
 Hinds. diags Electrician 110:704-5 Je 2 '33

Refinement in controls marks Radio City  
 music hall. il diags Elec W 102:277-82 Ag  
 26 '33

Waning daylight turns on lights automatical-  
 ly; photolux. il Automotive Ind 68:620 My 20  
 '33

**Cost**

Costs of municipal street lighting in Chicago  
 in 1931; tabulation. Elec W 100:734-5 N 26  
 '32

Don't fool yourself; it doesn't pay to burn  
 lamps at less than rated voltage. C. D.  
 Corwin. Factory & Ind Management 83:457-8  
 D '32

Lighting for office buildings; with cost data.  
 W. E. Malm. Elec W 101:587-9 My 6 '33

**Exhibitions**

Exhibits illustrating progress in illumination;  
 illuminating engineering society. il Illum  
 Engr 25:322-7 D '32

G.E.C. illumination showrooms. il Elec R  
 (Lond) 113:563 O 20 '33

**History**

Forty years of lighting progress. S. G. Hib-  
 ben. Illum Eng Soc Trans 28:640-2 S '33

**Tables, calculations, etc.**

Photomètre à cellule photo-électrique, sys-  
 tème Philips. il diag Génie Civil 101:508-9 N  
 19 '32

Suggested tables and data for use in design-  
 ing a wiring plan and lighting installation.  
 Elec West 70:251-3 Je '33

**ELECTRIC lighting, Decorative**

Artificial light as an aid to the landscape  
 architect. D. W. Atwater and A. Paulus. il  
 diags Illum Eng Soc Trans 28:223-38; Dis-  
 cussion. 257-62 Mr '33

Christmas lighting at Nela Park. Illum Eng  
 Soc Trans 28:100-1 F '33

Christmas lighting puts dollars into the elec-  
 trical stocking. A. Paulus. il N E L A Bul  
 19:677-80 N '32

Electric lighting of buildings. A. B. Read  
 and J. W. T. Walsh. Inst E E J 72:93-103  
 F '33; Discussion. 72:103-12; 73:82-7 F, JI  
 '33

Examples of lighting for decoration and fes-  
 tivity. G. R. LaWall and C. M. Cutler. il  
 diag Illum Eng Soc Trans 28:239-56; Dis-  
 cussion. 257-62 Mr '33

Floodlighting and electric fountains for water  
 works. W. T. Blackwell and C. Gallo. il  
 diags plan Illum Eng Soc Trans 28:407-17  
 My '33

Lighting heads the list of special facilities;  
 World's fair, Chicago. J. L. McConnell. il  
 diags Eng N 110:283-5 Mr 2 '33

Make it a Merrie Xmas with electric lights;  
 illustrations. Elec W 100:729 N 26 '32

Mobile color lighting for decoration; electrical  
 building at the Century of progress. C. J.  
 Stahl. il Elec J 30:244 Je '33

Outdoor lighting noteworthy in 1932. il Elec J  
 30:30-2 Ja '33

Seaside lighting. W. J. Jones. il Elec R  
 (Lond) 113:453 O 6 '33

**See also**

Fountains—Light-  
 ing

**ELECTRIC lighting sets**

Emergency power set starts in three seconds.  
 il Elec J 30:18-19 Ja '33

Lead storage batteries and their treatment.  
 F. Crawter. Electrician 110:190 F 10 '33

Stand-by batteries; position of theatres and  
 other public buildings. Electrician 109:642 N  
 18 '32

Trickle charging. E. R. Sanderson. diags Elec  
 R (Lond) 112:186-7 F 10 '33

**ELECTRIC lines**

Buried system preserves beauty of famous re-  
 sort; Crater Lake national park. il map Elec  
 West 70:8-9 Ja '33

Colorado River aqueduct; 1933's outstanding  
 electrical project. Elec West 70:53-4 F '33

Economics of line extensions. R. T. Oldfield.  
 Elec W 101:417-19 Ap 1 '33

Egyptian scheme; transmission equipment for  
 electrical irrigation. il Elec R (Lond) 111:  
 921 D 23 '32

Graphical methods for problems involving  
 radio-frequency transmission lines. H. Ro-  
 der. bibliog Inst Radio Engr Proc 21:290-302  
 F '33

Sodium in pipes successful as electrical con-  
 ductor. R. H. Boundy. il Elec W 100:852 D  
 24 '32

Tapping high-voltage lines. V. Z. de Ferranti.  
 il diags Elec R (Lond) 112:859-60 Je 16 '33

**See also**

Electric bus lines	Electric service, Rural
Electric cables	Electric substations
Electric circuits	Electric transmission
Electric conduits	Electric utilities
Electric plants—In-	Electric wire
terconnection	Electric wiring
Electric protective	Hydroelectric plants
apparatus	Telephone lines
Electric railroads	Trolley buses

**Canal crossing**

Clarence dock grid connection. A. P. Healy.  
 il Elec R (Lond) 112:940 Je 30 '33

**Construction**

Lower-cost underground construction for  
 low-density areas. C. E. Hickey. diags plan  
 Elec W 102:154-7 JI 29 '33

La VII<sup>e</sup> session de la Conférence interna-  
 tionale des grands réseaux électriques  
 (Paris, 16-24 juin 1933). Génie Civil 103:  
 158-9 Ag 12 '33

**See also**

Electric lines—Over-  
 head construction

**Cost of construction**

Analysis of rural line costs. Elec W 100:507-10,  
 526, 698; 101:71 O 8-15, N 19 '32, Ja 14 '33

Builds rural line for \$865 per mile; Central  
 Maine power company. diags Elec W 101:  
 483 Ap 15 '33

Chart for estimating cost of units of plant.  
 R. H. Kirkwood. Elec Eng 52:175-7 Mr '33

Distribution costs of electric service; discus-  
 sion of paper by C. W. Pike. C. Bary.  
 Elec W 102:248-52 Ag 19 '33

Distribution costs subjected to new analysis  
 at the meeting of the Institute of public  
 engineering. C. W. Pike and others. Elec W  
 101:348-51 Mr 18 '33

Farm line construction. M. Eldredge. il diag  
 Elec W 102:268-72 Ag 26 '33

**Damage from storms**

Earth explosion from lightning. A. Schultz.  
 il Elec W 102:59 JI 8 '33



## ELECTRIC lines—Continued

## Ground returns

Earth phase; an experiment recently carried out on one of the 35-kV lines of the Lenin-grad electric system. *diag Elec R (Lond)* 112:7 Ja 6 '33; *Elec W* 101:89 Ja 21 '33

## Inductive interference

Inductive co-ordination; Pennsylvania rail-road electrified system. *Ry Age* 94:300 F 25 '33

Mutual induction between power and telephone lines under transient conditions. W. G. Radley and H. J. Josephs. *bibliog Inst E E J* 72:259-64 Mr '33

Neutralizing transformers for the reduction of induced voltages of fundamental frequency. *Edison Elec Inst Bul* 1:10-11+ Ap '33

New methods of investigating power system influence in noise frequency induction problems. *diags Edison Elec Inst Bul* 1:157 Ag '33

New pin insulators free from radio interference. H. H. Brown. *diags Elec Eng* 52:608-13 S '33

Power system conditions affecting communication service. H. L. Davis, jr. *N E L A Bul* 20:70-6+ F '33

Selective devices for reducing ripples in d-c systems. *Edison Elec Inst Bul* 1:190 S '33

Some factors affecting inductive coordination. J. R. North. *Elec Eng* 52:551-4 Ag '33

Unbalancing effect of unsymmetrical regulator connection on a grounded neutral system. *N E L A Bul* 20:100-1 F '33

## Maintenance and repair

Installing dampers and reinforcing on hot 132-kv. line; Southern Sierras power company. R. H. Halpenny. *il Elec W* 102:466-7 O 7 '33

Insulator changing rig. J. E. Housley. *diags Elec W* 101:330 Mr 11 '33

Maintenance; round table discussion. *Elec West* 70:213-15 Je '33

Mobilizing personnel for system trouble; Puget Sound power & light co. organization. *Elec West* 70:6-8 Ja '33

Painting a 4,482-ft. span across the Carquinez Straits at end of San Francisco bay. *il Elec W* 101:197 F 11 '33

Restoring high line service quickly after storms. G. F. Harden. *Elec W* 100:734 N 26 '32

## Moving

Moving live high line in highway widening. G. F. Harden. *diag Elec W* 101:387 Mr 25 '33

## Overhead construction

Chats Falls-Beauharnois line extension. *il map Can Eng* 64:5-6 Mr 14 '33

Clarence dock grid connection. A. P. Healy. *il Elec R (Lond)* 112:940 Je 30 '33

Determining conductor clearances at transpositions. R. M. Walker. *Elec W* 102:282 Ag 26 '33

Development at Dorking. *il map Elec R (Lond)* 112:767-8, 769 Je 2 '33

Difficulties in connection with overhead lines and electricity supply; discussion. *Electrician* 110:276 F 24 '33; *Elec R (Lond)* 112:273-4 F 24 '33

Distribution system of the Ringmer and district electricity supply company. *il Engineering* 136:407-8 O 13 '33; *Engineer* 156:354-5 O 13 '33; *Elec R (Lond)* 113:525-6 O 13 '33; *Electrician* 111:437-8 O 13 '33

Electrical design of rural lines. E. V. Sayles. *Elec W* 100:860-2 D 24 '32

Erecting overhead lines. J. L. Eve. *il Elec R (Lond)* 112:855-6 Je 16 '33

Erection of h.p. transmission conductors. P. Crussard. *diag Elec R (Lond)* 113:50 Jl 14 '33

Farm line construction. M. Eldredge. *il diag Elec W* 102:268-72 Ag 26 '33

Firemen and the grid; interesting tests with 132 kV lines at Croydon. *Electrician* 110:804 Je 16 '33

First step-regulator installation applied to rural lines. T. F. Hildebrand. *il diag Elec W* 101:650-3 My 20 '33

French grid; completion of 220 kV route from Massif Central to Paris. *il Electrician* 110:383-4 Mr 24 '33

Grid at work. J. D. Peattie. *Electrician* 110:546-7 Ap 28 '33

Improved weather-resistant coverings for overhead line wires. L. L. Carter and others. *il Purdue Univ Eng Exp Sta Research Bul* 43:1-68 '32

Inexpensive swan neck bracket suspension at Ashford. *il Electrician* 111:43 Jl 14 '33

Modern steel tower transmission lines. *Elec Eng* 52:243 Ap '33

N.E.L.A. overhead systems committee meeting. *N E L A Bul* 19:697 N '32

Network protectors climb poles. *il Elec J* 30:5 Ja '33

New equipment and appliances. *il Electrician* 110:712 Je 2 '33

New pin insulators free from radio interference. H. H. Brown. *diags Elec Eng* 52:608-13 S '33

Notes on wayleaves. R. G. Whyte. *Electrician* 110:252-3, 297, 327, 358 F 24-Mr 17 '33

One and one-half years without flashover. L. O. Waite. *il Elec W* 101:557-8 Ap 29 '33

Overhead conductors of steel reinforced copper for transmission lines; comparison with aluminum conductors. H. Bough. *il Electrician* 109:838-9 D 30 '32

Overhead equipment; progress in 1932. G. W. Molle. *Electrician* 110:96-7 Ja 27 '33

Overhead line equipment. *il Electrician* 110:558-60 Ap 28 '33

Overhead line problems. H. S. Ellis. *il Elec R (Lond)* 112:856 Je 16 '33

Overhead lines; a general survey of the present situation. G. W. Molle. *il Electrician* 110:539-40 Ap 28 '33

Overhead lines association; annual conversation, exhibits of new equipment. *il Electrician* 109:685-6 N 25 '32; *Elec R (Lond)* 111:779 N 25 '32

Overhead lines association annual general meeting. *Electrician* 111:395 S 29 '33; *Elec R (Lond)* 113:421-2 S 29 '33

O.L.A. in Somerset; a progressive distribution company's rural activities. *il Elec R (Lond)* 112:903 Je 23 '33

Overhead lines; summer meeting of the O.L.A. G. W. Molle. *Electrician* 110:740 Je 9 '33

Overhead transmission system for Upper Egypt. *il Electrician* 109:690 N 25 '32

Paris H.T. congress. *il Electrician* 111:228-9, 256, 288-9, 312 Ag 25-S 15 '33

Recent overhead line construction; some examples of modern British practice in the erection of transmission and distribution lines. *il map Electrician* 110:541-5 Ap 28 '33

Reducing cost of farm lines. E. Ringstad. *Elec W* 101:234-8 F 18 '33; *Discussion. M. J. Kelly.* 101:398-9 Mr 25 '33

Reinforced concrete standards; their use for traction and lighting purposes. B. Dennison. *il Elec R (Lond)* 112:521 Ap 14 '33

Safe Harbor-Westport 230-kv transmission line. E. Hansson. *il diags map Elec Eng* 51:834-8 D '32

Satisfactory experience with 8-kv. aerial cable. G. H. Underhill. *Elec W* 102:56 Jl 8 '33

Saving material in line-angle construction. *il Elec W* 102:376 S 16 '33

Simple line tap. *il Elec R (Lond)* 111:786 N 25 '32

Special power tools speed transmission line erection. W. B. Flynn. *il Elec W* 101:138-9 Ja 28 '33

Study of performance of 6.6 to 33 kv power lines. *Edison Elec Inst Bul* 1:211 O '33

## See also

Electric railroads—Trolley buses—Overhead construction—Overhead construction

## Poles and towers

Care important in tightening tower bolts. C. A. Booker. *Power* 77:155 Mr '33

Chart for estimating cost of units of plant. R. H. Kirkwood. *Elec Eng* 52:175-7 Mr '33

**ELECTRIC lines—Poles and towers—Continued**

- Energized 110-kv. circuit raised 6 ft. il Elec W 101:419 Ap 1 '33
- Impulse and dynamic flashover studies of 26-kv wood pole transmission construction. A. S. Brookes, R. N. Southgate and E. R. Whitehead. diags Elec Eng 52:89-95 F '33
- Impulse tests on wood line-materials. J. J. Torok and W. R. Ellis. diags Elec J 30:347-52 Ag '33
- Lightning outages reduced—wood construction surveyed at A.I.E.E. meeting. Elec W 101:158-9 F 4 '33
- Lightning shatters concrete pole base. J. E. Housley. il Elec W 101:137 Ja 28 '33
- New practice saves poles threatened by termites. M. M. Bridgwater. il Elec W 100:693 N 19 '32
- Novel hinged cross-arm. diag Elec R (Lond) 113:427 S 29 '33
- Numbering of rural poles possesses many advantages. R. E. Wenk. diag Elec West 71:21 S '32
- Operating experience with wood utilized as lightning insulation. H. L. Melvin. il Elec Eng 52:36-41 Ja '33
- Overhead line towers; earth resistances. G. F. Tagg. Engineer 155:422-3 Ap 28 '33
- Pole platform for transformers. diags Elec W 102:531 O 21 '33
- Reinforced concrete poles. B. Dennison. il Elec R (Lond) 112:265-6 F 24 '33
- Reinforced concrete poles for overhead lines. P. D. Morgan. Inst E E J 72:423-30 My '33
- Resistance to earth of grid towers. diag Elec R (Lond) 112:118 Ja 27 '33; Electrician 110:173-4 F 3 '33; Engineer 155:125 F 3 '33; Engineering 135:145 F 3 '33
- Revising lines to benefit from wood insulation. B. E. Ellsworth. diags Elec W 102:637 N 11 '33
- Service records of treated and untreated poles. R. M. Wirka. il Elec W 102:116-21, 146-9 Jl 22-29 '33
- Special tower grounds extended to 150-kv. lines. il Elec W 100:858 D 24 '32
- Tests demonstrate value of X-braced H-frames. diags Elec W 102:304-6 S 2 '33
- Towers for the river Thames cable crossing. il diags Engineer 154:546 N 25 '32; Engineering 134:612 N 18 '32
- Transmission towers raised 25 ft. without removing copper. C. H. Allen. il Elec W 101:171 F 4 '33
- Welded steel poles. il Elec R (Lond) 112:190 F 10 '33
- Wood pole specifications of the American standards association. A. B. Campbell. N E L A Bul 20:81-4 F '33

**Protection**

- Bird's eye view of lightning projection. E. Beck. bibliog il Elec J 30:369-70 S '33
- Building a new power system; Indianapolis power and light company. F. S. Douglass and A. C. Monteith. il diags Elec J 30:55-9 F '33
- Carbon-tetrachloride or porcelain fuses? abstract. G. H. Dean. Elec R (Lond) 112:120-1 Ja 27 '33
- Carrier-current relaying simplified. P. Sporn and C. A. Muller. il diags Elec W 102:556-60 O 28 '33
- Choke coil design. H. E. Hutter. Elec R (Lond) 112:447 Mr 31 '33
- Cost of 220-kv. sectionalizing station. diag Elec W 100:879 D 31 '32
- D.c. pilot-wire loop protects 66-kv. cable circuits. J. H. Neher. il diags Elec W 101:384-7 Mr 25 '33
- Directional relays. G. W. Stubbings. diags Elec R (Lond) 113:586 O 27 '33
- Distribution system protection. R. O. Kapp. Elec R (Lond) 112:864 Je 16 '33
- Earthing the neutral point. W. T. Taylor. Elec R (Lond) 112:520 Ap 14 '33
- Experience with arcing ground suppressors. E. M. K. Sommer. il diag Elec W 101:730-3 Je 3 '33
- Factors affecting surge potentials. J. J. Torok and W. R. Ellis. diags Elec J 30:381-7 S '33

- Faults, and their clearance on large networks. R. O. Kapp and C. G. Carrothers. diags Inst E E J 71:685-702; Discussion. 721-36 N '32
- Ground interconnection saves service. F. E. Hill. diag Elec W 102:595 N 4 '33
- Hairpin loop makes arrester more effective. W. J. Rudge, jr. Elec W 100:750-1 D 3 '32
- High-speed reactance relay. A. R. V. Warrington. il diags Elec Eng 52:248-52 Ap '33
- Insulator reliability in service. R. C. Andersen. Electrician 109:718; Discussion. 718 D 2 '32; Abstract. Elec R (Lond) 111:744-5 N 18 '32
- Lightning as it affects transportation; abstract and discussion. D. R. MacLeod. Ry Age 94:700-1 My 13 '33
- Lightning effects; the studies of Dr Dietrich Müller-Hillebrand. il Electrician 110:551 Ap 28 '33
- Lightning outages reduced—wood construction surveyed at A.I.E.E. meeting. Elec W 101:158-9 F 4 '33
- Lightning protection of distribution systems and transformers (2300-4000 to 115/230 volts). C. S. Sprague and C. F. Harding. il diags Purdue Univ Eng Exp Sta Research Bul 42:1-87 '32
- Lightning protection; Pennsylvania railroad electrified system. il Ry Age 94:293 F 25 '33
- Modernizing installations for lightning protection. E. Beck. bibliog il Elec J 29:570-2 D '32
- More testimony for ground wires. Elec W 101:482-3 Ap 15 '33
- New ideas on protecting service; abstracts of papers at A.I.E.E. meeting. diags Elec W 101:161-3 F 4 '33
- One and one-half years without flashover. L. O. Waite. il Elec W 101:557-8 Ap 29 '33
- Operating experience with wood utilized as lightning insulation. H. L. Melvin. il Elec Eng 52:36-41 Ja '33
- Operation diagrams simplify relaying problems. R. C. Ericson. map Elec W 101:106-8 Ja 21 '33
- Overhead line protection; application of the Petersen coil. D. Bryan. diags Elec R (Lond) 113:180-1 Ag 11 '33
- Over-voltage protection for low-voltage networks. diag Elec R (Lond) 112:485 Ap 7 '33
- Power system insulation co-ordination. A. E. Silver. Elec W 101:257-8 F 25 '33
- Rehabilitated transmission line defies lightning; installation of Deion flashover protectors. F. S. Douglass. il diags Elec W 101:820-2 Je 24 '33
- Relaying of high voltage interconnections. H. P. Sleeper. il diags Elec Eng 52:402-9 Je '33
- Remote alarms by carrier current over distribution circuits. F. B. Doolittle. il diag Elec W 101:172-3 F 4 '33
- Ring main feeder protection. diags Engineer 155:122-3 F 3 '33
- Romance of lightning research. E. S. Lee. il Power Pl Eng 37:391-2 S '33
- Some line insulator criteria; abstract. R. C. Andersen. Elec R (Lond) 111:964; Discussion. 964 D 30 '32; Electrician. 110:7 Ja 6 '33
- Use of communication facilities in transmission line relaying. J. H. Neher. bibliog il diags Elec Eng 52:162-8 Mr '33

**River crossing**

- Brooklyn-New York power cables. il diag Engineer 155:110-11, 118 F 3 '33
- Resistance to earth of grid towers. diag Elec R (Lond) 112:118 Ja 27 '33; Electrician 110:173-4 F 3 '33; Engineer 155:125 F 3 '33; Engineering 135:145 F 3 '33
- Towers for the river Thames cable crossing. il diags Engineer 154:546 N 25 '32; Engineering 134:612 N 18 '32
- Two-circuit crossing strung in two days; Catskill-Poughkeepsie section of line interconnecting the Niagara Hudson and New York Edison systems. il Elec W 101:127 Ja 28 '33

**Sleet problem**

- Conductor vibration from wind and sleet. J. P. Den Hartog. il diags Elec Eng 52:240-2 Ap '33



**ELECTRIC lines—Sleet problem—Continued**

Paris H.T. congress; sleet troubles on transmission lines. *Electrician* 111:312 S 15 '33

**Tables, calculations, etc.**

Factors affecting surge potentials. J. J. Torok and W. R. Ellis. *diags Elec J* 30: 381-7 S '33

Power limits of 220-kv transmission lines; transmission of power from Boulder dam to the system of the Southern California Edison company. A. A. Kroneberg and M. Macferran. *bibliog diags Elec Eng* 52:758-66 N '33

Quick estimating charts for three-phase 60-cycle transmission lines. C. C. Wheelchel, E. Clarke and R. N. Slinger. *charts Gen Elec R* 36:139-49 Mr '33

Unsymmetrical regulation works well with rural feeders. H. B. Phelps. *diags Elec W* 101:802-4 Je 17 '33

Vector solutions for reactive kv-a. L. E. Baty. *diags Elec J* 30:218-19 My '33

**Testing**

Building a new power system; Indianapolis power and light company. F. S. Douglass and A. C. Monteith. *il diags Elec J* 30:55-9 F '33

Impulse and dynamic flashover studies of 26-kv wood pole transmission construction. A. S. Brookes, R. N. Southgate and E. R. Whitehead. *diags Elec Eng* 52:89-95 F '33

Impulse tests on wood line-materials. J. J. Torok and W. R. Ellis. *diags Elec J* 30:347-52 Ag '33

Surge investigations on lines and substations. J. J. Torok and W. R. Ellis. *il diags Elec J* 30:290-2+ J1 '33

System performance tested with 600 short circuits; Indianapolis power & light company. E. G. Ralston and E. H. Klemmer. *il diags Elec W* 101:192-5 F 11 '33

Testing a power system; Indianapolis 132-kv system. A. W. Hill; P. O. Langguth and R. M. Smith. *il diags Elec J* 30:90, 95-102 Mr '33

**Tree problem**

Economic benefits of scientific line clearing. T. H. Haines and E. F. Robinson. *Elec W* 101:72-5 Ja 14 '33

Safety saw for tree limbs. G. F. Harden. *diags Elec W* 101:294 Mr 4 '33

**Vibration**

Conductor vibration. R. A. Monroe. *Elec W* 102:62-3 J1 8 '33

Conductor vibration from wind and sleet. J. P. Den Hartog. *il diags Elec Eng* 52:240-2 Ap '33

Paris H.T. congress; variation of conductors. *Electrician* 111:288-9 S 8 '33

**Water crossing**

Painting a 4,482-ft. span across the Carquinez Straits at end of San Francisco bay. *il Elec W* 101:197 F 11 '33

**See also**

Electric lines—River crossing

**Canada**

Chats Falls-Beauharnois line extension. *il map Can Eng* 64:5-6 Mr 14 '33

**England**

Development at Dorking. *il map Elec R (Lond)* 112:767-8, 769 Je 2 '33

**France**

French grid; completion of 220 kv route from Massif Central to Paris. *il Electrician* 110: 383-4 Mr 24 '33

High-voltage transmission in France. *il Elec R (Lond)* 113:243-4 Ag 25 '33

Le transport d'énergie à 220 000 volts du Massif central à Paris; l'alimentation électrique du chemin de fer d'Orléans. J. Dumas. *il diags map Génie Civil* 101:569-75 D 10 '32

**Western states**

New lines provide service reliability. *Elec West* 70:48-50 F '33

**ELECTRIC locomotives**

Electric locomotives for Russia. B. S. Cain. *il map Ry Age* 94:17-18 Ja 7 '33

Electric locomotives for the Transcaucasian railway. W. Konovaloff. *il Elec Traction* 29: 11 Ja '33

L'électrification d'une section de la ligne de Budapest à Vienne, par les chemins de fer de l'Etat hongrois; traction par courants alternatifs, système Kandó. *il diags map Génie Civil* 102:57-62 Ja 21 '33

Electrification of the suburban and certain main-line sections of the Great Indian Peninsula railway. F. Lydall. *diags Inst E E J* 71:918-23, 941-3; Discussion. 951-7 D '32

L'exploitation des chemins de fer; comparaison entre la traction à vapeur et la traction électrique. H. Ponty. *Génie Civil* 102: 108-10, 133-5, 155-9 F 4-18 '33

Hungarian railways electrification. *il diags Engineer* 155:48-50 Ja 13 '33

Kandó phase converter; new type of locomotive on the Hungarian state railway. *il Electrician* 110:39-40 Ja 13 '33

Kandó system; editorial. *Engineer* 155:145 F 10 '33

Kandó system of electric traction on the Hungarian state railways. *il diags map Engineering* 135:46, 58-9, 296-8, 349-52 Ja 13, Mr 17, '33

Locomotives develop 1,250 horse-power per axle; New York-Philadelphia line. *il Ry Age* 94:273-6 F 25 '33

Operation of three-power locomotives; D.L. & W. finds motive power suitable for both switching and transfer service. F. H. Craton. *il map Ry Age* 94:363-6 Mr 11 '33

Operation of 3,000-volt locomotives on the Cleveland union terminals electrification. F. H. Craton and H. W. Pinkerton. *il Elec Eng* 52:96-9 F '33

Simplified control for a-c locomotives. W. A. Giger. *il diags Elec Eng* 52:613-16 S '33

Transformer converters on Hungarian locomotives; Kandó system of electrification. *Elec W* 100:745 D 3 '32

Trolley shoe experience with electric locomotives. J. D. Barnhart. *il Elec Traction* 29:79 Mr '33

Umformerlokomotiven der Ungarischen staatsbahnen; der elektrische betrieb auf der strecke Budapest-Hegyeshalom. H. Dominke. *il diags Zeit Ver Deutsch Ing* 77:415-22 Ap 22 '33

Unusual electrification in Hungary. R. F. Stockar. *il diags Elec W* 101:166-8 F 4 '33

Visite du dépôt des locomotives électriques de la Compagnie P.-L.-M. à Chambéry. J. F. Audouin and A. L. Racapé. *Soc Ing Civils* Bul 85:1018-21 S '32

**See also**

Canals—Electric traction  
Locomotives, Diesel-electric

Railroads—Electrification

**Classification**

Classification of electric locomotives. W. D. Bearce. *il Gen Elec R* 36:447-9 O '33

**Springs**

High-speed electric locomotive suspension. F. L. Baxter. *diag Engineer* 155:380-1 Ap 14 '33

**Wheels**

Optimum diameter of driving wheels. W. E. Dalby. *Engineer* 155:135-6 F 10 '33

**ELECTRIC locomotives, Industrial**

Control equipment for locomotives in gaseous mines and tunnels. B. Woodward. *il Gen Elec R* 36:106-8 F '33

**ELECTRIC locomotives, Mine**

Control equipment for locomotives in gaseous mines and tunnels. B. Woodward. *il Gen Elec R* 36:106-8 F '33

Controller finger base blocks stop arcing and burning. F. F. MacWilliams. *diags Coal Age* 37:417 N '32

**ELECTRIC locomotives, Mine—Continued**

- Cost of storage-battery, compressed-air, and gasoline-locomotive transportation. M. J. Elsing. Eng & Min J 134:191-3 My '33
- Cost of trolley-locomotive transportation. M. J. Elsing. Eng & Min J 134:145-8 Ap '33
- Current collectors for mine haulage. G. W. Bower. Eng & Min J 134:60 F '33
- Mine haulage; the combination-type electric locomotive; cost data. H. A. Neustaedter. Eng & Min J 134:340 Ag '33
- Safety for locomotive runner dictates changes in control equipment. il diags Coal Age 38: 24-6 Ja '33

**ELECTRIC locomotives, Storage battery**

- Bigger field for storage battery locomotives. M. Walker. Elec W 101:264 F 25 '33
- Control equipment for locomotives in gaseous mines and tunnels. B. Woodward. il Gen Elec R 36:106-8 F '33
- Cost of storage-battery, compressed-air, and gasoline-locomotive transportation. M. J. Elsing. Eng & Min J 134:191-3 My '33

**Testing**

- Performance tests of a 65-ton storage-battery oil-electric industrial switching locomotive. G. H. Shapter. il Gen Elec R 36:310-11 Jl '33

**ELECTRIC losses**

- Adjusting secondary metering to include high-side losses. W. C. Wagner and G. B. Schleicher. Elec W 101:260-3 F 25 '33
- Compensating metering in theory and practice. G. B. Schleicher. il Elec Eng 52:454-61 [bibliog p459] Jl '33; Abstract. Elec W 102:27-9 Jl 1 '33; Discussion. 102:46 Jl 8 '33
- Corona loss at 220-330 kv; tests made at the Ryan laboratory, Stanford University, Calif. J. S. Carroll and B. Cozzens. il diag Elec Eng 52:178-83 Mr '33
- Creditable depression engineering in Bay State. Elec W 102:316 S 2 '33
- Formulas for magnetic hysteresis losses; magnetic properties of different grades of silicon sheet steel. S. S. Sidhu. bibliog Elec Eng 52:625-30 S '33
- Losses caused by needlessly high bus voltages. Elec W 101:611 My 13 '33
- Rural installations; application of leakage protection methods. T. C. Gilbert. Electrician 110:850-1 Je 30 '33
- Transformer selection for loss reduction. Elec W 101:638 My 20 '33
- Where are best opportunities to reduce losses? Elec W 101:103-4 Ja 21 '33

**See also**

- Electric machinery—  
Losses
- Electric transformers  
—Losses

**ELECTRIC machinery**

- Allis-Chalmers engineering developments during 1932. A. K. Birch. il N E L A Bul 20: 29-32 Ja '33
- Automatic synchroniser for a.c. machines. diag Engineer 156:120 Ag 4 '33
- Direct and alternating currents, theory and machinery. E. A. Loew. 656p \$4.50 McGraw-Hill '33
- Electrical circuits and machinery. v 1, Continuous currents. J. H. Morecroft and F. W. Hehre. 2d ed 457p \$4 Wiley '33
- Electrical machinery developments in 1932. Elec Eng 52:391-4 Je '33
- Electrical plant and machinery; a review of progress. J. H. Williams. Inst E E J 72:113-23 F '33

**See also**

- Brushes (electric machinery)  
Commutators  
Cranes, derricks, etc.  
—Electric equipment  
Electric apparatus and appliances  
Electric converters  
Electric driving  
Electric engineering  
Electric generators  
Electric locomotives
- Electric machines  
Electric motors  
Electric plants  
Electric protective apparatus  
Electric shovels  
Electric transformers  
Electricity in mining  
Electricity on the farm  
Elevators, Electric  
Hoisting machinery, Electric  
Hydroelectric plants

Mine hoisting, Electric  
Pumping machinery, Electric

Refrigerators, Electric  
Ship propulsion, Electric  
Voltage regulators

**Cooling**

- Hydrogen-cooled and outdoor air-cooled rotating machinery; committee report, il diags Edison Elec Inst Bul 1:177-82 S '33

**Design**

- Design for progress. J. B. MacNeill. il Elec W 101:444-8 Ap 8 '33
- Energy loss of iron; its influence on the design of electrical induction machinery. B. R. Isaacs. Electrician 109:679-81 N 25 '32

**Drying**

- When electrical equipment gets wet. E. C. Dieffenbach. il diags Factory Management 91:186-8 My '33

**Failures**

- Electrical breakdowns; analysis of direct and alternating current machine failures during 1932. Electrician 110:494 Ap 14 '33

**Losses**

- Energy loss of iron; its influence on the design of electrical induction machinery. B. R. Isaacs. Electrician 109:679-81 N 25 '32

**Maintenance and repair**

- Meters and handtools cut electrical maintenance costs. il Power 77:294-5 Je '33
- Sense and saving in rebuilding large rotating machinery. M. W. Smith. il Elec J 29:548-51+ D '32

**Manufacture**

- Cellulose finishing; its applications in the electrical manufacturing industry. W. A. Wood. plan Elec R (Lond) 112:8 Ja 6 '33
- Manufacture of renewal parts. E. C. Brandt. il Elec J 30:192-5 My '33
- Visit to the English electric company's Stafford works. il diags Engineer 154:487-90 N 11 '32; Electrician 109:604-6 N 11 '32

**Protection**

- Insulation co-ordination and impulse testing; abstracts of papers at A.I.E.E. meeting. Elec W 101:156-8 F 4 '33
- Protection of idle machines. Elec W 101:804 Je 17 '33
- Recommended practises for the protection of electrical apparatus. Elec Eng 51:829-34 D '32
- Surge protection for rotating machines. J. F. Calvert, A. C. Monteith and E. Beck. il diags Elec J 30:91-4+ Mr '33
- Temperature protection with detector coils. H. E. Pearson. il diags Gen Elec R 36:109-10 F '33

**Temperature**

- Indicating apparatus temperatures. H. W. Papst. diags Elec J 30:413-14 O '33
- Measurement of temperature in electrical windings. A. C. Finney. diags Power Pl Eng 37:352-3 Ag '33

**Testing**

- Care of large electrical apparatus. J. S. Murray. il Blast F & Steel Pl 21:114-15+ F '33

**Transportation**

- Large motor order; shipment of 18 000 h.p. English electric unit to South Africa. il Electrician 110:141 Ja 27 '33

**Vibration**

- Acoustics laboratory of the Metropolitan-Vickers electrical company's research department. B. G. Churcher. il plan Engineering 135:563-6 My 26 '33
- Noise in power transformers. E. T. Norris. il Engineer 155:446-8, 452 My 5 '33
- Quiet electrical machinery. J. A. Jackson. Gen Elec R 36:385-8 S '33



## ELECTRIC machinery industry

## Great Britain

- Electrical engineering in 1932. *Engineering* 135:202-4 F 17 '33  
 Engineering outlook. *Engineering* 135:92-4 Ja 27 '33

## ELECTRIC machines

- Electric current from electrostatic machines. R. J. Van de Graaff. *Science* 78:sup5 S 22 '33  
 Electrostatic production of high voltage for nuclear investigations. R. J. Van de Graaff, K. T. Compton and L. C. Van Atta. *diags Phys R* 43:149-57 F 1 '33  
 High voltage. K. T. Compton. *diags Science* 78:19-24, 48-52 Jl 14-21 '33  
 Les machines électrostatiques; génératrices électrostatiques et moteurs électrostatiques. H. Chaumat. *diags Soc Ing Civils Bul* 86: 590-615 My '33; Abstract. *Génie Civil* 102: 406-7 Ap 29 '33  
 New design for a high-voltage discharge tube. L. C. Van Atta, R. J. Van de Graaff and H. A. Barton. *Phys R* 43:158-9 F 1 '33  
 Quantitative theory of the Toepler-Holtz static machine. A. W. Simon. *R Sci Instr* 4:75-82 F '33  
 Quantitative theory of the Wimshurst static machine. A. W. Simon. *R Sci Instr* 4:67-74 F '33  
 Ten million volts direct current! electrostatic high voltage generator being constructed at Massachusetts institute of technology. *diags Power Pl Eng* 37:216-17 My '33

## ELECTRIC measurements

- Advances in dielectric, graphic and acoustic measurements; abstracts of papers at A.I.E.E. meeting. *diag Elec W* 101:164-5 F 4 '33  
 Alternating-current bridges for measurements of electrical insulating materials. W. A. Ford and S. L. Reynolds. *il diags Gen Elec R* 36:99-105 F '33  
 Attenuation of transmission lines. M. J. O. Strutt. *Wireless Eng* 10:139-40 Mr '33  
 Audio-frequency constants of circuits and telephone lines. S. P. Chakravarti. *diags Inst E E J* 72:416-22 My '33  
 Better standards needed for surge testing. F. D. Fielder. *Elec W* 102:433-5 S 30 '33  
 Calculation of short circuits. *diags Electrician* 111:64, 92, 120, 149 Jl 14-Ag 4 '33  
 Circuit analyzer. L. J. Lunas. *il diags Elec J* 30:376 S '33  
 Commercial power-factor measurements. R. M. Rowell. *diags Gen Elec R* 36:493-500 N '33  
 Corona loss at 220-330 kv; tests made at the Ryan laboratory, Stanford University, Calif. J. S. Carroll and B. Cozzens. *il diag Elec Eng* 52:178-83 Mr '33  
 Direct current bushing transformer. A. S. Fitzgerald. *il diags J Fr Inst* 214:709-33 D '32  
 Electrical instruments and measurements, 1932-33. *Elec Eng* 52:766-7 N '33  
 Electrical measuring instruments; abstract. F. C. Knowles. *Electrician* 110:81 Ja 20 '33  
 Elektrische fernzählung von durchflussmengen. W. Geyger. *diags Zeit Ver Deutsch Ing* 77:75-6 Ja 21 '33  
 Equipment and methods employed at the National physical laboratory for the testing of alternating-current instruments. R. S. J. Spilsbury. *bibliog diags Inst E E J* 72:30-6 Ja '33  
 Equipment for testing current transformers. F. B. Silsbee and others. *pls diags U S Bur Stand J Research* 11:93-122 Jl '33  
 Equivalent circuit of a blocking-layer photocell. L. A. Wood. *R Sci Instr* 4:434-9 Ag '33  
 Facilitating sphere-gap measurements. W. Holzer and P. Hochhäuser. *diag Elec R (Lond)* 113:443 S 29 '33  
 Four-wire circuits; various methods of metering energy. G. W. Stubbings. *diag Elec R (Lond)* 112:858 Je 16 '33  
 Future progress in electrical measuring instruments. C. V. Drysdale. *diags Inst E E J* 72:365-84 My '33; Discussion. 73:317-18 S '33

- High frequency measurements. A. Hund. 491p \$5 McGraw-Hill '33  
 How X-ray current and voltage are measured; abstract. G. W. C. Kaye and G. E. Bell. *Elec R (Lond)* 112:452 Mr 31 '33  
 Improved balanced circuit for use with electrometer tubes. L. A. Turner and C. O. Siegelin. *diags R Sci Instr* 4:429-33 Ag '33  
 Improved d.c. amplifying circuit. L. A. DuBridge and H. Brown. *diags R Sci Instr* 4: 532-6 O '33  
 Lightning currents; intensity of 25 000 A recorded by new magnetic instrument. *Electrician* 111:148 Ag 4 '33  
 Lightning transients; measurement by cathode-ray oscillograph. J. J. Miller. *il Electrician* 109:805-7 D 23 '32  
 Measurement of the power factor and capacitance of a condenser by comparison with a mutual inductance. A. W. Smith. *diags R Sci Instr* 4:280-4 My '33  
 Measuring phase-angle quantities. W. W. Parker. *il diag Elec J* 30:187-8+ My '33  
 Measuring small a.c. voltages. *diag Elec R (Lond)* 113:450 O 6 '33  
 Metering of symmetrical components. G. R. Shuck. *diags Washington U Eng Exp Sta Bul* 70:1-39 '33  
 Method for the investigation of the impedance of the human body to an alternating current. M. A. B. Brazier. *diag Inst E E J* 73:204-9 Ag '33  
 New measure of power factor accurate, simple and sound. A. E. Knowlton. *diags Elec W* 101:130-2 Ja 28 '33  
 Phase rotation; the theory of the Varley test. G. W. Stubbings. *Electrician* 111:502-3 O 27 '33  
 Practical vacuum-tube circuit for the measurement of electromotive force. S. B. Ellis and S. J. Kiehl. *diag R Sci Instr* 4:131-7 Mr '33  
 Pressure-circuit multipliers. F. L. Best. *diag Elec R (Lond)* 112:594 Ap 28 '33  
 Recording transmission measuring system for telephone circuit testing. F. H. Best. *il diag Bell System Tech J* 12:22-34 Ja '33  
 Resistor for high-voltage measurements. G. W. Bowdler. *diag Inst E E J* 73:65-8 Jl '33  
 Skin effect in rectangular conductors. H. C. Forbes and L. J. Gorman. *diag Elec Eng* 52:636-9 S '33  
 Some new uses for vacuum tubes in the electronic arts. I. J. Saxl. *il diags Radio N* 14:526-7+, 588-9+ Mr-Ap '33  
 Standard of phase angle. C. W. LaPierre and A. R. Hand. *il diags Gen Elec R* 36: 506-7 N '33  
 Submarine cables; testing in the presence of earth currents on board ship. D. K. McCleery. *diags Electrician* 111:473-5 O 20 '33 (to be cont)  
 Supersensitive amplifier for measuring small currents. F. J. Moles. *il diags Gen Elec R* 36:156-8 Mr '33  
 Surge-crest ammeter. C. M. Foust and H. P. Kuehni. *il diags Gen Elec R* 35:644-8 D '32  
 Three-phase power factor. G. W. Stubbings. *Elec R (Lond)* 112:10 Ja 6 '33  
 Trub, Tauber earth resistance measuring system. *diag Electrician* 111:294-5 S 8 '33  
 Untersuchungen über den pilgervorgang; die anwendung neuzeitlicher messverfahren bei walzwerksuntersuchungen. F. Kocks. *diags Stahl & Eisen* 53:441-6 My 4 '33  
 Use of triode and tetrode valves for the measurement of small d.c. potential differences. T. P. Hoar. *bibliog diags Wireless Eng* 10:19-25 Ja '33  
 Verfahren zum bestimmen der chemischen beschaffenheit von flüssigkeiten durch elektrische widerstandsmessung. W. Geyger. *Zeit Ver Deutsch Ing* 77:507-8 My 13 '33

## See also

- |   |                       |
|---|-----------------------|
| Dielectric constants                            | Magnetic measurements |
| Dielectrics                                     | Oscillographs         |
| Electric engineering—Tables, calculations, etc. | Potentiometers        |
| Electric meters                                 | Radio measurements    |
| Electric resistance                             | Standard cells        |
| Electric testing                                | Voltmeters            |
| Electric waves                                  | Watt hour meters      |
| Galvanometers                                   | Wattmeters            |

ELECTRIC measurements—*Continued*

## Reactive power

- Power, power factor, and reactive volt-amperes. C. L. Fortescue. *diags Elec Eng* 52: 319-23 My '33  
 What is reactive power? A. E. Knowlton; J. A. Johnson; V. G. Smith. *diags Elec Eng* 52:259-70 Ap '33; Discussion. P. L. Alger; W. B. Nuisen. 52:350-1 My '33

## ELECTRIC meters

- Adjusting secondary metering to include high-side losses. W. C. Wagner and G. B. Schleicher. *Elec W* 101:260-3 F 25 '33  
 Burned-out meters. E. V. Sundt. *il Radio N* 14:728+ Je '33  
 Color code for meter leads simplifies testing. J. P. Surratt. *diag Elec W* 101:363-4 Mr 18 '33  
 Compensating metering in theory and practice. G. B. Schleicher. *il Elec Eng* 52:454-61 [bibliog p459] J1 '33; Abstract. *Elec W* 102: 27-9 J1 '33; Discussion. 102:46 J1 8 '33  
 Developments in the electrical industry during 1932; meters and instruments. J. Liston. *il Gen Elec R* 36:63-6 Ja '33  
 Electrical measurement; new instruments and developments. J. Plummer. *il diag Electrician* 111:506-9 O 27 '33  
 Electricity metering and tariffs. W. Lawson. *Electrician* 110:771-5, 825-6 Je 16-23 '33; Abstracts. *Elec R (Lond)* 112:849-50 Je 16 '33; Engineering 136:25-6 J1 7 '33; Discussion. *Electrician* 110:775-6 Je 16 '33; Engineering 136:26 J1 7 '33  
 Eliminating charts and tables in reading multi-purpose meters; use of Masterdial. H. G. Cisin. *il diags Radio N* 14:724-5; 15:88-9+ Je, Ag '33  
 Ferranti special duty metering equipment. *il Elec R (Lond)* 112:773 Je 2 '33  
 Improper polyphase metering corrected by vector study. W. T. Lyford, jr. *diags Elec W* 101:104-5 Ja 21 '33  
 Improved three-phase, three-wire, reactive volt-ampere-hour meter. G. A. Cheetham. *diags Inst E E J* 73:233-7 S '33; Abstract. *Elec R (Lond)* 112:345 Mr 10 '33; Discussion. *Inst E E J* 73:240-4 S '33  
 Measurement ltd. type Z, 2-wire, single-phase, house service meter. *il Electrician* 111:18 J1 7 '33  
 Measuring devices for domestic and industrial recording. *il Electrician* 111:530-3 O 27 '33  
 Meter box developed for new meter sequence. O. W. Holden. *il Elec West* 71:27 J1 '33  
 Meter detects potential weakness in control wiring. A. P. Sessions. *il diag Elec W* 100: 765-6 D 3 '32  
 Meter maintenance. E. Fawcett. *Elec R (Lond)* 112:860 Je 16 '33  
 Meters and instruments; progress in 1932. A. C. Jolley. *Electrician* 110:99-100 Ja 27 '33  
 Meters and instruments; recent developments and improvements in the design of measuring equipment and accessories. *il diags Electrician* 111:514-24 O 27 '33  
 Meters for minute quantities. F. S. Stickney. *il Elec J* 30:288-9 J1 '33  
 Meters guide operations at Rockefeller Center. *il Power* 77:572-3 N '33  
 New sequence metering; round table discussion. *Elec West* 70:217 Je '33  
 Practical pointers on utilizing meter rectifiers. F. Fausett. *il diags Radio N* 15:150-1+ S '33  
 Recent developments in switchboard indicating instruments. A. J. Corson. *il Gen Elec R* 36:400-3 S '33  
 Some electrical methods of remote indication. C. Midworth and G. F. Tagg. *diags Inst E E J* 73:33-43; Discussion. 44-8 J1 '33  
 Testing transformer loads on primary side. J. B. Coltharp and R. O. Hopkins. *il Elec W* 101:589-90 My 6 '33  
 Universal volt-ampere-ohmmeter. *diag Radio N* 15:171 S '33

## See also

## Ammeters

Electric measurements

Electric testing

## Ohmmeters

Voltmeters

Watt hour meters

Wattmeters

## Bearings

- Microscopic inspection aids study of meter jewels. L. H. Kistler. *il Elec W* 102:527 O 21 '33  
 Synthetic corundum for jewel bearings. E. G. Sandmeier. *il Inst E E J* 72:505-8, pl 1-6 Je '33; Same cond. *Electrician* 110:34-6 Ja 13 '33; Abstract. *Elec R (Lond)* 112:47-8 Ja 13 '33; Discussion. *Inst E E J* 72:508-14 Je '33

## Installation

- Outdoor meter installations and suggested form of housing for outdoor meters. *il Edison Elec Inst Bul* 1:35-7+ My '33

## Standards

- Simplifying adequate service to the home. H. P. Sparkes. *il Elec W* 100:538-41 O 15 '32; Discussion. 101:321-3 Mr 11 '33

## Testing

- Meter insulation test with safety and speed. L. K. Yerger and E. A. LeFever. *diag Elec W* 102:79-80 J1 15 '33  
 Meter testing course. C. G. Naylor. 73p  
 Clarence G. Naylor, Vineland, N.J. '33  
 Method of testing reactive volt-ampere-hour meters. R. S. J. Spilsbury. *diags Inst E E J* 73:238-9; Discussion. 240-4 S '33  
 Polyphase meter connections checked by timing rotation. A. F. Newman and M. Minikes. *diags Elec W* 102:204-7 Ag 12 '33  
 Size-wave alternator for meter testing. *il diag Engineering* 136:240 S 8 '33  
 Westinghouse electric and manufacturing co. new stroboscopic meter standard. *il diag Power Pl Eng* 36:835 D '32

## ELECTRIC moment

- Configurations of the aldioximes, from measurements of electric dipole moment. T. W. J. Taylor and L. E. Sutton. *Chem Soc J* p63-5 Ja '33  
 Dipole moment and group rotation; the moments of the chloro- and nitrobenzyl chlorides and the effect of group separation. J. M. A. de Bruyne, R. M. Davis and P. M. Gross. *bibliog Am Chem Soc J* 55: 3936-44 O '33  
 Dipole moments and structures of the organic azides and aliphatic diazo-compounds. N. V. Sidgwick, L. E. Sutton and W. Thomas. *Chem Soc J* p406-12 Ap '33  
 Dipole moments of esters of amino acids and peptides. J. Wyman, jr. and T. L. McMeekin. *diag Am Chem Soc J* 55:915-22 Mr '33  
 Dipole moments of quinoline and *iso*-quinoline. R. J. W. Le Fèvre and J. W. Smith. *Chem Soc J* p2810-11 N '32  
 Electric dipole moments of nickel carbonyl, di-iodoacetylene, diethyl sulphide, diethyl-sulphone, and decalin. L. E. Sutton, R. G. A. New and J. B. Bentley. *Chem Soc J* p652-8 Je '33  
 Electric moments of hydrazine and its derivatives. L. F. Audrieth, W. Nesbital and H. Ulich. *Am Chem Soc J* 55:673-8 F '33  
 Polarity in certain hydrocarbon vapors. K. B. McAlpine and C. P. Smyth. *diags Am Chem Soc J* 55:453-62 F '33  
 Rotation of polar groups in organic compounds. J. M. Sturtevant. *bibliog Am Chem Soc J* 55:4478-85 N '33  
 Structure of unimolecular films; surface potentials of films of long chain compounds. R. J. Foshbinder and A. E. Lessig. *diag J Fr Inst* 215:425-33 Ap '33  
 Studies in dielectric polarisation; the dipole moments of alkyl nitrates and nitrites. E. G. Cowley and J. R. Partington. *Chem Soc J* p1252-4 S '33  
 Studies in dielectric polarisation; the dipole moments of some nitrosamines, *p*-nitrosophenol, ethylaniline, hydrazobenzene, and benzaldehydephenylhydrazone. E. G. Cowley and J. R. Partington. *Chem Soc J* p1255-7 S '33  
 Studies in dielectric polarisation; the dipole moments of the nitroanisoles. E. G. Cowley and J. R. Partington. *Chem Soc J* p1257-9 S '33



**ELECTRIC motor generators**

- Changing elevator drives from direct- to alternating-current supply. C. P. Hamilton. *il Gen Elec R* 36:486-7 N '33  
 Hunting of synchronous motor-generator set. C. C. Shutt. *Elec J* 30:437-8 O '33  
 Motor generator sets for track welding. W. Z. Shaw. *il Elec Traction* 29:170 Je '33  
 Paralleling synchronous converters with motor-generator sets. S. Ein. *Elec J* 30:265 Je '33  
 Rotational energy tides converter over power failure; Tennessee copper company. L. W. Hayward. *Elec W* 100:782 D 10 '32  
 12,000-volt direct current motor-generator for Rugby radio station. *il Engineering* 135:25-6 Ja 6 '33

**ELECTRIC motors**

- Bostock and Bramley self-contained motor and gear unit. *il diag Engineering* 136:189 Ag 25 '33  
 Developments in the electrical industry during 1932. J. Liston. *il Gen Elec R* 36:20-2 Ja '33  
 Electric motors; new types for silk spinning and gramophones. H. C. E. Jacoby. *Electrician* 110:457 Ap 7 '33  
 Electric motors; progress in 1932. E. C. Davies and W. P. Richardson. *Electrician* 110:101 Ja 27 '33  
 Electrical developments in 1932. *Power Pl Eng* 36:32 Ja '33  
 Electrical plant and machinery; a review of progress. J. H. Williams. *Inst E E J* 72: 117-20 F '33  
 Future for motors. *il Elec J* 30:21 Ja '33  
 Gears and motors combine into new power unit type; Falk corporation. P. C. Day. *diags Elec W* 101:328-9 Mr 11 '33  
 How to choose motors for mine fan drives. H. W. Chadbourne. *il Coal Age* 37:404-6 N '32  
 How to select the proper motors for ventilating-fan drives. C. P. Hamilton. *il Power* 77:406-8 Ag '33  
 Large motor order; shipment of 18 000 h.p. English electric unit to South Africa. *il Electrician* 110:141 Ja 27 '33  
 Many new motors for special drives. *il Elec J* 30:20 Ja '33  
 Motors, electrical and elevator equipment. *il diags Power* 76:365-9 Mid-D '32  
 Part electric motors play in the oil burner picture. R. N. Jessop. *Heat & Ven* 30:39 Ap '33  
 Pericentric helical-g geared motor. *il Engineer* 154:491 N 11 '32  
 Study of the thyatron commutator motor. C. H. Willis. *il diags Gen Elec R* 36:76-80 F '33  
 Thermostat prevents costly breakdowns in motors. H. C. Brunner. *il Food Ind* 5:212 Je '33  
 What the plant man should know about motors. E. W. Fair. *Food Ind* 5:306-7 Ag '33  
 Zorzi enclosed motor-compressor unit. G. Muffy. *il Refrig Eng* 25:244-6 My '33

*See also*

- |                      |                        |
|----------------------|------------------------|
| <b>Armatures</b>     | Electric motors, Rail- |
| <b>Commutators</b>   | way                    |
| Electric driving     | Electric transformers  |
| Electric locomotives | Electricity in mining  |
| Electric machinery   | Pumping machinery,     |
|                      | Electric               |

**Advertising**

- How a motor company sells its products by helping its customers sell theirs; U. S. vertical pump motor. T. T. McCarthy. *il Ptd Salesmanship* 61:168-9 My '33

**Bearings**

- Ball-bearing motor solved a problem at Chiquola. F. A. Westbrook. *il Textile World* 83:581 Mr '33  
 Some economical aspects concerning the use of roller bearings in large electric machines; abstract. A. Palmgren. *Engineering* 136:268-9 S 8 '33

**Care**

- Upkeep of electric motors and generators. F. V. Smith. *Power Pl Eng* 37:461-3 N '33

When you start motors after long shutdown. A. W. Ray. *Factory Management* 91:295-6 JI '33

**Control**

- Control of motors driving ventilating fans. S. R. Lewis. *il diags Heating-Piping* 4:794-6 D '32  
 Controlling motors for temperature control systems, compressors, oil burners, stokers. S. R. Lewis. *il diags Heating-Piping* 5:100-4 F '33  
 Controlling operation of Steckel mills. F. Mohler. *il diag Iron Age* 130:756-7+ N 17 '32  
 De-ion circuit breakers for steel-mill service. R. C. Dickinson. *il diags Elec J* 30:415-17 O '33  
 Industrial electric motor control gear. W. H. J. Norburn. 256p \$3 Pitman '33  
 Present practice in sectional paper machine drives. R. H. Rogers. *Power Pl Eng* 37:140-1 Mr '33  
 Rotary printing machinery; some typical applications of electric control apparatus. C. H. S. Tupholme. *il Elec R (Lond)* 111:813-14 D 2 '32

*See also*

Electric contactors

**Cooling**

- Dual ventilation aids totally-enclosed motors. *diag Heating-Piping* 5:sup67 O '33  
 Electric motor cooling. J. F. Romer. *diags Elec R (Lond)* 113:310 S 8 '33  
 Gasoline cools outdoor pump motor. H. W. Stalnaker. *il Power* 76:290 D '32

**Fractional horsepower**

- B.T.H. fractional h.p. flameproof motors. *il Gas J (Lond)* 200:612-13 N 30 '32  
 Capacitor motors for air conditioning equipment. F. W. Jessop. *diags Heat & Ven* 30: 32 Je '33  
 Higgs fractional horse-power motors. *il Engineer* 155:280 Mr 17 '33; *Elec R (Lond)* 112:381 Mr 17 '33; *Engineering* 135:418 Ap 14 '33  
 Normand electrical co.'s fractional horsepower motors. *il Engineering* 136:322 S 15 '33  
 Single-phase capacitor motor. S. Bartlett. *diags Elec R (Lond)* 113:150-1 Ag 4 '33  
 Small a.c. motors; machines not exceeding 1/4 h.p. capacity. S. F. Philpott. *il diags Elec R (Lond)* 112:115-16 Ja 27 '33  
 Small geared motor production. *il Elec R (Lond)* 112:448 Mr 31 '33  
 Special fractional h.p. motors. *il Elec R (Lond)* 113:420 S 29 '33  
 Stall-safe appliance motors arrive. *il Elec W* 101:217 F 18 '33  
 Three Dumore motors. *il Mach* 39:548 Ap '33  
 Venner time switches, ltd. new synchronous motor. *il Elec R (Lond)* 112:704 My 19 '33

**Installation**

- Flexible regulations for motor-starting currents. C. W. Evans. *Elec W* 101:395-6 Mr 25 '33

**Lubrication**

- Electric motors, lubrication and life extension. J. I. Clower. *il diags Maintenance Eng* 91: 41-4 F '33; *Discussion*. F. E. Harrell. *Factory Management* 91:102 Mr '33  
 Faulty lubrication causes most motor troubles. R. H. Parrish. *Elec W* 101:425 Ap 1 '33

**Manufacture**

- Electric motors; 21 years of progress by Higgs motors. *il Electrician* 111:413 O 6 '33  
 Milling fixtures that accommodate nine sizes of motor frames. *il Mach* 40:44 S '33  
 Rational scheme for computing motor costs. E. Ballman. *Elec W* 102:367-8 S 16 '33  
 Small geared motor production. *il Elec R (Lond)* 112:448 Mr 31 '33  
 Works of Messrs. Higgs motors. *il Engineering* 135:710-11 Je 30 '33; *Engineer* 155:657-8 Je 30 '33; *Elec R (Lond)* 112:939 Je 30 '33

**ELECTRIC motors—Continued****Merchandizing**

Disappearing switches that sell a quality job.  
il Elec West 70:14-15 Ja '33  
Motor agreement consummated; Westinghouse  
and dealers. Elec West 70:14 Ja '33

**Mounting**

Development of a sound-isolating base for  
motors. E. H. Hull. il diags Gen Elec R  
36:223-7 My '33

**Noise**

Progress in electrical motor development. D.  
B. Hoseason. Electrician 110:157-8 F 3 '33

**Protection**

Bimetallic snapper disk protects motors. J.  
DeKiep. il Power 77:533 O '33  
Bulk of motor outages on voltage dips avoid-  
able. H. P. Sleeper. il diags Elec W 102:89-  
93 J 15 '33  
Complete overload protection extends life of  
motor and reduces maintenance. R. R.  
Baker. il Paper Tr J 97:22-3 J 13 '33  
Motorschutz und kurzschlusschutz durch  
motorschuttschalter. C. Reinarz. il diag Zeit  
Ver Deutsch Ing 77:121-5 F 4 '33  
Overheating is problem in motors for fast  
reversing service. O. G. Rutemiller. il  
Steel 93:25-7 N 6 '33  
Overload protection in mill line motors. A.  
S. Ruifsvold. il Rubber Age 33:111-12 Je '33  
Preventing motor burnouts with a bi-metallic  
disc. J. V. Hunt. il Elec J 30:324-5 Ag '33  
Protecting machine motors. Coal Age 33:274-  
5 Ag '33  
Protecting ventilating motors from burn-outs  
with a thermostat. R. C. Allen. il Heat &  
Ven 30:39 Je '33  
Protection for small motors. G. H. Emerson.  
Power Pl Eng 37:441 O '33  
Protection of electric motors. D. D. Rayner.  
Elec R (Lond) 112:898 Je 23 '33  
Protection of power-shovel equipment against  
overheating cuts maintenance costs. J. E.  
Borland. il Eng & Min J 134:250-1 Je '33  
Temperature protection for motors. C. W.  
Drake. il diags Factory Management 91:  
276-8 J 1 '33  
Thermoguard motors are self protecting. il  
Marine Eng 38:306-7 Ag '33  
Thermostatic heat control for power-shovel  
motors. J. E. Borland. il Eng N 111:48 J 1  
13 '33  
Thermostats protect motors in severe indus-  
trial service. R. S. Elberty. il Elec W 101:  
832-4 Je 24 '33  
Westinghouse motors have built-in thermo-  
stats. il Heating-Piping 5:346 J 1 '33; Coal  
Age 38:251 J 1 '33; Iron Age 131:993 Je 22  
'33; Transit J 77:287 S '32

**Repair**

Breakdowns and repairs. il Elec R (Lond)  
113:249 Ag 25 '33  
Making quick repairs on a 2,100-hp. blower  
motor. L. W. Hayward. diag Elec W 102:  
157 J 1 29 '33  
Our repair shop keeps 500 motors running.  
Shevlin-Hixon company, Bend, Ore. W. B.  
Cone. il Factory Management 91:274-5 J 1 '33  
Servicing schedule keeps motors operative.  
W. A. E. McLeish. Elec W 101:414-15 Ap 1  
'33  
Sizing tool for forming retaining wedges. S.  
Ovando. diag Maintenance Eng 90:461-2 D '32  
What technology does to motor repairing.  
Elec West 70:127-8 Ap '33

**Starting**

Flexible regulations for motor-starting cur-  
rents. C. W. Evans. Elec W 101:395-6 Mr 25  
'33

Use of timetactors in modern motor starters.  
E. Frisch. il diag Elec J 30:117-18+ Mr '33

**Tables, calculations, etc.**

Motor duty cycles computed by new method.  
T. R. Rhea. il Elec W 102:236-9 Ag 19  
'33

**Temperature**

Overheating is problem in motors for fast  
reversing service. O. G. Rutemiller. il Steel  
93:25-7 N 6 '33

**Testing**

Motor insulation resistance. Maintenance Eng  
91:57-8 F '33  
Testing short-circuited turns in small mo-  
tors. A. G. Smith. diag Elec J 30:83 F '33

**Vibration**

Silence in electrical machinery. Elec R  
(Lond) 113:451 O 6 '33

**Windings**

Curing bad commutation on roll-drive motors.  
S. Ein. diag Elec W 101:197 F 11 '33  
Reconnecting a motor from series delta to  
star. C. C. Herman. diags Power Pl Eng  
37:425 O '33

**ELECTRIC motors, Alternating current**

Alternating current for auxiliaries in the  
navy. Marine Eng 38:423 N '33  
Applying alternating-current motors. Elec J  
30:44 Ja '33  
Electrification of merchant ships with a-c  
auxiliaries. F. V. Smith. il Marine Eng  
38:368-75 O '33  
Power factor correction motors. il diag Elec  
R (Lond) 112:154 F 3 '33  
Small a.c. motors; machines not exceeding  
1/2 h.p. capacity. S. F. Philpott. il diags  
Elec R (Lond) 112:115-16 Ja 27 '33  
To help you choose your a.c. motors. A. A.  
Merrill. il Factory Management 91:358-60  
S '33

*See also*  
Electric motors, In-      Electric motors,  
duction                      Synchronous

**Control**

Time delay undervoltage mechanism on elec-  
trical control apparatus; Georgia power com-  
pany. E. M. Clapp. N E L A Bul 19:683-5  
N '32

**Manufacture**

Welded-steel construction of motors. il Elec  
R (Lond) 113:458 O 6 '33

**Protection**

Selecting thermal relays to protect three-  
phase motors. H. Wilson. diags Power 77:78-  
80 F '33

**Starting**

M. and C. push-button starter. il Electrician  
110:236 F 17 '33  
New B.T.-H. motor control gear. il Elec R  
(Lond) 111:742 N 18 '32

**ELECTRIC motors, Direct current**

Amenable series motor. R. H. Rogers. Gen  
Elec R 36:425 O '33  
Light-weight d.c. motors. J. W. Burleigh.  
diags Elec R (Lond) 112:662 My 12 '33  
Non-inductive d.c. motors; separate field ex-  
citation and compensating pole windings.  
J. F. Romer. diag Elec R (Lond) 113:181  
Ag 11 '33  
Reducing radio interference from commuta-  
ting machines. C. V. Aggers and W. E.  
Pakala. diags Elec J 30:423-7 O '33  
Speed-torque curves of a series motor. A. A.  
Merrill. il diags Gen Elec R 36:431-40 O '33  
Voltage for auxiliary d.c. motors; with cost  
data. G. Fox. il Blast F & Steel Pl 21:  
409-11+ Ag '33

**Manufacture**

Modernizing a motor department; General elec-  
tric co. works, Lynn, Mass. M. G. Godschall.  
il plan Am Mach 76:1195-9 D 7 '32  
Steel-frame motor manufacture; the Nor-  
wich works of Laurence, Scott and electro-  
motors, ltd. il Elec R (Lond) 113:283 S 1  
'33

**Starting**

Use of timetactors in modern motor starters.  
E. Frisch. il diag Elec J 30:117-18+ Mr  
'33



**ELECTRIC motors, Induction**

Capacitor motors for air conditioning equipment. F. W. Jessop. diags Heat & Ven 30: 32 Je '33

Circle diagram—application to steel-mill drives. A. van Nierkerk. diags Elec J 30: 405-7 O '33

Dual-voltage connections for induction motors. A. C. Roe. diags Maintenance Eng 90:295-7, 384-6, 423-6; 91:12-15, 45-8 Jl, O-N '32, Ja-F '33; [cont as] Factory Management 91:157-9, 203-5, 242-4, 316-19, 377-8, 473-5, 513-14 Ap-Je, Ag-S, N-D '33

Group or individual drive? A. G. Powell. il Elec R (Lond) 112:627 My 5 '33

Induction motor; a critical review of the literature of the subject. G. Windred. Elec R (Lond) 113:250 Ag 25 '33

Induction motor a versatile device. E. W. Henderson. Elec Eng 52:323-6 My '33

Induction motor as phase converter. E. W. Johnston. Power Pl Eng 36:820 D '32

Induction motor on unsteady loads. R. D. Ball. Elec Eng 52:687-9 O '33

Induction motor pointers. C. Heyel. Power Pl Eng 37:351 Ag '33

Induction motor practice. R. E. Hopkins. 36p Pitman '32

Induction motor theory and operation; abstract and discussion. F. T. Chapman. Elec R (Lond) 112:417 Mr 24 '33; Same, without discussion. Electrician 110:470 Ap 7 '33

Induction motor with paralleled rotor and stator. A. G. Conrad and R. G. Warner. il diags Elec Eng 51:171-3 Mr '32; Discussion. W. A. Tolwinsky. 52:205-7 Mr '33

Kandó system of electric traction on the Hungarian state railways. il diags Engineering 135:349-52 Mr 31 '33

Motors and motor starters. A. L. Harvey. Elec J 30:408-9 O '33

New single-phase motor. diags Elec R (Lond) 112:456 Mr 31 '33

Single-phase capacitor motor. S. Bartlett. diags Elec R (Lond) 113:150-1 Ag 4 '33

Steady state stability of composite systems. S. B. Crary. bibliog diags Elec Eng 52: 787-92 N '33

Steel mills' toughest motor job; automatic sheet catchers. G. A. Caldwell. il diags Elec J 30:399-404 O '33

Synchronous motors for refrigeration service; comparison with induction motors. M. N. Halberg. il Refrig Eng 25:193-7 Ap '33

This thing called power factor. diags Power Pl Eng 37:178-81, 298-300 Ap, Jl '33

**Control**

Economical control of the speed and power factor of three-phase induction motors. T. F. Wall. diags Engineering 134:636-9 N 25 '32

Squirrel cage motors; control of speed and torque. N. F. T. Saunders. diags Electrician 111:111-13 Jl 28 '33

Utilizing multi-speed a.c. motor on reversing table drive. diag Elec W 101:173 F 4 '33

**Design**

Biography of a motor design. R. E. Hellmund. diags Elec J 30:283 Jl '33

Energy loss of iron; its influence on the design of electrical induction machinery. B. R. Isaacs. Electrician 109:679-81 N 25 '32

**Protection**

Motor protection; a relay for large direct-started induction machines. C. L. Lipman. il diags Elec R (Lond) 111:810 D 2 '32

Protection of polyphase motors. C. P. Potter. Elec Eng 52:327-31 My '33

**Repair**

Permanent repair of troublesome rotors. S. Ovando. diag Factory Management 91:369 S '33

**Starting**

How wound-rotor motors can be started with a compensator. Power 77:210-11 Ap '33

Motors and motor starters. A. L. Harvey. Elec J 30:408-9 O '33

Squirrel-cage induction motors. Electrician 111:177, 208, 234 Ag 11-25 '33

Starting a wound-rotor motor with rings short-circuited. R. F. Emerson. Power 77: 517 O '33

**Tables, calculations, etc.**

Economical control of the speed and power factor of three-phase induction motors. T. F. Wall. diags Engineering 134:636-9 N 25 '32

**Temperature**

Progress in electrical motor development. D. B. Hoseason. Electrician 110:157-8 F 3 '33

**Testing**

Checking load on lineshaft. R. F. Emerson; C. O. von Dannenberg. diag Factory Management 91:sup28+ Ap '33

Improved method for finding induction motor slip. C. M. Wallis. il Elec W 100:698 N 19 '32

**Vibration**

Progress in electrical motor development. D. B. Hoseason. Electrician 110:157-8 F 3 '33

**ELECTRIC motors, Railway**

Developments in the electrical industry during 1932; equipment for new street car. J. Liston. il Gen Elec R 36:19 Ja '33

Don't act your age, street car; rewinding of motor armatures increases speed. J. G. Inglis. Elec J 29:546-7 D '32

Kandó system of electric traction on the Hungarian state railways. il diags Engineering 135:349-52 Mr 31 '33

Light-weight d.c. motors. J. W. Burleigh. diags Elec R (Lond) 112:662 My 12 '33

**Control**

Operating 500-volt motors with 110-volt switch. il Elec Traction 29:140 My '33

Regenerative control successful in England; Leeds corporation tramways. W. V. Moreland. Transit J 77:306-7 O '33

Simplified control for a-c locomotives. W. A. Giger. il diags Elec Eng 52:613-16 S '33

Tramway regenerative control. Elec R (Lond) 112:340-1 Mr 10 '33

**ELECTRIC motors, Synchronous**

Adjusted synchronous reactance and its relation to stability. H. B. Dwight. diags Gen Elec R 35:609-14 D '32

Easily constructed synchronous motor. C. B. Brown. R Sci Instr 4:295 My '33

First synchronous motors for power plant auxiliaries. Elec W 101:89 Ja 21 '33

Kolbenkompressor mit unmittelbarem antrieb durch synchronmotor. H. v. Selzam and B. Lang. il Zeit Ver Deutsch Ing 77:980-2 S 9 '33

Modernize rock crusher drive with synchronous motor. F. A. Westbrook. il Concrete (mill sec) 41:39 Ja '33

Power limits of synchronous machines. E. Clarke and R. G. Lorraine. bibliog diags Elec Eng 52:780-7 N '33

Protecting squirrel-cage winding of synchronous motors. M. N. Halberg. il Elec W 102:627 N 11 '33

Small synchronous motors without exciters. P. H. Trickey. il diag Elec J 30:160-2 Ap '33

Steady state stability of composite systems. S. B. Crary. bibliog diags Elec Eng 52:787-92 N '33

Synchronous-motor applications. Elec J 30:175 Ap '33

Synchronous motor operates with field switch open. S. Ein. Power 77:85 F '33

Synchronous motor runs at 42 000 r.p.m. diag Elec J 30:310 Jl '33

Synchronous motors for refrigeration service; comparison with induction motors. M. N. Halberg. il Refrig Eng 25:193-7 Ap '33

Synchronous motors in oil refinery service. il Elec West 70:159-60 My '33

Synchronous motors in rolling mill service. S. P. Bordeau and R. N. Early. bibliog Elec Eng 51:855-8 D '32

This thing called power factor. Power Pl Eng 37:298-300 Jl '33

Uses of synchronous machine quantities in system studies. W. M. Hanna. Gen Elec R 36:116-28 Mr '33

Venner time switches, Ltd. new synchronous motor. il Elec R (Lond) 112:704 My 19 '33

**ELECTRIC motors, Synchronous—Continued**  
Vertical-lift bridges with synchronous motors. W. L. Six. *il* *diags* Eng N 111:402-3 O 5 '33

#### Control

Dynamic braking of synchronous machines. C. E. Kilbourne and I. A. Terry. *il* Elec Eng 51:843-5 D '32  
New developments in synchronous motor control. M. N. Halberg. *il* *diag* Gen Elec R 36:244-9 My '33  
Recent developments in exciters and excitation practice. H. M. French. *il* Power Pl Eng 37:387-9 S '33  
Synchronous motor control. D. R. Shoults. *il* *diag* Paper Tr J 96:34-7 Ap 6 '33  
Synchronous motor excitation controlled by new relays. N. L. Hadley. Elec W 101:550-1 Ap 29 '33

#### Protection

New developments in synchronous motor control. M. N. Halberg. *il* Gen Elec R 36:247-9 My '33  
These methods increase synchronous motor protection. S. C. Ewing. *il* Maintenance Eng 90:454-6 D '32

#### Repair

Cost cut on motor job by electric brazing. A. Finkenstein and M. W. Brewster. *il* *diags* Steel 92:21-3 F 27 '33

#### Starting

Starting synchronous motors. C. C. Shutt. *il* *diag* Elec J 30:321-3+ Ag '33

#### Tables, calculations, etc.

Synchronizing torque of an unexcited salient pole motor. R. D. Ball. Elec Eng 52:136-7 F '33  
Synchronous-motor pulling-into-step phenomena. H. E. Edgerton and others. *bibliog* *diag* Elec Eng 52:707-12 O '33

#### Testing

Synchronous blower motor rides through 30 cycle outage. L. W. Hayward. Elec W 100:826-7 D 17 '32

**ELECTRIC oscillations.** See Oscillations, Electric

#### ELECTRIC ovens

Elektrisches trocknen von formen und kernen. E. F. Russ. *diag* Stahl & Eisen 52:1224-5 D 8 '32

#### ELECTRIC ovens, Bakery

Commercial cooking and baking. W. Easton. *il* Elec R (Lond) 113:75-7 Jl 21 '33

#### ELECTRIC plants

Dairy products plant saves by centralized operations. L. V. Glavinovich. *il* Elec W 102:470-3 O 7 '33  
Metropolitan bank building, Minneapolis, installs own electric plant. Power 77:603 N '33

#### See also

Boiler plants	Electric substations
Electric plants (central stations)	Hydroelectric plants
Electric power	Power factor
Electric railroads—Power	Power plants
	Steam plants

#### Interconnection

Analysis of hydro-regeneration. F. A. Allner. Elec Eng 52:547-50 Ag '33  
Automatic switching for system ties. E. B. Ellett. *diags* Elec J 30:295-7 Jl '33  
Flexible switching station on site 60 feet wide; Cabot station of the Turners Falls (Mass.) power & electric company in connection with a major tie-in with the New England power company. L. R. Hicks. *il* *diag* Elec W 100:884-6 D 31 '32  
Frequency changing; interconnection of networks in the south of France. M. J. Berger. *il* Electrician 111:414-15 O 6 '33  
Incremental loading of generating stations. M. J. Steinberg and T. H. Smith. Elec Eng 52:674-7 O '33  
Interconnection terms defined. Elec W 102:93, 187 Jl 15, Ag 5 '33

100,000-kv-a. three-phase regulating transformer for phase-angle control; State Line station of the Chicago district electric generating corporation. J. E. Kearns. *il* *diags* Gen Elec R 36:398-9 S '33

Operation diagrams simplify relaying problems. R. C. Ericson. *map* Elec W 101:106-8 Ja 21 '33

Paris H.T. congress; interconnected power networks. Electrician 111:344 S 22 '33

Power stations in parallel. W. B. Norton. Elec R (Lond) 111:845 D 9 '32

Power system interconnections; committee report. Edison Elec Inst Bul 1:174-6 [bibliog p175-6] S '33

Readjusting intercompany billing for cold station schedule. *diag* Elec W 102:599-600 N 4 '33

Recent developments in electric power generation. *il* Elec Eng 52:490-2 Jl '33

Relaying of high voltage interconnections. H. P. Sleeper. *il* *diags* Elec Eng 52:402-9 Je '33

Safe Harbor energy as used in Baltimore. A. S. Loizeaux. *il* *diags* Elec Eng 52:564-9 Ag '33

Semi-automatic operation obtained at low cost. L. M. Robertson. *diags* Elec W 102:468-9 O 7 '33

Supervisory control for 220-kv. station. *il* Elec West 69:228-30 D '32

Transmission system regulation requires local load capacity; Iowa public service company. M. W. Farr. *diag* Elec W 100:757 D 3 '32

#### Industrial plants

Approach to an untouched market; process-steam users. D. W. Taylor. Elec W 101:67-70 Ja 14 '33

Cooperative energy generation. H. A. Lynette. Paper Tr J 96:31-3 Mr 23 '33

Energie-erzeugung und -verteilung vom standpunkt der wärmeverbrauchenden gross-industrie. K. Hencky. *diags* Zeit Ver Deutsch Ing 77:654-7 Je 24 '33

Industrial power and steam supply for industrial establishments. G. Keeth. Power Pl Eng 37:331-2 S '33

Surplus power in the pulp and paper industry. A. G. Christie. Paper Tr J 96:34-6 Mr 2 '33; Same cond. Power Pl Eng 37:203-4 My '33; Discussion. 37:312-13, 399-400 Jl, S '33

#### Isolated plants vs. purchased power

Approach to an untouched market; process-steam users. D. W. Taylor. Elec W 101:67-70 Ja 14 '33

Cooperation between private plants and the utilities. O. H. Henschel. Power Pl Eng 36:170-2, 255-7, 344-5, 572-4 F 15, Mr 15, Ap 15, Jl 15 '32; Discussion. W. W. Gaylord. 37:143-4 Mr '33

Economical power for large buildings. L. E. Habben. Power Pl Eng 37:307 Jl '33

Effect of power-factor correction on demand charges. B. Faxon. Elec W 101:838 Je 24 '33

Eigenerzeugung, werkskupplung, fremdbezug und abgabe von strom innerhalb der energieverorgung rheinisch-westfälischer hüttenwerke. W. Martini. Stahl & Eisen 53:701-5 Jl 6 '33

Electric power famine approaches; analyzing Diesel-electric possibilities in comparison with use of utility power. F. Juraschek. *il* Iron Age 132:14-17 O 19 '33

Exposing omissions in savings contracts for Diesels. D. Taylor. Elec W 101:476-9 Ap 15 '33

German trend toward public utility power. Elec W 101:12 Ja 7 '33

Keeping down industrial power costs; Security mutual insurance co. Binghamton, N. Y. *il* plan Power Pl Eng 37:433-4 O '33

Power costs affected by new elements. J. J. McElroy. *il* Textile World 83:52-4 Ja '33

Process steam and purchased power. J. F. Gaskill. Paper Tr J 96:36-8 Mr 23 '33

Scouting flaws in proposals for payment out of savings. D. W. Taylor. Elec W 100:788-91 D 10 '32

Should a crushed stone or gravel operator make or buy electric power? C. R. Earle. Rock Prod 36:36-7 F '33



**ELECTRIC plants**—Isolated plants vs. purchased power—*Continued*  
Small isolated plant vs. great interconnected system; Oberlin, Ohio. H. Wright. Pub Serv M 55:87-8 S '33

To meet competition of isolated plant. H. C. Thuerk. Elec W 102:601 N 4 '33

# **ELECTRIC plants (central stations)**

Buzzard Point plant supplies power to Capitol. H. G. Thielscher. il diag plan Power Pl Eng 37:478-9 N '33

Buzzard Point—the year's new central station. M. W. Carty. il diag plan Power 77:505-9 O '33

Electric system and generator practice. il Power Pl Eng 36:36-9 Ja '33

Engineering aspects of coal dust control; Brooks, et al. vs. the Edison electric illuminating company of Boston. Elec W 102:443-6 S 30 '33

Investigations on the emission of dust and grit from power-station chimneys in Holland. A. J. ter Linden. il diags Engineering 136:279-82, 353-5 S 15, 29 '33

Recent developments in electric power generation. il diags Elec Eng 52:488-503 [bibliog p502-3] Jl '33

Some suggestions for power system engineers. E. C. Stone. N E L A Bul 19:760-1 D '32

Tendencies in future power station developments; interview with William S. Monroe. A. L. Rice. Power Pl Eng 36:8-9 Ja '33

Transatlantic trends. il diags Power 77:35-6, 48 Ja '33

Trends in power stations. F. S. Clark. Elec W 101:766-7 Je 10 '33

## *See also*

Boiler plants  
Electric distribution  
Electric engineering  
Electric lighting  
Electric lines  
Electric plants—Inter-connection  
Electric plants—Isolated plants vs. purchased power  
Electric plants, Municipal

Electric railroads—Power  
Electric service, Rural  
Electric transmission  
Electric utilities  
Hydroelectric plants  
Steam plants  
Waterworks—Combination with electric plants

## **Construction**

Battersea generating station of the London power company. il plan Engineering 135:89-92, 102, pl 4 Ja 27 '33

La VII<sup>e</sup> session de la Conférence internationale des grands réseaux électriques (Paris 16-24 juin 1933). Génie Civil 103:139-41 Ag 5 '33

Shaft sinking by freezing; Swansea power station. W. L. Lowe-Brown. il diags Engineer 155:516-19, 526 My 26 '33

Swansea power station; preliminary operations in shaft sinking by the freezing process. il Electrician 109:619 N 11 '32; Engineer 154:491 N 11 '32

## **Control**

Improving service with automatic control; Alameda Street station of the Los Angeles gas & electric corporation. il diag Elec W 102:182-4 Ag 5 '33

Meter detects potential weakness in control wiring. A. P. Sessions. il diag Elec W 100:765-6 D 3 '32

Some electrical methods of remote indication. C. Midworth and G. F. Tagg. diags Inst E E J 73:33-43; Discussion. 44-8 Jl '33

Thermal and electrical control cabins of central stations; abstract. J. Vassillière-Arlhac. Electrician 111:172-3 Ag 11 '33

## *See also*

Electric plants (central stations)—Supervisory control

## **Costs**

Advanced installation for greater economy; Philadelphia electric company. A. H. Kidder. Elec W 101:448-9 Ap 8 '33

Analysis of the costs of electricity supply, and its application in relation to various types of consumers. E. H. E. Woodward and W. A. Carne. diag Inst E E J 71:852-93 D '32; Discussion. 71:893-910; 72:358-62 D '32, Ap '33

Capital expenditures decrease; tabulation. Elec W 101:43 Ja 7 '33

Coal-handling costs for powdered-fuel plant. Elec W 102:176 Ag 5 '33

Construction cost—electric light and power industry; monthly, 1914-1932. Survey of Cur Business 13:19 Ja '33

Diesel engine costs; detailed costs of eleven central station plants located in middle western states. Power Pl Eng 37:181 Ap '33

Diesel plant costs more than double amount voted, Crown Point, Indiana. Pub Serv M 54:167-9 Je '33

Progress of the electrical industry during the last 30 years. R. M. Longman. Inst E E J 72:67 Ja '33

Readjusting intercompany billing for cold station schedule. diag Elec W 102:599-600 N 4 '33

Tacoma plant estimated at \$80 per kilowatt. A. F. Dorland. Elec W 101:489 Ap 15 '33

What the grid will save. D. J. Bolton. Elec R (Lond) 112:81-2 Ja 20 '33

## **Design**

Design features of Milwaukee's new 1,200-lb. station. G. G. Post. il Elec W 102:12-15 Jl 1 '33

Michigan City, a station with a unique design and operating record. il diags map Power Pl Eng 36:796-803 D '32; Abstract. Mech Eng 55:128 F '33

Power station cost control as affected by design. C. D. Zimmerman. Elec W 100:699-701 N 19 '32

Unit generating station combines reliability with economy; Astoria generating station on Flushing bay. J. E. Goodale. il diags Elec W 101:540-4 Ap 29 '33; Abstract. Power 77:235 My '33

## **Diesel engine stations**

British oil engine working costs. Power 77:95 F '33

Diesel engine costs; detailed costs of eleven central station plants located in middle western states. Power Pl Eng 37:181 Ap '33

Diesel engine problems include many unsolved questions; discussion before the Boston section of the A.S.M.E. Elec W 102:282-3 Ag 26 '33

Diesel engines and decentralization. M. J. Reed. il Manuf Rec 101:32-3 D '32

Diesel plant costs more than double amount voted, Crown Point, Indiana. Pub Serv M 54:167-9 Je '33

Heavy-oil engine working costs; 10th annual report of the Diesel engine users' association. Elec R (Lond) 111:963-4 D 30 '32; Electrician 109:847 D 30 '32

New Castle, Ind. completes new Diesel station. il Power Pl Eng 37:221 My '33

New switching plan in Diesel plant; new station of the Department of light and power, Vernon, California. H. W. Young. il diags Elec J 30:258-9 Je '33

Recovering Diesel waste heat at Bloomington. L. Howell. il Power 77:359-60 Jl '33

35,000-hp. Diesel plant at Vernon, California. il Power 77:577-81 N '33

37,500-kva. Diesel plant at Vernon, Calif. il diag Elec W 102:588-91 N 4 '33

Transmission system regulation requires local load capacity; Iowa public service company. M. W. Parr. diag Elec W 100:757-8 D 3 '32

## **Efficiency**

Electricity supply and fuel consumption; Electricity commissioners' report. Engineering 136:16-17 Jl 7 '33; Electrician 111:75 Jl 14 '33

Operating results of Clarence Dock station. Liverpool. Engineering 136:198-201 Ag 25 '33

Power station results; method for the determination of operating factor. S. B. Jackson. Electrician 110:795 Je 16 '33

**ELECTRIC plants (central stations)—Efficiency**  
—Continued

Present practical limits of power station efficiency. W. S. Burge. *Inst E E J* 73: 369-86 O '33; Excerpts. *Electrician* 110: 381-2 Mr 24 '33; Abstract. *Elec R (Lond)* 112:416 Mr 24 '33; Discussion. *Inst E E J* 73:387-412 O '33; *Electrician* 110:456 Ap 7 '33; *Elec R (Lond)* 112:452-3 Mr 31 '33

**Employees**

Adjusting dispatching department to code. *Elec W* 102:530-1 O 21 '33  
Power station staffs' salaries. *Elec R (Lond)* 112:949 Je 30 '33

**Equipment**

Advanced installation for greater economy; Philadelphia electric company. A. H. Kidder. *Elec W* 101:448-9 Ap 8 '33  
Battersea generating station of the London power company. *il plan Engineering* 135:89-92, 102, 152-4, 585-7, 588, 667-8, pl 4, 34, 37 Ja 27, F 10, Je 2, 23 '33  
Battersea power station. *il diags Engineer* 154:554-6, 564; 155:498-500, 502, 546-50, 552, 646-8 D 2 '32, My 19, Je 2, 30 '33  
Blackburn Meadows new power station. *il supp diags plans Engineer* 155:353-6 Ap 7 '33; *Engineering* 135:378-82, 456-7, 701-3, pl 24-6, 29 Ap 7, 28, Je 30 '33; *Electrician* 110: 451-3, 481-3 Ap 7-14 '33  
Blackburn Meadows; Sheffield corporation's new station. *il Elec R (Lond)* 112:407-9 Mr 24 '33  
Capetown's 33-kV turbo-alternator. *il Elec R (Lond)* 112:449-50 Mr 31 '33  
Direct generation at 33 kV; record at Brimsdown. *il Electrician* 110:798-9 Je 16 '33  
Electrical developments emphasize improved operation. *il Power* 77:26-7 Ja '33  
Electrical developments in 1932. *il Power Pl Eng* 36:32-5 Ja '33  
Fundamental considerations in the preparation of a power system master plan. W. J. Lyman. *Edison Elec Inst Bul* 1:214-20 O '33; Same abr. *Elec W* 101:788-92, 825-7 Je 17-24 '33  
Generation and supply of electricity during the last 16 years. H. A. Nevill. *Inst E E J* 72:69-71 Ja '33  
Improvements at Burlington generating station. W. L. Cisler and W. P. Gavitt. *il diags plan Elec Eng* 52:481-6 Jl '33  
Improving service with automatic control; Alameda Street station of the Los Angeles gas & electric corporation. *il diag Elec W* 102:182-4 Ag 5 '33  
Kidder station; Otter tail power co, North Dakota. G. W. Welsh. *il diags plan Power Pl Eng* 37:110-15 Mr '33  
Long Beach power station. T. F. Davey. *il Electrician* 111:409-11 O 6 '33  
Michigan City, a station with an unique design and operating record. *il diags map Power Pl Eng* 36:796-803 D '32; Abstract. *Mech Eng* 55:128 F '33  
New Dunston power station. *il plan Engineer* 155:136-9, 144, 164-5 F 10-17 '33; *Engineering* 135:155-6, 162 F 10 '33; *Elec R (Lond)* 112:183-5 F 10 '33  
New power system for West Point. A. Staudinger. *il Elec J* 30:50-4+ F '33  
100,000-kv-a. three-phase regulating transformer for phase-angle control; State Line station of the Chicago district electric generating corporation. J. E. Kearns. *il diags Gen Elec R* 36:398-9 S '33  
Power station extensions; progress during 1932. *il Electrician* 110:91-5 Ja 27 '33  
Prime movers show change from past practice. *il Power Pl Eng* 36:24-5 Ja '33  
Principles in power plant operation essential to smoke abatement. A. E. Grunert. *il Power* 77:542-3 O '33  
Rehabilitating Connors Creek station. P. W. Thompson. *il Elec W* 102:570-1 O 28 '33  
Simplifying terminal facilities for control boards. G. F. Sargent and C. H. M. White. *diags Elec W* 101:642-3 My 20 '33  
Standards control improves station performance. C. D. Zimmerman. *Elec W* 100:762-4 D 3 '32

Unit generating station combines reliability with economy; Astoria generating station on Flushing bay. J. E. Goodale. *il diags Elec W* 101:540-4 Ap 29 '33; Abstract. *Power* 77:235 My '33  
Year's power plant development in review. *il diags Power Pl Eng* 36:5-43 Ja '33

**Fires and fire protection**

Brussels power plant fire. T. Rich. *il Weekly Underw* 128:1057-9 Je 3 '33  
Fire prevention; installation of CO<sub>2</sub> equipment in transformer and switch chamber. *il Electrician* 109:727 D 2 '32  
Fire protection modernized. E. B. Shew. *il diag Elec W* 102:220-2 Ag 12 '33  
Fires originating from oiling. *Power* 77:602-3 N '33  
Lubricating oil fire damages Jersey station. *Elec W* 101:115 Ja 28 '33

**Fuel**

Electricity supply and fuel consumption; Electricity commissioners' report. *Engineering* 136:16-17 Jl 7 '33; *Electrician* 111:75 Jl 14 '33; *il Elec R (Lond)* 113:3, 14 Jl 7 '33  
Higher coal-burning rates and efficiencies with less maintenance; abstract. P. W. Thompson. *Elec W* 100:854-5; Discussion. 855 D 24 '32  
Highest pressure steam plant uses natural gas; Public service company of San Antonio, Texas. J. B. Nealey. *il Am Gas J* 137:29-30 S '32; Same. *Am Gas Assn Mo* 14:496-7+ D '32; Same. *Manuf Rec* 101:34-5 D '32  
Public utility consumption of fuel in 1929. W. H. Young. *maps Coal Age* 38:19-21 Ja '33  
Refuse disposal; abstracts. E. W. Smith. *Electrician* 109:603 N 11 '32; *Elec R (Lond)* 111: 708 N 11 '32  
Southern gas-steam electric plants. J. B. Nealey. *il Manuf Rec* 102:24-5 F '33  
Town gas for electricity supply. *Gas J (Lond)* 203:86 Jl 12 '33

**Gas engine plants**

Australia uses gas for power generation. *Gas Age* 72:467 N 11 '33

**Heating and ventilation**

Recovering Diesel waste heat at Blooming-ton. L. Howell. *il Power* 77:359-60 Jl '33

**Load**

Air conditioning in homes. B. J. George. *N E L A Bul* 19:723-7 D '32  
Air conditioning of private homes. D. W. McLenegan. *Elec Eng* 52:366-71 Je '33; Same. *Elec W* 101:644-7 My 20 '33; Same abr. *Gen Elec R* 36:319-25 Jl '33  
Analysis of the costs of electricity supply, and its application in relation to various types of consumers. E. H. Woodward and W. A. Carne. *diag Inst E E J* 71:881-9 D '32; Discussion. 71:893-910; 72:358-62 D '32, Ap '33  
Basis for determining sales effort justified. J. D. Frantz. *Elec W* 101:724-5 Je 3 '33  
Effect of trolley bus operation on central station load. W. J. Clardy. *il Transit J* 77:53 F '33  
Electric heat midgets are timely load builders. *N E L A Bul* 20:97 F '33  
Electric melting gives superior iron; summary of survey. D. T. Waby. *il Elec W* 101:100-3 Ja 21 '33  
Electric power famine approaches! F. Juraschek. *Iron Age* 132:12-14+ O 5; 18-21 O 12 '33; Discussion. A. T. Gardner. *Iron Age* 132:15+ N 9 '33  
Electric water heating; development at Croydon; discussion. *Electrician* 110:275 F 24 '33  
Hydrogen; a commercial fuel for internal combustion engines and other purposes; electrolytic production as off-peak load for power stations. R. A. Erren and W. H. Campbell. *Electrician* 110:388 Mr 24 '33  
Increasing the load. 2d ed 161p McCall co, New York '32  
Incremental loading of generating stations. M. J. Steinberg and T. H. Smith. *Elec Eng* 52:674-7 O '33



**ELECTRIC plants (central stations)—Load**

—Continued

- Load building, air conditioning, lighting. Elec W 101:753-4 Je 10 '33
- Load building opportunities in the air conditioning field. C. E. Michel. Edison Elec Inst Bul 1:137-9; Discussion. 139-43 Ag '33
- More diversity in home uses than code recognizes. W. F. Walsh. Elec W 101:124-7 Ja 23 '33
- No-growth load curve aids analysis of system progress. G. E. Quinan. Elec W 102:311-13 S 2 '33
- Off peak refrigerators. Refrig Eng 25:209 Ap '33
- Putting generators on a schedule. Elec J 30:9 Ja '33
- Residence load characteristics based on field studies. G. L. Jorgensen and R. L. Matteson. il Elec W 100:684-8 N 19 '32
- Residential load possibilities. E. S. Fitz. Elec W 102:400 S 23 '33
- Revenue loss from undervoltage less than believed. M. De Merit. Elec W 100:856-8 D 24 '32
- Scheduling units for maximum over-all economy. C. C. Baltzly. diags Elec W 101:284-6 Mr 4 '33
- Surplus capacity a myth. Elec W 102:145 Jl 29 '33
- Three-point landing in the aviation market. R. W. Cost. il map N E L A Bul 19:728-32 D '32
- Thyatron simplifies plant load totalizer. H. Hammond. diag Elec W 101:334 Mr 11 '33
- Transmission system regulation requires local load capacity; Iowa public service company. M. W. Parr. diag Elec W 100:757-8 D 3 '32
- Water-heater demands on system are not burdensome. C. P. Randolph and L. F. Berg. diags Elec W 100:722-5 N 26 '32
- Water-heating characteristics checked for off-peak operation; Puget Sound power & light company makes exhaustive analysis. G. M. Palo. il diags Elec W 102:475-9 O 7 '33
- Why electric power rates should be adjusted. H. P. Hill. Refrig W 68:20-3 S '33

See also

Electric service,  
Rural**Load dispatching**

- Adjusting dispatching department to code. Elec W 102:530-1 O 21 '33

**Load estimates**

- Fundamental considerations in the preparation of a power system master plan. W. J. Lyman. Edison Elec Inst Bul 1:214-18 O '33; Same. Elec W 101:788-92 Je 17 '33

**Location**

- Plant location in relation to coal, water and electric load. T. G. LeClair. map Elec W 102:375-6 S 16 '33; Discussion. 102:702 N 25 '33

**Maintenance and repair**

- Cutting cost of inspection and maintenance. Elec W 101:364-5 Mr 18 '33
- Maintenance; round table discussion. Elec West 70:213-15 Je '33

**Management**

- Basis for determining sales effort justified. J. D. Frantz. Elec W 101:724-5 Je 3 '33
- Organization and management important in power station economy. C. D. Zimmerman. Elec W 101:429-30 Ap 1 '33
- Plant modernization; round table discussion. Elec West 70:212-13 Je '33
- Practices instituted for economy. Elec W 102:506-7 O 14 '33
- Scheduling breaker inspection reduces maintenance costs. T. J. Allen and W. P. Speir. Elec W 101:266-8 F 25 '33
- Scheduling units for maximum over-all economy. C. C. Baltzly. diags Elec W 101:284-6 Mr 4 '33
- Standards control improves station performance. C. D. Zimmerman. Elec W 100:762-4 D 3 '32

**Safety devices and measures**

- Systematized safety interlocks for basic station diagrams. M. M. Samuels. Elec W 102:379-81 S 16 '33

**Statistics**

- Capacity of generators in public utility power plants; tabulation. Elec W 101:22 Ja 7 '33
- Conditions in nine regions; graphs. Elec W 101:25 Ja 7 '33
- Energy generated totals 77.5 billion kw.-hr. Elec W 101:16-18 Ja 7 '33
- Major utility systems report energy data; 144 light and power systems; tables. supp Elec W 101:572-5 My 6 '33
- 1,700,000 kw. in new stations. Elec W 101:23 Ja 7 '33
- Outstanding facts on electric light and power industry for the year's operations or as of the end of each year, 1919, 1922, 1927-1932; tabulation. Elec W 101:13 Ja 7 '33
- 36,000,000 kw. in public utilities. Elec W 102:181 Ag 5 '33

**Steam distribution**

- Approach to an untouched market; process-steam users. D. W. Taylor. Elec W 101:67-70 Ja 14 '33

**Supervisory control**

- Grid supervisory scheme. il Elec R (Lond) 113:46 Jl 14 '33
- Principles of the direct selection system of supervisory control. M. E. Reagan. diags Elec Eng 52:81-4 F '33
- Supervisory control for 220-kv. station. il Elec West 69:228-30 D '32
- Supervisory control gear; abstracts and discussions. E. M. S. McWhirter. Electrician 110:382 Mr 24 '33; Elec R (Lond) 112:417-18 Mr 24 '33
- Telemetering with supervisory control. G. DeCroce. il diags Elec J 30:260-3 Je '33

**Telegraph**

- Use of communication facilities in transmission line relaying. J. H. Neher. bibliog il diags Elec Eng 52:162-8 Mr '33

**Belgium**

- Die Benson-hochdruckanlage im kraftwerk Langerbrügge. L. Herry and E. Josse. il diags Zeit Ver Deutsch Ing 77:679-83 Je 24 '33
- La chaudière Benson, à très haute pression, de la centrale de Langerbrugge (Belgique). L. Herry. il diags plan Génie Civil 102:581-6 Je 24 '33

**Burlington, New Jersey**

- Burlington station modernized by high-pressure top. E. Zetterquist. plan Power 77:74-5, 139-41 F-Mr '33
- Improvements at Burlington generating station. W. L. Cisler and W. P. Gavitt. il diags plan Elec Eng 52:481-6 Jl '33

**Chicago**

- Chicago's bulk power supply. G. M. Armbrust and T. G. Le Clair. N E L A Bul 19:674-6+ N '32; Excerpt. Elec W 101:75 Ja 14 '33

**Czechoslovakia**

- Löffler boilers at Trebovice; abstract. B. Belohlávek. Mech Eng 55:641-2 O '33

**England**

- Blackburn Meadows new power station. il supp diags plans Engineer 155:353-6 Ap 7 '33; Engineering 135:378-82, 456-7, 701-3, pl 24-6, 29 Ap 7, 28, Je 30 '33; Electrician 110:451-3, 481-3 Ap 7-14 '33
- Blackburn Meadows; Sheffield corporation's new station. il Elec R (Lond) 112:407-9 Mr 24 '33
- Dunston "B"; dust collecting and fan equipment. il Electrician 111:205-6 Ag 18 '33; Engineer 156:217 S 1 '33
- New Dunston power station. il plan Engineer 155:136-9, 144, 164-5 F 10-17 '33; Engineering 135:155-6, 162 F 10 '33; Elec R (Lond) 112:183-5 F 10 '33; Electrician 110:183 F 10 '33

**ELECTRIC plants (central stations)—England***—Continued*

New Fulham station; work in progress on the first (130 000 kW) section. *il Electrician* 110:799 Je 16 '33

Steam raising plant at Kirkstall power station, Leeds. *il diags Engineering* 134:617-19, pl 23 N 25 '32

Thornhill generating station of the Yorkshire power company. *Engineering* 135:659-60 Je 16 '33

**Great Britain**

Electrical engineering in 1932. *il Engineer* 155:10, supp 4-5 Ja 6 '33

Power station extensions; progress during 1932. *il Electrician* 110:91-5 Ja 27 '33

**Italy**

Tuscan soffionissimi. P. Ginori-Conti. *Engineering* 135:522-3 My 12 '33

**Liverpool**

Operating results of Clarence Dock station, Liverpool. *Engineering* 136:198-201 Ag 25 '33

**London, England**

Application to the Battersea power station of researches into the elimination of noxious constituents from flue gases and the treatment of resulting effluents. S. L. Pearce and others. *plans Engineer* 156:32-4 Jl 14 '33; *Abstracts. Soc Chem Ind J (Chem & Ind)* 52:593-4 Jl 21 '33; *Electrician* 111:85 Jl 21 '33; *Power* 77:490-1 S '33; *Discussion. Soc Chem Ind J (Chem & Ind)* 52:594-5 Jl 21 '33; *Electrician* 111:85-6 Jl 21 '33

Battersea gas washing costs and layout. *Elec W* 102:166 Ag 5 '33

Battersea generating station of the London power company. *il plan Engineering* 135:89-92, 102, 152-4, 585-7, 588, 667-8, pl 4, 34, 37 Ja 27, F 10, Je 2, 23 '33

Battersea power station. *il diags Engineer* 154:554-6, 564; 155:498-500, 502, 546-50, 552, 646-8 D 2 '32, My 19, Je 2, 30 '33

Battersea power station. *il Elec R (Lond)* 113:377, 382, 386 S 22 '33

**New Orleans**

New Orleans steam electric station; combination gas, pulverized coal and oil burners. K. P. Kammer. *il diags Gas Age* 72:183-4 Ag 26 '33

**New York (city)**

Characteristics of the twin-set Hell Gate boilers. W. E. Caldwell. *Power* 77:355-8 Jl '33

**Paris, France**

Boiler control; modern installation at St Denis II power station. C. J. O. Garrard. *il diags Electrician* 111:253-5 S 1 '33

**Russia**

Second five-year plan. *Elec R (Lond)* 112:242 F 17 '33

U.S.S.R. power stations; units aggregating 800 000 kW reported to be in course of construction. *Electrician* 111:350 S 22 '33

**Scotland**

Stornoway electricity scheme. *il Elec R (Lond)* 112:450 Mr 31 '33

**South Africa**

Progress in South Africa; the report of the Electricity supply commission for 1932. *il Elec R (Lond)* 113:282 S 1 '33; *Electrician* 111:287 S 8 '33

**Sweden**

World power conference; visit to Vasteras. *diags Electrician* 111:49 Jl 14 '33

**United States**

1,700,000 kw. in new stations. *Elec W* 101:23 Ja 7 '33

Steam plants placed in operation or under construction during 1932; tabulation. *Power* 77:4-5 Ja '33

2,486 companies for electric light and power. *Elec W* 101:133 Ja 28 '33

**Western states**

Review of new plants shows continued growth. *Elec West* 70:46-8 F '33

Stable industry despite recessions; electric light and power industry of the 11 western states. *Elec West* 70:44-5 F '33

**ELECTRIC plants, Municipal**

Advantages of combined operation of water and light plants. J. D. Donovan. *Am Water Works Assn J* 25:465-77 Ap '33

City saved by selling plant; Andrews, N.C. *Pub Serv M* 54:81-2 Mr '33

Court fines town for failure to keep lighting contract, Campbell, Mo. *Elec W* 100:674-5 N 19 '32

Defects of pledge plan listed; why towns should not assign plant earnings in paying for the equipment. *Pub Serv Management* 53:170 D '32

Emmetsburg pays its tribute; gives up its oil engine plant. J. Carmichael. *Pub Serv M* 54:71-2 Mr '33

Municipally owned generating plants in existence in the United States as of December 31, 1932; tabulation. P. J. Raver, comp. *J Land & Pub Util Econ* 9:306-13, 416-17 Ag-N '33

Pledge order plan fails again; Lenox, Iowa. J. Carmichael. *Pub Serv M* 55:25-6 Jl '33

Steam plants placed in operation or under construction during 1932; tabulation. *Power* 77:4-5 Ja '33

Why the state utility commissions should regulate the municipal plants. H. Wright. *Pub Util* 11:652-62, 710-17 My 25-Je 8 '33

*See also*

Electric utilities—  
Municipal ownership

**Finance**

Pay-for-itself plan increases cost of installing municipal electric plant. *Pub Serv M* 54:174 Je '33

What 100 representative cities pay for electric light and power under municipal ownership; rates in effect 1931. C. F. Lambert, comp. 56p pa \$1 Public ownership league of America, 127 N. Dearborn st, Chicago '32

**ELECTRIC potential.** See Potential, Electric

**ELECTRIC power**

Electric power famine approaches. F. Juraschek. *Iron Age* 132:12-14+ O 5; 18-21 O 12; 14-17 O 19 '33; *Discussion. A. T. Gardner.* 132:15+ N 9 '33

Energy supply of large-scale industry; reports at World power conference. *il Engineer* 156:80-1 Jl 28 '33

Power as a factor in economic readjustments. W. N. Polakov. *Ann Am Acad* 165:31-7 Ja '33

Problem of power supply for resistance welding. W. C. Hutchins. *Elec W* 100:881-3 D 31 '32

Recent developments in electric power generation. *il diags Elec Eng* 52:488-503 [bibliog p502-3] Jl '33

Vision in kilowatts. S. Chase. *il Fortune* 7:34-6+ Ap '33

World power conference, Scandinavian sectional meeting, June 26-July 9. *Engineering* 136:113-14, 155-6, 179-81 Ag 4-18 '33

World power conference; sectional meeting in Scandinavia. *Elec R (Lond)* 112:936-8 Je 30 '33

*See also*

Coal mines and mining—Power

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Electric plants

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Hydroelectric power

Mining engineering—

Power

Paper mills—Power

Power cost

Power factor

Steel works—Power

Textile mills—Power

Tidal power

**International aspects**

Power may be exported to United States. *Paper Tr J* 96:18 Ja 26; 15 Mr 23 '33

Premier opposes power export from Canada. *Paper Tr J* 96:13 My 25 '33



**ELECTRIC power—Continued****Interstate transfer**

Validity of laws forbidding the exportation of power is questioned. J. W. Simonton. Pub Util 11:230-2 F 16 '33

**Statistics**

Consumption of electric power in Canada in 1932. Can Eng 65:12 J 4 '33  
Diversification factors in industry. P. F. Rogers. Power Pl Eng 37:184 Ap '33  
Electric generating plant and motors installed and electricity used in various trades in 1930, with comparative figures for 1924. Electrician 109:622 N 11 '32

Electric power production. Published in weekly numbers of Econostat  
Electrical index closely records mill activity. Elec W 102:80 J 15 '33

Energy generated totals 77.5 billion kw.-hr. Elec W 101:16-18 Ja 7 '33

French output one-fifth for chemicals. Elec W 102:87-8 J 15 '33

Italy's electrical output analyzed in survey. Elec W 101:782 Je 17 '33

Major utility systems report energy data; 144 light and power systems; tables. supp Elec W 101:572-5 My 6 '33

Power census statistics for 1932 completed. Elec W 102:584, 616 N 4-11 '33

Power in industry; details relating to electricity undertakings operating for public supply in Great Britain. Electrician 110:146 Ja 27 '33

Power plants have 44,590,815 kw. Elec W 102:441 S 30 '33

Revised and improved seasonal adjustment for electric power output. D. W. Ellsworth. Annalist 40:869 D 30 '32

Statistical data of the electric light and power industry during the month of February. Edison Elec Inst Bul 1:18 Ap '33 [cont monthly]

36,000,000 kw. in public utilities. Elec W 102:181 Ag 5 '33

We have about 44,000,000 kw. Elec W 101:269 F 25 '33

World statistics of public utility energy output and use; tabulation. Elec W 101:492-3 Ap 15 '33

**See also**

Electric plants (central stations)—Statistics

**ELECTRIC power and light corporation**

Electric P. & L.'s great leverage. Econostat 1:11, 32 S 2 '33

**ELECTRIC precipitation**

Alternating current precipitators for sanitary air analysis. P. Drinker, W. G. Hazard and T. Ishikawa. bibliog diags J Ind Hygiene 14:364-70 D '32

Cement industry looks toward byproduct potash recovery; comparison of Multiclone collectors and Cottrell precipitators. P. E. Landolt. il Chem & Met Eng 40:345-9 J 1 '33

Electrostatic dust separation. il Soc Chem Ind J (Chem & Ind) 52:708-9 S 1 '33; Same. Electrician 111:219 Ag 18 '33

Electrostatic precipitators; recovery of tar from the distillation of coal. C. C. Downie. Elec R (Lond) 113:215 Ag 18 '33

Emission of dust from power station chimneys; report of Electricity commissioners committee. diag Engineer 154:619 D 16 '32

Equipment for electrical precipitation. H. Speight and V. G. Rydberg. il diags Elec Eng 52:337-40 My '33

Lodge-Cottrell electrostatic dust-separator plant. il Elec R (Lond) 113:610 O 27 '33

Lodge-Cottrell large blast-furnace gas cleaning plant. Engineer 156:193 Ag 25 '33

New attack on the smoke problem. Elec J 30:32 Ja '33

Über den stand der hochofengasreinigung. K. Guthmann. bibliog il Zeit Ver Deutsch Ing 77:173-6 F 18 '33

Zinc-blende treatment; electrical precipitating plant for purifying gases produced by roasting. Electrician 111:472 O 20 '33

**ELECTRIC propulsion of ships.** See Ship propulsion, Electric

**ELECTRIC protective apparatus**

Building a new power system; Indianapolis power and light company. F. S. Douglass and A. C. Monteith. il diags Elec J 30:55-9 F '33

Bulk of motor outages on voltage dips avoidable. H. P. Sleeper. il diags Elec W 102:89-93 J 15 '33

Carrier-current relaying simplified. P. Sporn and C. A. Muller. il diags Elec W 102:556-60 O 28 '33

Circuit breaker tripping. R. L. deLoache. il diags Elec J 30:329-32 Ag '33

Co-ordinating fuses and relays for distribution reliability. G. F. Lincks. diag Elec W 102:140-3, 602-4 J 29, N 4 '33

Current transformers; methods of interconnection in three-phase circuits. G. W. Stubbings. diags Elec R (Lond) 113:278 S 1 '33

Developments in protective devices, 1932-33. Elec Eng 52:757-8 N '33

Differential relays operate abnormally due to different lead lengths. S. Ein. diag Elec W 100:827 D 17 '32

Directional relays. G. W. Stubbings. diags Elec R (Lond) 113:586 O 27 '33

Distribution system protection. R. O. Kapp. Elec R (Lond) 112:864 Je 16 '33

Effect of transient voltage protective devices on stresses in power transformers; abstract. K. K. Paluuff and J. H. Hagenguth. Elec Eng 52:418 Je '33

Enclosed coordinating gap for low-voltage circuits. E. Beck. il diag Elec J 30:165-6 Ap '33

Experience with arcing ground suppressors. E. M. K. Sommer. il diag Elec W 101:730-3 Je 3 '33

Faults, and their clearance on large networks. R. O. Kapp and C. G. Carrothers. diags Inst E E J 71:685-702; Discussion. 721-36 N '32

Guarding remote control against ground faults. G. H. Landis and H. A. McLaughlin. il diags Elec W 101:76-8 Ja 14 '33

High speed reactance relay. A. R. V. Warrington. il diags Elec Eng 52:248-52 Ap '33

High voltage surges; gasfilled tube arrester for L.V. networks. il diag Electrician 111:9 J 7 '33

Let's get acquainted with reactors. R. H. Rogers. il diag Factory Management 91:256-8 J 1 '33

Load indication on distributors. il diags Elec R (Lond) 113:384 S 22 '33

Neon sign protection; improvements in equipment reducing risk of fire. E. A. Beavis. il diag Elec R (Lond) 113:309-10 S 8 '33

New reactors limit voltage rise on network cables. C. A. Woodrow. il diags Elec W 100:822-4 D 17 '32

Over-voltage protection for low-voltage networks. diag Elec R (Lond) 112:485 Ap 7 '33

Protecting squirrel-cage winding of synchronous motors. M. N. Halberg. il Elec W 102:627 N 11 '33

Protective interlocking schemes used on Philadelphia system. C. S. Schifreen. il Elec W 100:792-5 D 10 '32

Recommended practises for the protection of electrical apparatus. Elec Eng 51:829-34 D '32

Rehabilitated transmission line defies lightning; installation of DeIon flashover protectors. F. S. Douglass. il diags Elec W 101:820-2 Je 24 '33

Ring main feeder protection. diags Engineer 155:122-3 F 3 '33

Rural installations. T. C. Gilbert. Electrician 110:821-2, 850-1 Je 23-30 '33; Discussion. H. P. Moss. diag Electrician 111:347 S 22 '33

Sectionalizing switches automatically maintain service. H. L. Sampson. diag Elec W 101:545 Ap 29 '33

**ELECTRIC protective apparatus—Continued**

Sequence principles used for network relaying. H. R. Searing and R. E. Powers. diags Elec Eng 52:694-7 O '33

Sequence relay for network protectors. H. S. Orcutt and M. A. Bostwick. il diags Elec Eng 52:689-94 O '33

Shockproof supply services. G. E. Moore. Elec R (Lond) 111:882-3 D 16 '32

Summarized review of some A.I.E.E. summer convention discussions. Elec Eng 52:578-9 Ag '33

Systematized safety interlocks for basic station diagrams. M. M. Samuels. Elec W 102:379-81 S 16 '33

Temperature protection with detector coils. H. E. Pearson. il diags Gen Elec R 36:109-10 F '33

Time delay undervoltage mechanism on electrical control apparatus: Georgia power company. E. M. Clapp. N E L A Bul 19: 683-5 N '32

Transformer and switchgear protection. J. C. Grant. il Elec R (Lond) 113:527 O 13 '33

**See also**

Electric lines—Protection	Electric motors, Induction—Protection
Electric machinery—Protection	Electric switches
Electric motors—Protection	Lightning arresters
	Lightning protection
	Relays

**Testing**

System performance tested with 600 short circuits: Indianapolis power & light company. E. G. Ralston and E. H. Klemmer. il diags Elec W 101:192-5 F 11 '33

**ELECTRIC railroads**

Electric traction; a review of progress. F. Lydall. Inst E E J 72:124-31 F '33

Electric trains for services with frequent stops. C. B. Unwin. Engineering 135:226 F 24 '33

La traction électrique par courants alternatifs à la fréquence de 50 p.s. Langlois-Berthelot and Létrillart. Génie Civil 102: 187-8 F 25 '33

**See also**

Electric locomotives	Street cars
Electric motors, Railway	Street railroads
	Subways
Railroads—Electricification	Trolley buses

also names of railroads, e.g. Boston elevated railway

also subdivision Rapid transit under names of cities, e.g. Philadelphia—Rapid transit

**Cars**

See Cars, Electric railroad; Cars, Subway

**Construction**

Stanmore branch of the Metropolitan railway. il Engineering 134:717-18 D 16 '32

**Control equipment**

Dispositif de commande, remplaçant le contrôleur rotatif, adopté sur les tramways de Dresde. O. Jähnichen. diag Génie Civil 101:533 N 26 '32

Nouveau dispositif de commande pour trains à unités multiples du métropolitain de Berlin. diags Génie Civil 102:40-1 Ja 14 '33

**Costs**

Fares rise—wages and costs reduced. A. S. Richey. Transit J 77:17-18 Ja '33

**Current collecting devices**

Selecting pole type current collectors. G. W. Bower. il Transit J 76:547-8 D '32

Trolley shoes increase wire and collector life; Boston, Revere Beach & Lynn railroad. N. M. Powell. il Transit J 77:280-1 S '33

**Equipment and supplies**

Convention in print; exhibits. il Transit J 77: 338-59 O 10 '33

**Equipment trust certificates**

Equipment obligations have good record; survey of equipment trust certificates issued by street railways over an interval of nearly 30 years. L. N. Dembitz. Transit J 77: 149-50 My '33

**Finance**

Additional transit reports for 1932; tabulation.

Transit J 77:224-5 Jl '33

Annual financial survey for 1932. Elec Traction 29:78-9 Mr '33

Budgets curtailed to meet need for economy. Transit J 77:7-8 Ja '33

Gross revenues of transit industry total \$1,100,000,000. il Transit J 77:2-6 Ja '33

Many maturities feature the year's financing. Transit J 77:26-8 Ja '33

1932 transit operations characterized by continued readjustment; analysis of reports of 78 companies. Transit J 77:145-7 My '33

Transit companies in large centers make best showing. Transit J 77:179-80 Je '33

**See also**

Electric railroads—Costs	Electric railroads—Securities
--------------------------	-------------------------------

**Freight**

Converted passenger line becomes profitable with freight; belt line electric railway Lincoln, Neb. J. R. Lowell. il Elec Traction 29:284-5 S '33

**History**

Volk's electric railway; fifty years of working at Brighton. il Electrician 111:167 Ag 11 '33

**Maintenance and repair****See also**

Electric railroads—Shops	Street railroads—Track
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**Management**

Net revenue up 78 per cent through modernization; Fonda, Johnstown & Gloversville railroad. il map Transit J 77:241-2 Ag '33

**Mileage**

Track activity continues—car purchases decline. Transit J 77:13-16 Ja '33

**Overhead construction**

Erection of catenary; Pennsylvania railroad electrified system. il Ry Age 94:290-1 F 25 '33

Locating and erecting catenary supporting structures; Pennsylvania railroad electrified line. il Ry Age 94:278-81 F 25 '33

Renewing complicated overhead special work. H. L. Swift. il diags Elec Traction 29:270-3 S '33

Soft trolley for movable railway bridges; Pennsylvania railroad electrified system. il diag Ry Age 94:299 F 25 '33

Transmission, substations and catenary system; Pennsylvania railroad electrified system. il Ry Age 94:284-9 F 25 '33

Treated pole line after 28 years. C. O. Seaton. il Elec Traction 28:481 D '32

**Power**

La distribution de l'énergie aux lignes urbaines et suburbaines de Berlin. map Génie Civil 102:70 Ja 21 '33

Energy problems of urban and suburban traffic; reports at World power conference. Engineer 156:116-17 Ag 4 '33

Experience with rectifiers on Piedmont Northern. W. T. Gill and H. A. Rose. il diag plan Elec W 100:784-7 D 10 '32

Gang bonus system cuts fuel costs in half; Denver tramway co. power plant. L. S. Flint. Power Pl Eng 37:383-4 S '33

Glass bulb rectifiers on L.M.S. railway. il diags Engineer 156:97-8 Jl 28 '33

Greenwich power station; the 40,000-kW extension of the L.C.C. tramways supply. il diag Elec R (Lond) 111:700-1 N 11 '32



**ELECTRIC railroads—Power—Continued**

Improved power supply betters street railway service. J. A. Noertker. *il Elec Eng* 52:22-8 Ja '33

Large hydro unit adapted for sensitive governing; Ruskin plant of the British Columbia electric railway company. A. N. Geyer. *Elec W* 101:834 Je 24 '33

Market worth retaining and building. W. J. Clardy. *Elec W* 100:892-3 D 31 '32

Mercury rectifiers vs. rotary converters. O. M. Ward. plans *Elec Eng* 52:194-6 Mr '33  
Metropolitan Stanmore extension. *il map Electrician* 109:783-4 D 16 '32

Modernizing a 30 year old generating station; Minneapolis power station of the Minneapolis street railways co. *il diags plans l'ower Pl Eng* 37:196-9 My '33

Power supervision, switching and sectionalizing; Pennsylvania railroad electrified system. *il diags Ry Age* 94:294-6 F 25 '33

Power supply for Pennsylvania electrification. *il Ry Age* 94:291-3 F 25 '33

Sectional mercury arc rectifier proves satisfactory; Cedar Manor substation of Long Island railroad. J. H. Cox. *il Transit J* 77:213-14 Jl '33

Tramway regenerative control. *Elec R (Lond)* 112:340-1 Mr 10 '33

Transmission, substations and catenary system; Pennsylvania railroad electrified system. *il Ry Age* 94:284-9 F 25 '33

Umformerlokomotiven der Ungarischen staatsbahnen; der elektrische betrieb auf der strecke Budapest-Hegyeshalom. H. Dominke. *il diags Zeit Ver Deutsch Ing* 77:415-22 Ap 22 '33

Variation of energy consumption with schedule speed. H. S. Williams. *Elec Traction* 28:482 D '32

Zur eröffnng des elektrischen betriebes auf der Berliner Wannesebahn. A. Schieb. *il diags map Zeit Ver Deutsch Ing* 77:533-6 My 20 '33

**Rolling stock**

Track activity continues—car purchases decline. *Transit J* 77:15-16 Ja '33

**Safety devices and measures**

Electric railways achieve national safety honors. R. R. Howard. *il Elec Traction* 29:297-9 S '33

**Securities**

Many maturities feature the year's financing. *Transit J* 77:26-8 Ja '33

**Shops**

Essais de rupture d'une vouûte mince conolide en béton armé, aux ateliers de Fontenay-sous-Bois du chemin de fer Métropolitain de Paris. M. Fauconnier. *il diags plan Génie Civil* 102:533-8 Je 10 '33

**Equipment**

New machines and devices facilitate Pittsburgh shop work. *il Transit J* 76:554-5 D '32

**Signals**

Metropolitan railway's Stanmore extension. *il Elec R (Lond)* 111:856 D 9 '32; *Electrician* 109:783-4 D 16 '32

**Speed**

Tentative speed ranking in 1933; Electric traction's speed contest table. *Elec Traction* 29:231 Ag '33

**Stations**

Der umsteigebahnhof Schöneberg in Berlin. H. Berg. *il diags plan Zeit Ver Deutsch Ing* 77:288-90 Mr 18 '33

**Statistics**

Little change in traffic trend. E. J. Murphy. *Aera* 23:1421-2 N '32

Passengers carried on electric street railways, monthly, 1929-1932. Survey of Cur Business 13:19 Ag '33

Track activity continues—car purchases decline. *Transit J* 77:13-16 Ja '33

**Track**

Motor generator sets for track welding. W. Z. Shaw. *il Elec Traction* 29:170 Je '33

**Trolley shoes**

Trolley shoe condemning gage. H. S. Williams. *diags Elec Traction* 29:40 F '33

Trolley shoe experience with electric locomotives. J. D. Barnhart. *il Elec Traction* 29:79 Mr '33

Trolley shoes increase wire and collector life; Boston, Revere Beach & Lynn railroad. N. M. Powell. *il Transit J* 77:280-1 S '33

**Trolley wheels**

Prevent losses with proper gates and risers; casting trolley wheels. P. Dwyer. *diags Foundry* 61:384 Ja '33

Trolley inspection stands. W. H. Ponsonby. *il Transit J* 77:284 S '33

**Wages**

Fares rise—wages and costs reduced. A. S. Richey. *Transit J* 77:17-18 Ja '33

**Yards**

Bright lights for parked subway cars. R. W. Cost. *il plan Elec J* 30:121 Mr '33

**Australia**

Australian and New Zealand tramways conference. *Electrician* 109:835-6 D 30 '32

**England**

Volk's electric railway; fifty years of working at Brighton. *il Electrician* 111:167 Ag 11 '33

**Great Britain**

Electric traction; progress in 1932. *il Electrician* 110:112 Ja 27 '33

**United States**

NRA transportation regulation. Bus Transportation 12:343-4, 349-50 S '33

Resourcefulness reflected in last year's far-reaching changes. G. J. MacMurray. *il Transit J* 77:9-12 Ja '33

What about 1933? review of the electric railway industry in 1932 and the possibilities for 1933. *Elec Traction* 29:5 Ja '33

**ELECTRIC ranges. See Electric stoves****ELECTRIC rates**

Analysis of the costs of electricity supply and distribution in Great Britain, with some suggestions as to the causes of and remedies for the slow rate of development. J. M. Kennedy and D. M. Noakes. *Inst E E J* 73:97-113 Ag '33; *Abstracts, Elec R (Lond)* 112:156 F 3 '33; *Electrician* 110:154 F 3 '33; *Discussion, Inst E E J* 73:113-68 Ag '33; *Elec R (Lond)* 112:194, 243-4 F 10-17 '33; *Electrician* 110:219 F 17 '33

Are electric rates coming down because of interconnection? opinions of state commissioners. *Pub Util* 11:177-9 F 2 '33

Are ratepayers paying too much for power? discussion of M. L. Cooke's "Paying too much for electricity" in the New Republic. H. C. Spurr. *Pub Util* 11:173-7 F 2 '33

Are rigid rates unsound? E. K. Murray. *Elec West* 70:194-5 Je '33

Behind the button. *Elec West* 71:56-7, 59 O '33

British board puts rates on flat energy base plus. *Elec W* 100:806 D 17 '32

Buying electricity is an art. J. M. Acheson. *Power* 77:76-7 F '33

Central electricity board's tariff. *Engineering* 134:628-9 N 25 '32

Central electricity board's tariff. H. M. Sayers. *Elec R (Lond)* 111:773 N 25 '32

Chicago utility rates cut three per cent. *Gas Age* 71:661 Je 24 '33

Common fallacies about the average cost of distributing power. H. W. Reed. *Pub Util* 12:516-23, 567-76 O 26-N 9 '33

Company bills below municipal in 144 Oklahoma towns. *Pub Serv Management* 53:179-80 D '32

Competitive power; round table discussion. *Elec West* 70:208-10 Je '33

**ELECTRIC rates—Continued**

- Consolidated Gas to protest order to reduce rates. *Barron's* 13:7 Ag 28 '33
- Consumer's views on tariffs. W. B. Parker. *Elec R (Lond)* 113:112 Jl 28 '33
- Continued rise in taxes will halt fall in rates. G. B. Cortelyou. *Pub Serv M* 55:41 Ag '33
- Costing bulk supplies; the relation between bulk-supply and retail tariffs. J. C. Petersen. *Elec R (Lond)* 113:44 Jl 14 '33
- Daily demand rate clause aids part-time industrials. *Elec W* 101:337 Mr 18 '33
- Detroit orders rate cut \$1,500,000. *Pub Util* 12:357-8 S 14 '33
- Distribution cost of electric energy with special reference to the residence and rural customer. C. W. Pike. 42p J. Lyon co, Albany, N.Y. '33
- Domestic and commercial tariffs. H. M. Sayers. *Elec R (Lond)* 112:869-70 Je 16 '33
- Domestic rates in the U.S.A. A. G. Arnold. *Elec R (Lond)* 113:152 Ag 4 '33
- Domestic tariff. J. L. Ferns. *Elec R (Lond)* 113:312-13 S 8 '33
- Domestic tariffs. F. D. Parker. *Electrician* 111:364 S 29 '33
- Domestic tariffs. G. H. Sankey. *Elec R (Lond)* 113:547-8 O 20 '33
- Effect of the depression upon electric power rates. *Pub Util* 11:608-12 My 11 '33
- Electric rates and living costs. *Pub Serv Management* 53:163-4 D '32
- Electric rates; pegged rates are too conspicuous in a world of falling prices to escape attack. *Business Week* p15-16; Editorial comment. p32 F 22 '33
- Electricity metering and tariffs. W. Lawson. *Electrician* 110:771-5, 825-6 Je 16-23 '33; Abstracts. *Elec R (Lond)* 112:849-50 Je 16 '33; *Engineering* 136:25-6 Jl 7 '33; Discussion. *Electrician* 110:775-6 Je 16 '33; *Engineering* 136:26 Jl 7 '33
- Energy comparisons in gas and electric sales. *Gas Age* 71:229 Mr 4 '33
- Foundrymen indict industrial rates. *Elec W* 102:499-500 O 13 '33
- Futility of yardsticks for measuring utility costs. H. C. Spurr. *Pub Util* 11:448-53 Ap 13 '33
- Grid supplies; mid-east England tariff issued. *Electrician* 109:698-9 N 25 '32
- Growing need of simplifying and standardizing rate procedures. J. Bauer. *Pub Util* 12:192-200 Ag 17 '33
- Die haushalt-tariffenformen der elektrizitätswerke. A. G. Arnold. *Zeit Ver Deutsch Ing* 77:619-22 Je 10 '33
- High dividends not evidence of excessive rates. *Pub Util* 11:250-1 F 16 '33
- How can tariffs be simplified? abstract and discussion. T. Stevens. *Elec R (Lond)* 112:596-7 Ap 28 '33
- How the sliding-scale basis of rate making works. M. M. Patrick. *Pub Util* 11:506-14 Ap 27 '33
- Inquiry into the costs of distributing power. *Pub Util* 11:290-6 Mr 2 '33
- Investigation of rate schedules points way to lower costs for purchased power. M. C. Bishop. *il Textile World* 83:1100-1 Je '33
- Irish centre; chairman's address. F. R. Unwin. *Inst E E J* 72:413-16 My '33
- Is there a basis for a national promotional rate? S. B. Hood. *Elec W* 102:524-6 O 21 '33
- Limitations on electric steam generation. *Elec W* 101:590 My 6 '33
- Minimum charge clause should be specific. L. Childs. *Elec W* 101:828 Je 24 '33
- More light on the electric service bill. *Edison Elec Inst Bul* 1:29-30 My '33
- More use with reduced rate in Dallas, Tex. *Elec W* 102:184 Ag 5 '33
- Net price per kilowatt-hour for electricity for household use on June 15 and December 15, 1932, for 51 cities; tabulation. *Monthly Labor R* 36:418-20 F '33
- New York rate hearings bring \$8,870,000 cut. *Elec W* 102:259 Ag 26 '33
- Overhead lines association meeting; discussion on tariffs. *Electrician* 110:557 Ap 28 '33
- Plea for simplified and uniform rate schedules. *Pub Util* 10:762-3 D 22 '32
- Power squeeze on all sides. *Business Week* p14-15 Je 7 '33
- Present and future trend of public utility rates. A. Dow. *N E L A Bul* 19:643-6+ N '32
- Problem of power supply for resistance welding. W. C. Hutchins. *Elec W* 102:50 Jl 8 '33
- Production cost and selling price. *Pub Serv Management* 54:37 F '33
- Promotional rate minimizes bill complaints. *Elec W* 102:276 Ag 26 '33
- Public utility rate structures. *Pub Serv M* 54:169-70 Je '33
- Radical rate plan in New York. *Elec W* 101:707 Je 3 '33
- Rate reduction ordered for New York City power. *Pub Util* 12:354-6 S 14 '33
- Reduction of charges, England. *Electrician* 109:847 D 30 '32
- Regulatory experiment that worked too well; sliding-scale plan in the District of Columbia. A. H. Ulm. *Pub Util* 11:390-5 Mr 30 '33
- Residential electric rates in Wisconsin; a state-wide picture. E. W. Morehouse. *J Land & Pub Util Econ* 9:37-41 F '33
- La revision des tarifs de vente de l'énergie électrique. A. Mestre. *Génie Civil* 102:573-4 Je 17 '33
- Rural electrification rates and policies; with cost data. B. H. Nichols. *Elec W* 100:819-21 D 17 '32
- St Lawrence tied to promotion of domestic load. *Elec W* 101:389-91 Mr 25 '33
- Sales barriers. *Elec West* 70:123-4 Ap '33
- South Carolina commission slashes power and phone rates. *Pub Util* 11:311-12 Mr 2 '33
- Supreme court upholds city unit base in appeal of Martinsville case. *Elec W* 101:81 Ja 21 '33
- Les tarifications dans les réseaux électriques ruraux. *Génie Civil* 102:20-1 Ja 7 '33
- Taxation without realization. S. Ferguson. *N E L A Bul* 19:652+ N '32
- Tennessee Valley authority announces its rates. *Business Week* p22 S 23 '33
- T.V.A. as a \$106,000,000 yardstick. *Elec W* 102:356, 388-9 S 16-23 '33; *Manuf Rec* 102:50 O '33; *Eng N* 111:364 S 21 '33
- This business of rates. F. A. Newton. *Elec W* 101:769-73 Je 10 '33; Same cond. *Edison Elec Inst Bul* 1:62-4+ Je '33; Discussion. E. J. Fowler. 1:111-12 Jl '33
- Two-part domestic tariff. D. J. Bolton. *Elec R (Lond)* 112:732-3 My 26 '33
- Uncle Sam in the rôle of national utility rate complainant. *Pub Util* 12:597-9 N 9 '33
- Uniform rate areas and current judicial attitudes. W. E. Caine. *J Land & Pub Util Econ* 9:182-91 My '33
- When odds are against you. D. W. Taylor. *Elec W* 101:227-30 F 18 '33
- Why electric power rates should be adjusted. H. P. Hill. *Refrig W* 68:20-3 S '33
- Wide variations in power charges imply need for revisions. *Steel* 92:30+ Je 26 '33
- Will the Muscle Shoals rates be an effective governmental yardstick? *Pub Util* 12:530-4 O 26 '33
- Will the yardstick for measuring utility costs be converted into a wedge? H. C. Spurr. *Pub Util* 11:225-8 F 16 '33
- Word on cutting rates. *Pub Serv M* 54:135-6 My '33
- You buy at 7 and sell at 4: why has municipal ownership never given such rates as Lillenthal promises? *Pub Serv M* 55:101-3 O '33

**ELECTRIC rectifiers**

- Air-arc power rectifier for 150 kv. E. Marx. *diag Elec W* 101:491 Ap 15 '33
- Copper-cuprous-oxide rectifier and photoelectric cell. L. O. Grondahl. *il diags, Rs Mod Phys* 5:141-68 [bibliog p165-7] Ap '33
- Copper-oxide rectifiers. H. Böhn. *Elec R (Lond)* 112:155 F 3 '33
- Developments in mercury-arc rectifiers: English electric co. *il diags Engineering* 134:564-5 N 11 '32; Abstract. *Electrician* 109:605-6 N 11 '32



**ELECTRIC rectifiers—Continued**

- Developments in the electrical industry during 1932; rectifiers. J. Liston. *il Gen Elec R* 36: 52-3 Ja '33
- Electric traction; the Prince of Wales inspects the London electric railway. *Electrician* 110:238 F 17 '33
- Equipment for electrical precipitation. H. Speight and V. G. Rydberg. *il diags Elec Eng* 52:337-40 My '33
- Experience with rectifiers on Piedmont Northern. W. T. Gill and H. A. Rose. *il diag plan Elec W* 100:784-7 D 10 '32
- Fundamental characteristics and applications of the copper-oxide rectifier. C. E. Hamann and E. A. Harty. *il diags Gen Elec R* 36: 342-8 Ag '33
- Glass bulb rectifiers. *il Engineer* 155:99 Ja 27 '33
- Glass bulb rectifiers on L.M.S. railway. *il diags Engineer* 156:97-8 JI 28 '33
- Glass bulb rectifiers; the special installation in the Faraday building. *il Elec R (Lond)* 113:220 Ag 18 '33
- Grid and plate currents in a grid-controlled mercury vapor tube. A. C. Seletzky and S. T. Shevki. *il diag J Fr Inst* 215:299-326 Mr '33
- Grid control of mercury-arc rectifiers. O. K. Marti. *il diags Elec W* 102:507-9 O 14 '33
- Grid-controlled gaseous discharges. G. Windred. *Engineering* 136:229 S 1 '33
- Grid-controlled mercury arc rectifiers for East Africa substation. *il Engineer* 156:194 Ag 25 '33; *Elec R (Lond)* 113:256 Ag 25 '33; *Electrician* 111:283-4 S 8 '33
- Grid-controlled rectifier. *diag Electrician* 110: 193, 228, 254-5 F 10-24 '33
- Harmonic commutation for thyatron inverters and rectifiers. C. H. Willis. *diags Gen Elec R* 35:632-8 D '32
- High voltage testing. *diags Electrician* 110: 860 Je 30 '33
- Improvements in mercury arc rectifiers. J. H. Cox. *il diags Elec Eng* 52:462-6 JI '33
- Influence of mercury-arc rectifiers upon the power factor of the supply system. H. Risik. *Inst E E J* 72:435-55 [bibliog p450-1] My '33
- Inverters, rectifiers and low-frequency generators; abstracts of papers at A.I.E.E. meeting. *diag Elec W* 101:163-4 F 4 '33
- Large H.T. rectifiers. Buchwald. *diags Electrician* 111:143 Ag 4 '33
- Large mercury rectifiers and their design. M. Wellauer. *diag Engineer* 154:516-17 N 18 '32
- Lichtbogen-stromrichter für die gleichstrom-fernübertragung. H. Göschel. *il diags Zeit Ver Deutsch Ing* 77:291-3 Mr 18 '33
- Life test power supply utilizing thyatron rectifiers. H. W. Lord. *il diags Inst Radio Eng Proc* 21:1097-1102 Ag '33
- Mercury-arc rectifiers in the rehabilitation program. A. L. Atherton. *il Elec J* 29:565-6 D '32
- Mercury arc rectifiers present a new problem. N E L A Bul 19:701 N '32
- Mercury rectifiers. *Electrician* 110:471 Ap 7 '33
- Mercury rectifiers for 250-volt supply. C. A. Butcher. *Elec Eng* 52:119-21 F '33; Same cond. *Power* 77:322-3 Je '33
- Mercury rectifiers vs. rotary converters. O. M. Ward. *plans Elec Eng* 52:194-6 Mr '33
- Mercury vapour rectifiers; commutation in multiphase apparatus. T. D. Oswald. *il Electrician* 111:339-40 S 22 '33
- Method of control for gas filled tubes. C. Stansbury. *il diags Elec Eng* 52:190-4 Mr '33
- New applications, and the expansion of recent uses of electricity. G. F. Sills. *Inst E E J* 72:45-6 Ja '33; *Abstract. Electrician* 109:503 O 21 '32
- New arc rectifier. *Electrician* 109:754, 787 D 9-16 '32
- New attack on the smoke problem. *Elec J* 30: 32 Ja '33
- New rectifier for high-voltage transmission; abstracts. E. Marx. *diag Elec R (Lond)* 112:6 Ja 6 '33; *Elec W* 101:153 F 4 '33
- New vacuum valves and their applications. A. W. Huil. *il diags Gen Elec R* 35:628-9 D '32
- Phanotron rectifier for power and lighting service. P. M. Currier and C. F. Whitney. *il diag Gen Elec R* 36:312-14 JI '33
- Power for circuit breaker solenoids; rectox type of rectifier. W. W. Brainard. *il diags Elec J* 30:189-91 My '33
- Practical methods of starting the conduction in mercury arcs. L. J. Buttolph and D. W. Dana. *il diags R Sci Instr* 4:206-15 Ap '33
- Practical pointers on utilizing meter rectifiers. F. Fausett. *il diags Radio N* 15:150-1+ S '33
- Radio power from high-voltage rectifiers. N. Kotschubey. *il diags Elec W* 102:308-9 S 2 '33
- Rectifier circuits serve as flasher and dimmer. C. G. Suits. *il diag Elec W* 101: 320 Mr 11 '33
- Rectifier and reactor combinations produce interesting non-linear circuits. *diags Power* 77:219-20 My '33
- Rectifier protects gas main from electrolysis. *Elec W* 101:217 F 18 '33
- Redresseur à arc de grande puissance pour hautes tensions. *diags Génie Civil* 103:67-8 JI 15 '33
- Ripple voltage of rectifiers; influence of higher a.c. harmonics. H. Geise and W. Plathner. *Electrician* 109:714-16 D 2 '32
- Sectional mercury arc rectifier proves satisfactory; Cedar Manor substation of Long Island railroad. J. H. Cox. *il Transit J* 77:213-14 JI '33
- Sectional mercury-arc rectifiers establish worth. *il Elec J* 30:12 Ja '33
- Single-unit high-current rectifier. E. H. Reid and C. C. Herskind. *il diags Elec Eng* 52: 671-4 O '33
- Stromrichter; dampf-entladungsgefäße und spannungsregelnde gleichrichter. O. Löbl. *il diags Zeit Ver Deutsch Ing* 77:605-9 Je 10 '33
- Transformer and rectifier developments. *il Elec R (Lond)* 112:7 Ja 6 '33
- Transformers and rectifiers. T. Rich. *Electrician* 109:811 D 23 '32
- Travelling rectifier station. *diag Elec R (Lond)* 112:210 F 10 '33

**ELECTRIC regulators**

See also

Barreters

**ELECTRIC research**

- Charles A. Coffin fellowship awards, 1933-34. *Gen Elec R* 36:337 JI '33
- Developments in the electrical industry during 1932; research. J. Liston. *il diag Gen Elec R* 36:40-2 Ja '33
- Electrical research projects. *Power* 77:252-4 My '33
- High voltage. K. T. Compton. *diags Science* 78:19-24, 48-52 JI 14-21 '33
- Inspection of N.P.L. *Electrician* 111:10-11 JI 7 '33
- National physical laboratory report for 1932 summarized. *il Electrician* 110:621-2 My 12 '33
- Progress in electrical research; the annual report of the British electrical and allied industries research association. *Engineering* 135:352-3 Mr 31 '33
- Research heats buildings, cures bodies, kills bugs by new methods. *il Elec J* 30:38-9 Ja '33
- Significance of Professor Thomson's work in the development of electrical engineering. K. T. Compton. *Science* 77:415-18 My 5 '33
- Some General Electric developments during 1932. J. Liston. *il N E L A Bul* 20:33-8+ Ja '33
- Work of Oliver Heaviside. W. E. Sumpner. *bibliog il Inst E E J* 71:837-51 D '32
- ELECTRIC resistance**
- Dielectrics; effect of temperature change on resistivity. D. K. McCleery. *diags Electrician* 109:745-6 D 9 '32
- Effect of homogeneous mechanical stress on the electrical resistance of crystals. P. W. Bridgman. *Phys R* 42:858-63 D 15 '32

**ELECTRIC resistance—Continued**

- Effect of tension on the electrical resistance of single antimony crystals. M. Allen. *Phys R* 43:569-76 Ap 1 '33
- Effect of tension on the electrical resistance of single bismuth crystals. M. Allen. *il diags Phys R* 42:848-57 D 15 '32
- Electrical resistance and heat in metals. C. R. Underhill. *J Fr Inst* 216:629-34 N '33
- Electrical resistance thermometers as applied to human calorimetry. G. F. Soderstrom. *diags R Sci Instr* 4:285-8 My '33
- Material standards of resistance; the B.A. coils, 1881-1932; abstract. R. T. Glazebrook and L. Hartshorn. *Engineering* 134:554 N 11 '32
- Measuring resistances. W. A. Barclay. *Wireless Eng* 10:552-5 O '33
- Method of solid earthing. C. E. Stewart. *diag Elec R (Lond)* 112:82 Ja 20 '33
- Modern radio practice in using graphs and charts. J. M. Borst. *chart Radio N* 14: 666-7+ My '33
- New phenomena in the change of resistance of Bi single crystals in magnetic fields. O. Stierstadt. *Phys R* 43:577-9 Ap 1 '33
- Ohms of resistance measure concrete curing. S. B. Slack. *il Eng N* 111:169-70 Ag 10 '33
- Resistance of earth electrodes. P. D. Morgan and H. G. Taylor. *Inst E E J* 72:515-18 Je '33
- Resistance of storage battery separators and the resistivity and viscosity of battery electrolytes. G. W. Vinal. *Elec Eng* 52:130-1 F '33
- Resistance standards. L. O'Bryan. *il diag Gen Elec R* 36:416-18 S '33
- Resistance to earth of grid towers. *diag Elec R (Lond)* 112:118 Ja 27 '33; *Electrician* 110: 173-4 F 3 '33; *Engineer* 155:125 F 3 '33; *Engineering* 135:145 F 3 '33
- Trub, Tauber earth resistance measuring system. *diag Electrician* 111:294-5 S 8 '33
- Über metallische elektrische widerstandstoffe. A. Schulze. *Zeit Ver Deutsch Ing* 77:856-8 Ag 5 '33
- Unit for specifying the electrical resistivity of the earth. L. P. Ferris. *Min & Met* 14: 99+ F '33
- Value of electrical methods for estimating the moisture content of wheat. H. E. Hartig and B. Sullivan. *bibliog diag Ind & Eng Chem Anal ed* 5:107-9 Mr 15 '33
- Verfahren zum bestimmen der chemischen beschaffenheit von flüssigkeiten durch elektrische widerstandsmessung. W. Geyger. *Zeit Ver Deutsch Ing* 77:507-8 My 13 '33
- See also*
- |                       |                       |
|-----------------------|-----------------------|
| Dielectric constants  | Insulation (electric) |
| Electric conductivity | Ohmmeters             |
- ELECTRIC resistors**
- Light-weight unbreakable resistors for railway service. R. O. Eaton. *il Gen Elec R* 36:153-5 Mr '33
- Resistor for high-voltage measurements. G. W. Bowdler. *diag Inst E E J* 73:65-8 Jl '33
- Resistors for voltmeter, ammeter and ohmmeter circuits. Z. Bouck. *il diags Radio N* 14:554-5 Mr '33
- Standard of phase angle. C. W. LaPierre and A. R. Hand. *il diags Gen Elec R* 36:506-7 N '33
- See also*
- Rheostats
- ELECTRIC service, Rural**
- Advice on rural electrification; abstract. R. M. Charley. *Elec R (Lond)* 112:84 Ja 20 '33
- Creameries the nucleus for rural electrification; abstract. C. R. Stewart. *Elec R (Lond)* 112:157 F 3 '33
- Distribution system of the Ringmer and district electricity supply company. *il Engineering* 136:407-8 O 13 '33; *Engineer* 156:354-5 O 13 '33; *Elec R (Lond)* 113:525-6 O 13 '33; *Electrician* 111:437-8 O 13 '33
- Electrical design of rural lines. E. V. Sayles. *Elec W* 100:860-2 D 24 '32
- Electricity in agriculture; report of the Development commissioners for the year ended March, 1932. *Elec R (Lond)* 111:931 D 23 '32
- L'électrification rurale en France et son développement depuis une dizaine d'années. L. Fèvre. *maps Génie Civil* 102:181-3 F 25 '33
- Farm line construction. M. Eldredge. *il diag Elec W* 102:268-72 Ag 26 '33
- First step-regulator installation applied to rural lines. T. F. Hildebrand. *il diag Elec W* 101:650-3 My 20 '33
- Looking forward in farm wiring. *diags Elec W* 102:88 Jl 15 '33
- Low-cost regulation for rural substations. H. T. Sutcliffe. *il Elec West* 70:4-6 Ja '33
- Low-voltage rural supplies; overcoming difficulties of economical distribution. *diags Elec R (Lond)* 113:148 Ag 4 '33
- Menace of the municipal plant to the farmer. L. O. Whitsell. *Pub Util* 12:439-46 O 12 '33
- Needs of the farmer and the responsibility of supply undertakings; abstracts. H. J. Denham. *Electrician* 110:782-4 Je 16 '33; *Elec R (Lond)* 112:852 Je 16 '33; *Engineering* 136:49 Jl 14 '33; *Discussion. Electrician* 110:784 Je 16 '33; *Elec R (Lond)* 112:904-5 Je 23 '33; *Engineering* 136:49 Jl 14 '33
- Numbering of rural poles possesses many advantages. R. E. Wenk. *diag Elec West* 71: 21 S '33
- Reducing cost of farm lines. E. Ringstad. *Elec W* 101:234-8 F 18 '33; *Discussion. M. J. Kelly. 101:398-9 Mr 25 '33*
- Rural domestic load; an analysis of some actual results. *il Elec R (Lond)* 112:588 Ap 28 '33
- Rural electrification. W. H. Jones. *il Elec R (Lond)* 112:862 Je 16 '33
- Rural electrification developments. *il Elec R (Lond)* 113:378-9 S 22 '33
- Rural electrification in France. T. Rich. *il Elec R (Lond)* 112:931, 933-4 Je 30 '33
- Rural electrification in Great Britain; abstract. J. T. H. Legge. *Elec R (Lond)* 112:634 My 5 '33
- Rural electrification; Overhead lines association discuss papers on the Chesham, Aylesbury and Mid-Cheshire systems. *Electrician* 110:385-6 Mr 24 '33; *Elec R (Lond)* 112:379-80, 418 Mr 17-24 '33
- Rural electrification; planning a 33-kV scheme. F. Gurney. *Elec R (Lond)* 111:808-9 D 2 '32
- Rural installations. T. C. Gilbert. *Electrician* 110:730-2, 792-3, 821-2, 850-1 Je 9-30 '33; *Discussion. H. P. Moss. diag Electrician* 111:317 S 22 '33
- Rural sub-stations; some examples of modern practice. F. Gurney. *il diag Elec R (Lond)* 111:951, 961-2 D 30 '32
- Switch operation records pay their keep. *il Elec W* 100:815 D 17 '32
- Switchgear for rural electrification; abstract and discussion. G. H. Dean. *Electrician* 110: 139 Ja 27 '33
- Tapping high-voltage lines. V. Z. de Ferranti. *il diags Elec R (Lond)* 112:859-60 Je 16 '33
- Les tarifications dans les réseaux électriques ruraux. *Génie Civil* 102:20-1 Ja 7 '33
- Unsymmetrical regulation works well with rural feeders. H. B. Phelps. *diags Elec W* 101:802-4 Je 17 '33
- Voltage drop in rural areas; the case for single-phase distribution. W. A. Turnbull. *il Elec R (Lond)* 112:857-8 Je 16 '33
- See also*
- Electricity on the farm
- Costs**
- Analysis of rural line costs. *Elec W* 100:507-10, 526, 698; 101:71 O 8-15, N 19 '32, Ja 14 '33
- New Hampshire's rural yardstick \$1,281 per mile. *Elec W* 101:649 My 20 '33
- Rural electrification rates and policies; with cost data. B. H. Nichols. *Elec W* 100:819-21 D 17 '32
- Why the regional farm load deserves cultivation. W. T. Ackerman. *Elec W* 100:727-8 N 26 '32
- Finance**
- Rural electrification; results of state aid in France. *Electrician* 110:548 Ap 28 '33
- Rural extension practices. B. H. Nichols. *Elec W* 101:353-5 Mr 18 '33



**ELECTRIC shock.** See Electricity, Injuries from  
**ELECTRIC shops (repair)**  
 Motor shop turns manufacturer. *il Elec West* 70:37 Mr '33  
 What technology does to motor repairing. *Elec West* 70:127-8 Ap '33

See also

Electric railroads—  
 Shops

#### Records

Complete record kept on Lefax sheet. *il Elec West* 70:128 Ap '33

#### ELECTRIC shops (retail trade)

Do you need salesmen—or bully them? *Elec West* 69:235-6 D '32  
 If you need a cheap leader, make it non-electrical. *il Elec West* 69:237 D '32

#### Show windows

Pacific coast electrical bureau's second display making window rounds. *il Elec West* 70:155 My '33

#### ELECTRIC shovels

Electrically operated power shovels at Hoover dam. *il Eng & Contr* 71:267-70 D '32  
 Electricity digs Hoover Dam tunnels. *il Sci Am* 147:330 D '32  
 Marion 18-cu. yd. dipper is counterweighted. *il Iron Age* 130:926 D 15 '32; *Can Eng* 63:24 D 13 '32; *Mech Handling* 20:43 F '33  
 Protection of power-shovel equipment against overheating cuts maintenance costs. J. E. Borland. *il Eng & Min J* 134:250-1 Je '33  
 Ruston-Bucyrus three cubic yard electric navy. Engineer 156:168-9 Ag '33  
 Thermostatic heat control for power-shovel motors. J. E. Borland. *il Eng N* 111:48 J1 13 '33

#### ELECTRIC signals

Automatic pumping stations on the Baltimore water supply system; abstract. L. Small. *Water Works & Sewerage* 80:206 Je '33  
 Electro-matic system of traffic control in Trafalgar square. *diag Engineering* 135:388 Ap 7 '33  
 Remote control and indication. *il diag Elec R (Lond)* 112:560 Ap 21 '33  
 Transmission of numbers in a grain elevator. J. A. Behl. *il Elec J* 30:216-17 My '33  
 Visual signals keep dispatching straight. J. H. Behl. *il Factory Management* 91:325 Ag '33

See also

Electric alarms	Selsyn apparatus
Radio signals	Traffic signals
Railroads—Signals	

#### ELECTRIC signs

Advertising by electric signs; infinite variety of bulb and neon signs. R. H. Hall. *il Electrician* 111:58-60 J1 14 '33  
 Advertising clocks; a novelty on Paddington station and a hoarding unit at Singapore. *il Electrician* 111:458 O 13 '33  
 Biggest electric sign; Bayer sign. *il Fortune* 8:4 Ag '33  
 Make and sell neon signs. G. S. Wells. *il Sheet Metal Worker* 23:487+, 531-2 N-D '32  
 Modern electric signs. C. Higgins. *Electrician* 110:296 Mr 3 '33  
 Neon sign protection; improvements in equipment reducing risk of fire. E. A. Beavis. *il diag Elec R (Lond)* 113:309-10 S 8 '33  
 Neon signs for vans. *Automobile Eng* 23:155 Ap '33  
 Neon signs—patent regulations and sales suggestions. G. S. Wells. *il Sheet Metal Worker* 24:9+ Ja '33  
 New signs in old surroundings. H. Koch. *il Illum Engr* 26:106-7 Ap '33  
 Preparation aids electric sign sales. *Elec W* 102:149 J1 29 '33  
 Rectifier and reactor combinations produce interesting non-linear circuits. *diags Power Pl Eng* 37:219-20 My '33  
 Sign equipment. *il Electrician* 111:60-3 J1 14 '33  
 Sign survey shows basis for revenue recovery. H. H. Webb. *Elec W* 102:346-7 S 9 '33  
 Die technische ausgestaltung der Lichtreklame. W. Kircher. *il diag Zeit Ver Deutsch Ing* 77:639-42 Je 17 '33

Unique signs attract visitors at Century of progress. *Illum Eng Soc Trans* 28:559-60 J1 '33

#### ELECTRIC sparks

Simple and constant spark-source. A. Hol-laender and J. P. Foerst. *il diag R Sci Instr* 4:347-9 Je '33

#### ELECTRIC standards

Material standards of resistance; the B.A. coils, 1881-1932; abstract. R. T. Glazebrook and L. Hartshorn. *Engineering* 134:554 N 11 '32  
 Resistance standards. L. O'Bryan. *il diag Gen Elec R* 36:416-18 S '33  
 Special bench speed tests on rotating standards. G. H. Logan. *il diag Elec West* 71:29 Ag '33  
 Standard of phase angle. C. W. LaPierre and A. R. Hand. *il diags Gen Elec R* 36:506-7 N '33

See also

Standard cells

**ELECTRIC steam generators.** See Boilers—  
 Electric heating

#### ELECTRIC stoves

British National Electrics cooker design. *il Elec R (Lond)* 111:850 D 9 '32  
 British National Electrics cookers. *Electrician* 111:17 J1 7 '33  
 Domestic cooking and heating; impressions of a visit to Castle Bromwich. *il Elec R (Lond)* 112:269-70 F 24 '33  
 Electric cookers; E.D.A. debate. *Electrician* 109:730 D 2 '32; *Elec R (Lond)* 111:811-12 D 2 '32  
 Electric cookers; present trend of design and prospects of increased use. S. F. Bickell. *Electrician* 110:409 Mr 31 '33  
 Electric cookers; progress in 1932. S. F. Bickell. *Electrician* 110:104-5 Ja 27 '33  
 English electric co. cooker construction. *il Elec R (Lond)* 112:708 My 19 '33  
 General Electric ranges; working drawings. *Am Arch* 143:110 J1 '33  
 Moffats, ltd. domestic cooking equipment. *il Elec R (Lond)* 113:11 J1 7 '33  
 Some cooker improvements. *il Elec R (Lond)* 113:118 J1 28 '33  
 Standardisation of electric cookers. *il Elec R (Lond)* 111:776 N 25 '32

See also

Electric cooking  
 Electric heaters  
 Electric ovens

#### Merchandizing

Combination utilities should not suppress electric cooking. G. W. Van Derzee. *N E L A Bul* 19:659-60 N '32  
 Electric range; Northwest electric light and power association committee report. *Elec West* 70:258-60 Je '33  
 Excerpts from West Penn range and wiring policy. *Elec W* 100:752 D 3 '32  
 First five hundred are the hardest. *Elec West* 69:234 D '32  
 Flat price wiring policy for Pacific gas and electric co. *Elec West* 70:101 Mr '33  
 Hartford company leases electric ranges. *Gas Age* 71:318 Mr 25 '33  
 Hartford waives rentals to spur range use. *Elec W* 101:809 Je 24 '33  
 How to sell a cooker. W. Attwood. *Elec R (Lond)* 112:122 Ja 27 '33  
 National electric cookery council holds enthusiastic meeting. *N E L A Bul* 19:754-6 D '32  
 National electric cookery council program. P. S. Arkwright. *Edison Elec Inst Bul* 1:72-3 Je '33  
 Range rental plan launched in Hartford. *Elec W* 101:151 F 4 '33  
 Ranges rented to spur Hartford's range sales. *il Elec W* 101:324-6 Mr 11 '33  
 Rental range sequel; Hartford's plan to sell electric cooking with trial ranges is also selling the more profitable jobs for the dealers. *Business Week* p14 O 21 '33  
 This national sales contest has local managers; Hotpoint using a co-operative plan. *il Ptr Ink* 162:40-2 Mr 9 '33

**ELECTRIC stoves—Merchandizing—Continued**

Trial ranges expedite acceptance of electric cooking. R. D. Cutler. Elec W 102:565-7 O 28 '33

**Repair**

Cooker reconditioning; some details of the Wimbledon scheme. il Elec R (Lond) 113: 45 J1 14 '33

**ELECTRIC substations**

Butterley ironworks sub-station. il Electrician 111:238 Ag 25 '33

Design equipment and operation of static sub-stations; abstracts. E. Seddon and J. Eccles. il Electrician 110:764-70 Je 16 '33; Elec R (Lond) 112:848-9 Je 16 '33; Engineer 155:618-19 Je 23 '33; Engineering 136:24-5 J1 7 '33; Discussion. Electrician 110:770 Je 16 '33; Engineer 155:619 Je 23 '33; Engineering 136:25 J1 7 '33

Electricity in town and country; area supplied by the Metropolitan electric supply co. Ltd. il Elec R (Lond) 112:587, 589-90 Ap 28 '33

Electrification of the suburban and certain main-line sections of the Great Indian Peninsula railway. F. Lydall. diags Inst E E J 71:925-9; Discussion. 951-7 D '32

Higher distribution circuit capacities is the trend. S. H. Farace. Elec W 102:572-3 O 28 '33

Isolated-phase substations used in Paris area. J. de Chambure. il diags Elec W 101:581 My 6 '33

Pertinent facts in primary distribution economics. D. K. Blake. Elec W 101:508-12 Ap 22 '33

Power supply for Pennsylvania electrification. il Ry Age 94:291-3 F 25 '33

Rural sub-stations; some examples of modern practice. F. Gurney. il diag Elec R (Lond) 111:951, 961-2 D 30 '32

Starting a motor-generator substation after plant shut-down. S. Ein. diag Elec W 102: 505-6 O 14 '33

Surge investigations on lines and substations. J. J. Torok and W. R. Ellis. il diags Elec J 30:290-2+ J1 '33

Transmissions, substations and catenary system; Pennsylvania railroad electrified system. il Ry Age 94:284-9 F 25 '33

Le transport d'énergie à 220 000 volts du Massif central à Paris; l'alimentation électrique du chemin de fer d'Orléans. J. Du-mas. il diags map Génie Civil 101:569-75 D 10 '32

Visite à la sous-station de Saint-Pierre-D'Albigny de la Cie P.-L.-M. J. F. Audouin and A. L. Racapé. Soc Ing Civils Bul 85: 1035-8 S '32

**See also**

Electric converters,	Electric transformers
Synchronous	Electric transmission
Electric distribution	

**Architecture**

Sixteenth-century sub-station at Clymping, Sussex. il Elec R (Lond) 113:187 Ag 11 '33

**Costs**

Cost of installing four breakers and related bushing pots. Elec W 101:230 F 18 '33

**Design**

Buried cable simplifies rural substation design. L. M. Grow. il diags Elec W 101:426 Ap 1 '33

In-and-out substation. il Elec W 101:238 F 18 '33

Remote-control loop substation reduces investment; Algonquin substation of the Louisville gas & electric company. R. M. Stanley. il diags Elec W 101:454-6 Ap 8 '33

**Equipment**

Asbestos lumber replaces concrete in bus structure. O. J. Rotty. il Elec W 100:759 D 3 '32

Building a new power system; Indianapolis power and light company. F. S. Douglass and A. C. Monteith. il diags Elec J 30:55-9 F '33

Distribution in Paris; new underground sub-stations of the C.P.D.E. C. J. O. Garrard. il diags plan Electrician 110:733-5 Je 9 '33

Electric system and generator practice. il Power Pl Eng 36:39 Ja '33

Glass bulb rectifiers on L.M.S. railway. il diags Engineer 156:97-8 J1 28 '33

Grid controlled mercury arc rectifiers for East Africa substation. il Engineer 156:194 Ag 25 '33; Elec R (Lond) 113:256 Ag 25 '33; Electrician 111:283-4 S 8 '33

Low-cost regulation for rural substations. H. T. Sutcliffe. il Elec West 70:4-6 Ja '33

Molded coating halts oil pipe corrosion; Somatic asphalt mixture. A. J. Swank. il Elec W 101:134-6 Ja 28 '33

Novel switching arrangements in London substation. il diag Elec R (Lond) 112:556 Ap 21 '33

Phanotron rectifier for power and lighting service. P. M. Currier and C. F. Whitney. il diag Gen Elec R 36:312-14 J1 '33

Piping systems for oil-filled equipment. W. B. Morton and B. Payne. il diags Elec W 101: 552-4 Ap 29 '33

Reyrolle and company 132-kv. metal-clad switchgear. il diags Engineering 136:358-9 S 29 '33

Sectional mercury arc rectifier proves satisfactory; Cedar Manor substation of Long Island railroad. J. H. Cox. il Transit J 77: 213-14 J1 '33

66-kv. outdoor metal-clad switchgear for Bankside substation, London. il diags Engineering 136:109-11 Ag 4 '33

Switchgear; successful C.E.B. substation innovations. C. C. Garrard. il Electrician 110: 98-9 Ja 27 '33

33-kv. oil-filled metal-clad switchgear for Swansea. il diag Engineering 136:193 Ag 25 '33

Three-winding, zigzag connection saves space; municipal system of Glendale, Calif. H. L. Sampson. diag Elec W 101:649 My 20 '33

2,400-volt regulators control 12.5-kv. bus voltage. C. E. Schnell. il diag Elec W 101:283-9 Mr 4 '33

Wayne Junction frequency changer foundations. J. S. Sholl. N E L A Bul 19:682+ N '32

**Fires and fire protection**

Fire protection modernized. E. B. Shew. il diag Elec W 102:220-2 Ag 12 '33

**Inspection**

Substation inspection schedule. J. G. Latta. Elec W 100:886 D 31 '32

**Lighting**

Barton sub-station; good example of flood-lighting at premier link in N.W. England scheme. il Electrician 110:137 Ja 27 '33

**Remote control**

Guarding remote control against ground faults. G. H. Landis and H. A. McLaughlin. il diags Elec W 101:76-8 Ja 14 '33

High-speed circuit breakers; their application to remote-controlled traction substations. H. C. Harris. diags Elec R (Lond) 112:516 Ap 14 '33

Panama canal uses supervisory power-system control. Power 77:571 N '33

Remote control and indication. il diag Elec R (Lond) 112:560 Ap 21 '33

Remote-control loop substation reduces investment; Algonquin substation of the Louisville gas & electric company. R. M. Stanley. il diags Elec W 101:454-6 Ap 8 '33

Remotely controlled rectifier sub-station at Lynton Road, North Acton. il Elec R (Lond) 112:240 F 17 '33

**Safety devices and measures**

Insulated stool preferable for safety on switch operation. W. B. Morton. diags Elec W 101: 206 F 11 '33

**Supervisory control**

Supervisory control at the Panama canal. C. C. Lehman. il map Elec J 30:371-5 S '33

Supervisory control for 220-kv. station. il Elec West 69:228-30 D '32



**ELECTRIC substations, Automatic**

Experience with rectifiers on Piedmont North-  
ern. W. T. Gill and H. A. Rose. il diag  
plan Elec W 100:784-7 D 10 '32

Extreme operating range for automatic bat-  
tery charging. E. A. Wyatt and R. C.  
Samuels. diag Elec W 101:428 Ap 1 '33

Ilford electricity; inauguration of a further  
automatic substation and remote control  
gear. il Electrician 109:618 N 11 '32

Improved power supply betters street railway  
service. J. A. Noertker. il Elec Eng 52:22-8  
Ja '33

Mercury rectifiers vs. rotary converters. O.  
M. Ward. plans Elec Eng 52:194-6 Mr '33

**ELECTRIC substations, Outdoor**

Buried cable simplifies rural substation de-  
sign. L. M. Grow. il diags Elec W 101:426  
Ap 1 '33

East Springfield substation. L. R. Hicks. il  
diags Elec W 102:124-6 Jl 22 '33

Ferguson, Pailin new switching kiosk. il En-  
gineer 155:201-2 F 24 '33; Engineering 135:  
234 F 24 '33; Electrician 110:203 F 10 '33

Outdoor substation shows economy. E. M.  
Scott. il diag Elec W 101:265 F 25 '33

66-kv. outdoor metal-clad switchgear for  
Bankside substation, London. il diags En-  
gineering 136:109-11 Ag 4 '33

Tubular busbars; their deflection character-  
istics when applied to outdoor substations.  
A. M. Spruce. il Elec R (Lond) 112:484 Ap 7  
'33

**ELECTRIC substations, Portable**

Serving construction loads; portable electric  
substation. A. K. Walton. il diag Elec J  
30:123-5 Mr '33

**ELECTRIC switches**

Allen-Bradley automatic, across-the-line  
switch. il Power Pl Eng 37:491 N '33

Building commercial load with a time switch.  
H. H. Webb. il Elec W 101:224 F 18 '33

Circuit-interruption primer. W. M. Leeds  
and T. E. Browne, jr. il Elec J 30:106-7,  
156-9 [bibliog p159] Mr-Apr '33

Control and instrument switches. H. J. Crabbs.  
il Elec J 30:62-5 F '33

Control panel for an oscillograph laboratory.  
R. T. Penoyer and S. O. Evans. il diags  
Gen Elec R 36:389-93 S '33

Developments in the electrical industry during  
1932; switchgear. J. Liston. il Gen Elec R  
36:54-63 Ja '33

Disappearing switches that sell a quality job.  
il Elec West 70:14-15 Ja '33

Druckgasschalter mit ringdüse. P. Heilmann.  
il diags Zeit Ver Deutsch Ing 77:792-3  
Jl 22 '33

Elements of switchgear design. F. Kessel-  
ring. 182p Pitman '32

Extended range of service cut-outs—time  
switches for staircase lighting. il Electrician  
109:346 D 30 '32

Extension of metal-clad units and flexible bus  
support features of 1932 switchgear. il Elec  
J 30:10 Ja '33

Ferguson, Pailin new ring-main unit. il Elec  
R (Lond) 113:320 S 8 '33; Electrician 111:  
325 S 15 '33; Engineer 156:240 S 8 '33; En-  
gineering 136:426 O 13 '33

Flexibly constructed overhead-line switches.  
il Elec R (Lond) 113:589 O 27 '33

Inexpensive by-pass facilitates outdoor switch  
inspection. W. L. Garlington. il Elec W 101:  
804 Je 17 '33

Insulated stool preferable for safety on switch  
operation. W. B. Morton. diags Elec W 101:  
206 F 11 '33

Mercury switch production. il Elec R (Lond)  
113:385 S 22 '33

Mercury switches. il Elec R (Lond) 113:217  
Ag 18 '33

Die neueste entwicklung des ölschalters. J.  
Biermanns. il diags Zeit Ver Deutsch Ing  
77:673-8 Je 24 '33

Oil switch-fuse developments; rotary equip-  
ment for 33 kV, and a special spring-loaded  
element. il diags Elec R (Lond) 111:740 N  
18 '32

On again, off again, with electric time  
switches. C. Heyel. il Factory Management  
91:400-1 O '33

On-load tap-changing; the mercury switch  
regulating transformer. E. T. Norris. il diag  
Electrician 110:790-1-4 Je 16 '33

Problems and economies of rebuilt oil switch-  
es. R. E. Rowley, jr. Elec West 69:231-3 D  
'32

Protective interlocking schemes used on Phil-  
adelphia system. C. S. Schifreen. il Elec W  
100:792-5 D 10 '32

Pull-down switch-fuse of Switchgear and  
equipment ltd. il Electrician 110:628-9 My  
12 '33

Quick-heat hot-plate switch. Elec R (Lond)  
113:343 S 15 '33

Reyrolle and company 132-kv. metal-clad  
switchgear. il diags Engineering 136:358-9  
S 29 '33

Reyrolle gate-end box. il diags Engineering  
135:248-9 Mr 3 '33

Sectionalizing switches automatically main-  
tain service. H. L. Sampson. diag Elec W  
101:545 Ap 29 '33

Short circuit opens knife switch. S. Ein. diag  
Elec W 101:233 F 18 '33

Simplified control for a-c locomotives. W. A.  
Giger. il diags Elec Eng 52:613-16 S '33

66-kv. outdoor metal-clad switchgear for  
Bankside substation, London. il diags En-  
gineering 136:109-11 Ag 4 '33

Substantial electrical installations reduce  
maintenance costs. M. Phillips. il diags  
Power 77:244-5 My '33

Switchgear & Cowans internal isolation  
switchgear. il Elec R (Lond) 112:116 Ja 27  
'33; Electrician 110:20 Ja 6 '33

Switchgear for rural electrification; abstract  
and discussion. G. H. Dean. Electrician 110:  
139 Ja 27 '33

Switchgear; successful C.E.B. substation in-  
novations. C. C. Garrard. il Electrician 110:  
98-9 Ja 27 '33

Systematized safety interlocks for basic sta-  
tion diagrams. M. M. Samuels. Elec W 102:  
379-81 S 16 '33

Tir John power station; 33 kV metalclad oil-  
filled switchgear. il diag Electrician 110:676  
My 26 '33; Elec R (Lond) 112:703 My 19 '33

Die verwendung von druckluft in elektris-  
chen schaltanlagen. I. Sihler. il diags Zeit  
Ver Deutsch Ing 77:1121-2 O 14 '33

Wax-operated switches. A. G. Bullen. Elec  
R (Lond) 112:152-3 F 3 '33; Abstract. Elec  
W 101:217 F 18 '33

**See also**

Electric circuit break- Electric fuses  
ers Electric motors—  
Electric contactors Control  
Electric control Switchboards

**Manufacture**

Making of large switches. il Elec R (Lond)  
112:343 Mr 10 '33

Points in switchgear production; making parts  
for stock. il Elec R (Lond) 112:776 Je 2 '33

Time-switch and meter works; Vanner time  
switches, ltd. il Elec R (Lond) 111:707 N  
11 '32

Time-switch manufacture. il Elec R (Lond)  
112:630 My 5 '33

**Protection**

Ironclad switch and fuse gear. il Elec R  
(Lond) 113:281 S 1 '33

Metal-clad switchgear, automatic protection,  
and remote control; discussion. Inst E E J  
73:88-91 Jl '33

Metal-clad switchgear offers plant economies.  
M. H. Hobbs. il diags Elec J 30:60-1 F '33

Use of metal enclosed switchgear in paper mill  
electrification. M. H. Hobbs. bibliog il diags  
Paper Tr J 96:37-42 Mr 16 '33

**ELECTRIC tea kettles.** See Tea kettles, Elec-  
tric

**ELECTRIC testing**

Better standards needed for surge testing. F.  
D. Fielder. Elec W 102:433-5 S 30 '33

Calculating surge-generator waves. P. H.  
McAuley and F. R. Benedict. il Elec J  
30:326-8 Ag '33

Compact portable 300-kv. testing set. il diags  
Elec W 102:624 N 11 '33

**ELECTRIC testing—Continued**

- Compensated divider needed for time surge measurement. C. M. Foust. *il diag Elec W* 101:70-1 Ja 14 '33
- Drop test. C. Sylvester. *diags Elec J* 30:390-1 S '33
- Energy loss of iron; its influence on the design of electrical induction machinery. B. R. Isaacs. *Electrician* 109:679-81 N 25 '32
- Equipment and methods employed at the National physical laboratory for the testing of alternating-current instruments. R. S. J. Spilbury. *bibliog diags Inst E E J* 72:30-6 Ja '33
- Experimental electrical engineering and manual for electrical testing. V. Karapetoff and B. C. Dennison. 4th ed 78ip \$6 Wiley '33
- Fault location in a.c. networks. A. Bied. *diags Elec R (Lond)* 112:160 F 3 '33
- High voltage testing. *diags Electrician* 110:801, 829, 860; 111:13 Je 16-Jl 7 '33
- Insulation co-ordination and impulse testing; abstracts of papers at A.I.E.E. meeting. *Elec W* 101:56-8 F 4 '33
- Large high-voltage testing installation; Brown Boveri co. at Baden, Switzerland. *il Elec R (Lond)* 112:555 Ap 21 '33
- Low voltage switchgear testing transformer. *il Engineer* 155:508-9 My 19 '33; *Elec R (Lond)* 112:668 My 12 '33
- Meter detects potential weakness in control wiring. A. P. Sessions. *il diag Elec W* 100:765-6 D 3 '32
- Les nouvelles installations à 3 millions de volts, du Laboratoire Ampère de la Compagnie générale d'électroceramique, à Ivry-Port, près Paris. J. Dumas. *il diags Génie Civil* 103:12-15 Jl 1 '33
- Phase rotation; the theory of the Varley test. G. W. Stubbings. *Electrician* 111:502-3 O 27 '33
- Portable test board, an aid in electrical trouble shooting. J. A. Fitzgerald. *il diags Bus Transportation* 11:507 D '32
- Practical investigation into the design of brushes and brush holders. P. Hunter-Brown and C. J. Hews. *diags Inst E E J* 71:799-818 N '32
- Recommendations for impulse voltage testing. *il Elec Eng* 52:17-22 Ja '33
- Resistance to earth of grid towers. *diag Elec R (Lond)* 112:118 Ja 27 '33
- Reyrolle short-circuit testing station. *il plans Engineering* 136:432-4, pl 15 O 20 '33
- Special bench speed tests on rotating standards. G. H. Logan. *il diag Elec West* 71:29 Ag '33
- Technique of surge testing. F. D. Fielder. *il Elec J* 30:73-6 F '33
- Testing a power system; Indianapolis 132-kv system. A. W. Hill; P. O. Langguth and R. M. Smith. *il diags Elec J* 30:90, 95-102 Mr '33
- Use of the motion camera for testing electrical apparatus. W. Wilson. *Engineering* 136:381-2, pl 12-13 O 6 '33; *Abstracts, Engineer* 156:255-6 S 15 '33; *Elec R (Lond)* 113:349 S 15 '33; *Electrician* 111:313 S 15 '33
- Works of Messrs C. A. Parsons and company, limited. *il diags Engineering* 134:728-32, 740 D 23 '32
- See also*  
 Dynamometer      Electric measure-  
   Electric instruments      ments  
   Electric laboratories      Electric resistance  
   Ohmmeters  
*also* subdivision Testing under special headings, e.g. Electric cables; Electric lines; Electric motors; Electric transformers; Electric welding; Insulation (electric)
- ELECTRIC testing of metals**  
 Measuring sharpness of razor blade edges. P. N. Peters. *il diags Metal Prog* 24:18-22 N '33
- Rail flaw detector greatly improved in five years; detector car. *il Ry Age* 95:655-8 N 4 '33
- ELECTRIC tools, Portable**  
 American Bosch electric screwdriver and die-grinder. *il Mach* 39:611 My '33

- Bigger and better orders trail showings of new Black & Decker film; portable electric hammers and saws. R. Black. *Sales Management* 32:325+ Ap 1 '33
- Constant-current portable tools. J. F. Romer. *diag Elec R (Lond)* 113:589 O 27 '33
- Electric etching tool. L. Kasper. *diag Am Mach* 77:477-8 Jl 19 '33
- Electric tools. *il Engineer* 154:597 D 9 '32
- Impressing a sales story on 500 jobbing organizations; a talking motion picture, Black & Decker mfg. co. R. D. Black. *Ptr Ink Mo* 26:27+ My '33
- Portable tool production; Rotax, Ltd. *il Elec R (Lond)* 113:153 Ag 4 '33
- ELECTRIC traction**  
 Developments in the electrical industry during 1932; electric transportation. J. Liston. *il Gen Elec R* 36:17-20 Ja '33
- Electric traction; a review of progress. F. Lydall. *Inst E E J* 72:124-31 F '33
- Electrical engineering in 1932. *il Engineer* 155:11-12 Ja 6 '33
- La traction électrique au Congrès international de l'électricité (1932). L. Barbillion and L. Guerrier. *Génie Civil* 102:83-5 Ja 28 '33
- See also*  
 Canals—Electric traction  
   Electric bus lines  
   Electric locomotives  
   Electric railroads  
   Electric tractors  
   Electric trucks  
 Motor cars (railroad)  
   —Oil-electric  
   Railroads—Electri-  
   fication  
   Street railroads  
   Subways  
   Trolley buses
- ELECTRIC tractors**  
 Practicability of land tillage by means of electric power; abstract. A. McDowall. *il Elec R (Lond)* 111:926 D 23 '32
- ELECTRIC transformers**  
 Adjusting secondary metering to include high-side losses. W. C. Wagner and G. B. Schleicher. *Elec W* 101:260-3 F 25 '33
- Compensation of open-delta regulators. C. F. Wagner. *diags Elec J* 30:151-2+ Ap '33
- Developments in the electrical industry during 1932; transformers. J. Liston. *il Gen Elec R* 36:48-50 Ja '33
- Direct current bushing transformer. A. S. Fitzgerald. *il diags J Fr Inst* 214:709-33 D '32
- Electrical plant and machinery; a review of progress. J. H. Williams. *Inst E E J* 72:113-16 F '33
- Electrical transformer theory. S. G. Moak. 140p \$1.50 Pitman '33
- Equivalent circuit for the four-winding transformer. F. M. Starr. *diags Gen Elec R* 36:150-2 Mr '33
- Ferranti power station transformers. *il Engineer* 154:648 D 23 '32
- Furnace transformers. S. S. Cook. *il diags Elec J* 30:359-61 S '33
- Harmonics in transformer circuits. E. Ambrose. *Electrician* 111:505 O 27 '33
- High voltage testing. *diags Electrician* 110:829 Je 23 '33
- Large-current furnace transformers. *Elec R (Lond)* 113:281 S 1 '33
- Large transformers for Barking. *il Engineer* 155:484 My 12 '33; *Electrician* 110:643-4 My 19 '33
- Low voltage switchgear testing transformer. *il Engineer* 155:508-9 My 19 '33; *Elec R (Lond)* 112:668 My 12 '33
- Luminous discharge tube transformers. T. A. Long. *Elec R (Lond)* 113:247-8 Ag 25 '33
- Metropolitan-Vickers synchronous condenser and transformers. *il diag Engineer* 154:595-6 D 9 '32; *Engineering* 134:680-1 D 9 '32
- Neutralizing transformers for the reduction of induced voltages of fundamental frequency. Edison *Elec Inst Bul* 1:10-11+ Ap '33
- New arc welding transformer. *il diag Engineer* 155:599 Je 16 '33
- Noise in power transformers. E. T. Norris. *il Engineer* 155:446-8, 452 My 5 '33



**ELECTRIC transformers—Continued**

- 100,000-kv.-a. three-phase regulating transformer for phase-angle control; State Line station of the Chicago district electric generating corporation. J. E. Kearns. *il* diags Gen Elec R 36:398-9 S '33
- Paris h.t. congress; h.t. transformer tests. Electrician 111:7-8 JI 7 '33
- Power transformers; progress in 1932. E. T. Norris. *il* Electrician 110:96 Ja 27 '33
- Pyranol affords far smaller secondary network units. H. R. Turner and W. T. McLachlan. *il* diag Elec W 101:726-7 Je 3 '33
- Relaxation inverter and d.c. transformer. H. J. Reich. diags R Sci Instr 4:147-52 Mr '33
- Small transformers solve big problems. M. O. Marsh. *il* diags Maintenance Eng 91:37-9 F '33
- Standardizing transformer handling. New England power association system. Elec W 102:632-3 N 11 '33
- Stop no-load transformer losses. R. Stropel. Factory Management 91:355-6 S '33
- Stromerzeugung bei 36 000 V. R. H. Parsons. Zeit Ver Deutsch Ing 77:953-4 S 2 '33
- Subdivided conductors in shell-type transformers. R. L. Brown. diags Elec J 30:119-20 Mr '33
- Terminal chambers for power transformers. F. L. Snyder. *il* Elec J 30:70-2 F '33
- Transformer and rectifier developments. *il* Elec R (Lond) 112:7 Ja 6 '33
- Transformer selection for loss reduction. Elec W 101:638 My 20 '33
- Transformers and frequency changes. D. W. McJannet. Elec R (Lond) 111:702 N 11 '32
- Transformers and rectifiers. T. Rich. Electrician 109:811 D 23 '32
- Transformers for the Ryburg-Schwörstadt hydro-electric power station. *il* diag Engineering 134:772-4 D 30 '32
- Transformers grow in size and self-protecting ability. *il* Elec J 30:6-7 Ja '33
- 2,400-volt regulators control 12.5-kv. bus voltage. C. E. Schnell. *il* diag Elec W 101:288-9 Mr 4 '33

**See also**

- |                       |                    |
|-----------------------|--------------------|
| Electric rectifiers   | Oil. Transformer   |
| Electric substations  | Radio transformers |
| Electric transmission | Tesla coils        |

**Autotransformers**

- Low-cost regulation for rural substations. H. T. Sutcliffe. *il* Elec West 70:4-6 Ja '33

**Connections**

- Clamp connections give flexibility to transformer structure. L. M. Grow. diags Elec W 102:244 Ag 19 '33
- Current transformers; methods of interconnection in three-phase circuits. G. W. Stubbings. diags Elec R (Lond) 113:278 S 1 '33
- Three-winding, zigzag connection saves space; municipal system of Glendale, Calif. H. L. Sampson. *il* diag Elec W 101:649 My 20 '33

**Cooling**

- Air cooling of transformers. *il* Engineer 155: 218-19 Mr 3 '33
- Heat dissipation from network manholes. L. A. Nettleton. diags Elec W 102:369-72 S 16 '33
- Ventilation of transformer manholes and vaults. W. T. Rose. Elec W 102:529-30 O 21 '33

**Design**

- Adjustable-ratio transformer aids relay testing. J. W. Lingary. *il* diag Elec W 102: 406-7 S 23 '33
- Air-gap transformer and choke. F. W. Lancaster. Inst E E J 73:413-18 O '33

**Fires and fire protection**

- Extinguishing internal transformer fires. G. S. Diehl and W. T. Crook, jr. Elec W 102: 184 Ag 5 '33
- Selects water for fighting outdoor transformer fires. *il* diag Elec W 102:110-11 JI 22 '33

**Grounding**

- Method of solid earthing. C. E. Stewart. *il* Elec R (Lond) 112:82 Ja 20 '33

**Installation**

- Cost of installing four breakers and related bushing pots. Elec W 101:230 F 18 '33
- Pole platform for transformers. diags Elec W 102:531 O 21 '33
- Simplifying the use of polarity marks. G. F. Sargent and C. H. M. White. diags Elec W 101:263-4 F 25 '33

**Losses**

- Transformer efficiency. S. A. Stigant. chart Electrician 110:794-5 Je 16 '33
- Transformer efficiency; the most suitable relationship between iron and copper losses. E. V. Clark. *il* Elec R (Lond) 113:417-18 S 29 '33
- Transformers in open delta. V. E. Johnson. Power Pl Eng 37:353 Ag '33

**Manufacture**

- Transformer making. *il* Electrician 111:56-7 JI 14 '33

**Parallel operation**

- Parallel operation of single phase transformers. E. W. Johnston. Power Pl Eng 37:476-7 N '33
- Transformers in parallel; division of load—vector method of solution. Electrician 111: 448 O 13 '33

**Protection**

- Effect of transient voltage protective devices on stresses in power transformers; abstract. K. K. Palueff and J. H. Hagenguth. Elec Eng 52:418 Je '33
- Lightning experience with new transformer connection. T. H. Haines and C. A. Corney. *il* diag Elec Eng 52:229-32 Ap '33; Abstract. Elec W 100:841 D 24 '32
- Lightning protection of distribution systems and transformers (2300-4000 to 115/230 volts). C. S. Sprague and C. F. Harding. *il* diags Purdue Univ Eng Exp Sta Research Bul 42:1-87 '32
- Lightning protection of distribution transformers. J. M. Flanigen. *il* diags Elec W 101:290-4 Mr 4 '33
- New high-voltage transformer fuse. *il* diag Elec R (Lond) 112:46 Ja 13 '33
- Series dissipators for lightning protection. W. R. Spittal. *il* diags Elec W 102:76-9 JI 15 '33
- Shunt or insulate transformers? Elec W 101: 203 F 11 '33; Discussion. 101:302-3, 526 Mr 4, Ap 22 '33

**Repair**

- Flow-coating in transformer maintenance. H. Chase. *il* Factory Management 91:285-6 JI '33
- Transformer repairs; methods of cheapening costs. M. D. Simmons. Electrician 111:337-8 S 22 '33

**Tables, calculations, etc.**

- Air-gap transformer and choke. F. W. Lancaster. Inst E E J 73:413-18 O '33
- New theorem for active networks. A. T. Starr. diags Inst E E J 73:303-8 S '33
- Transformer efficiency. S. A. Stigant. chart Electrician 110:794-5 Je 16 '33
- Transformers in parallel; division of load—vector method of solution. Electrician 111: 448 O 13 '33

**Tap changing**

- Crompton Parkinson on-load transformer tap changing gear. *il* diags Engineer 154:535-6 N 25 '32
- Crompton-Weaving tap-changing equipment for transformers. *il* diags Engineering 136: 166-7 Ag 18 '33
- Hackbridge on-load tap changing gear. *il* diag Electrician 111:125 JI 28 '33; Elec R (Lond) 113:212 Ag 18 '33; Engineer 156:143 Ag 11 '33
- Internal arcs impossible with new tap-changing sequence. F. L. Snyder. Elec W 101: 396 Mr 25 '33
- Low-cost regulation for rural substations. H. T. Sutcliffe. *il* Elec West 70:4-6 Ja '33
- On-load tap-changing; the mercury switch regulating transformer. E. T. Norris. *il* diag Electrician 110:790-1+ Je 16 '33

**ELECTRIC transformers**—Tap changing—*Cont.*  
Regulating transformers; recent improvements in on-load tap changing control gear. *il Electrician* 116:248 F 24 '33  
Simplified control for a-c locomotives. W. A. Giger. *il diags Elec Eng* 52:613-16 S '33  
Transformer tap-changing. *diags Electrician* 110:299, 331, 360 Mr 3-17 '33

#### Temperature

Metallic transformer paints cut capacity in winter. E. A. Church. *Elec W* 102:188-9 Ag 5 '33

#### Testing

Approximate current transformer tests. *Elec R (Lond)* 113:154 Ag 4 '33  
Current transformer testing. A. G. Powell. *diags Elec R (Lond)* 113:448 O 6 '33  
Effect of excitation on surge stresses. F. J. Vogel. *Elec J* 30:293-4 Jl '33  
Equipment for testing current transformers. F. B. Silsbee and others. *pls diags U S Bur Stand J Research* 11:93-122 Jl '33  
Excitation test of large transformers a problem. L. M. Willson. *Elec W* 101:269 F 25 '33  
Impulse testing of commercial transformers. F. J. Vogel and V. M. Montsinger. *Elec Eng* 52:9-11 Ja '33  
Impulse tests on distribution transformers. C. F. Harding and C. S. Sprague. *il diags Elec Eng* 52:678-82 O '33  
Metallic transformer paints cut capacity in winter. E. A. Church. *Elec W* 102:188-9 Ag 5 '33  
Reducing current transformer burdens in calibration. G. W. Stubbings. *diag Elec W* 101:575 My 6 '33  
Simplified method of applying instrument transformer correction factors to wattmeter readings. C. O. Werres. *Gen Elec R* 36:462-3 O '33  
Surge-testing potential transformers. W. M. Dann. *il Elec J* 30:145-6+ Ap '33  
Testing current transformers; new null method. G. W. Stubbings. *diags Elec R (Lond)* 112:480-1 Ap 7 '33  
Testing transformer loads on primary side. J. B. Coltharp and R. O. Hopkins. *il Elec W* 101:589-90 My 6 '33  
Transformer insulation tests. L. Wetherill. *bibliog Gen Elec R* 35:649-53 D '32

#### Transportation

All-welded cars for transporting transformers. O. M. Bloch. *il Ry Age* 94:36-8 Ja 14 '33  
Unique welded-truss rail car developed to haul heavy transformers. *il Eng N* 110:690 My 25 '33

#### ELECTRIC transient phenomena

Cable charging; underlying principles. F. G. W. Tree. *Elec R (Lond)* 112:188 F 10 '33  
Calculating surge-generator waves. P. H. McAuley and F. R. Benedict. *il diags Elec J* 30:326-8 Ag '33  
Effect of excitation on surge stresses. F. J. Vogel. *Elec J* 30:293-4 Jl '33  
Impulse and dynamic flashover studies of 26-kv wood pole transmission construction. A. S. Brookes, R. N. Southgate and E. R. Whitehead. *diags Elec Eng* 52:89-95 F '33  
Impulse tests on wood line-materials. J. J. Torok and W. R. Ellis. *diags Elec J* 30:347-52 Ag '33  
Lightning transients; measurement by cathode-ray oscillograph. J. L. Miller. *il Electrician* 109:805-7 D 23 '32  
Mutual induction between power and telephone lines under transient conditions. W. G. Radley and H. J. Josephs. *bibliog Inst E E J* 72:259-64 Mr '33  
Sheath grounds affect traveling waves in cables. E. Beck. *il diag Elec Eng* 52:238-9 Ap '33  
Surge investigations on lines and substations. J. J. Torok and W. R. Ellis. *il diags Elec J* 30:290-2+ Jl '33  
Surge protection for rotating machines. J. F. Calvert, A. C. Monteith and E. Beck. *il diags Elec J* 30:91-4+ Mr '33  
Technique of surge testing. F. D. Fielder. *il Elec J* 30:73-6 F '33

Technique of the high-speed cathode-ray oscillograph. F. P. Burch and R. V. Whelpton. *bibliog il diags Inst E E J* 71:380-8 Ag '32; *Abstract. Elec R (Lond)* 111:816 D 2 '32; *Discussion. Inst E E J* 71:832-4; 72:353-7 N '32, Ap '33  
Theory of transients; computation of transient currents in salient pole alternators with dampers. W. H. Ingram. *Electrician* 110:615-16 My 12 '33  
Traveling wave voltages in cables. H. G. Brinton, F. H. Buller and W. J. Rudge, jr. *bibliog Elec Eng* 52:559-64 Ag '33

#### See also

Electric protective apparatus  
Lightning

#### ELECTRIC transmission

Earth phase; an experiment recently carried out on one of the 35-kV lines of the Lenin-grad electric system. *diag Elec R (Lond)* 112:7 Ja 6 '33; *Elec W* 101:89 Ja 21 '33  
Egyptian scheme; transmission equipment for electrical irrigation. *il Elec R (Lond)* 111:921 D 23 '32  
Electrical design of rural lines. E. V. Sayles. *Elec W* 100:860-2 D 24 '32  
Operating aspects of reactive power. J. A. Johnson. *diags Elec Eng* 52:262-8 Ap '33  
Power transmission and distribution, 1932-33. *Elec Eng* 52:746-7 N '33  
Recent practice in long distance h.v. transmission; abstract. G. Belfils and F. Cahen. *Electrician* 111:51 Jl 14 '33  
Safe Harbor energy as used in Baltimore. A. S. Loizeaux. *il diags Elec Eng* 52:564-9 Ag '33  
Super-tension d.c. transmission. H. Rissik. *Engineer* 155:430-1 Ap 28 '33  
Synchronous condenser; transmission line voltage control. *diags Electrician* 109:842 D 30 '32  
System of thermionic converters for the transmission of energy by continuous current; abstract. M. Simikov. *Electrician* 111:172 Ag 11 '33  
Transmission system regulation requires local load capacity; Iowa public service company. M. W. Parr. *diag Elec W* 100:757-8 D 3 '32  
Le transport d'énergie à 220 000 volts du Massif central à Paris; l'alimentation électrique du chemin de fer d'Orléans. J. Dumas. *il diags map Génie Civil* 101:569-75 D 10 '32  
Traveling waves on transmission systems. L. V. Bewley. 334p \$4.50 Wiley '33  
Will direct current serve for future transmission? C. W. Stone. *Elec W* 101:247 F 25 '33

#### See also

Corona (electricity)      Electric lines  
Electric cables      Voltage regulation  
Electric distribution

#### Tables, calculations, etc.

Power limit of a transmission system. W. S. Peterson. *diag Elec Eng* 52:569-72 Ag '33  
Power limits of 220-kv transmission lines; transmission of power from Boulder dam to the system of the Northern California Edison company. A. A. Kroneberg and M. Macferran. *bibliog diags Elec Eng* 52:758-66 N '33  
Solution of the two-machine stability problem. H. L. Byrd and S. R. Pritchard, jr. *diags Gen Elec R* 36:81-93 F '33

#### ELECTRIC trucks

#### See also

Trolley trucks

#### Taxation

Taxation of road vehicles; unfairness of the Salter report proposals to battery-electrics; effect on street cleansing services. *Electrician* 109:612 N 11 '32

#### ELECTRIC trucks, Industrial

Crescent one-ton truck for small plants. *il Mach* 39:611-12 My '33  
La facilité de direction des chariots à accumulateurs électriques. *il Génie Civil* 101:658-9 D 31 '32



**ELECTRIC trucks, Industrial—Continued**

Industrial terminal innovations; Port of New York Authority's new inland freight station, New York. diag Elec W 101:202 F 11 '33

Yale & Towne high-lift tilting-frame industrial truck. il Iron Age 131:438 Mr 16 '33

Yale & Towne low lift truck embodies safety features. il Steel 92:40 F 6 '33

**Tiering trucks**

Ellwell-Parker lift tractors. il Mech Handling 20:183-4 Je '33

Yale & Towne electric trucks. il Mach 39:421 F '33

Yale industrial trucks and tiering machines. il Engineering 134:693 D 9 '32

**ELECTRIC units**

Electric and magnetic units; the basis of a system of definitions. R. T. Glazebrook. Inst E E J 72:265-7 Mr '33

International action on units in electricity and light. J Fr Inst 215:471-3 Ap '33

Material standards of resistance; the B.A. coils, 1881-1932; abstract. R. T. Glazebrook and L. Hartshorn. Engineering 134:554 N 11 '32

Revision of the international electrical units and photometric standards. Science 77:251-2 Mr 10 '33

Unit for specifying the electrical resistivity of the earth. L. P. Ferris. Min & Met 14: 99+ F '33

**ELECTRIC utilities**

New problems harass public utilities. Forbes 32:22-3 O 1 '33

Public utilities and the people. W. A. Prendergast. 379p \$3 Appleton-Century '33

What lies ahead? C. J. Goodnough. Elec W 102:503-5 O 14 '33

Where do we go from here? A. Dow. Edison Elec Inst Bul 1:59-61 Je '33; Same abr. Elec W 101:755-7 Je 10 '33

**See also**

Edison electric institute

Electric industries

Electric lines

Electric plants (central stations)

Electric service, Rural

Waterworks—Combination with electric plants

**Accidents**

Construction effect on accident trend. C. R. Beardsley. N E L A Bul 19:710+ D '32

**Accounting**

Accounting and budgeting for power station operation. C. D. Zimmerman. Elec W 101: 196-7 F 11 '33

Analysis of the costs of electricity supply, and its application in relation to various types of consumers. E. H. E. Woodward and W. A. Carne. diag Inst E E J 71:852-93 D '32; Abstract. Electrician 108:725-7 My 27 '32; Discussion. Inst E E J 71:893-910; 72: 353-62 D '32, Ap '33

Are ratepayers paying too much for power? discussion of M. L. Cooke's "Paying too much for electricity" in the New Republic. H. C. Spurr. Pub Util 11:173-7 F 2 '33

Common fallacies about the average cost of distributing power. H. W. Reed. Pub Util 12:516-23, 567-76 O 26-N 9 '33

Costing bulk supplies; the relation between bulk-supply and retail tariffs. J. C. Petersen. Elec R (Lond) 113:44 J 14 '33

Economics of line extensions. R. T. Oldfield. Elec W 101:417-19 Ap 1 '33

Electricity budget control. A. W. Willsmore. Elec R (Lond) 111:823 D 2 '32

Electricity supply costing. H. Southall. Elec R (Lond) 113:323 S 8 '33

Increasing the usefulness of the accountant in the public utility industry. L. N. Rowley, jr. Edison Elec Inst Bul 1:209-11 O '33

Readjusting intercompany billing for cold station schedule. diag Elec W 102:599-600 N 4 '33

Some phases of the Federal trade investigation. B. F. Weadock. Edison Elec Inst Bul 1:77-9 Je '33; Same cond. Elec W 101:757-9 Je 10 '33; Same. Pub Serv M 55:23-4, 47-9 J1-Ag '33

Speed in customer billing; use of billing machines by Toledo Edison company. Elec W 101:169-70 F 4 '33

Variable elements in the cost of distribution of electrical energy. N. H. Gibson. maps Edison Elec Inst Bul 1:83-90 Je '33; Abstract. Elec W 101:749-50 Je 10 '33; Discussion. Edison Elec Inst Bul 1:90-2 Je '33; Elec W 101:750-1 Je 10 '33

**Advertising**

Advertising from the viewpoint of the utilities. W. H. Hodge. Pub Serv M 54:77-9 Mr '33

Free advertising for electricity. A. H. Seabrook. Elec R (Lond) 112:870 Je 16 '33

Gear your advertising to the sales program; suggested allotment for utility advertising funds. G. L. Jackson. il Elec W 102:54-6 J1 8 '33

People respond to rate ad. Pub Serv M 54: 142 My '33

Propaganda by film; use of cinemas by the Liverpool electricity department. P. J. Robinson. Electrician 111:368-9 S 29 '33

Propaganda in Liverpool; up-to-date publicity methods of the Corporation Electricity department. W. A. G. Martin. Electrician 110: 215 F 17 '33

Utility advertising; Northwest electric light and power association committee report. il Elec West 70:231-3 Je '33

**Appliance lending**

Water heaters free; Ontario Hydro to loan 50,000 heaters to use surplus power and make work. Business Week p12 Ap 26 '33

Water heating installation free; profitable business developed by Hydro-electric power commission of Ontario. diag Elec W 102:60-1 J1 8 '33

**Appliance renting**

Apparatus on hire; revenue obtained and cost of repairs in Epsom U.D.C. area. H. W. Watts. Electrician 109:840-1 D 30 '32; Abstract. Elec R (Lond) 111:954 D 30 '32

Direct purchase v. simple hire. F. D. Parker. Electrician 110:71 Ja 20 '33

Hartford company leases electric ranges. Gas Age 71:318 Mr 25 '33

Hartford waives rentals to spur range use. Elec W 101:809 Je 24 '33

Hire service; its future importance. F. D. Parker. Electrician 111:207 Ag 18 '33

Our rental-purchase plan; Central Maine power company, Augusta. G. S. Williams. Elec W 101:420-3 Ap 1 '33

Range rental plan launched in Hartford. Elec W 101:151 F 4 '33

Ranges rented to spur Hartford's range sales. il Elec W 101:324-6 Mr 11 '33

**Appliance selling**

Active merchandising beneficial. G. S. Williams. Elec W 102:625-6 N 11 '33

B.C. Electric gives away water heaters. Elec West 70:140 Ap '33

Better public relations through systematic personal contacts. H. M. Sawyer. il Edison Elec Inst Bul 1:201-5 O '33

Combination utilities should not suppress electric cooking. G. W. Van Derzee. N E L A Bul 19:659-60 N '32

Commercialism and competition—today and tomorrow. G. E. Whitwell. Edison Elec Inst Bul 1:74-6+ Je '33

Dealer relations; round table discussion. Elec West 70:205-6 Je '33

Direct purchase v. simple hire. F. D. Parker. Electrician 110:71 Ja 20 '33

How Central Hudson builds load through dealers; five-year experience first merchandised aggressively, then gradually withdrew and built up dealer sales. E. Whitehorne. il plan map Elec W 102:213-19 Ag '33

Ithaca plan proves out; co-operative merchandising. Elec W 101:577-80 My 6 '33

Key to electrical progress. C. E. Greenwood. N E L A Bul 19:656-8 N '32

- ELECTRIC utilities**—Appliance selling—*Cont.*  
 New York electric utilities drop the sale of domestic appliances. *Sales Management* 33: 29 J1 1 '33  
 Niagara Hudson system to turn over sales of appliances to dealers. *Gas Age* 70:637 D 24 '32  
 Northwest dealer relations improve. *B. Snow. Elec West* 70:122 Ap '33  
 Our rental-purchase plan; Central Maine power company, Augusta. *G. S. Williams. Elec W* 101:420-3 Ap 1 '33  
 Philadelphia's experience in co-operation. *E. Whitehorne. il Elec W* 101:612-16 My 13 '33  
 Public utilities in Greater New York discontinue electrical appliance sales. *Gas Age* 71: 637 Je 17 '33  
 State electrical trading in Victoria. *Elec R (Lond)* 113:359 S 15 '33  
 Texas court dissolves anti-merchandising order. *Elec W* 101:733 Je 17 '33  
 Trial ranges expedite acceptance of electric cooking. *R. D. Cutler. Elec W* 102:565-7 O 28 '33  
 Utility—department store relationship. *W. R. Putnam. N E L A Bul* 20:63-5 F '33  
 Viewpoint of the hardware dealer. *E. E. Lucas. Elec West* 70:234-7 Je '33  
 Westchester Lighting sells 2968 appliances in 40 days. *F. J. Gruel. Gas Age* 71:32-3+ Ja 14 '33

## Bibliography

- Papers entered in 1933 prize contest to be loaned. *Edison Elec Inst Bul* 1:223-7 O '33

## Buildings

- Brighton showrooms. *il Electrician* 110:138-9 Ja 27 '33  
 Comfort cooling in utility offices. *S. S. Sanford. Elec W* 101:264 F 25 '33  
 Enterprise at Ipswich; opening of the Corporation Electricity showrooms. *il Electrician* 110:187-8 F 10 '33; *Elec R (Lond)* 112: 189 F 10 '33  
 Head office building of the Toronto hydro-electric system. *I. Ilsley. il Can Eng* 64:5-8 My 16 '33  
 Hull electricity undertaking; opening of the new showrooms and administration offices. *F. Holmes. il Electrician* 110:355 Mr 17 '33  
 Les installations de propagande de l'Office central électrique. *de Poncharra. il diag Soc Ing Civils Bul* 86:72-95 Ja '33

## Complaints

- Complaints checked with customer. *E. C. Goodale. Elec West* 70:121 Ap '33  
 Playing Sherlock Holmes with high light bills. *J. D. Lewis. Edison Elec Inst Bul* 1:221-2+ O '33

## Costs

- Analyzing plans for bulk supply of energy. *Elec W* 102:212 Ag 12 '33  
 Distribution costs of electric service; discussion of paper by C. W. Pike. *C. Bary. Elec W* 102:248-52 Ag 19 '33  
 Richey index of construction costs. *Elec W* 101:105 Ja 21 '33  
 Unit costs based on construction, 1926-1931. *Elec W* 101:481 Ap 15 '33

## See also

- Electric service,  
 Rural—Costs

## Directories

- Directory of electric light and power service. *G. F. Wittig and J. A. Stuart, eds. 184p McGraw-Hill* '33

## Employees

- Indifference; who is to blame, and what is the remedy? *W. A. Jones. Elec R (Lond)* 112:119-20 Ja 27 '33  
 Self-help is basis of training plan; Pacific service employees association. *A. Barrell. chart Elec West* 70:152-3 My '33

## Equipment

- Salvaging of equipment and materials; series prepared by subcommittee of Purchasing and storeroom committee, National accounting section. *N.E.L.A. il N E L A Bul* 20: 7-9, 66-9+ Ja-F '33

- Suggested standard packages for overhead lines material. *Edison Elec Inst Bul* 1:143-9 Ag '33

## Extension policies

- Economics of line extensions. *R. T. Oldfield. Elec W* 101:417-19 Ap 1 '33

## Finance

- Analysis of the costs of electricity supply, and its application in relation to various types of consumers. *E. H. E. Woodward and W. A. Carne. diag Inst E E J* 71:852-93 D '32; *Discussion. 893-910; 72:358-62 D '32, Ap '33*  
 Capitalization checks investment. *Elec W* 101: 225-6 F 18 '33  
 Clyde Valley electric power. *map Economist* 117:327-8 Ag 12 '33  
 Current earnings reports of electric light and power companies; tabulation. *Published in Electrical world*  
 Effect upon company earnings of the new 3 per cent tax on power. *O. Ely. Pub Util* 12:328-33 S 14 '33  
 Electric industry taxes multiply 82 times in 30 years. *J. B. Wootan. Pub Serv M* 55: 77-8 S '33  
 Facts and fiction that lie between the lines of financial statements. *A. J. C. Underhill. Pub Util* 12:88-95 J1 20 '33  
 Financing totals \$465,920,000. *Elec W* 101:28-9 Ja 7 '33  
 Fundamental considerations in the preparation of a power system master plan. *W. J. Lyman. Edison Elec Inst Bul* 1:214-20 O '33; *Same abr. Elec W* 101:788-92, 825-7 Je 17-24 '33  
 Inquiry into the costs of distributing power. *Pub Util* 11:290-6 Mr 2 '33  
 Lancashire electric light and power. *Economist* 116:914-15 Ap 29 '33  
 Los Angeles bureau of power and light; a critical summary. *M. G. Glaeser. J Land & Pub Util Econ* 9:217-27 Ag '33  
 Maturities and earnings. *Elec W* 101:26 Ja 7 '33  
 Metropolitan electric supply. *map Economist* 116:126-7, 185-6 Ja 21-28 '33  
 Midland counties electric. *map Economist* 117:770-1 O 21 '33  
 North Metropolitan Electric. *map Economist* 115:1145-7 D 17 '32  
 Operating and maintenance expenses reduced. *Elec W* 101:32 Ja 7 '33  
 Our depression-proof utilities. *A. E. Knowlton. Pub Util* 11:330-6 Mr 16 '33  
 Outages, service standards and investment. *S. M. Dean. Edison Elec Inst Bul* 1:113-22; *Discussion. 122-6+ J1 '33*  
 Present and future development of public utility finance. *H. M. Addinsell. 26p Chase Harris Forbes corporation, 60 Cedar st, New York '32; Excerpts. Elec W* 100:844-6 D 24 '32  
 Revenue rises but remains under 1931. *Elec W* 100:880 D 31 '32  
 Rural domestic load; an analysis of some actual results. *il Elec R (Lond)* 112:588 Ap 28 '33  
 Typical utility earns modest return on capital; Detroit Edison company. *Elec W* 102: 592-4 N 4 '33  
 Unit operating and financial ratios for utilities vary widely. *Elec W* 101:30-1 Ja 7 '33  
 Utility revenue holds up. *il Elec W* 101:14-15 Ja 7 '33  
 What is the financial outlook for privately owned utilities? *Pub Util* 12:594-7 N 9 '33  
 Wholesale electric business in the depression. *L. G. Cannon. J Land & Pub Util Econ* 9:1-9 F '33  
 Why expenditures for utility advertising should be listed as operating costs. *R. B. Calkins. Pub Util* 12:373-6 S 28 '33  
 Yorkshire electric power. *map Economist* 116: 358-60 F 18 '33  
 See also names of companies, e.g. Detroit Edison company



## ELECTRIC utilities—Finance—Continued

## Government ownership

- Electric light and power. Index 13:193-5, 198-202 N '33  
 Die öffentliche hand in der elektrizitätswirtschaft. O. Dorth. Zeit Ver Deutsch Ing 76:1107-8 N 5 '32  
 Will the yardstick for measuring utility costs be converted into a wedge? H. C. Spurr. Pub Util 11:225-8 F 16 '33

## See also

- Electric utilities—  
 Municipal ownership

## Law

- La désaffectation des ouvrages d'un réseau concédé de distribution d'énergie. J. L'Huilier. Génie Civil 103:378-9 O 14 '33  
 Indemnités dues aux propriétaires pour l'installation des lignes électriques. A. Mestre. Génie Civil 101:507-8 N 19 '32  
 Injunction protecting utility monopoly dissolved; Fairbanks, Morse & co. v. Texas electric service co. Pub Util 11:430-1 Mr 30 '33  
 Responsibility for electrical accidents. Elec R (Lond) 111:896-7 D 16 '32  
 Unauthorised interference. J. W. Simpson. Elec R (Lond) 111:896 D 16 '32  
 Validity of laws forbidding the exportation of power is questioned. J. W. Simonton. Pub Util 11:230-2 F 16 '33

## Management

- Air conditioning activities of the Detroit Edison company. S. S. Sanford. N E L A Bul 19:721-2 D '32; Abstract. Heat & Ven 30:33-4 Ja '33  
 B. C. Forbes prize paper on public relations in the utility industry. J. M. Whittier. Forbes 31:16+ Je 15; 32:14+ Jl 1 '33  
 Commercial forces dig in to hold the load lines intact. il Elec West 70:56-67 F '33  
 Connecticut utility; Hartford electric light co. and its affiliate Connecticut power co. il map Fortune 7:37-43+ Ap '33  
 Fundamental considerations in the preparation of a power system master plan. W. J. Lyman. Edison Elec Inst Bul 1:214-20 O '33; Same abr. Elec W 101:788-92, 825-7 Je 17-24 '33  
 Hartford credit certificate plan. N E L A Bul 20:86-7+ F '33  
 How to sell power; Philadelphia electric company. J. F. Gaskill. Elec W 101:459-61 Ap 8 '33  
 Key to electrical progress. C. E. Greenwood. N E L A Bul 19:656-8 N '32  
 Mobilizing personnel for system trouble; Puget Sound power & light co. organization. chart Elec West 70:6-8 Ja '33  
 100% (?) collections. W. D. Dyer. N E L A Bul 20:85 F '33  
 Our sales responsibilities. V. W. Dale. Elec R (Lond) 112:91 Ja 20 '33  
 Outages, service standards and investment. S. M. Dean. Edison Elec Inst Bul 1:113-22; Discussion. 122-6+ Jl '33  
 Reducing energy diversion. M. T. McKenzie. Elec W 101:356-7 Mr 18 '33  
 Responsibility of management. F. McLaughlin. Elec West 70:198-9 Je '33  
 Sales development; load building in a highly industrialised area. E. Morgan. Electrician 111:369 S 29 '33  
 Service contracts in the Electric bond and share company. N. S. Buchanan. J Land & Pub Util Econ 9:283-96 Ag '33  
 Sifting power prospects. D. Taylor. Elec W 100:691-3 N 19 '32  
 Thoughts of an operating executive. F. R. Phillips. Elec W 102:460-4 O 7 '33  
 Time delay undervoltage mechanism on electrical control apparatus; Georgia power company. E. M. Clapp. N E L A Bul 19:683-5 N '32  
 When odds are against you. D. W. Taylor. Elec W 101:227-30 F 18 '33  
 Yardsticks for power sales. D. W. Taylor. Elec W 102:179-81 Ag 5 '33

## Municipal ownership

- Actual taxpayers in taxless towns. C. W. Thompson. Pub Util 11:458-65 Ap 13 '33  
 Birmingham rejects T.V.A. promises. Pub Serv M 55:133-4+ N '33  
 Birmingham votes down municipal ownership of utilities. Pub Util 12:603-4 N 9 '33  
 City ownership defeated at Lapeer, Michigan and Great Bend, Kansas. Pub Serv M 54:137-40 My '33  
 Comparison of city costs; town served by company paying taxes operates for less than so-called tax free town. Pub Serv Management 54:7-8 Ja '33  
 Courage and candor win out; Nebraska power company. Pub Serv M 55:5-6 Jl '33  
 Ebb and flow of municipal ownership tide. Pub Serv M 55:51-2 Ag '33  
 Effect of municipal ownership on the public at large. J. A. Whitlow. Pub Serv M 54:111-12 Ap '33  
 End of Wagoner's long litigation over municipal ownership plant in sight. Pub Serv M 55:85-6, 153-4 S, N '33  
 Engineer-oil engine combine upset by court; Ainsworth, Neb. Pub Serv M 54:101-3 Ap '33; Discussion. J. B. Wootan. 55:11-13 Jl '33  
 Facts frustrate M.O. combine; North Mankato, Minn. A. Campbell. Pub Serv M 54:103-5 Ap '33  
 42 of 81 taxless towns have no municipal ownership. Pub Serv Management 53:184-6 D '32  
 Georgia plant depends on taxes; Crisp county electric system. Pub Serv M 54:79 Mr '33  
 High cost of competition between private and municipal plants. H. C. Spurr. Pub Util 11:516-22 Ap 27 '33  
 High tax rate in municipal ownership towns Michigan records show. Pub Serv M 55:19-21 Jl '33  
 High taxes drive four North Carolina towns out of municipal ownership. Pub Serv M 55:139-40 N '33  
 Hoist with his own petard; oil engine agent, court says, published false and misleading ads in campaign and thus loses M. O. contract. Pub Serv Management 53:167-8 D '32  
 How city plant retards industry; Gastonia, N. C. Pub Serv M 55:30-1 Ji '33  
 How nine municipalities voted on power plants. Barron's 13:6 N 13 '33  
 Iowa farmer hard hit by tax exempt plants in town. J. Carmichael. Pub Serv M 55:55-6 Ag '33  
 Is there a definite upward trend in municipal plants? Pub Util 12:160-1 Ag 3 '33  
 Last word on tax free towns. J. A. Whitlow. Pub Serv M 55:107-9, 141-3 O-N '33  
 Los Angeles bureau of power and light; a critical summary. M. G. Glaeser. J Land & Pub Util Econ 9:217-27 Ag '33  
 Menace of the municipal plant to the farmer. L. O. Whitsell. Pub Util 12:439-46 O 12 '33  
 Municipal ownership in the last five years. P. J. Raver. map J Land & Pub Util Econ 9:121-34 My '33  
 Municipal ownership loses 2 to 1 in Beldivere, Ill. Pub Serv Management 54:40 F '33  
 Municipal plant of Lansing accepts a challenge. H. Corey. Pub Util 12:40-3 Jl 6 '33  
 Municipally owned establishments which were in existence in the United States on December 31, 1932, and which were purchasing all current distributed on December 31, 1930; tabulation. P. J. Raver, comp. J Land & Pub Util Econ 9:410-15 N '33  
 Municipally owned generating plants in existence in the United States as of December 31, 1932; tabulation. P. J. Raver, comp. J Land & Pub Util Econ 9:306-13, 416-17 Ag-N '33  
 New Iowa idea—quit municipal ownership. Pub Serv Management 53:175 D '32  
 One Iowa city rejects municipal ownership by 3½ majority, while another votes for it. Pub Serv Management 53:164 D '32  
 People oppose extending Tacoma and Seattle plants. Pub Serv M 55:73-4 S '33

**ELECTRIC utilities—Municipal ownership**  
—Continued

Recent trend toward public ownership—reasons why. R. E. McDonnell. 10p Public ownership league of America, 127 N. Dearborn st, Chicago '32

Records show rates fall when towns sell their plants. Pub Serv M 54:175-6 Je '33  
Simmer law. Pub Serv M 54:149-51 My '33  
Small isolated plant vs. great interconnected system; Oberlin, Ohio. H. Wright. Pub Serv M 55:87-8 S '33

Smaller undertakings. J. W. Simpson. Elec R (Lond) 112:264 F 24 '33

Some highlights on Ontario hydro-electric system. Pub Serv M 55:112 O '33

Tax free town study reveals some interesting fiction. R. C. Cleminson. Pub Serv M 55:45-6 Ag '33

Taxes, debts and house bills higher in municipal ownership towns, Ohio. Pub Serv M 54:107-8 Ap '33

To what extent will public works funds go for public plants. Pub Util 12:281-3 Ag 31 '33

Triple alliance promoting municipal ownership. Pub Serv M 54:69-70 Mr '33

Unmasking municipal utility operation. R. D. Cockrell. Pub Serv M 54:118-20 Ap '33

Wanted—a standard yardstick for measuring the costs of private and public power plants. M. G. Glaeser. Pub Util 10:663-74 D 8 '32

What the records show about the tax-free towns of Oklahoma. E. F. McKay. Pub Util 12:72-81 Jl 20 '33

Who pays the towns' taxes in taxless towns? H. Corey. Pub Util 10:676-81 D 8 '32

Why Ogden did not go in for municipal ownership. O. Bundy. Pub Serv Management 54:11-12 Ja '33

**See also**

Electric plants, Municipal  
Los Angeles—Water and power department

**Public relations**

B.C. Forbes prize paper on public relations in the utility industry. J. M. Whittier. Forbes 31:16+ Je 15; 32:14+ Jl 1 '33

Better public relations through systematic personal contacts. H. M. Sawyer. Il Edison Elec Inst Bul 1:201-5 O '33

By proxy; casting their ballots for public enlightenment. H. J. Bauer and others. Elec West 70:186-90 Je '33

Dow uses the papers to expose the tax evil. Elec W 102:302-3 S 2 '33

Duty of telling the people. A. Huntington. Pub Serv M 54:109-10 Ap '33

Electricity and the press; an examination and criticism of recent publicity activities of the electrical industry in Great Britain. Electrician 110:64-5 Ja 20 '33

Good will gained by tolerance with delinquent customers. Elec W 102:373-5 S 16 '33

Improving customer contact. L. L. Starrett. Il plan N E L A Bul 20:17-23 Ja '33

Just plain common sense should determine the public policy of a utility. H. J. Bauer; G. C. Ward. Elec West 69:222-3 D '32

Municipalities and the utilities. W. C. Mullen-dore. N E L A Bul 19:647-51 N '32

New deal in the public relations and publicity efforts of the power industry. R. S. Tompkins. Pub Util 11:536-9 Ap 27 '33

Power utilities on the hot spot. H. Wright. Pub Util 12:243-51 Ag 31 '33

Public putting blame where it belongs. S. Ferguson. Elec W 101:95 Ja 21 '33

Public utility code enunciated. C. W. Kellogg. Elec W 101:259 F 25 '33

Rising sentiment in the power industry to defend itself. Pub Util 12:102-4 Jl 20 '33

Service to the consumer. W. F. T. Pinkney. Il Elec R (Lond) 112:873-4 Je 16 '33

Tact essential in handling meter diversions. W. W. Palmer. Elec W 101:94 Ja 21 '33

Training employees in customer contact. A. E. Peterson. Elec W 100:689 N 19 '32

**See also**

Electric utilities—  
Service

**Records**

Meter readers contribute to consumption analysis. P. J. Dishner. Elec W 101:174 F 4 '33  
Simple scheme for customer-service-continuity records. W. R. Hamilton. Elec W 101:63-6 Ja 14 '33

**Regulation**

Coming rôle of the utilities in the general welfare. J. Franklin. Pub Util 12:559-66 N 9 '33

Federal power regulation passes its first test in constitutional law. Pub Util 11:530-1, 550-1 Ap 27 '33

Federal regulation of electric power utilities. (In University debaters' annual, 1932-1933). E. M. Phelps, ed. p209-49 [bibliog p241-9] Wilson, H. W. '33

Governor Lehman's program for New York regulation. Pub Util 11:223-9 F 16 '33

Has the time come for a public utility czar? F. J. Lisman. Pub Util 12:63-71 Jl 20 '33

More power over power; New River case and Brooklyn Edison co. labor case. Business Week p14 Ap 12 '33

New hydroelectric plant authorized to furnish power to railroad company. Pub Util 11:253-4 F 16 '33

Pending conflict between state and federal regulation. A. H. Ulm. Pub Util 12:467-72 O 12 '33

Regulatory experiment that worked too well; sliding-scale plan in the District of Columbia. A. H. Ulm. Pub Util 11:390-5 Mr 30 '33

What the governors of the states think of the state commissions. H. Wright. Pub Util 11:755-64 Je 22 '33

**See also**

Public utilities—Regulation  
Public utilities commissions

**Safety devices and measures**

Five years of progress in accident prevention; Philadelphia electric company. R. M. Godwin. Il Safety Eng 65:157-9 My '33; Same cond. Nat Safety N 27:26-7 My '33

**Salesmen**

Approach to an untouched market; process-steam users. D. W. Taylor. Elec W 101:67-70 Ja 14 '33

Commercialism and competition—today and tomorrow. G. E. Whitwell. Elec W 101:829-31 Je 24 '33

Find the "no" man first. D. W. Taylor. Elec W 100:853-4 D 24 '32

Lamp inspections prevent ill-advised economy of light. M. W. Ross. Elec W 102:473 O 7 '33

Male demonstrator. A. C. Hazel. Elec R (Lond) 113:258 Ag 25 '33

Need revision of power sales organizations. Elec W 102:493 O 14 '33

Power sales. D. Taylor. 206p \$2 McGraw-Hill '33

Scouting flaws in proposals for payment out of savings. D. W. Taylor. Elec W 100:788-91 D 10 '32

**Securities**

Bond maturities in 1933 total \$161,000,000; tabulation. Elec W 101:27 Ja 7 '33

Capitalization checks investment. Elec W 101:225-6 F 18 '33

Effect of new power tax on public utility stocks. F. C. Fullerton. Mag of Wall St 52:273 Jl 8 '33

Electric supply shares. Economist 117:629-30 S 30 '33

Financing totals \$465,920,000. Elec W 101:28-9 Ja 7 '33

High dividends not evidence of excessive rates. Pub Util 11:250-1 F 16 '33

Maturities and earnings, 1922, 1927-1932. Elec W 101:26 Ja 7 '33

Public utilities at the crossroads. F. C. Fullerton. Il Mag of Wall St 52:621-3+ O 14 '33

Report of the Customer ownership committee, N.E.L.A. J. B. Black. N E L A Bul 20:24-5 Ja '33



**ELECTRIC utilities—Securities—Continued**

Stock market prices. Elec W 101:21 Ja 7 '33  
 Uncle Sam in the power business; is President-elect's proposal to operate Muscle Shoals a threat to public utility investments? F. C. Fullerton. il Mag of Wall St 51:475-+ F 18 '33  
 Utilities meet their crisis by readjustment to conditions. Elec W 101:666-7 My 27 '33

**Service**

Cooker reconditioning; some details of the Wimbledon scheme. il Elec R (Lond) 113:45 J1 14 '33  
 Home service; its functions and accomplishments. F. Freer. N E L A Bul 19:733-5 D '32  
 Improving customer contact. L. L. Starrett. il plan N E L A Bul 20:17-23 Ja '33  
 Maintenance of domestic apparatus. H. G. F. Gamble. Elec R (Lond) 112:872 Je 16 '33  
 New Hampshire company teaches electric cookery by the laboratory method. il N E L A Bul 20:95 F '33  
 Service calls help customers and develop new business. il Elec W 101:204-5 F 11 '33

**Showrooms**

Magnet house; display of architectural lighting and artistic fittings. il Electrician 111:491 O 20 '33  
 New electricity showrooms. Hull corporation electricity department, Ferensway. il Illum Engr 26:133 My '33  
 Northmet company. G. C. Olver. il Electrician 111:365 S 29 '33  
 Northmet showrooms. il Elec R (Lond) 112:711 My 19 '33  
 Some up-to-date electricity showrooms; illustrations. Electrician 111:366-7 S 29 '33

**Statistics**

Conditions in nine regions; graphs. Elec W 101:25 Ja 7 '33  
 Customers aggregate 24,187,151. Elec W 101:19-20 Ja 7 '33  
 Municipally owned establishments which were in existence in the United States on December 31, 1932, and which were purchasing all current distributed on December 31, 1930; tabulation. P. J. Raver, comp. J Land & Pub Util Econ 9:410-15 N '33  
 Municipally owned generating plants in existence in the United States as of December 31, 1932; tabulation. P. J. Raver, comp. J Land & Pub Util Econ 9:306-13, 416-17 Ag-N '33  
 Outstanding facts on electric light and power industry for the year's operations or as of the end of each year, 1917, 1922, 1927-1932; tabulation. Elec W 101:13 Ja 7 '33  
 Such information helps public understand; graphs and charts. Elec W 100:859 D 24 '32

**See also**

Electric plants (central stations)—Statistics

**Taxation**

Assessment of utility plant lacks uniformity. Elec W 102:637 N 11 '33  
 Dow uses the papers to expose the tax evil. Elec W 102:302-3 S 2 '33  
 Duplication joins doubling to make taxes ominous. Elec W 101:668-9 My 27 '33  
 Effect upon company earnings of the new 3 per cent tax on power. O. Ely. Pub Util 12:328-33 S 14 '33  
 Rebellion of the taxpayers against the politicians. H. Corey. Pub Util 11:319-29 Mr 16 '33; Abstract. Econostat 1:17+ Mr 25 '33  
 Tax duplications burden utilities. Elec W 101:466-7 Ap 15 '33  
 Taxation of public utilities. F. A. Newton. Pub Serv Management 54:41-2 F '33; [cont. as] Pub Serv M 54:73-4 Mr '33  
 Taxation; theory and practice. W. C. Mullendore. Edison Elec Inst Bul 1:65-8 Je '33; Excerpts. Elec W 102:51-3 J1 8 '33; Pub Serv M 55:7-9 J1 '33  
 Taxes 13% of income; Pacific gas and electric company. Pub Serv M 55:75 S '33  
 Tell about taxation. W. C. Mullendore. Elec W 102:438-41 S 30 '33

**Valuation**

Assessment of utility plant lacks uniformity. Elec W 102:637 N 11 '33

**California**

Electric utilities in southern California suffer little damage from quake. Elec West 70:136 Ap '33

**District of Columbia**

How the sliding-scale basis of rate making works. M. M. Patrick. Pub Util 11:506-14 Ap 27 '33

Regulatory experiment that worked too well; sliding-scale plan in the District of Columbia. A. H. Ulm. Pub Util 11:390-5 Mr 30 '33

**France**

Monopole de distribution d'énergie et permission de voirie (à propos d'un arrêt récent du Conseil d'État). A. Mestre. Génie Civil 101:612-13 D 17 '32

**Germany**

Die öffentliche hand in der elektrizitätswirtschaft. O. Dorth. Zeit Ver Deutsch Ing 76:1107-8 N 5 '32

**Great Britain**

Bournemouth and Poole electricity supply co. Electrician 110:476 Ap 7 '33

Clyde Valley electrical power. map Economist 117:327-8 Ag 12 '33

County of London electric supply co. ltd. B. Greenwell. Electrician 110:403 Mr 24 '33

Displacement of staff; National joint board adopts committee's recommendations. Electrician 111:131 J1 28 '33

Electric supply shares. Economist 117:629-30 S 30 '33

Electricity and the press; an examination and criticism of recent publicity activities of the electrical industry in Great Britain. Electrician 110:64-5 Ja 20 '33

Electricity supply companies. Economist 116:591-2 Mr 18 '33

Financial information from accounts of municipal electricity undertakings for year ended March 31, 1932. Electrician 109:825; 110:503 D 23 '32, Ap 14 '33

Lancashire electric light and power. Economist 116:914-15 Ap 29 '33

Lessons from the coal-mining industry; abstracts. W. B. Woodhouse. Elec R (Lond) 111:924 D 23 '32; Electrician 109:808 D 23 '32

Metropolitan electric supply. map Economist 116:126-7, 185-6 Ja 21-28 '33

Midland counties electric. Economist 117:770-1 O 21 '33

Midland electric corporation for power distribution 35th ordinary general meeting. Economist 116:719-20 Ap 1 '33

Municipal supply undertakings' working results; tabulation. Elec R (Lond) 113:135 J1 28 '33

Municipal undertakings; information from accounts of municipal electricity undertakings for year ended March 31, 1933; tabulation. Electrician 111:188, 333, 569 Ag 11, S 15, N 3 '33

North-eastern electric supply company, City of London and other electric company meetings. Economist 116:657-9 Mr 25 '33

North Metropolitan electric. map Economist 115:1145-7 D 17 '32

North metropolitan electric power supply company. Economist 116:432 F 25 '33

Reduction of charges. Electrician 109:847 D 30 '32

Reorganisation plans; views on the coordination of distribution. J. W. Kennedy. il Electrician 111:469-70 O 20 '33

Smaller undertakings. J. W. Simpson. Elec R (Lond) 112:264 F 24 '33

Yorkshire electric power. map Economist 116:358-60 F 18 '33

**See also**

Electricity supply—

Great Britain

**Iowa**

Simmer law. Pub Serv M 54:149-51 My '33

**ELECTRIC utilities—Continued****Missouri**

Effort to oust company fails in Sikeston. Pub Serv M 55:151 N '33

**New York (state)**

Governor Lehman's program for New York regulation. Pub Util 11:228-9 F 16 '33  
New York continues investigations. Elec W 102:67 J1 15 '33  
New York rate hearings bring \$8,870,000 cut. Elec W 102:259 Ag 26 '33

*See also*

Associated gas and electric company

**United States**

Address before the Executive conference, Great Lakes division, N.E.L.A. G. B. Cortelyou. N E L A Bul 19:653-5 N '32  
Application of collateral NRA codes to the electric light and power industry. A. Maxwell. Edison Elec Inst Bul 1:197- O '33  
Confessions of the power trust. C. D. Thompson. 67op \$5 Dutton '32; Review by H. Leech. Pub Util 11:57-9 Ja 5 '33  
Electric light and power. Index 13:193-5, 198-202 N '33  
Electric light and power in 1932. G. B. Cortelyou. Bradstreet's 61:242 Ja 28 '33  
Electric light and power industry in 1932. G. B. Cortelyou. Pub Serv Management 64: 23 Ja '33; Excerpt. Power Pl Eng 37:84 F '33  
Electric utility code emphasizes new problems. Elec W 102:225-6 Ag 19 '33  
\$51,000,000 of undeveloped markets. il Elec W 101:33-42 Ja 7 '33; Abstract. Business Week p18-19 Ja 4 '33  
Light and power code submitted. Elec W 102:193-4 Ag 12 '33; Same. Power Pl Eng 37:394 S '33  
Outlook for the power and light utilities under a planned economy. D. W. Ellsworth. Annalist 41:755-6 Je 2 '33  
Power revenues show brisk improvement; industry faced with problems of regulation and education. Bradstreet's 60:1730-1 D 31 '32  
Public utilities are at the crossroads. H. F. Merrill. il Forbes 31:8-10+ Je 15 '33  
Public utilities at the crossroads. F. C. Fullerton. il Mag of Wall St 52:621-3+ O 14 '33  
Some phases of the Federal trade investigation. B. F. Weadock. Edison Elec Inst Bul 1:77-81 Je '33; Same cond. Elec W 101:757-60 Je 10 '33; Same. Pub Serv M 55:23-4, 47-9, 117-18 J1-Ag, O '33  
2,486 companies for electric light and power. Elec W 101:133 Ja 28 '33  
Utilities and the new deal. J. S. Lawrence. Econostat 1:8-10 N 4 '33  
Utilities improve operations. il Elec W 101:9-10 Ja 7 '33  
Utilities: increased taxes offset improved demand for electricity. D. W. Ellsworth. Annalist 42:507 O 20 '33  
Utility items of 1932. Bradstreet's 61:279 F 4 '33

**Washington (state)**

Grand Coulee power 10 years off; companies do not oppose it, but do ask fair competition. Pub Serv M 55:137 N '33

**Wisconsin**

Residential electric rates in Wisconsin; a state-wide picture. E. W. Morehouse. J Land & Pub Util Econ 9:37-41 F '33

**ELECTRIC vehicles***See also*

Electric tractors  
Electric trucks  
Trolley buses

**ELECTRIC water heaters**

Charlton storage water heaters. il Elec R (Lond) 112:780 Je 2 '33  
Domestic water heating. W. Jervis. diags Elec R (Lond) 112:660-1 My 12 '33  
Electric water heating; development at Croydon; discussion. Electrician 110:275 F 24 '33

Electricity in the home; water heaters. il Elec R (Lond) 113:496-9 O 13 '33  
French thermal-storage scheme for building heating. il Elec R (Lond) 112:776 Je 2 '33  
How water heating is being popularised; abstract. P. G. Honey. il Elec R (Lond) 112: 272-3; Discussion. 273 F 24 '33  
Immersion heaters; constructional details of General Electric withdrawable embedded type. il Electrician 109:726 D 2 '32  
Johnson and Phillips storage water heater. Electrician 110:688 My 26 '33  
New all-electric baths at Watford. il Elec R (Lond) 112:669 My 12 '33  
New water-heating equipment. il diag Elec R (Lond) 113:119-20 J1 28 '33  
Reynolds electric water heaters. diags Engineer 156:341 O 6 '33  
Space and water heating; progress in 1932. J. I. Bernard. Electrician 110:113-14 Ja 27 '33  
Water heaters free; Ontario Hydro to loan 50,000 heaters to use surplus power and make work. Business Week p12 Ap 26 '33  
Water-heating characteristics checked for off-peak operation; Puget Sound power & light company makes exhaustive analysis. G. M. Palo. il diags Elec W 102:475-9 O 7 '33  
Water heating installation free; profitable business developed by Hydro-electric power commission of Ontario. diag Elec W 102: 60-1 J1 8 '33  
Water heating; numerous advantages of the electric method. P. G. Honey. Electrician 110:410 Mr 31 '33

**Cost of operation**

Selling automatic hot water service. A. M. Apmann. Am Gas J 138:41 Mr '33

**Merchandizing**

Our rental-purchase plan; Central Maine power company, Augusta. G. S. Williams. Elec W 101:420-3 Ap 1 '33  
Water heating; Northwest electric light and power association committee report. Elec West 70:260-1 Je '33

**Testing**

Water-heater demands on system are not burdensome. C. P. Randolph and L. F. Berg. diags Elec W 100:722-5 N 26 '32

**ELECTRIC waves**

Attenuation; alternating and pulsating currents in loaded cable. M. Marro. Electrician 110:383 Mr 24 '33  
Better standards needed for surge testing. F. D. Fielder. Elec W 102:433-5 S 30 '33  
Calculating surge-generator waves. P. H. McAuley and F. R. Benedict. il diags Elec J 30:326-8 Ag '33  
Destructive voltage-rises on low-tension bus-bars; a suggestion. H. P. McGraw. Inst E E J 72:402-12 My '33  
Neon tube characteristics. R. W. Lohman. il diag Elec Eng 52:304-7 My '33  
Recommendations for impulse voltage testing. il Elec Eng 52:17-22 Ja '33  
Resonance method of wave-form analysis. C. F. J. Morgan. Inst E E J 71:819-29 [bibliog p828-9] N '32; Abstract. Electrician 110: 161 F 3 '33  
Technique of surge testing. F. D. Fielder. il Elec J 30:73-6 F '33  
Traveling wave voltages in cables. H. G. Brinton, F. H. Buller and W. J. Rudge, jr. bibliog Elec Eng 52:559-64 Ag '33  
Traveling waves on transmission systems. L. V. Bewley. 334p \$4.50 Wiley '33  
Wave-form distortion; methods of detection and measurement. il diag Elec R (Lond) 113:121 J1 28 '33

*See also*

Electric currents, Alternating  
Radio measurements  
Radio waves  
Harmonics (electric waves)

**ELECTRIC welding**

All-welded test bridge erected by the Swiss federal railways. Elec R (Lond) 113:47 J1 14 '33



**ELECTRIC welding—Continued**

- Allgemeine elektricitäts-gesellschaft high-duty spot-welding machines. *il* Engineering 135: 504-5 My 5 '33; *Engineer* 155:331 Mr 31 '33  
 Better times; electrical resistance welding; Federal spot, projection, seam and flash welders; illustrations. *Iron Age* 130:394-5 D 29 '32  
 Boiler tubes made by a new process. *il* Ry Mech Eng 107:144 Ap '33  
 Developments in the electrical industry during 1932; electric welding. J. Liston. *il* Gen Elec R 36:30-2 Ja '33  
 E.C. & M. automatic weld timer. *il* Am Mach 77:545 Ag 16 '33; *Automotive Ind* 69:314 S 9 '33; *Iron Age* 132:27 Jl 27 '33  
 Economies in the manufacture of valve spring collars. G. Kerr. *il* Am Mach 77:80-1 F 1 '33  
 Der einfluss von schlackeneinschlüssen auf die güte der schweißnaht bei der elektrischen widerstands-stumpfschweißung. H. Blomberg. *il* Zeit Ver Deutsch Ing 77:475-7 My 6 '33  
 Electric welding at the Selby swing bridge. *il* diags Engineering 134:583-4, pl 22 N 18 '32  
 Electric welding; erection of 20 all-welded buildings for the Bata shoe co. *ltd.* Electrician 110:631 My 12 '33  
 Electric welding has rapidly gained ground in industry. *il* Mach 39:323-8 Ja '33  
 Electrically welded standpipe at Lake Mohawk. *il* Pub Works 64:13 O '33  
 Electrically welded steel tubes; Tube products *ltd.*'s works. *il* plan Mech Handling 20:168-9 My '33  
 Fabricating the water gates for Boulder Canyon project. C. C. Brinton. *il* Iron Age 132: 10-13+ O 19 '33  
 Federal special welder for concrete pile forms. *il* Am Mach 76:1174 N 23 '32  
 Flash welding automobile doors; Edward G. Budd mfg. co. Philadelphia. *il* Iron Age 131: 316-17 F 23 '33  
 Fusion welded drums. *il* Engineer 154:569 D 2 '32; *Engineering* 134:661 D 2 '32  
 Giant hangar has all-welded floors. *Sci Am* 147:370 D '32  
 Giant welded penstocks take form at Boulder Canyon field plant. *il* Iron Age 132:22-3 N 9 '33  
 Huge condenser fabricated in the new manner. *il* Elec J 30:5 Ja '33  
 Interesting repair job described in pictures; illustrations. *Ry Mech Eng* 107:218 Je '33  
 L.M.S. bridge reconstruction. *il* Engineer 155: 255-6 Mr 10 '33  
 Method outlined for welding plates in field to construct oil storage tanks at low cost. C. W. Hines. *diags Oil & Gas J* 31:14+ D 15 '32  
 Methods of reconstructing old steel bridges. C. A. Melick. *diags Roads & Sts* 76:236-9+ Je '33; *Excerpts. Eng N* 110:706-8 Je 1 '33  
 Metropolitan-Vickers portable electric welding set. *il* Engineer 155:659 Je 30 '33  
 Ein neues gas-elektrisches schweißverfahren. E. Kalisch. *il* Zeit Ver Deutsch Ing 77:355-6 Ap 1 '33  
 Producing welded steel tube. *il* Elec R (Lond) 112:491 Ap 7 '33  
 Resistance welding machine built largely of aluminum. *il* Iron Age 132:26 Jl 27 '33  
 Resistance welding; progress in 1932. *Electrician* 110:113 Ja 27 '33  
 Schweißmaschinen mit verbunderregung. L. Roebel. *il* diags Zeit Ver Deutsch Ing 77: 153-4 F 11 '33  
 Shotwelding boosts revenue by cutting truck body weight. *il* Automotive Ind 68:559 My 6 '33  
 Shot welding stainless steel. *il* Sci Am 148:55-6 Ja '33  
 Spot and line welding of stainless steel. W. C. Hutchins. *il* Elec W 101:424-5 Ap 1 '33  
 Spot welding stainless steels demands careful control for good results. V. W. Whitmer. *Automotive Ind* 68:76 Ja 21 '33; *Same. Ry Mech Eng* 107:68-9 F '33; *Same. Steel* 92:23 F 20 '33  
 Swift air-operated automatic spot welder. *il* Iron Age 131:633 Ap 20 '33  
 Swift combination projection and spot welders. *il* Iron Age 131:320 F 23 '33  
 Tagung für elektroschweißung, Essen, 20. bis 22. Juli 1933. *Chemische Fabrik* 6:378-80 S 6 '33  
 Timing of spot welding with respect to current flow; abstract. D. C. Wright. *il* diags Automotive Ind 69:454-5 O 14 '33  
 To weld 18-8. E. J. W. Ragsdale. *il* Metal Prog 24:25-8 Jl '33  
 Track welding practice shows marked advance. W. Spraragen. *il* Transit J 77:54-6 F '33  
 Welding plays increasingly important part in making Dodge cars; illustrations. *Iron Age* 130:842-3 D 1 '32  
 Welding without distortion. A. Puishes. *diag Maintenance Eng* 90:463-4 D '32  
 Works of Tube products, *ltd.* *il* Engineer 155: 88-9 Ja 27 '33
- Control**
- Automatic time controls for spot welders; discussion at annual fall meeting of the American welding society. *Steel* 93:41 O 23 '33  
 Thyatron control of welding in tube manufacture; abstract. H. W. Lord and O. W. Livingston. *Mech Eng* 55:642 O '33
- Hydrogen process**
- Copper hydrogen electric welding. W. W. Anderson. *il* Aviation Eng 8:14+ Ap '33  
 Mass production welding; Zeppelin copper-hydrogen-electric furnace. *il* Sci Am 149: 118-19 S '33  
 New automatic welding process; hydrogen-electric-welding. T. M. Rude. *il* Refrig Eng 25:247-9 My '33  
 Producing strong joints by hydrogen welding. *il* diag Mach 39:778-80 Ag '33
- Patents**
- Electric welded pipe patents upheld by U. S. Supreme court. *Iron Age* 131:143 Ja 19 '33; *Ry Age* 94:221-2 F 11 '33
- Power**
- Balancing resistance-welding machine loads on shop lines. W. C. Hutchins. *diag Factory Management* 91:114-16 Mr '33  
 Problem of power supply for resistance welding. W. C. Hutchins. *Elec W* 100:881-3; 102:50 D 31 '32, Jl 8 '33
- Testing**
- Constructional tests on mild steel sections with electrically welded joints; abstract. P. B. Haigh. *Engineer* 155:394-5 Ap 21 '33; *Excerpt. Engineering* 135:442 Ap 21 '33; *Discussion. Engineer* 155:396-7 Ap 21 '33; *Engineering* 135:443 Ap 21 '33  
 Effect of heat treatment of welds. L. W. Schuster. *Engineer* 155:510 My 19 '33  
 Electric resistance welded boiler tubes. J. S. Adelson. *il* Iron Age 132:21-3+ Ag 17 '33  
 Qualified welders make joints strong & uniform. H. M. Priest. *diags Metal Prog* 22: 29-33 D '32  
 Shear strength of resistance welds. G. A. Hughes. *il* diags Elec W 102:634-6 N 11 '33
- ELECTRIC welding, Arc**
- All-welded cars for transporting transformers. O. M. Bloch. *il* Ry Age 94:36-8 Ja 14 '33  
 All-welded factory erected by the Bata shoe co. at East Tilbury. *il* Elec R (Lond) 112: 901 Je 23 '33  
 And now gun welding. *il* Power 77:97 F '33  
 Apparatus for welding thermocouples; abstract. *diag Mech Eng* 55:642 O '33  
 Arc welded crack in rotary kiln holds after three years. Concrete (mill sec) 41:30-1 S '33  
 Arc-welded design of passenger car. *il* diags plan Ry Mech Eng 107:113-18 Ap '33  
 Arc-welded steel frame structures. G. D. Fish. 401p \$5 McGraw-Hill '33  
 Arc-welded steel penstock, San Franciscoquito plant no. 2. C. M. Allen. *diag Power Pl Eng* 37:182-3 Ap '33  
 Arc welding and the maintenance engineer. W. C. Tift. *diag Maintenance Eng* 91:48 F '33

**ELECTRIC welding, Arc—Continued**

- Arc welding introduces new methods in machine design. E. Chapman. *il Mach* 39:241-6 D '32
- Arc welding of galvanized steel; abstract. L. C. Bibber. *Iron Age* 132:24 O 12 '33; *Excerpt*. *Eng N* 111:444 O 12 '33; *Elec W* 102:663 N 18 '33
- Arc welding, progress in 1932. *il Electrician* 110:113 Ja 27 '33
- Arc welding sets for heavily coated electrodes. R. E. Miller. *Iron Age* 131:57 Ja 5 '33
- Arc welding six-million-gallon water tank. B. Ferguson. *il Pub Works* 64:24 Mr '33
- Automatic carbon arc welding. *il Elec R (Lond)* 112:150 F 3 '33
- Beer barrels shielded-arc welded automatically. *il Iron Age* 132:28 O 5 '33
- Betriebsorganisation; auswertung von zeitstudien bei lichtbogenschweißungen. G. Theilen. *Stahl & Eisen* 53:1040 O 5 '33
- Bridge welding practices in Australia. W. T. B. McCormack. *il Eng N* 110:596-8 My 11 '33
- Coal mining company uses welding to build bridge of old pipe and rails. *il Steel* 93:30 S 25 '33
- Construction of an all-welded hoist. W. H. Denlinger. *il Gen Elec R* 36:269-70 Je '33
- Cutting maintenance costs in rock products plants by welding. J. S. Roscoe. *diags Rock Prod* 36:64-5 Ag '33
- Depression busting by arc welding; interview with Frank A. McCloud. A. F. Davis. *il Sheet Metal Worker* 24:181-2-4 Je '33
- Design, construction and costs of arc welded pebble mills. D. L. Pellett. *il diags Paper Tr J* 95:27-30 D 22 '32
- Designing for arc welding. A. F. Davis, ed. 424p Lincoln electric co. Cleveland '33
- Detroit city gas company's new purifier is welded throughout. *il Gas Age* 71:77 Ja 21 '33
- Development of portable equipment of the single-welder type. *il Electrician* 111:152 Ag 4 '33
- 18-foot welded steel sphere serves as boulder trap on new dredge. *il Steel* 93:27 N 6 '33
- Electric arc—an agent of maintenance. W. W. Reddie. *il Elec J* 29:552-4 D '32
- Electric arc welders join the railroad gang. W. W. Reddie. *il Elec J* 30:307-8 Jl '33
- Electric arc welding; increasing application; abstracts. E. P. S. Gardner. *Elec R (Lond)* 112:85 Ja 20 '33; *Electrician* 110:70 Ja 20 '33; *Discussion. Elec R (Lond)* 112:85-6 Ja 20 '33
- Electric arc welding under water; abstracts. N. S. Hibshman, C. D. Jensen and W. E. Harvey. *Eng N* 111:445 O 12 '33; *Iron Age* 132:26 O 12 '33
- Electric welded steel plate construction versus cast iron construction. R. N. Conrad. *il diag Rock Prod* 36:26 Ja '33
- Electric welding in aircraft construction. J. F. Lincoln. *il Aviation Eng* 8:25-6 Ja '33
- Electrically-welded spheres. *il Engineering* 135:688 Je 23 '33
- Electrodes of heavy mineral coated type for arc welding. *Transit J* 77:94 Mr '33
- Expansion joints of large diameter are made in plant shop with aid of electric weld. G. C. Coombs. *il diag Oil & Gas J* 31:13 F 9 '33
- Fabricates large gear cases by arc welding; United engineering & foundry co. C. M. Taylor. *il Steel* 92:21-2 F 20 '33
- Fabrication by welding; some typical examples from electrical factories. E. D. Lacy. *il Elec R (Lond)* 112:80 Ja 20 '33
- Fabrication of steel for the Sky Ride at Century of progress exposition. E. T. Blix. *diags W Soc E J* 38:182-92 Ag '33
- Factors that influence welding performance; abstracts of papers at A.I.E.E. meeting. *Elec W* 101:161 F 4 '33
- First all-welded penstock completed; San Francisco plant no. 2 of the Los Angeles bureau of power and light. C. M. Allen. *il Elec West* 70:84-7 Mr '33
- G. E.'s new piping for 400-lb, 750-F service electric arc welded throughout. R. Daniels. *il Heating-Piping* 5:354-7 Jl '33
- Growth of the electric arc welding industry. E. A. Hurme. *Iron Age* 132:20-1 N 9 '33
- Hansen improved arc welders. *Iron Age* 131:170 Ja 26 '33
- Harnischfeger portable gasoline-driven arc welders. *il Iron Age* 130:808 N 24 '32
- High frequency for arc welding. G. A. Johnstone. *il diag Elec Eng* 52:14-16 Ja '33; *Abstract. Mech Eng* 55:262 Ap '33
- Hospital addition introduces welding in San Francisco; eight-story Medical school building, University of California. E. M. Knapik. *il diags Eng N* 110:222-3 F 16 '33
- How to tell a good arc weld. A. H. Madson. *il diags Factory Management* 91:254-5 Jl '33
- Impact values of weld metal; abstract. J. C. Hodge. *Iron Age* 132:23 O 12 '33
- Industrial plant saves by electric welding. R. J. Collins. *il Elec W* 101:220-3 F 18 '33
- Large arc-welded tank completed in Milwaukee. *Elec W* 101:183 F 11 '33
- L.N.E.R. welded wagon underframes. H. N. Gresley. *il diags Engineer* 155:600 Je 16 '33
- Maintenance costs cut by arc welding. A. F. Davis. *il Gas Age* 72:129-30+ Ag 5 '33
- Metal deposition in electric arc welding. G. E. Doan and J. M. Weed. *il diag Elec Eng* 51:852-4 D '32; *Abstract. Eng N* 109:446 O 13 '32
- Metallic arc welding of aluminum. A. H. Woollen, W. M. Rogerson and G. O. Hogland. *il Aera* 23:1410-13 N '32
- Milwaukee builds a welded tank of 6,000,000-gal. capacity. *diag Eng N* 110:589 My 11 '33
- New arc welding transformer. *il diag Engineer* 155:599 Je 16 '33
- New developments extend use of arc welding. E. W. P. Smith. *il Heat & Ven* 30:29-31 Je '33
- Parsons two-wheeled portable electric welding plant. *il Engineering* 136:102 Jl 28 '33
- Philips rectifier welding set. *il diag Engineer* 156:167 Ag 18 '33
- Physical properties of welded cast steel. C. H. Jennings. *Iron Age* 132:22 O 12 '33; *Excerpts. Eng N* 111:445 O 12 '33; *Elec W* 102:594-5 N 4 '33; *Discussion. R. A. Bull. Iron Age* 132:22-3 O 12 '33; *Abstract. Foundry* 61:46 N '33
- Pooley and Austin improved arc welding generator. *il diag Engineer* 155:633 Je 23 '33
- Protected arc welding machine. *il Iron Age* 132:27 O 5 '33
- Rail joint failures reduced by improved welding methods. J. U. Bragg. *diags Transit J* 77:112-13 Ap '33
- Reconditioned gas line in California rebuilt with welded joints. W. A. Sawdon. *il diag Am Gas J* 138:12-13 Mr '33
- Re-design of high pressure gas metering and pressure regulating stations. W. J. Gray. *diags Oil & Gas J* 31:76 Ja 19 '33
- Repairing bridges with wrought iron plates. W. R. Roof. *il diag Ry Age* 95:122-3 Jl 15 '33
- Rivets or welds? H. H. Hollis. *Gas J (Lond)* 200:628-9; *Discussion. 629-30 N 30 '32*
- Self-supporting arc-welded steel roof for grain elevators. *il Engineering* 135:22 Ja 6 '33; *Elec Eng* 52:35 Ja '33
- Self-supporting roofs; grain elevators, Albany. A. J. T. Eyles. *il Elec R (Lond)* 113:252 Ag 25 '33
- Sequence in welding terminals, a real bonding factor. *diags Coal Age* 37:447-8 D '32
- Some applications of pipe welding. C. O. Barclay. *il Heat & Ven* 30:44-5 Ja '33
- La soudure électrique et la construction des réservoirs soudés. J. Louis. *Soc Ing Civils Bul* 86:523-54, pl 217 My '33
- Special river-sea bulk cargo arc-welded ship. G. F. D. Wahl and H. E. Johns. *diags Marine Eng* 38:48-9 F '33
- Spherical steel mixing tank for gas is arc welded. *il Steel* 92:34 My 1 '33
- Standard data; hand electric arc weld. Factory & Ind Management 83:479-80 D '32
- Supervision of arc-welded construction. A. S. Coombs. *il Am Arch* 143:51-2 My '33
- Telescopes are housed in welded steel buildings; United States naval observatory, Washington. *il Steel* 93:26-7 O 16 '33



**ELECTRIC welding, Arc—Continued**

- Transporting steam at 400 lb., 750 deg. F.; steam distribution system between the new mercury vapor power station and works of the General electric co. at Schenectady. R. H. Roge's. *il* diags *Power Pl Eng* 37: 422-5 O '33
- Tubes welded to spheres. A. F. Burstall. *il* *Metal Prog* 23:48-9 F '33
- 12-ton roll-changing hook provides severe test of weld strength. *il* *Steel* 92:19-20 Ja 9 '33
- Unique forming and welding operations; Midland steel products co, Cleveland, manufactures automobile rear-axle housings. F. L. Prentiss. *il* diags *Iron Age* 131:198-201+ F 2 '33
- Universal power corp. gas-driven trailer-type arc welder. *il* *Iron Age* 130:928 D 15 '32
- Use of electric arc welding in warship construction; abstracts. C. S. Lillcrap. diags *Engineering* 135:419-21 Ap 14 '33; *Engineer* 155:409-10 Ap 21 '33; *Discussion, Engineering* 135:442-3 Ap 21 '33; *Engineer* 155:396-7 Ap 21 '33
- Water storage tank is arc welded. B. Ferguson. *il* *Iron Age* 131:663 Ap 27 '33
- Welded construction cuts cost of perforating dies in half. C. M. Taylor. *il* *Mach* 40:24 S '33
- Welded pipe line in California carries water under water. *il* *Steel* 93:25 N 13 '33
- Welded plate for furnace-work. G. B. Cramp. *il* diags *Metal Prog* 23:24-7 My '33
- Welded steel poles. *il* *Elec R (Lond)* 112:190 F 10 '33
- Welded tubing for automobile use. W. E. Stine. *il* *Am Mach* 77:137 Mr 1 '33
- Welder for railroad track maintenance. *il* *Iron Age* 131:633 Ap 20 '33
- Welding a large water-pipe-line at Vancouver, B.C. W. H. Powell. *il* *Can Eng* 65:5-9 O 31 '33
- Welding aluminum with the metallic arc. J. J. Bowman. *il* *Mach* 39:403-6 F '33
- Welding for tramways. E. D. Lacy. *il* *Elec R (Lond)* 112:411-12 Mr 24 '33
- Welding in the steel industry—construction of welded steel rollers. C. M. Taylor. *il* diags *Iron Age* 131:620-1 Ap 20 '33
- Welding in the steel industry—fabrication of steel mill machinery. C. M. Taylor. *il* diags *Iron Age* 131:1024-7 Je 29; 132:16-17+ J1 6; 24-5 Ag 3 '33
- Welding in the steel industry—rational design as applied to mill housings. W. H. Warren. *il* diags *Iron Age* 131:464-5+ Mr 23 '33
- Welding joints in open track. F. B. Walker. *il* *Transit J* 77:186 Je '33
- Welding of structural nickel steel; abstracts. W. L. Warner. *Iron Age* 132:24-5 O 12 '33; *Eng N* 111:444 O 12 '33; *Elec W* 102:569 O 28 '33
- Welding water tunnel liner. *il* *Sci Am* 148: 172 Mr '33
- Westinghouse laboratories study gas absorption during welding. *il* diags *Iron Age* 132:17 Ag 31 '33; Same. *Steel* 93:27-8 Ag 14 '33; Same. *Sci Am* 149:224 N '33; Same abr. *Automotive Ind* 69:190 Ag 12 '33
- Westinghouse tractor welder for railroad maintenance. *il* *Elec Traction* 29:181 Je '33; *Engineering* 136:33 J1 14 '33
- Wilson welder & metals co. introduces self-excited arc welding machine. *il* *Steel* 92:40 F 6 '33
- Wrought iron bridge 45 years old rehabilitated by steel and welding. *il* *Steel* 92:20 F 13 '33

**Advertising**

- Sales letters that get action from industrial buyers; Lincoln electric company. A. F. Davis. *Ptr Ink Mo* 27:21+ S '33
- You're advertising to a parade—not a mass meeting; Lincoln electric company. A. F. Davis. *il* *Ptr Ink Mo* 26:33-4 Mr '33

**Control**

- Problem in arc-welding control. E. Mills. diags *Factory Management* 91:327-8 Ag '33

**Hydrogen process**

- Atomic hydrogen welding solves heat exchange equipment problem. M. W. Brewster. *il* *Iron Age* 131:434-5 Mr 16 '33
- Automatic arc welding with atomic hydrogen. J. T. Catlett. *il* diags *Am Mach* 77:172-3 Mr 15 '33
- Half a million inches of welding a week; manufacture of oil burning equipment by the General electric co. C. O. Herb. *il* *Mach* 39:433-6 Mr '33

*See also*

- Electric welding, Arc

—Hydrogen process

**Safety devices and measures**

- Welding tent prevents injuries. F. J. Martin. *il* *Transit J* 77:184 Je '33

**Testing**

- Festigkeitseigenschaften von proben aus einer elektrisch geschweissten trommel. E. Rüter. *il* *Zeit Ver Deutsch Ing* 77:917-20 Ag 26 '33; Abstract (Tests on electric welding). *Engineer* 156:sup[Metallurgist] 77 O 27 '33
- Untersuchung einer elektrisch geschweissten hochdrucktrommel. W. Jamm and O. Weinrich. *il* *Zeit Ver Deutsch Ing* 77:901-4 Ag 19 '33
- Welding progress facilitates bridge reconstruction and repair. A. Vogel. *il* *Iron Age* 132:18-23 S 28 '33

**ELECTRIC wire**

- Electrical conductivity of aluminium wire. A. J. Field and J. H. Dickin. *Engineering* 135: 473-5 Ap 28 '33
- Insulations—wire coverings. H. Warren. *Electrician* 110:736-7 Je 9 '33
- Reclamation of copper wire. *il* *N E L A Bul* 20:66-9+ F '33

*See also*

- Electric cables                      Electric wiring  
Electric conductors              Telephone wire  
Electric lines

**Manufacture**

- Coating wire with cellulose acetate. W. S. Magill. *il* diags *Nat Safety N* 27:25-6 Je '33
- Surrounding wires with rubber. *il* *Sci Am* 148: 333-4 Je '33

**Standards**

- Definitions and general standards for wires and cables. 11p American institute of electrical engineers, New York '32

**Weatherproofing**

- Improved weather-resistant coverings for overhead line wires. L. L. Carter and others. *il* *Purdue Univ Eng Exp Sta Research Bul* 43:1-68 '32

**ELECTRIC wiring**

- British standard specification for steel conduit and fittings for electrical wiring. (Rev. April 1933) 35p British standards institution, London '33
- Cable vs. open wires for service drops. *il* *Elec W* 101:521 Ap 22 '33
- Code revised for 1933. *Elec West* 70:162-3 My '33
- Color code for meter leads simplifies testing. J. P. Surratt. diags *Elec W* 101:363-4 Mr 18 '33
- Contractors' viewpoint on wiring and the code. L. E. Mayer. *Elec W* 102:541 O 21 '33
- Dual conduit-circuit designation speeds construction work. W. B. Morton. diags *Elec J* 30:268 Je '33
- Electric wiring for lighting and power installations. A. L. Cook. 3d ed 463p \$3 Wiley '33
- Electricity for the World's fair. J. L. McConnell. *il* plans *Elec W* 101:639-704 My 27 '33
- Looking forward in farm wiring. diags *Elec W* 102:88 J1 15 '33
- Low-voltage distribution; a simplified method for signalling, lighting and telephone systems. J. Gardner. *il* *Elec R (Lond)* 113:344-5 S 15 '33
- Meter detects potential weakness in control wiring. A. P. Sessions. *il* diags *Elec W* 100: 765-6 D 3 '32
- Methods used for temporary wiring. *il* *Elec W* 101:232-3 F 18 '33

**ELECTRIC wiring—Continued**

- Rural installations. T. C. Gilbert. Electrician 110:730-2, 792-3, 821-2, 850-1 Je 9-30 '33  
 Service attachments to wood buildings. diags Elec W 102:408 S 23 '33  
 Service cable development under new code. O. K. Coleman. il Elec W 102:245-7 Ag 19 '33  
 Underfloor duct at Sunnyvale air base. il Elec West 71:25-6 S '33  
 Wiring; round table discussion. Elec West 70:211 Je '33  
 Wiring simplified. H. P. Richter. 4th ed 76p Montgomery Ward & co, Chicago '33

**See also**

- |                       |                       |
|-----------------------|-----------------------|
| Electric cables       | Electric lines        |
| Electric codes        | Electric transmission |
| Electric conduits     | Insulation (electric) |
| Electric distribution | Telegraph             |
| Electric fittings     | Telephone             |
| Electric fuses        | Telephone cables      |
| Electric lighting     | Telephone lines       |

**Cost**

- 3-phase, 4-wire costs analyzed. R. E. Lloyd. Elec West 69:224-6 D '32

**Safety devices and measures**

- Bare-neutral wiring; the case against its adoption. T. C. Gilbert. il diags Elec R (Lond) 112:624-5 My 5 '33  
 Electrical inspectors report progress toward wiring safety and adequacy. Elec W 102:387 S 23 '33  
 Rules covering installation of wires and electric equipment. 198p Oregon. Bureau of labor statistics and inspector of factories and workshops, Salem '32

**Standards**

- Simplifying adequate service to the home. H. P. Sparkes. il Elec W 100:538-41 O 15 '32; Discussion. 101:321-3 Mr 11 '33

**Tables, calculations, etc.**

- Carrying capacity of copper wire. L. G. E. Bignell. Oil & Gas J 31:101 My 18 '33  
 Suggested tables and data for use in designing a wiring plan and lighting installation. Elec West 70:251-3 Je '33

**ELECTRIC wiring, Interior**

- Applied sense in school design. il Elec West 70:90-1 Mr '33  
 Bare-neutral report up for consideration. Elec W 101:313 Mr 11 '33  
 Bare neutral wiring; some examples of American practice. T. C. Gilbert. il Electrician 109:777-80 D 16 '32  
 Convenience control of residence lighting. J. C. Runyon. diags plans Elec W 102:349-51 S 9 '33  
 Electrical distribution in a modern skyscraper; Gulf building, Pittsburgh. J. C. Runyon. il diags Elec J 30:245-9 Je '33  
 Electrical equipment of the Chicago post office. C. A. Carpenter. diags W Soc E J 38:266-73+ O '33; Excerpts. Elec W 102:108-9 Jl 22 '33  
 Excerpts from West Penn range and wiring policy. Elec W 100:752 D 3 '32  
 House wiring simplification and elaboration; abstracts. F. C. Raphael. Elec R (Lond) 111:966 D 30 '32; Electrician 110:10 Ja 6 '33  
 How wire sizes affect lighting economy. W. H. Horton. Am Arch 143:19-22 Mr '33  
 Industrial terminal innovations; Port of New York Authority's new inland freight station, New York. il diags Elec W 101:198-202 F 11 '33  
 Large building wiring economies require changes. H. R. Searing. Elec W 100:824-5 D 17 '32  
 Legitimate chiseling; installing underfloor conduit systems in old buildings. D. Coyle. il Elec West 70:93 Mr '33  
 Modern systems of electrical installation for large buildings. R. C. W. Joyce. Electrician 109:688 N 25 '32  
 New wiring methods and materials and their relation to installation costs. M. S. Glenn. Elec West 70:237-8 Je '33

- Poultry house wiring amortized in one season. diags Elec W 102:435 S 30 '33  
 Progress in bare neutral and non-metallic wiring methods. J. D. Noyes. Edison Elec Inst Bul 1:29 My '33  
 Residential load possibilities. E. S. Fitz. Elec W 102:400 S 23 '33  
 Rewiring drive brings results. R. A. Palmer. il Elec W 101:141-2 Ja 28 '33  
 Trends in lighting and electrical equipment for country houses. il Arch Forum 58:241-4 Mr '33  
 Using electrification makes selling it easier. G. Erskine. il Elec West 70:92 Mr '33  
 When lights are low—check voltage; it may be time to rewire. R. Stroppel. Factory Management 91:173-4 My '33  
 Wiring in the Far East; high grade modern installations in Hong Kong. il Electrician 109:643 N 18 '32

**Cost**

- Saving dollars by wiring sense; cost data. E. A. Brand. Elec W 101:450-3 Ap 8 '33

**Finance**

- Assisted wiring schemes. Electrician 110:649-50 My 19 '33  
 First five hundred are the hardest; Los Angeles bureau of power and light electric range campaign. Elec West 69:234 D '32  
 Flat price wiring policy for Pacific gas and electric co. Elec West 70:101 Mr '33  
 Free-wiring corporation as an inducement to greater sales to homes. Elec W 101:524-5 Ap 22 '33  
 Ranges rented to spur Hartford's range sales. il Elec W 101:324-6 Mr 11 '33

**ELECTRIC workers**

- Agreement providing for salesmen in the Cleveland electrical industry. Monthly Labor R 36:146 Ja '33  
 Salesmen for the electrical industry provided for in agreements. Monthly Labor R 37:331 Ag '33  
 Technological changes and employment in the electric-lamp industry. Monthly Labor R 36:1213-28 Je '33  
 Westinghouse strike off; 2,700 workers affected. Elec W 102:549 O 28 '33

**See also**

- Electric utilities—  
 Employees

**ELECTRICAL association for women**

- Annual conference, 8th, Birmingham, England, May 3. Elec R (Lond) 112:634, 666 My 6-12 '33; Electrician 110:613-14 My 12 '33  
 New E.A.W. headquarters. il Electrician 110:153 F 3 '33; Elec R (Lond) 112:153 F 3 '33

**ELECTRICAL association of Philadelphia**

- Philadelphia's experience in co-operation. E. Whitehorne. il Elec W 101:612-16 My 13 '33

**ELECTRICAL contractors' association**

- Annual conference, 8th, Torquay. Elec R (Lond) 113:7-10, 39-41 Jl 7-14 '33; Electrician 111:31-46 Jl 14 '33

**ELECTRICITY**

- Classical theory of electricity and magnetism. M. Abraham. rev ed 285p 15s Blackie & son Ltd, London '32  
 Discours de M. Jean Rey; progrès récents dans l'optique, l'électricité et la mécanique. Soc Ing Civils Bul 86:10-40, pls 212-13 Ja '33; Abstract. Génie Civil 102:88-90 Ja 28 '33  
 Electrical conceptions of to-day. C. R. Gibson. 234p Lippincott '33  
 Electrical theory of matter. W. A. Gallon. Inst E E J 72:72-4 Ja '33  
 Electricity and magnetism; theory and applications. N. E. Gilbert. 548p Macmillan '32  
 Electricity released from matter. K. K. Darrow. Science 77:591-5 Je 23 '33  
 Elementary industrial electricity. L. R. Smith. 287p \$2 McGraw-Hill '33  
 Metals in teeth may generate electricity. E. S. Lain. Sci Am 149:172-3 O '33  
 Practical electricity. T. Croft. 3d ed 674p \$3 McGraw-Hill '33



**ELECTRICITY—Continued**

Theory of electricity and magnetism, being volume III of Introduction to theoretical physics. M. Planck. 247p 10s 6d Macmillan '32

*See also*

Armatures	Lightning
Atmospheric electricity	Magnetism
Corona (electricity)	Photoelectric cells
Dielectrics	Photoelectricity
Electric currents	Piezoelectricity
Electric generators	Radio communication
Electrons	Telegraph
Hall effect	Telephone
Insulation (electric)	Thermoelectricity
Ionization, Electrolytic	X rays

**Dictionaries**

McDonald's electrical dictionary. G. McDonald. 178p \$1.50 Meador pub. co, 470 Atlantic av, Boston '33

**Theft**

Methods of preventing current theft. G. L. Ellerbeck. Elec West 70:238-9 Je '33  
Reducing energy diversion. M. T. McKenzie. Elec W 101:356-7 Mr 18 '33  
Tact essential in handling meter diversions. W. W. Palmer. Elec W 101:94 Ja 21 '33

**ELECTRICITY, Accidents from**

Campaign to reduce kite flying hazards. il Elec West 70:10-11 Ja '33  
Make your plant safer for workers. J. V. Alfriend, jr. il Chem & Met Eng 40:532-5 O '33  
Static electricity in nature and industry. P. G. Guest. diags U S Bur Mines Bul 368: 1-98 [bibliog p90-8] '33  
Tree-spraying shown as negligible hazard. Elec West 70:87 Mr '33

*See also*

Electric engineering— Safety devices and measures	Electricity, Injuries from
Electric equipment— Safety devices and measures	

**ELECTRICITY, Atmospheric.** *See* Atmospheric electricity**ELECTRICITY, Injuries from**

Australian storms; fatalities and interruptions due to lightning and bush fires. Electrician 110:487-8 Ap 14 '33  
Demonstrating electric safety. E. H. Eitel. diags Nat Safety N 28:16-18 Jl '33  
Economy and electrical inspection. Weekly Underw 128:643 Ap 1 '33  
Electric shock and burns cause much lost time. Nat Safety N 28:36 Ag '33  
Electrical accidents, 1932. Engineer 156:181 Ag 25 '33; Engineering 136:146 Ag 11 '33  
Electricity and its safe use in everyday life. A. C. Cramb. Electrician 110:699-700; Discussion. 700 Je 2 '33  
Electricity in factories. Elec R (Lond) 113: 186 Ag 11 '33  
Electricity not dangerous. Elec W 102:510 O 14 '33  
Electrocution; notes on the mechanism of electric death. H. H. U. Cross. Electrician 110:677-8 My 26 '33  
Injuries produced by contact with electric circuits; abstract. O. R. Langworthy and W. B. Kouwenhoven. J Ind Hygiene 15:sup 82-3 Jl '33  
Injuries produced by contact with electric circuits; experimental investigations at The Johns Hopkins university. W. B. Kouwenhoven and O. R. Langworthy. bibliog il J Fr Inst 215:1-26 Ja '33  
Responsibility for electrical accidents. Elec R (Lond) 111:896-7 D 16 '32  
Resuscitation by countershock. W. B. Kouwenhoven and R. D. Hooker. bibliog Elec Eng 52:475-7 Jl '33; Same. Electrician 111: 174-5 Ag 11 '33  
Shock threshold fixes appliance insulation resistance. G. Thompson. Elec W 101:793-5 Je 17 '33  
Study of injuries due to electric shock and burns. H. K. Cook. Safety Eng 65:93-4 Mr '33

**ELECTRICITY, Static**

Static electricity in nature and industry. P. G. Guest. diags U S Bur Mines Bul 368: 1-98 [bibliog p90-8] '33  
Static electricity in paper. M. W. Black. Paper Tr J 95:30 N 17 '32  
Truck static not dissipated by drag chains. J. H. Herbert. Nat Pet N 25:19 Je 7 '33

**ELECTRICITY in air conditioning**

Air conditioning. S. J. Austin. Elec West 70:243-4 Je '33  
Air conditioning activities of the Detroit Edison company. S. S. Sanford. N E L A Bul 19:721-2 D '32; Excerpt. Elec W 101:264 F 25 '33; Abstract. Heat & Ven 30:33-4 Ja '33  
Air conditioning and the central stations. A. D. McLay. il Refrig Eng 25:129-30; Discussion. 130-2 Mr '33  
Air conditioning of private homes. D. W. McLenagan. Elec Eng 52:366-71 Je '33; Same. Elec W 101:644-7 My 20 '33; Same abr. Gen Elec R 36:319-25 Jl '33  
Air conditioning sells. J. P. Minnich. il diag Elec W 102:300-3 S 2 '33  
Application of air conditioning to railroad passenger cars. W. C. Goodwin and C. Kerr, jr. il Elec Eng 52:85-8 F '33  
Commercial and industrial air conditioning; report of committee, Northwest electric light and power association. Elec West 70: 239-42 Je '33  
General Electric air conditioning for Pennsylvania diner. T. F. Perkinson and F. L. Sahlmann. il diags Ry Age 95:402-4 S 16 '33  
Les installations de propagande de l'Office central électrique; conditionnement de l'air. de Poncharra. il diag Soc Ing Civils Bul 86:83-95 Ja '33  
Load building opportunities in the air conditioning field. C. E. Michel. Edison Elec Inst Bul 1:137-9; Discussion. 139-43 Ag '33  
Money in the air. il Elec West 71:5-6, 8-10+ Jl '33  
Reversed cooling for heat an economic combination. C. D. Graham. Elec W 102:533-7 O 21 '33  
These two jobs show application of electric heating to office buildings. L. P. Hynes. il Heating-Piping 5:358-60 Jl '33

**ELECTRICITY in mining**

Belle Vue coal pagent; exhibit of electrical plant for mines at Manchester. il Electrician 111:57 Jl 14 '33  
Current collectors for mine haulage. G. W. Bower. Eng & Min J 134:60 F '33  
Desloge mine plant modernized—operating costs reduced. H. A. Neustaedter. il diags Eng & Min J 134:238-40 Je '33  
Development and application of energy in the mining and metallurgical treatment of copper ore; abstract. W. Jurden. Engineering 136:478 O 27 '33  
Electric vs. steam power in Michigan mines. Elec W 101:108-9 Ja 21 '33  
Electricity in mines. Engineering 136:266-7 S 8 '33  
Electricity in mines. A. R. Cooper. diags Inst E E J 73:169-78 Ag '33; Abstract. Elec R (Lond) 112:11-12 Ja 6 '33; Discussion. Inst E E J 73:178-85 Ag '33  
Electricity in mining operations. W. G. Chace. Can Min J 54:385-6 O '33  
McIntyre's equipment; mechanical and electrical. W. F. J. Cosser. il diags plan Eng & Min J 134:485-91 N '33  
Sizes and types of electric drives in Michigan copper and iron mines. Elec W 101:457 Ap 8 '33

*See also*

Coal mines and mining—Electric equipment	Electric shovels
Coal mines and mining—Power	Mine hoisting, Electric
Detonators, Electric	Mine lighting
Electric locomotives, Mine	Mining engineering—Power
	Prospecting—Electric methods

**Safety devices and measures**

Electric fires at mines. A. R. Webster. Can Min J 54:343-5 S '33

**ELECTRICITY in mining**—Safety devices and measures—*Continued*

International viewpoint on safeguarding electrical equipment used in gassy mines. L. C. Ilsley, E. J. Gleim and F. Craven. U S Bur Mines Information Circ 6690:1-16 '33

**ELECTRICITY in refrigeration**

Laboratory cooling unit. D. H. Cook. diag Ind & Eng Chem Anal ed 5:147-8 Mr 15 '33  
Possibility of electrical production of refrigeration; abstract. E. Schlagel. Refrig Eng 26:257 N '33

Storage of grapes; plant installed in southern France. Estrade. Electrician 110:550 Ap 28 '33

**ELECTRICITY in the home**

Direct purchase v. simple hire. F. D. Parker. Electrician 110:71 Ja 20 '33

Domestic load. F. D. Parker. Electrician 110:514 Ap 21 '33

Electricity in the home; description and illustrations of equipment with index to manufacturers. il Elec R (Lond) 113:481-523 O 13 '33

Home, a \$21,000,000,000 market. il Elec W 101:34-5 Ja 7 '33

Lightening the domestic burden. N. D. Rayner. il Elec R (Lond) 113:5-6 Jl 7 '33

Lighting fields to explore with profit. M. E. Skinner. Edison Elec Inst Bul 1:103-6+ Jl '33; Same cond. Elec W 101:774-6 Je 10 '33; Discussion. Edison Elec Inst Bul 1:107-10 Jl '33

More diversity in home uses than code recognizes. W. F. Walsh. Elec W 101:124-7 Ja 28 '33

More light on the electric service bill. Edison Elec Inst Bul 1:29-30 My '33

Nearly all-electric house. E. T. Barton. Elec R (Lond) 112:700 My 19 '33

Residence load characteristics based on field studies. G. L. Jorgensen and R. L. Matteson. il Elec W 100:684-8 N 19 '32

Residential load possibilities. E. S. Fitz. Elec W 102:400 S 23 '33

76 per cent of German homes have electricity. Elec W 101:294 Mr 4 '33

Simplifying adequate service to the home. H. P. Sparkes. il Elec W 100:538-41 O 15 '32; Discussion. 101:321-3 Mr 11 '33

Some points to watch. N. D. Rayner. Elec R (Lond) 113:358 S 15 '33

Urgency of domestic electrification. J. M. Kennedy. Elec R (Lond) 113:555-6 O 20 '33

What home owners want. Elec W 100:887-91; 101:299 D 31 '32, Mr 4 '33

*See also*

Apartment houses—	Electric water heaters
Electric equipment	Refrigerators, Electric
Electric apparatus	
and appliances,	
Domestic	

**ELECTRICITY in the petroleum industry**

Company in east Texas installs central electric power generating plants on various leases. L. G. E. Bignell. Oil & Gas J 32:14+ Jl 27 '33

Ready availability of electrical power points to its wide adoption in east Texas territory. map Oil & Gas J 32:66 Je 22 '33

System of power lines will make electricity available to all Oklahoma City operators. map Oil & Gas J 32:36 Ag 31 '33

Variable-voltage oil drilling equipment. A. H. Albrecht. il diag Elec Eng 52:617-21 S '33

**ELECTRICITY on ships.** See Ship propulsion, Electric; Ships—Electric equipment**ELECTRICITY on the farm**

Agricultural machinery; electrical features of the Paris exhibition. R. B. Matthews. il diag Electrician 110:217-18 F 17 '33

Application of electric power to farming; abstracts. F. E. Rowland. Electrician 110:46 Ja 13 '33; Elec R (Lond) 112:48 Ja 13 '33

Applications of electricity to agriculture. R. B. Matthews. Inst E E J 72:134-6 F '33

Electric soil heating cable and its use in the Northwest. F. E. Price. Elec West 70:266-7 Je '33

Electro-farming; electrical applications at the Rothamsted experimental station. Electrician 110:835 Je 23 '33

Electro-farming; progress in 1932. R. B. Matthews. Electrician 110:105-6 Ja 27 '33

Electro-farming; some recent German developments and appliances. R. B. Matthews. il Electrician 110:823-4 Je 23 '33

Farm, a \$4,575,000,000 market. il Elec W 101:38 Ja 7 '33

Farm electrification steadily winning. G. W. Kable. Elec W 102:605 N 4 '33

Farm power. Business Week p16 N 30 '32

Five years' progress in the electrification of agriculture round Chester; abstract. S. E. Britton. Electrician 111:11 Jl 7 '33

German national agricultural show. R. B. Matthews. il diag Engineering 135:670-1 Je 23 '33

Keeping young pigs warm. Elec R (Lond) 113:467 O 6 '33

Needs of the farmer and the responsibility of supply undertakings; abstracts. H. J. Denham. Electrician 110:782-4 Je 16 '33;

Elec R (Lond) 112:852 Je 16 '33; Engineering 136:49 Jl 14 '33; Discussion. Electrician 110:784 Je 16 '33; Elec R (Lond) 112:904-5

Je 23 '33; Engineering 136:49 Jl 14 '33

Practicability of land tillage by means of electric power; abstract. A. McDowall. il Elec R (Lond) 111:926 D 23 '32

Pump testing as load insurance. il Elec West 70:18-19 Ja '33

Report of progress in rural electrification, by a Florida company. N E L A Bul 19:743-5 D '32

Royal agricultural show. R. B. Matthews. il Electrician 111:47-8 Jl 14 '33

Royal Lancashire show; some of the principal electrical exhibits. il Elec R (Lond) 113:188 Ag 11 '33

Rural electrification. W. H. Jones. il Elec R (Lond) 112:862 Je 16 '33

Rural electrification developments. il Elec R (Lond) 113:378-9 S 22 '33

Rural electrification program; Alabama power company wins Edison electric institute award. R. J. Gregg. Manuf Rec 102:42+ Ag '33

Some problems of applying electricity to agriculture; abstract. F. E. Rowland. Electrician 110:681 My 26 '33; Discussion. Elec R (Lond) 112:742 My 26 '33; Electrician 110:681 My 26 '33

Use of electricity in agriculture; abstracts. F. E. Rowland. Electrician 110:174 F 3 '33; Elec R (Lond) 112:156-7 F 3 '33

*See also*

Electric service, Rural  
Electric tractors  
Electrohorticulture

**Bibliography**

Publications of the National rural electric project. N E L A Bul 19:727 D '32

**ELECTRICITY supply***See also*

Electric lines  
Electric plants

**Australia**

Australia advancing. Electrician 111:310, 311 S 15 '33

Australian news. Electrician 109:712-13 D 2 '32

Australian storms; fatalities and interruptions due to lightning and bush fires. Electrician 110:487-8 Ap 14 '33

Supply in Australia. Electrician 110:191; 111:168-9 F 10, Ag 11 '33

**Baltimore**

Safe Harbor energy as used in Baltimore. A. S. Loizeaux. il diag Elec Eng 52:564-9 Ag '33

**Bulgaria**

Bulgaria; Vatcha power station discussions. Electrician 110:182 F 10 '33

**Chicago**

Chicago's bulk power supply. G. M. Armbrust and T. G. Le Clair. N E L A Bul 19:674-6+ N '32; Excerpt. Elec W 101:75 Ja 14 '33



## ELECTRICITY supply—Continued

## China

Chinese plants generate 2.5 billion kw.-hr. annually. Elec W 102:247 Ag 19 '33

## France

Le Congrès du syndicat des producteurs et distributeurs d'énergie électrique (Mulhouse, 12-15 juin 1933). Génie Civil 103:65-7 JI 15 '33

Electricity supply in France. Engineering 134: 712 D 16 '32

L'électrification rurale en France et son développement depuis une dizaine d'années. L. Fèvre. maps Génie Civil 102:181-3 F 25 '33

French output one-fifth for chemicals. Elec W 102:87-8 JI 15 '33

Rural electrification in France. T. Rich. il Elec R (Lond) 112:931, 933-4 Je 30 '33

Rural electrification; results of state aid in France. Electrician 110:548 Ap 28 '33

## Great Britain

Analysis of the costs of electricity supply and distribution in Great Britain, with some suggestions as to the causes of and remedies for the slow rate of development. J. M. Kennedy and D. M. Noakes. Inst E E J 73:97-113 Ag '33; Abstracts. Elec R (Lond) 112:156 F 3 '33; Electrician 110:154 F 3 '33; Discussion. Inst E E J 73:113-68 Ag '33; Elec R (Lond) 112:191, 243-4 F 10-17 '33; Electrician 110:219 F 17 '33

Assisted wiring schemes. Electrician 110:649-50 My 19 '33

Bournemouth and Poole; progressive company undertaking which supplies 325 sq. miles. il map Electrician 110:728-9 Je 9 '33

British output doubles in six years. Elec W 101:728 Je 3 '33

Central electricity board report for 1932. il Electrician 110:407-8 Mr 31 '33; Elec R (Lond) 112:443-4 Mr 31 '33

Central electricity board's tariff. Engineering 134:628-9 N 25 '32

Central electricity board's tariff. H. M. Sayers. Elec R (Lond) 111:773 N 25 '32

Change-over of low-tension distribution systems from direct current to alternating current. H. Blades and A. C. MacQueen. Inst E E J 71:737-54; Discussion. 754-75 N '32

Completion of the grid. il Elec R (Lond) 112:853-4 Je 16 '33

Difficulties in connection with overhead lines and electricity supply; discussion. Electrician 110:276 F 24 '33

Distribution system of the Ringmer and district electricity supply company. il Engineering 136:407-8 O 13 '33; Engineer 156: 354-5 O 13 '33; Elec R (Lond) 113:525-6 O 13 '33; Electrician 111:437-8 O 13 '33

Dumfries county scheme. il Elec R (Lond) 112:192 F 10 '33

Effect of manufactures on the electricity supply industry; discussion of high pressure steam plants. J. Morton. Inst E E J 72:56-60 Ja '33

Electricity in agriculture; report of the Development commissioners for the year ended March, 1932. Elec R (Lond) 111:931 D 23 '32

Electricity in Britain. Economist 116:850-2 Ap 22 '33

Electricity in town and country; area supplied by the Metropolitan electric supply co. ltd. il Elec R (Lond) 112:587, 589-90 Ap 28 '33

Electricity supply and fuel consumption; Electricity commissioners' report. Engineering 136:16-17 JI 7 '33; Electrician 111:75 JI 14 '33

Electricity supply co-ordination; abstract. S. T. Allen. Elec R (Lond) 112:307 Mr 3 '33

Electricity supply; 12th annual report of the Electricity commissioners. Engineer 154:640 D 23 '32; Engineering 134:770 D 30 '32; Elec R (Lond) 111:887 D 16 '32; Electrician 109: 786 D 16 '32

Generation and supply of electricity during the last 16 years. H. A. Nevill. Inst E E J 72: 69-71 Ja '33

Grid scheme—and after. R. F. Legge. Elec R (Lond) 112:163 F 3 '33

Grid supplies; mid-east England tariff issued. Electrician 109:698-9 N 25 '32

How can tariffs be simplified? abstract and discussion. T. Stevens. Elec R (Lond) 112: 596-7 Ap 28 '33

Load building for the grid. W. Welbourn. Elec R (Lond) 113:590-1 O 27 '33

National electricity supply; editorial. Engineering 135:411-12 Ap 14 '33

Outlook for the grid; Electricity commissioners 12th annual report. Economist 115: 1227-8 D 31 '32

Overhead lines; a general survey of the present situation. G. W. Molle. il Electrician 110:539-40 Ap 28 '33

Overhead lines association meeting; discussion on tariffs. Electrician 110:557 Ap 28 '33

Power canvass. W. E. Swale. Elec R (Lond) 112:868-9 Je 16 '33

Power in industry; details relating to electricity undertakings operating for public supply in Great Britain. Electrician 110:146 Ja 27 '33

Progress in the North Wales area. il Elec R (Lond) 111:784 N 25 '32

Progress in the Northmet area. Elec R (Lond) 112:531 Ap 14 '33

Progress of the electrical industry during the last 30 years. R. M. Longman. Inst E E J 72:65-8 Ja '33

Progress of the grid. Electrician 110:97 Ja 27 '33

Reorganisation plans; views on the co-ordination of distribution. J. W. Kennedy. il Electrician 111:469-70 O 20 '33

Rural electrification developments. il Elec R (Lond) 113:378-9 S 22 '33

South-west midlands; progress during 1932-33. Electrician 111:123 JI 28 '33

Supply in Worthing. Electrician 110:729 Je 9 '33

Survey of industrial electric power supply in Great Britain. H. Hobson, F. Forrest and C. D. Taite. Elec R (Lond) 112:936-7 Je 30 '33

What the grid will save. D. J. Bolton. Elec R (Lond) 112:81-2 Ja 20 '33

## India

Electricity supply and traction in India. Elec R (Lond) 113:428 S 29 '33

Southern India; hydro-electric supply and industrial development. Electrician 111:388 S 29 '33

## Indianapolis

Building a new power system; Indianapolis power and light company. F. S. Douglass and A. C. Monteith. il diags Elec J 30:55-9 F '33

System performance tested with 600 short circuits; Indianapolis power & light company. E. G. Ralston and E. H. Klemmer. il diags Elec W 101:192-5 F 11 '33

Testing a power system; Indianapolis 132-kv system. A. W. Hill, P. O. Langguth and R. M. Smith. il diags Elec J 30:90, 95-102 Mr '33

## Ireland

Creameries the nucleus for rural electrification; abstract. C. R. Stewart. Elec R (Lond) 112:157 F 3 '33

Electricity in northern Ireland; first annual report. il Elec R (Lond) 113:561 O 20 '33; Electrician 111:455 O 13 '33

Irish centre; chairman's address. F. R. Unwin. Inst E E J 72:413-16 My '33

Story of the Shannon. R. N. Tweedy. il Elec R (Lond) 112:241-2 F 17 '33

## Isle of Man

Isle of Man supply; inauguration on August 3. il Electrician 111:184 Ag 11 '33; Elec R (Lond) 113:187 Ag 11 '33

## Italy

Electric traction in Italy. Electrician 111:113-14 JI 28 '33

Electricity supply in Italy. Electrician 111:388 S 29 '33

**ELECTRICITY supply—Italy—Continued**

Italian output rising; railway electrification schemes. Electrician 111:202 Ag 13 '33  
 Italy's electrical output analyzed in survey. Elec W 101:782 Je 17 '33  
 Outlook in Italy. il Electrician 110:9 Ja 6 '33  
 Production of electrical energy in Italy. Engineering 135:174-5 F 10 '33  
 Supply in Italy. Electrician 110:703 Je 2 '33  
 Use of electricity in Italy. Electrician 110:828 Je 23 '33

**Japan**

Japanese electric power industry. Elec R (Lond) 112:592 Ap 28 '33  
 Progress in Japan; position of the electrical industry at the end of 1931. Electrician 110:718 Je 2 '33

**Latvia**

Electricity supply in Latvia. Elec R (Lond) 112:703 My 19 '33

**London, England**

Future of distribution; views on reorganisation in the Greater London area. W. B. Pinching. Electrician 111:439-40 O 13 '33; Abstract. Elec R (Lond) 113:526 O 13 '33; Discussion. Electrician 111:440 O 13 '33

London and home counties joint electricity authority; report for 1932-33. Electrician 111:487 O 20 '33; Elec R (Lond) 113:552 O 20 '33

London's electricity supply. Elec R (Lond) 113:14 Jl 7 '33

**Malay peninsula**

Electricity in the Federated Malay States. Elec R (Lond) 113:456 O 6 '33

**Massachusetts**

Creditable depression engineering in Bay State. Elec W 102:316 S 2 '33

**Mauritius**

Electricity in Mauritius. T. Williams. il Elec R (Lond) 112:517-18 Ap 14 '33

**New York (city)**

Laying power cables in the bed of the East river. R. G. Skerrett. il Comp Air M 38: 4191-4 Ag '33

**New York (state)**

St Lawrence tied to promotion of domestic load. Elec W 101:389-91 Mr 25 '33

**Norway**

Activities in Norway; abstract. H. W. Nissen. Elec R (Lond) 112:634 My 5 '33  
 World power conference, electricity in Norway. Electrician 111:84 Jl 21 '33

**Nova Scotia**

Development of power in Nova Scotia. Can Eng 64:13-14 Ja 17 '33

**Ontario**

Distribution of electricity in Ontario rural and urban municipalities. il Can Eng 65:3-8 S 26 '33

Generation and distribution of power in the Province of Ontario with special reference to the work of the Hydro-electric power commission of Ontario. F. A. Gaby. il Inst Mech Eng Proc 123:15-47 '32; Same cond. Engineering 134:399-402 S 30 '32; Abstract. Can Eng 63:7-12 D 27 '32; Discussion. Inst Mech Eng Proc 123:48-56 '32

Ontario hydro commission; report for 1932. il Electrician 111:140-2 Ag 4 '33

See also

Ontario—Hydroelectric power commission

**Palestine**

Power plants in Palestine. W. Schack. il Power 77:529 O '33

**Paris, France**

Distribution in Paris; new underground substations of the C.P.D.E. C. J. O. Garrard. il diags plan Electrician 110:733-5 Je 9 '33  
 Electricity supply of Paris. C. J. O. Garrard. maps Electrician 110:289-91 Mr 3 '33

**Rumania**

Electricity supply in Roumania. Elec R (Lond) 112:351 Mr 10 '33

**Russia**

La centrale hydro-électrique du Dniéprostroï et le centre industriel du Dniépro-combinat (Russie méridionale). M. Gorfinkel. map Génie Civil 101:656-7 D 31 '32  
 Progress of electricity supply in Russia. Engineering 135:475-6 Ap 28 '33  
 Russian industry now 73 per cent electrified. Elec W 101:51 Ja 14 '33  
 Soviet electrification. Electrician 109:819 D 23 '32

**Scotland**

Distribution scheme in Dumfriesshire; inauguration at Lockerbie. Electrician 110:189 F 10 '33  
 Progress at Dunoon. il Elec R (Lond) 112:735 My 26 '33

**South Africa**

Electricity in the smaller South African towns. il Elec R (Lond) 112:604 Ap 28 '33  
 Electricity supply in South Africa. Engineer 155:533 My 26 '33  
 Electricity supply in South Africa. Engineering 135:665 Je 16 '33  
 Electricity supply in South Africa; ten years' progress. il Elec R (Lond) 112:567 Ap 21 '33; Electrician 110:515 Ap 21 '33  
 Progress in South Africa; the report of the Electricity supply commission for 1932. il Elec R (Lond) 113:282 S 1 '33; Electrician 111:287 S 8 '33

**Southern States**

20,000,000 horsepower. Manuf Rec 101:20-1 D '32

**Spain**

Electricity supply in Spain. Elec R (Lond) 112:375 Mr 17 '33

**Springfield, Massachusetts**

Springfield network to return costs inside of four years; with cost data. Elec W 102:630-1 N 11 '33

**United States**

Power economics of the Tennessee project. maps Elec W 101:604-7 My 13 '33

**ELECTROCHEMICAL analysis**

Apparatus and procedure for the electrolytic estimation of arsenic. F. N. Moerk. bibliog diags Electrochem Soc Trans 64 (preprint 17):173-86 S '33

Development of an electrolytic method for the determination of inclusions in plain-carbon steels. G. R. Fitterer and others. il diags U S Bur Mines Rep of Invest 3205:1-70 [bibliog p65-70] '33

Tantalum and columbium cathodes vs. platinum cathodes for electro-analysis. D. F. Calhane and C. M. Alber. Electrochem Soc Trans 63 (preprint 7):61-7 My '33

Verfahren zum bestimmen der chemischen beschaffenheit von flüssigkeiten durch elektrische widerstandsmessung. W. Geyger. Zeit Ver Deutsch Ing 77:507-8 My 13 '33

**ELECTROCHEMICAL industries**

See also  
 Electrochemistry      Electroplating  
 Electrometallurgy      Electrotyping

**Directories**

American and Canadian producers of electrothermic and electrochemical products. Electrochem Soc Trans 63 (preprint 4):39-44 My '33



## ELECTROCHEMICAL industries—Continued

## Canada

Canadian electric furnace industry. A. Stansfield. *Electrochem Soc Trans* 63 (preprint 18):167-81 My '33; Excerpts. *Can Chem & Met* 17:125-8 Je '33

## Japan

Japanese electrochemical industry. *Chem Age (Lond)* 28:195 Mr 4 '33

## ELECTROCHEMICAL society

Annual convention, 63d, Montreal, May 11-13. *Chem & Met Eng* 40:298-300 Je '33; *Metal Ind* 31:206-7+ Je '33

Meeting in Montreal. *Can Chem & Met* 17:101+ My '33

Meeting, 64th, Chicago. *Chem & Met Eng* 40:463-5 S '33; *Metal Ind* 31:341-2 O '33

## ELECTROCHEMICAL theory of corrosion. See Corrosion and anti-corrosives

## ELECTROCHEMISTRY

Chemical action in the glow discharge; the decomposition of nitrogen dioxide and the nitrogen dioxide equilibrium. A. K. Brewer and P. D. Kueck. *bibliog J Phys Chem* 37:889-96 O '33

Chemical action in the glow discharge; the dissociation of ammonia. J. W. Westhaver. *bibliog J Phys Chem* 37:897-906 O '33

Electrical factors of colloid stability. E. S. Hedges. *bibliog Soc Chem Ind J (Chem & Ind)* 51:937-9 N 11 '32

Electrochemical society annual convention, Montreal; abstracts of papers. *Chem & Met Eng* 40:298-300 Je '33

Electrochemical society 64th meeting, Chicago. *Chem & Met Eng* 40:463-5 S '33

Electrochemistry and electrometallurgy—1932-33. *Elec Eng* 52:706-7 O '33

Faraday and his electrochemical researches. R. S. Hutton. 18p *Electrochemical society, Columbia university, New York* '33

Hardness values for electrochemical products. R. R. Ridgway, A. H. Ballard and B. L. Bailey. *il diags Electrochem Soc Trans* 63 (preprint 27):267-90 My '33

Increasing applications of electricity to chemical processes. C. G. Fink. *Elec Eng* 52:151-4 Mr '33; Same cond. *Elec W* 101:361-3 Mr 18 '33

March of electrochemistry. C. L. Mantell. *il Chem & Met Eng* 40:120-2 Mr '33

Sparks from the electrode. C. L. Mantell. 127p *Williams & Wilkins* '33

## See also

Electric batteries

Electric precipitation

Electrochemical

analysis

Electrochemical industries

Electrodeposition of

metals

Electrodeposition of

rubber

Electrodes

Electrolysis

Electrolytes

Electrolytic cells

Electrometallurgy

Electroplating

Electrotyping

Ionization, Electro-

lytic

Passivity

Storage batteries

## Bibliography

Recent periodical literature. Published in monthly numbers of *Bulletin of Electrochemical society*

Transactions of the Electrochemical society; general index, volumes XLI-LX, 1922-1931. 152p *Electrochemical society, inc, New York* '32

## Patents

Patents of interest to electrochemists. Published in monthly numbers of *Bulletin of Electrochemical society*

## Study and teaching

Simple cell for the study of conductance. H. B. Gordon. *diag J Chem Educ* 10:440-1 JI '33

Special exercises for students in general chemistry; electrochemistry. G. B. Bachman and J. K. Farrell. *il diag J Chem Educ* 10:689-90 N '33

## ELECTRODEPOSITION of metals

Abstracts of papers on electrodeposition at Electrochemical society meeting. *Metal Ind* 31:341-2 O '33

Adhesion of electrodeposited coatings to steel. A. W. Hotherhall. *il diags Electrochem Soc Trans* 64 (preprint 8):83-97 S '33

Copper product perfected; Anaconda makes sound sheets by electrolysis. B. H. Strom. *diags Eng & Min J* 134:281-2 JI '33

Electrodeposition; mist plating. *Engineer* 155:125 F 3 '33

Electrodeposition of beryllium. *Engineer* 156:sup [Metallurgist] 50-2 Ag 25 '33

Electrodeposition of bismuth from perchloric acid solutions. M. Harbaugh and F. C. Mathers. *Electrochem Soc Trans* 64 (preprint 15):155-60 S '33

Electrodeposition of iron-copper-nickel alloys; deposition from sulfate-boro-citrate baths. L. E. Stout and C. L. Faust. *Electrochem Soc Trans* 64 (preprint 10):111-22 S '33

Electrodeposition of lead from dithionate baths. R. L. Bateman and F. C. Mathers. *il Electrochem Soc Trans* 64 (preprint 25):301-8 S '33

Electrodeposition of magnesium. D. M. Overcash and F. C. Mathers. *Electrochem Soc Trans* 64 (preprint 12):131-6 S '33

Electrodeposition of metals and alloys from formamide solutions. R. D. Blue and F. C. Mathers. *bibliog Electrochem Soc Trans* 63 (preprint 32):327-34 My '33

Electrodeposition of ternary alloys of cadmium, zinc and antimony. L. E. Stout and L. Goldstein. *il Electrochem Soc Trans* 63 (preprint 3):117-37 My '33

Electrodeposition of zinc. P. Röntgen and R. Buchkremer. *il Engineer* 155:sup [Metallurgist] 38-43 Je 30 '33

Electrolysis; experiments with organic salts of copper. G. Kravtsoff. *Electrician* 111:389 S 29 '33

Electrolysis of silver-bearing thiosulfate solutions. K. Hickman, W. Weyerts and O. E. Goehler. *bibliog il diags Ind & Eng Chem* 25:202-12 F '33

Production of copper sheets. A. Eyles. *Elec R (Lond)* 111:738 N 18 '32; Same. *Metal Ind* 31:53 F '33; Same. *Mech Eng* 55:317 My '33

Special exercises for students in general chemistry; electrochemistry. G. B. Bachman and J. K. Farrell. *il diag J Chem Educ* 10:689-90 N '33

Structure of electrodeposited alloys; the effect of current density and temperature of deposition on the structure of silver-cadmium deposits. C. W. Stillwell and H. I. Feinberg. *bibliog Am Chem Soc J* 55:1864-70 My '33

Theories of addition agent action. R. Taft. *il Electrochem Soc Trans* 63 (preprint 6):53-60 My '33

X-ray analysis of electrodeposited alloys. C. W. Stillwell. *il Metal Ind* 31:47-50 F '33

## See also

Electrometallurgy

Electroplating

Electrotyping

## ELECTRODEPOSITION of rubber

Anode process for rubber articles and coatings. C. L. Beal. *diags Ind & Eng Chem* 25:609-13 Je '33; Excerpt. *India Rubber W* 88:37-8 Ag '33; Correction. *Ind & Eng Chem* 25:1274 N '33

Rubber coatings for abrasion and corrosion resistance. L. Church. *il Chem & Met Eng* 40:467-9 S '33

## ELECTRODES

Advantages of Soderberg electrodes. F. Giolitti. *Metal Prog* 23:47-8 Ap '33

Amplified ballistic method for measurement of glass electrode electromotive force. A. Hemingway and E. L. Arnaw. *diag Ind & Eng Chem Anal* 5:278 JI 15 '33

Application of graphite as an anode material to high vacuum transmitting tubes. E. E. Spitzer. *il Inst Radio Eng Proc* 21:1075-81 Ag '33

**ELECTRODES—Continued**

- Cadmium electrode for storage battery testing. W. J. Holmes and R. Elliott. *il diags Electrochem Soc Trans* 62 (preprint 14): 159-74 S '32; Abstract. *Elec W* 100:701-2 N 19 '32
- Calibration and salt error of the antimony electrode; its application in soil reaction measurements. N. J. King. *bibliog Ind & Eng Chem Anal ed* 5:323-7 S 15 '33
- Contact phenomena in dielectrics. *diags Inst E E J* 72:252-8 F '33
- Depolarised nickel anode cast from chemically pure nickel. *Electrician* 109:620 N 11 '32
- Determination of the hydrogen ion concentration of hypochlorite solutions with the glass electrode. G. F. Davidson. *bibliog Textile Inst J* 24:T185-206 My '33
- Durable glass electrode. D. A. MacInnes and D. Belcher. *bibliog diag Ind & Eng Chem Anal ed* 5:199-200 My 15 '33
- Effect of the solvent on the potential of the chloranil electrode. B. O. Heston and N. F. Hall. *bibliog Am Chem Soc J* 55:4729-30 N '33
- Electrochemical behavior of iron in corrosion cells. H. L. Lochte and R. E. Paul. *diags Electrochem Soc Trans* 64 (preprints 3-5): 23-55 S '33
- Electrodes of heavy mineral coated type for arc welding. *Transit J* 77:94 Mr '33
- Investigation of various electrode structures of cathode ray tubes suitable for television reception. A. B. Du Mont. *il diags Inst Radio Eng Proc* 20:1863-77 D '32
- Metal-connected glass electrode. M. R. Thompson. *diags U S Eur Stand J Research* 9:833-53 [bibliog p852-3] D '32
- Metallized-glass hydrogen electrodes. E. Newbery. *diag Electrochem Soc Trans* 64 (preprint 9):99-110 S '33
- Modified hook-up for routine use of glass electrode. E. C. Gilbert and A. Cobb. *diag Ind & Eng Chem Anal ed* 5:69-70 Ja 15 '33
- New neon electrode has low voltage drop. *Illum Eng Soc Trans* 28:561-2 Jl '33
- Photoelectric currents in gases between parallel plate electrodes. L. A. Young and N. E. Bradbury. *Phys R* 43:34-7 Ja 1 '33
- Potential of the silver-silver iodate electrode at 25°. J. N. Pearce and V. I. Wirth. *Am Chem Soc J* 55:3569-71 S '33
- Resistance of earth electrodes. P. D. Morgan and H. G. Taylor. *Inst E E J* 72:515-18 Je '33
- Studies on overvoltage; the mechanism of the transfer of electrolytic hydrogen and oxygen through thin sheets of platinum and palladium. A. L. Ferguson and G. Dubbernell. *bibliog il diag Electrochem Soc Trans* 64 (preprint 22):253-79 S '33
- Study of polarization currents due solely to changes in electrode area. K. E. Glidden and W. A. Patrick. *diag Am Chem Soc J* 55:3594-602 S '33
- Study of the tellurium electrode. F. H. Getman. *il Electrochem Soc Trans* 64 (preprint 1):1-8 S '33
- Study of the use of the tungsten-nickel electrode system in neutralizations. N. H. Furman and G. W. Low, jr. *Am Chem Soc J* 55:1310-15 Ap '33
- Theory of the stick antimony electrode. L. R. Parks and H. C. Beard. *J Phys Chem* 37: 821-3 Je '33
- Überblick über die ergebnisse der kinetischen untersuchung der passivitätserscheinungen. W. J. Müller. *Angew Chemie* 46:197-8 Ap 8 '33

*See also*

Cathodes  
Electrolytic cells  
Vacuum tubes

**Manufacture**

- Aluminium industry in Scotland; manufacture of electrodes used in reduction furnaces; abstracts. G. Boex. *Engineer* 155:559-60 Je 2 '33; *Engineering* 135:633-6 Je 9 '33; *Electrician* 111:5-6 Jl 7 '33
- Électrodes de Savoie. J. F. Audouin and A. L. Racapé. *il Soc Ing Civils Bul* 55:1022-8 S '32

- Elektrodenpresse mit 10 000 t höchstdruck. H. Fey. *il Stahl & Eisen* 53:960-1 S 14 '33
- 10,000-ton electrode press made by Hydraulik G.m.b.H. of Duisburg. *il Engineer* 156:146 Ag 11 '33

**Testing**

- Determination of maximum current carrying capacity of furnace electrodes. B. L. Bailey and R. R. Ridgway. *diags Electrochem Soc Trans* 63 (preprint 16):147-62 My '33; Abstract. *Elec W* 101:801 Je 17 '33

**ELECTROHORTICULTURE**

- Electric heating for hot beds; editorial. *Engineering* 136:337-8 S 22 '33
- Electric hotbeds speed sprouting and maturing. *il Elec W* 101:554 Ap 29 '33
- Electric soil heating cable and its use in the Northwest. F. E. Price. *Elec West* 70:266-7 Je '33
- Electric soil sterilization found promising. A. V. Krewatch and G. W. Kable. *Elec W* 101:453 Ap 8 '33
- Electricity in horticulture. F. H. Clough. *il Elec R (Lond)* 112:861 Je 16 '33
- Forcing frames and seed beds; soil heating by means of lead-covered resistance cables. E. A. Beavis. *il diag Electrician* 110:552-3 Ap 28 '33
- Glasshouse horticulture. E. S. Shoults. *Elec R (Lond)* 112:699 My 19 '33
- Over heat seed beds produce sturdy tomato plants. *Elec W* 102:157 Jl 29 '33
- Possible trend of scientific industrial development; abstract. A. Fleck. *il Elec R (Lond)* 112:86 Ja 20 '33
- Response of crops to electric light. R. D. Withrow. *il Elec W* 102:411-12 S 23 '33
- Sterilization of soils electrically is sure. *il Elec West* 69:239 D '32
- Use of electricity for soil heating. C. A. Candron Brown. *Engineer* 156:131 Ag 11 '33

**ELECTROLUX.** *See* Refrigerators, Gas

**ELECTROLYSIS**

- Depolarization by graphite anodes in the electrolysis of aluminum oxide. M. De K. Thompson and R. G. Seyl. *Electrochem Soc Trans* 64 (preprint 11):123-9 S '33
- Electrolysis of silver-bearing thiosulfate solutions. K. Hickman, W. Weyerts and O. E. Goehler. *bibliog il diags Ind & Eng Chem* 25:202-12 F '33
- Electrolytic apparatus for the production of antiseptic sodium hypochlorite solution. O. R. Sweeney and J. E. Baker. *il Iowa State College Eng Exp Sta Bul* 111:1-31 '33
- Electrolytic extraction of slag from iron and carbon steel; abstract. R. Treje and C. Benedicks. *Chem Age (Lond)* 29:251 S 16 '33
- Formation of organic nitro compounds by electrolytic action. D. F. Calhane and C. C. Wilson. *Electrochem Soc Trans* 63 (preprint 13):117-28 My '33
- Fractionation of isotopes by electrolysis. J. Kendall. *Am Chem Soc J* 55:2612-13 Je '33
- Isotopic fractionation of water; abstract. E. W. Washburn, E. R. Smith and M. Frandsen. *Science* 77:458 My 12 '33
- Purification of mercury by an electrolytic method. M. E. Hanke and M. Johnson. *diag Science* 78:414-15 N 3 '33
- Studies in electrolytic oxidation; further experiments on the electrolytic oxidation of sodium thiosulphate. S. Glasstone and A. Hickling. *Chem Soc J* p2800-7 N '32
- Studies in electrolytic oxidation; the formation of dithionate by the electrolytic oxidation of potassium sulphite. S. Glasstone and A. Hickling. *Chem Soc J* p829-36 Jl '33
- Die wirtschaftlichkeit der druckelektrolyse des wassers. H. Cassel and I. Voigt. *Zeit Ver Deutsch Ing* 77:636-8 Je 17 '33

*See also*

Electrochemical analysis	Electrolytic cells
Electrodeposition of metals	Electrolytic corrosion
Electrodes	Water purification--
Electrolytes	Electrolytic treatment



## ELECTROLYTES

- Action of electrolytes on wool fiber. D. A. Wilson and N. E. Gordon. *Am Chem Soc J* 55:3896-7 S '33
- Adsorption of electrolytes by ash-free charcoal; a brief survey of the present status of the subject. E. J. Miller. *bibliog J Phys Chem* 36:2967-80 D '32
- Approach to the modern theory of solutions. J. R. Sampey. *J Chem Educ* 10:677-8 N '33
- Compressibility of solutions; the apparent molal compressibility of strong electrolytes. F. T. Gucker, jr. *Am Chem Soc J* 55:2709-18 JI '33
- Debye-Hückel ion size parameter in terms of individual ionic radii; the activity coefficient of lead chloride in solutions of cadmium nitrate. H. D. Crockford and H. C. Thomas. *Am Chem Soc J* 55:568-74 F '33
- Diffusion of colloidal electrolytes; sodium oleate. M. E. L. McBain. *Am Chem Soc J* 55:545-51 F '33
- Effect of ethylene glycol upon the activity of sulfuric acid in aqueous solutions. H. M. Trimble and P. F. Ebert. *diags Am Chem Soc J* 55:958-68 Mr '33
- Electrolytes for hydrogen-oxygen cells. W. S. Kirkpatrick, B. P. Sutherland and C. H. Wright. *Electrochem Soc Trans* 63 (preprint 25):251-9 My '33; *Abstract. Elec W* 102:59 JI 8 '33
- Heat of dilution and the partial molal heat capacity of zinc sulfate from the electromotive force of galvanic cells. V. K. La Mer and I. A. Cowperthwaite. *Am Chem Soc J* 55:1004-13 Mr '33
- Liquid ammonia as a solvent; the solubility of inorganic salts at 25°. H. Hunt and L. Boneyk. *Am Chem Soc J* 55:3528-30 S '33
- Medium effect of various solvents upon silver bromate at 25°. B. B. Owen. *Am Chem Soc J* 55:1922-8 My '33
- Migration studies with colloids. F. Hazel and D. M. McQueen. *J Phys Chem* 37:553-82 [biblog p570, 582] My '33
- Partial molal volumes of cobalt sulfate and of cadmium iodide. R. C. Cantelo and H. E. Phifer. *Am Chem Soc J* 55:1333-8 Ap '33
- Properties of electrolytic solutions; the dissociation constant. R. M. Fuoss and C. A. Kraus. *Am Chem Soc J* 55:1019-28 Mr '33
- Resistance of storage battery separators and the resistivity and viscosity of battery electrolytes. G. W. Vinal. *Elec Eng* 52:130-1 F '33
- Solubility relations of barium sulfate in aqueous solutions of strong electrolytes. E. W. Neuman. *Am Chem Soc J* 55:879-84 Mr '33
- Some properties of electrolytes in the solvent sulfuric acid. L. P. Hammett and A. J. Deyrup. *bibliog Am Chem Soc J* 55:1900-9 My '33
- Studies in coprecipitation; the coprecipitation of alkali ions with calcium oxalate and the adsorbent properties of the latter. I. M. Kolthoff and E. B. Sandell. *bibliog J Phys Chem* 37:443-58 Ap '33
- Symposium on electrolytes. V. K. La Mer, G. Scatchard and others. *bibliog Chem R* 13:1-146 Ag '33
- Use of micro-coulometers in the determination of transport numbers by the moving boundary method. W. O. Reevely and A. R. Gordon. *diag Electrochem Soc Trans* 63 (preprint 26):261-5 My '33
- Viscosity of aqueous solutions as a function of the concentration. G. Jones and S. K. Talley. *diags Am Chem Soc J* 55:624-42 F '33
- Viscosity of sulphuric-acid solutions used for battery electrolytes. G. W. Vinal and D. N. Craig. *diag U S Bur Stand J Research* 10:781-93 Je '33
- Weston standard cells with buffered electrolytes. R. J. Priepe and W. C. Vosburgh. *bibliog Am Chem Soc J* 55:1801-9 My '33

X-ray investigations of the penetration of electrolytes into wood. L. Thomassen and D. W. McCready. *il Paper Tr J* 97:42-3 O 12 '33

## See also

- |                    |                          |
|--------------------|--------------------------|
| Electric batteries | Electrolytic cells       |
| Electrochemistry   | Ionization, Electrolytic |
| Electrodes         | ic                       |
| Electrolysis       | Solution (chemistry)     |

## Conductivity

- Anomalous electrolytes; the electrical conductivity of solutions of iodine and cyanogen iodide in pyridine. L. F. Audrieth and E. J. Birr. *Am Chem Soc J* 55:668-73 F '33
- Conductance of aqueous solutions of electrolytes and the interionic attraction theory. D. A. MacInnes, T. Shedlovsky and L. G. Longworth. *bibliog Chem R* 13:29-46 Ag '33
- Conductivity of solutions. C. W. Davies. 2d ed 281p \$4 Wiley '33
- Effect of acetaldehyde on the conductivities of electrolytes in ethyl alcohol. D. N. Clark and others. *Chem Soc J* p658-60 Je '33
- Electrical conductivity of mixed salt solutions. A. K. Smith and R. A. Gortner. *bibliog J Phys Chem* 37:79-86 Ja '33
- Influence of small amounts of dissolved silicates on the conductance of conductivity water and very dilute solutions of electrolytes. T. I. Taylor. *bibliog J Phys Chem* 37:765-77 Je '33
- Das leitvermögen elektrolytischer Lösungen bei hohen feldstärken und hohen frequenzen; abstract. P. Debye. *Angew Chemie* 46:447 JI 1 '33
- Limiting conductivities of salts in non-aqueous solvents. C. W. Davies. *Chem Soc J* p645-8 Je '33
- Measurement of the conductance of electrolytes; a redetermination of the conductance of standard potassium chloride solutions in absolute units. G. Jones and B. C. Bradshaw. *bibliog Am Chem Soc J* 55:1780-1800 My '33
- Method for interpolating data, based on Dühring's rule. J. H. Perry and E. R. Smith. *bibliog Ind & Eng Chem* 25:195-9 F '33
- Properties of electrolytic solutions; conductance as influenced by the dielectric constant of the solvent medium. C. A. Kraus and R. M. Fuoss. *diag Am Chem Soc J* 55:21-36 Ja '33
- Properties of electrolytic solutions; conductance of sodium trimethylstannide and of the sodium salts of certain phenols and thiols in liquid ammonia. C. A. Kraus and E. G. Johnson. *Am Chem Soc J* 55:3542-7 S '33
- Properties of electrolytic solutions; conductance of sodium triphenylstannide, sodium triphenylgermanide and sodium triphenylmethide in liquid ammonia. C. A. Kraus and W. H. Kahler. *diag Am Chem Soc J* 55:3537-42 S '33
- Properties of electrolytic solutions; conductance of some salts in benzene. R. M. Fuoss and C. A. Kraus. *diag Am Chem Soc J* 55:3614-20 S '33
- Properties of electrolytic solutions; conductance of some ternary salts in liquid ammonia. C. A. Kraus and P. B. Bien. *Am Chem Soc J* 55:3609-14 S '33
- Properties of electrolytic solutions; the conductance minimum and the formation of triple ions due to the action of Coulomb forces. R. M. Fuoss and C. A. Kraus. *bibliog Am Chem Soc J* 55:2387-99 Je '33
- Properties of electrolytic solutions; the conductance of some amido salts in liquid ammonia. C. A. Kraus and W. W. Hawes. *diag Am Chem Soc J* 55:2776-85 JI '33
- Properties of electrolytic solutions; the evaluations of  $\Lambda_0$  and of  $K$  for incompletely dissociated electrolytes. R. M. Fuoss and C. A. Kraus. *Am Chem Soc J* 55:476-88 F '33
- ELECTROLYTIC cells**
- Electrolysis of silver-bearing thiosulfate solutions. K. Hickman, W. Weyerts and O. H. Goehler. *bibliog il diags Ind & Eng Chem* 25:202-12 F '33

**ELECTROLYTIC cells—Continued**

- Electrolytes for hydrogen-oxygen cells. W. S. Kirkpatrick, B. P. Sutherland and C. H. Wright. *Electrochem Soc Trans* 63 (preprint 25):251-9 My '33
- Electrolytic plant of the Canadian international paper company at Temiskaming, Que. J. Hedalen. *Electrochem Soc Trans* 63 (preprint 19):183-9 My '33; Abstract. *Elec W* 101:831 Je 24 '33
- Electrolytic production of hydrogen. il diag *Elec R (Lond)* 113:218 Ag 18 '33
- Heavy water. H. S. Taylor and H. Eyring. *Science* 77:sup9-10 My 5 '33
- Inception and development of electrolytic alkali manufacture. E. A. LeSueur. *Electrochem Soc Trans* 63 (preprint 30):315-22 My '33
- Knowles cells for electrolytic hydrogen. il *Chem Eng (Lond)* 28:147 F 18 '33
- Moderne grossbatterien zur elektrolytischen wasserstoffzeugung. A. E. Zdzansky. il diag *Chemische Fabrik* 6:49-51 Ja 25 '33; Abstract. *Mech Eng* 55:449-50 Jl '33

See also

Electrolyzers

**ELECTROLYTIC corrosion**

- Abstracts and summaries of the Bureau of standards publications on stray-current electrolysis. E. R. Shepard. *U S Bur Stand Circ* 401:1-23 '33
- Cathodic protection of pipe lines. W. R. Schneider. il diag *Gas Eng* 71:355-9+ Ap 8 '33
- Electrolytic corrosion in gas mains; abstracts. W. Beck. *Engineering* 135:617-18 Je 9 '33; *Electrician* 110:739 Je 9 '33; *Elec R (Lond)* 112:902 Je 23 '33; Discussion. *Gas J (Lond)* 202:747-50; 203:47 Je 7, Jl 5 '33
- Galvanic corrosion. *Metal Ind* 31:137 Ap '33
- Interconnection of electric circuits with water piping systems. J. B. Downer. *Am Water Works Assn J* 25:212-25 F '33
- Marine electrolysis eliminator. diag *Marine Eng* 38:385-6 O '33
- Molded coating halts oil pipe corrosion; Somastic asphalt mixture. A. J. Swank. il *Elec W* 101:134-6 Ja 28 '33
- Progress in mitigating cable sheath electrolysis. F. E. Reeves and C. F. Avila. diag *Elec W* 101:720-2 Je 3 '33
- Promiscuous electric grounding on water service pipes and mains. N. S. Hill, jr, C. F. Meyerherm, and M. W. Cowles. *Am Water Works Assn J* 25:1418-30 O '33
- Rectifier protects gas main from electrolysis. *Elec W* 101:217 F 18 '33

See also

Corrosion and anti-corrosives

**ELECTROLYTIC polarization.** See Polarization, Electrolytic

**ELECTROLYZERS**

- Electrolytic production of hydrogen. il diag *Elec R (Lond)* 113:218 Ag 18 '33
- Hydrogen; a commercial fuel for internal combustion engines and other purposes; electrolytic production as off-peak load for power stations; abstracts. R. A. Erren and W. H. Campbell. *Electrician* 110:388 Mr 24 '33; *Power* 77:229 My '33; *Mech Eng* 55:377-8 Je '33

Possibilities of hydrogen as a fuel. E. P. A. Heinze. *Engineering* 135:399-400 Ap 14 '33

**ELECTROMAGNETIC theory**

Some applications of the absolute differential calculus to physics. C. Kaplan. *Phys R* 43:137-42 Ja 15 '33

**ELECTROMAGNETISM**

- Electromagnetic forces on conductors with bends, short lengths, and cross-overs. C. W. Frick. diag *Gen Elec R* 36:232-42 My '33
- Electromagnetic induction; editorial. diag *Wireless Eng* 10:409-12 Ag '33
- Principles of electromagnetism. E. B. Moulton. 279p Oxford '32
- Principles of electromagnetism; editorial reviewing book by E. B. Moulton. *Wireless Eng* 10:61-4 F '33; Discussion. 10:146-7, 180-2, 202-4 Mr-Apr '33

- Radio physics course. A. A. Ghirardi. diag *Radio N* 15:46-7, 238-9, 302-3 Jl, O-N '33
- Torque on Faraday's magnet. E. H. Kennard. *Phys R* 43:587-8 Ap 1 '33
- Variational principles in electromagnetism. H. Bateman. *Phys R* 43:481-4 Mr 15 '33
- Work of Oliver Heaviside. W. E. Sumpner. bibliog il *Inst E E J* 71:837-51 D '32

See also

Einstein unitary field theory

**ELECTROMAGNETS**

- Automatic feed and ejection for press tools. J. F. Cavanagh. diag *Am Mach* 77:122-3 F 15 '33
- Holding portable drills by electromagnets. J. Steiner. il *Am Mach* 77:123 F 15 '33
- Radio physics course. A. A. Ghirardi. diag *Radio N* 15:110-11+, 172-3 Ag-S '33
- Weiss electro-magnet for research work. il *Engineer* 155:330 Mr 31 '33

See also

Armatures  
Inductance coils  
Magnetic separation of ores  
Solenoids

**ELECTROMERIC effect.** See Tautomerism

**ELECTROMETALLURGY**

- Aluminium production. G. Boex. diag *Electrician* 111:5-6 Jl 7 '33
- Antimony extraction by electrolysis. C. C. Downie. *Elec R (Lond)* 112:483 Ap 7 '33
- Big growth in electrochemical processes foreseen; abstracts of papers at A.I.E.E. meeting. *Elec W* 101:160-1 F 4 '33
- Canadian electric furnace industry. A. Stansfield. *Electrochem Soc Trans* 63 (preprint 18):167-81 My '33; Excerpts. *Can Chem & Met* 17:125-8 Je '33
- Electrochemistry and electrometallurgy—1932-33. *Elec Eng* 52:706-7 O '33
- Electrolytic refining of mercury. E. Newbery and S. M. Naude. il diag *Electrochem Soc Trans* 64 (preprint 6):57-68 S '33
- Increasing applications of electricity to chemical processes. C. G. Fink. *Elec Eng* 52:151-4 Mr '33; Same cond. *Elec W* 101:361-3 Mr 18 '33
- Migration of ferro-alloy manufacturing, Italy. F. Giolitti. *Metal Prog* 23:50+ Ja '33
- Produce rare metals in pure state. il *Sci Am* 148:176 Mr '33; Same. *Metal Ind* 31:63 F '33; Same abr. *Steel* 92:22 Ja 16 '33
- Usine de Montricher. J. F. Audouin and A. L. Racapé. il *Soc Ing Civils Bul* 85:1028-34 S '32

See also

Copper metallurgy—  
Electrometallurgy  
Electric furnaces,  
Metallurgical  
Electrodeposition of  
metals  
Electroplating  
Iron founding, Electric  
Steel metallurgy—  
Electrometallurgy

**ELECTROMETER**

- Improved balanced circuit for use with electrometer tubes. L. A. Turner and C. O. Siegelin. diag *R Sci Instr* 4:429-33 Ag '33
- Use of the vacuum tube electrometer with extremely high input resistance. R. E. Burroughs and J. E. Ferguson. *R Sci Instr* 4:406 Jl '33

**ELECTROMOTIVE force.** See Potential, Electric

**ELECTRON metal**

Die entwicklung der leichtmetalle elektron und hydronalium. W. Schmidt. *Angew Chemie* 46:626 S 30 '33

**ELECTRON microscope.** See Microscope and microscopy—Electron microscope

**ELECTRON tubes.** See Vacuum tubes

**ELECTRONS**

- Almost closed shells. M. H. Johnson, jr. *Phys R* 43:632-5 Ap 15 '33
- Application of Liouville's theorem to electron orbits in the earth's magnetic field. W. F. G. Swann. *Phys R* 44:224-7 Ag 1 '33
- Attempts to observe an electron affinity spectrum. O. Oldenberg. bibliog *Phys R* 43:534-9 Ap 1 '33



**ELECTRONS**—*Continued*

- Battle of the alchemists. K. T. Compton. *Elec Eng* 52:75-80 F '33
- Behavior of single electric particles. *Science* 78:sup5 Ag 11 '33
- Colour and constitution from the standpoint of recent electronic theory. H. H. Hodgson. *Soc Dyers & Col J* 49:213-16 J1 '33
- Continuous electron affinity spectrum of hydrogen. C. K. Jen. *Phys R* 43:540-7 Ap 1 '33
- Cosmic-ray positive and negative electrons. C. D. Anderson. *il diag Phys R* 44:406-16 S 1 '33
- Determination of  $e/m$  by means of photoelectrons excited by X-rays. G. G. Kretschmar. *bibliog il diags Phys R* 43:417-23 Mr 15 '33
- Determination of  $e/m$  for an electron by a new deflection method. F. G. Dunnington. *Phys R* 42:734-6 D 1 '32
- Determination of  $e/m$  for an electron by a new deflection method. F. G. Dunnington. *diags Phys R* 43:404-16 Mr 15 '33
- Discovery of the free positive electron; abstract. C. D. Anderson. *Science* 77:495 My 19 '33
- Effect of positive space charge in collector analysis of discharges. R. H. Sloane and K. G. Emeleus. *diag Phys R* 44:333-7 S 1 '33
- Electricity released from matter. K. K. Darrow. *Science* 77:591-5 Je 23 '33
- Electron optics. V. K. Zworykin. *il diags J Fr Inst* 215:535-55 My '33
- Electron theory of metallic conduction. J. C. Slater. *Science* 77:595-7 Je 23 '33
- Electronic structures of polyatomic molecules and valence; electronic states, quantum theory of the double bond. R. S. Mulliken. *Phys R* 43:279-302 F 15 '33
- Electronics and electron tubes. E. D. McArthur. *Gen Elec R* 36:136-8, 177-81, 250-3, 282-9, 371-6 Mr-Je, Ag '33
- Electrons at work. C. R. Underhill. 354p \$3 McGraw-Hill '33
- Electrophysical concepts being modified; positrons and negatrons. *Elec W* 102:446 S 30 '33
- Evaporation of atoms, ions and electrons from caesium films on tungsten. J. B. Taylor and I. Langmuir. *Phys R* 44:423-58 S 15 '33
- Experimental determination of the distribution of conduction electrons in metals. H. M. O'Bryan and H. W. B. Skinner. *Phys R* 44:602-3 O 1 '33
- Fermi-Dirac statistical theory of gas degeneration, with some applications to electronic phenomena in metals. V. Karapetoff. *Mech Eng* 55:237-42, 290-4, 358-62+ Ap-Je '33
- Free positive electrons. W. Davis. *Science* 77:sup5 F 24 '33
- Free positive electrons resulting from the impact upon atomic nuclei of the photons from Th C', C. D. Anderson. *Science* 77:132 My 5 '33
- Generation of positive electrons. K. K. Darrow. *R Sci Instr* 4:427-8 Ag '33
- Hyperfine structure in intermediate coupling. G. Breit and L. A. Wills. *Phys R* 44:470-90 S 15 '33
- Interaction between atoms with s-electrons. N. Rosen and S. Ikehara. *Phys R* 43:5-8 Ja 1 '33
- Interaction of electrons and light waves. E. L. Hill. *R Sci Instr* 4:426-7 Ag '33
- Linear momenta of electrons in atoms and in solid bodies as revealed by X-ray scattering. J. W. M. DuMond. *il diags Rs Mod Phys* 5:1-33 Ja '33
- Magnetic interaction of a valence electron with inner shells. M. H. Johnson, jr. and G. Breit. *Phys R* 44:77-83 J1 15 '33
- Mechanism of acquirement of cosmic-ray energies by electrons. W. F. G. Swann. *Phys R* 43:217-20 F 15 '33; Same. *J Fr Inst* 215:273-9 Mr '33
- Passage of photoelectrons through mica. N. E. Bradbury and L. A. Young. *diag Phys R* 43:84-5 Ja 1 '33
- Positive electron. C. D. Anderson. *il Phys R* 43:491-4 Mr 15 '33; Abstract. *Science* 77:sup 6 Mr 24 '33

- Positive electron. K. K. Darrow. *il R Sci Instr* 4:263-7 My '33
- Positrons from gamma-rays. C. D. Anderson and S. H. Neddermeyer. *il Phys R* 43:1034 Je 15 '33
- Possibility of the emission of positive electrons from the nucleus by  $\gamma$ -rays. A. Bramley. *J Fr Inst* 216:427-8 O '33
- Possible explanation of superconductivity. J. Frenkel. *Phys R* 43:907-12 Je 1 '33
- Probabilities of K-electron ionization of silver by cathode rays. D. L. Webster, W. W. Hansen and F. E. Duveneck. *diags Phys R* 43:839-58 Je 1 '33
- Production of positive electrons by electrons. W. H. Furry and J. F. Carlson. *Phys R* 44:237-8 Ag 1 '33
- Production of the positive electron. J. R. Oppenheimer and M. S. Plesset. *Phys R* 44:53-5 J1 1 '33
- Professor Born's theory of the electron. E. L. Hull. *R Sci Instr* 4:524 O '33
- Radiation from slow electrons. L. Nedelsky. *Phys R* 42:641-65 D 1 '32
- Recent advances in physics. W. F. G. Swann. *il Mech Eng* 55:75-9+ F '33
- Recombination of electrons and positrons. E. Fermi and G. E. Uhlenbeck. *Phys R* 44:510-11 S 15 '33
- Symposium on electron optics. *Opt Soc Am J* 23:190-2 My '33
- Theory of the energy distribution of photoelectrons. L. A. DuBridge. *Phys R* 43:727-41 My 1 '33
- Thermal agitation of electrons in a metallic conductor; abstract. N. H. Williams and D. A. Wilbur. *Science* 76:519 D 2 '32
- Über das positive elektron. K. Philipp. *Angew Chemie* 46:452-3 J1 1 '33
- Variation with angle of emission of the radiation from metals bombarded by slow electrons. C. Boeckner. *U S Bur Stand J Research* 9:583-91 N '32

*See also*

- |                     |                           |
|---------------------|---------------------------|
| Atoms               | Ions                      |
| Electric charges    | Pauli exclusion principle |
| Electric discharges | ciple                     |
| Ionization, Gaseous | Valence                   |

**Collisions**

- Activation of molecular oxygen by electron impact. G. Glockler and J. L. Wilson. *il diag Am Chem Soc J* 54:4544-58 D '32
- Atomic projectiles and their applications. E. R. Rutherford. *il diag Inst Mech Eng Proc* 123:183-205 '32; Same cond. *Engineer* 154:486-7 N 11 '32; Abstract. *Engineering* 134:571-2 N 11 '32
- Ionization of sulphur dioxide by electron impact. H. D. Smyth and D. W. Mueller. *Phys R* 43:121-2 Ja 15 '33
- Ionization of water vapor by electron impact. H. D. Smyth and D. W. Mueller. *Phys R* 43:116-20 Ja 15 '33
- Recombination radiation in the cesium positive column. F. L. Mohler. *U S Bur Stand J Research* 10:771-80 Je '33

**Counters**

- Photoelectric quantum counters for visible and ultraviolet light. G. L. Locher. *il diags Phys R* 42:525-46 N 15 '33

*See also*

- Geiger counters  
Wynn-Williams counters

**Diffraction**

- Diffraction of electrons by metal surfaces. L. H. Germer. *il Phys R* 43:724-6 My 1 '33
- Diffraction of low-speed electrons by a tungsten single crystal. W. T. Sproull. *Phys R* 43:516-26 Ap 1 '33; Discussion. 44:417-18 S 1 '33
- Effect of spin interaction in the diffraction and polarization of electrons. J. H. Howey. *Phys R* 43:499 Mr 15 '33
- Electron diffraction and molecular structure: carbonyl compounds. R. W. Dornte. *Am Chem Soc J* 55:4126-30 O '33
- Electron diffraction by liquids. L. R. Maxwell. *il Phys R* 44:73-6 J1 15 '33

**ELECTRONS—Diffraction—Continued**

Fine structure of electron diffraction beams from a gold crystal and from a silver film on a gold crystal. H. E. Farnsworth. *Phys R* 43:900-6 Je 1 '33

New type of apparatus for experiments in secondary electron diffraction. W. T. Sproull. *diags R Sci Instr* 4:193-6 Ap '33

**Emission from metals**

Action of mercury metastable atoms on a tungsten surface. S. Sonkin. *bibliog diag Phys R* 43:788-803 My 15 '33

Effect of temperature on the emission of electron field currents from tungsten and molybdenum. A. J. Ahearn. *diag Phys R* 44:277-86 Ag 15 '33

Evaporation of atoms, ions and electrons from caesium films on tungsten. J. B. Taylor and I. Langmuir. *Phys R* 44:423-58 S 15 '33

Photoelectric and metastable atom emission of electrons from surfaces in the rare gases. C. Kenty. *diag Phys R* 43:181-93 F 1 '33

**Reflection, scattering, etc.**

Effect of exchange on the scattering of slow electrons from atoms. P. M. Morse and W. P. Allis. *Phys R* 44:269-76 Ag 15 '33

Elastic electron scattering in neon. A. L. Hughes and J. H. McMillen. *diag Phys R* 43:875-82 Je 1 '33

Elastic scattering of electrons by mercury atoms. E. B. Jordan and R. B. Brode. *diags Phys R* 43:112-15 Ja 15 '33

Inelastic electron scattering by helium atoms. A. L. Hughes and J. H. McMillen. *Phys R* 44:20-4 J 1 '33

Perturbation theory and electron scattering. E. L. Hill. *Phys R* 43:303-4 F 15 '33

Photoelectric currents in gases between parallel plate electrodes. L. A. Young and N. E. Bradbury. *Phys R* 43:34-7 Ja 1 '33

Scattering of electrons by ions and the mobility of electrons in a caesium discharge. C. Boeckner and F. L. Mohler. *U S Bur Stand J Research* 10:357-63 Mr '33

**Secondary emission**

Effect of secondary emission from a metal collector immersed in a discharge. S. D. Gvosdover. *Phys R* 43:146-7 Ja 15 '33

Secondary emission from collectors in neon discharge. C. Spiwak and E. Reichrudel. *Phys R* 42:580-1 N 15 '32

Secondary emission of electrons from molybdenum. P. L. Copeland. *diag J Fr Inst* 215:593-8 My '33

Surface conditions and stability of characteristics in screened-grid tubes. P. L. Copeland. *J Fr Inst* 216:417-26 O '33

Variation of secondary emission with heat treatment. P. L. Copeland. *diag J Fr Inst* 215:435-43 Ap '33

**Terminology**

Nomenclature of the electron. E. A. Wildman. *Science* 78:191 S 1 '33

**Thermionic emission**

New method for determining the thermionic work functions of metals and its application to nickel. G. W. Fox and R. M. Bowie. *diags Phys R* 44:345-8 S 1 '33

Thermionic and adsorption characteristics of thorium on tungsten. W. H. Brattain and J. A. Becker. *diag Phys R* 43:428-50 Mr 15 '33

**Velocity**

Velocities of ions and electrons in pure gases. C. M. Focken. *Phys R* 42:577-8 N 15 '32

**ELECTRO-OPTICS**

*See also*

Kerr effect

**ELECTROOSMOSIS.** *See* Osmosis

**ELECTROPHORESIS**

Behavior of frog eggs in an electrical field. D. Mazia. *Science* 78:107-8 Ag 4 '33

Cataphoresis; an improved cylindrical cell. S. Mattson. *diag J Phys Chem* 37:223-7 F '33

Electro-lubrication of clay-ware dies. J. O. Everhart. *Brick & Clay Rec* 82:97 Mr '33

**ELECTROPHYSICS**

Electro-physics; a review of progress. N. R. Campbell. *Inst E E J* 72:153-9 F '33

**ELECTROPHYSIOLOGY**

Action-current as measure of muscle contraction. R. H. Stetson and H. D. Bouman. *Science* 77:219-21 F 24 '33

Electrically driven contact breaker capable of delivering galvanic shocks ranging from 0.000,01 to 1.0 second duration. R. Gesell. *diags Science* 78:386-7 O 27 '33

Heating effect of very high frequency condenser fields on organic fluids and tissues. J. W. Schereschewsky. *bibliog diags Pub Health Rep* 48:844-58, pl 1-2 J 21 '33

Local electric anesthesia. F. Peterson. *Science* 77:326 Mr 31 '33

Mechanism of nervous action. E. D. Adrian. 103p \$2 Univ. of Pennsylvania press, Philadelphia '32

Method for the investigation of the impedance of the human body to an alternating current. M. A. B. Brazier. *diag Inst E E J* 73:204-9 Ag '33

Method of outlining cutaneous nerve areas. I. M. Thompson and V. T. Inman. *diags Science* 77:216-17 F 24 '33

Origin of bioelectric potentials; abstract. W. J. V. Osterhout. *Science* 77:456 My 12 '33

*See also*

Electricity, Injuries from

**ELECTROPLATING**

Barrel plating of zinc with nickel. A. Hirsch. *Iron Age* 131:991 Je 22 '33

Chromium-plating; a new portable equipment for the electro-deposition of metals. *il Soc Chem Ind J (Chem & Ind)* 52:837-8 O 20 '33

Chromium plating from ammonium-chromate-sulfate baths. R. R. Rogers and J. F. Conlon. *Electrochem Soc Trans* 64 (preprint 27):319-24 S '33

Control of plating solutions. W. C. Ferris. *Metal Ind* 31:375 N '33

Cyanide-free bath for the deposition of copper on steel. C. G. Fink and C. Y. Wong. *Electrochem Soc Trans* 63 (preprint 9):83-90 My '33; Abstracts. *Elec W* 101:733 Je 3 '33; *Steel* 92:25 My 15 '33

Defects in nickel plating. L. Wright. *il Electrician* 109:676-8 N 25 '32

Determining unit plating costs. G. P. Pearce. *Factory Management* 91:290+ J 1 '33

Efficiency of rhodium plating baths. V. L. Bigsby. *Metal Ind* 31:132-3 Ap '33

Electrochemical society meeting; abstracts of papers on electrodeposits at 63d meeting, Montreal. *Metal Ind* 31:206-7, 209 Je '33

Electro-deposition in printing. *il Elec R (Lond)* 112:114 Ja 27 '33; Abstract. *Mech Eng* 55:260 Ap '33

Electrodeposition of tungsten from aqueous alkaline solutions. M. L. Holt and L. Kahlenberg. *Metal Ind* 31:94-7 Mr '33

Electroplated coatings combat corrosion and provide attractive finishes. G. Soderberg. *il Steel* 92:29-30+ My 1 '33

Electroplating generators. C. J. Schwarz. *Metal Ind* 31:197, 245-6, 268-70, 308-9, 343-4 Je-O '33; Discussion. M. M. Rose. 31:309-10 S '33

Electroplating zinc on aluminum. H. K. Work. *Metal Ind* 31:169-70 My '33

Further study of anodes for zinc plating. A. K. Graham, G. B. Hogaboom, Jr. and L. E. Graham. *Metal Ind* 31:195-7 Je '33

Die galvanische versilberung von phosphorhaltigem grundmetall. Moser, K. W. Fröhlich and E. Raub. *il Angew Chemie* 46:562-5 S 2 '33

Hellige titration comparators for pH control in plating. *il Metal Ind* 31:254 J 1 '33

Metal cleaning before electro-plating. *il Engineer* 156:45-6 J 14 '33

Metal-plated plaster;oplastiplate. *Sci Am* 149:237-8 N '33





**ELLINGTON, Edward Kennedy**  
Introducing Duke Ellington; the true jazz  
por Fortune 8:47-9+ Ag '33

**ELLIS, Richard H.**  
Portrait, N E Water Works Assn J 47:front  
Mr '33

## ELM

### Diseases and pests

Dutch elm disease in New Jersey. Science  
78:117-18 Ag 11; sup 10 S 1 '33

**ELMIRA, New York**

### Railroads

Girderless concrete slabs solve headroom  
problem; overstreet crossings at Elmira,  
N. Y. M. Hirschtal. il diags map Eng  
N 109:678-81 D 8 '32

## ELUTRIATION

Kinetic elutriator speeds division of sub-sieve  
particles. A. L. Curtis. diag Concrete (mill  
sec) 41:31-3 O '33

## ELUTRIATOR

Kinetic elutriator speeds division of sub-sieve  
particles. A. L. Curtis. diag Concrete (mill  
sec) 41:31-3 O '33

## EMBANKMENTS

Explosives for settling highway fills. E. God-  
frey. diags Can Eng 64:11-13 My 2 '33  
Jetting solidifies large embankment; method  
employed on the Cincinnati Union Terminal  
project. il Ry Age 94:41-3 Ja 14 '33  
Settling a road embankment by underfill  
blasting. C. G. Wahl. Pub Works 64:15-16  
Mr '33

### See also

Dams	Levees
Dikes (engineering)	Railroads—Earth-
Earthwork	work

## EMBOSSING

Embossing fabrics; relief ornamentation of  
rubber fabrics. W. Norris. il India Rubber  
W 88:25-7 JI '33  
Embossing feed pins in a recording cylinder  
of Brown potentiometer-pyrometer. W. C.  
Schmidt. diags Am Mach 76:1230-1 D 21 '32  
Press work pressures. C. W. Lucas. diags Am  
Mach 77:472-3 JI 19 '33

## EMBOSSING machines

New embossing napkin machine. il Paper Tr  
J 97:30 O 26 '33

## EMBRYOLOGY

Genetics and embryology. C. Zeleny. Science  
77:177-81 F 17 '33  
Human egg-cell. Science 78:sup5-6 JI 28 '33  
Neuro-embryologic study of behavior; prin-  
ciples, perspective and aim. G. E. Coghill.  
Science 78:131-8 Ag 18 '33  
Observations on early developmental proc-  
esses in the living egg of drosophila. G. P.  
Child and R. B. Howland. Science 77:396  
Ap 21 '33

Unique nutritional organs in the embryos of  
the top minnows of the Mexican plateau.  
C. L. Turner. Science 77:93-4 Ja 20 '33

## EMERGENCY committee in aid of displaced German scholars

Emergency committee in aid of displaced Ger-  
man scholars. Science 78:52-3 JI 21 '33

## EMERSON, Benjamin Kendall, 1843-1932

Memorial. F. B. Loomis. por Geol Soc Bul  
44:317-25 [bibliog p321-5] Ap '33

## EMERY

History of abrasives and the evolution of  
grinding. T. Wareing. Textile Inst J 24:  
P59-61 Ap '33  
Polishing sleeves with Turkish emery ab-  
rasive. il Platers' Guide 29:21 O '33

## EMINENT domain

Notes on wayleaves. R. G. Whyte. Electrician  
110:252-3, 297, 327, 358 F 24-Mr 17 '33

## EMPIRE State building

Empire State building, New York city. F.  
W. Skinner. il diags plans Engineering 134:  
525-6, 527, 586-9, 641-4, 703-5, 706, 756-8,  
pl 24 N 4, 18, D 2, 16, 30 '32  
Das Empire State-gebäude in New York.  
H. Rätthling. diags Zeit Ver Deutsch Ing  
77:870-2 Ag 12 '33

Wind pressure on a model of the Empire  
State building. H. L. Dryden. Eng & Contr  
71:276-7 D '32

Wind pressure on a model of the Empire  
State building. H. L. Dryden and G. C.  
Hill. diags pl U S Bur Stand J Research  
10:493-523 Ap '33

## EMPLOYEES

Eyes have they—but they do not all see;  
United States metals refining company has  
its employees' eyes examined. R. Winters.  
il Factory Management 91:323-4 Ag '33

### See also

Ability tests	Glass workers
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Arbitration, Indus- trial	Job analysis
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Clothing trade—Labor conditions	Office workers
Cotton mills—Em- ployees	Paper mills—Em- ployees
Discount, Employees'	Pensions, Industrial
Efficiency, Indus- trial	Physical examinations
Electric utilities— Employees	Public utilities—Em- ployees
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Employees' repre- sentation in man- agement	Recreation
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Employment systems	Steel workers
Foremen	Street railroads— Employees
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Gasoline service sta- tions—Employees	Textile workers
	Theaters—Employees
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	Wages
	Welfare work in in- dustry
	Woman—Employ- ment

## Clothing

See also  
Clothing, Protective  
Gloves, Safety  
Miners—Clothing  
Uniforms

## Promotion

Employee advancement. Am Bankers Assn J  
26:66 Ag '33  
Essentials of a rational system of promotion;  
abstract. E. D. Smith. Management R 22:  
49-50 F '33

## Rating

Classification of positions and wages; person-  
nel administration methods of the Phila-  
delphia gas works company. C. H. Frazier,  
Jr. Gas Age 72:79-81+ JI 22 '33  
Efficiency of efficiency rating systems; ab-  
stract. W. S. Raphael. Management R 22:  
311 N '33

What is the job worth? knowing the value of  
employees and of their jobs. T. E. Kelly.  
Factory & Ind Management 83:477-8 D '32

### See also

Ability tests

## Selection

See Employment systems

## EMPLOYEES, Dismissal of

### See also

Employment systems  
Wages—Dismissal  
wage

## EMPLOYEES, Selection of. See Employment systems

## EMPLOYEES, Training of

Customer relations training in practice. F. E.  
Verdin. Am Gas Assn Proc 1932:137-43;  
Discussion. 143-4



**EMPLOYEES, Training of—Continued**

- Education of gas company employees, A.G.A. committee report. *Am Gas Assn Proc* 1932: 85-95
- Employees' attitude toward the public. F. R. Phillips. *N E L A Bul* 19:715-17+ D '32
- Gas pumpers of yesterday now are trained salesmen. S. A. Noble. *Nat Pet N* 25:43-4 S 13 '33
- How are you going to train your new operators? use of process charts. A. H. Mogenssen. *il Factory Management* 91:351-3 S '33
- How Crew-Levick trains its salesmen. *Pet Age* 26:32 D '32
- Idle time—what shall we do with it? A. Rheinsteim. N S. Brown. *Am Mach* 77:265-7 Ap 26 '33; Discussion. R. S. Alexander. 77:521 Ag 16 '33
- Illinois marketer trains station attendants in accessory selling. E. L. Barringer. *il Nat Pet N* 25:45-6 O 18 '33
- Inner-company education; A.G.A. subcommittee report. *Am Gas Assn Proc* 1932:578-81
- Introduction of natural gas in San Diego. D. H. Perkins. *il Gas Age* 71:489-92 My 13 '33
- Los Angeles railway finds instruction pays. J. Collins. *il Elec Traction* 29:221-3+ Ag '33
- Merchandising ice. J. V. Kelly. *Refrig W* 68:17-19 Je '33
- Motion study in—waste effort out. A. Williams, jr. *il Factory Management* 91:265-7 Jl '33
- Observation of contact employees. C. Scott. *Am Gas Assn Mo* 15:206-7 My '33
- Previous experience of driver dictates training program. *Foundry* 60:53 N '32
- She knows why millions of customers stop buying; Joan Wing, doctor of courtesy. R. Arell. *Sales Management* 32:476+ My 1 '33
- Teaching is half of management. C. Berg. *il Factory & Ind Management* 84:57-8 F '33
- Training employees in customer contact. A. E. Peterson. *Elec W* 100:689 N 19 '32
- Training the driver; abstract. G. A. Rogers. *Safety Eng* 66:129 O '33

*See also*

- |                       |                   |
|-----------------------|-------------------|
| Apprentices           | Insurance, Life—  |
| Executives—Train-     | Agents—Train-     |
| ing                   | ing               |
| Foremen—Train-        | Insurance agents— |
| ing                   | Training          |
| Industrial education— | Salesmen—Train-   |
| Cooperative plan      | ing               |
|                       | Salesmen, Retail— |
|                       | Training          |

**EMPLOYEES as sales promoters**

- A.G.A. develops program of action to promote gas cookery. *Am Gas Assn Mo* 15:7-8 Ja '33
- Bank tries employee selling; Iowa-Des Moines nat'l bank and trust co. *System* 62:455 O '33
- Employee contest builds sales; Hastings clothing company, San Francisco. *Management Methods* 62:63 F '33
- Employee salesmanship. *Am Gas Assn Proc* 1932:88-90
- Employees' campaign nets \$446,000 sales in 5 months; Associated gas and electric system. L. D. West. *Sales Management* 32:54-5+ Ja 15 '33
- Employees send prospects to dealers by this plan. *Ptr Ink* 161:74 D 8 '32
- Enlisting employees' efforts. J. H. Hartog. *Am Gas J* 138:30-1 Ja '33
- Everyone is a salesman; Universal atlas cement co. *Management Methods* 61:608-9 N '32
- Gas service sales departments go over the top in 1932. C. D. Greason. *il Gas Age* 70: 537-9 N 19 '32
- How Associated uses employee business-building plan. H. M. Henry. *Gas Age* 71: 277-81+ Mr 18 '33; Abstract. *Am Gas J* 138: 44 Mr '33
- How employees find prospects and sell gas appliances. G. L. Scofield. *Gas Age* 71:329-32 Ap 1 '33
- How the tip-bonus plan helps Colorado public service. E. H. Hoover. *Gas Age* 72:87-8 Jl 22 '33

- Methods and results of employee sales campaigns. H. C. Thomas. *Am Gas Assn Proc* 1932:443-9; Discussion. 449-50
- Northern Indiana "dead gas customers" campaign gets \$97,637 for \$10,531. S. Jenks. *il Gas Age* 72:427-8+ N 4 '33
- Private broadcast system to get all employees behind every sales drive; Mills novelty company of Chicago. W. A. Kittredge. *il Ptd Salesmanship* 62:30-2 S '33
- Product consciousness is aim of this employee contest; Standard Oil products. *Ptr Ink* 161: 71 D 15 '32
- Selling by employees. 24p [bibliog p22-4] Metropolitan life insurance co, Policyholders service bureau, New York '32; Abstract. *Monthly Labor R* 37:44-6 Jl '33
- Two hundred salesmen; employees of Virginia public service company go after business. E. L. Kelly. *il Bus Transportation* 12:124-5 Mr '33

**EMPLOYEES as salesmen**

- Continental motors corp. announces all-employee contest to increase sales. *Sales Management* 32:229 Mr 1 '33
- Employee-salesmen. V. F. Lawrence. *Ptr Ink* 162:25-7 Mr 2 '33
- Philadelphia company utilities of Pittsburgh sell 3,370 radiant heaters in month. J. McKinley. *Am Gas Assn Mo* 15:280-1 Jl '33
- Putting employees on the sales force. *Ptr Ink* 163:36-7 Je 8 '33
- Westchester Lighting sells 2968 appliances in 40 days. F. J. Gruel. *Gas Age* 71:82-3+ Ja 14 '33
- We've led them to water and oh, how they drink! R. E. Williams. *Gas Age* 70:603 D 3 '32

**EMPLOYEES as stockholders**

- Behind-the-scenes picture of American Tobacco profits. *il Ptr Ink* 162:51-3+ Mr 30 '33
- Bonus to steel workers. *Barron's* 13:24 F 27 '33
- Effect of the depression on employee stock ownership. E. Davis. *Monthly Labor R* 37: 279-83 Ag '33
- U.S. Steel holding employee loyalty. *Management R* 22:117 Ap '33

**EMPLOYEES' associations**

- Basis of organization for social and sports clubs. J. L. Robson. *Gas J (Lond)* 200:748-9 D 14 '32
- Employees' efficiency clubs. F. Champion. *Am Gas Assn Proc* 1932:91-5
- Self-help is basis of training plan; Pacific service employees association. A. Barrell. *chart Elec West* 70:152-3 My '33

**EMPLOYEES' automobiles.** See Automobiles, Employees'**EMPLOYEES' contests.** See Sales contests, Employees'**EMPLOYEES' discount.** See Discount, Employees'**EMPLOYEES' gardens.** See Gardens, Employees'**EMPLOYEES' inventions.** See Patent laws and legislation—Employees' inventions**EMPLOYEES' loans.** See Loans, Employees'**EMPLOYEES' magazines**

- Employee magazines in the depression; abstract. H. Baker. *Management R* 22:149 My '33

*See also*

## Salesmen's magazines

**EMPLOYEES' manuals**

- Employee handbooks. 20p Policyholders service bureau, Metropolitan life insurance co, New York '33

**EMPLOYEES' representation in management**

- Bethlehem employe plan 15 years old. E. G. Grace. *Steel* 93:12 O 2 '33
- Collective bargaining through employee representation. 81p National industrial conference board, inc, New York '33
- Employee representation blankets steel industry. *Iron Age* 132:46 S 28 '33
- Employee representation established by Carnegie and other steel plants. *Iron Age* 131: 1004 Je 22 '33

**EMPLOYEES' representation in management**

—Continued

- Employee representation plan for which Chrysler workers voted 5 to 1; text. Automotive Ind 69:488-9+ O 21 '33; Same. Factory Management 91:453-5+ N '33
- Employees of U. S. steel corp. adopting representation plan. Steel 92:13+ Je 19 '33
- Growth of works councils in American industry. Pub Serv M 55:59 Ag '33
- How can employers meet labor problems? H. F. Merrill. il Forbes 32:13-14+ O 1: 12 O 15 '33; Discussion. G. M. Verity. 32:28 N 15 '33
- Industrial relations in a New England textile mill; the Pequot mills of the Naumkeag steam cotton company, Salem, Mass. G. A. Johnston. Int Labour R 27:471-98 Ap '33
- Labor relations under the Recovery act. O. Tead and H. C. Metcalf. 259p \$2 Whittlesey House, McGraw-Hill '33
- Proceedings of the 1st annual conference of industrial experimenters associated, v 1 Industrial experimenters associated, New York '32
- Results of employee representation; Youngstown sheet & tube co. F. Purnell. Iron Age 132:62 O 19 '33
- Should company assist employees to organize under some form of employee representation plan? System 62:508-9+ N '33
- Works committees; abstract. E. J. Fox. Management R 22:309 O '33
- Works council plan won't work as negative or defensive expedient. N. G. Shidle. Automotive Ind 69:87-8 Jl 22 '33
- Works councils for automotive workers? N. G. Shidle. il Automotive Ind 69:383-4+ S 30 '33

See also

Company unions  
Whitley councils

**EMPLOYEES' saving plans. See Saving****EMPLOYERS' associations**

Employers of the United States and the International labor organization. T. G. Spates. Ann Am Acad 166:146-55 Mr '33

**India**

Development of employers' organisations in India. A. H. Maru. Int Labour R 27:220-36 F '33

**Scandinavia**

Scandinavian employers and collective labour agreements. E. Erichsen. Int Labour R 26: 676-92, 826-40 N-D '32

**EMPLOYERS' liability**

Court of appeals reverses damages award. Foundry 60:47 N '32

Employee concurrently negligent not precluded from recovery under employer's liability act. Monthly Labor R 36:791-2 Ap '33

Employer liable for damages although employee dies as result of noncompensable disease. Monthly Labor R 36:1282-4 Je '33

Employer's violation of safety order held to warrant additional compensation. Monthly Labor R 37:313-14 Ag '33

Liability of employer; knowledge of dangerous practices. Bradstreet's 61:21 Ja 7 '33

Pennsylvania pulverizing company, co-defendant-appellant, vs. Eldred C. Butler, plaintiff-appellee. Am Cer Soc J (Bul) 16:129-34 My '33

Pneumonia held to be personal injury from negligence under provisions of Jones act. Monthly Labor R 36:1074-6 My '33

Responsibility for electrical accidents. Elec R (Lond) 111:896-7 D 16 '32

Silicosis trial against contractor ends in jury disagreement. Eng N 110:603 My 11 '33

Workmen's compensation act held not to take away right of action for noncompensable disease caused by employer's negligence; West Virginia Supreme court of appeals. Pub Health Rep 48:764-6 Je 30 '33

Workmen's compensation acts and the breach of statutory regulations. Engineering 135:682 Je 23 '33

See also

Accidents, Industrial Insurance, Employers' liability Insurance, Workmen's compensation Workmen's compensation

**EMPLOYERS reinsurance corporation**

Annual statement, year ended Dec. 31, 1932. Spectator 130:33 F 9 '33; Weekly Underw 128:275 F 4 '33

**EMPLOYMENT**

Employment during the depression; abstract. M. B. Givens. Management R 22:343-4 N '33

Forestry and employment. W. N. Sparhawk. J Land & Pub Util Econ 9:145-9 My '33

Is there work enough to go around? Nat City Bank p140-1 S '33

Junior employment problems under present industrial conditions. C. L. Lewis. Monthly Labor R 35:1269-72 D '32

See also

Applications for position Labor displacement  
Employees Part-time employment  
Hours of labor Unemployment  
Labor and laboring classes

**Stability**

Budgeting federal construction to stabilize employment. D. H. Sawyer. Eng N 110:657-9 My 18 '33

How Bethlehem Steel has effected employment stabilization. J. M. Larkin. Iron Age 130:954-5+ D 22 '32

Preliminary report of the Massachusetts Special commission on the stabilization of employment under chapter 64 of the Resolves of 1931. 168p The committee, Boston '32

Revolution or jobs. T. E. Dabney. 251p \$1.50 Lincoln MacVeagh, Dial press, inc, 152 W. 13th st, New York '33

Unemployment reserves; an analysis of their effects on the stabilization of employment. J. W. Hook. il Mech Eng 55:422-6 Jl '33

See also

Employment systems—Guaranty of employment Labor turnover  
Unemployment

**Statistics**

Back to work; increase in jobs and payrolls antedates recovery codes but leaves relief workers still busy. Business Week p10 Jl 22 '33

Displacement of workers through increases in efficiency and their absorption by industry, 1920-1931. D. Weintraub. Am Statis Assn J 27:383-400 D '32

Distribution of employment. Economist 115: 972-3 N 26 '32

Employment and pay roll in cities of over 500,000 population. Published in Monthly labor review

Employment and pay rolls, monthly, Pennsylvania and Philadelphia, 1923-1932, New Jersey and Delaware, 1928-1932. Survey of Cur Business 13:19 S '33

Employment and values in construction. L. Mehren. maps Eng N 111:353-7 S 21 '33

Employment conditions and rate of operations in steel industry; tabulation. Steel 93:13 Ag 7 '33

Employment conditions and wages, monthly, 1926-1931. Survey of Cur Business 12:18-19 D '32

Employment in nonmanufacturing industries. Published in Monthly labor review

Employment in relation to mechanization in the bituminous-coal industry. Monthly Labor R 36:256-78 F '33

Estimate of seasonal factory unemployment, based on past records. D. W. Ellsworth. Annalist 40:707-8 N 25 '32

Factory employment and pay rolls, by industries. Published in monthly numbers of Federal reserve bulletin

Federal and state highway employment. Survey of Cur Business 13:19 Je '33



**EMPLOYMENT—Statistics—Continued**

- Figures that answer technocracy. R. W. Loughby. *Nation's Business* 21:31-2+ F '33
- Indexes of employment and pay rolls for non-manufacturing industries, January to December, 1929, 1930, 1931, 1932; tabulation. *Monthly Labor R* 36:389-90 F '33
- Jobs before sunrise; pre-recovery plan pickup in employment, payrolls, and wage rates. *Business Week* p18-19 Je 24 '33
- Jobs, hours, wages. *Business Week* p16-17 S 23 '33
- More buying power; July employment was 7.2% higher. *Business Week* p 18 Ag 26 '33
- More men at work; October report. *Business Week* p5-6 N 30 '32
- Movements in the general level of unemployment and employment. Published in monthly numbers of *International labour review*
- Nonmanufacturing employment and pay rolls, monthly, 1931-1932. *Survey of Cur Business* 13:19 Je '33
- Power and employment. W. N. Polakov. *Power* 77:121 Mr '33
- 66,000 man-hours in this little capital-goods order; mail-handling conveyors for Atlanta post office. E. J. Patton. *Factory Management* 91:365 S '33
- Size of industrial and commercial establishments in different countries. tables *Int Labour R* 27:839-59 Je '33
- Statistical procedure of public employment offices. A. M. Stewart and B. M. Stewart. 327p \$2.50 Russell Sage foundation. New York '33
- Statistics of employment, pay rolls and wages. Published in monthly numbers of *Survey of current business*
- Technological changes and employment in the electric-lamp industry. *Monthly Labor R* 36:1213-28 Je '33
- Trend of employment. Published in *Monthly labour review*
- Wages and employment in 1932; facts and figures. R. P. Falkner. *il Bradstreet's* 61:197-9 Ja 28 '33
- What the machine has done to us. W. S. Giele. *Iron Age* 131:264-9, 305-7 F 16-23 '33
- Winter comes to the payrolls; November figures. *Business Week* p11-12 Ja 4 '33

See also

**Unemployment—Statistics****EMPLOYMENT agencies**

- Abolition of fee-charging employment agencies. 141p World peace foundation '33
- Cost of placement by public employment offices in California; and state and local expenditures on Wisconsin public employment offices. *Monthly Labor R* 36:1040-1 My '33
- Junior employment problems under present industrial conditions. C. L. Lewis. *Monthly Labor R* 35:1269-72 D '32
- Labor department perking up. *Business Week* p22+ Je 10; 20 Je 24 '33
- Seventeenth session of the International labour conference; abolition of fee-charging employment agencies. *Int Labour R* 28:321-4 S '33
- Statistical procedure of public employment offices. A. M. Stewart and B. M. Stewart. 327p \$2.50 Russell Sage foundation, New York '33
- United States employment service. R. M. Kellogg. 192p pa \$1 Univ. of Chicago press '33
- U.S. job agency. *Business Week* p15-16 Ag 19 '33

**Law**

- Laws relating to employment agencies in the United States as of January 1, 1933. C. F. Sharkey and G. D. Patterson, jr. *U S Bur Labor Statistics* Bul 581:1-164 '33
- Private employment agency law of the Philippine Islands; text. *Monthly Labor R* 37:93-6 Jl '33

**EMPLOYMENT agency buildings**

- Employment office. *il plan Arch Forum* 57:508-11 D '32

**EMPLOYMENT contracts. See Labor contracts****EMPLOYMENT management**

- Adjusting hidden costs in industry; abstract. H. G. Ellerd. *Management R* 22:245-6 Ag '33
- Can competitors destroy a liberal labor policy? C. C. Balderston. *il Forbes* 32:6-9+ Ag 15; 13-14+ O 15 '33
- Do ideas flow freely through your organization? M. C. Hale. *il Nat Safety* N 28:11-14 N '33
- Employee-attitude interviews as tools of personnel management. D. H. Ewing. *Harvard Business R* 12:106-15 O '33
- Employee loyalty hits a new low. W. Baxter. *System and Management Methods* 62:386-7 S '33
- Employment department; Ontario paper co. J. N. May. *Pulp & Pa of Can* 34:401-2 Je '33
- How Bethlehem Steel has effected employment stabilization. J. M. Larkin. *Iron Age* 130:954-5+ D 22 '32
- How business is solving its management problems under the Blue Eagle. *il System and Management Methods* 62:383-5+ S '33
- How companies help debt-ridden workers. *Forbes* 32:14 N 1 '33
- How one president manages to control human inventory. J. Poole. *il Bankers Mo* 49:741-2+ D '32
- Human nature and management; the applications of psychology to executive leadership. O. Tead. 2d ed 338p \$3.50 McGraw-Hill '33
- Human side of management. S. Norvell. *Sales Management* 32:246+, 434-5+, 510-11+ Mr 15, Ap 20, My 15 '33
- Industrial management based on common sense. F. J. Miller. *Mach* 40:143-4 N '33
- Leadership and labor are the twin problems of industry. K. T. Keller. *S A E J* 32:7-10 Ap '33
- Man in overalls looks at his bosses. *Factory Management* 91:361-2 S '33
- Personnel activities at the Hawthorne works of Western electric company. G. S. Rutherford. *Management R* 22:269-70 S '33
- Personnel administration; its principles and practice. O. Tead and H. C. Metcalf. 3d ed 519p \$4 McGraw-Hill '33
- Personnel in industry. W. A. S. Calder. *Chem Age (Lond)* 28:263-4 Mr 25 '33; Abstract. *Soc Chem Ind J (Chem & Ind)* 52:262-3 Mr 24 '33
- Personnel problems raised by the present economic crisis; abstract. W. M. Leiserson. *Management R* 22:114-15 Ap '33
- Proper regard for a superior officer. J. J. Rutledge. *Explosives Eng* 11:12-14 Ja '33
- Radio entertainment improves workers' efficiency in hosiery plant. *il Textile World* 83:1103 Je '33
- Recent trends in personnel management. C. C. Balderston. *Management R* 22:259-66; Discussion. 266-9 S '33
- Regulating employment in the offices; A.G.A. committee report. *Am Gas Assn Proc* 1932:192-8
- Rewarding punctuality; honor day system. *System and Management Methods* 62:353 Ag '33
- Scientific selection and training of workers in industry and commerce. M. Martin-Leake and T. Smith. 104p Pitman '32
- Somebody's after my job. J. J. Rutledge. *Explosives Eng* 11:348-9 N '33
- Strategy in handling people. E. T. Webb and J. B. Morgan. 260p \$1 Garden City pub. co. inc. Garden City, New York '32
- Supervisor's job in 1933. R. A. Shaw. *Nat Safety* N 27:28 Mr '33; Same cond. *Safety Eng* 65:47 F '33
- What about personal telephone calls? *Management Methods* 62:129, 180+ Mr-Ap '33
- When everyone's on the flying squadron, it costs less to package; Jewel tea co. F. C. Fleming. *il Factory Management* 91:393 O '33

**EMPLOYMENT management—Continued**

Worm's-eye view of business. W. G. Stevens. 148p \$1 Meador pub. co, 470 Atlantic av, Boston '33

*See also*

Applications for position  
Apprentices  
Bank employees  
Bonus system  
Building trades—Labor conditions  
Discount, Employees'  
Employees  
Employees, Training of  
Employees as stockholders  
Employees' representation in management  
Employment systems  
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Job analysis  
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Paper mills—Employees  
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Saving  
Suggestion systems  
Unemployment—Relief measures  
Vacations  
Wage payment plans  
Welfare work in industry  
Woman—Employment

**Incentives**

Fair wage plan lowers shop costs. J. O. P. Hummel. Inland Ptr 91:55-7 S '33  
Financial incentive wage system; People's ice co, Syracuse, N. Y. H. D. Sanford. Refrig W 68:24-9 My '33  
How's your time budget? Jewel tea company. Management Methods 62:13-14 Ja '33  
Incentives alone not enough. H. Kaufman. Management Methods 61:676 D '32  
Why not incentives for quantity and quality? W. E. Curley. Factory Management 91:124-5 Ap '33

**EMPLOYMENT of children.** See Child labor

**EMPLOYMENT service.** See United States—Employment service

**EMPLOYMENT systems**

Arriving at a labor recruiting policy through the statistical interpretation of routine employment data. H. Van Droege. Harvard Business R 12:47-58 O '33  
Capability and experience. R. W. Minter. il Elec R (Lond) 112:569 Ap 21 '33  
Hiring and separation methods in American factories. Monthly Labor R 35:1005-17 N '32  
Problem no. 2 in the prize letter contest; reply to applicants for employment. L. E. Frailey. Ptd Salesmanship 61:98-9, 240-1 Ap, Je '33  
Time off for job hunting? Management Methods 61:620-2+ N '32

*See also*

Ability tests  
Applications for position  
Employment agencies  
Job analysis  
Salesmen—Selection

**Guaranty of employment**

Nine months' employment guaranty for Amalgamated clothing workers. New York city. Monthly Labor R 36:336 F '33  
Revolution or jobs. T. E. Dabney. 251p L. MacVeagh, \$1.50 Dial press, New York '33

**Interviews**

Analysis of employment interviews; abstract. R. S. Uhrbrock. Management R 22:276 S '33

**EMULSIFICATION**

Advances in the technique of emulsification; the Impulsor emulsifier. il diag Chem Age (Lond) 29:35 Jl 8 '33  
Avoidance of emulsification in defatting operations. A. E. Rheineck and O. Givold. diag Science 78:215-16 S 8 '33  
Detergency of alkaline salt solutions; defloculating and emulsifying power. F. D. Snell. Ind & Eng Chem 25:162-5 F '33  
Formation, size, and stability of emulsion particles. C. G. Sumner. bibliog diag J Phys Chem 37:279-302 Mr '33

Impulsor emulsifier. il diag Soc Chem Ind J (Chem & Ind) 51:995-6 D 2 '32

Interfacial tension between asphaltic materials and solutions of alkaline inorganic salts. R. N. Traxler and C. U. Pittman. Ind & Eng Chem 24:1391-3 D '32

Simple method for emulsifying oils. C. F. Goldthwait. Am Dyestuff Rep 22:589-90+ O 9 '33

Soy-bean paste as an emulsifying agent. A. M. Field, B. H. Alexander and E. B. Sylvanus. Science 77:91 Ja 20 '33

Strength of emulsifier films at liquid-liquid interfaces. J. A. Serrallach, G. Jones and R. J. Owen. diags Ind & Eng Chem 25:816-19 Jl '33

**EMULSIONS**

Chemical and mechanical features of asphalt emulsions. R. M. Heine. Nat Pet N 25:43-4+ Jl 26 '33

Effect of oxygen and water on polymerization of chloroprene. I. Williams and H. W. Walker. diag Ind & Eng Chem 25:199-202 F '33

Emulsified asphalt industry ignores the depression. J. M. Fain and A. W. Hixson. il Chem & Met Eng 40:180-3 Ap '33

Emulsion systems containing phenols, water, and gelatin. R. M. Woodman. Soc Chem Ind J 52:44T-6T F 10 '33

Emulsions; abstract. J. C. Roberts. Soc Chem Ind J (Chem & Ind) 51:999-1000 D 2 '32

Formation, size, and stability of emulsion particles. C. G. Sumner. bibliog diag J Phys Chem 37:279-302 Mr '33

New theory of emulsions. C. H. M. Roberts. J Phys Chem 36:3087-107 D '32

Problems of emulsion persistence; abstract. W. Clayton. Soc Chem Ind J (Chem & Ind) 51:1000 D 2 '32

Stabilization of aqueous dispersions of asphalt. A. W. Hixson and J. M. Fain. bibliog il Ind & Eng Chem 24:1336-43 D '32

Studies in emulsions. J. B. Parke and H. Graham. pl Chem Soc J p1214-17 S '33

Wetting, spreading, and emulsifying agents for use with spray fluids; a partial phase rule investigation of the miscible oil system phenol-water-sodium oleate-toluene. R. M. Woodman. Soc Chem Ind J 52:185T-8T Je 23 '33

Wetting, spreading, and emulsifying agents for use with spray fluids; miscible oils. R. M. Woodman. Soc Chem Ind J 52:4T-6T Ja 13 '33

Wetting, spreading, and emulsifying agents for use with spray fluids; the effect of varying proportions of water and aid to dissolution on miscible oil formation and on the character of the emulsions. R. M. Woodman. Soc Chem Ind J 52:351T-2T O 27 '33

**ENAMEL and enameling**

Blistering of cast iron enamel; progress report II. E. P. Poste. il Am Cer Soc J 16:277-92 Je '33

Conveyors speed up enameling of stove parts; Florence stove co, Kankakee, Ill. J. B. Nealey. il plan Steel 92:25-7 Je 26 '33

Effect of sodium aluminate on consistency and acid resistance of some acid-resistant enamels. G. H. McIntyre and others. il Am Cer Soc J 16:13-15-18 Jl '33

Effect of zinc oxide on sheet-iron cover-enamel properties. L. D. Fetterolf. Am Cer Soc J 16:319-24 Jl '33

Elimination of blistering of enameled-iron number plates. W. J. Scott. Am Cer Soc J 16:93-5 F '33

Employment of women in vitreous enameling. E. L. Best. pls U S Women's Bur Bul 101:1-61 '32

Enamel coatings on glass; abstract. F. Skaupey. Am Cer Soc J 16 (Cer A 12):100 Mr '33

Enamels of standard colors for vitreous china sanitary ware at cone 6. K. M. Kautz. Am Cer Soc J 16:192-8 Ap '33

Fluoride investigations. R. M. King. Ohio State Univ Eng Exp Sta Bul 76:1-35 [bibliog p32-5] '33



**ENAMEL and enameling—Continued**

- Glass-lined steel equipment in chemical industry. P. S. Barnes. *il Ind & Eng Chem* 25:1080-3 O '33
- Hochsäurefestes email in der chemischen technik. L. Stuckert. *Chemische Fabrik* 6:245-8 Je 7 '33; Abstracts (Acid-resisting enamels). *Chem Markets* 33:238-9 S '33; *Chem & Met Eng* 40:482 S '33
- Industrial electric heating; porcelain enameling. N. R. Stansel and L. C. Athy. *il Gen Elec R* 36:194-200 Ap '33
- Industrial electric heating; porcelain enameling furnaces. N. R. Stansel and K. E. Kjolseth. *il diags plan Gen Elec R* 36:275-81 Je '33
- Line in enamels; abstract. *Chem Markets* 33:241 S '33
- Line of acid resisting steel sink. *il Dom Eng* 141:109-10 Je '33
- Manufacture of porcelain or vitreous enamel on sheet iron. G. A. Hutt. *Metal Ind* 31:338-40 O '33
- Mechanics of enamel adherence; apparatus for firing enamels; studies in firing enamels under reduced pressures. R. M. King. *diag Am Cer Soc J* 16:232-8 My '33
- Oil painting in vitreous enamel. *il Iron Age* 132:24 JI 27 '33
- Opacifying enamel in theory and practice; abstract. L. Stuckert. *Am Cer Soc J* 16 (Cer A 12):94-5 Mr '33
- Peculiarity of sheet-iron acid resisting cover coat enamels. H. E. Ebright and J. E. Hansen. *il Am Cer Soc J* 16:433-6 S '33
- Plasticity of ground coat enamels. *J Fr Inst* 215:102 Ja '33
- Progress report on the study of gases in enameling iron. R. W. Baker and J. C. Joubanc. *Am Cer Soc J* 16:437-41 S '33
- Results of some shop tests on reboiling. F. R. Porter. *Am Cer Soc J* 16:312-14 JI '33
- Some sheet-iron ground-coat reboil and bond studies using several enameling stocks. H. E. Ebright, C. D. Clawson and J. T. Irwin. *il Am Cer Soc J* 16:305-11 JI '33
- Summary of the observations and facts concerning the phenomenon of reboiling. J. O. Lord. *il Am Cer Soc J* 16:442-51 S '33
- Thermal expansion of sheet-iron ground-coat enamels. A. I. Andrews and R. K. Smith. *Am Cer Soc J* 16:328-37 JI '33
- Thermal expansion of vitreous enamels. *J Fr Inst* 216:645-6 N '33
- Unique example of enameling; exhibit of the Republic steel corporation at the Century of progress. *il Sheet Metal Worker* 24:257 Ag '33
- X-ray investigation of the opacifying compounds present in sheet-iron cover enamels. A. I. Andrews and J. P. Breen. *Am Cer Soc J* 16:325-7 JI '33
- See also*  
Electric furnaces,  
Enameling  
Furnaces, Enameling

**Analysis**

- Determination by X-ray methods of crystalline compounds causing opacity in enamels. A. I. Andrews, G. L. Clark and H. W. Alexander. *bibliog Am Cer Soc J* 16:385-92 Ag '33

**Testing**

- Reliability of cross-bend, impact, and reflectivity data obtained from various sizes of test pieces. G. H. McIntyre, J. T. Irwin and M. G. Ammon. *Am Cer Soc J* 16:338-41 JI '33
- Some fusion properties of ground coat enamels as influenced by composition. W. N. Harrison and B. J. Sweo. *pl U S Bur Stand J Research* 10:189-209 F '33

**ENAMEL and enameling (paints, etc.)** See Automobiles—Painting; Lacquer and lacquering; Paint; Painting, Industrial

**ENAMELED sheet metal.** See Sheet metal, Enameled

**ENAMELED ware**

- How to guard against, learn, and classify blemishes in iron enamel-ware finishes. *il Dom Eng* 141:38-41+ Ja '33

**Manufacture**

- Photoelectric relay prevents enamel ware from piling up on conveyor. *Steel* 92:28 Je 19 '33

**ENCEPHALITIS, Epidemic**

- Encephalitis and mosquitoes. *Science* 78:sup9 N 3 '33

- Encephalitis; studies on experimental transmission. R. S. Muckenfuss, C. Armstrong and H. A. McCordock. *Pub Health Rep* 48:1341-3 N 3 '33

- Epidemic encephalitis in St Louis. *Pub Health Rep* 48:1071-3 S 1 '33

- Insect transmission experiments with herpesencephalitis virus. J. S. Simmons, R. A. Kelser and V. H. Cornell. *chart Science* 78:243-6 S 15 '33

- Mild attack of encephalitis. *Science* 78:sup8-9 S 29 '33

- No proof that mosquitoes transmit sleeping sickness. H. S. Cumming. *Science* 78:sup8 O 6 '33

- Outbreak of sleeping sickness. *Science* 78:sup9-10 S 1 '33

**ENCEPHALOMYELITIS in horses.** See Horses—Diseases

**ENCYCLOPAEDIA Britannica**

- Britannica and Guild unite sales forces in 4-state test. *Sales Management* 32:625 Je 15 '33

**ENCYCLOPEDIAS**

- Cyclopedia of insurance law and its background. G. J. Couch. *East Underw* 34:3+ Ja 27 '33

**END papers**

- Endpaper shown through courtesy of the Italian line; drawing by Victor Beals. *Adv Arts p18A N '33*

**ENDICOTT Johnson corporation**

- Endicott covered preferred dividend; report for fiscal year. *Barron's* 13:13 Ja 9 '33
- Sound stocks for income and long range profit. *Mag of Wall St* 52:634 O 14 '33

**ENDLESS chain selling**

- Endless chain selling is dangerous. *Ptr Ink* 163:32 My 25 '33

- Endless chains end. *Business Week* p12 Je 7 '33

- Endless chains; revival of an old selling scheme. *Business Week* p11 F 1 '33

- 50,000 pens in three months; endless chain selling company is looking for new products and plans to advertise. *Ptr Ink* 162:35-6 F 2 '33

- Prosperity sales plan stirs controversy. *Forbes* 31:20 F 1 '33

- Prosperity via the endless chain plan. A. M. Howe. *Ptr Ink* 161:32-5 D 22 '32

- Uncle Sam's fraud orders start to end the endless chains. *Sales Management* 32:520 My 15 '33

- Will the fraud order axe doom the endless chains? B. Crowell. *Sales Management* 32:154-5+ F 15 '33

**ENDOCRINE glands.** See Glands, Ductless

**ENDOWMENTS**

- Trust services to colleges and universities. *il Am Bankers Assn J* 25:32+ Je '33

**ENEMY property**

- No more war on foreign investments. F. W. Bitter and A. Zelle. 86p Dorrance & co, inc, Philadelphia '33

**ENGINEER (term)**

- Protection of the term "engineer." D. B. Steinman. *Prof Eng* 17:9-10 S '32; 18:11-12 Ja '33

**ENGINEERING**

- American association for the advancement of science; section M (Engineering) Chicago meeting, 1933. N. H. Heck. *Science* 78:296-303 O 6 '33

- Century of progress in construction. *il diags Civil Eng* 3:423-54 Ag '33

- Contribution of engineering to progress. E. J. Mehren. *Prof Eng* 18:6-8 JI '33; Same. *W Soc E J* 38:192-6 Ag '33; Same. *Am Cer Soc Bul* 12:291-5 O '33; Excerpts. *Mech Eng* 55:475-7 Ag '33; *Architecture* 68:299-300 N '33

- Destiny of engineering. R. E. Flanders. *Refrig Eng* 25:147-8+ Mr '33

**ENGINEERING—Continued**

Development of industry and engineering during the century. A. P. M. Fleming. Elec Eng 52:666-71 O '33

Effect of earthquakes on engineering structures; abstract. F. W. Furkert. Engineering 135:478 Ap 28 '33

Engineer and a Century of progress. H. P. Charlesworth. Elec Eng 52:445-8 Jl '33

Engineering; a career, a culture. 61p pa 15c Engineering foundation, New York '32

Engineering progress. F. H. Corson. Inst E E J 72:41-4 Ja '33

Five kinds of engineering; editorial. Refrig Eng 24:325-4 D '32

Importance of metallurgy to the engineer. C. H. Bulleid. Inst Mech Eng Proc 123:767-72 '32

Modern trends in engineering; discussion. C. Derleth and others. J Eng Educ 23:471-8 F '33

Planning and conduct of engineering development. M. A. Whiting. Gen Elec R 36:216-22 My '33

Progress made on large engineering projects. Il Eng N 110:153-62 F 2 '33

Recent advances in the application of chemistry to engineering; abstract. H. B. Hartley. Chem Age (Lond) 28:432 My 13 '33

Relationship of engineering to metallurgy. F. C. Lea. Engineering 135:447-8 Ap 21 '33

Romance of modern engineering. A. Williams. new rev ed 376p Seeley, Service & co, Ltd, London '32

Skill. F. L. Watson. Inst Mech Eng Proc 123:761-6 '32

Some fundamental problems of the engineer. F. B. Jewett. Mech Eng 55:490-1 Ag '33

Statistics and engineering. D. W. Walton. Engineer 154:583-4, 609-10, 633-4, 661-2 D 9-30 '32

Theory of functions, as applied to engineering problems. R. Rothe, F. Ollendorff and K. Pohlhausen, eds. 189p Massachusetts institute of technology, Cambridge '33

Value of models to engineers. Il Mach 39:336-7 Ja '33

Vocational guidance in engineering lines. J. A. L. Waddell, F. W. Skinner and H. E. Wessman, eds. 521p American assn. of engineers, inc, New York '33; Review. Prof Eng 18:7-8 Ap '33

**See also**

Aeronautic engineering  
Aeronautics  
Airports  
Aqueducts  
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Architecture  
Automobile engineering  
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Public works  
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Railroad engineering  
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Standards, Engineering  
Steam engineering  
Steam engines  
Steel construction  
Strains and stresses  
Streets  
Strength of materials

Subways  
Surveying  
Technology  
Tunnels and tunneling  
Ventilation  
Water supply engineering

**Bibliography**

Book reviews and notes: a monthly commentary on current additions to the civil engineers' library. Eng N 110:92-3 Ja 19 '33 [cont monthly]

Books received in the Engineering societies' library. Published in monthly numbers of Mechanical engineering

Engineering books available in America prior to 1830. R. R. Shaw, comp. N Y Pub Lib Bul 37:33-61, 157-60, 209-22, 301-10, 539-55 Ja-Apr, Je '33

Engineering literature. Published in monthly numbers of Electrical engineering

Western society of engineers library; book reviews. Published in bi-monthly numbers of the Journal of the Western society of engineers

**Exhibitions**

Engineering exhibits at the 55th Canadian national exhibition. Can Eng 65:11-12 Ag 29 '33

**Study and teaching**

What does industry expect from technical education in the next decade. C. F. Hirshfeld. J Eng Educ 23:753-61 Je '33

**Tables, calculations, etc.**

Calculating the area of a sector between two circles. M. N. Clair. Civil Eng 3:172 Mr '33  
Engineers' condensed data. C. C. Fichter. 142p Nickerson & Collins co, Chicago '32

**Terminology**

Engineering style. Refrig Eng 25:7-4 Ja '33

**China**

British engineers in China. C. A. M. Smith. Elec R (Lond) 113:551-2 O 20 '33

**Palestine**

Engineering experiences in the Holy Land. J. Lasker. Il map Civil Eng 3:200-3 Ap '33

**Russia**

Standardization in soviet Russia; abstract. I. Gutmann. Mech Eng 55:450 Jl '33

**ENGINEERING, Structural.** See Structural engineering

**ENGINEERING colleges**

Adjusting the technical college to new demands. R. A. Seaton. Eng N 110:439-41 Ap 6 '33

Aspect of engineering enrollment. E. D. Smith. J Eng Educ 23:225-8 N '32

College notes. J Eng Educ 23:237-81 D '32

Conference of administrative officers, Madison, Wis. July 3-7. J Eng Educ 24:62-74 S '33

Conference of administrative officers of engineering colleges; addresses at Madison, Wis. meeting. J Eng Educ 24:117-75 O '33

Critical analysis of the examination system of American engineering schools. V. Bush. J Eng Educ 23:322-36 Ja '33

Engineering at Yale. J Eng Educ 23:380-1 Ja '33

Engineering college development in the West. I. C. Crawford. J Eng Educ 23:175-99 N '32

Function of engineering schools in the economic life of the country. R. A. Seaton. J Eng Educ 24:10-18 S '33

Influences and trends in engineering education. H. S. Rogers. Eng N 110:438-9 Ap 6 '33

License laws for engineers. H. Diederichs. Sibley J 47:67-9-4 Ap '33

New problems arise in the engineering colleges. Eng N 110:170 F 2 '33

Place of the university in industrial research. B. M. Woods. Il Mech Eng 55:167-8 Mr '33



**ENGINEERING colleges—Continued**

Problem of accrediting engineering colleges. H. P. Hammond. *J Eng Educ* 24:170-5 O '33  
 Research in engineering colleges; abstract. A. A. Potter. *S A E J* 31:468 D '32

*See also*

Engineering educa-      Engineering students  
 tion                      Mining schools and  
 Engineering graduates      education

**Curriculum**

Administrative engineering. T. Weissinger. *Sibley J* 46:191 N '32  
 Anniversary for Dr Harvey N. Davis; review of some of his accomplishments. Stevens *Ind* 49:192-5 N '32  
 Combined course in engineering materials and strength of materials. G. H. Dunstan. *J Eng Educ* 23:763-4 Je '33  
 Comparison of present mechanical engineering curricula with those of 1908. W. T. Magruder. *J Eng Educ* 24:92-116 O '33  
 Economics in engineering education. W. D. Ennis. *J Eng Educ* 23:543-9 Mr '33  
 English in engineering education. R. P. Baker. *J Eng Educ* 23:200-7 N '32  
 Experimental course in mechanics of materials. F. L. Everett. *il J Eng Educ* 23:564-79 Mr '33  
 Industrial economics. J. W. Roe. *J Eng Educ* 23:699-707 My '33  
 Instruction in industrial relations on the Pacific coast. C. Derleth, jr. *J Eng Educ* 23:395-414 F '33  
 Introduction to business and industry. J. R. Bangs, jr. *J Eng Educ* 23:222-4 N '32  
 Methods of teaching economics of engineering. E. L. Grant. *J Eng Educ* 23:602-9 Ap '33  
 Orientation for engineering freshmen. D. E. Whelan, jr. *J Eng Educ* 23:766-9 Je '33  
 Problems of administering English work in engineering colleges. R. P. Baker. *J Eng Educ* 23:282-91 D '32  
 Report of conference on English. *J Eng Educ* 23:782-97 Je '33  
 Required course in machine design for non-mechanical engineering students. R. H. G. Edmonds. *J Eng Educ* 23:531-6 Mr '33  
 Technical curricula and liberal education. R. P. Baker. *il Mech Eng* 55:23-6 Ja '33  
 Three thousand six hundred hours of engineering; the curriculum at Stevens analyzed. Stevens *Ind* 49:216-17 D '32

*See also*

Strength of materials  
 —Study and teaching

**Entrance requirements**

Significance of entrance requirements for the engineering college at the University of Washington. A. Dvorak and R. C. Salyer. *J Eng Educ* 23:618-23 Ap '33  
 Solid geometry—an entrance requirement for engineering universities. R. C. Rhynearnson. *J Eng Educ* 23:297-302 D '32

**Graduate work**

Business conditions and postgraduate study. E. Hausmann. *Elec Eng* 52:642 S '33  
 Function of the administrative officer with reference to graduate work. D. C. Jackson. *J Eng Educ* 24:140-7 O '33  
 Graduate study in engineering for South Dakota. H. M. Crothers. *J Eng Educ* 23:656-63 Ap '33  
 Post graduate study in engineering. R. A. Seaton. *J Eng Educ* 23:583-92 Mr '33  
 Study of graduate and undergraduate enrollments in engineering from 1921-22 to 1930-31, and undergraduate, professional, and graduate degrees in engineering, 1921-22 to 1929-30. W. C. John. *J Eng Educ* 23:166-8 N '32

**Professors and instructors**

Administrative recognition of teaching ability. J. C. Clark. *J Eng Educ* 23:764-6 Je '33  
 Engineering schools and the changed conditions. V. Karapetoff. *Elec Eng* 52:604-5; Discussion. C. L. Dawes. 647 S '33

Ethics of salaried engineers engaging in private practice. *Civil Eng* 3:643-4 N '33  
 Intellectual interchange among faculties of engineering schools. D. C. Jackson. *Science* 78:291-6 O 6 '33

**ENGINEERING contracts**

Bidding and planning for the construction battle; Hoover dam. *il Eng N* 109:705-8 D 15 '32  
 Code of standard practice for bridge sub-structures. C. S. Proctor. *il Civil Eng* 3:129-33 Mr '33  
 Improving concrete quality by paying bonuses to contractors on group of sewerage structures. M. H. Klegerman. *il Eng N* 111:434-7 O 12 '33  
 Influence of standardization on construction specifications. J. Hinds. *Am Water Works Assn J* 25:113-23 Ja '33  
 Louisiana Supreme court renders decision of importance to contractors and furnishers of material. S. C. Braselman. *Manuf Rec* 102:52 O '33  
 Nineteen contracts under way on Colorado River aqueduct. *il map Eng N* 110:678-80 My 25 '33

*See also*

Contracts, Letting of

**ENGINEERING degrees.** *See* Degrees, Engineering

**ENGINEERING departments**

Production control; a better product at a lower cost. T. M. Landy. *Factory & Ind Management* 84:65-8 F '33  
 Value of an engineering department in a full-fashioned hosiery mill. E. J. Doerr and D. H. Hoffmann. *diag Melland* 5:11-12, 53-4 Ap-My '33

**ENGINEERING drawing**

Geometry of engineering drawing; descriptive geometry by the direct method. G. J. Hood. 2d ed 348p \$2.50 McGraw-Hill '33

**ENGINEERING education**

Adjusting the technical college to new demands. R. A. Seaton. *Eng N* 110:439-41 Ap 6 '33  
 Armour institute development plan. J. D. Cunningham. *il Mech Eng* 54:841-4 D '32  
 Education of engineering students. F. Kerekes. *J Eng Educ* 23:708-12 My '33  
 Educational preparation for creative technical engineering leadership. R. E. Doherty. *J Eng Educ* 23:309-21 Ja '33; Same. *Mech Eng* 55:90-4 F '33  
 Engineer in public life. D. S. Kimball. *Mech Eng* 55:7-9+ Ja '33  
 Engineering education in the light of changed social and industrial conditions. W. E. Wickenden. *J Eng Educ* 24:148-61 O '33  
 Engineering foundation's courses for the unemployed. *Monthly Labor R* 36:1289-90 Je '33  
 Engineers and management. H. N. Munro. *Elec R (Lond)* 113:280 S 1 '33  
 Factors in an engineering problem and their application to engineering education. H. C. Sadler. *J Eng Educ* 23:748-53 Je '33  
 Forty years of progress in engineering education; Chicago convention of the S.P.E.E. C. W. Park. *Eng N* 111:71-2 Jl 20 '33  
 Function of the junior college in engineering education. R. E. Davis. *J Eng Educ* 23:427-37 F '33  
 Future of engineering education. E. E. Clark. *J Eng Educ* 23:772-7 Je '33  
 Growth curve in engineering education. L. A. Doggett. *J Eng Educ* 23:695-8 My '33  
 Ignorance sires argument; simplicity breeds understanding. C. F. Kettering. *S A E J* 33:sup13-16 N '33  
 Influences and trends in engineering education. H. S. Rogers. *Eng N* 110:438-9 Ap 6 '33  
 Instruction in industrial relations on the Pacific coast. C. Derleth, jr. *J Eng Educ* 23:395-414 F '33  
 Intellectual interchange among faculties of engineering schools. D. C. Jackson. *Science* 78:291-6 O 6 '33  
 Jobless engineers under New York plan can go to school while waiting for work. *Business Week* p19 Ja 18 '33

**ENGINEERING education—Continued**

- Methods of teaching economics of engineering. E. L. Grant. *J Eng Educ* 23:602-9 Ap '33
- Observations on engineering education. R. L. Sackett. *Elec Eng* 52:796 N '33
- Observations on engineering training. J. M. Brown. *J Eng Educ* 23:663-9 Ap '33
- Power of expression and the importance of definitions in the training of the engineer. W. E. Howland. *J Eng Educ* 23:537-8 Mr '33
- Professional development in 1932. *Mech Eng* 54:857-8 D '32
- Professional development of the engineer. R. I. Rees. *Elec Eng* 52:129-30 F '33
- Promotion of engineering education in the past forty years. H. P. Hammond. *J Eng Educ* 24:44-61 S '33
- Purpose and scope of mining and metallurgical engineering education. E. A. Holbrook. *J Eng Educ* 24:75-87 S '33
- Semi-professional engineering education. F. E. Ayer. *J Eng Educ* 23:463-70 F '33
- Technical institute education in a coordinated system of engineering education. R. H. Spahr. *J Eng Educ* 23:442-57 F '33
- Trends in engineering education. D. S. Kimball; H. P. Hammond; C. C. Williams. *Eng N* 110:504-5 Ap 20 '33

*See also*

- |   |   |
|---|---|
| Apprentices                             | Gas engineering—                          |
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| Chemical engineering—Study and teaching | Industrial engineering—Study and teaching |
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| Engineering colleges                    | Mining schools and education              |
| Engineering laboratories                | Petroleum engineering—Study and teaching  |
| English language—Study and teaching     | Technical education                       |

Consult Education Index for additional references

**Cooperative plan**

- Coöperative education. H. H. Bliss. *J Eng Educ* 23:769-72 Je '33
- Gas industry cooperative research and education. E. S. Pettyjohn. *Gas Age* 71:535-8 My 27 '33

**Inspection trips**

- Values in seeing things; an observation on inspection trips. H. G. Payrow. *J Eng Educ* 23:677-80 My '33

**China**

- British engineers in China. C. A. M. Smith. *Elec R (Lond)* 113:551-2 O 20 '33
- University of Hong Kong. C. A. M. Smith. *Il Engineer* 156:73-80, 88 Jl 23 '33

**ENGINEERING ethics**

- Engineer's view of investment banking reforms. G. M. Dexter. *Mech Eng* 55:275-8 My '33

- Ethics of salaried engineers engaging in private practice. *Civil Eng* 3:643-4 N '33

**ENGINEERING graduates**

- Analysis of Michigan tech honor alumni. L. F. Duggan. *J Eng Educ* 23:713-16 My '33
- Analysis of the performance of college graduates in structural engineering. A. Reichmann. *J Eng Educ* 23:337-53 Ja '33
- Education and eminence in engineering. B. Smith. *J Eng Educ* 23:208-21 N '32
- Study of graduate and undergraduate enrollments in engineering from 1921-22 to 1930-31, and undergraduate, professional, and graduate degrees in engineering, 1921-22 to 1929-30. W. C. John. *J Eng Educ* 23:166-8 N '32
- Young engineer and his English. R. I. Rees. *J Eng Educ* 23:479-90 F '33

*See also*

- Engineering colleges  
—Graduate work

**ENGINEERING institute of Canada**

- Annual meeting, 47th, Ottawa, Feb. 6-7, *Can Eng* 64:11-14 F 21 '33; *Eng N* 110:232 F 16 '33; *Engineer* 155:227-8 Mr 3 '33

**ENGINEERING instruments***See also*

- |                        |                                      |
|------------------------|--------------------------------------|
| Aeronautic instruments | Scientific apparatus and instruments |
| Nautical instruments   | Surveying instruments                |

**ENGINEERING laboratories**

- Buildings and equipment of the Engineering department at Cambridge university. *Il plan Engineering* 135:117-19, 132, pl 5 F 3 '33
- Experimental cement plant at University of California. J. W. Kelly. *Il diag Eng N* 111: 519-21 N 2 '33
- More power research for boiler-makers; mechanical engineering building at Purdue university includes 3-story steam-engine laboratory; illustrations. *Power* 77:299 Je '33

*See also*

- |                        |                            |
|------------------------|----------------------------|
| Electric laboratories  | Refrigeration laboratories |
| Hydraulic laboratories | Testing laboratories       |

**ENGINEERING law***See also*

- |                               |                       |
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|                               | Engineers—Licenses    |

**ENGINEERING literature***See also*

- Engineering—Bibliography  
Technical writing

**ENGINEERING periodicals**

- Classification of subject titles in engineering periodicals. S. W. Gibson. *Assn of Sp Lib & Inf Bur Proc* 1933:93-9
- Some reflections on publications costs. *Civil Eng* 3:640-1 N '33

**ENGINEERING research**

- Current research in power and allied fields; compilation of work completed during 1931, 1932 and 1933, together with work still in progress. *Power* 77:249-68 My '33
- Engineering research at Michigan. A. E. White. *Il Metal Prog* 23:33-6 Mr '33
- Engineering research cuts production costs. H. R. M. Thorp. *Chem Age (Lond)* 29: 274 S 23 '33
- Die entwicklung der forschung in den jahren 1931 und 1932. E. Koenemann. *Zeit Ver Deutsch Ing* 77:329-35 Ap 1 '33
- Hoover Dam construction guided by extensive research. E. Mead. *Il Eng N* 109:724-7 D 15 '32
- How do you think? G. M. Eaton. *Mech Eng* 55:279-80 My '33
- National physical laboratory, annual report for 1932. *Il diag Engineering* 136:95-7, 121-3, 147-9, 173-6, 201-2, 209-11, 379-81, 444-6, 512-13, 615-18, 645-6 Jl 28-S 1, O 6, 20, N 10, D 8-15 '33 (to be cont)
- National physical laboratory; engineering department; summary of reports. *Engineer* 155:459 My 5 '33
- Place of the university in industrial research. B. M. Woods. *Il Mech Eng* 55:167-8 Mr '33
- Research in engineering colleges; abstract. A. A. Potter. *S A E J* 31:468 D '32

*See also*

- |                          |                        |
|--------------------------|------------------------|
| Aeronautic research      | Highway research       |
| Electric research        | Hydraulic laboratories |
| Engineering laboratories | Hydraulic research     |
| Gas research             | Industrial research    |
|                          | Petroleum research     |
|                          | Railroad research      |

**ENGINEERING societies**

- Activities of the Engineers' German circle. H. P. Spratt. *Engineering* 136:425-6 O 13 '33
- American association for the advancement of science; section M (Engineering) Chicago meeting, 1933. N. H. Heck. *Science* 78:296-303 O 6 '33
- Engineering week at a Century of progress; June conventions. *Power Pl Eng* 37:318-19 Jl '33
- Engineering week in Chicago. *Iron Age* 132: 24-5 Jl 6 '33
- Engineering week, June 25-30, in connection with Century of progress exposition. *Prof Eng* 13:14 Ja '33



**ENGINEERING societies—Continued**

L'état actuel de la Fédération des associations, sociétés et syndicats français d'ingénieurs. Génie Civil 102:306-7 Ap 1 '33

German circle of English speaking engineers. Engineer 154:562 D 2 '32

Professional advancement; a reappraisal of the value of institute membership. J. A. Johnson. Elec Eng 52:365 Je '33

Society calendar. Published in weekly numbers of Engineering news-record

Unifying the engineering profession. C. N. Lauer. Il Mech Eng 55:3-6 Ja '33

What type of organization should administer engineering welfare activities? editorial. C. J. Ullrich. Prof Eng 18:3-4 Ap '33

See also names of societies, e.g. American society of civil engineers; Engineers council for professional development

**ENGINEERING standards.** See Standards, Engineering**ENGINEERING students**

Engineering enrollments, 1932-33. W. C. John. J Eng Educ 24:88 S '33

Junior colleges. W. B. Jones. J Eng Educ 23:393-4 F '33

Study of mathematical ability in relation to success in engineering studies. T. J. Higgins. J Eng Educ 23:743-6 Je '33

Success of University of Pittsburgh branch junior college students after transfer. F. W. Shockley. J Eng Educ 23:438-41 F '33

Tetrahedron test of power to visualize. W. J. McCauley. J Eng Educ 23:624-7 Ap '33

Theoretical engineers. Engineer 155:607-8 Je 16 '33

**ENGINEERS**

Activities of the engineering profession in British Columbia; results of examinations and names of members licensed to practise. Can Eng 65:14 O 31 '33

Advises engineers to be independent. E. E. Free. Elec Eng 52:425-6 Je '33

Against the engineer's code; letter from Federation of architects, engineers, chemists and technicians. Refrig Eng 26:266 N '33

Are engineers through at forty? A. Richards. Civil Eng 3:104-5 F '33

Certified engineers in France. Couturaud. Engineer 155:572-3 Je 9 '33

Chance for engineering progress. L. Cammen. Mech Eng 54:859 D '32

Code of fair competition for the Professional engineer division of the construction industry. Civil Eng 3:633-6 N '33

Construction industry—text of code for engineers. Eng N 111:290-3 S 7 '33; Refrig Eng 26:194-7+ O '33

Destiny of engineering. R. E. Flanders. Refrig Eng 25:147-8+ Mr '33

Education—preparation for or protection from life? C. B. Veal. S A E J 33:268-74 Ag '33

Emergency planning and research bureau for Boston architects and engineers. Monthly Labor R 35:1272-4 D '32

Engineer and the new deal. W. E. Wickenden. Elec Eng 52:597-600 S '33

Engineer in banking. Am Bankers Assn J 25:11-12+ F '33

Engineer in public utilities regulation. A. V. Guillou. Elec Eng 52:737-9 N '33

Engineer militant. E. K. Ramsey. Prof Eng 17:14-15 N '32

Engineering: a profession. A. B. Parsons. Min & Met 14:377-83 S '33

Engineering and science in Westminster Abbey. E. C. Smith. Engineering 136:225-7 S 1 '33

Engineering foundation's courses for the unemployed. Monthly Labor R 36:1289-90 Je '33

Engineering profession in British Columbia. A. S. Gentles. Can Eng 63:13-14 D 27 '32

Engineers and progress. B. Gherardi. Elec Eng 52:557-8 Ap '33

Engineers as managers? H. N. Munro. Elec R (Lond) 111:895 D 16 '32

Engineers' code subject of hearing by administrator. Eng N 111:454 O 12 '33

Engineers face second winter of unemployment relief work. Eng N 109:760-1 D 22 '32

Engineers must now turn from economy to economics; discussions at the joint meetings of the A.I.E.E., A.S.M.E., A.S.T.M. and the Econometric society. Elec W 102:48-9 J1 8 '33

Engineers' proposed NRA code would end price competition and free engineering. Heat & Ven 30:12-15 N '33

Engineers, wake up! D. M. Baker. Prof Eng 18:5-6 Ap '33

Ingenieur und siedlung. Zeit Ver Deutsch Ing 77:1095-6 O 7 '33

Measuring our capabilities; work of Human engineering laboratories at Stevens institute of technology, Hoboken, N.J. and at Boston, Mass. C. W. Squier. Mech Eng 55:603-7 O '33

Metropolitan engineers complete second winter of relief activities. F. R. Harris. Civil Eng 3:350-2 Je '33

Need of social-mindedness among engineers. R. C. Clothier. J Eng Educ 23:630-2 Ap '33

New opportunities for the engineer in city planning. D. H. Sawyer. Civil Eng 3:516-18 S '33

Note of warning to professional engineers. 100p William E. Bullock, 65 University place, New York '32

Professional development in 1932. Mech Eng 54:856-8 D '32

Professional development of the engineer. R. I. Rees. Elec Eng 52:129-30 F '33

Responsibility and authority. E. A. Bailey. Prof Eng 18:14-15 Ja '33

State engineers for public works announced by Secretary Ickes. Eng N 111:208-10 Ag 17 '33

Study of a code for all engineers begun at New York. Eng N 111:146 Ag 3 '33

Unemployment relief activities for engineers in New York. J. P. H. Perry. Civil Eng 3:49-51 Ja '33

Unemployment relief plans throughout country progressing. Elec Eng 51:880-2 D '32

Unifying the engineering profession. C. N. Lauer. Il Mech Eng 55:3-6 Ja '33

See also

American association of engineers Engineering education of engineers Engineering graduates

Chemical engineers Engineers council for professional development

Civil engineers Engineers council for professional development

Consulting engineers Engineering (term) Mining engineers

Electric engineers also names of engineers, e.g.

Engineer (term) Legros, Lucien Alphonse

Trevithick, Richard

**Directories**

State engineers. Arch Forum 59:156-7 S '33

**Licenses**

Engineers' rights restored; recent legislation in New York state. Mech Eng 55:462-3 J1 '33

License laws for engineers. H. Diederichs. Sibley J 47:67-9+ Ap '33

New York license law changes affect use of term engineer. Eng N 110:480 Ap 13 '33

New York state perfects its license laws for engineers. D. B. Steinman. Civil Eng 3:348-9 Je '33

**Public relations**

Engineer in public life. D. S. Kimball. Mech Eng 55:7-9+ Ja '33

Engineering approach to government. W. Beard. Il Mech Eng 55:467-70 Ag '33

Engineering economist of the future. D. S. Kimball. Elec Eng 52:526-8 Ag '32; Same. Mech Eng 55:471-4 Ag '33; Abstract. Iron

Age 132:31+ Ag 10 '33; Discussion. C. F. Hirshfeld. Elec Eng 52:582-3 Ag '33; Excerpt. Mech Eng 55:489-90 Ag '33

Engineering education in the light of changed social and industrial conditions. W. E. Wickenden. J Eng Educ 24:148-61 O '33

Engineers and economic reconstruction. H. Arnstein. Prof Eng 18:7-10 Ja '33

Evolution of society as influenced by the engineer. J. C. Merriam. Elec Eng 52:171-3 Mr '33

**ENGINEERS—Public relations—Continued**

How one public works department got four hundred inches of favorable publicity during 1932. W. W. Reeder. Pub Works 64:7 My '33

How to get public appreciation of efficient engineering work. Pub Works 64:7-8 Ap '33  
Illinois society of engineers favors engaging in public affairs. Eng N 110:173 F 2 '33  
Players or onlookers! Prof Eng 18:9-10 Jl '33

**ENGINEERS, Chinese**

University of Hong Kong. C. A. M. Smith. il Engineer 156:78-80, 88 Jl 28 '33

**ENGINEERS' council for professional development**

Development council begins unification of profession; 1st annual meeting, New York, Oct. 10. Eng N 111:475-6 O 19 '33; Elec W 102:561-2 O 28 '33; Civil Eng 3:644-5 N '33; Power 77:576 N '33

Organization. J Eng Educ 23:387-8 Ja '33

**ENGINEERS' German circle, London**

Activities of the Engineers' German circle. H. P. Spratt. Engineering 136:425-6 O 13 '33

**ENGINES***See also*

Air engines  
Airplane engines  
Automobile engines  
Blowers  
Connecting rods  
Crankcases  
Crankshafts  
Diesel engines  
Flywheels  
Fuel  
Gas and oil engines  
Gas turbines

Governors (machinery)  
Heat engines  
Locomotives  
Marine engines  
Motor bus engines  
Motor truck engines  
Pistons  
Pumping machinery  
Steam engines  
Steam turbines  
Turbines

**Failure**

Investigation of the mechanical breakdown of prime movers and boiler plant. L. W. Schuster. il Engineering 135:488-9, 551-6, 661-4 My 5, 19, Je 16 '33; Abstract. Engineer 155:459-62 My 5 '33; Discussion. Engineering 135:496-7, 582-4 My 5, 26 '33; Engineer 155:449, 453-4 My 5 '33

**ENGLAND***See also*

Electric plants (central stations)—  
England  
Great Britain

**ENGLISH language**

Conservatives and liberals again at war over our language. E. N. Teall. Inland Ptr 91:58-9 My '33

Engineer's manual of English. W. O. Sphyrd and S. O. Brown. 515p \$2 Scott, Foresman & co, Chicago '33

New art of writing and speaking the English language. S. Cody. 6v \$4 Putnam '33

New kind of English; basic English. J. R. Aiden. Econostat 1:17 Ap 15 '33

Printing industry dislikes prophets with right language rules; "but" as a conjunction. E. N. Teall. Inland Ptr 90:33-4 F '33

Raw materials of books. Soc Chem Ind J (Chem & Ind) 52:379-81 My 5 '33

Thesaurus of English words and phrases. P. M. Roget. new ed rev & enl 705p \$2 Longmans '33

**Business English**

Modern business English. A. C. Babenroth. rev ed 552p [biblog p537-9] \$4 Prentice-Hall, inc. '33

Modern business English. R. Davis, C. H. Lingham and W. H. Stone. 476p \$1.32 Ginn '33

Polonius—What do you read? Hamlet—Words, words, words! plea for pruning annual reports. A. H. Little. Ptr Ink Mo 27:15-16+ Jl '33

**Study and teaching**

English in engineering education. R. P. Baker. J Eng Educ 23:200-7 N '32

Power of expression and the importance of definitions in the training of the engineer. W. E. Howland. J Eng Educ 23:537-8 Mr '33

Problems of administering English work in engineering colleges. R. P. Baker. J Eng Educ 23:282-91 D '32

Report of conference on English. J Eng Educ 23:782-97 Je '33

Young engineer and his English. R. I. Rees. J Eng Educ 23:479-90 F '33

**ENGLISH, Scottish and Australian bank, limited**

Ordinary general meeting, 40th, London. Economist 115:1050-1 D 3 '32

**ENGRAVERS**

Engravers and artists form new entente. Ptd Salesmanship 61:25 Mr '33

**ENGRAVING**

Practical engraving and etching. E. G. Lutz. 248p \$2 Scribner '33

*See also*

Lithography  
Paper money—Engraving and printing

Photoengraving  
Photomechanical processes  
Securities—Engraving and printing

**ENGRAVING machines**

Engraving machine attachment. F. S. Dougherty. diag Am Mach 77:23 Ja 4 '33

Gorton no. 3-R roll engraving machine. il Am Mach 76:1174 N 23 '32

Making molds and dies by three-dimensional engraving process. il Mach 39:533-4 Ap '33

Progress made in development of Howey photoelectric engraving machine. il Inland Ptr 90:29 D '32

ENGRAVING steel. *See* Steel, Engraving

**ENGRAVINGS****Printing**

How to produce gravure and offset effects by letterpress printing. A. Frisch. pl Ptd Salesmanship 61:164 My '33

**ENGSTROM, Frederik, 1862-1933**

Sketch. por Rubber Age 34:31 O '33

**ENOCH Pratt free library, Baltimore**

Baltimore's new public library building. P. M. McCauley and J. L. Wheeler. il plans Lib J 58:386-93 My 1 '33

Complete development of the open plan in the Enoch Pratt library at Baltimore. A. M. Githens. plans Lib J 58:381-5 My 1 '33

Moving the Enoch Pratt library. L. W. Joselyn. Lib J 58:480-2 Je 1 '33

ENOLIZATION. *See* Isomerization

**ENOLS**

Course of addition of the sodium enolates of malonic and methylmalonic esters to benzalacetophenone and to crotonic ester. A. Michael and J. Ross. Am Chem Soc J 55:1632-46 Ap '33

**ENTHALPY (term)**

Enthalpy, what is it? J. H. Pound. Power 77:134 Mr '33; Discussion. C. H. Berry. 77:271 My '33

**ENTROPY**

Entropies of polyatomic molecules. D. M. Yost and C. Blair. Am Chem Soc J 55:2610-11 Je '33

Entropy and free energy relations among hydrocarbons. G. S. Parks. bibliog Ind & Eng Chem 25:887-91 Ag '33

Entropy, heat content, and free energy of iron. J. B. Austin. il Ind & Eng Chem 24:1388-91 D '32

Entropy of polyatomic molecules and the symmetry number. J. E. Mayer, S. Brunauer and M. G. Mayer. bibliog Am Chem Soc J 55:37-53 Ja '33

Heat capacity and entropy of calcium oxalate from 19 to 300° absolute; the entropy and free energy of oxalate ion. W. M. Latimer, P. W. Schutz and J. F. G. Hicks, jr. Am Chem Soc J 55:971-5 Mr '33

Heat capacity curves of the simpler gases; heat capacity, entropy and free energy of gaseous nitric oxide from near zero absolute to 5000°K. H. L. Johnston and A. T. Chapman. bibliog Am Chem Soc J 55:153-72 Ja '33



**ENTROPY—Continued**

- Heat capacity curves of the simpler gases; heat capacity, entropy and free energy of neutral OH from near zero absolute to 5000°K. H. L. Johnston and D. H. Dawson. *Am Chem Soc J* 55:2744-53 J1 '33
- Heat of combustion, entropy and free energy of cyanogen gas. J. McMorris and R. M. Badger, bibliog diag *Am Chem Soc J* 55:1952-7 My '33
- Second law and entropy. R. C. Cantelo. *J Chem Educ* 10:45-6, 306-7 Ja, My '33
- Thermal data on organic compounds; the heat capacities, entropies and free energies of ten compounds containing oxygen or nitrogen. G. S. Parks, H. M. Huffman and M. Bar-more. *Am Chem Soc J* 55:2733-40 J1 '33

*See also*

Thermodynamics

**ENVELOPES**

- Plain envelope pulls better. *Management Methods* 62:11 Ja '33
- Standard window envelopes. G. E. Russell, ed. *System and Management Methods* 62:400 S '33

**ENZYMES**

- Action of proteolytic enzymes on the oxy-toxic principle of the pituitary gland; abstract. J. M. Gulland and T. F. Macrae. *Soc Chem Ind J (Chem & Ind)* 52:160 F 24 '33
- Activity of enzymes at low temperatures. *J Fr Inst* 216:408 S '33
- Chemical nature of enzymes. J. B. Sumner. *Science* 78:335 O 13 '33
- Chemical nature of enzymes. E. Waldschmidt-Leitz. *Science* 78:189 S 1 '33
- Chemical nature of the active group in the enzyme glucose dehydrogenase; abstract. D. C. Harrison. *Soc Chem Ind J (Chem & Ind)* 52:420 My 12 '33
- Chemische gesellschaft an der universität Münster i.W. *Angew Chemie* 46:29 Ja 7 '33
- Decomposition of polyuronides by fungi and bacteria; decomposition of pectin and pectic acid by fungi and formation of pectolytic enzymes. S. A. Waksman and M. C. Allen. *Am Chem Soc J* 55:3408-18 Ag '33
- Economical clarification through use of enzymes. J. J. Willaman. bibliog *il Food Ind* 5:294-5+ Ag '33
- Enzyme action in the textile industries. W. F. Edwards. *Am Soc T M Proc* 32 pt 2:725-32 '32; Same. *Am Dyestuff Rep* 21:553-4, 569-70+ S 12 '32
- Enzymes can cause off-flavors even when foods are frozen. H. C. Diehl, J. H. Dingle and J. A. Berry. bibliog *il Food Ind* 5:300-1 Ag '33
- Enzymes for textile purposes. J. E. Evans. *Soc Dyers & Col J* 49:250-6 Ag '33
- Enzymes from the standpoint of the chemistry of invertase. J. M. Nelson. *Chem R* 12:1-42 [bibliog p40-2] F '33
- Interaction of ethyl alcohol and oxygen photo-sensitized by hydrogen peroxide; a contribution to the Haber-Willstätter mechanism of enzyme reactions. H. S. Taylor and A. J. Gould. bibliog *J Phys Chem* 37:367-74 Mr '33
- Protein nature of enzymes; an investigation of pancreatic lipase. D. Glick and C. G. King. *Am Chem Soc J* 55:2445-9 Je '33
- Studies on enzyme action. J. O. Page. *Chem Age (Lond)* 29:193 Ag 26 '33

*See also*

Coenzymes                      Fermentation  
Diastase                      Invertase

**EPICYCLIC transmission.** See Gearing, Planetary**EPIDEMIC**

- Obscure gastro-intestinal outbreaks ascribed to water supply. C. Wilson. *Am Water Works Assn J* 25:1053-7; Discussion. 1057-65 Ag '33

*See also*

Encephalitis, Epi-                      Malaria  
demic                      Plague  
Infectious diseases      Typhoid fever

**EPILEPSY**

- Some contributions of biochemistry to the study of epilepsy. I. McQuarrie. *J Chem Educ* 10:205-14 [bibliog p214] Ap '33

**EQUATION of state**

- Empirical equation of state. H. S. Frank and Foo-Song Lei. *Phys R* 42:893-9 D 15 '32
- Equation of state of real fluid. S. C. Bradford. *Engineering* 135:439 Ap 21 '33; Abstract. *Mech Eng* 55:443 J1 '33
- Physico-chemical factors in high-pressure design. B. F. Dodge. bibliog *Ind & Eng Chem* 24:1353-63 D '32
- Van der Waals equation. H. M. Martin. *Engineering* 136:1-2 J1 7 '33

**EQUATIONS, Differential.** See Differential equations**EQUIPMENT industries**

- Active invention brightens the equipment field. *Eng N* 110:165-6 F 2 '33
- Are you selling or waiting; analysis of the equipment market. R. A. Balzari. *Am Mach* 77:581-3 S 13 '33
- Capital goods industries; with table showing movement of consumption goods and capital goods in 1932, as compared with 1929. *Nat City Bank* p147-8 O '33; Same. *Comm & Fin* 22:890 O 11 '33; Same. *Bar-ron's* 13:10 O 16 '33
- Capital goods up front: NRA begins to push the equipment and construction industries. *Business Week* p5-6 S 2 '33
- Construction-materials industries penetrate the nation. E. J. Mehren. *map Eng N* 110:638-9 My 18 '33
- Government swings to the right; heavy industries must be stimulated. J. C. Cresswill. *Mag of Wall St* 53:12+ O 28 '33
- How to get capital goods moving is serious government problem. L. W. Moffett. *Iron Age* 132:34-5 S 21 '33
- NRA clarifies the course for capital goods. A. H. Little. *Ptr Ink* 165:17-18, 20-1 N 2 '33
- National rehabilitation program and the opportunity it affords for industrial salesmen. M. Muir. *Management R* 22:3-10 Ja '33
- Net profits—the key to 1933 industrial equipment sales. H. P. Bailey. *Ptr Ink* 161:62-4 D 29 '32
- New deal must spread over all industry. *Glass Ind* 14:109 O '33
- Principal developments in mechanical power transmission equipment. *il Factory Management* 91:346-9 S '33
- Principal developments in plant service equipment. *Factory Management* 91:302-4 Ag '33
- RFC for industry to modernize plant facilities out of savings. *Sales Management* 31:490 D 1 '32
- Recovery and the profit problem. J. W. O'Leary. *il Nation's Business* 21:30+ N '33
- Selling costs of industrial companies. *Ptr Ink* 165:77 O 5 '33

*See also*

Advertising—In-	Machine tool indus-
dustries, Appeal to	try
Automobile acces-	Machinery industry
sories industry	Plumbing supplies in-
Construction equip-	dustry
ment	Railroad supplies in-
Industrial market	dustry

**Advertising**

- Advertising to business under the new deal. D. Taylor. *Ptr Ink* 165:67-9 O 26 '33
- Helping beer go robot; Mason-Neilan regulator co. L. H. Brendel. *il Ptr Ink* 164:72-3 J1 13 '33
- Industrial advertising leads the way out. A. H. Little. *Ptr Ink* 164:3-4+ J1 27 '33

**Securities**

- Position of leading equipment stocks. *Mag of Wall St* 51:438-9; 52:380-1 F 4, Ag 5 '33

**EQUIPMENT trust certificates.** See Electric railroads—Equipment trust certificates

- EQUITABLE** life assurance society of the United States  
Annual report, 73d, year ended Dec. 31. Spec-tator 130:15 F 23 '33; Weekly Underw 128:400 F 25 '33
- EQUITY** corporation of New York  
Equity corporation enters life insurance field. East Underw 34:3+ S 15 '33  
Report as of September 30. East Underw 34:12 O 27 '33
- ERASING** machines  
Hall and company electric erasing machine. il Engineering 135:88 Ja 20 '33
- EREMOPHILONE**  
Constitution of eremophilone and of two re-lated hydroxy-ketones from the wood oil of eremophila Mitchell. A. E. Bradfield, A. R. Penfold and J. L. Simonsen. Chem Soc J p2744-59 N '32
- ERFURT**, Germany  
Sewerage  
Sewage gas perfumed at German plant. diag Pub Works 64:40 Ja '33
- ERGOSTENOL**  
Beta-ergosterol. F. W. Heyl, M. C. Hart and H. Emerson. Am Chem Soc J 55:2870-1 JI '33
- ERGOSTEROL**  
Action of selenium dioxide on sterols and bile acids: ergosterol and dihydroergosterol. R. K. Callow and O. Rosenheim. Chem Soc J p387-90 Ap '33  
Chemistry of the sterols and bile acids. I. M. Heilbron and others. Soc Chem Ind J (Chem & Ind) 51:1061-3; 52:10-13 D 23 '32, Ja 6 '33  
Studies in the sterol group: the unsaturated centres in ergosterol. I. M. Heilbron, A. L. Morrison and J. C. E. Simpson. Chem Soc J p302-6 Mr '33
- ERGOSTEROL**, Irradiated  
Administration of irradiated ergosterol to dogs with biliary fistula; abstract. N. B. Taylor, C. B. Weld and J. F. Sykes. Can Chem & Met 16:298 D '32  
Effect of viosterol on the excretion of lead. F. B. Flinn and A. R. Smith. bibliog J Ind Hygiene 15:156-9 My '33
- ERGOT**  
Standardization of ergot. Science 78:sup7 JI 21 '33
- ERICSON, John**, 1857-1927  
Chicago's waterworks—a century of accom-plishment. A. E. Gorman. por Eng N 110:734, 736-7 Je 8 '33  
Dedication of memorial. C. H. Lundquist. W Soc E J 38:209-12 Ag '33
- ERIE**, Pennsylvania  
Water supply  
New auxiliary water plant at Erie. J. T. Campbell. il Am Water Works Assn J 25:771-3 Je '33
- ERIE** railroad  
Moderate risks for large profits. Mag of Wall St 51:339 Ja 7 '33
- EROSION**  
Beach-erosion studies by Federal board. diags map Eng N 111:281-3 S 7 '33  
Causes and prevention of bed erosion and the protection of structures controlling rivers and canals. A. D. Butcher and J. D. At-kinson. Engineering 134:709 D 16 '32  
Erosion; a real menace in the Southwest. B. P. Fleming. Science 78:391-5 N 3 '33  
Erosion surfaces in south-central Penn-sylvania. W. O. Hickok. bibliog diags maps Am J Sci 5th ser 25:101-22 F '33  
Influence of overgrazing on erosion and watersheds. H. H. Chapman. il Civil Eng 3:74-8 F '33  
Miniature rock fans and pediments; abstract. D. Johnson. Science 76:546 D 9 '32  
Rain-wash erosion in humid regions. A. C. Lawson. il Geol Soc Bul 43:703-24 S '32
- Soil-erosion control by terraces. C. E. Ram-ser. il Eng N 111:437-8 O 12 '33  
Windgaps and erosion surfaces. K. Ver Steeg. Am J Sci 5th ser 26:507-11 N '33  
*See also*  
Sedimentation and deposition  
Valleys
- ERREN** engine  
Erren hydrogen engine. Engineering 135:630 Je 9 '33  
Erren hydrogen engine. E. P. A. Heinze. il Engineering 134:607-8 N 18 '32  
Hydrogen engines for off-peak power utiliza-tion. E. P. A. Heinze. il Power 77:90-2 F '33  
Possibilities of hydrogen as a fuel. E. P. A. Heinze. Engineering 135:399-400 Ap 14 '33
- ERRORS**, Measurement of  
Standard error of the coefficient of elasticity of demand. H. Schultz. Am Statis Assn J 28:64-9 Mr '33
- ERUCIC** acid  
Study of the high-precision determination of iodine values by the Wijs method. L. J. P. Keffler and A. M. Maiden. Soc Chem Ind J 52:242T-5T Ag 11 '33
- ERYTHEMA**. See Ultra-violet rays—Physi-ological effect
- ERYTHROCRUORIN**  
Molecular weight of erythrocrucorin. T. Sved-borg and I. B. Eriksson. Am Chem Soc J 55:2831-41 JI '33
- ERYTHROSE**  
Molecular weight of *l*-erythrose. V. Deulo-feu. Chem Soc J p2973-5 D '32
- ESCROWS**  
There is profit in escrows and they create other bank business. H. N. McDowell. Rand McNally Bankers Mo 50:344-5 JI '33
- ESERINE**. See Physostigmine
- ESPARTO**  
Algerian esparto grass. Chem Age (Lond) 28:559 Je 17 '33
- ESPERANTO**  
Language learning; summary of a report to the International auxiliary language associa-tion in the United States, incorporated. 59p Teachers college '33
- ESSENTIAL** oils  
Chemical examination of the volatile oil of sarothra gentianoides L. and the detection therein of normal nonane. M. T. Bogert and S. J. Marion. bibliog il Am Chem Soc J 55:4187-94 O '33  
Dehydrogenation of the sesquiterpenes of win-tera colorata. J. Melville. Am Chem Soc J 55:2462-5 Je '33  
Essential oil of libocedrus bidwillii. K. S. Bir-rell. Soc Chem Ind J 51:397T-8T D 9 '32  
Essential oil of podocarpus totara. G. B. Beath. Soc Chem Ind J 52:338T-40T O 13 '33  
Essential oil of white pine (podocarpus da-crydiodes). G. J. E. Hunter. Soc Chem Ind J 51:394T-7T D 9 '32  
Essential oils; abstract of report, 1932. Soc Chem Ind J 52:sup491 Je 16 '33  
Some Brazilian essential oils; abstract. F. W. Freise. Soc Chem Ind J 52:sup684 Ag 25 '33  
Volatile oil and resin of cynomarrathrum nut-tallii. E. K. Nelson. Am Chem Soc J 55:3400-2 Ag '33  
*See also*  
Peppermint oil
- Statistics**  
Essential oils, aromatic chemicals. Published in weekly numbers of Oil, paint and drug reporter
- ESTATE** tax. See Inheritance tax
- ESTATES** (law)  
Estate planning as affected by legal con-siderations. C. F. Gore. Trust Companies 57:167-71 Ag '33  
New York new estate law and taxation of es-tates. 1932 ed 236p Central Hanover bank and trust co, New York '32  
*See also*  
Boundaries (estates)



**ESTATES, Decedents'**

Bank management of decedents' estates. J. E. Brady. 416p Brady pub. corp, Cambridge, Mass. '32

Cost of estate administration as shown by surrogate records. Trust Companies 56:346 Mr '33

*See also*

Executors and administrators      Probate law  
Life tenants and remaindermen      Wills

**ESTERIFICATION**

Ebullioscopic method for determining the equilibrium constant of esterification. W. Swietoslawski. diags J Phys Chem 37:701-7 Je '33

Laboratory esterifying and fractionating apparatus. C. A. Doran. diag Ind & Eng Chem Anal ed 5:101-2 Mr 15 '33

**ESTERS**

Acetoacetic ester condensation; the condensation of higher esters. R. R. Briese and S. M. McElvain. Am Chem Soc J 55:1697-1700 Ap '33

Alkamine esters: novocaine analogs. M. T. Leffler and H. C. Brill. Am Chem Soc J 55:365-70 Ja '33

Alkamine esters of aliphatic acids: novocaine analogs. H. C. Brill and T. A. Bulow. Am Chem Soc J 55:2059-61 My '33

Catalytic hydrogenation of esters to alcohols. H. Adkins, B. Wojcik and L. W. Covert. Am Chem Soc J 55:1669-76 Ap '33

Dipole moments of esters of amino acids and peptides. J. Wyman, jr. and T. L. McMeekin. diag Am Chem Soc J 55:915-22 Mr '33

Distribution coefficients of some monocarboxylic acids and esters between immiscible solvents. H. J. Henriques. Am Chem Soc J 55:3284-8 Ag '33

Esters; preparation for identifying acids and alcohols. Chemicals 38:9 My 15 '33

Group of isomeric esters. J. R. Ruhoff and E. E. Reid. Am Chem Soc J 55:3825-8 S '33

Hydroxy and bromo esters derived from the hydrogenation of certain omega-acetyl esters. E. J. Lease and S. M. McElvain. Am Chem Soc J 55:806-8 F '33

Levulinic acid; the vapor pressures of its normal-alkyl esters ( $C_7-C_{10}$ ). M. A. Cowley and H. A. Schuette. Am Chem Soc J 55:387-91 Ja '33

Method for the identification of the acyl group in certain esters. C. F. Koelsch and D. Tenenbaum. Am Chem Soc J 55:3049-50 Jl '33

Properties of conjugated compounds; the Michael reaction applied to a triene ester. E. H. Farmer and S. R. W. Martin. Chem Soc J p960-2 Ag '33

Rate of addition of methyl esters to trimethylamine. L. P. Hammett and H. L. Pfluger. Am Chem Soc J 55:4079-89 O '33

Reaction between some acid chlorides and esters. L. P. Kyrides and M. N. Dvornikoff. Am Chem Soc J 55:4630-2 N '33

Some alkamine esters of cinnamic acid and derivatives: novocaine analogs. H. C. Brill and C. F. Cook. Am Chem Soc J 55:2062-4 My '33

Some hydroxy and amino esters of yohimbic acid. D. E. Worrall. Am Chem Soc J 55:3715-18 S '33

Synthesis of substances analogous to bile acid degradation products; synthesis of some straight-chain polycarboxylic esters. J. W. Baker. Chem Soc J p811-15 Jl '33

**ESTHETICS***See also*

Art

**ESTIMATES**

Estimating cost of sewage disposal. Pub Works 64:39-40 F '33

Moulding inquiries and how to meet them; the preparation of estimates. A. G. Snell. Chem Age (Lond) 28:286 Ap 1 '33

*See also*

Air conditioning—  
Estimates  
Building—Estimates  
Plumbing—Estimates  
Printing, Practical—Estimates  
Sewerage—Estimates

**ESTRIN**

Chemical constitution of oestrin. G. F. Marrian and others. Soc Chem Ind J (Chem & Ind) 52:268-9, 287-91 Mr 24-31 '33

Conjugation in rhizopus inhibited by female sex hormone. G. W. Plumb and L. W. Durrell. Science 78:386 O 27 '33

Further observations on surface films of oestrin derivatives; abstract. J. F. Danielli. Soc Chem Ind J (Chem & Ind) 51:1075 D 30 '32

International standard for the oestrus-producing hormone. Soc Chem Ind J (Chem & Ind) 52:520 Je 23 '33

International standard for the ovarian follicular hormone. Science 77:344-5 Ap 7 '33

**ETCHING**

Drawing as a basis for etching. G. K. Geerlings. il Architecture 67:261-4 My '33

Etching and drypoint. E. G. Porter. 91p \$1 Pitman '33

Making an etching. L. West. 79p Studio publications, inc, New York '32

Soft-ground etching, the architect's medium. G. K. Geerlings. il diags Architecture 67:333-8 Je '33

**ETCHING (metals)**

Development and application of macroetching. H. G. Keshian. il Am Soc Steel Tr Trans 21:289-98 [bibliog p298]; Discussion. 299-309 Ap '33

Essential factors in conducting the macroetching test under usual practical conditions of production work. M. G. Yatskevitch. il Am Soc Steel Tr Trans 21:310-40; Discussion. 340-2 Ap '33

Etching characteristics of constituents in aluminum alloys. Metal Prog 23:44 F '33

Interpretation of the deep acid etch test as applied to tool steels. J. P. Gill and H. G. Johnston. il Am Soc Steel Tr Trans 21:354-79 [bibliog p379]; Discussion. 379-84 Ap '33

Method of preparation of lead and lead alloy cable sheath for microscopic examination. W. H. Bassett, jr. and C. J. Snyder. bibliog il Am Soc T M Proc 32 pt 2:558-68; Discussion. 569-75 '32

Oberflächenerscheinungen beim beizen von blechen. G. Schumacher. Stahl & Eisen 53:356 Ap 6 '33

Polishing and etching of constituents of aluminum alloys. F. Keller and G. W. Wilcox. data sheets Metal Prog 23:44-6 Ap; Photomicrographs [7 plates]. 23:38+ My '33

Routine disk inspection in quality steel manufacture. G. V. Luerssen. il Am Soc Steel Tr Trans 21:343-50; Discussion. 350-3 Ap '33

Selective etching reagent for copper and its alloys. J. B. Kasey. Metal Ind 31:306 S '33

**ETHANE**

Equilibrium dehydrogenation of ethane, propane, and the butanes. F. E. Frey and W. F. Huppke. bibliog diag Ind & Eng Chem 25:54-9 Ja '33

Ignition of gases; ignition by a heated surface; (a) mixtures of ethane, propane, or butane with air; (b) mixtures of ethylene, propylene, or butylene with air. C. A. Naylor and R. V. Wheeler. Chem Soc J p1240-7 S '33

Limits of inflammability of natural gases containing high percentages of carbon dioxide and nitrogen. G. W. Jones and R. E. Kennedy. tables U S Bur Mines Rep of Invest 3216:1-23 '33; Same. Am Gas J 139:13-15, 46 Jl; 21-3 Ag '33; Same abr. Gas Age 72:53-6 Jl 15 '33

Relative stability of penta-arylethanes; reactions of penta-arylethanes. W. E. Bachmann. Am Chem Soc J 55:3005-10 Jl '33

**ETHANE—Continued**

Thermal decomposition of organic compounds from the standpoint of free radicals; the dehydrogenation of paraffin hydrocarbons and the strength of the C-C bond. F. O. Rice and M. D. Dooley. *Am Chem Soc J* 55:4245-7 O '33

**ETHANOL.** See Alcohol

**ETHER** (anesthetic). See Ethyl ether

**ETHER (of space)**

Absolute motion of the solar system and the orbital motion of the earth determined by the ether-drift experiment. D. C. Miller. *Science* 77:587-8 Je 16 '33

Ether-drift experiment and the determination of the absolute motion of the earth. D. C. Miller, *il* diags *Rs Mod Phys* 5:203-42 Jl '33; Discussion. E. L. Hill. *R Sci Instr* 4:476-8 S '33

Ether in its relation to the structure of matter and the transmission of force. C. O. Miller. 442p Henkel press, inc, New Market, Va. '32

Ether structure. A. P. Carman. *Science* 77:114 Ja 27 '33

**ETHERS**

Action of phosphorus pentachloride with ethers. F. C. Whitmore and D. P. Langlois. *Am Chem Soc J* 55:1518-20 Ap '33

Reaction between acid chlorides and ethers in the presence of zinc chloride. L. P. Kyrides. *Am Chem Soc J* 55:1209-12 Mr '33

Studies on acid iodides; the cleavage of aliphatic ethers by acid iodides. E. L. Gustus and P. G. Stevens. *Am Chem Soc J* 55:378-86 Ja '33

See also

Ethyl ether

**ETHICS**

See also

Accounting ethics

Advertising ethics

Business ethics

Legal ethics

Medical ethics

Newspaper ethics

**ETHNOLOGY**

Method and theory of ethnology; an essay in criticism. P. Radin. 278p \$2.50 McGraw-Hill '33

See also Field museum of natural history, Chicago—Hall of races of mankind

**ETHOXYAMINES**

Resolution of  $\beta$ -ethoxyamines. W. R. Brode and I. J. Wernert. *Am Chem Soc J* 55:1685-9 Ap '33

**ETHYL**

Two reactions of gaseous methyl and ethyl. J. H. Simons and M. F. Dull. *diags Am Chem Soc J* 55:2696-701 Jl '33

**ETHYL acetate**

Acetoacetic ester condensation; the reaction product of certain aliphatic esters and sodium ethoxide. J. M. Snell and S. M. McElvain. *Am Chem Soc J* 55:416-21; Discussion. H. Scheibler. 425-6 Ja '33

Reaction of a free radical, triphenylmethyl, with ethers, esters and acetone. A. A. Morton and L. V. Peakes, jr. *Am Chem Soc J* 55:2449-51 Je '33

Reducing inflammability of fumigants with carbon dioxide. R. M. Jones. *diags Ind & Eng Chem* 25:394-6 Ap '33

**ETHYL acetoacetate**

Action of bleaching powder on ketones and on ethyl acetoacetate. C. D. Hurd and C. L. Thomas. *Am Chem Soc J* 55:1646-9 Ap '33

**ETHYL alcohol.** See Alcohol

**ETHYL azide**

Thermal decomposition of ethyl azide; a homogeneous unimolecular reaction. J. A. Leermakers. *Am Chem Soc J* 55:2719-29 Jl '33

**ETHYL benzene**

Catalytic oxidation of ethylbenzene in the liquid phase with manganese dioxide. C. E. Senseman and J. J. Stubbs. *Ind & Eng Chem* 25:1286-7 N '33

Isolation of ethylbenzene from an Oklahoma petroleum. J. D. White and F. W. Rose, jr. *U S Bur Stand J Research* 10:639-45 My '33

**ETHYL borate**

Preparation and purification of methyl borate and ethyl borate. S. H. Webster and L. M. Dennis. *diag Am Chem Soc J* 55:3233-5 Ag '33

**ETHYL bromide**

Kinetics of the unimolecular dissociation of gaseous ethyl bromide. E. L. Vernon and F. Daniels. *Am Chem Soc J* 55:922-34 Mr '33

**ETHYL cellulose**

New cellulosic materials for coatings formulation. *Plastic Prod* 9:278 S '33

**Analysis**

Determination of plasticizers in organic cellulosic plastics. J. D. Ryan and G. B. Watkins. *Ind & Eng Chem Anal ed* 5:191-2 My 15 '33

**ETHYL ether**

Conductivity of Grignard reagents in ether solutions. W. V. Evans and F. H. Lee. *Am Chem Soc J* 55:1474-7 Ap '33

Dielectric constants: ethanol-diethyl ether and urea-water solutions between 0 and 50°. J. Wyman, jr. *Am Chem Soc J* 55:4116-21 O '33

Extraction of phenols from caustic solutions. E. B. Kester. *Ind & Eng Chem* 25:1148-50 O '33

Kerr's law at high field strengths. J. A. Hootman. *diags Phys R* 43:749-55 My 1 '33

Reaction of a free radical, triphenylmethyl, with ethers, esters and acetone. A. A. Morton and L. V. Peakes, jr. *Am Chem Soc J* 55:2449-51 Je '33

Sorption of organic vapors by resinous and cellulosic materials. C. H. Winning and J. W. Williams. *Am Chem Soc J* 55:3560-9 S '33

Steam vs. ether in separation of acids from bacteriological media. J. B. McNair. *bibliog diag Ind & Eng Chem Anal ed* 5:62-5 Ja 15 '33

**Analysis**

Quantitative isolation of ether from dilute solutions. A. A. Benedetti-Pichler and F. Schneider. *diags Ind & Eng Chem Anal ed* 5:255-7 Jl 15 '33

**ETHYL formate**

Reducing inflammability of fumigants with carbon dioxide. R. M. Jones. *diags Ind & Eng Chem* 25:394-6 Ap '33

**ETHYL group**

Study of the reactions of free ethyl radicals from the thermal decomposition of tetraethyllead. R. N. Meinert. *Am Chem Soc J* 55:979-89 Mr '33

**ETHYL isobutyrate**

Acetoacetic ester condensation; the reaction product of certain aliphatic esters and sodium ethoxide. J. M. Snell and S. M. McElvain. *Am Chem Soc J* 55:416-21 Ja '33

**ETHYL isopropyl phenanthrene**

Synthesis of alkylphenanthrenes; 7-methyl-1-ethyl- and 1-ethyl-7-isopropyl-phenanthrenes; constitution of abietic and dimeric acids. R. D. Haworth. *Chem Soc J* p2717-20 N '32

**ETHYL margarate**

Higher aliphatic compounds; systems with ethyl margarate and heptadecyl alcohol. P. C. Carey and J. C. Smith. *Chem Soc J* p635-7 Je '33

**ETHYL methyl ketone**

Action of bleaching powder on ketones and on ethyl acetoacetate. C. D. Hurd and C. L. Thomas. *Am Chem Soc J* 55:1646-9 Ap '33

**ETHYL muconate**

Modes of addition to conjugated unsaturated systems; the hydrogenation of ethyl muconate and sorbic and  $\beta$ -vinylacrylic acids in the presence of platinum. C. K. Ingold and L. D. Shah. *Chem Soc J* p885-90 Jl '33

**ETHYL naphthylglycolates**

Experiments on the Walden inversion; the displacement of hydroxyl by chlorine in the optically active ethyl  $\alpha$ -naphthylglycolates. A. McKenzie and E. R. L. Gow. *Chem Soc J* p705-14 Je '33



**ETHYL palmitate**

Higher aliphatic compounds; systems with ethyl margarate and heptadecyl alcohol. P. C. Carey and J. C. Smith. *Chem Soc J* p635-7 Je '33

**ETHYL stearate**

Higher aliphatic compounds; systems with ethyl margarate and heptadecyl alcohol. P. C. Carey and J. C. Smith. *Chem Soc J* p635-7 Je '33

**ETHYL sulfide**

Electric dipole moments of nickel carbonyl, di-iodoacetylene, diethyl sulphide, diethylsulphone, and decalin. L. E. Sutton, R. G. A. New and J. B. Bentley. *Chem Soc J* p652-8 Je '33

**ETHYL tartrate**

Studies in solvent action; rotatory power of ethyl tartrate in relation to the solvent, concentration, degree of association, and temperature. H. G. Rule, M. M. Barnett and J. P. Cunningham. *Chem Soc J* p1217-23 S '33

**ETHYLENE**

Compressibilities of certain gases at low pressures and various temperatures. W. Cawood and H. S. Patterson. *Chem Soc J* p619-24 Je '33

Ignition of gases; ignition by a heated surface; (a) mixtures of ethane, propane, or butane with air; (b) mixtures of ethylene, propylene, or butylene with air. C. A. Naylor and R. V. Wheeler. *Chem Soc J* p1240-7 S '33

Polymerisation and explosive decomposition of ethylene under pressure. G. Egloff and R. E. Schaad. *bibliog diag Inst Pet Tech J* 19:800-11 S '33

Quantitative determination of palladium by means of ethylene. S. C. Ogburn, jr. and W. C. Brastow. *Am Chem Soc J* 55:1307-10 Ap '33

Reaction between ethylene and bromine in carbon tetrachloride. D. M. Williams. *Chem Soc J* p2911-15 D '32

Thermodynamic functions of hydrocarbon gases from spectroscopic data. L. S. Kassel. *Am Chem Soc J* 55:1351-63 Ap '33

Über die bildung von methylalkohol bei der partiellen oxydation von methan und äthylen unter hohem druck. H. Pichler and R. Reder. *bibliog diags Angew Chemie* 46:161-5 Mr 18 '33

**Analysis**

Microanalysis of gases; carbon monoxide, ethylene, and acetylene. F. E. Blacet, G. D. MacDonald and F. A. Leighton. *bibliog il diags Ind & Eng Chem Anal ed* 5:272-4 Jl 15 '33

**ETHYLENE chloride**

Occurrence of two liquid phases and of a minimum density in the system carbon disulphide-ethylene dichloride. D. L. Hamrick and J. Howard. *Chem Soc J* p2915-16 D '32

**ETHYLENE glycol.** See Glycol**ETHYLENE hydrocarbons.** See Olefins**ETHYLENE mercaptan**

Cyclic and polymeric compounds from the reactions of ethylene mercaptan with polymethylene halides. N. B. Tucker and E. E. Reid. *Am Chem Soc J* 55:775-81 F '33

**ETHYLENE oxide**

Application of fumigants to ships and warehouses; distribution of ethylene oxide in empty warehouses. A. B. P. Page and O. F. Lubatti. *Soc Chem Ind J* 52:309T-16T O 6 '33

Autoxidation of certain ethylene oxides. E. P. Kohler and E. M. Nygaard. *Am Chem Soc J* 55:310-14 Ja '33

Cocoa moth in its chemical aspects. L. E. Campbell. *Soc Chem Ind J* (Chem & Ind) 51:1058-9 D 23 '32; *Abstract. Chem Age* (Lond) 27:549-50 D 10 '32; *Discussion. Soc Chem Ind J* (Chem & Ind) 51:1059-60 D 23 '32; *Chem Age* (Lond) 27:550 D 10 '32

Formation of cyclic acetals from aldehydes or ketones and alkylene oxides. M. T. Bogert and R. O. Roblin, jr. *bibliog Am Chem Soc J* 55:3741-5 S '33

Measurement of gas concentrations for the control of fumigation. A. B. P. Page. *diags Soc Chem Ind J* 51:369T-74T N 11 '32

Reactions of ethylene oxide; the action of ethylene oxide on diethylamine. A. J. W. Headlee, A. R. Collett and C. L. Lazzell. *Am Chem Soc J* 55:1066-9 Mr '33

Reducing inflammability of fumigants with carbon dioxide. R. M. Jones. *diags Ind & Eng Chem* 25:394-6 Ap '33

**Analysis**

Der gasrestnachweis bei äthylenoxyddurchgasungen. W. Deckert. *Angew Chemie* 45:758 D 3 '32

**ETHYLENE tetrabromide**

Solid-liquid-air contact angles and their dependence upon the surface condition of the solid. F. E. Bartell and A. D. Wooley. *diags Am Chem Soc J* 55:3518-27 S '33

**ETHYLDIENE diacetate**

By-products of the carbide industry; the manufacture of ethyldiene diacetate and vinyl acetate. G. O. Morrison and T. P. G. Shaw. *bibliog diags Electrochem Soc Trans* 63 (preprint 21):197-219 My '33; *Same abr. Chem & Met Eng* 40:293-7 Je '33

**ETYMOLOGY**

Words and names. E. Weekley. 200p \$1.75 Dutton '33

**EUCALYPTUS oil**

South African chemical business; manufacture of oil from eucalyptus trees. *Soc Chem Ind J* (Chem & Ind) 52:541 Je 30 '33

**EUGENICS**

Eugenic predicament. S. J. Holmes. 232p \$2 Harcourt '33

**EUGENOL**

Crystallizable chavicol and eugenol from the oil of bay. S. Palkin and P. A. Wells. *Am Chem Soc J* 55:1556-8 Ap '33

Derivatives of dihydroeugenol and certain pharmacological properties of some of the compounds. D. E. Levin and A. Lowy. *Am Chem Soc J* 55:1995-2000 My '33

**EUPATHEOSCOPE**

Application of the eupatheoscope for measuring the performance of direct radiators and convectors in terms of equivalent temperature. A. C. Willard, A. P. Kratz and M. K. Fannestock. *il diags plans Heating-Piping* 5:369-75 Jl '33; *Abstract. Heat & Ven* 30:40-1 S '33

**EUROPE**

Challenge of Europe. S. Eddy. 335p \$2.50 Farrar & Rinehart, New York '33

Southern Europe; a regional and economic geography of the Mediterranean lands (Italy, Spain, Portugal, Greece, Albania, and Switzerland). M. I. Newbigin. 428p \$4.50 Dutton '32

**Commerce**

European sales areas. maps U S Bur For & Dom Com Trade Promotion Ser 143:1-41 '33

**Commercial policy**

Conference at Stresa; recommendations to restore international trade. *Index* 12:231-6 N '32

Stresa decisions; proposals for a currency-normalization fund and revalorization of grain exports. L. Pasvolosky. *Barron's* 12:9 D 5 '32

**Economic conditions**

Commercial history and review of 1932; conditions in principal countries. *Economist* 116:sup13-26 F 18 '33

Economic development in modern Europe. C. Day. 447p \$2.50 Macmillan '33

Europe and the American tariff. O. F. Boucke. 163p \$1.50 Crowell '33

Europe from an American point of view. H. W. Bunn. Published in weekly numbers of *Annalist*

Europe's first quarter: German recovery checked by political developments. H. W. Bunn. *Annalist* 41:563+ Ap 21 '33

Europe's third quarter: further recovery despite political disturbances. H. W. Bunn. *Annalist* 42:505-6 O 20 '33

**EUROPE**—Economic conditions—*Continued*

Financial situation abroad. Published in monthly numbers of Bankers magazine

Foreign economic developments of 1932 from an American point of view. H. W. Bunn. Annalist 41:82-5 Ja 20 '33

General conditions abroad. Published in monthly numbers of Guaranty survey

Intelligent man's review of Europe today. G. D. H. Cole and M. Cole. 624p,xxivp [bibliog p617-24] \$3 Knopf '33

Second quarter economic changes in Europe from an American viewpoint. H. W. Bunn. Annalist 42:81-2+ Jl 21 '33

**Economic history**

History of the economic institutions of modern Europe. F. L. Nussbaum. 448p \$3.25 F. S. Crofts & co, New York '33

**Economic policy**

Economics of Central Europe. Economist 117:657-8 O 7 '33

Little council; Czechoslovakia, Rumania, and Yugoslavia plan economic council. Business Week p24 Je 10 '33

United States of Europe. Economist 117:114-15 Jl 15 '33

**Politics and government**

Central European spectrum. Economist 116:740-1 Ap 8 '33

European tangle. Economist 117:615-16 S 30 '33

Europe's centre of gravity. Economist 116:953-5 My 6 '33

Fate of Europe. Economist 116:623-4 Mr 25 '33

War imminent in Europe? G. C. Slater. Mag of Wall St 51:660-2 Ap 15 '33

**EUROPEAN general reinsurance company, ltd.** Annual statement, year ended Dec. 31, 1932. Spectator 130:40 Mr 2 '33

**EUROPEAN war****Claims**

Boston chemists help Germany in famous \$40,000,000 Black Tom case. Paper Tr J 95:41-2 D 22 '32

Payment expected on mixed claims award. H. H. Martin. Weekly Underw 128:342+ F 18 '33

**EUROPIUM**

Observations on the rare earths; the magnetic susceptibilities of europium and ytterbium salts. G. Hughes and D. W. Pearce. Am Chem Soc J 55:3277-9 Ag '33

**EURYPTERIDA**

Eurypterid influence on vertebrate history. A. S. Romer. Science 78:114-17 Ag 11 '33

**EVAPORATION**

Ebullition of refrigerants. L. A. Philipp and B. E. Tiffany. diags Refrig Eng 25:140-6+ Mr '33

Effect of curvature of surface on surface energy; rate of evaporation of liquid droplets; thickness of saturated vapor films. D. J. Woodland and E. Mack, Jr. Am Chem Soc J 55:3149-61 Ag '33

Evaporation as a process of reclamation and prevention of stream pollution. H. O. Chute. il diag Water Works & Sewerage 79:427-9 D '32

Evaporation by submerged combustion. K. A. Kobe, F. H. Conrad and E. W. Jackson. bibliog il diags Ind & Eng Chem 25:984-9 S '33

L'évaporation et ses applications à la concentration des liquides industriels. E. Lafitte. diags Soc Ing Civils Bul 85:1258-90 N '32

Evaporation from different types of pans. C. Rohwer. il plans Am Soc C E Proc 59:223-53 F '33

Evaporation from reservoir surfaces. R. Follansbee. Am Soc C E Proc 59:254-65 F '33

Evaporation from superheated water; abstract. A. Heidrich. Mech Eng 55:317-18 My '33

Evaporation of a liquid into a gas—a correction. W. K. Lewis. diag Mech Eng 55:567-8+ S '33

Evaporation of metals in vacuum. H. W. Edwards. R Sci Instr 4:449 Ag '33

Evaporator heat transfer analysis; individual coefficients experimentally determined for ammonia cooling water in inclined steel pipes. F. O. Gaskill. bibliog diags Refrig Eng 26:126-32, 151 S '33

Heat transmission from metal surfaces to boiling liquids. D. S. Cryder and E. R. Gilliland. bibliog diags Ind & Eng Chem 24:1382-7 D '32; Same, without table. Refrig Eng 25:78-83; Discussion. 83-5+ F '33

Impregnation varnishes; evaporation of solvents and the oxidation of varnishes used for electrical windings, etc. D. Texier. diags Electrician 109:666-71 N 25 '32

Standard equipment for evaporation stations; final report of sub-committee on evaporation of the special committee on irrigation hydraulics. Am Soc C E Proc 59:266-8 F '33; Discussion. 59:901-5, 1036-45, 1441-3, 1633-6 My, Ag, N-D '33

*See also*

Crystallization

Dehydration

Distillation

Drying

Drying apparatus

Evaporators

Gasoline—Evapora-

tion losses

Vaporization, Heat of

**EVAPORATORS**

Deerating heaters universal in new plants. Power Pl Eng 36:22-3 Ja '33

Design improvements bring about better evaporation. diag Chem & Met Eng 40:253-4 My '33

Evaporating, condensing and cooling apparatus. E. Hausbrand. 5th ed rev & enl 503p \$8 Van Nostrand '33

L'évaporation et ses applications à la concentration des liquides industriels. E. Lafitte. diags Soc Ing Civils Bul 85:1258-90 N '32

Evolution of industrial types. F. Zumbro. il Refrig Eng 25:354+ Je '33

Factors affecting the design of evaporators. H. Vetter. diags Refrig Eng 24:348-51 D '32

High-pressure evaporators; some operating tips. H. M. Spring. diag Power 77:453 S '33

Steam-pressure transformers; abstract. T. B. Morley. Mech Eng 55:258-9 Ap '33

**EVELETH, Charles Edward, 1876-1933**

Tribute. J. W. Hammond. front (por) Gen Elec R 36:257 Je '33

**EVENING and continuation schools**

Experience of an instructor in evening classes in coal mining. A. P. McIntosh. il Explosives Eng 11:252-4 Ag '33

Leisure time college. H. A. Harvey. Lib J 58:725-7 S 15 '33

**EVER ready company**

Expansion of profits. Economist 116:1031 My 13 '33

**EVEREST, Mount**

Flying over Mount Everest. il Sci Am 148:286-8 My '33

Natural history of Mount Everest. Science 77:43 Ja 13 '33

**EVERETT, Washington****Water supply**

Sultan river water supply for Everett; abstract. J. W. Cunningham. Am Water Works Assn J 25:387 Je '33

**EVERGLADES national park (proposed)**

Proposed Everglades national park. R. L. Wilbur. Science 77:185 F 17 '33

**EVERYBODY'S magazine**

Four magazines show the way; Collier's weekly, Saturday evening post, McClure's and Everybody's. R. Frothingham. Adv & Sell 20:26 N 24 '32

**EVICTION. See Landlord and tenant****EVIDENCE (law)**

Handbook of the law of evidence. J. J. McKelvey. 4th ed 576p West pub. co, St Paul, Minn. '32



**EVIDENCE (law)—Continued**

Illustrative cases on evidence. J. J. McKelvey, comp. 617p West pub. co, St Paul, Minn. '32

**EVOLUTION**

Aristogenesis, the observed order of biomechanical evolution; abstract. H. F. Osborn. Science 77:519 My 26 '33

Biological inductions from the evolution of the proboscidea. H. F. Osborn. Science 76:501-4 D 2 '32

Evidences of man's ancestral history in the later development of the child; abstract. C. B. Davenport. Science 77:520 My 26 '33

New anthropogeny; twenty-five stages of vertebrate evolution, from Silurian Chordate to man. W. K. Gregory. Science 77:29-40 Ja 13 '33

Recent revivals of Darwinism. H. F. Osborn. Science 77:199-202 F 24 '33

*See also*

Man—Origin and antiquity  
Vertebrates

**EXAMINATIONS**

Critical analysis of the examination system of American engineering schools. V. Bush. J Eng Educ 23:322-36 Ja '33

Luck and examination grades. C. Posey. J Eng Educ 23:292-6 D '32

Placement examinations in mathematics at the University of Minnesota, 1925-32. R. F. Schuck. J Eng Educ 23:739-42 Je '33

Repetition effect in Iowa mathematics training examinations. R. F. Schuck. J Eng Educ 23:561-3 Mr '33

**EXANTHEMA on fruit trees**

Exanthema in pears and its relation to copper deficiency. J. Oserkowsky and H. E. Thomas. Science 78:315-16 O 6 '33

**EXCAVATING machinery**

Aluminum booms and buckets on Mississippi levees. D. B. Hobbs. il Eng N 110:192-4 F 9 '33

Amerikanischer baggerbau. W. Franke. il diags Zeit Ver Deutsch Ing 77:203-4 F 25 '33

Ballast pit ropeway and excavator. il Engineer 156:162, 170 Ag 18 '33

Bucyrus-Monighan 10-yd. walking dragline. il Roads & Sts 76:173 Ap '33

Caterpillar excavators for stripping overburden. diags Mech Handling 20:149 My '33

Evolution of modern construction machinery. F. C. Ruhloff. il Civil Eng 3:451-4 Ag '33

Excavateurs pivotants, montés sur chenilles, pour chantiers de terrassement. il diags Génie Civil 101:636-7 D 24 '32

Excavating equipment. Rock Prod 35:71-2 D 31 '32

Giant all-British excavator made by Ransomes & Rapier, Ltd. il Mech Handling 20:114 Ap '33

Kabelbagger im braunkohlen-tagebau. O. Gold. il Zeit Ver Deutsch Ing 77:1097-8 O 7 '33

Marion excavator. il Roads & Sts 76:281-2 Jl '33

Le matériel moderne des travaux publics (terrassements). C. Moreau. diags Soc Ing Civils Bul 86:237-423, pls 214-16 Mr '33

Maumee stripping swells list of operations using modern equipment and methods. il Coal Age 38:294-6 S '33

Mechanical handling at lignite mines. T. Rich. il diags Mech Handling 20:19-22 Ja '33

Motorizing a ditch dredger; gas-electric dredger lowers operating costs and reduces canal maintenance. R. E. Bear. il Elec West 70:117-19 Ap '33

Priestman grab with a planing action. il Engineer 156:316 S 29 '33

Priestman light and mobile excavator. il Mech Handling 20:182-3 Je '33

Scraper bucket and carrier. L. McLouth. il Can Eng 64:10 Ap 18 '33

Die traggerüste der grossbagger und ab-setzer; bestimmung der standsicherheit, belastung und beanspruchung. L. Rasper. Zeit Ver Deutsch Ing 77:777 Jl 15 '33

Wolf 1:44-cubic yard overburden bucket dredger-excavator. diags Engineering 135:406-8, pl 27 Ap 14 '33

*See also*

Buckets	Shoveling machines
Dredges	Subways—Construction
Electric shovels	Trenching machinery
Mining machinery	
Scrapers	

**Advertising**

Finding a central theme for the entire industrial line; Bucyrus-Erie company. A. Andrews. Ptr Ink 164:79-80 Jl 6 '33

**EXCAVATION**

Excavating close to building without underpinning; deep sewage regulator alongside shallow foundation. W. O. Johnson. il diags Eng N 111:376-7 S 23 '33

Handling 2,000,000 cu. yd. of excavation at Boulder dam. il plan Eng N 110:776-80 Je 15 '33

New methods of excavating quicksands. H. Japp. il diags plan Engineer 156:398-402, 422-5 O 27-N 3 '33

Other features of Hoover Dam project well under way. il diag Eng N 109:720-3 D 15 '32

Paddington station improvements. il diags plan Engineering 136:403, 404-6, pl 14 O 13 '33

Rechanneling through the city of Birmingham. J. R. Moore; S. J. Peterson. il Explosives Eng 11:217-23 Jl '33

Right equipment for the job; record and analyses of 30 road-grading jobs. H. K. Church. Eng N 110:556-9 My 4 '33

Roadbuilding amid giant sequoias. O. L. Snider. il Comp Air M 38:4226-9 O '33

*See also*

Blasting	Shoveling machines
Dredging	Subways—Construction
Earthwork	Trenching machinery
Electric shovels	Tunnels and tunneling
Excavating machinery	
Shaft sinking	

**EXCAVATION, Subaqueous**

Difficult caisson sinking for Vancouver water tunnel. W. Smail and R. M. Wynne-Edwards. il diags Eng N 111:9-11 Jl 6 '33

Drill barge effects economies. diag Eng & Min J 134:21 Ja '33

Lock construction at dam 3, Tennessee river. il Eng N 111:196-8 Ag 17 '33

New York piers for 1,000-ft. ships. il diags plan Eng N 111:126-7 Ag 3 '33

Piers for superliners; new ocean terminal in New York. C. H. Vivian. il Comp Air M 38:4048-53 F '33

*See also*

Blasting, Subaqueous  
Dredging

**EXCESS insurance company of America**

Annual statement, 1932. Spectator 130:33 Mr 9 '33

**EXCHANGE***See also*

Balance of payments  
Commerce  
Foreign exchange

**EXCHANGE, Foreign. See Foreign exchange****EXCHANGES**

Commodity exchange, inc. Comm & Fin 22:162-3 F 15 '33

Commodity rings; the 4 in which New York brokers trade in rubber, silk, hides and metals futures may be combined. Business Week p14-15 D 21 '32

Control threatens free markets. C. S. Burton. Mag of Wall St 52:414-16+ Ag 19 '33

Economic functions of commodity exchanges. J. B. Baer. Comm & Fin 22:21 Ja 11 '33

Effects of governmental regulation of commodity exchanges in the United States. H. B. Killough. Harvard Business R 11:307-15 Ap '33

Four commodity exchanges plan merger. Comm & Fin 21:1436 D 14 '32

Grain markets limit speculation. Econostat 1:6 Jl 29 '33

**EXCHANGES—Continued**

- Improving prospects for commodities. C. S. Burton. *il Mag of Wall St* 51:620-3+ Ap 1 '33
- Longs caught short; commodity markets take their bitter medicine. *Business Week* p 15-16 Jl 29 '33
- Rubber exchange to merge with other New York commodity exchanges. *Rubber Age* 32:203-4 D 25 '32
- To curb wild price fluctuations. *Comm & Fin* 22:649 Jl 26 '33
- See also*
- Stock exchange  
also names of exchanges, e.g. New York cotton exchange; Winnipeg grain exchange

**EXCISE tax**

- Deductibility of excise taxes in computing federal taxes on income. C. E. Kern. *Oil & Gas J* 31:28 D 29 '32
- Make additional rulings to cover excise tax on lubricating and Diesel oils. C. E. Kern. *Oil & Gas J* 31:27 D 15 '32
- New ruling clears excise tax tangle. *Automotive Ind* 68:115 Ja 28 '33
- State and local governmental agencies exempt from federal excise taxes. *Pub Roads* 13:150 N '32
- Tax problems in Washington. F. B. Dow. *Am Pet Inst Proc* (Marketing div) p26-30; Discussion. 30-2 Je '32

*See also***Fur trade—Taxation****EXCITATION equipment**

- Recent developments in exciters and excitation practice. H. M. French. *il Power Pl Eng* 37:387-9 S '33
- Synchronous motor excitation controlled by new relays. N. L. Hadley. *Elec W* 101:550-1 Ap 29 '33

**EXCLUSIVE agencies**

- From exclusive dealership to jobber-dealer set-up. *Ptr Ink* 163:57-8 My 11 '33
- G-E goes in for exclusive retail outlets. *Ptr Ink* 161:50 N 17 '32
- Motor agreement consummated; Westinghouse and dealers. *Elec West* 70:14 Ja '33

**EXECUTIVE ability**

- Strategy in handling people. E. T. Webb and J. B. Morgan. 260p \$1 Garden City pub. co. inc. Garden City, New York '32

**EXECUTIVES**

- Applied scientific management; organization; functions of major executives. K. Hathaway. *Taylor Soc Bul* 18:6-8 F '33
- Caller record worthwhile; Houston lighting & power company. *Management Methods* 61:615 N '32
- Can stuffed-shirt presidents survive under the new deal? S. Norvell. *Sales Management* 33:61-2+ Jl 15 '33
- Carbon copies. C. H. McCall. *Credit & Fin Management* 35:5 Ap '33
- Characteristic traits that mark the executive leader; abstract. D. A. Laird. *Management* R 22:50 F '33
- Co-ordination of executive offices for effective and economical management of refineries. S. P. Keator. *Oil & Gas J* 32:11-14 Jl 6 '33
- Distribution decisions of executives found 58 per cent right. *Sales Management* 32:126 F 1 '33
- Do salaried jobs hamstring company executives? G. James. *Sales Management* 31:463-4+ D 1 '32
- Executive of corporation held not an employee within Indiana compensation act. *Monthly Labor R* 35:1342-3 D '32

- Executive personnel program. J. D. Mooney; P. C. Kelley; J. A. Stevenson. *Personnel* 10:3-31 Ag '33

- Founders' punch. R. R. Updegraff. *il Adv & Sell* 20:13-14+ F 16 '33

- Give MacDonald a chance; not presidential interference, but help. R. Dickinson. *Ptr Ink* 163:17-20 Ap 6 '33

- Human side of management. S. Norvell. *Sales Management* 32:246+, 434-5+, 510-11+ Mr 15, Ap 20, My 15 '33

- A leader must lead. R. C. Glenn. *Adv & Sell* 20:37 Mr 16 '33

- Major executives have most voice in advertising budgets and media. *Sales Management* 31:525 D 15 '32

- Manual for executives; Upson company. W. Raymond. *System* 62:506-7 N '33

- Measuring executive accomplishment; abstract. H. A. Hopf. *Management R* 22:300 O '33

- Necessity for courtesy. A. Bradbury. *Ptr Ink* 163:70-2+ My 25 '33

- Needed: sales-mindedness. R. Dickinson. *Ptr Ink Mo* 27:13-14 S '33

- Production minds versus sales minds. P. Barber. *il Ptr Ink Mo* 27:32-3+ Ag '33

- To the boss: 25 checking points on reconstruction selling. M. L. Wilson. *Adv & Sell* 21:15+ Ag 17 '33

- U. S. corporate management. *Fortune* 7:47-51+ Je '33

- Utility counsels, critics and commissioners; photographs. *Pub Util* 12:377-92 S 28 '33

- Wherever MacDonald sits; the big chief is looking into advertising costs. R. Dickinson. *Ptr Ink* 162:3-4+ Mr 2 '33

- Why advertising is responsibility of company's head. C. R. Gardinor. *Ptr Ink* 162:80 Mr 23 '33

*See also*

- |                               |                          |
|-------------------------------|--------------------------|
| Bonus system (for executives) | Foremen                  |
| Business management           | Industrial management    |
| Efficiency, Industrial        | Office management        |
| Employment management         | Organization in industry |
| Factory management            |                          |

**Salaries**

- Are utility salaries too high? *Pub Util* 12:284 Ag 31 '33

- Big pay checks shrink. *Business Week* p18+ Je 10 '33

- Corporation salaries and bonuses in theory and in actual recent practice. P. M. Payne. *bibliog Annalist* 42:605-10 N 10 '33

- Home office personnel and its salary. A. G. Magnell. *Spectator* 130:12-13 Ap 13 '33

- Management's pay. *Fortune* 7:50 Je '33

- Salary control: a new high mark in utility regulation. *Pub Util* 12:478-80 O 12 '33

- Study of home office salaries. H. A. Hopf. *Spectator* 130:15-16+ Je 8; 12-13+ Je 22 '33

- What is a corporate official worth? J. C. Clifford. *Mag of Wall St* 52:68-9 My 13 '33

*See also*

- Railroads—Salaries

**Training**

- Management training for business executives. O. Sheldon. *Chem Age (Lond)* 28:113 F 11 '33

*See also*

- Foremen—Training

**EXECUTORS and administrators**

- Denial of compensation to executor; suit. *Bankers M* 126:261-4 Mr '33

- Federal estate tax administration; making returns. R. M. Estes. *Trust Companies* 57:265-8 S '33

- Retention of corporate stock by administratrix. *Trust Companies* 57:180 Ag '33

- Review of Massachusetts court decisions affecting administration of estates and trusts. G. Newhall. *Trust Companies* 57:153-6 Ag '33

- Wills, executors and trustees. W. J. Grange, W. A. Staub and E. G. Blackford. 844p \$7.50 Ronald press '33

*See also*

- |                     |                     |
|---------------------|---------------------|
| Estates, Decedents' | Trusts and trustees |
| Probate law         | Wills               |

**Accounting**

- Estate administration and accounting. C. J. Dodge. 453p Standard text press, Brooklyn, N.Y. '32

**EXERCISE**

- Reason for winter exercise. C. H. Watson. *Nat Safety* N 27:60 F '33



**EXHAUST steam**

- Götaverken system of using exhaust steam. *il* Engineering 136:406-7 O 13 '33  
 How to find out how much exhaust steam is wasted. *Power* 77:150-1 Mr '33  
 Power decreased 2 per cent, coal reduced 15 per cent; Hotel St George, Brooklyn, N.Y. *il* *Power* 77:562-4 N '33  
 Testing non-condensing turbines for efficiency. G. B. Randall. *il* *Power* 76:74-5 Ag '32; Discussion. C. H. Berry. 76:259 N '32; Reply. 77:45 Ja '33

**EXHAUST systems**

- Coating wire with cellulose acetate. W. S. Magill. *il* *diag Nat Safety* N 27:25-6 Je '33  
 Control of industrial dust. J. M. Dallavalle. *il* *Mech Eng* 55:621-4 O '33; Abstracts. *Iron Age* 132:32A-32B Jl 6 '33; *Heat & Ven* 30:33 N '33  
 Control of motors driving ventilating fans. S. R. Lewis. *il* *diags Heating-Piping* 4:794-6 D '32  
 Importance of velocity characteristics in the design of local exhaust hoods. J. M. Dallavalle. *diags J Ind Hygiene* 15:18-26 Ja '33  
 Large fittings for exhaust work. *il* *Sheet Metal Worker* 24:252 Ag '33  
 Paint spray hoods at Burnside shop. *il* *Ry Mech Eng* 107:173-8 Ap '33  
 Pressure and suction fans. J. W. Romig. *Glass Ind* 14:75-7 Jl '33  
 Some points on garage ventilation. P. R. Jordan. *Sheet Metal Worker* 24:6-8+ Ja '33

*See also*

Dust removal

**EXHIBITION buildings**

- Architectural progress; Century of progress buildings. L. Skidmore. *il* *Elec J* 30:234-7 Je '33  
 Building tells the story of progress; Chicago's new World's fair. R. Willoughby. *il* *Nation's Business* 21:22-4 Je '33  
 Carnival architecture. A. F. Woltersdorf. *il* *Am Arch* 143:10-21 Jl '33  
 Century of progress exposition; views. *Arch Rec* 73:347-53 My '33  
 Century of progress; lighting of building exteriors; photographs. *Elec W* 101:689-96 My 27 '33  
 Chicago bids the world come. C. W. Person. *il* *Gas Age* 71:243-6+ Mr 11 '33  
 Chicago exhibition; some notable buildings. *il* *diags Engineer* 155:315-17 Mr 31 '33  
 Construction at a Century of progress. L. R. Lohr. *il* *Sibley J* 47:133-4 N '33  
 Construction management stressed over technique; World's fair, Chicago. J. Stewart. *il* *Eng N* 110:289-93 Mr 2 '33  
 Engineering research and building construction, Century of progress exposition. B. M. Thorud. *diags Arch Forum* 59:65-9 Jl '33  
 Exhibition buildings of various countries and corporations; Century of progress exposition; views. *Arch Forum* 59:33-46 Jl '33  
 Exposition buildings unique in form and structure; World's fair, Chicago. C. W. Farrier. *il* *diags Eng N* 110:278-82 Mr 2 '33  
 L'exposition du centenaire de Chicago (juin-novembre 1933). P. Calfas. *il* *diag plan Génie Civil* 102:389-93 Ap 29 '33  
 Festive stage setting. P. P. Cret. *Arch Forum* 59:4-5 Jl '33  
 Large panel units outstanding advance at the Fair. *il* *Am Bld* 55:26-7 Ag '33  
 Low cost, rapid work, feature construction of Fair buildings. B. M. Thorud. *il* *plans Am Bld* 55:50-3+ Je '33  
 New architecture significant of the new typography; Century of progress exposition. D. C. McMurtrie. *il* *Inland Ptr* 91:13-17 Je '33  
 New markets in World's fair materials; smaller buildings. *il* *Am Bld* 55:101 Je '33  
 Nine major buildings; a Century of progress exposition, Chicago 1933; views and plans. *Arch Forum* 59:7-22 Jl '33  
 Painting the exposition buildings. O. Teegen. *il* *Arch Rec* 73:366-9 My '33  
 Synthetic coatings at the Century of progress. C. E. Fawkes. *il* *Plastic Prod* 9:222-7 Ag '33

- Where is there to go from here? World's Columbian exposition and a Century of progress. A. R. Barkley. *il* *Ptd Salesman-ship* 61:224-5+ Je '33  
 Whys and wherefores of the Century of progress exposition architecture. L. Skidmore. *il* *Am Bld* 55:26-8 Je '33  
 World's fair in the making; illustrations. *Sci Am* 148:83 F '33

*See also*  
Cycloramas**Heating and ventilation**

- Large air volume exhausted from "Century of progress" buildings. *il* *plan Heating-Piping* 5:256-7 My '33

**Lighting**

- Lighting heads the list of special facilities; World's fair, Chicago. J. L. McConnell. *il* *diags Eng N* 110:283-5 Mr 2 '33  
 Mobile color lighting for decoration; electrical building at the Century of progress. C. J. Stahl. *il* *Elec J* 30:244 Je '33

*See also*  
Chicago—World's fair,  
1933—Lighting**EXHIBITION grounds**

- Construction management stressed over technique; World's fair, Chicago. J. Stewart. *il* *Eng N* 110:289-93 Mr 2 '33  
 Transport system planned for fifty million visitors to Chicago World's fair. E. S. J. Irvine. *il* *maps Eng N* 110:286-9 Mr 2 '33

**Lighting**

- Century of progress exposition at Chicago. 1933. *Ilum Engr* 26:189-90 Ag '33  
 Exposition lighting. C. J. Stahl. *il* *Elec J* 30:229-33 Je '33  
 Lighting an exposition; World's fair. W. d'A. Ryan. *il* *Elec W* 101:687-8, 697-8 My 27 '33  
 Lighting heads the list of special facilities; World's fair, Chicago. J. L. McConnell. *il* *diags Eng N* 110:283-5 Mr 2 '33  
 Special types of standards used for outdoor lighting. *diags Elec W* 101:684-6 My 27 '33

**EXHIBITIONS**

- How to get the most out of commercial shows. M. F. Edwards. *il* *Forbes* 32:11+ N 1 '33  
 Triennale exposition, Milan, 1933. *il* *Arch Forum* 59:119-30 Ag '33  
*See also*  

Agricultural machinery—Exhibitions	Chemical industries—Exhibitions
British industries fair	Chicago—World's fair, 1933
Building trades—Exhibitions	Electric apparatus and appliances, Domestic—Exhibitions
Canadian national exhibition	

**Advertising**

- Colorful paintings build exposition attendance; Dairy & ice cream & machinery supplies association. *il* *Ptr Ink Mo* 25:42 D '32  
 Some ideas on selling \$25,000,000 worth of exposition. *il* *Ptr Ink* 162:49-50 Mr 2 '33

**EXHIBITS**

- Advertisers to strut their stuff to 40,000,000 at Chicago fair. *il* *Sales Management* 32:444 Ap 20 '33  
 Lake City malleable co, Cleveland, displays malleable castings. *il* *Foundry* 61:36-7 Ja '33  
 \$1 museum; Armstrong's linoleum education exhibit. *il* *Ptr Ink* 161:82 D 1 '32  
 Some advertising slants at a Century of progress; company exhibits. P. H. Erbes, jr. *Ptr Ink* 163:47-50 Je 15 '33

**EXHIBITS, Traveling**

- Air-conditioning trailers build dealer distribution; Trane company. N. Downey. *il* *Ptr Ink* 163:58-9 Je 29 '33  
 Demonstration coaches build gas load; Peoples natural gas company. M. P. Sullivan. *il* *Gas Age* 72:15-16 Jl 1 '33  
 Domestic exhibits on wheels. *il* *Elec R (Lond)* 112:199 F 10 '33

**EXHIBITS, Traveling—Continued**

- Mobile sales offensive; Peoples natural gas company's traveling display kitchen. *il Am Gas J* 138:37-8 *Je* '33
- School on wheels stimulates jobber interest; Multibestos company. M. T. Rogers. *il Ptr Ink* 162:51-3 *Ja* 5 '33
- Take the product to the prospect; motorized traveling kitchens. *il Elec West* 70:17-18 *Ja* '33
- This display has 2,000 parts; Magic City of Chevrolet. *il Ptr Ink* 161:46 *D* 29 '32
- Traveling display room takes ranges to the prospect. J. E. Bullard. *il Gas Age* 71:335-6 *Ap* 1 '33
- Truck display sells farm structures. *il diags plans Am Bld* 54:28-9 *Ja* '33

**EXITS**

- Survey of exit practice in buildings. H. B. Houghton and J. H. Courtney. *Eng N* 111:164-5 *Ag* 10 '33
- Survey of traffic volumes through building exits. H. B. Houghton and J. H. Courtney. *Eng N* 111:200-2 *Ag* 17 '33

**EXNER, Franz F.**

- American contemporaries. L. H. Reyerson. *por Ind & Eng Chem* 25:945-6 *Ag* '33

**EXPANSION (heat)**

- Constitution and thermal expansion of silica coke-oven brick after service. J. B. Austin and R. H. H. Pierce, jr. *diags Am Cer Soc J* 16:102-6 *F* '33
- Forget expansion; trouble results. B. Kramer. *diags Heating-Piping* 5:149-50 *Mr* '33
- Heat and corrosion resistant cast irons having a wide range of expansion properties. T. H. Wickenden. *Automotive Ind* 69:423-9 *O* 7 '33
- Interference method of measuring thermal expansion. G. E. Merritt. *diags pl U S Bur Stand J Research* 10:59-76 *Ja* '33
- Linear thermal expansion of a single crystal of sodium nitrate. J. B. Austin and R. H. H. Pierce, jr. *diag Am Chem Soc J* 55:661-8 *F* '33
- Low-temperature comparator for coefficient of expansion of ceramic bodies. H. E. Davis. *diag Am Cer Soc J* 16:229-31 *My* '33
- Method for the determination of the coefficient of expansion. C. J. Kinzie and C. H. Commons, jr. *diags Am Cer Soc J* 16:1-5 *Ja* '33
- Thermal expansion of columbium. P. Hidnert and H. S. Krider. *U S Bur Stand J Research* 11:279-84 *Ag* '33
- Thermal expansion of heat-resisting iron alloys; iron-chromium and iron-chromium-nickel. J. B. Austin and R. H. H. Pierce, jr. *Ind & Eng Chem* 25:776-9 *Jl* '33
- Thermal expansion of lead. P. Hidnert and W. T. Sweeney. *U S Bur Stand J Research* 9:703-9 *N* '32; *Abstract. Mech Eng* 55:182-3 *Mr* '33
- Thermal expansion of low-fired, lime-containing ceramic bodies; abstract. W. Steger. *Am Cer Soc J* 16 (Cer A 12):34-5 *Ja* '33
- Thermal expansion of magnesite to 1,800° C. *J Fr Inst* 214:749-50 *D* '32
- Thermal expansion of refractories to 1,800° C. R. A. Heindl. *diag pl U S Bur Stand J Research* 10:715-35 *Je* '33; *Excerpts. Brick & Clay Rec* 83:59-60+ *Ag* '33
- Thermal expansion of sheet-iron ground-coat enamels. A. I. Andrews and R. K. Smith. *Am Cer Soc J* 16:328-37 *Jl* '33
- EXPANSION problems.** See Business management—Expansion problems
- EXPERTS in government.** See Public officials
- EXPLOSION insurance.** See Insurance, Explosion
- EXPLOSIONS**
- Another example of air-water tank hazard. *Locomotive* 39:138 *Ja* '33
- Cause of Mitcham explosion. *Chem Age (Lond)* 29:252 *S* 16 '33
- Companies win Ohio subrogation award; Supreme court rulings in explosion case involving public utility's liability. *Ins Field (Fire ed)* 62:7 *F* 9 '33
- Device to isolate explosions occurring in chemical plants. T. J. Dixon. *il Soc Chem Ind J* 51:433T *D* 30 '32
- Die explosionkatastrophe von Neunkirchen. K. Bunte, H. Brückner and W. Ludwig. *il diags Chemische Fabrik* 6:383-8 *S* 13 '33
- Explosions of methane and air: propagation through a restricted tube. H. Robinson and R. V. Wheeler. *pl Chem Soc J* p758-60 *Jl* '33
- Explosions of mixtures of hydrogen and air; the specific heats of steam at high temperatures. G. B. Maxwell and R. V. Wheeler. *Chem Soc J* p882-5 *Jl* '33
- Explosive hazards at acid storage. *Weekly Underw* 127:1061-3 *D* 3 '32
- Explosive properties of methyl formate-air mixtures; effect of molecular constitution on behavior. G. W. Jones, W. E. Miller and H. Seaman. *diag Ind & Eng Chem* 25:694-6 *Je* '33
- Gas explosion in the Saar. *il Gas J (Lond)* 201:361-4 *F* 15 '33
- Gaseous combustion at high pressures; abstract. W. A. Bone, D. M. Newitt and D. T. A. Townend. *Soc Chem Ind J (Chem & Ind)* 51:957-8 *N* 18 '32
- Gasholder explosion at Neunkirchen. K. Bunte. *il plan Gas J (Lond)* 201:460-1 *F* 22 '33; *Same. Gas Age* 71:275-4 *Mr* 18 '33
- German holder explosion details given. K. Lempelius. *Gas Age* 71:238-9 *Mr* 4 '33
- Heads of air tanks fail with disastrous effect. *Locomotive* 39:168-9 *Ap* '33
- Kinetics of gas explosions; ozone explosions induced by hydrogen. B. Lewis. *bibliog Am Chem Soc J* 55:4001-6 *O* '33
- Kinetics of the hydrogen-oxygen low pressure explosion. A. A. Frost and H. N. Alvey. *Am Chem Soc J* 55:3227-33 *Ag* '33
- Mitcham chemical works explosion. *il Chem Age (Lond)* 28:313-15 *Ap* 8 '33
- Neunkirchen gasholder explosion. F. Jacobi. *diags Engineering* 135:330-1 *Ap* 7 '33
- Das Neunkirchener explosionsunglück. H. Leiber. *il diags Stahl & Eisen* 53:665-71 *Je* 29 '33
- Pressure vessel failures are preventable. E. R. Fish. *il Nat Safety N* 23:13-14+ *S* '33
- Pyroxylin waste plant almost certain death. *Weekly Underw* 128:1141 *Je* 17 '33
- Recording of pressure and time in gas explosions. B. Lewis and G. von Elbe. *diags Am Chem Soc J* 55:504-7 *F* '33
- Report of the public prosecutor on the Neunkirchen explosion. *Gas J (Lond)* 202:157 *Ap* 19 '33
- Stays of unusual shape prove weak. *il diag Locomotive* 39:141-2 *Ja* '33
- Sur la théorie des réactions explosives; à propos d'un récent travail de S. Roginsky. H. Muraour. *Chimie & Ind* 29:507-14 *Mr* '33
- Transport and fire hazards of liquefied gases. A. M. Cameron. *Soc Chem Ind J (Chem & Ind)* 52:789-91; *Discussion. T. J. Dixon. 791-2 O* 6 '33
- Über die explosionsfähigkeit gesättigter alcohaldampf-luft-gemische. K. Fricke. *diags Angew Chemie* 46:37-90 *F* 4 '33
- Vapor travel from vent pipes. *Weekly Underw* 128:445+ *Mr* 4 '33
- See also

- |  |                          |
|--|--------------------------|
| Boiler explosions                              | Explosives               |
| Coal mines and mining—Accidents and explosions | Inflammable mixtures     |
| Dust explosions                                | Sewer explosions         |
|  | Water heaters—Explosions |

**EXPLOSIVE shattering of ores.** See Ore treatment

**EXPLOSIVES**

- Action du choc des électrons sur l'azoture de plomb et sur l'acétylure d'argent; remarques théoriques sur la décomposition thermique des explosifs. H. Muraour. *Chimie & Ind* 30:39-40 *Jl* '33
- Blakstix, blasting agent produced by Atlas powder co. *Min & Met* 14:73 *Ja* '33
- Carbon dioxide for blasting; Cardox. *Soc Chem Ind J (Chem & Ind)* 51:940 *N* 11 '32



**EXPLOSIVES—Continued**

Diazodinitrophenol, a detonating explosive. L. V. Clark. bibliog il diag Ind & Eng Chem 25:663-9 Je '33

Dynamite; forerunner of progress. J. Barab. il Explosives Eng 11:135-46 My '33

Explosives. A. Marshall. 2d ed v 3 286p \$10 Blakiston '32

Following through with safety; handling of explosives. T. Marvin. Explosives Eng 11:341-3 N '33

Influence de synthèses récentes sur le développement de l'industrie des explosifs. J. P. Lehalleur. bibliog Chimie & Ind 29:258-61 F '33

Liquid-oxygen explosives. Engineering 135:18 Ja 6 '33

Sur la théorie des réactions explosives; à propos d'un récent travail de S. Roginsky. H. Muraour. Chimie & Ind 29:507-14 Mr '33

La tétrinitropentaérythrite ou penthrite. L. Desvergnès. diag Chimie & Ind 29:1263-77 Je '33

**See also**

Ammonium nitrate

Blasting

Centralite

Coal mines and mining—Explosives

Dynamite

Nitrocellulose

Oxygen, Liquid

Smokeless powder

**Statistics**

Consumption of explosives in December, 1932, with final figures for the year 1932. W. W. Adams and L. S. Gerry. 6p U.S. Bureau of mines, Washington '32

Production of explosives in the United States during the calendar year 1932. W. W. Adams and L. S. Gerry. U S Bur Mines Tech Pa 558:1-26 '33

**Testing**

Effect of the crimped-paper ends on cartridges of permissible explosives in propagating detonation. D. B. Gawthrop. diags U S Bur Mines Rep of Invest 3191:1-7 '32

Neues zur schlagempfindlichkeit der explosivstoffe. L. Wöhler and O. Wenzelberg. diags Angew Chemie 46:173-6 Mr 25 '33

**EXPORT indemnity company**

Voluntary liquidation. East Underw 34:35 Mr 31 '33

**EXPORT trade**

America no longer looks abroad. G. L. Lacher. Iron Age 131:979-80+ Je 22 '33

Depreciation of currency and exports. D. Schindler-Huber. Engineer 156:19-20 Jl 7 '33

Export and NIRA. Business Week p5-6 S 23 '33

Export drop estimated at 21 per cent. Am Mach 76:1228e D 21 '32

Foreign markets for coopeage. U S Bur For & Dom Com Trade Promotion Ser 144:1-88 '33

Foreign trade council reviews America's export problems. Iron Age 131:707B My 4 '33

Increasing foreign buying power; increased imports and tourist travel are chief hopes of exporters seeking business. Econostat 1:7 Jl 22 '33

Is the color of your product wrong for export markets? General Motors cars. D. Guernsey. Sales Management 31:519 D 15 '32

Roy Howard sees extended boom in Far East. O. P. Swift. Sales Management 33:205-6 S 1 '33

Sectional significance of our foreign trade. Index 13:65-71 Ap '33

U.S.; a self-contained nation? Fortune 7:49-51+ Mr '33

United States foreign electrical trade, 1932. Elec R (Lond) 113:463 O 6 '33

We need foreign trade, too. J. A. Farrell. Nation's Business 21:13-15 S '33

What the Russian market means. W. P. Mangold. il Adv & Sell 21:15-16+ S 14 '33

Winning back our textile dyes export trade by an organized push. A. T. Marks. Textile Col 55:29-30 Ja '33

World trade outlook. J. A. Farrell. Steel 92:25 My 1 '33

World trade restrictions. I. C. Olsen. il Am Bankers Assn J 25:44+ Ap '33

**See also**

Balance of payments

Branch factories,

Foreign

Foreign exchange

Origin, Indication of

Packing for shipment

Tariff

**Finance**

Argentine exchange rules handicap group shipments. Oil Paint & Drug Rep 122:17 N 28 '32

Brazil thaws dollars. Business Week p26 Je 17 '33

Exchange restrictions, a barrier to the resumption of export trade. E. J. Pulton. Burroughs Clearing House 17:9+ Ap '33

Flight of capital. Business Week p22 Jl 15 '33

**See also**

Banks and banking—

Foreign banking

service

**Government aid**

Foreign trade promotion goes to State department. Iron Age 132:34 Ag 31 '33

\$4 millions for Moscow; Washington encourages sale of cotton to Soviets with R.F.C. credit. Business Week p22-3 Jl 8 '33

Russia gets credit, may get recognition Forbes 32:10 Jl 15 '33

What's being done for foreign trade in 1933. R. D. Chapin. Bradstreet's 61:156-7 Ja 28 '33

**Marketing**

Cotton textiles; export selling policies. Index 13:34-6 F '33

European sales areas. maps U S Bur For & Dom Com Trade Promotion Ser 143:1-41 '33

How Americans sell refrigeration in Great Britain. il Ptr Ink 163:32-4 Je 1 '33

Overseas partners; their place in American exports. F. Johnston. Ptr Ink 163:54-6 My 4 '33

**Sales management**

Co-operative selling in overseas markets; views of chemical plant manufacturers. Chem Age (Lond) 28:91-3 F 4 '33

**Sales promotion**

Scotch show boat; Scotch manufacturers to go after Scandinavian markets. Business Week p26 Je 17 '33

**Statistics**

Gasoline exports rank second in 1932. Nat Pet N 25:62 My 31 '33

**EXPRESS service**

Co-ordinated air-rail express brings fast service to entire country; Railway express agency. il map Ry Age 94:477-9 Ap 1 '33

Express service; Railway express agency offers to consolidate shipments. Business Week p11-12 Ja 11 '33

**See also**

Air express service

Motor bus lines—Ex-

press service

**EXTENSOMETER**

Automatic autographic extensometer for use in tension tests of materials. R. L. Templin. il diags Am Soc T M Proc 32 pt 2:783-92 '32

Dynamische dehnungsmesser und oszillographen zur untersuchung des walzvoranges. H. Hoff and T. Dahl. il diags Stahl & Eisen 53:593-8; Discussion. 598-604 Je 8 '33

Die ermittlung der spannungsverteilung in konstruktionsteilen durch dehnungsmessungen. F. Rötischer. il diags Zeit Ver Deutsch Ing 77:373-8 Ap 8 '33

Mechanically recording industrial extensometer. P. Chevenard. diags Engineer 156:sup [Metallurgist] 71-2 O 27 '33

Oxweld extensometer for testing materials. il Ry Mech Eng 107:52 F '33

Rawson dial extensometer. il diag Engineering 136:127 Ag 4 '33

Recorder-controller for materials-testing machines; Southwark-Emery system. C. H. Gibbons. bibliog il Iron Age 131:274-6+ F 16 '33

**EXTENSOMETER—Continued**

- Schenck autographic extensometer. W. Saran. *il Engineering* 136:160, 161-2 Ag 18 '33  
Shrinkage—melt to cold metal. K. Honda. *Metal Prog* 23:50-1 Ap '33  
Southwark-Emery recorder-controller for materials testing. *il Eng N* 110:545 Ap 27 '33

**EXTINCT lakes. See Lakes, Extinct****EXTINCTION coefficients**

- Influence of halides upon the extinction coefficients, and its bearing upon the constitution, of silver halides in fusion. G. S. Forbes and H. B. Elkins. *diag Am Chem Soc J* 55:3272-6 Ag '33

**EXTRACTION apparatus**

- Continuous air-lift extractor; application to quantitative determination of benzoic acid. R. P. Chapman and L. P. Hammett. *diag Ind & Eng Chem Anal ed* 5:346-7 S 15 '33  
Continuous extractor. A. J. Quick. *diag Ind & Eng Chem Anal ed* 5:76 Ja 15 '33  
Continuous extractor of large capacity. C. M. McCay. *il diag Ind & Eng Chem Anal ed* 5:213 My 15 '33

- Gewinnung von pflanzenölen durch extraktion. A. Thieme. *il diags Zeit Ver Deutsch Ing* 77:45-7 Ja 14 '33

- Improved Soxhlet extractor. *il Chem Age (Lond)* 28:388 Ap 29 '33

- Iwel steam turbine centrifugal fat extractor. *il diag Chem Age (Lond)* 27:579 D 17 '32

- Leaves from the notebook of a chemical engineer; Scott solvent extraction plant. J. MacGregor. *il Chem Age (Lond)* 28:475-6 My 27 '33

- Mechanical extraction of vegetable oil from seeds. *diag Mech Handling* 20:47-8 F '33

- Microextractor. L. Titus and V. W. Meloche. *diags Ind & Eng Chem Anal ed* 5:286-8 Jl 15 '33

- Modified Soxhlet. T. R. Liston and W. M. Dehn. *diag Ind & Eng Chem Anal ed* 5:306 S 15 '33

- Neuerungen an extraktoren und kühlern. O. Hagen. *il diags Chemische Fabrik* 5:425-7 N 9 '32

- Preparation of permeable extraction thimbles for laboratory filtration. F. J. Williams. *Ind & Eng Chem Anal ed* 5:322 S 15 '33

- Rationalisierung in der chemischen fabrik; neue ergebnisse der glasgeräte-normung. H. H. Franck. *diags Chemische Fabrik* 6:148-9 Mr 29 '33

- Simple large-capacity extractor. N. L. Drake and J. R. Spies. *diag Ind & Eng Chem Anal ed* 5:284 Jl 15 '33

- Visible demonstration of the action of automatic extractors. L. E. Warren. *diags J Chem Educ* 10:248 Ap '33

**EXTRACTION processes**

- Application of solvent extraction methods for the improvement of lubricating oil quality. J. W. Poole and J. M. Wadsworth. *flow sheet Oil & Gas J* 32:49-50, 52 O 26 '33

- Avoidance of emulsification in defatting operations. A. E. Rheineck and O. Gisvold. *diag Science* 78:215-16 S 8 '33

- Commercial application of chlorex process in the manufacture of high grade motor oils. W. H. Bahlke, A. B. Brown and F. F. Diwoky. *il diag Oil & Gas J* 32:60+ O 26 '33

- Duo-sol lube extraction process eliminates acid treating. M. B. Miller. *il Nat Pet N* 25:26-8 O 11 '33; Same. *Oil & Gas J* 32:11+ O 12 '33

- Extraction of phenols from caustic solutions. E. B. Kester. *diag Ind & Eng Chem* 24:121-5; 25:1148-50 O '32, O '33

- Extraction of potash from polyhalite; cyclic production of schönite and its use in the manufacture of potassium sulfate and syn-genite. N. Fragen and E. P. Partridge. *bibliog flow diag Ind & Eng Chem* 25:1153-60 O '33

- Extraction of potash from polyhalite; effect of particle size, sodium chloride concentration, and temperature. J. E. Conley and F. Fraas. *bibliog Ind & Eng Chem* 25:1002-9 S '33

- Lube solvents absorb refiners attention at A.P.I. meet. *Nat Pet N* 25:26+ N 1 '33

- Production of lubricating oils by extraction with dichloroethyl ether. J. M. Page, jr, C. C. Buchler and S. H. Diggs. *il diag Ind & Eng Chem* 25:418-22 Ap '33; Same. *Nat Pet N* 25:35-6+ Ap 5 '33; Same. *Oil & Gas J* 31:14-15+ Ap 20 '33

- Results obtained from use of propane during dewaxing and treating of lubricating oil. U. B. Bray, C. E. Swift and D. E. Carr. *Oil & Gas J* 32:14-16+ N 2 '33; Abstract. *Nat Pet N* 25:30-2 N 1 '33

- Use furfural as the extraction solvent to make motor oils having low viscosity index. R. E. Manley, B. Y. McCarty and H. H. Gross. *flow diags bibliog plan Oil & Gas J* 32:78-9, 81-2 O 26 '33; Same cond. *Nat Pet N* 25:26-8 O 25 '33

*See also*

**Solvents****EXTRATERRITORIALITY**

- How far workmen's compensation acts can apply to maritime law, interstate commerce, and the doctrine of extraterritoriality. S. B. Horovitz. *bibliog U S Bur Labor Statistics Bul* 577:131-7; Discussion. 137-46 '33

**EXTRUSION process**

- Extruded condenser tubes. *il diag Marine Eng* 38:420-1 N '33

- Extrusion of aluminum and its alloys. R. L. Streeter. *diags Mach* 39:540-1 Ap '33

- Forming aluminum and brass products by the extrusion process. J. B. Nealey. *il diags Mach* 40:140-2 N '33

- Tubing machine versatility. W. Norris. *diags India Rubber W* 87:25-6 Mr '33

**EYE**

- Blue eyes for brown; on whether polar darkness affects color of eyes. V. Stefansson. *Science* 77:191-2 F 17 '33

- Human seeing-machine. M. Luckiesh and F. K. Moss. *bibliog J Fr Inst* 215:629-54 Je '33

*See also*

- |                     |                       |
|---------------------|-----------------------|
| Color blindness     | Optics, Physiological |
| Color sense         | Sight                 |
| Insurance, Eyesight |                       |

**Diseases and defects**

- Allergy and immunity in ophthalmology. A. C. Woods. 176p \$2.25 Johns Hopkins press, Baltimore '33

- Effect of intensity of illumination on the near point of vision and a comparison of the effect for presbyopic and non-presbyopic eyes. C. E. Ferree and G. Rand. *illum Eng Soc Trans* 28:590-611 Jl '33

*See also*

- Conjunctivitis  
Miners' nystagmus  
Trachoma

**Examination**

- Complete vision examination advocated. M. Halsey. *Safety Eng* 65:95 Mr '33

- Eyes have they—but they do not all see: United States metals refining company has its employees' eyes examined. R. Winters. *il Factory Management* 91:323-4 Ag '33

- How good are industry's eyes? M. Davidson. *Nat Safety N* 27:17-18+ My '33

- Modified Broca pupillometer. F. K. Moss. *il diags Opt Soc Am J* 22:735-8 D '32

**Hospitals**

- New eye hospital, Columbia-Presbyterian medical center. G. Nichols and others. *il diags plans Arch Rec* 74:15-32 Jl '33

**Injuries**

- Goggles reduce eye accidents. *Safety Eng* 66:57 Ag '33

- Means for determining the percentage loss of vision, and recent developments for its aid. C. I. Saks. *Weekly Underw* 128:1154+ Je 17 '33

- New safety glass law in New York state: cases of eye injuries caused by flying glass in automobile accidents. *il Safety Eng* 65:161-2 My '33

**Movements**

- Stroboscopy by means of impressed eye movements or mirror vibration. M. Metfessel. *il Science* 78:416-17 N 3 '33



## EYE—Continued

## Muscles

Ocular muscles and fusion. T. G. Atkinson. 192p Professional press, inc, Chicago '33

## Protection

Elimination of eye hazards through engineering revision. L. Resnick. *il* Safety Eng 66: 7-9 J1 '33

Head and eye protection. F. Willson. Safety Eng 65:33-4 Ja '33

How to prevent eye injuries. G. A. Kuechenmeister. *il* Safety Eng 66:119-22+ O '33

Our eyes protect us—let's safeguard them. J. B. Zook. Nat Safety N 26:38-9 D '32

Progress of eyesight conservation activities; report of National society for the prevention of blindness. L. H. Carris. Safety Eng 65:202 Je '33

See also

Goggles

## EYE strain

See also

Factories—Lighting

## EYEBARS

George Washington bridge; materials and fabrication of steel structure. H. J. Baker. *diag* Am Soc C E Proc 59:270-6 F '33

## EYELET machines

Developing a punch for curling eyelets. H. R. Schmidt. *diags* Mach 39:254 D '32

## F

## F acid

Method of analysis of mixtures of Schaeffer and F acids; effect of these acids in depressing the phenol-water critical solution temperature. D. G. Kerr. Soc Chem Ind J 52:336T-8T O 13 '33

FABRICS. See Textile fabrics

## FABRIKOID

When lacquer and fabric meet; Fabrikoid. *il* Sci Am 148:228-9 Ap '33

## FACING tools

Automatic under-cutting and facing tools; Gairing tool co. *diags* Mach 39:536-7 Ap '33

Multi-blade cutting tools; their design and use. R. R. Weddell. *il* diags Am Mach 77: 526-7 Ag 16 '33

Turning and facing thin metal disks. M. Jacker. *diags* Mach 39:465-6 Mr '33

## FACTORIES

All-welded factory erected by the Bata shoe co. at East Tilbury. *il* Elec R (Lond) 112: 901 Je 23 '33

Building features that mean lower product cost; Strong-Scott manufacturing company, Minneapolis, Minn. W. S. Sewell. *il* Maintenance Eng 90:444-7 D '32

Cossor radio works. *il* Electrician 111:203-4 Ag 18 '33; Elec R (Lond) 113:219 Ag 18 '33

Domestic appliance factory of the British Thomson-Houston company, Rugby. *il* Engineering 136:66, 73-4 J1 21 '33; Electrician 111:88-9 J1 21 '33; Elec R (Lond) 113:83-4 J1 21 '33

Factory Van Nelle, Rotterdam; views and plan. Arch Forum 59:305-7 O '33

Fence around your plant; illustrations. Factory Management 91:405-6 O '33

Hoover factory, Perivale, Middlesex. *il* Engineer 155:520-2 My 26 '33

How can architects develop new business? an opportunity in industrial rehabilitation. M. H. Furbringer. *il* Arch Rec 73:314-15 My '33

Irving air chute company, Buffalo, New York; view and plan. Arch Rec 74:358 N '33

Messrs Boots' new drug factory, Beeston, Nottinghamshire, England. *il* plans Arch Rec 73:267-73 Ap '33

Modern factory design in England; Boots pure drug co. E. O. Williams. *il* diags Eng N 110:675-6 My 25 '33

Modern factory management. E. C. Peck. 146p Lincoln extension university, inc, Cleveland '32

New Hoover factory, Perivale, England. Electrician 110:586 My 5 '33

New plants—where and why; nine big cities report 619 new firms. Business Week p20 Ap 5 '33

See also

Airplane factories

Automobile factories

Branch factories,

Foreign

Carpet factories

Cement plants

Chemical plants

Concrete products

plants

Cotton mills

Factory management

Flour mills

Food factories

Foundries

Glass factories

Iron works

Machine shops

Metallurgical plants

Paper mills

Potteries

Rock products plants

Rolling mills

Rubber factories

Sawmills

Shoe factories

Silk mills

Steel works

Sugar factories

Textile mills

Water supply for factories

Woolen and worsted

mills

## Accounting

Cost finding to assure profits. C. H. Hatch. Am Mach 77:549-51, 594-6, 625-8, 656-9, 689-92, 716-19 Ag 30-N 8 '33

Cost of carrying inventory. F. Parrish. table Iron Age 131:973 Je 15 '33

Down with overhead—\$600,000 down! Consolidated steel corporation. P. B. Ross. Factory & Ind Management 83:459-60 D '32

First the profitgraph—and now the turnover-graph. C. E. Knoepfel. Factory & Ind Management 84:4-5 Ja '33

Maintenance records and costs. J. H. West. Chem Age (Lond) 29:3 J1 1 '33

Manufacturing quantities for the small industry. J. C. Wattleworth. Am Mach 77: 360-3 Je 7 '33

New budgetary methods and control of departmental profit and loss in a metal goods factory. Int Management Inst Bul 7:27-32 F '33

Rational scheme for computing motor costs. E. Ballman. Elec W 102:367-8 S 16 '33

Selecting new equipment to produce net profits. H. P. Bailey. *il* Mach 39:601-5 My '33

Standard costs on the instalment plan. W. V. Lindblom. Iron Age 131:580-1+ Ap 13 '33

Stores department accounting. A. Miller. Engineer 155:519 My 26 '33

See also

Budget, Business

Cost accounting

Depreciation

Overhead expense

Paper mills—Account-

ing

Power cost—Account-

ing

Power plants—Ac-

counting

Valuation

## Cleaning

Cleaner plant at less expense; Fisher flouring mills company. F. J. White. *il* plan Factory Management 91:94-5 Mr '33

## Cleanliness

Clean-up drive reduces accidents. R. A. Shaw. Safety Eng 66:85 S '33

Factory cleanliness in the food industry; symposium. E. B. Hughes and others. Soc Chem Ind J (Chem & Ind) 52:75-8, 100-3 Ja 27-F 3 '33

Keeping the plant clean automatically; Murray corporation. J. L. Juhl. *il* Nat Safety N 27:15-16 Ap '33

Maintaining safety interest. R. A. Shaw. Safety Eng 64:257 D '32

See also

Foundries—Clean-

liness

## Electric equipment

Buying electricity is an art. J. M. Acheson. Power 77:76-7 F '33

Cable cracks and cures. R. W. Drake. *diags* Maintenance Eng 90:448-51+ D '32

**FACTORIES**—Electric equipment—*Continued*

- Electricity in factories. Elec R (Lond) 113:186 Ag 11 '33  
 Electricity in mass production; a London vacuum-cleaner factory. il Elec R (Lond) 112:155 F 3 '33  
 Industrial applications of electricity. R. B. Matthews. Inst E E J 72:132-4 F '33  
 Industrial economies; rehabilitation as applied to industry. B. Lester. il Elec J 29:567-9+ D '32  
 Industrial plant load study points to savings. P. A. Borden. diags Elec W 100:730-4 N '32  
 Keeping power bills down in industrial plants. E. E. Thomas. Gen Elec R 36:426-30 O '33  
 Maintaining electrical equipment for safe service. G. A. Waters. diags Nat Safety N 26:20-2+ D '32  
 Manufacturers' equipment; factory and workshop tools. il Electrician 109:691-3 N 25 '32  
 Metal-clad switchgear offers plant economies. M. H. Hobbs. il diags Elec J 30:60-1 F '33  
 Power survey earns \$2,000. A. K. Wolfe. il diags Factory Management 91:415-17 O '33  
 Principal developments in electrical control equipment. il Factory Management 91:390-2 O '33  
 Principal developments in electrical distribution equipment. il Factory Management 91:440-2 N '33  
 Small transformers solve big problems. M. O. Marsh. il diags Maintenance Eng 91:37-9 F '33  
 Stop no-load transformer losses. R. Stroppel. Factory Management 91:355-6 S '33  
 When flexibility dictates—flexible power. il Factory Management 91:271 J1 '33

*See also*

- |                          |                        |
|--------------------------|------------------------|
| Electric driving         | Paper mills—Electric   |
| Electric motors          | equipment              |
| Electric tools, Portable | Rolling mills—Electric |
| Factories—Lighting       | equipment              |

**Equipment**

- Fighting depression with increased expenditures; Pennsylvania sugar co. G. T. Reich. Chem & Met Eng 40:252 My '33  
 Fundamentals of industrial equipment policies. F. E. Raymond. Mech Eng 55:411-21 J1 '33  
 Large works conveying scheme; Boot's pure drug co. il Elec R (Lond) 111:915-16, 917 D 23 '32  
 Present problem of the machine. J. G. Harbord. Mech Eng 55:13-16 Ja '33  
 Principal developments in mechanical power transmission equipment. il Factory Management 91:346-9 S '33  
 Principal developments in plant service equipment. Factory Management 91:302-4 Ag '33  
 Selecting new equipment to produce net profits. H. P. Bailey. il Mach 39:601-5 My '33; Abstract. Iron Age 131:791 My 18 '33

*See also*

- |                     |                           |
|---------------------|---------------------------|
| Conveying machinery | Machinery, Replacement of |
| Depreciation        | Mechanical handling       |
| Lavatories          | Power plants              |

**Fire protection***See Fire protection***Floors**

- How to maintain floors for greatest net profit. H. L. Schultz. il diags Maintenance Eng 91:33-6 F '33; [cont as] Factory Management 91:199-202 My '33  
 What is the proper floor? A. E. Hansen. il Food Ind 4:391-3 D '32  
 When floors become worn or slippery. il Nat Safety N 27:21-2 My '33

**Foreign branches***See Branch factories, Foreign***Heating and ventilation**

- Le chauffage des ateliers et des usines. Génie Civil 103:280-2 S 16 '33  
 Modern heat insulation. R. Trautschold. Power Pl Eng 36:813-14 D '32

- Modern unit heaters promote effective plant heating with economy. il Heating-Piping 5:445-9+ S '33  
 Need for plant ventilation. F. H. Stebbins. Safety Eng 64:236+ N '32  
 Trapping unit heaters for industrial-plant heating. il diags Heating-Piping 5:561-4+ N '33  
 Ventilators for factory service. P. R. Jordan. diags Sheet Metal Worker 23:477-8 N '32

*See also*

- |                              |                       |
|------------------------------|-----------------------|
| Air conditioning             | Paper mills—Heating   |
| Air conditioning, Industrial | and ventilation       |
|                              | Textile mills—Heating |
|                              | and ventilation       |

**Layout**

- Adapting the overhead chain conveyor to the layout. G. A. Holmes. diags Maintenance Eng 91:6-9 Ja '33  
 Bearings for the Soviets. F. Schubert. Am Mach 77:297, 298 My 10 '33  
 Board shows how. il Factory & Ind Management 84:15 Ja '33  
 Changes in plant layout; abstract. R. A. Fintz. Iron Age 131:791-2 My 18 '33  
 Efficient layout insures smooth flow of goods through Spartan Mills' cloth room. il plan Textile World 83:572-3 Mr '33  
 It cost \$30,000 to move, but—we'll save \$125,000! Foote brothers gear & machine company, Chicago. F. H. Fowler and W. A. Barr. il plan Factory Management 91:73-6 Mr '33  
 Modernizing a motor department; General electric co. works, Lynn, Mass. M. G. Godschall. il plan Am Mach 76:1195-9 D 7 '32  
 One plant to do the work of two—conveyors did it; Westinghouse lamp company. W. C. Hippie. il Factory Management 91:165-8 My '33; Same. Mech Handling 20:280-3 S '33  
 They invested \$250,000 to save a million! Phoenix hosiery company, Milwaukee. H. P. Dutton. il Factory & Ind Management 84:1-3 Ja '33  
 Transformer making; B.T.H. transformer factory, Rugby. il Electrician 111:56-7 J1 14 '33  
 What's happening to plant layout? product control versus process control. A. H. Mogenssen. il Factory Management 91:175-8 My '33

*See also*

- Paper mills—Layout

**Lighting**

- Don't fool yourself; it doesn't pay to burn lamps at less than rated voltage. C. D. Corwin. Factory & Ind Management 83:457-8 D '32  
 Factory lighting; influence on production. A. E. Iliffe. il Automobile Eng 22:577-8 D '32  
 Good industrial lighting pays. D. Spencer-Johns. il Elec R (Lond) 113:411-12 S 29 '33  
 Illuminating engineering and the optician. F. Goodenough. Engineering 134:611 N 18 '32  
 Industrial lighting—a job far from accomplishment; lighting survey of 2,907 industrial plants in 182 cities and 22 states; tabulation; cost data. Elec W 102:536-7 O 21 '33  
 Light for production. W. Harrison and C. E. Weitz. Elec W 101:555-7 Ap 29 '33  
 Light for safety and health. W. D. Keefer. Elec W 101:427-8 Ap 1 '33  
 Light that doesn't fail. P. R. Holmes. Nat Safety N 27:11-13+ Ja '33; Excerpts. Safety Eng 64:180 O '32  
 Lighting sense saves dollars. D. M. Warren. Bus Transportation 12:251-2 Je '33  
 Look at your lights. H. M. Hays. il Elec J 29:577-9 D '32  
 Plus lighting insures better workmanship. D. M. Warren. il Iron Age 130:836-7 D 1 '32  
 Some observations on the lighting conditions for basic industries in Sheffield. R. W. Daniel. Illum Engr 26:207-11 S '33  
 Special lighting applications for industrial processes; problems relating to inspection work. J. M. Ketch, W. Sturrock and K. Staley. il diags Illum Eng Soc Trans 28:57-79; Discussion. 80-1 Ja '33



**Factories—Lighting—Continued**

- State requirements for industrial lighting. M. Correll. U S Women's Bur Bul 94:1-65 '32  
 Tool called light. J. M. Ketch. il diags Factory Management 91:310-12 Ag '33  
 Ultra-violet rays; their value to creative departments in factories. E. T. Norris. Electrician 109:601 N 11 '32  
 What are your lighting costs? C. E. Weitz. il System 62:440-1+ O '33  
 When lights are low—check voltage; it may be time to rewire. R. Stroppel. Factory Management 91:173-4 My '33  
 Workers' efficiency increased by better light. D. M. Warren. il Mach 40:133 N '33  
 Workrooms without windows. D. W. Atwater. il Nat Safety N 27:13-14+ Ap '33

*See also*

- Daylight  
 Paper mills—Lighting  
 Textile mills—Lighting

**Location**

- Ford champions the small plant. B. Finney. il Iron Age 131:695-7 My 4 '33  
 Industrial districts of the Chicago region and their influence on plant location. W. N. Mitchell and M. J. Jucius. map J of Business 6:139-56 Ap '33  
 Location of manufactures, 1899-1929. 67p U. S. Census bur, Washington '33  
 Money-making locations for small industries. J. A. Piquet. il Iron Age 130:871-3+ D 8 '32

*See also*

- Industry—Decentralization

**Maintenance and repair**

- Arc welding and the maintenance engineer. W. C. Tiff. diag Maintenance Eng 91:48 F '33  
 Better bearings protect profits. G. A. Van Brunt. Maintenance Eng 91:50-1 F '33  
 Can the stripping of idle machines be justified? Maintenance Eng 91:21-2, 56 Ja-F '33; [cont as] Factory Management 91:105, 141 Mr-Ap '33  
 Check drives when modernizing. W. A. Meyer. il Heating-Piping 5:206-7 Ap '33  
 Chemical industry and the five-day week. F. D. Hartford. Chem & Met Eng 40:122 Mr '33  
 Chemical plant examines its maintenance policy. F. D. Hartford. il Chem & Met Eng 40:64-6 F '33  
 Chemical plant maintenance. F. D. Hartford. Chem Markets 32:219-20 Mr '33  
 Engineer-in-charge. H. Dubbury. Elec R (Lond) 112:770 Je 2 '33  
 Get the most out of your maintenance dollar when spent on wire ropes for electric hoists and cranes. C. E. Schirmer. Maintenance Eng 91:39-40 F '33  
 How to maintain floors for greatest net profit. H. L. Schultz. il diags Maintenance Eng 91:33-6 F '33; [cont as] Factory Management 91:199-202 My '33  
 Industrial piping systems pay modernization dividends. A. W. Moulder. il diags Heating-Piping 5:3-7 Ja '33  
 Industrial plant saves by electric welding. R. J. Collins. il Elec W 101:220-3 F 18 '33  
 Lubrication as a means of cost reduction. R. Trautschold. Power Pl Eng 37:83-4 F '33  
 Maintenance cost control. W. C. Zinck. Factory Management 91:217, 268, 315-16, 357, 413-14, 444-5 Je-N '33  
 Meters and handtools cut electrical maintenance costs. il Power 77:294-5 Je '33  
 Modern maintenance spots waste in piping. W. H. Wilson. il Heating-Piping 5:19-20 Ja '33  
 Modernizes fan and compressor drives; Indianapolis automobile body plant. il Heating-Piping 5:95-6 F '33  
 Our repair shop keeps 500 motors running. Shevlin-Hixon company, Bend, Ore. W. B. Cone. il Factory Management 91:274-5 J1 '33  
 Plant maintenance recording. R. L. Holliday. Chem Ind 33:313-15 O '33  
 Reducing the cost of maintenance; tool room window waiting. G. P. Pearce. Maintenance Eng 90:459 D '32

- Relation of maintenance costs to plant activity. S. A. Weart. Factory Management 91:37-8 My '33  
 Repair work—who should do it? Am Mach 77:559-60 Ag 30 '33  
 Safety—whose responsibility? Maintenance Eng 90:432-3; 91:22-3, 56 N '32, Ja-F '33  
 Servicing schedule keeps motors operative. W. A. E. McLeish. Elec W 101:414-15 Ap 1 '33  
 Survey of industrial maintenance; abstract. Management R 22:307 O '33  
 These lubricating devices decreased product cost. G. A. Van Brunt. Maintenance Eng 91:10-11 Ja '33

*See also*

- Factories—Cleaning  
 Machinery—Maintenance and repair  
 Steel works—Maintenance and repair

**Moving***See Moving***Painting**

- White plant's a light plant; illustrations. Factory Management 91:79 Mr '33

**Records**

- More or fewer records? Factory Management 91:373-4, 427+ S-O '33  
 Past performance records. C. A. Hubner. Factory Management 91:96-7 Mr '33  
 Plant maintenance recording. R. L. Holliday. Chem Ind 33:313-15 O '33  
 Production control; central control section. T. M. Landy. Factory Management 91:229-31 Je '33  
 Production control; inventories. T. M. Landy. Factory Management 91:263-4 J1 '33  
 Production control; preparing the order. T. M. Landy. il Factory Management 91:195-7 My '33  
 Production control system employs Addressograph equipment. C. H. Getz. il Iron Age 131:502-5+ Mr 30 '33  
 Production control; tools. T. M. Landy. Factory Management 91:363-4 S '33  
 Servicing schedule keeps motors operative. W. A. E. McLeish. Elec W 101:414-15 Ap 1 '33

**Roofs**

- Cast-iron plates form permanent plant roof. W. G. Nutz. il diag Maintenance Eng 91:52 F '33

**FACTORY costs**

- Break-even chart. H. R. Mallory. Mech Eng 55:493-6+ Ag '33  
 Decreased production and scientific management make profit possibilities; the break even chart. J. Geschelin. Automotive Ind 69:208-11 Ag 19 '33  
 Don't fool yourself; it doesn't pay to burn lamps at less than rated voltage. C. D. Corwin. Factory & Ind Management 83:457-8 D '32  
 Economic characteristics of the manufacturing industries. W. Rautenstrauch. Mech Eng 54:759-70 N '32; Discussion. 55:324-6, 516-17 My, Ag '33  
 Individual and group drives; investment and operating cost data. R. Drake. il Maintenance Eng 90:317-21, 352-6, 387-91 Ag-O '32; Abstract. Mech Eng 55:187-9 Mr '33  
 Industrial plant load study points to savings. P. A. Borden. diags Elec W 100:730-4 N 26 '32  
 Industrial plant saves by electric welding. R. J. Collins. il Elec W 101:220-3 F 18 '33  
 Production costs. F. D. Chase. il Manuf Rec 102:42+ O '33  
 Rational scheme for computing motor costs. E. Ballman. Elec W 102:367-8 S 16 '33  
 Study of production methods as important now as in boom times. C. Berg. diags Iron Age 130:764-5 N 17 '32

**FACTORY costs—Continued**

Who killed the goose that laid the golden eggs? Census of manufactures findings on distribution of sales dollar. D. Blanchard. Automotive Ind 69:480-1+ O 21 '33

*See also*

Factories—Account-	Quantities (in pro-
ing	duction)
Labor cost	Sales costs
Power cost	

**FACTORY inspection**

Uncovering the fire hazards. J. W. Just. il Nat Safety N 28:14-15+ Ag '33

**FACTORY insurance association**

Factory insurance association getting many risks from mutuals. H. P. Smith. East Underw 34:1+ Je 16 '33; Abstract. Weekly Underw 128:1100-1 Je 10 '33  
Service of F.I.A. and stock fire insurance. H. P. Smith. Ins Field (Fire ed) 62:6+ O 5 '33

**FACTORY laws and legislation****Great Britain**

Handbook to the Factory acts and Truck acts. J. Owner. 120p \$1 Pitman '33

**FACTORY management**

Bearings for the Soviets. F. Schubert. il Am Mach 77:334-7, 369-72 My 24-Je 7 '33

Busy the year round; Crosley reorganizes plant, people, and products; counter-balances one seasonal product with another. L. C. Morrow. il Factory Management 91:343-5 S '33

Buying electricity is an art. J. M. Acheson. Power 77:76-7 F '33

Careful salvaging of waste materials is salient economy measure; Westinghouse electric & mfg. co. C. B. Auel. il Steel 92:23-6 F 6 '33

Contrasting conditions in industrial plants. Spectator 131:30-1 Ag 24 '33

Cutting overhead at reduced outputs. D. Dresden. Mech Eng 55:61-2 Ja '33

David and Goliath in manufacture. D. R. Stevens. Elec W 101:97-9 Ja 21 '33

Decentralization aids manufacture of diversified products. A. F. Murray. Iron Age 132:23 Ag 3 '33

Economy without reduction of staff. Int Management Inst Bul 7:43-4 Mr '33

Facts and figures, management understands, are needed to get O.K. on equipment purchases; production problems discussed at Case school conference. Automotive Ind 68:704-5 Je 10 '33

Fighting depression with increased expenditures; Pennsylvania sugar co. G. T. Reich. Chem & Met Eng 40:252 My '33

Five rehabilitation reasons. C. H. Bivin and others. Am Mach 76:1201-2 D 7 '32

Fundamentals of industrial equipment policies. F. E. Raymond. Mech Eng 55:411-21 Jl '33

Human factor in industry. Chem Age (Lond) 28:217 Mr 11 '33

Importance of factory cooperation in selling. H. E. Fritz. Rubber Age 33:17-18 Ap '33

Excerpt. Factory Management 91:135 Ap '33

Increasing plant profits. E. C. Harsh. Rock Prod 35:41 D 31 '32

Industrial economies; rehabilitation as applied to industry. B. Lester. il Elec J 29:567-9+ D '32

Job order and mass production meeting held at Cleveland, April 13-14. Iron Age 131:629-30 Ap 20 '33

Maintenance cost control. W. C. Zinck. Factory Management 91:217, 268, 315-16, 357, 413-14, 444-5 Je-N '33

Measuring operating performance by the kilo man-hour. L. P. Alford and J. E. Hannum. Mech Eng 54:821-4+ D '32

Mechanical handling in a preserve factory; advantages of the team system. T. W. Winterton. Mech Handling 20:191-3 Je '33

Modern factory management. E. C. Peck. 146p Lincoln extension univ. inc. Cleveland '32

Modern production costs. F. Wild. Elec R (Lond) 111:969 D 30 '32

**Modernizing a motor department; General**

electric co. works, Lynn, Mass. M. G. Godschall. il plan Am Mach 76:1195-9 D 7 '32

Organising the stores department. G. W. Tripp. Engineer 155:379-80 Ap 14 '33

Principles of industrial organization. D. S. Kimball. 4th ed 460p \$4 McGraw-Hill '33

Process chart—indicator of profitable changes. A. S. Crockett and J. E. Gillon. il Factory Management 91:214-16 Je '33

Production and sales; importance of close cooperation between departments. E. S. Byng. Electrician 110:158 F 3 '33

Production for profits. D. R. Stevens. Elec W 101:609-11, 716-18; 102:113-15 My 13, Je 3, Jl 22 '33

Production planning. C. Reynolds. 229p Pitman '32

Red ink or black? Wahl company, Chicago. W. C. Otto. il Factory Management 91:387-9 O '33

Safety codes and management. P. G. Agnew. Nat Safety N 27:23-4 Ja '33

Save the plant—and lose the market. J. A. Murphy. Adv & Sell 21:21+ O 12 '33

Scientific management; an aid to industrial control. G. Filippetti. 58p [bibliog p57-8] pa 50c Univ. of Minnesota press, Minneapolis '33

Shorter hours under Industry act require greater manufacturing efficiency. W. W. Hay. Annalist 41:391-2 Je 30 '33

Small plant holds its own. B. Finney. Iron Age 131:499-501 Mr 30 '33

Study of production methods as important now as in boom times. C. Berg. diags Iron Age 130:764-5 N 17 '32

Successful selling begins in the plant. H. S. Wherrett and others. Factory Management 91:297-8 Ag '33

What is the plant man's responsibility toward sales? Factory Management 91:139-41, 192 Ap-May '33

What's ahead of management under the codes? R. H. Rositzke. Factory Management 91:407-10 O '33

What's happening to plant layout? product control versus process control. A. H. Mogenssen. il Factory Management 91:175-8 My '33

*See also*

Assembling methods

Automobile factories

—Management

Bonus system

Budget, Business

Chemical plants—

Management

Conveying machinery

Cost accounting

Cotton mills—Man-

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Efficiency, Indus-

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Employment systems

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Factories—Account-

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Factories—Equip-

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Factories—Main-

tenance and repair

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Inspection

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Job analysis

Job work

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**FACTORY management—Continued****Bibliography**

Production management. Published in monthly numbers of Management review

**Quality control**

How this advertiser keeps sales ahead of boom days; Scott paper company. T. B. McCabe. *il* *P*tr *I*nk 162:3-6 *Mr* 23 '33

Quality control of a product made possible by analysis of test data. D. Harvey. bibliog *Elec J* 30:147-50 *Ap* '33

Selection and heat treatment of steel for caterpillar tractors. G. C. Riegel. *il* *I*ron *A*ge 131:468-9+ *Mr* 23 '33; *Excerpt. Am Mach* 77:72-3 *F* 1 '33

Why not incentives for quantity and quality? W. E. Curley. *Factory Management* 91:124-5 *Ap* '33

**FACTORY sanitation**

Establishing standards of industrial sanitation. *Nat Safety* N 28:23-4+ *S* '33

Preliminary surveys of the industrial environment. J. J. Bloomfield. *Pub Health Rep* 48:1343-51 *N* 3 '33

**See also**

Dust

Factories—Cleanliness

**FACTORY system**

This ugly civilization. new ed R. Borsodi. 468p \$3 Harper '33

**FACTORY transportation**

Improved handling methods speed output of auto bodies; Murray corp. H. R. Simonds. *il* *I*ron *A*ge 130:990-1+ *D* 29 '32

Industrial truck and tractor accidents and their elimination. G. E. Sanford. *il* *Safety Eng* 66:123-4 *O* '33

Large works conveying scheme; Boot's pure drug co. *il* *Elec R (Lond)* 111:915-16, 917 *D* 23 '32

**See also**

Conveying machinery	Motor trucks, Industrial
Electric trucks, Industrial	Tiering machines
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**FADING.** See Dyes, Fastness of

**FADS**

Creating a craze with advertising. F. D. Gonda. *il* *P*tr *I*nk *M*o 27:48 *Jl* '33

Mass crazes—a new principle in advertising. F. D. Gonda. *il* *P*td *S*alesmanship 62:60-1 *S* '33

**FALL RIVER, Massachusetts**

How a city proceeded to get its financial house in order. J. Jackson. *Bankers M* 126:257-60 *Mr* '33

**FALLS**

Accidental fall while crossing street held to be compensable injury. *Monthly Labor R* 36:544-5 *Mr* '33

Falls of persons. H. W. Mowery. *Safety Eng* 64:250+ *D* '32

**FAMILY**

Composition of families in the United States, 1930. *Monthly Labor R* 36:1244-6 *Je* '33

Economic problems of the family. H. Kyrk. 500p \$3.50 Harper '33

Family; a study of member rôles. K. D. Lumpkin. 184p University of North Carolina press, Chapel Hill '33

Family is getting smaller. *Pub Serv M* 54:121 *Ap* '33

New family statistics for 1930. L. E. Truesdell. *Am Statis Assn J* 28:supl54-8 *Mr* '33

Successful family. H. W. Ford. *Kansas State College Bul* v 16, no 7:1-32 '32

**Bibliography**

Bibliography on family relationships. F. M. Thurston. 273p National council of parent education, New York '32

**FAMILY allowances**

Les allocations familiales obligatoires et les Caisses de compensation. P. Razous. *Génie Civil* 103:427-30 *O* 28 '33

Appointment of French governmental committee on family allowances. *Monthly Labor R* 36:508-9 *Mr* '33

Belgian family-allowance funds, December, 1931. *Monthly Labor R* 35:1357-8 *D* '32

Belgian family-allowance funds, December 1932. *Monthly Labor R* 37:328-9 *Ag* '33

Decree concerning application of French compulsory family allowance act. H. F. Withey. *Monthly Labor R* 36:1314-15 *Je* '33

Experiments with family allowances in the Church of England. *Monthly Labor R* 35:1357 *D* '32

Family allowances for teachers in certain foreign countries. *Monthly Labor R* 35:1355-7 *D* '32

Family allowances in New South Wales, 1931. *Monthly Labor R* 35:1359-61 *D* '32

Family allowances in New Zealand, 1931-32. *Monthly Labor R* 37:329-30 *Ag* '33

La nouvelle législation des allocations familiales; le décret du 14 mars 1933. *Génie Civil* 102:380-1 *Ap* 22 '33

Wages, hours of work, and other factors in the remuneration of workers in certain towns in October 1932. *Int Labour R* 28:104-21, 265-82 *Jl*-*Ag* '33

**FAMILY finance.** See Domestic finance

**FAMILY of products**

Adds new products, simplifies dealer's stock problems; National Lead. *il* *P*tr *I*nk 163:86-7 *My* 11 '33

A & P's new coffee packages. *il* *P*tr *I*nk *M*o 27:17+ *O* '33

Clover Farm drug line. *il* *P*tr *I*nk 164:72 *Ag* 17 '33

Designing to sell; La Choy food products, inc. R. S. McFadden. *il* *S*ales *M*anagement 32:440-1 *Ap* 20 '33

Faith in tooth powder prepares way for new product; Dr Lyon's astringent mouth wash. *il* *P*tr *I*nk 162:10+ *Mr* 2 '33

How Borden unified a family of packages. L. G. Stevens. *il* *P*tr *I*nk *M*o 26:32+ *My* '33

Kraft's largest campaign; new product, processes and packages to be featured in newspapers and magazines. *il* *P*tr *I*nk 162:54 *F* 9 '33

Look out for twins in a packaged family! *P*tr *I*nk *M*o 26:52+ *F* '33

Selling one product by showing others; the Brown company sales talk centers on Soika. *il* *Adv & Sell* 21:52 *S* 14 '33

**See also**

Advertising—Family of products	Leaders (merchandizing)
	Side lines

**FANS, Mechanical**

Aerodynamic aspects of air conditioning. S. M. Anderson. *il* *diags Refrig Eng* 26:181-4+ *O* '33

Air conditioning—selecting the cooling equipment. G. B. Helmrich. *Heat & Ven* 30:25-6 *Jl* '33

A.S.M.E. agrees to cooperate with manufacturers and A.S.H.V.E. on new fan code. *Heat & Ven* 30:54 *Ja* '33

Control of motors driving ventilating fans. S. R. Lewis. *il* *diags Heating-Piping* 4:794-6 *D* '32

Controlling motors for temperature control systems, compressors, oil burners, stokers. S. R. Lewis. *Heating-Piping* 5:104 *F* '33

Draft equipment must fit combustion needs. G. C. Daniels. *diags Power Pl Eng* 37:116-18 *Mr* '33

Dunston "B" power station; dust collecting and fan equipment. *il* *Electrician* 111:205-6 *Ag* 18 '33; *Engineer* 156:217 *S* 1 '33

Fan engineering. W. H. Carrier. 3d ed 622p bibliog Buffalo forge co, Buffalo, N.Y. '33

Foundry saves \$6000 annually in exhaust-fan bearing maintenance. F. A. Westbrook. *il* *Heating-Piping* 5:94 *F* '33

Noise in heating and air conditioning. S. R. Lewis. *diag Heating-Piping* 5:198-9 *Ap* '33

**FANS, Mechanical—Continued**

Performance of propeller fans. A. I. Brown. il Ohio State Univ Eng Exp Sta Bul 77:1-33 '33; Abstract. Mech Eng 55:441 J1 '33

Pressure and suction fans. J. W. Romig. Glass Ind 14:75-7 J1 '33

*See also*

Blowers Fans, Mine  
Electric fans, Ventilating

**Manufacture**

Rustless steels employed in fan construction. M. S. Kice, jr. il Iron Age 131:507+, 542-3 Mr 30-Ap 6 '33

**Testing**

Influence of bends on performance of fans; abstract. L. S. Marks, J. Lomax, and R. Ashton. Power 76:343 Mid-D '32

Pulsation of air flow from fans and its effect on test procedure; abstracts. H. F. Hagen. Heat & Ven 30:46-7 Ja '33; Power 76:342-3 Mid-D '32

Testing the fans for the East Boston traffic tunnel. J. E. Gill. il diag Heating-Piping 5: 414-16 Ag '33

**FANS, Mine**

Aerex, straight air flow mine fan. R. D. Hall. diags Coal Age 38:344-5 O '33

How to choose motors for mine fan drives. H. W. Chadbourne. il Coal Age 37:404-6 N '32

**FAR EAST**

American policy in the Pacific. E. M. Paterson, ed. Ann Am Acad 168:1-165 J1 '33

*See also*

China Manchuria  
Japan Mines and mineral resources—Far East

**Commerce**

Economic expansion in the Pacific. Index 12: 253-9 D '32

Roy Howard sees extended boom in Far East. O. P. Swift. Sales Management 33: 205-6 S 1 '33

**International relations**

United States and Japan; commercial background of the Nine power treaty. R. Gilbert. il Am Bankers Assn J 25:36-7+ My '33

**FARADAY, Michael, 1791-1867**

Faraday and his electrochemical researches. R. S. Hutton. 18p Electrochemical society, Columbia university, New York '33

Faraday's diary; ed. by T. Martin. 7v v 1-2 G. Bell & sons, London '32; Review by W. F. Magie. Science 77:52-4 Ja 13 '33

**FARADAY effect**

Existence of time lags in the Faraday effect. J. S. Webb and D. R. Morey. diags Phys R 44:589-601 O 1 '33

**FARISH, William Stamps**

Farish is new chairman of Standard of New Jersey. P. Wagner. Nat Pet N 25:28+ Je 14 '33

**FARLEY, James A.**

Building materials and politics mix. J. L. deNoyelles. por Brick & Clay Rec 82:92-3 Mr '33

**FARM buildings**

Farm structures. E. R. Jones. 197p Edward Richard Jones, Madison, Wis. '33

Helps to the farm market. diags plans Am Bld 54:70-1 Mr '33

Insulation on the farm. 49p U. S. National committee on wood utilization, Washington '33

Modern farm buildings. D. N. McHardy. 227p C. Lockwood and son, London '32

Plans for your farm trade; Midwest farm building plan service. il diags plans Am Bld 55:64-7 O; 64-7 N '33

Steel can save farmers \$300,000,000 a year. R. Fiske. il Iron Age 123:16-17 S 14 '33

Truck display sells farm structures; brooder house, milk house and hog house. il diags plans Am Bld 54:28-9 Ja '33

*See also*

Barns and stables  
Farmhouses  
Silos

**FARM equipment**

Das förderproblem in der landwirtschaft. F. Foedisch. diags Zeit Ver Deutsch Ing 76: 1245-50 D 17 '32

**FARM labor**

Agricultural labour in New Zealand. H. Belshaw. Int Labour R 28:26-45 J1 '33

Agricultural wages in Canada, 1930 to 1932. Monthly Labor R 36:1160-1 My '33

Collective agreements in agriculture in Europe. Monthly Labor R 37:113-15 J1 '33

Conditions of agricultural workers in Poland in 1930 and 1931. J. Gnoinski. Int Labour R 27:66-73 Ja '33

Decrease in number of agricultural workers in Great Britain. Monthly Labor R 35:1308 D '32

Farm wage and labor situation, January 1, 1933. Monthly Labor R 36:617-19 Mr '33

Farm wage rates on July 1, 1933. Monthly Labor R 37:376 Ag '33

Hired men; back to the farm movement brings rural wages to the lowest point. Business Week p12 F 1 '33

Labour question in Swedish agriculture. Int Labour R 27:789-801 Je '33

Landless agricultural workers in Hungary. M. Móricz. Int Labour R 28:518-30 O '33

Nursery employee held to be a farm laborer. Monthly Labor R 35:1091 N '32

Progress and limitations of farm mechanization in the United States. Monthly Labor R 36:511-18 Mr '33

Rationalisation of the work of farm women in Germany. Int Labour R 26:707-9 N '32

Wages in Finnish agriculture, 1929-1932. Int Labour R 27:801-4 Je '33

**FARM life**

Flight from the city; the story of a new way to family security. R. Borsodi. 194p [bibliog p173-90] Harper '33

**FARM loans. See Agricultural credit****FARM machinery. See Agricultural machinery****FARM management**

Are the farmers leading this country out of the depression? F. L. Lough. il Am Bankers Assn J 25:19-20+ D '32

Farm profits assured by this ten-point plan. J. M. Dowell. Rand McNally Bankers Mo 50: 292+ Je '33

Farmers for gentlemen; Burlingame, King & Dunk. il Fortune 7:6 My '33

Here is hope for farmers and also for their bankers. G. W. McCuen. il Bankers Mo 50: 80-1+ F '33

Profits regardless of prices are made by modern farming methods. J. M. Dowell. Rand McNally Bankers Mo 50:152-3 Mr '33

*See also*

Farm labor  
Farm produce—Marketing

**FARM market**

California farm income is highest in nation; milk largest crop. Sales Management 33:34 J1 '33

Embattled farmers find a way to buy Smith-Douglass wares. Sales Management 32:260 Mr 15 '33

Farm buying power. Business Week p18 S 9 '33

Farm market moves to town; but advertising must knock on the farmer's door. H. A. Haring. Adv & Sell 21:16-17+ O 26 '33

Farm problems result in new sales methods. E. L. Barringer. il Nat Pet N 25:27-8 Ag 2 '33

Farmer has regained confidence in the future. F. B. Nichols. Ptr Ink 164:3-4+ S 28 '33

Fitting advertising to the farm market. M. L. Henderson. map Adv & Sell 21:28+ S 28 '33

Imperial Oil adjusts farm debts, reduces interest charges. Nat Pet N 25:57 Mr 1 '33



**FARM market—Continued**

- Influence of agricultural prospects on chemical industry. C. J. Brand. Chem & Met Eng 40:18-22 Ja '33
- Is the farmer ready to buy? M. L. Henderson. il Adv & Sell 21:19+ Ag 31 '33
- Mail order: farm income is the barometer of mail-order prosperity. R. E. Wood. Bradstreet's 61:147 Ja 28 '33
- Rural prospects; advertising analysis shows concentration of appropriations on the thickly populated areas. Business Week p13 Mr 29 '33
- Sell the farmer clay products. Brick & Clay Rec 82:30 Ja '33
- Selling the farmer. Business Week p11-12 F 15 '33
- Small town can't come back—it never went away. Ptr Ink 162:43-4 Mr 23 '33
- Talks with farmers guide this sales manager's sales plan; D. D. Strite, New York wire cloth company. J. A. Murphy. Sales Management 33:263-4 S 15 '33
- This dealer gets the farmer's business; Briggs lumber company. E. L. Gilbert. il Am Bld 55:62-3 O '33
- This farmer wants to buy. F. B. Nichols. Ptr Ink 162:66, 68-9 Mr 9 '33
- Want farm trade? Be sure your product fits the market. M. L. Henderson. il Adv & Sell 21:19+ S 14 '33

*See also*

Advertising—Farmers, Appeal to

FARM mortgages. See Mortgages, Farm

FARM papers. See Advertising mediums—Farm papers

**FARM population**

- American migration; significant changes in place of residence. Index 12:217-22 N '32
- Increase in farm population during 1932. Monthly Labor R 35:1304 D '32
- Recent trends in city and country populations. W. R. Tylor. J Land & Pub Util Econ 9: 63-74 F '33

**FARM produce**

- L'ajustement de la production à la consommation. P. Razous. Génie Civil 103:300-4 S 23 '33
- Make part of motor fuel from grain is proposed as farm relief. Nat Pet N 25:15 Ja 18 '33
- Many fallacies to arguments advanced in favor of laws requiring gasoline-alcohol blends. R. C. Conine. Oil & Gas J 31:12+ F 23 '33
- 1,600,000,000 gallons of alcohol. W. Haynes. Chem Markets 32:307-9 Ap '33
- Permanent farm relief through use of alcohol blends for motor fuel; report by the Motor fuel alcohol committee. Oil Paint & Drug Rep 123:17+ My 8; 48-48B My 22 '33
- Secretary of agriculture favors the use of alcohol blended motor fuel. C. E. Kern. Oil & Gas J 31:15 My 11 '33
- Use of agricultural products in the manufacture of chemicals to be blended with motor fuels. Oil Paint & Drug Rep 123:17+ Mr 13; 15+ Mr 20; 15+ Mr 27 '33; Same. Oil & Gas J 31:10-11+ Mr 16; 16+ Mr 30 '33

*See also*

Beets and beet sugar	Live stock
Corn	Rice
Cotton	Sugar
Dairy products	Tobacco
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Grain	

**Advertising**

Advertising has become farmer's new hired man. D. Francisco. Ptr Ink 164:3-4+ Ag 3 '33

Letter to a farmer; advertising is an economic necessity for agriculture. Ptr Ink 165:17-18, 20-1 N 9 '33

**By-products***See also*

Straw

**Cost of production**

Here is hope for farmers and also for their bankers. G. W. McCuen. il Bankers Mo 50: 80-1+ F '33

**Marketing**

- All King George's farmers; Empire farmers' cooperative, ltd. Business Week p20-1 N 30 '32
- Chain-store system helps make farm surplus market; Safeway stores, inc. Ptr Ink 162:48-9 Ja 12 '33
- Cooperative marketing of farm products. (Bul 10) 85p U. S. Federal farm board, Washington '32
- Farm to 14th st; Hearn's, New York department store, sells for the farmer. Business Week p12 Mr 22 '33
- Grain and livestock taken by farm belt jobbers to close accounts. Nat Pet N 24:16 N 30 '32
- Motor trucking presents new marketing problems. Ry Age 94:187+ F 4 '33
- Research in marketing of farm products. J. D. Black, ed. 221p Social science research council, 230 Park av, New York '32
- Sane marketing can turn farm surpluses into profits; a lesson from the California fruit growers exchange and California walnut growers association. C. C. Teague. Ptr Ink 161:36-7+ D 15 '32
- Voluntary action; a Georgia plan. H. McFadden, jr. map Am Bankers Assn J 25:25-6+ D '32

*See also*

Marketing, Cooperative

Wheat—Marketing

**Bibliography**

Bibliography on the marketing of agricultural products. L. O. Bercaw and E. M. Colvin, comps. U S Agric Misc Pub 150:1-351 '32

**Prices**

- Alcohol mixing bills would make motorists pay for corn price rise. J. Geschelin. Automotive Ind 68:404-6+ Ap 1 '33
- Farm crisis creates new dollar; multiple commodity dollar rises from ashes of gold standard. J. S. Lawrence. Econostat 1:8-10 N 11 '33
- Farmers at the crossroads; crop loan and relief buying are tending to fix farm prices despite rejection of the 5 governors' schemes. Business Week p8-10 N 11 '33
- Fiction of 1909-1914 farm price parity—cost of the untrod path. W. W. Case. Annalist 41:523-4 Ap 14 '33
- Potatoes are lower, but the retail prices of most foodstuffs have gone up. Business Week p9 My 10 '33
- Prices; sidewise movement of commodity prices in general and slight gain in farm products. Business Week p12 Ja 18 '33

**Statistics**

Revision of the indexes of agricultural marketings. Survey of Cur Business 13:18-20 Mr '33

**Transportation**

Motor trucking presents new marketing problems. Ry Age 94:187+ F 4 '33

FARM relief. See Agriculture—United States—Farm relief

**FARM tenancy**

Analysis of farm leases for the corn belt and wheat belt states. H. C. M. Case. 63p American life convention, St Louis '32

**FARM transportation**

Das förderproblem in der landwirtschaft. F. Foedisch. diags Zeit Ver Deutsch Ing 76: 1245-50 D 17 '32

**FARM women**

Rationalisation of the work of farm women in Germany. Int Labour R 26:707-9 N '32

**FARMERS**

Farm emergency passing, as dollars increase in farmer's pocket. E. R. Eastman. il Ptr Ink Mo 27:28+ N '33

Farmer sees a way out. B. Finney. Iron Age 132:24-5+ S 7 '33

Farmers' cooperative movement in Germany. C. W. Gray. Monthly Labor R 36:128-9 Ja '33

**FARMERS—Continued**

Farmers' interest in adequate highways. C. H. Gray. Roads & Sts 76:124-7 Mr '33  
I found no revolution in Iowa. P. McCrea. il Nation's Business 21:13-16+ Ap '33  
Lo, the poor farmer! Ptr Ink Mo 26:16 My '33

Real forgotten man, owner-operator who has kept his debts and taxes paid. J. Fields. Comm & Fin 22:290-1 Mr 29 '33

Young man in farming. A. K. Getman and P. W. Chapman. 216p \$1.75 Wiley '33

*See also*

Advertising—Farmers, Appeal to	Agriculture—Economic aspects
Agricultural cooperative credit associations	Farm labor
	Farm market
	Marketing, Cooperative

**FARMERS and bankers life insurance company**  
Annual report, 22d. Ins Field (Life ed) 62:6 F 10 '33

**FARMERS' strike**  
Farm strike lacks fertile soil. Business Week p14 My 17 '33

**FARMERS union mutual insurance company**  
Receivership applied for. Nat Underw 37:9 Je 8 '33

**FARMHOUSES**

Farm and village housing. 293p [bibliog p265-81] President's conference on home building and home ownership, Washington, D. C. '32

Farm house construction covered in conference report; abstract. Heat & Ven 30:45-6 Ap '33

Helps to the farm market. il plan Am Bld 54:70 Mr '33

How farm homes are heated. Heat & Ven 30:44 F '33

**FARMING.** See Agriculture

**FARMS**

Back-to-the-farm trend helping sales of foreclosed farm lands. H. D. Trueblood. East Underw 33:9 D 23 '32

Discussion of the accuracy of agricultural census enumeration in the Northeast. I. G. Davis. Am Statis Assn J 28:272-85 S '33

Farm real estate situation, 1931-32. U S Agric Circ 261:1-51 '33

It is easy to sell farms if they are first improved. J. F. Johnston. il Bankers Mo 50:87+ F '33

*See also*

Agriculture	Farm management
Electricity on the farm	Farmers

**FARMS (for industrial workers)**

M. L. Wilson named administrator of the subsistence homestead appropriation. Arch Forum 59:235-6, sup46 S '33

Putting city workers back on the farm. W. Bishop. il Nation's Business 21:16-17+ N '33

**FASCISM**

Blackshirts for Britons? Economist 116:895-6 Ap 29 '33

Economic foundations of fascism. P. Einzig. 156p \$3 Macmillan '33

Fascism. (In Capitalism and its alternatives, p363-426) [bibliog p363-9] J. E. Johnsen, comp. (Handbook ser 4, v 4) \$2.40 Wilson, H. W. '33

Industrial control, Italy's experience. A. S. Cortesi. 14p [bibliog p12-14] Italian historical society, 113 W. 42d st, New York '33

Italian fascism as a political and economic system; abstract. Management R 22:342-3 N '33

Menace of fascism. J. Strachey. 272p \$2.25 Covici, Friede, New York '33

**FASHION**

Fortune follows fashion. il Ptr Ink Mo 26:40 My '33

Glamour; drawings by Robert L. Leonard. Adv Arts p25-9 Jl '33

How shall we get higher price in changing market? Walter Booth shoe company. H. O. Leiser. il Ptr Ink 163:3-4+ Je 1 '33

*See also*

Advertising copy—  
Fashion appeal  
Costume

**FASHION drawing**

Fashion drawing. E. Hodgkin. 115p \$6 Dutton '33

Fashion drawing technique. M. L. Hall. 100p \$2.50 Pitman '33

**FASTENINGS**

Fasteners for belt conveyors. il Mech Handling 20:221-2 Jl '33

New ball type push-button safety catch. il Mech Handling 20:78 Mr '33

*See also*

Bolts and nuts  
Rail fastenings  
Rivets

**FAT**

Chemical changes in the fat of frozen and chilled meat; the effect of smoking and the influence of atmospheric humidity on the keeping properties of bacon. C. H. Lea. Soc Chem Ind J 52:57T-63T Mr 3 '33

Chemical changes in the fat of frozen and chilled meat; the protective influence of carbon dioxide on the fat of beef stored at 0° C. C. H. Lea. Soc Chem Ind J 52:9T-12T Ja, 27 '33

*See also*

Oils and fats

**FATHOMETER**

New electrical aids to navigation. H. G. Dorsey. Illum Eng Soc Trans 28:299-301 Ap '33

**FATIGUE**

Effect of fatigue on production rate in long-shore labor needs study. H. E. Stocker. Marine R 63:28-9 O '33

Fatigue and work efficiency; abstract. D. B. Dill and O. S. Lovekin. Safety Eng 65:54 F '33

Influence of the humidity of the air on capacity for work at high temperatures; abstracts. H. M. Vernon and G. C. Warner. J Ind Hygiene 15:sup15-16 Mr '33; Heat & Ven 30:45 Ap '33

Muscular work, fatigue and recovery. G. P. Crowden. 74p \$1 Pitman '32

Reduction of fatigue in throwing increases efficiency. D. G. Thompson. Textile World 83:1443 Ag '33

Relative fatigue recovery value of different carbohydrate blends and mixtures. D. A. Laird. J Ind Hygiene 15:89-97 Mr '33

They sit or stand and are better operators for the change in posture. W. R. Mullee. il Factory Management 91:313-14 Ag '33

*See also*

Motion study  
Recreation

**Bibliography**

Bibliography of time study engineering; comp. by Society of industrial engineers, Buffalo chapter. p54-8 pa \$1.50 Wilson, H. W. '33

**FATIGUE in metals**

A.S.T.M. reports on fatigue testing and corrosion. Steel 93:30-1 Jl 10 '33

Atmospheric action as a factor in fatigue of metals. H. J. Gough and D. G. Sopwith. il diags Engineering 134:694-6 D 9 '32; Discussion. 134:409-10 O 7 '32

Corrosion-fatigue tests on mild steel when coated with nickel by the Feesolising process. Engineering 136:398 O 6 '33

Creeping cracks; abstract. F. Bacon. Engineering 135:685 Je 23 '33; Engineer 155:620 Je 23 '33

Crystalline structure in relation to failure of metals especially by fatigue; abstract. H. J. Gough. Eng N 111:18 Jl 6 '33

Damping capacity and fatigue strength. E. Voigt and K. H. Christensen. diag Engineer 156:sup[Metallurgist]53-60 Ag 25 '33



**FATIGUE in metals—Continued**

- Der dauerbruchweg in kurbelwellen. A. Thum and H. Oschatz, *il diags Zeit Ver Deutsch Ing* 77:834 JI 29 '33
- Effect of organic coatings in preventing damage to metal subjected to stress and corrosion. F. N. Speller and I. B. McCorkle, *il Oil & Gas J* 32:73-4 O 26 '33
- Effect of surface finish on the fatigue limit of mild steel. J. S. Caswell, *diags Engineering* 136:154-5 Ag 11 '33
- Endurance of metal in corrosive surroundings. T. S. Fuller, *il diag Metal Prog* 23: 23-6 Je '33
- Explanation of mechanism of corrosion fatigue and its application to sucker rod failures. B. B. Wescott and C. N. Bowers, *il Oil & Gas J* 32:65+ O 26 '33
- Failure by fatigue. J. B. Kommers, *Engineering* 135:238-9 Mr 3 '33; Discussion. J. S. Caswell, 135:299 Mr 17 '33
- Fatigue and the hardening of steels. H. J. French, *il Am Soc Steel Tr Trans* 21:899-946 O '33; Excerpts. *Iron Age* 132:23 O 26 '33
- Fatigue failure under repeated compression. H. R. Thomas and J. G. Lowther, *diag Am Soc T M Proc* 32 pt 2:421-7; Discussion. 428-9 '32
- Fatigue of metals; abstract. G. E. Thornton, *Automotive Ind* 69:456 O 14 '33
- Fatigue of shafts having keyways. R. E. Peterson, *il diags Am Soc T M Proc* 32 pt 2: 413-19; Discussion. 420 '32
- Fatigue resistance of unmachined forged steels. G. A. Hankins and M. L. Becker, *diags Iron & Steel Inst J* 126:205-21, pl 21-2 no 2 '32; Same, *Engineering* 134:402-4 S 30 '32; Discussion. *Iron & Steel Inst J* 126:222-36 no 2 '32; *Engineering* 134:395-6 S 30 '32
- Fatigue-resisting properties of light aluminium alloys at elevated temperatures. J. W. Cuthbertson, *Engineering* 135:342-3; Discussion. 327 Mr 24 '33; Discussion. *Engineer* 155:267 Mr 17 '33
- Fatigue testing. J. W. Cuthbertson, *il diags Engineering* 136:55-7, 80-2 JI 21-28 '33
- Influence of solution concentration on the severity of corrosion fatigue. A. J. Gould, *il Engineering* 136:453-4 O 27 '33
- National physical laboratory, engineering department; fatigue and corrosion fatigue. *il diags Engineering* 136:95-7 JI 28 '33
- Recovery of steel after fatigue testing. R. A. Stephen and W. R. D. Jones, *il diag Engineer* 155:sup[Metallurgist]136-8 Je 30 '33
- Some comparative corrosion-fatigue tests employing two types of stressing action. H. J. Gough and D. G. Sopwith, *diags Iron & Steel Inst J* 127:301-32 no 1 '33; Same cond. *Engineering* 136:75-8 JI 21 '33; Abstract. *Engineer* 155:472 My 12 '33; Discussion. *Iron & Steel Inst J* 127:333-5 no 1 '33; Discussion. *Engineer* 155:472 My 12 '33
- FATS.** See Oils and fats
- FATTY acids.** See Acids, Fatty
- FAULTS (electric distribution).** See Electric distribution—Grounds and faults
- FAULTS (geology)**
- Influence of Basin Range faulting in mines at Bingham, Utah. R. Farmin, *diags Econ Geol* 28:601-6 S '33
- Inglewood fault regarded as important factor in minimizing earthquake effect on oil fields. L. G. E. Bignell, *maps Oil & Gas J* 31:8+ Mr 16 '33
- Interpretation of fault movements from mineral fractures. D. M. Fraser, *il diags plan Eng & Min J* 133:621-4 D '32
- Post-bolson faulting in New Mexico. C. L. Dake and L. A. Nelson, *Science* 78:168-9 Ag 25 '33
- Thrusting younger rocks over older. M. Billings, *diags Am J Sci* 5th ser 25:140-65 [bibliog p164-5] F '33
- FAVORED nation clause**
- Coal imports; \$2 tax on coal violates most-favored-nation treaties. *Business Week* p17 Je 10 '33
- Most favored nation clause. *Am Bankers Assn J* 25:59 Je '33
- Recommendations of the Economic committee relating to tariff policy and the most-favored-nation clause. 23p World peace foundation '33
- FAYALITE**
- System,  $\text{Ca}_2\text{SiO}_4\text{-Fe}_2\text{SiO}_4$ . N. L. Bowen, J. F. Schairer and E. Posnjak, *il Am J Sci* 5th ser 25:273-97 Ap '33
- FECUNDITY**
- See also Birth rate
- FEDERAL board for vocational education**
- Report, 1931-32. *Monthly Labor R* 36:324-7 F '33
- FEDERAL broadcasting company**
- New chain. *Ptr Ink* 164:24 Ag 31 '33
- FEDERAL council for chemistry**
- Report for 1932. *Science* 77:300-1 Mr 24 '33
- FEDERAL deposit insurance corporation.** See Banks and banking—Guaranty of deposits
- FEDERAL emergency relief administration.** See Unemployment—Relief measures—Federal relief
- FEDERAL farm board**
- Congress may end Farm board; possibility arising from Shannon hearings. *Pub Serv Management* 53:165-6 D '32
- Don Quixote in politics. W. Parker, *Pub Serv Management* 53:177-8 D '32
- Farm board for the allotment plan. W. H. Grimes, *Barron's* 12:18 D 19 '32
- What the Farm board did to cotton. W. Parker, *il Nation's Business* 21:40+ Mr '33
- FEDERAL farm loan board**
- Federal farm loan act as amended to July 16, 1932 exclusive of provisions relating to federal intermediate credit banks. 77p U. S. Federal farm loan bureau, Washington '32
- FEDERAL farm loan system**
- See also Land banks
- FEDERAL home loan banks.** See Home loan banks
- FEDERAL land banks.** See Land banks
- FEDERAL power commission**
- Federal control over water power widely extended; decision in the U. S. district court in Virginia in a suit brought by the Appalachian electric power co. *Eng N* 110:446 Ap 6 '33
- Federal power board seeks holding company jurisdiction; summary of twelfth annual report. *Elec W* 100:738 D 3 '32
- Federal power regulation passes its first test in constitutional law. *Pub Util* 11:530-1, 550-1 Ap 27 '33
- Holding company control of licensees of the Federal power commission. 139p U. S. Federal power commission, Washington '32
- More power over power; Federal power commission granted control over hydroelectric plants on non-navigable streams. *Business Week* p14 Ap 12 '33
- Removal of Dr Smith, elevation of McNinch, give utility men food for thought. *Business Week* p16+ Ag 5 '33
- FEDERAL reserve act**
- Banking act of 1933; text. *Fed Res Bul* 19: 385-401 Je '33
- Branches of state member banks; and other opinions interpreting amendments to the Federal reserve act. *Fed Res Bul* 19:499-502 Ag '33
- Federal reserve act; its origin and problems. J. L. Laughlin, 400p \$3.50 Macmillan '33
- Federal reserve act of 1913 with amendments and laws relating to banking. E. A. Lewis, comp. 250p U.S. Gov't. ptg. office, Washington '33
- Recent amendment to the Federal reserve act (extension of sections 2 and 3 of the Glass-Steagall act). *Fed Res Bul* 19:95-7 F '33
- FEDERAL reserve bank notes.** See Bank notes
- FEDERAL reserve bank of Cleveland**
- Change of agent; Lewis B. Williams succeeds George De Camp. *Fed Res Bul* 19: 133 Mr '33

**FEDERAL reserve banks**

- Bringing all the banks under the Federal reserve system. E. Platt; J. F. Sartori. Bankers M 126:7-11 Ja '33
- Capital debentures not considered "capital" in determining eligibility for membership. Fed Res Bul 19:566-8 S '33
- Compulsory membership of commercial banking in Federal reserve; symposium. Trust Companies 56:411-16 Ap '33
- Election of directors. Fed Res Bul 19:7-8 Ja '33
- Essentials of American banking reform and control of credit; program recommended by Economic policy commission of the A.B.A. Trust Companies 56:425-8+ Ap '33
- Federal reserve act; its origin and problems. J. L. Laughlin. 400p \$3.50 Macmillan '33
- Federal reserve system; central banks of issue and deposit. N. D. Alling. Comm & Fin 22:209-10 Mr 1 '33
- Federal reserve system—has it failed fully to meet the expectations of its founders? G. A. MacDonald. Bankers M 127:129-31 Ag '33
- Glass-Steagall banking act; will it weaken the Federal reserve system? H. Schwedersky. Barron's 13:3, 8 Je 26 '33
- Government control of banking and the Federal reserve. N. Adams. Trust Companies 56:710 Je '33
- Monetary legislation; section of Agricultural relief act which deals with Federal reserve and monetary matters. Fed Res Bul 19:269-71 My '33
- New regulations of the Federal reserve board covering open-market operations, relations with foreign banks and bankers, and holding company affiliates—voting permits. Fed Res Bul 19:502-12 Ag '33
- New York money market. v 4, External and internal relations. B. H. Beckhart, J. G. Smith and W. A. Brown, jr. 606p [bibliog p587-93] \$5 Columbia univ. press, New York '32
- Twenty years of Federal reserve policy, including an extended discussion of the monetary crisis, 1927-1933. S. E. Harris. 2v 821p [bibliog p803-21] Harvard univ. press '33
- Washington epic; prospectus—national financial control. G. E. Anderson. Am Bankers Assn J 26:16-17+ N '33

**Credit policy**

- A B C of open market policy. J. S. Lawrence. Econostat 1:8-10 S 16 '33
- British view of gold standard and American monetary policies. R. McKenna. Trust Companies 56:167-9+ F '33
- Credit policies of the Federal reserve system. C. O. Hardy. 374p Brookings institution, Washington, D.C. '32
- Dream of the Federal reserve; the dangers of easy money. S. Axley. Barron's 13:3, 8 Ja 9 '33
- Effect of the Federal reserve policy; abstract. L. D. Edie. Am Statis Assn J 27:431-2 D '32
- Obscurities of Federal reserve policy. Bradstreet's 61:362 F 18 '33
- Reserve system's manifest destiny. G. E. Anderson. Am Bankers Assn J 26:34-5+ O '33
- Role of banking and Federal reserve in business recovery. E. Platt. Trust Companies 55:539-42 N '32
- Role of the Federal reserve in depression. R. B. Westerfield. II Bradstreet's 61:128-9+ Ja 28 '33
- Thomas amendment—an analysis. Econostat 1:5-7 Ap 29 '33
- Why the banking situation demands prompt balancing of the budget. D. W. Ellsworth. Annalist 41:195-6 F 3 '33

**Member banks**

- All member banks—condition on call dates. Fed Res Bul 18:781-2; 19:202-3, 582-3 D '32, Mr, S '33
- Branches of state member banks; and other opinions interpreting amendments to the Federal reserve act. Fed Res Bul 19:499-502 Ag '33

- Condition of member banks since the crisis; steps toward unsound banking. D. W. Ellsworth. Annalist 41:795 Je 9 '33
- Member banks licensed and not licensed; and nonmember banks other than mutual savings banks. Fed Res Bul 19:274, 341, 453, 517, 578, 658 My-O '33
- Weekly reporting member banks in 90 leading cities; principal assets and liabilities, January 1932-July 1933. Fed Res Bul 19:519-23 Ag '33

**Par collection of checks**

- Membership in par-collection system. Published in monthly numbers of Federal reserve bulletin

**Rediscount**

- See also  
Discount—Rates

**Statements**

- Statement of the Federal reserve banks. Published in weekly numbers of Annalist

**Statistics**

- Earnings and expenses of Federal reserve banks during six months ending June 30, 1933. Fed Res Bul 19:515 Ag '33
- Earnings and expenses of the Federal reserve banks during 1932. Fed Res Bul 19:106-7 F '33
- Federal reserve statistics, by districts, etc. Published in monthly numbers of Federal reserve bulletin
- Statistical position of the Federal reserve and reporting member banks. D. W. Ellsworth. Annalist 41:363 Mr 10 '33
- FEDERAL reserve board**
- Reserve board's difficult assignment; Banking act of 1933 gives the board important powers. E. Platt. II Am Bankers Assn J 26:11-12, 68 Ag '33
- FEDERAL surety company**
- Loss six million; small chance of creditors realizing on claims. Nat Underw 36:35+ N 24 '32
- Receiver reports. Ins Field (Fire ed) 61:7-8 N 24 '32
- FEDERAL trade commission**
- Brakes for the Trade commission. Ptr Ink 162:42 F 2 '33
- Court rules in favor of open Trade commission hearings. Ptr Ink 162:52 F 23 '33
- Federal trade regulation service. 7th ed Commerce clearing house, inc, Chicago '32
- How much should the Federal trade commission inquiries cost the taxpayer? Pub Util 11:412-14 Mr 30 '33
- Humphrey removed as F.T.C. member. Oil Paint & Drug Rep 124:17+; Editorial comment. 15 O 16 '33
- Is it wickid to show a pecan tree in a pecan ad? Ptr Ink 162:59-60 Mr 23 '33
- Mr Patman does things to the Trade commission; extract from the Congressional record. Ptr Ink 162:40-2 F 2 '33
- Self-regulation and the law. E. L. Heermance. Harvard Business R 10:420-9 Jl '32; Same. Paper Tr J 96:39-42+ Ja 19 '33
- Some phases of the Federal trade investigation. B. F. Weadock. Edison Elec Inst Bul 1:77-81 Je '33; Same cond. Elec W 101:757-60 Je 10 '33; Same. Pub Serv M 55:23-4, 47-9, 117-18 Jl-Ag, O '33
- Sue to compel Trade commission to report on lease and agency. Nat Pet N 25:13-14 Ag 9 '33
- Trade commission; Wright Patman was largely responsible for cutting its appropriations 65%. Business Week p4-5 F 15 '33
- Trade commission's new day: liberal friends save it from the Roosevelt ax. Business Week p10 Ap 12 '33
- Why Printers' Ink opposes Federal trade commission. Ptr Ink 162:55-8, 60 Mr 9 '33
- FEDERAL wholesale druggists association**
- Midwinter meetings, New York, March 7-8. Oil Paint & Drug Rep 123:17+ Mr 13 '33



**FEDERATED truck associations of America**

Federated truck operators await NRA action on code of fair competition. *Automotive Ind* 69:215+ Ag 19 '33  
 Highway code—highway law. *Business Week* p10-11 Ag 19 '33

**FEDERATION of paint and varnish production clubs**

Annual convention, 11th, Washington, Nov. 11-12. *Oil Paint & Drug Rep Extra* ed 122: 36-49 N 29 '32  
 Annual convention, 12th, Chicago. *Oil Paint & Drug Rep* 124:17 O 30 '33  
 Executives rearrange some activities. *Oil Paint & Drug Rep* 123:17+ F 13 '33

**FEED mechanism**

Advances made in automatic combination feeds for presses. R. L. Payne. *il Mach* 39:700-4 Jl '33  
 Attachment for scarfing pipe. A. L. Hartley. *diags Am Mach* 77:557 Ag 30 '33  
 Automatic feed and ejection for press tools. J. F. Cavanagh. *diags Am Mach* 77:122-3 F 15 '33  
 Automatic feeding fixture for milling slots. L. L. Locke. *diags Am Mach* 77:121 F 15 '33  
 Automatic transfer for duplex wire-forming die. A. Suter. *diags Mach* 40:134-6 N '33  
 Automatic vertical feed for a surface grinder. H. F. Loring. *il Am Mach* 77:251 Ap 12 '33  
 Barnes no. H-2 Hydram hydraulic feed drilling machine. *il Am Mach* 77:574 Ag 30 '33; *Iron Age* 132:25 Ag 31 '33; *Mach* 40:48 S '33  
 Cork disk feeding mechanism; container caps. J. Waitkus. *diags Mach* 40:147-9 N '33  
 Dickerman hitch feed for power presses. *il Am Mach* 77:419 Je 21 '33; *Iron Age* 132:24 Jl 13 '33  
 How a magazine and hopper feed stepped up production eight times. J. E. Fenno. *diags Mach* 40:9-11 S '33  
 Hydraulic feed for Leland-Gifford sensitive drilling machines. *il Am Mach* 76:1172 N 23 '32  
 Improvised automatic feed for bench millers. J. F. Cavanagh. *diags Am Mach* 77:22 Ja 4 '33  
 Mechanical feeds for press tools. C. F. Kraut. *diag Am Mach* 77:346 My 24 '33  
 Mechanism for feeding six shells per second; container caps. J. Waitkus. *diags Mach* 39:453-61 Mr '33  
 Planetary feeding arrangement for deephole recessing tool. W. Klinkow. *diags Mach* 39:582-3 My '33  
 Self-feeding blanking die. *diags Mach* 39:453-4 Mr '33  
 Variable-feed mechanism for cable-winding guide. C. Haggerty. *il diags Mach* 40:20-1 S '33

*See also*

Automobile engines—	Gas and oil engines—
Fuel feeding	Fuel feeding
Feeders, Ore	Typewriters—Feed mechanism

**FEED mills.** See Feeding and feeding stuffs

**FEED water**

Analysis of fuel, gas, water and lubricants. S. W. Parr. 4th ed 371p \$3 McGraw-Hill '32  
 Boiler feedwater piping design features and precautions. H. C. Moffett. *Power Pl Eng* 36:824-5 D '32  
 Decomposition of dilute sodium carbonate solutions at temperatures between 147° and 243° C. F. G. Straub and R. F. Larson. *bibliog diag Ind & Eng Chem* 24:1416-19 D '32  
 Effect of salinity on the value of water for industrial purposes. S. T. Powell. *Am Water Works Assn J* 25:226-36; Discussion. 236-9 F '33  
 Feed water; current research projects. *Power* 77:254 My '33  
 Joint research committee on boiler feedwater studies report. *Mech Eng* 55:138 F '33  
 Progress in the production and transmission of heat and power; boiler feed. *diags Paper Tr J* 96:82-3+ F 16 '33

Progress report of the Boiler feed water studies committee, year 1932. *Am Water Works Assn J* 25:279-81 F '33

Sediment in boilers as a source of danger; abstract. H. Richter. *diag Mech Eng* 55: 582-3 S '33

Sewage-plant effluent for boiler water; new activated-sludge plant for Herington, Kan.; water contract with the Rock Island railroad. *diags plans Eng N* 111:521-3 N 2 '33

*See also*

Feed water heaters	Feed water regulation
Feed water purifica-	Railroads—Water supply
tion	

**Testing**

Application of electric methods of measurement and testing. D. H. Bishop. *Inst E E J* 72:51 Ja '33  
 Bestimmung und auswertung der alkalität des wassers im dampfkesselbetrieb. J. Leick. *Angew Chemie* 46:232-4 Ap 22 '33  
 Control tests for the treatment of feed and boiler water. J. K. Rummel. *bibliog Am Water Works Assn J* 24:2004-24 D '32  
 Dissolved-oxygen recorder at Seal Beach. C. Pettingill and E. J. Barlow. *il Power* 77: 63 F '33  
 Good boiler water samples depend on point and time. *Power* 77:64-5 F '33  
 Nomograph for rapid calculation of sulfate-carbonate ratios. R. T. Sheen. *Ind & Eng Chem Anal* 5:276-7 Jl 15 '33

**FEED water heaters**

Closed feedwater heater design. F. R. Wheeler. *charts Power Pl Eng* 37:200-3, 289-90 My, Jl '33  
 Combination back-pressure and reducing valve for special duty on Coast guard cutters. C. J. Odend'hal. *diags Marine Eng* 38:304-6 Ag '33  
 Deaerating heaters universal in new plants. *Power Pl Eng* 36:22-3 Ja '33  
 Extraction heaters in the power plant. G. A. Gaffert. *Power Pl Eng* 37:164-6, 346-8 Ap, Ag '33

*See also*

Fuel economizers

**FEED water heating**

Bled steam; principles underlying the gain in heat economy. G. W. Bird. *diag Elec R (Lond)* 112:806-7 Je 9 '33  
 Cincinnati terminal boilers roundhouse swap heat. *il plan Power* 77:186-8 Ap '33  
 Feed-water heating. R. Livingstone. *Elec R (Lond)* 111:952-3 D 30 '32

**FEED water purification**

Aspects of boiler water conditioning. H. H. Morrison. *il Am Dyestuff Rep* 22:519-25+ Ag 28 '33  
 Better water service pays large returns 'on Chesapeake & Ohio. *il map Ry Age* 93:865-9 D 10 '32  
 Compressed air in a water-softening plant; water station at Clinton, Ia. R. E. Coughlan. *il plan Comp Air M* 38:4243-4 O '33  
 Control tests for the treatment of feed and boiler water. J. K. Rummel. *bibliog Am Water Works Assn J* 24:2004-24 D '32  
 Deaerating heaters universal in new plants. *Power Pl Eng* 36:22-3 Ja '33  
 Feed-water distillation at the Valenciennes power station. *diag Engineering* 135:116 Ja 27 '33  
 Feed-water supervision pays. B. W. Wheeler. *Power* 77:517 O '33  
 Industrial water treatment; abstract. S. T. Powell. *Water Works & Sewerage* 80:293 Ag '33  
 Lime, phosphate, soda, how much? W. J. Ryan. *Power* 76:286-7; 77:71 D '32, F '33  
 Mistreatment of water. C. R. Knowles. *Am Water Works Assn J* 25:498-9 Ap '33  
 Die nachenthärtung des speisewassers mit phosphat innerhalb der wasserreinigung. W. Wesley. *Angew Chemie* 46:19-20 Ja 7 '33  
 Problems involved in providing safe and adequate water supplies for oil refinery uses. S. T. Powell. *Water Works & Sewerage* 80:212-14 Je '33

**FEED water purification—Continued**

- Proper methods of applying boiler compounds. J. A. Masek. *il Heat & Ven* 30:31 Mr '33
- Soda for high-pressure boilers; abstract. F. G. Straub. *Power* 77:345-6 J1 '33
- Sodium aluminate in water treatment; Alfloc system. *Chem Age (Lond)* 28:308-9 Ap 8 '33
- Treatment of water for use in boilers and textile plants. C. D. Blackwelder. *Am Dye-stuff Rep* 22:571-4 S 25 '33
- Tri-sodium phosphate; use in boiler feed water treatment; abstract. Kroemer. *Chem Age (Lond)* 27:479 N 19 '32; Same. *Chem Markets* 32:239 Mr '33
- Water softening and boiler practice. D. Gardner. *Gas J (Lond)* 201:52; Discussion. 52 Ja 4 '33
- Water softening; lime and soda-ash equipment at the Ford works. *Electrician* 111:184 Ag 11 '33
- Water treatment on Pacific lines of Southern Pacific (more especially zeolite treating). D. Wood. *il Water Works & Sewerage* 80: 92-4 Mr '33
- Water treatment plants for the London Midland and Scottish railway. *il Chem Age (Lond)* 29:297-8 S 30 '33

*See also*

Water softening

**FEED water regulation**

- Automatic control valve for makeup boiler feedwater. F. Pollock. *diag Power* 77:145 Mr '33
- Combination manual and automatic feed-water regulation. L. W. Ross. *diags Power* 77:376 J1 '33
- Economical boiler feedwater piping design; use of surge suppressor may control water hammer. G. F. Campau. *Power Pl Eng* 37: 474-5 N '33

**FEED water regulators**

- Bailey meter company three-element feed-water regulator. *il diag Engineering* 135:672 Je 23 '33
- Copes double-control boiler feed regulator. *il diag Engineering* 136:316 S 15 '33
- Difference in water temperature caused feed-water regulator trouble. M. W. Shaffer. *diag Power* 77:432-3 Ag '33
- McDonnell and Miller cool-valve boiler-feed regulator. *diag Engineering* 136:208 Ag 25 '33
- Weir boiler feed water regulator. *il Engineer* 154:648-9 D 23 '32

**FEED water sampling**

- Good boiler water samples depend on point and time. *Power* 77:64-5 F '33

**FEEDERS, Ore**

- Efficient ore feeder. *diags Eng & Min J* 134: 124 Mr '33

**FEEDING and feeding stuffs**

- Avantages des graines germées pour la nourriture des animaux de la ferme et en particulier du cheval. L. Raybaud. *Génie Civil* 102:237-8 Mr '11 '33
- Effect of storage on vitamin A in dried foods. G. S. Fraps and R. Treichler. *Ind & Eng Chem* 25:465-6 Ap '33
- Pasture, feed and grain outlook for 1933. *Food Ind* 5:44-5 F '33
- Some investigations in animal nutrition; abstract. C. J. Watson. *Soc Chem Ind J (Chem & Ind)* 52:268 Mr 24 '33

*See also*Pastures  
Silage**Advertising**

- Talkies train feed dealers and sell consumers; Larrowe milling company. F. W. Thomas. *il Sales Management* 31:470+ D 1 '32

**Analysis**

- Use of a selenium-mercuric oxide combination in determination of nitrogen in feed materials. L. V. Taylor, jr. *Ind & Eng Chem Anal ed* 5:263 J1 15 '33

**Manufacture**

- Molasses heating for feed mills. D. E. Blandy. *il Elec W* 101:822 Je 24 '33

**FEES, Government. See Government fees****FEHLING solution**

- Fehling's solution and isomerism of tartaric acids. H. Sobotka. *Am Chem Soc J* 55: 2164 My '33

**FELDSPAR**

- Effect of various gaseous atmospheres on the vitrification of ceramic bodies. A. E. Badger. *diag Am Cer Soc J* 16:107-17 F '33
- Effects of particle size of a potter's flint and a feldspar in whiteware. R. F. Geller, D. N. Evans and A. S. Creamer. *U S Bur Stand J Research* 11:327-40 S '33
- Feldspar. H. S. Spence. 145p [bibliog p136-40] Canada. Dept. of mines, Ottawa '32
- Feldspar and silica processing. A. J. McDermid. flow sheet *il Eng & Min J* 134:105 Mr '33
- Feldspar output, 1932. *Oil Paint & Drug Rep* 124:20 Ag 21 '33; Excerpt. *Glass Ind* 14:103 S '33
- Fusion study of the high feldspar area in the feldspar-kaolin-quartz system. M. H. Waldschmidt. *diags Am Cer Soc J* 16:199-203 Ap '33
- Nouveaux gisements français de matières premières pour l'industrie céramique. V. Charrin. *il maps diags Génie Civil* 102:6-9 Ja, 7 '33
- Position of the cotectic line between potash feldspar and plagioclase and their relations. H. L. Alling. *bibliog diags Am J Sci* 5th ser 25:471-6 Je '33
- Potash-soda-lime feldspar eutectic study. J. A. Martz. *Am Cer Soc J* 16:299-304 J1 '33

**FELLOWSHIPS. See Scholarships and fellowships****FELT***See also*

Palmer blankets

**FELT, Roofing**

- Roofing paper industry in Canada. R. H. Coats and R. G. Lewis. *Pulp & Pa of Can* 34:596 O '33

**FELTS (paper making)**

- Care of felts for fine paper manufacture. F. C. Ladd. *Paper Tr J* 97:35-8 J1 20 '33
- Drier felt seams. H. N. Hill. *diags Paper Tr J* 95:41-2 N 17 '32
- Drying of paper and felts; removal of water vapour by means of warm air. R. Schulze. *diags Pulp & Pa of Can* 33:433-6, 485-7 N-D '32
- Paper machine felts. 64p Albany felt co, Albany, N.Y. '32

**FENCES**

- Fence around your plant; illustrations. *Factory Management* 91:405-6 O '33

**FENSTREAM (term)**

- Fenstreams. R. J. Holden. *Science* 78:169 Ag 25 '33

**FERBERITE**

- Methods and costs of milling ferberite ore at the Wolf Tongue concentrator, Nederland, Boulder county, Colo. W. O. Vanderburg. flow sheets *U S Bur Mines Information Circ* 6685:1-15 '33
- Methods and costs of mining ferberite ore at the Cold Springs mine, Nederland, Boulder county, Colo. W. O. Vanderburg. *diags U S Bur Mines Information Circ* 6673:1-15 '32

**FERGUSON, Samuel**

- Connecticut utility; Hartford electric light co. and its affiliate Connecticut power co. *por Fortune* 7:37-43+ Ap '33

**FERMENTATION**

- Anaerobic stabilization of milk waste. A. M. Buswell, C. S. Boruff and C. K. Wiesman. *bibliog il Ind & Eng Chem* 24:1423-5 D '32
- Butyric acid and butyl alcohol fermentation of hemicellulose- and starch-rich materials. S. A. Waksman and D. Kirsh. *bibliog Ind & Eng Chem* 25:1036-41 S '33



**FERMENTATION—Continued**

Cellulose fermentation. H. Langwell. Soc Chem Ind J (Chem & Ind) 51:988-93 D 2 '32; Abstract. Chem Age (Lond) 27:457 N 12 '32; Discussion. Soc Chem Ind J (Chem & Ind) 51:993-4 D 2 '32

Co-ferments and banana respiration. J. M. Nelson and C. Hemperly. Am Chem Soc J 55:1102-6 Mr '33

Determination of 2,3-butylene glycol in fermentations. M. C. Brockmann and C. H. Werkman. bibliog diags Ind & Eng Chem Anal ed 5:206-7 My 15 '33

Les échanges de substances diffusibles dans les produits alimentaires; préparation du cacao. R. Whympere. pl Chimie & Ind 30:507-17 S '33

Fermentation of mannose by dried yeast; abstract. C. M. Jephcott and R. Robison. Soc Chem Ind J (Chem & Ind) 52:269-70 Mr 24 '33

Large-scale laboratory cultivation of molds. W. H. Peterson and others. il Ind & Eng Chem 25:213-15 F '33

Mechanical equipment for continuous fermentation of fibrous materials. A. M. Buswell and C. S. Boruff. bibliog diags Ind & Eng Chem 25:147-9 F '33

Methane fermentation of carbohydrates. G. E. Symons and A. M. Buswell. bibliog Am Chem Soc J 55:2028-36 My '33

Preservative action of spices and related compounds against yeast fermentation. J. W. Corran and S. H. Edgar. Soc Chem Ind J 52:149T-52T My 26 '33

Production of industrial alcohol from grain by Amylo process. W. L. Owen. Ind & Eng Chem 25:87-9 Ja '33; Same cond. Chem Age (Lond) 28:118-19 F 11 '33

Production of 2,3-butylene glycol by fermentation; effect of sucrose concentration. E. I. Fulmer, L. M. Christensen and A. R. Kendall. bibliog Ind & Eng Chem 25:798-800 Jl '33

Solvent products, Ltd. il Soc Chem Ind J (Chem & Ind) 52:98-100 F 3 '33

Das zymophosphat und die alkoholische gä- rung. B. Hvistendahl. bibliog Angew Chemie 46:335-7 Je 10 '33

See also

Alcohol—Manufac-      Enzymes  
ture                      Yeast

**FERMI-DIRAC theory**

Fermi-Dirac statistical theory of gas degener- ation. V. Karapetoff. Mech Eng 55:237-42, 290-4, 358-62+ Ap-Je '33

**FERNANDO PO**

Cocoa in the Cameroons under French man- date and in Fernando Po. L. J. Schwarz. il map U S Bur For & Dom Com Trade Promotion Ser 148:1-64 '33

**FERNS**

Constituents of *filix mas*; aspidinol. A. Rob- ertson and W. F. Sandrock. Chem Soc J p819-23 Jl '33

**FERRIC chloride.** See Iron chlorides

**FERRIES**

Panama canal crossed by ferry; details of ferry ramp construction. E. M. Browder. jr. il diags map Civil Eng 3:61-5 F '33

See also

Ferry terminals      Train ferries  
Ferryboats

**FERRITE**

Martensite with ferrite and pearlite; illus- trations. Metal Prog 24:44 S '33

Sub-structures in ferrite. W. D. Jones. il Engineer 155:sup[Metallurgist] 8-11 F 24 '33

**FERRITES**

Study of a group of typical spinels. C. W. Parmelee, A. E. Badger and G. A. Ballam. diags Ill U Eng Exp Sta Bul 248:1-54 '32

**FERROCART**

Ferrocort coils. il Electrician 110:498 Ap 14 '33

Ferrocort; losses in radio frequency magnet cores. A. Schneider. diags Electrician 110: 849+; 111:9 Je 30-Jl 7 '33

Iron-content cores for high-frequency coils; use of Ferrocort. A. Schneider. diags Wire- less Eng 10:183-5 Ap '33; Discussion. 10:293- 5, 313-15, 491-2 Je, S '33

**FERROCHROMIUM**

Manufacture of stainless iron from ferrochro- mium, from scrap, or from ore. A. L. Feild. il Metal Prog 23:13-17 F '33

**FERRO-CONCRETE.** See Concrete, Reinforced

**FERROCYANIDES**

Studies on alkylated complex cyanides; the isomerism of the alkylated ferrocyanides; hexaethylated ferrocyanides. E. G. J. Hart- ley and H. M. Powell. Chem Soc J p101-5 Ja '33

**FERROMAGNETISM.** See Magnetism

**FERMOMANGANESE**

Ferromanganese for export produced in Rus- sia. B. M. Suslov. Metal Prog 24:46+ N '33

Prices tell market history, 1914-1932; tabula- tion. Steel 92:106 Ja 2 '33

**FERROSILICON**

Prices tell market history, 1916-1932; tabula- tion. Steel 92:105 Ja 2 '33

**FERROVANADIUM**

Ferrovandium from 0.1% ore. B. M. Suslov. Metal Prog 23:47 Je '33

**FERRY terminals**

Panama canal crossed by ferry; details of ferry ramp construction. E. M. Browder, jr. il diags map Civil Eng 3:61-5 F '33

**FERRYBOATS**

Coal oil for ship propulsion; Sydney, New South Wales. Marine Eng 38:308 Ag '33

Le ferry-boat Scilla, pour la traversée du détroit de Messine. il diags Génie Civil 103:417-20 O 28 '33

Oil-electric ferry-boat with horizontal engines. plans Engineer 154:673 D 30 '32

One-man ferry of radical design. il Sci Am 148:54-5 Ja '33

Scilla, Diesel-electric ferry. Elec R (Lond) 113:613 O 27 '33

Straits of Mackinac; a state owned and op- erated ferry service. F. F. Rogers. il Ma- rine R 62:30-1+ D '32

See also

Seatrains  
Train ferries

**FERTILIZATION of plants**

Parthenocarp and seedlessness in vitis vini- fera. H. M. Pearson. Science 76:594 D 23 '32

See also

Sterility in plants

**FERTILIZER industry**

Emballt farmers find a way to buy Smith- Douglass wares. Sales Management 32:260 Mr 15 '33

Mr Bowker's first 4,000 miles of selling hope and fertilizer. L. M. Hughes. Sales Man- agement 32:248-9 Mr 15 '33

See also

Nitrates      Potash industry and  
Phosphates      trade  
Sodium nitrate

**Advertising**

Fertilizer borrows theme from movie feature. il Ptr Ink 162:45 Ja 12 '33

Pulling sales out of hard-hit farm territory; N. V. potash export my, inc. A. S. Noble. il Sales Management 32:554-5+ Je 1 '33

**Statistics**

Fertilizer materials. Published in weekly num- bers of Oil, paint and drug reporter

Phosphate problems dominated by agricultur- al troubles. Chem & Met Eng 40:39-40 Ja '33

Post-war progress in various industries. O. Wilson. Ind & Eng Chem 25:109 Ja '33

**Great Britain**

British synthetic fertilizer industry. Chem Age (Lond) 28:12 Ja 7 '33

Financial position of the chemical industry; chemical manure manufacture. S. H. With- ey. Chem Age (Lond) 28:216 Mr 11 '33

**FERTILIZER industry—Continued****Japan**

Changing fertilizer markets in Japan. C. E. Mullin. *il Chem Markets* 33:225-8 S '33

**Russia**

Les engrais synthétiques en Russie. A. P. Karl. *Chimie & Ind* 29:472-8 F '33

**United States**

Fertilizer business conducted today at greater credit risk. *Chemicals* 37:1-2 N 14 '32  
Fertilizer code has exceptional definition; text. *Oil Paint & Drug Rep* 124:16+ N 13 '33

Fertilizer code is signed by President. *Oil Paint & Drug Rep* 124:16 N 6 '33

Fertilizer industry's competitive code discussed at hearing Sept. 6. *Oil Paint & Drug Rep* 124:17, 23+ S 4; 17-18+ S 11 '33

National problems affecting the fertilizer industry; abstract. C. J. Brand. *Chem & Met Eng* 40:22 Ja '33

**FERTILIZERS**

Ammoniated peat as fertilizer material. *Oil Paint & Drug Rep* 123:53 Ja 16 '33; Same. *Chemicals* 38:9 F 20 '33; Same. *Chem Age (Lond)* 28:192 Mr 4 '33; Excerpt. *Sci Am* 148:230 Ap '33

Ammoniation of peat for fertilizers. R. O. E. Davis and W. Scholl. *Science* 77:330-1 Mr 31 '33

Ammoniation of peat for fertilizers. W. Scholl and R. O. E. Davis. *bibliog il Ind & Eng Chem* 25:1074-8 O '33

Bituminous coal neither plant food nor fertilizer. W. R. Chedsey. *Coal Age* 35:303-4 S '33

Chemistry and agriculture. A. Lauder. *Soc Chem Ind J (Chem & Ind)* 52:771-7 S 29 '33; Excerpt (Recent progress in fertilizers). *Chem Age (Lond)* 29:350 O 14 '33; Excerpt. *Chem Ind* 33:331+ O '33

Close grazing scheme of pasture management. F. T. Shutt and S. N. Hamilton. *Can Chem & Met* 17:5-6 Ja '33

Comparison of the yields and composition of pasture grass under intensive and non-intensive manurial treatment. B. Thomas and F. J. Elliott. *Soc Chem Ind J* 52:182T-5T Je 23 '33

Dolomite in fertilizers. *Chem & Met Eng* 40:188 Ap '33

Effect of an iodine fertilizer on iodine content of a food plant. A. B. Beaumont and G. M. Karns. *Science* 76:567 D 16 '32

Les engrais chimiques complets. Laurain. *Génie Civil* 102:355-6 Ap 15 '33

Les engrais synthétiques en Russie. A. P. Karl. *Chimie & Ind* 29:472-8 F '33

L'évolution de la pratique et de la théorie de l'emploi des engrais à travers les âges. M. Lenglen. *Chimie & Ind* 28:1223-30, 1471-6; 29:457-62 N-D '32, F '33

Granular fertilizer. T. Swann. *Sci Am* 147:356 1) '32

Heralding the nonmetallic mineral age. C. C. Whittier. *Min & Met* 14:412-13 O '33

How science can help to improve the nation's food supply; fertilizers. H. J. Page. *Soc Chem Ind J (Chem & Ind)* 52:640-5 Ag 4 '33

Hygroscopicity of fertilizer salts; reciprocal salt pairs. A. R. Merz and others. *Ind & Eng Chem* 25:136-8 F '33

Molasses as a fertiliser. *Chem Age (Lond)* 28:309 Ap 8 '33

Muscle Shoals bill signed by President. *Oil Paint & Drug Rep* 123:48A My 22 '33

Muscle Shoals plan agreed on by Congress. *Oil Paint & Drug Rep* 123:17+ Ap 17; 14+ Ap 24 '33

Le nitrate de chaux et la synthèse des nitrates. A. Couturier. *il Chimie & Ind* 29:463-71 F '33

Physiological basis of potash salt manuring; abstract. T. Remy and A. Dhein. *Soc Chem Ind J* 52:sup439 Je 2 '33

Reaction between urea and gypsum. C. W. Whittaker, F. O. Lundstrom and S. B. Hendricks. *bibliog Ind & Eng Chem* 25:1250-2 N '33

Recherches sur l'importance des sulfates comme engrais. G. Bertrand and L. Silberstein. *il Chimie & Ind* 29:255-7 F '33  
Urea-ammonia solution. F. W. Parker. *Chemicals* 37:9 D 26 '32

Die wichtigsten neuerungen auf dem gebiete der anorganisch-chemischen industrie; die industrie der phosphorsäure und der phosphatdünger. H. Siebeneicher. *Angew Chemie* 46:596-610 [bibliog p610] S 23 '33

**See also**

Agricultural chemistry  
Ammonium phosphates  
Ammonium sulfate  
Nitrates  
Nitrogen fixation  
Phosphates

Potash  
Potassium nitrate  
Sewage sludge as fertilizer  
Sodium nitrate  
Sulfur—Agricultural uses

**Analysis**

Determination of equivalent acidity and basicity of fertilizers. W. H. Pierre. *Ind & Eng Chem Anal ed* 5:229-34 J1 15 '33

Die quantitative bestimmung von nitrat-, harnstoff- und ammoniakstickstoff in mischdüngern. F. Alten and H. Weiland. *Angew Chemie* 46:165-6 Mr 18 '33

**Manufacture**

I.C.I. (fertilizer & synthetic products) Ltd. *Soc Chem Ind J (Chem & Ind)* 52:616-17 J1 28 '33

Making phosphate fertilizers at Trail, B.C. W. C. Weber. *il diag Chem & Met Eng* 40:72-5 F '33

New Fauser process of fertilizer manufacture. H. Pincass. *Soc Chem Ind J (Chem & Ind)* 52:74 Ja 27 '33

Plant for making plant food. *il Sci Am* 149:84 Ag '33

**See also**

Potash—Manufacture

**FESCOL process**

Corrosion-fatigue tests on mild steel when coated with nickel by the Fescollising process. *Engineering* 136:398 O 6 '33

**FESSENDEN, Reginald A.**

Portrait. *Sci Am* 148:29 Ja '33

**FEVER**

High fever deceptions. *Science* 76:sup10 D 23 '32

**See also**

Malaria  
Typhoid fever

Typhus fever  
Yellow fever

FIBER, Vulcanized. See Vulcanized fiber

FIBER board, Paper. See Paper board

**FIBERS**

Mixture of asphalt and cypress wood fibre used as flooring; cypreturf. *il Roads & Sts* 76:344 S '33

**See also**

Cotton fibers  
Flax  
Hemp  
Jute  
Linen

Paper  
Ramie  
Silk  
Textile fibers  
Wool

**FIDELITY and casualty company of New York**

Cautions against use of comparative financial statements. E. Sturm. *East Underw* 34:37+ F 24 '33

**FIDELITY and deposit company of Maryland**

Annual statement, year ended Dec. 31, 1932. *Spectator* 130:32 Ja 19; 37 F 23 '33  
History of the F. & D. *East Underw* 34:31+ My 5 '33

**FIDELITY mutual life insurance company**

Assets and surplus increase. *East Underw* 34:15 F 17 '33

**FIDELITY-PHENIX fire insurance company**

Report for 1932. *Barron's* 13:13 Ja 30 '33

**FIELD, Henry**

How radio selling increased Henry Field's sales 500 per cent in 7 years. J. L. Scott. *Ptd Salesmanship* 60:311-13+ D '32  
Mail-order copy that sells overalls, seeds and prunes. J. L. Scott. *por Ptd Salesmanship* 60:226-9+ N '32



**FIELD museum of natural history, Chicago**  
Annual report summarized. Science 77:420-1  
My 5 '33  
Year at the Field museum of natural history.  
S. C. Simms. Science 77:13-14 Ja 6 '33

#### Hall of races of mankind

Races of mankind; sculptures by Malvina Hoffman in the Field museum of natural history. H. Field. Science 78:146-7 Ag 18 '33

Science of man which is anthropology; with photographs of Field Museum exhibits. Fortune 8:66-70, 98+ O '33

Sculptor turns anthropologist; work of M. Hoffman in Field museum. il Sci Am 149: 209 N '33

**FIGHTING brands.** See Quality of products

**FIGURE drawing**

See also

Fashion drawing

**FILAMENTS**

Detection of adsorbed gas films on heated filaments. G. Van Praagh. Chem Soc J p798-800 Jl '33

See also

Cellulose acetate

Fibers

Nitrocellulose

Silk, Artificial

Vacuum tubes

**FILAMENTS, Incandescent**

Behavior of the hydronitrogens and their derivatives in liquid ammonia; formation of hydrazine by thermal action of incandescent filaments immersed in liquid ammonia. D. H. Howard, Jr. and A. W. Browne. bibliog Am Chem Soc J 55:1968-74 My '33

Behavior of the hydronitrogens and their derivatives in liquid ammonia; influence of pressure upon yields of hydrazine obtained by pyrolysis of liquid ammonia. D. H. Howard, Jr. and A. W. Browne. diag Am Chem Soc J 55:3211-14 Ag '33

See also

Electric lamps, Incandescent

#### Manufacture

Tube control for filament production. G. C. Holloway. il diag Elec J 30:431 O '33

**FILBERT oil.** See Hazelnut oil

**FILES and filing (documents, etc.)**

Auditing the work of the filing department; abstract. J. H. MacDonald. Management R 22:143 My '33

Centralized filing is key to office efficiency. T. W. Hawley. Management Methods 62: 67+ F '33

Classify records for filing according to their value. B. M. Weeks. Rand McNally Bankers Mo 50:225+ Ap-My '33

Credit checking simplified; Akron credit bureau, inc. il System and Management Methods 62:398-9 S '33

Decentralized files; Studebaker corporation. Management Methods 61:616-17 N '32

Filing system for a city engineering office. B. Eisner. Pub Works 64:15-16 F '33

Indexing and filing; its application and practice. D. W. Duffield. 12p Yawman and Erbe mfg. co, Rochester, N.Y. '32

Keeping track of advertising material; a system for filing cuts and artwork. il Ptr Ink 163:47-8 Je 1 '33

Mammoth filing machine of insurance department files 4 1-2 million vouchers a year in Prague. il Management Methods 61:609-10 N '32

Many different plans used in transferring year's files and records. Management Methods 61:659-60 D '32

Old records quickly found when file boxes are numbered. D. R. Pinney. il Bankers Mo 50:35+ Ja '33

Planning speeds sorting; numerical sales ticket sorting. il Management Methods 61: 617-18 N '32

Production control; central control section. T. M. Landy. Factory Management 91:229-31 Je '33

Put it on wheels. il Management Methods 61: 616 N '32

Storage and disposal of old files. Management Methods 62:24-6+ Ja '33

These credit files do not get rusty; Rusk-Lehigh oil corporation. il Management Methods 61:610-11 N '32

See also

Classification

Classification, Decimal

Indexes

Indexing

Newspaper libraries

Records

Subject headings

**FILES and rasps**

File test rapid, but limited to very hard steels. H. T. Morton. Metal Prog 23:45 F '33

Hardness testing with a file a useful art easily learned. il Metal Prog 22:14-18 D '32

Test files made of nitrided steel. F. Giolitti. Metal Prog 23:45-6 Mr '33

**FILING cabinets**

Six months' quota that was reached the first month; Y and E record chest. D. W. Duffield. il Ptd Salesmanship 62:36-7 S '33

**FILIX mas.** See Ferns

**FILLING**

Explosives for settling highway fills. E. Godfrey. diags Can Eng 64:11-13 My 2 '33

Fill settlement data. diags Roads & Sts 76:34 Ja '33

Jetting solidifies large embankment; method employed on the Cincinnati Union Terminal project. il Ry Age 94:41-3 Ja 14 '33

New method of blasting swamp for highway fill. C. L. Wooley. il diags Eng N 110:715-17 Je 1 '33

New methods in highway fill settlement work in Rhode Island. il Roads & Sts 76:249-52 Jl '33

Settling a road embankment by underfill blasting. C. G. Wahl. bibliog Pub Works 64:15-16 Mr '33

Studies in compaction of earth fills. Pub Works 64:41 Ag '33

See also

Hydraulic filling

**FILLING materials**

Experimental determination of void content of close-packed mineral powders; effect of particle size, shape, and texture. R. N. Traxler, L. A. H. Baum and C. U. Pittman. bibliog Ind & Eng Chem Anal ed 5:165-8 My 15 '33

See also

Paper making—Fillers

Pavements, Brick—

Fillers

Wood flour

**FILM slides.** See Lantern slides

**FILMS**

Behaviour of surface films of unsaturated compounds. A. H. Hughes. Chem Soc J p338-44 Ap '33

Die deformationsmechanik von filmen als forschungsmittel; abstract. A. V. Blom. Angew Chemie 46:411 Je 24 '33

Detection of adsorbed gas films on heated filaments. G. Van Praagh. Chem Soc J p798-800 Jl '33

Evidence from surface films on the constitution of batyl and chimyl alcohols. N. K. Adam. Chem Soc J p164-5 F '33

Further discussion of the surface tension of film-covered liquids at saturation. H. Brown. Am Chem Soc J 55:4521-3 N '33

Heat effects in lubricating films. A. Kingsbury. diag Mech Eng 55:685-8 N '33

Photoeffects in semi-conductors. B. Lange. diags Electrochem Soc Trans 63 (preprint 8):69-81 My '33

Properties of molecules as learned from surface films; abstract. N. K. Adam. Soc Chem Ind J (Chem & Ind) 52:121 F 10 '33; Same. Chem Age (Lond) 28:122 F 11 '33

Strength of emulsifier films at liquid-liquid interfaces. J. A. Serrallach, G. Jones and R. J. Owen. diags Ind & Eng Chem 25: 816-19 Jl '33

Structure of unimolecular films; surface films of proteins. R. J. Fosbinder and A. E. Lesig. il J Fr Inst 215:579-91 My '33

**FILMS—Continued**

- Structure of unimolecular films; surface potentials of films of long chain compounds. R. J. Fosbinder and A. E. Lessig. *diag J Fr Inst* 215:425-33 Ap '33
- Studies in the drying oils; influence of several factors on the mechanism of drying of oil films. J. S. Long, A. E. Rheineck and G. L. Ball, jr. *diag Ind & Eng Chem* 25:1086-91 O '33
- Tensile strength of nitrocellulose films. G. G. Jones and F. D. Miles. *diag Soc Chem Ind J* 52:251T-64T Ag 18 '33
- Water films studied by electric feeler. W. D. Harkins and E. K. Fischer. *Science* 78:sup5 S 22 '33
- Zur theorie der filmbildung; abstract. B. F. H. Scheifele. *Angew Chemie* 46:413 Je 24 '33

*See also*

Lubrication and lubricants  
Surface phenomena

**FILMS, Metallic**

- Color in films of sputtered tin. C. J. Overbeck. *il diag Opt Soc Am J* 23:109-13 Mr '33
- Depositing oxide film on aluminum. A. Eyles. *Metal Ind* 31:17 Ja '33
- How films hold fast to metals. G. Finch and Quarrell. *Science* 77:sup11 My 26 '33
- Nature of adsorbed films of caesium on tungsten; the space charge sheath and the image force. I. Langmuir. *bibliog Phys R* 43:224-51 F 15 '33
- Oxide film insulation. G. Shapiro. *Elec R (Lond)* 111:739 N 18 '32
- Standing light waves; repetition of an experiment by Wiener, using a photoelectric probe surface. H. E. Ives and T. C. Fry. *diag Opt Soc Am J* 23:73-83 Mr '33
- Surface film. *Engineer* 156:sup[Metallurgist] 50 Ag 25 '33
- Theories of passivity and of corrosion. E. S. Hedges. *Engineer* 154:sup[Metallurgist] 188-90 D 30 '32

*See also*

Passivity

**FILMS, Moving picture.** *See* Moving picture films

**FILMS, Photographic.** *See* Photography—Films

**FILTER cloth**

- Choice of asbestos cloth. *Chem Age (Lond)* 23:392-3 Ap 29 '33

**FILTER paper**

- Laboratory filter papers. *Chem Age (Lond)* 23:392 Ap 29 '33
- Schleicher & Schüll-filtrierpapiere. *il Chemische Fabrik* 6:sup2 Je 7 '33

**FILTER presses**

- Economical plate size for filter presses. *Chem & Met Eng* 40:543 O '33

**FILTERS, Air.** *See* Air filters

**FILTERS, Light.** *See* Light filters

**FILTERS, X ray.** *See* X ray filters

**FILTERS and filtration**

- Accounting for anthracite's superiority to sand as a filter medium. H. G. Turner and G. S. Scott. *il Water Works & Sewerage* 80:330-1 S '33
- Ammonia-chlorine treatment yields nitrates in effluent. R. Hulbert. *Eng N* 111:315-16 S 14 '33
- Attrition loss of anthracite in rapid filters. H. G. Turner and G. H. Young. *Water Works & Sewerage* 80:246 J1 '33
- Clarification of water supplies by filtration through anthracite. H. G. Turner and G. S. Scott. *diag Water Works & Sewerage* 80:135-6 Ap '33
- Clay used as artificial turbidity to eliminate short filter runs. C. Leopold. *il Water Works & Sewerage* 80:304-5 Ag '33
- Control of manganese and iron accumulation in filter sand; abstract. P. W. Frisk. *Water Works & Sewerage* 80:261 J1 '33
- Decade of advance in knowledge of filtration. J. W. Ellms. *il Eng N* 110:742-5 Je 8 '33
- Die entwicklung der filterböden im wasser-reinigerbau. A. Kolibay. *diags Zeit Ver Deutsch Ing* 77:485 My 6 '33

Experimental studies of water purification. H. W. Streeter. *Pub Health Rep* 48:377-400 Ap 14 '33

Filter operation in a small water plant, Seneca Falls, N.Y. M. E. Dillmore. *il Pub Works* 64:20 Ag '33

Fundamental factors governing the flow of water through sand; abstract. G. M. Fair. *Water Works & Sewerage* 80:261 J1 '33

Future of water treatment and filtration. *il Water Works & Sewerage* 80:27-31 Ja '33

Hydraulics of rapid filter sand. R. Hulbert and D. Feben. *Am Water Works Assn J* 25:19-45 Ja '33; Abstract. *Eng N* 109:647-50 D 1 '32; Discussion. *Am Water Works Assn J* 25:45-65 Ja '33

Loss of head and backwashing velocities for anthracite coal in water filters. H. G. Turner and G. S. Scott. *Water Works & Sewerage* 80:66-8 F '33

Mechanical flocculators. *il diags Water Works & Sewerage* 80:43-6 F '33

Obstacles encountered in the flow of water through filter beds. J. R. Baylis. *il diags Water Works & Sewerage* 80:332-4 S '33

Recent advances in water purification and filtration. W. J. M. Cook. *diags Chem Age (Lond)* 29:294-5 S 30 '33

Spring-summer operation at Lake Michigan filter plants. *Eng N* 111:250 Ag 31 '33

Turbidity determinations in operation of filtration plants. *bibliog diags plans Water Works & Sewerage* 80:125-8 Ap '33

Unsuspected, unusual and little known factors in water supply quality. P. Hansen. *Am Water Works Assn J* 24:1780-9 [bibliog p1789]; Discussion. 1790-1 N '32

Use of anthracite coal as a filter medium. M. A. Farrell. *Am Water Works Assn J* 25:718-24 My '33

*See also*

Filtration plants	Water purification
Sewage disposal—	Waterworks
Filtration	

**Cleaning**

Filter sand and washing experiences; abstract and discussion. C. J. Lauter. *Water Works & Sewerage* 80:204-5 Je '33

Filter sand maintenance. F. W. Herring. *Am Water Works Assn J* 25:1234-7 S '33

Keeping filter sand and gravel clean. W. H. Lovejoy. *Water Works & Sewerage* 80:180 My '33

Scientific control for water supplies; improvement for effecting the draw-off of filter wash water. *il Chem Age (Lond)* 29:299-300 S 30 '33

**FILTERS and filtration (bacteriology)**

Particle size of biological units. J. H. Ferguson. *J Phys Chem* 36:2849-61 [bibliog p2860-1] D '32

**FILTERS and filtration (colloids)**

Dependence of the ultrafiltrate from a sol of ferric hydroxide upon rate of ultrafiltration; Donnan equilibrium and pH of sols. J. W. McBain and W. L. McClatchie. *Am Chem Soc J* 55:1315-23 Ap '33

Filtration phenomena in colloids. M. Annetts. *J Phys Chem* 36:2936-9 D '32

Method of low-pressure ultra-filtration; abstract. S. J. Folley. *Soc Chem Ind J (Chem & Ind)* 52:270 Mr 24 '33

Modified electro ultrafilter. D. von Klobusitzky. *il J Phys Chem* 36:3189-90 D '32

Ultrafiltration of soap solutions. J. W. McBain, Y. Kawakami and H. P. Lucas. *Am Chem Soc J* 55:2762-9 J1 '33

**FILTERS and filtration (technical chemistry)**

Advance in continuous vacuum filtration. *il diag Chem Age (Lond)* 29:172-3 Ag 19 '33

Cannon steam jacketed filter. *il Chem Age (Lond)* 27:486 N 19 '32

Essai sur la théorie et le calcul des éléments d'un filtre rotatif plan à lavages méthodiques. R. Palante. *diags Chimie & Ind* 30:255-76 Ag '33

Filtering costs. P. Kriegel. *il Chem Markets* 31:523-4 D '32

Filtering wax from petroleum oils with filter aid. W. P. Gee. *plans Am Pet Inst Proc* 14M(3):24-31 My '33



**FILTERS and filtration (technical chemistry)**—*Continued*

- Filtration in the chemical industry; applications of rotary vacuum and pressure filters—the Sweetland and Kelly types. *il Chem Age (Lond)* 29:296 S 30 '33
- Filtration plant in cement manufacture. *il Chem Age (Lond)* 27:600 D 24 '32
- Further developments in the use of meta-filters. J. A. Pickard. *il Chem Age (Lond)* 29:304-6 S 30 '33
- Glimpse of the dry cleaning industry; filtration and solvent recovery problems. *il diag Chem Age (Lond)* 28:483-4 My 27 '33
- Grosstechnische filter. *il diag Chemische Fabrik* 6:supl-3 Ja 4 '33
- Heizbare nutschen nach Büchner. W. Gurr. *diags Chemische Fabrik* 6:248-9 Je 7 '33
- Ideal filtering medium; extended use of filter-guhr. *Chem Age (Lond)* 29:301 S 30 '33
- Morrow filter keeps cutting fluid clean. *diag Automotive Ind* 69:491 O 21 '33
- New drum-type filter uses endless strings and compression with good results. *il Eng & Min J* 134:84 F '33
- Operation of the filter press. C. P. Callister. *Chem Age (Lond)* 27:500-1 N 26 '32; Same *abr. Chem Markets* 32:224 Mr '33
- Perforated metals for filtration purposes. *il Chem Age (Lond)* 29:307 S 30 '33
- Praktische anwendung der leitfähigkeitsmessung im betrieb. H. Reichelt. *diags Chemische Fabrik* 6:341-2 Ag 16 '33
- Progress of metafiltration. *il Soc Chem Ind J (Chem & Ind)* 52:499-501 Je 16 '33
- Rotary vacuum filtration of crystal sugar. C. A. Godefroy. *diags Ind & Eng Chem* 25:964-6 S '33
- Saugrichter für schnellfiltration. A. Seuthe. *diags Chemische Fabrik* 6:148 Mr 29 '33
- Separation technique improves in every department. *diags Chem & Met Eng* 40:260-2 My '33
- Studies in filtration. B. F. Ruth, G. H. Montillon and R. E. Montonna. *bibliog il Ind & Eng Chem* 25:76-82, 153-61 Ja-F '33
- Study of the mechanism of filtration. P. C. Carman. *Soc Chem Ind J* 52:280T-2T S 8 '33
- Thompson continuous pressure filter. *diag Chem & Met Eng* 40:320 Je '33
- True value of a filter-aid. *Chem Age (Lond)* 29:308 S 30 '33
- Tyndallmetric examination of filtered liquors. A. B. Cummins and M. S. Badollet. *bibliog il diag Ind & Eng Chem Anal* 5:328-32 S 15 '33
- Waring vacuum filter. *diag Chem & Met Eng* 40:488 S '33
- Zur theorie der industriellen filtration. W. Siegel. *Chemische Fabrik* 6:89-92 F 22 '33
- See also*
- |              |                |
|--------------|----------------|
| Air filters  | Filter presses |
| Filter cloth | Oil filters    |
| Filter paper |                |
- FILTRATION plants**
- Better drinking water for Easton, Pa. A. S. Park. *il Comp Air M* 38:4123-8 My '33
- Coagulants for water purification; manufacture and control of liquid alum at Baltimore, Md. J. W. Armstrong. *il diags Civil Eng* 3:168-71 Mr '33; Abstract. *Water Works & Sewerage* 80:60-1 F '33
- Construction of a large reinforced concrete wash-water tank; water purification plant at Hamilton, Ont. H. B. Dickens. *il diags Can Eng* 65:5-8+ J1 11 '33
- La distribution d'eau potable à Toulouse; la filtration des eaux de la Garonne sur des filtres à sable. G. Poizat. *il diags plan Génie Civil* 102:269-73 Mr 25 '33
- False Wheeler filter bottom used in new water plant; Mahoning Valley filter plant. G. G. Dixon. *il diags Eng N* 111:317-21 S 14 '33
- Filtration plant and distribution system, Shawinigan Falls, Quebec. *il Can Eng* 65:11-14+ N 7 '33
- Filtration plants for municipalities. *Chem Age (Lond)* 29:308 S 30 '33
- Modern filter plant in China built by coolie labor; Lingnan University water-purification plant. E. H. Aldrich. *il Eng N* 110:490-1 Ap 20 '33
- New filtration plant of Easton, Pa. R. W. Haywood, jr. *il Water Works & Sewerage* 80:349-53 O '33
- New water purification and pumping plant at Hamilton, W. L. McFaul. *il plan Can Eng* 64:15-19 F 28 '33
- Observation station for finished water reservoir. C. Leopold. *il diag Water Works & Sewerage* 80:270 J1 '33
- Operating conditions at the Athens, Greece, water purification plant. L. A. Geupel. *il Water Works & Sewerage* 80:113-16 Ap '33
- Operation of water filtration plants. N. J. Howard and others. *Am Water Works Assn J* 25:1084-1106 Ag '33; Same. *Can Eng* 64:65-70, 72-7; Discussion. 77-8 Mr 28 '33
- Pumping station and filtration plant at St Joseph, Michigan. F. G. Gordon. *il Am Water Works Assn J* 25:832-7 Je '33
- Water works reconstruction financed from earnings; mechanical mixers at Macon, Ga. water works. H. F. Wiedeman. *il Pub Works* 64:11-12 S '33
- West Parish filtration plant of the Springfield water works. H. F. Salmond. *il N E Water Works Assn J* 46:345-55 D '32
- See also*
- |                            |                               |
|----------------------------|-------------------------------|
| Sewage disposal—Filtration | Water purification Waterworks |
|----------------------------|-------------------------------|
- Equipment**
- Improved coagulation at the Richmond, Virginia, filter plant. M. C. Smith. *Am Water Works Assn J* 25:254-9 F '33
- Niagara Falls washwater tank. *il Can Eng* 65:15 Ag 15 '33
- Sacramento sets new standards in pretreatment. H. N. Jenks. *il diags Eng N* 111:1-5 J1 6 '33
- Specifications**
- Specifications for filter construction. W. E. Stanley. *Am Water Works Assn J* 25:105-12 Ja '33
- FINANCE**
- Calendar of outstanding financial events in 1932. *Mag of Wall St Manual* p9 Mr 6 '33
- Chapters in business and finance. 71p Bank of the Manhattan co, New York '32
- Current problems in public finance. 391p Commerce clearing house, inc, 205 W. Monroe st, Chicago '33
- Finance and politics. P. Einzig. 139p Macmillan '32
- Individualism amuck. E. S. Martin. *Mech Eng* 55:42 Ja '33
- Irrepressible conflict; business vs. finance. D. C. Coyle. 2d ed rev 45p 60c David Cushman Coyle, 101 Park av, New York '32
- Principles of public finance. H. Dalton. 7th ed 297p 5s Routledge '32
- Things talked about in Wall Street. Published in monthly numbers of Nation's business
- See also*
- |                                       |                             |
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| Air lines—Finance                     | Electric utilities—Finance  |
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Taxation  
Trusts, Industrial  
Waterworks—Finance

**Argentina**

Argentine finances. Economist 115:1023-4 D 3 '32

*See also*

Bonds, Government—Argentina  
Debts, Public—Argentina

**Arkansas**

Arkansas; sovereign in debt. J. P. Broderick. Barron's 13:6 Ap 10 '33

**Australia**

Australia makes big tax reduction. Barron's 12:13 N 21 '32  
Australia stages a comeback. Business Week p24 F 15 '33

*See also*

Bonds, Government—Australia

**Austria**

Austria, rediviva. Economist 117:860, 864-5 N 4 '33  
Government aid to banks—valorisation. Economist 116:691-2 Ap 1 '33  
New loan to salvage Austria. L. Pasvolsky. Barron's 13:18-19 F 20 '33

**Bolivia**

Bolivian finances. Economist 116:904 Ap 29 '33

**Canada**

Canada borrows in London. Economist 117:284-5 Ag 5 '33  
Canada has \$159,000,000 deficit in fiscal year. Barron's 13:15 Ap 3 '33  
Canada plans no currency-inflation experiments. Barron's 12:9 D 26 '32  
Canada's gold bonds abroad, and factors which promise contract payment. H. E. Hansen. Annalist 41:291-2 F 24 '33  
Canadian provinces balance their budgets. J. R. Clarke. Barron's 13:16-17 Mr 6 '33  
Inflationist movement in Canada. Economist 116:62-4 Ja 14 '33

**China**

Finance minister of the Republic of China. il map Fortune 7:44-6+ Je '33  
Foreign investments in China. C. F. Remer. 708p \$5 Macmillan '33

**Cuba**

Cuba maintains her credit; how Machado plans to avoid a moratorium on foreign debts. R. Bentham. Barron's 12:11 D 19 '32

**Egypt**

Egypt as a going concern. I. S. Pasha. Economist 115:1254-5; 116:372-3 D 31 '32, F 18 '33  
Egyptian finance. Economist 117:355-6 Ag 19 '33

**Europe**

Financial situation abroad. Published in monthly numbers of Bankers magazine

**France**

Annual report of the Bank of France for 1932. Fed Res Bul 19:149-52 Mr '33  
Budget; national finances; Caisse d'amortissement. Economist 117:670-1 O 7 '33  
Finance commission—socialist proposals. Economist 116:176-7 Ja 28 '33  
France's financial muddle. C. R. Hargrove. Barron's 13:12 Ap 3 '33

France's wall against depression giving way. M. D. Gould. Barron's 13:14 Mr 13 '33  
Hitler comes to power; France also changes governments. Business Week p5-6 F 8 '33  
La nouvelle loi fiscale du 28 février 1933. A. Lainé. Génie Civil 102:235-6 Mr 11 '33

*See also*

Budget—France

**Germany**

Bird in hand; Germans are finding it profitable to buy their dollar bonds in New York at depreciated prices and sell them in Berlin. Business Week p24 D 28 '32  
Foreign exchange transactions with Germany. Economist 117:354-5 Ag 19 '33  
Frozen credits in Germany. Barron's 13:11 Ja 9 '33  
German debts and foreign exchange. Economist 115:971-2 N 26 '32  
German public finances again threatened. R. C. Long. Annalist 40:709 N 25 '32  
Germany will pay on new plan. Business Week p22 Mr 1 '33  
Germany's banking credits. Economist 115:1069-70 D 10 '32  
Reich discussing freer exchange. Barron's 12:12 D 19 '32  
Standstill agreement. Economist 116:397 F 25 '33

*See also*

Debts, Public—Germany

**Great Britain**

British public expenditure, 1921-1931. J. Sykes. 388p P. S. King & son, ltd, London '33  
Finances anglaises. M. Lambert. Chimie & Ind 29:1461-3 Je '33  
Local government finance. Economist 115:969-70 N 26 '32  
Means to prosperity. J. M. Keynes. 37p Harcourt '33  
Midland bank limited ordinary general meeting, London. Economist 116:256-9 F 4 '33  
Montagu Norman; a study in financial statesmanship. P. Einzig. 255p 10s 6d Routledge '32  
National accounts. Economist 117:658-9 O 7 '33  
National accounts, 1932-33. Economist 116:737-8 Ap 8 '33  
Ray report. Economist 115:1018-19 D 3 '32

*See also*

Bank of England  
Bonds, Government—Great Britain  
Budget—Great Britain  
Gold as money—Great Britain

**History**

English public finance, 1558-1641. F. C. Dietz. 478p \$4 Century co. '32

**Greece**

Plight of Greece. Economist 116:6-7 Ja 7 '33

**Greece, Ancient**

New deal in ancient Greece; Solon's reforms resemble in many particulars the current program of recovery. E. Groseclose. Barron's 13:3+ Ag 28 '33

**Hungary**

Hungarian finances. Economist 116:902-3 Ap 29 '33  
Mr Tyler's report, transfer moratorium, League loan. Economist 116:75-6 Ja 14 '33

**Illinois**

Illinois financial survey. Pub Roads 14:37-51+ My '33

**Italy**

Italy facing sizable deficit in 1933-34. Barron's 13:19 Ja 30 '33

**Japan**

Finance minister of the Imperial government of Japan. il Fortune 7:42-3, 116-17+ Je '33  
Position of Japanese public finance. G. R. Parkin. Barron's 13:16-17 Ja 23 '33



## FINANCE—Continued

## Kentucky

Protective committee surveys problems of Kentucky counties' bonded indebtedness. *Ins Field* (Life ed) 62:4 J1 28; 4+ Ag 4; 4 Ag 11 '33

## Mexico

See also

Debts, Public—Mexico

## Michigan

Michigan financial survey. *Pub Roads* 14:57-72 Je '33

## New Hampshire

Report on a survey of the organization and administration of the state, county, and town governments of New Hampshire. 633p Institute for government research, Washington, D.C. '32

## New Jersey

Princeton survey. *Special Lib* 24:145-6 Ag '33  
Report on a survey of administration and expenditures of the state government of New Jersey, with recommendations of economies for the fiscal year 1933-34. 403p Princeton university, School of public and international affairs, Princeton, N.J. '33

## Peru

Peruvian picture. W. Hammond. *Barron's* 13: 18 My 22 '33

## Russia

Is Moscow pinched? *Business Week* p22-3+ Mr 22 '33

## Switzerland

Balancing the budget; economies and new taxation. *Economist* 117:537 S 16 '33

## United States

America go bust. L. Ludlow. 144p Stratford co, Boston '33

As I see it; can we borrow our way out?

C. Benedict. *Mag of Wall St* 51:465 F 18 '33  
Billions in forthcoming federal issues. G. E. Anderson. *Am Bankers Assn J* 25:14-16+ Ap '33

Costs of an unbalanced budget; easy short-term rates now may prove costly later on. *Barron's* 12:8 D 26 '32

Crisis in public finance. J. S. Lawrence. *Bradstreet's* 60:1658-60+ D 17 '32

Critical emergency in federal finance; National economy league offers practical method for tax relief. *Barron's* 13:3+ F 6 '33

Current aspects of federal finance. A. A. Ballantine. *Inv Banking* 3:44-8 N 16 '32

Dollars and sense, questions and answers in finance. I. Brant. 172p Day '33

Fallacies in financing government deficits; proposed bill basing note issue on price index has convertibility provision, but it would not work. *Barron's* 13:11 Ja 16 '33

Federal finances, 1923-1932. 124p \$2.50 National industrial conference board, New York '33

Financial policies of the administration; editorial. *Bankers M* 126:529-35 Je '33

Forecasting the new government money policy. T. M. Knappen. *Mag of Wall St* 51: 516-18+ Mr 4 '33

Future of government banking. J. Hanna. *Am Bankers Assn J* 25:11-13+ Je '33

Has the dollar been over-inflated? G. L. Lacher. *Iron Age* 131:549-50 Ap 6 '33

Henry P. Davison. T. W. Lamont. 373p \$3.50 Harper '33

How good is Uncle Sam's credit? J. C. Cresswill. *Mag of Wall St* 53:62-3+ N 11 '33

How will bank investments be affected by change in Treasury refunding policy? O. Lasdon. *Trust Companies* 56:423-4+ Ap '33

Inflation and federal credit. G. E. Anderson. *Am Bankers Assn J* 26:32+ S '33

Inflation or deflation? a problem in government finance. J. B. Hubbard. *Barron's* 13:3+ Ja 2 '33

Internal debts of the United States. E. Clark and G. B. Galloway, eds. 430p \$4.50 Macmillan '33

Position of federal Treasury. Guaranty Survey 13:6-7 S '33

Problem of the floating debt. Guaranty Survey 12:5-7 Mr '33

Purse of Uncle Sam. J. S. Lawrence. *Bradstreet's* 60:1696-8+ D 24 '32

Question of the deficit. *Nat City Bank* p180-2 D '32

Readings in public finance and taxation. M. C. Mills and G. W. Starr, eds. 823p Macmillan '32

Small long-term U.S. issue seen. S. C. Badger. *Barron's* 13:12 Mr 27 '33

Treasury bills. B. Towbin. *Harvard Business R* 11:507-11 J1 '33

Treasury finance; United States government debt and summary of Treasury operations. Published in monthly numbers of Federal reserve bulletin

Treasury financing by frequent issue of short-term certificates and bills to undergo some modification. *Bankers M* 126:153 F '33

Uncle Sam's borrowing program. *Econostat* 1:7 Ag 12 '33

Uncle Sam's credit is good; long-term issues are readily absorbed. *Business Week* p18-19 Ag 5 '33

United States government securities. Published in weekly numbers of *Annalist*

Why bankers are concerned with federal finance. G. V. McLaughlin. *Bankers M* 126: 135-7 F '33

See also

Banks and banking—	Government expenditures
United States	Inflation (finance)
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United States	Reconstruction finance corporation
Budget—United States	Silver as money—
Gold as money—	United States
United States	

## History

Financial panics in the past. Guaranty Survey 12:7-10 Mr '33

## Virginia

State grants-in-aid in Virginia. T. R. Snaveley, D. C. Hyde and A. B. Biscoe. 244p [bibliog] p233-61 \$2.50 Century co. '33

Virginia's economy measures. J. G. Pollard. *Manuf Rec* 101:22-3 D '32

## Wisconsin

Wisconsin financial survey. *Pub Roads* 14:21-36 Ap '33; Excerpts. *Roads & Sts* 76:224-7 Je '33; Abstract. *Eng N* 110:683 My 25 '33

## FINANCE, International

Bank for international settlements 3d annual report. *Fed Res Bul* 19:355-67 Je '33

Business and the conference; International chamber of commerce views conflict with our policy in London. L. Pasvolosky. *Barron's* 13:10 J1 3 '33

Defeat of the British reflationists. L. Pasvolosky. *Barron's* 13:7+ My 29 '33

Dollars vs. gold; England's debt payment in gold is liquidated by exchange of accumulated dollar balances for bars. *Business Week* p3-4 F 1 '33

Fight for gold; abstract. F. Delaisi. *Management R* 22:210 J1 '33

Gold and international trade. J. Donaldson. *bibliog Ann Am Acad* 165:181-96 Ja '33

International financial relationships and the world depression. F. W. Pethick-Lawrence. *Assn of Sp Lib & Inf Bur Proc* 1932:91-5

International gold notes. *Economist* 116:853-4 Ap 22 '33

London—via Brussels, Genoa, Geneva and other points on the way back from the war. E. H. Collins. *Am Bankers Assn J* 25:21+ Je '33

Mr Keynes' programme. *Economist* 116:568-9 Mr 18 '33

Problem before the World conference. L. S. Amery. *Gas J* (Lond) 202:405-7 My 17 '33

Way to world prosperity; well-planned world trade revival. E. F. Davies. *Bankers M* 126: 445-50 My '33

What London thinks about current banking conditions. D. Spring-Rice. map Rand McNally *Bankers Mo* 50:204-5+ Ap-My '33

**FINANCE, International—Continued**

World bank since Lausanne. *Am Bankers Assn J* 25:22-3+ *Ja '33*  
 World reserve system. G. E. Anderson. *Am Bankers Assn J* 25:18-19+ *Je '33*

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Balance of payments  
 Bank for international settlements  
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 Investments, Foreign  
 Loans, Foreign  
 Money, International  
 World economic conference, 1933

**FINANCE companies**

Finance companies ask conference with fire-casualty companies on premium financing. *East Underw* 34:1+ *N 10 '33*  
 How auto finance companies can aid in lowering insurance losses. S. R. Featherstone. *East Underw* 33:22+ *D 16 '32*  
 How to judge a finance company as a credit risk. A. W. Newton. *Rand McNally Bankers Mo* 50:610 *N '33*  
 New kinks for marketing the repossession. A. E. Graham. *Adv & Sell* 20:15-16+ *D 8 '32*  
 Sales for sale; Commercial investment trust buys. *Fortune* 7:70-4, 89-90 *Ja '33*  
 Supplementary credit facilities; modernization by the finance company route. K. C. Watson. *Manuf Rec* 102:22 *Je '33*

*See also*

Automobile industry and trade—Finance

**Accounting**

Audit features of finance companies' accounts. W. E. Crim. *J Account* 55:36-49 *Ja '33*

**FINANCIAL advertisers association**

Annual convention, New York, Sept. 11-14. *Bankers M* 127:469-77 *O '33*; *Trust Companies* 57:325-33 *S '33*

**Trust development division**

Advantages of organized cooperation among trust development men. W. A. Stark. *Trust Companies* 55:571-4 *N '32*

**FINANCIAL advertising. See Bank advertising; Investments—Advertising; Securities—Advertising****FINANCIAL crises***See also*

Business depression  
 Panics

**FINANCIAL statements**

Application-of-fund statement. A. L. Knollmuller. *J Account* 55:101-7 *F '33*

Applied scientific management; periodic financial reports and their uses. K. Hathaway. *Taylor Soc Bul* 18:37-40 *Ap '33*

Certifications on the customer's statement. *Am Bankers Assn J* 26:83 *S '33*

C.P.A. certification—what does it mean on the customer's statement? P. S. Suffern. *Bankers M* 127:147-52 *Ag '33*

First things first; credit interchange reports and financial statements. R. A. Colliton. *Credit & Fin Management* 35:17+ *Jl '33*

Forms and systems; avoiding peak loads. *System and Management Methods* 62:310 *Jl '33*

Gauging capacity to pay. E. S. Benjamin. *Credit & Fin Management* 35:8-9+ *N '33*

Innovation; Corn exchange bank and Northwestern life co. bare investments. set precedent. *Business Week* p8-9 *F 22 '33*

Interpreting current financial statements. *Mag of Wall St* 51:413 *F 4 '33*

Let competitors build your 1933 profits! comparing financial statements. R. H. Rositzke. *Forbes* 31:10-11 *Ap 1 '33*

Signed auditor's report should accompany financial statement. *Bankers Mo* 50:110 *F '33*

Standard financial ratios, today's guide posts of business. W. M. Halbrooks. *Management Methods* 61:564-5+, 670-4+ *O, D '32*

Three important balance sheet ratios. R. A. Foulke. *Dun & Bradstreet* 41:7-11 *Ag '33*

Truthful financial statements. R. M. Swisher. *Credit & Fin Management* 35:16-17+ *Mr '33*

Truthful operating statements. R. M. Swisher. *Credit & Fin Management* 35:10-11+ *Ap '33*

Valuation cycle; risk in accounts receivable which have restated their financial positions. E. I. Kilcup. *Credit & Fin Management* 35:12+ *Jl '33*

*See also*

Balance sheets  
 Business charts

**FINANCIAL statistics**

Financial statistics for foreign countries. Published in monthly numbers of Federal reserve bulletin

Interpretation of "money in circulation." *Analyst* 41:165 *Ja 27 '33*

*See also*

Banks and banking—Statistics

**FINIALS**

Large copper finial. *Il Sheet Metal Worker* 24:326 *O '33*

**FINK, Colin G.**

Perkin medal for 1934 is awarded to Dr. Fink. *por Oil Paint & Drug Rep* 124:22 *O 30 '33*

**FINLAND****Commercial policy**

Finnish trade agreement. *Economist* 117:664 *O 7 '33*

**Economic conditions**

Effects of the war on economic and social life in Finland. L. Harmaja. 125p \$2 Yale univ. press '33

**FIRE***See also*

Combustion  
 Fires  
 Flames  
 Heating  
 Smoke

**FIRE alarms**

Automatic fire alarm systems. W. H. Rodda. *Weekly Underw* 128:251-3, 445-7 *F 4, Mr 4 '33*

Donlarm new fire detector. *diag Engineer* 155:357 *Ap 7 '33*

False fire alarms not confined to April first. *Safety Eng* 65:139 *Ap '33*

Private alarm system model of efficiency; Los Angeles fire alarm co. *il Elec West* 70:164 *My '33*

Selbsttätige rauchmeldeanlagen und feuerlöscheinrichtungen. *il diag Zeit Ver Deutsch Ing* 76:300-1 *Mr 18 '33*

Underground conduit installed with no street excavation; laterals for fire alarm system in Tulsa pushed through the ground. S. J. Kline. *il diags Elec W* 102:314-16 *S 2 '33*

**FIRE apparatus**

Fighting fires with light. *Water Works & Sewerage* 80:176 *My '33*

Fire-fighting at its best. L. A. Luther. *il Comp Air M* 38:4150-1 *Je '33*

Precautions against freezing of fire extinguishing appliances. *Safety Eng* 64:265-6 *D '32*

*See also*

Fire extinguishers  
 Fire protection

**FIRE apparatus, Motor**

Motor fire engine for the Far East. *il Engineer* 156:193 *Ag 25 '33*

Motor turntable fire escape with steel ladder. *il Engineering* 135:666 *Je 16 '33*

Tractors used to break trails for brush-fire protection, Los Angeles. *il Eng N* 110:257 *F 23 '33*

**FIRE association of Philadelphia**

Annual statement. *Spectator* 130:29 *F 9 '33*

Otho E. Lane who gave the Fire association a new deal. E. S. Banks. *Spectator* 131:10 *S 21 '33*

**FIRE brick**

Chemistry of a fire-brick. J. F. Hyslop. *Engineer* 156:sup[Metallurgist] 74-5 *O 27 '33*

Chemistry of a fire brick; abstract and discussion. J. F. Hyslop. *Blast F & Steel P* 21:227-8 *Ap '33*



**FIRE brick—Continued**

Industrial advertiser opens new markets with new products; Babcock & Wilcox insulating firebrick. J. E. Brinckerhoff. *il* *Ptr Ink Mo* 27:45-6 *Jl* '33

Insulating refractory for heating furnaces; no. 80 insulating firebrick. *Iron Age* 131:433+ *Mr* 16 '33

Physical properties of the B & W 80 junior firebrick. Blast F & Steel *Pl* 21:387-8 *Jl* '33; Steel 92:28 *My* 15 '33

Regenerator chambers for furnaces using natural gas. H. J. Williams. *Iron Age* 132:20-2 *S* 14 '33

Research and refractory materials. A. T. Green. *Gas J* (Lond) 204:86-7 *O* 4 '33

Used salesmen in market research in developing new product; Babcock & Wilcox co.'s new firebrick. B. & W. 80 Junior. *Iron Age* 131:752 *My* 11 '33

*See also*

Magnesite brick  
Silica brick

**Manufacture**

Refractories. C. R. F. Threlfall and A. T. Green. *Soc Chem Ind J* (Chem & Ind) 52:347-8 *Ap* 21 '33; Same cond. *Chem Age* (Lond) 28:358-9 *Ap* 22 '33

**FIRE clay**

Fire clay for follow boards. P. Dwyer. *il* *Foundry* 61:34-5+ *Je* '33

Investigation of some of the refractories used in ladles and in ingot casting; some characteristics of the clays used in the manufacture of runners, stoppers, nozzles, etc. J. E. Priestley and W. J. Rees. *diags Soc Chem Ind J* 52:297T-304T *S* 22 '33

Selection of clays for saggars of predetermined resistance to thermal shock and prediction of sagger life in service. R. A. Heindl and L. E. Mong. *Am Cer Soc J* 16:601-6 *N* '33

*See also*

Fire brick

**FIRE companies' adjustment bureau, incorporated**

Executive personnel. *pors East Underw* 33:64+ *D* 9 '32

Loss bureau makes substantial savings in adjustment costs; report. P. L. Hald. *East Underw* 34:1+ *Je* 2 '33

Program; subrogation, special lines, automobile and aircraft, education of adjusters and branch offices. *Weekly Underw* 128:36+ *Ja* 7 '33

**FIRE damp**

Firedamp explosions and their prevention. W. Payman and I. C. F. Statham. 158p *Oxford* '31

**FIRE departments**

Salaries in fire departments of principal cities in the United States, December 1932. tables *Monthly Labor R* 36:1336-64 *Je* '33

**FIRE escapes**

Large uses of steel in small ways; sliding fire escapes. *il* *Steel* 93:41 *Ag* 28 '33

Survey of exit practice in buildings. H. B. Houghton and J. H. Courtney. *Eng N* 111:164-5 *Ag* 10 '33

**FIRE extinction**

Direct fire fighting; Glen Alden coal co. S. D. Dimmick. *map Coal Age* 38:239-41 *Jl* '33

Extinguishing internal transformer fires. G. S. Diehl and W. T. Crook, jr. *Elec W* 102:184 *Ag* 5 '33

Fighting forest fires. H. C. Johnston. *il* *Pulp & Pa of Can* 34:221-2 *Mr* '33

Fighting oil breaker fires. G. S. Diehl and W. T. Crook, jr. *Elec W* 102:153 *Jl* 29 '33

Firemen and the grid; interesting tests with 132 kV lines at Croydon. *Electrician* 110:804 *Je* 16 '33

Selects water for fighting outdoor transformer fires. *il* *diag Elec W* 102:110-11 *Jl* 22 '33

Steam-smothering and tanker safety. N. B. Musser. *Marine Eng* 38:292-4+ *Ag* '33

Water-jet conductivity. *il* *Elec R* (Lond) 113:48 *Jl* 14 '33

*See also*

Fire apparatus

Fire extinguishers

Fire service (water supply)

**FIRE extinguishers**

Application of the halogen derivatives of the hydrocarbons with particular reference to methyl bromide. A. Henning. *Soc Chem Ind J* (Chem & Ind) 52:462-4 *Je* 2 '33

CO<sub>2</sub> & H<sub>2</sub>O protect Safe-Harbor plant from fire. J. B. Cutler. *il* *diags Power* 77:367-9 *Jl* '33

CO<sub>2</sub> gas successfully used on cotton fire on motorships. *East Underw* 34:28 *Mr* 24 '33

L'extinction des liquides inflammables en combustion. C. Matignon. *Chimie & Ind* 28:1018-23 *N* '32

Fire extinguishers, shipments, monthly, 1925-1932. *Survey of Cur Business* 13:19 *Ag* '33

Fire prevention; installation of CO<sub>2</sub> equipment in transformer and switch chamber. *il* *Electrician* 109:727 *D* 2 '32

First five minutes. P. Bugbee. *il* *Nat Safety N* 27:15-16 *My* '33; Same. *Safety Eng* 65:137-8 *Ap* '33

Inert gas as fire extinguisher. *Weekly Underw* 128:876-8 *My* 6 '33

N.F.P.A. revises regulations for carbon dioxide extinguishers. *East Underw* 34:31 *Je* 23 '33

New foam generator; Phomene hopper. *il* *Safety Eng* 66:73 *Ag* '33

Piping CO<sub>2</sub> for fire fighting. H. G. Kincaid. *il* *diags Dom Eng* 142:34-6 *N* '33 (to be cont)

**FIRE hose****Manufacture**

Manufacture of cotton rubber-lined fire hose. H. R. Mauersberger. *il* *diag Melland* 5:157-9, 207-9 *Ag-S-O* '33

**FIRE houses**

Planning of public buildings; with views and plans. *Arch Forum* 59:199-207 *S* '33

**FIRE insurance. See Insurance, Fire****FIRE insurance company of Chicago**

Bushman ends long testimony in suit. *Ins Field* (Life ed) 62:5-6 *Ja* 27 '33

Master appointed to pass on charges made in petition. *Nat Underw* 36:5+ *D* 1 '32

Receivership action for carrier opposed. *Ins Field* (Fire ed) 62:7-8 *Je* 22; 7 *Je* 29 '33

Right of accounting against Wilson and Merritt upheld. *Nat Underw* 37:5+ *Je* 22 '33

Tangle of confusion is developed. *Ins Field* (Fire ed) 61:7-8 *D* 22 '32

**FIRE marks. See Firemarks****FIRE protection**

Address at annual meeting of National fire protection association. F. H. Wentworth. *Safety Eng* 65:217-18 *Je* '33

Architect and fire protection. A. D. Kahn. *Safety Eng* 64:263 *D* '32

Aviation dope rooms. *Weekly Underw* 128:876-7 *My* 6 '33

Building codes and fire prevention. F. Burton. *Safety Eng* 66:61-2+ *Ag* '33

CO<sub>2</sub> & H<sub>2</sub>O protect Safe-Harbor plant from fire. J. B. Cutler. *il* *diags Power* 77:367-9 *Jl* '33

Careless home owners in Wisconsin. *Safety Eng* 65:103-4 *Mr* '33

Coating wire with cellulose acetate. W. S. Magill. *il* *diag Nat Safety N* 27:25-6 *Je* '33

Developments in natural gasoline manufacture are reflected in safety problems at plants. C. H. Martin. *Oil & Gas J* 31:14+ *D* 8 '32

Every fire has its lessons. R. H. Ferguson. *Nat Safety N* 28:33-4+ *Jl* '33

Fire hazard of domestic heating installations. G. Q. Voigt. *pls U S Bur Stand J Research* 11:353-72 *S* '33

Fire prevention and industrial recovery. J. I. Banash. *Nat Safety N* 28:19-20 *S* '33

Fire prevention as it relates to industry. H. K. Rogers. *il* *Safety Eng* 64:221-2+ *N* '32

Fire prevention is credit protection. J. I. Banash; C. E. Meek. *Credit & Fin Management* 35:6-7+ *O* '33

**FIRE protection—Continued**

- Fire prevention week. *il* Safety Eng 66:93-5 S '33
- Fire prevention week material provided by the National board. *il* East Underw 34:20+ Ag 25 '33
- Fire prevention week results are announced. East Underw 33:20 D 30 '32; Same. Credit & Fin Management 35:38 F '33; Same cond. Weekly Underw 127:1246 D 31 '32
- Fire prevention year. A. C. Carruthers. Safety Eng 66:135-6+ O '33
- Fire protection classification. G. W. Booth. N E Water Works Assn J 47:190-4 Je '33
- Fire protection still kept at a high level; National Board report. East Underw 34:20 Je 2 '33
- Fire risks with celluloid. Engineering 135:654 Je 16 '33
- Fires increase tax burden; correction of bad conditions rather than systematic scolding needed. Weekly Underw 127:1061-2 D 3 '32
- Flood taught lessons in fire protection; Caterpillar tractor company. E. B. Warberg. *il* Nat Safety N 28:10-12+ S '33
- Fourteen points for home owners. Spectator 131:26 S 21 '33
- Grading cities on fire control. *il* Am Bankers Assn J 26:84-6 N '33
- Guarding against mine fires. O. A. Glaeser. *il* Eng & Min J 134:74-7 F '33
- Hazards of the holiday season. Safety Eng 64:264 D '32
- Hydrogenated safety fuel. W. W. White. *il* Safety Eng 64:261-3 D '32
- Ignition through unventilated air space. W. J. Tallamy. Weekly Underw 128:50+ Ja 7 '33
- Law and the building. M. J. Reidy. 181p Building publications co, New York '32
- List of inspected electrical appliances, May, 1933. 247p National board of fire underwriters, 207 East Ohio st, Chicago '33
- List of inspected fire protection appliances, January, 1933. 114p National board of fire underwriters, 207 East Ohio st, Chicago '33
- List of inspected gas, oil, and miscellaneous appliances, January, 1933. 98p National board of fire underwriters, 207 East Ohio st, Chicago '33
- N.F.P.A. fighting high water charges; reports of cities. East Underw 33:31 N 18 '32
- National recovery act will aid fire defense improvements. East Underw 34:26 JI 14 '33; *Ins Field* (Fire ed) 62:7-8 JI 6 '33
- Neon sign protection; improvements in equipment reducing risk of fire. E. A. Beavis. *il* diag Elec R (Lond) 113:309-10 S 8 '33
- No conflict is seen in work of the National fire protection association and the National board. Nat Underw 36:6 N 24 '32
- Philadelphia winner of fire waste contest. East Underw 34:26 Ap 14 '33; *Ins Field* (Fire ed) 62:7 Ap 13 '33; Spectator 130:28 Ap 13 '33; Safety Eng 65:140 Ap '33
- Prevent home fires. Safety Eng 64:225 N '32
- Prevention and control of farm fires. A. Secor, ed. 167p [bibliog p159-63] Alson Secor, Chicago '32
- Protect my property. *il* Pulp & Pa of Can 34:219-20 Mr '33
- Protecting the plant by remote control. R. K. Hyde. *il* Nat Safety N 27:31-2 Ja '33
- Residence hazards versus prevention. Weekly Underw 128:50-1 Ja 7 '33
- Rural fire losses greatly increased. T. A. Fleming. Spectator 129:27 D 15 '32
- Tests made to determine means for reducing cigarette hazard; Bureau of standards believes that fire hazards can be cut by application of tips. East Underw 34:26 N 3 '33
- To decrease losses—prevent big fires. *il* Safety Eng 66:97-8 S '33
- Tractors used to break trails for brush-fire protection, Los Angeles. *il* Eng N 110:257 F 23 '33
- Training children in fire prevention. Safety Eng 64:267; 65:25-6 D '32-Ja '33
- Uncovering the fire hazards. J. W. Just. *il* Nat Safety N 28:14-15+ Ag '33
- Watchman problem met by automatic protection plan. Nat Underw 37:10 O 12 '33
- Water content of certain fire-protective media. M. G. Mellon and J. E. Heck. *Ind & Eng Chem* 25:94-5 Ja '33
- Welding of vessels containing explosive gases made safe by carbon dioxide. L. G. E. Bignell. *il* Oil & Gas J 31:13 F 16 '33
- What do we mean by fireproof? T. A. Fleming. *il* Nat Safety N 28:25-6 O '33
- Why fire prevention week? A. W. Nelson. *il* Credit & Fin Management 35:13+ O '33
- Why use hazardous cleaners? G. M. Briggs. Nat Safety N 28:21-2 S '33
- See also*
- |                                     |                           |
|-------------------------------------|---------------------------|
| Airplane shops—Fires                | Petroleum industry        |
| and fire protection                 | and trade—Fires           |
| Airplanes—Fires and                 | and fire protection       |
| fire protection                     | Petroleum refineries      |
| Electric plants (central stations)— | —Fires and fire           |
| Fires and fire protection           | protection                |
| Fire alarms                         | Piers—Fires and fire      |
| Fire apparatus                      | protection                |
| Fire resisting materials            | Railroads—Fires and       |
| Fire service (water supply)         | fire protection           |
| Fireproof construction              | Records, Preservation     |
| Fireproofing                        | of                        |
| Insurance, Fire—                    | Sewage disposal—          |
| Preventive work                     | Fires and fire protection |
- FIRE resisting materials**
- T. S. S. Washington features new fire-resistant paneling. J. R. Fitzpatrick. *il* Marine Eng 38:208-13 Je '33
- See also*
- |                                       |                     |
|---------------------------------------|---------------------|
| Asbestos                              | Steel construction— |
| Concrete construction—Fire resistance | Fire resistance     |
- Testing**
- Fire tests of building materials. Chem Age (Lond) 27:596 D 24 '32
- Fire tests of columns protected with gypsum. N. D. Mitchell. *diags pls* U S Bur Stand J Research 10:737-55 Je '33; Abstract. Eng N 111:195-6 Ag 17 '33
- Fire tests of gypsum lath partitions. J Fr Inst 215:359-60 Mr '33
- Water content of certain fire-protective media. M. G. Mellon and J. E. Heck. *Ind & Eng Chem* 25:94-5 Ja '33
- FIRE service (water supply)**
- Fire protection classification. G. W. Booth. N E Water Works Assn J 47:190-4 Je '33
- Fire protection funds available from R.F.C. Nat Underw 37:2 Ag 24 '33
- Identification markings on fire plugs; discussion. Am Water Works Assn J 24:1854-61 D '32
- Impairments in fire protection and their causes. L. Daw. Am Water Works Assn J 25:725-7 My '33
- Inch-foot method of charging for public fire protection service. F. J. Gifford. N E Water Works Assn J 46:370-2 D '32
- Methods of financing fire protection. N. A. Eckart. Am Water Works Assn J 25:478-89 Ap '33
- Selects water for fighting outdoor transformer fires. *il* diag Elec W 102:110-11 JI 22 '33
- Water company's liability to householder for failure to furnish water to extinguish fire; suit. Econostat 1:28 JI 29 '33
- See also*
- Hydrants
- FIRE stations.** See Fire houses
- FIRE tests.** See Fire resisting materials—Testing
- FIRE underwriters association of the Pacific**
- Annual meeting, 57th, San Francisco, Feb. 7-8. *Ins Field* (Fire ed) 62:9+ F 9 '33; Nat Underw 37:3+ F 9 '33
- FIREARMS**
- See also*
- Pistols
- FIREMAN'S fund insurance company**
- Assets of \$32,500,000. East Underw 34:28 F 17 '33



**FIREMARKS**

- American fire marks. 133p Insurance company of North America, Philadelphia '33  
 Fireman's Fund house mark found after years of search. il East Underw 34:26 Jl 7 '33;  
 Excerpt. Nat Underw 37:8 Jl 6 '33  
 Principal buyer of firemarks, Linden T. Harris of Mutual fire assurance co, Philadelphia; value of some firemarks. East Underw 34:29 Mr 17 '33  
 Why fire marks were used in olden days. il East Underw 34:25 N 10 '33

**FIREMEN**

- Firemen's relief law in Virginia declared unconstitutional. Weekly Underw 129:367 Ag 26 '33  
 Salaries in fire departments of principal cities in the United States, December 1932. tables Monthly Labor R 36:1336-64 Je '33

**Pensions**

- Fireman accepting pension in lieu of compensation cannot maintain suit for damages. Monthly Labor R 36:1280 Je '33

**FIREMEN'S insurance company of Newark group. See Loyalty group****FIREMEN'S manuals**

- Fire chief's handbook. F. Shepperd. 485p Case-Shepperd-Mann pub. Corp, New York '32

**FIREPLACE equipment****Advertising**

- \$440 campaign pulls \$24,591 in orders; Jackson fireplace equipment. H. S. Stollnitz, jr. il Sales Management 32:515-16+ My 15 '33

**FIREPLACES****See also****Mantels****FIREPROOF construction**

- Architect and fire protection. A. D. Kahn. Safety Eng 64:263 D '32  
 Fire and casualty agent at work; what is fire-proof? C. G. Hale. Spectator 130:10 Ja 26 '33  
 Fire test of steel-joint floors. F. Burton. Eng N 109:656-7 D 1 '32  
 Fireproof often interpreted too liberally by general public. East Underw 34:30 Mr 3 '33  
 Precast concrete joists called key to firesafe homes. E. W. Dienhart. il diag Concrete 41:15-16 Mr '33  
 Strength of flat-arch floor construction, pt. 1. End spans. G. E. Large and C. T. Morris. il diag Ohio State U Eng Exp Sta Bul 78:1-49 '33; Excerpts. Brick & Clay Rec 83:88-9 S '33  
 What do we mean by fireproof? T. A. Fleming. il Nat Safety N 28:25-6 O '33

**See also**

- Concrete construction—Fire resistance  
 Concrete houses

- Fire resisting materials  
 Steel construction—Fire resistance  
 Steel houses

**FIREPROOFING**

- Essais comparatifs de combustion, exécutés sur divers matériaux d'ameublement. Génie Civil 103:310 S 23 '33  
 Flammenschutzmittel für holz. Zeit Ver Deutsch Ing 77:428 Ap 22 '33  
 No method yet developed to fireproof wood fully. T. R. Traux, C. A. Harrison and R. H. Baechler. Eng N 110:591-2 My 11 '33  
 Oxylene timber fireproofing process. Engineering 136:341 S 22 '33

**FIREPROOFING of textiles**

- Fireproofing fabrics; abstract. F. I. Sadov and P. V. Sterlov. Textile Col 55:543 Ag '33  
 Flame proofing of textiles; use of ammonium and boron compounds. R. Chesneau. Textile Col 55:375-7+ Je '33  
 Safety cloth; fireproof cotton fabrics. Arch Rec 73:305 Ap '33

**FIRES**

- Fire losses impose tax burden. D. J. Price. Safety Eng 66:23 Jl '33  
 Fire prevention pays; Wisconsin report. Safety Eng 65:177 My '33

- Give the fire department a chance! Safety Eng 65:103 Mr '33  
 Salvaging a burned pier for Cunard line in New York. R. T. Betts. il diag plan Civil Eng 3:550-4 O '33

**See also**

- Arson  
 Electric plants (central stations)—  
 Fires and fire protection  
 Fire extinction  
 Fire protection  
 Forest fires  
 Inflammable mixtures  
 Mine fires  
 Oil fires  
 Salvage (fires)  
 Ships—Fires and fire protection  
 Spontaneous combustion

**Statistics**

- American fire losses for the year 1931; tabulation. Safety Eng 65:62-4 F '33  
 Fire loss for 1932 decreases 2.2 p.c. Spectator 130:27 Ja 26 '33  
 Fire losses for 1932. Safety Eng 65:215-16 Je '33  
 Fire losses in 1932 put at \$406,885,959. Ins Field (Nat bd no) 62:5 My 26 '33  
 Fire records of many cities are compared. East Underw 34:34 Ja 6 '33; Same. Credit & Fin Management 35:38+ F '33  
 Fires in which there was loss of life; April-June, 1933. Safety Eng 66:63-4 Ag '33  
 Loss of life by fire; April-June, 1932. Safety Eng 64:225 N '32

**FIRESTONE tire and rubber company**

- Firestone renews his fight on private-brand tires. Ptr Ink 163:58-60+ Ap 6 '33  
 Opportunities in stocks that have not yet discounted their earnings recovery. Mag of Wall St 52:233-4 Je 24 '33  
 Profit margin highest since 1927. Barron's 12:20 D 12 '32; Rubber Age 32:163-4 D 10 '32; Automotive Ind 67:753 D 10 '32

**FIREWORKS**

- Reversal of the sodium line, D, in fireworks. C. S. Palmer. Science 78:102-3 Ag 4 '33

**FIRING**

- Questions and answers for the home fireman. J. F. Barkley. 34p U S Bur of mines, Washington '33

**See also**

- Boilers—Firing  
 Combustion  
 Draft  
 Fuel  
 Furnaces  
 Kilns—Firing  
 Stokers, Mechanical

**FIRST aid in illness and injury**

- Good Samaritans create good will; emergency first-aid service by trained employees. T. P. Sylvan. Nat Safety N 28:15+ S '33  
 Value of competent first aid. H. Winkler. il Safety Eng 64:226+ N '32

**See also**

- Electricity, Injuries from  
 Mine rescue work  
 Respiratory apparatus

**FIRST facts**

- Famous first facts. J. N. Kane. 757p \$3.50 Wilson, H.W. '33

**FIRST national stores, incorporated**

- \$4.78 for First national stores. Econostat 1:12+ Je 17 '33  
 Moderate decline for the past two quarters. Barron's 12:14 D 19 '32

**FIRST security company**

- First security co. to dissolve. Barron's 13:13 N 6 '33

**FISCAL year**

- Advantages of a natural fiscal year. A. S. Fedde. J Account 55:439-42 Je '33

**FISH, Canned. See Canned fish****FISH, Frozen**

- Developments in refrigeration of fish in the United States. J. M. Lemon. U S Bur of Fisheries Investigational Rep 16:1-32 [biblog p20-32] '32

- Fish preservation and marketing. il Can Chem & Met 17:97+ My '33

- Fishing industry grows with refrigeration. H. F. Taylor. il Refrig Eng 25:321-3 Je '33

- Influence of freezing temperatures on had-dock's muscle. G. A. Reay. Soc Chem Ind J 52:265T-70T Ag 25 '33

**FISH analysis**

Scientific problems of Canadian fisheries; some chemical aspects of the work of the Pacific biological station, Nanaimo, B.C. N. M. Carter. *il Can Chem & Met* 17:188-90 S '33

**FISH as food**

*See also*  
Canned fish  
Fish, Frozen

**Preservation**

Effect of carbon dioxide on bacterial growth with special reference to the preservation of fish; gas storage of fresh fish. F. P. Coyne. *Soc Chem Ind J* 52:19T-24T Ja 27 '33  
Fishing industry grows with refrigeration. H. F. Taylor. *il Refrig Eng* 25:321-3 Je '33  
Results of investigations made by the research committee in the fish industry; abstract. Lücke. *Refrig Eng* 25:40 Ja '33

**Testing**

Electrometric method for detection of relative freshness of haddock. M. E. Stansby and J. M. Lemon. *bibliog Ind & Eng Chem Anal ed* 5:208-11 My 15 '33

**FISH culture**

Nutritional requirements of trout. H. O'Malley. *Science* 76:593-4 D 23 '32  
Planting the trout crop. *il Comp Air M* 38: 4236-7 O '33

**FISH handling**

Billingsgate fish-box transporter. *il Engineer* 155:74 Ja 20 '33

**FISH meal**

*See also*  
Tuna meal

**FISH oil**

Fish oils in paint and varnish production; abstract. O. F. Denstedt and H. N. Brocklesby. *Soc Chem Ind J* 52:sup836 O 20 '33  
Unsaponifiable matter from the oils of elasmobranch fish; the structure of batyl and selachyl alcohols. W. H. Davies, I. M. Heilbron and W. E. Jones. *Chem Soc J* p165-7 F '33

*See also*

Cod liver oil                      Pilchard oil  
Halibut liver oil                Tuna oil

**FISH poisons**

Death of fish from cyanides in coke-oven effluents. C. H. S. Tupholme. *Ind & Eng Chem News ed* 11:211 J1 20 '33  
Poisoning of fish. W. W. Aitken. *Science* 78:59-60 J1 21 '33

*See also*

Cyanide poisoning—  
Fish

**FISH trade****Advertising**

Timely stratagems to cut costs or increase returns; Frank E. Davis fish company, Gloucester, Mass. *Sales Management* 33: 380-1 O 10 '33

**Statistics**

Production of fish, fresh and frozen, 1932. *Refrig W* 68:56 Ap '33

**Great Britain**

Britain's fish supplies. *Economist* 116:404; 117: 861 F 25, N 4 '33  
Fish, 1932. *Economist* 116:sup38 F 18 '33

**FISHERIES****Canada**

Fisheries statistics of Canada, 1931. 273p  
Canada Dominion Bur. of statistics, Fisheries statistics branch, Ottawa '32

Scientific problems of Canadian fisheries; some chemical aspects of the work of the Pacific biological station, Nanaimo, B.C. N. M. Carter. *il Can Chem & Met* 17:188-90 S '33

**FISHES**

Apparent parthenogenesis in nature, in a form of fish of hybrid origin. C. L. Hubbs and L. C. Hubbs. *Science* 76:628-30 D 30 '32; Discussion. A. B. Howell. 77:389-90 Ap 21 '33

Genera ctenogobius and rhinogobius Gill. tukugobius Herre, and drombus Jordan and Seale. A. W. C. T. Herre. *Science* 78:265 S 22 '33

New data on the deep sea fish stylophthalmus and idiacanthus. W. Beebe. *Science* 78: 390 O 27 '33

*See also*

Aquariums                      Herring  
Electric eels                    Tarpon  
Fish as food                    Trout

**FISHES, Fossil**

Ordovician and Devonian fish horizons in Colorado. C. H. Behre, jr. and J. H. Johnson. *bibliog Am J Sci* 5th ser 25:477-86 Je '33

**FISHING boats**

Diesel-engine trawler installation. *il Engineering* 136:409 O 6 '33

Marine electricity; auxiliary loads; the refrigerated ship. A. C. Hardy. *il Electrician* 111:257 S 1 '33

Oil engines for smaller craft. *il Marine R* 63:27 N '33

Telephone goes to sea; phoning from the fishing fleet. C. W. Tucker. *il Sci Am* 148:98-9 F '33

**FISHING harbors**

Le slipway de 650 tonnes, à garages rayonnants, du port de pêche de Lorient. *il diags Génie Civil* 103:221-5 S 2 '33

**FISK, Harlan Wilbut, 1869-1932**

Sketch. J. A. Fleming. *Science* 77:80 Ja 20 '33

**FISK rubber company**

Fisk plants bring \$3,030,000 at auction; operation to continue at Cicopee Falls. *Rubber Age* 33:25 Ap '33

Fisk sale and operation. *India Rubber W* 88: 45 My '33

**FITCHBURG, Massachusetts****Rapid transit**

Trolley buses please the public in Massachusetts community. *il map Transit J* 76:544-6 D '32

**FITS (machinery)**

Permanent set in certain cast nonferrous alloys and austenitic cast irons. J. E. Hurst. *Engineering* 136:429-31 O 20 '33

Tolerance system must recognize controlling influence of maximum fit. W. L. Hindman. *Automotive Ind* 68:706-8 Je 10 '33

**FITZGERALD, Desmond, 1846-1926**

Sketch. *Boston Soc E J* 20:61-2 Ap '33

**FIVE- and ten-cent stores**

Berlin bans new 5 & 10's; five Woolworth units cannot open. *il Business Week* p22 Ja 18 '33

Cigarettes in the 10-cent stores? *il Adv & Sell* 20:32 D 22 '32

How 10-cent package has created a place for itself. *il Ptr Ink* 161:60-3 D 15 '32

Variety chains face growing problems; keener competition, high rents, major profit obstacles. *Bradstreet's* 60:1732 D 31 '32

Woolworth's \$250,000,000 trick depends upon catching them young. *il Fortune* 8:62-70+ N '33

**FIVE-day week.** See Hours of labor—Five-day week

**FIXED assets.** See Assets, Fixed

**FIXED trusts.** See Investment trusts—Fixed trusts

**FLAME propagation**

Explosions of methane and air; propagation through a restricted tube. H. Robinson and R. V. Wheeler. *pl Chem Soc J* p758-60 J1 '33

Propagation of flame in electric fields; the effects of transverse fields. E. M. Guenault and R. V. Wheeler. *pl diags Chem Soc J* p2788-93 N '32

Studies in the mechanism of flame movement; the fundamental speed of flame in mixtures of methane and air. H. F. Coward and F. J. Hartwell. *pls Chem Soc J* p2676-84 N '32



**FLAME propagation—Continued**

Studies in the mechanism of flame movement; the speed of flame in currents of mixtures of methane and air. H. F. Coward and E. H. M. Georgeson. *diag Chem Soc J* p546-51 My '33

**FLAMES**

Economy and capacity of glass tanks; effect of flame luminosity and of other variables. W. Trinks. *diags Ind & Eng Chem* 25:865-70 Ag '33

Effect of an electric field on the flame temperature of combustible gas mixtures. B. Lewis and C. D. Kreutz. *Am Chem Soc J* 55:934-8 Mr '33

Experimental determination of the flame temperatures of complex mixtures of combustible gases and a method for calculating them. B. Lewis, H. Seaman and G. W. Jones. *J Fr Inst* 215:149-67 F '33

Flame phenomena of carbon monoxide. A. R. J. P. Ubbelohde. *diag Chem Soc J* p972-7 Ag '33

Flame temperatures of combustible gas-oxygen mixtures. H. H. Lurie and G. W. Sherman. *bibliog il diag Ind & Eng Chem* 25:404-9 Ap '33

Photographic analysis of explosion flames. W. A. Bone. *Gas J (Lond)* 202:515 My 24 '33; Same cond. *Engineering* 135:618 Je 9 '33; Same cond. *Chem Age (Lond)* 28:526 Je 10 '33

Photographic analysis of explosion flames; abstract. W. A. Bone. *Soc Chem Ind J (Chem & Ind)* 52:184 Mr 3 '33

*See also*

Combustion	Inflammable liquids
Gas burners	Inflammable mixtures
Gas lighting	Oxyacetylene apparatus
Ignition	

**FLANGING machines**

Rolls for producing flanged and recessed head. *il Mach* 39:359 Ja '33

**FLANNELET**

Monopole soap in the finishing of flannelettes. *Textile Com* 55:379 Je '33

**FLASHING**

Moisture penetration through masonry walls. *Architecture* 66:355-6 D '32

Some pitfalls in supervision. W. F. Bartels. *Architecture* 67:223-4 Ap '33

**FLASHING lamps.** *See Electric lamps—Flashing*

**FLASHOMETER**

New photographic flashometer developed. *Illum Eng Soc Trans* 27:764-6 D '32

**FLAVONES**

Anthoxanthins; synthesis of a colouring matter of *Robinia pseudacacia*. E. H. Charlesworth and R. Robinson. *Chem Soc J* p268-70 Mr '33

Synthetic experiments in the chromone group; derivatives of *o*-hydroxy-, 2:5-dihydroxy-, and 2:4:5-trihydroxyacetophenone. T. C. Chadha and K. Venkataraman. *Chem Soc J* p1073-6 Ag '33

**FLAVORING extract manufacturers' association**

Annual meeting, Chicago, June 19-21. *Oil Paint & Drug Rep* 123:42 Je 26 '33

**FLAVORING extracts**

Nine better packages pulled this product out of four depressions; Dr Price's vanilla. L. B. Colby. *Sales Management* 33:262 S 15 '33

Use, and misuse of flavors. J. H. Montgomery. *Food Ind* 5:400-2 O '33

*See also*

Essential oils

**FLAVYLUM compounds**

Synthetic experiments on the nature of betanin and related nitrogenous anthocyanins. A. M. Robinson and R. Robinson. *Chem Soc J* p25-9 Ja '33

**FLAX**

Chromosome numbers in flax (*linum*). A. C. Dillman. *Science* 78:409 N 3 '33

Flax fibre structure and quality; abstracts. S. A. G. Caldwell. *Textile Inst J* 24:A491, A497 O '33

Flax, hemp and jute, 1932. *Economist* 116: sup44-6, 62 F 18 '33

Investigation of the alkali lyes obtained by boiling flax. M. M. Tschilikin. *il Melland* 4:615-16, 676-7 Ja-F '33

Linen cellulose complex; the effects of alkaline hydrolysis. E. Butterworth and H. A. Elkin. *bibliog diag Textile Inst J* 24: T10-29 Ja '33

Structure, propriétés et préparation de la fibre de lin; abstract. G. Chaudron. *Génie Civil* 102:239 Mr 11 '33

Study of flax fiber in relation to quality. R. M. Snyder and B. B. Robinson. *il Melland* 5: 55-7 My '33

Study of the flax chloramines. M. M. Tschilikin. *il Melland* 5:249-51 N '33 (to be cont)

Theory of flax tow carding; abstract. J. B. Pears. *Textile Inst J* 24:A16 Ja '33

World flax crop 1932 and market position. *Textile Inst J* 24:p51-2 Mr '33

*See also*

Linen

**FLAXSEED**

Flaxseed prices rise sharply on government crop news. *Oil Paint & Drug Rep* 124:19+ Jl 17 '33

*Statistics*

Flaxseed, linseed oil, cake, and meal. Published in weekly numbers of *Oil, paint and drug reporter*

World flaxseed outlook. *Oil Paint & Drug Rep* 123:28 Ja 9 '33

**FLAXSEED oil.** *See Linseed oil*

**FLEAS as carriers of infection**

Epidemiological study of plague in Peru; with observations on the antiplague campaign and laboratory work. C. R. Eskey. *map Pub Health Rep* 47:2191-207, pl 1-2 N 18 '32

Research on typhus. R. E. Dyer. *Science* 76: sup12 N 25 '32

**FLETCHER, Frank Irving**

Six inches short of Shakespeare! L. E. McGivena. *Adv & Sell* 21:22-3+ Ag 17 '33

**FLEUSS, Henry Albert, 1851-1933**

Sketch. *Engineering* 135:196-7 F 17 '33

**FLEXOMETER**

Flexometer, an instrument for evaluating the flexural properties of cloth and similar materials. H. F. Schiefer. *pl U S Bur Stand J Research* 10:647-57 My '33

**FLEXURE***See also*

Elasticity	Strains and stresses
Flexometer	Strength of materials
Girders	

**FLIES**

Flies raised to test death sprays. A. R. Boone. *il Sci Am* 148:317 Je '33

Mrs. Consumer witnesses an execution; Purina fly spray. W. Sample. *il Ptr Ink* 164:32-3 Ag 17 '33

**FLIGHT**

Extracts from the aeronautical and miscellaneous note-book (ca. 1799-1826) of Sir George Cayley. *il diags Roy Aeronautical Soc J* 37:547-68 Je '33

How insects fly. R. E. Snodgrass. *il diags Roy Aeronautical Soc J* 37:113-44 [bibliog p143-4] F '33

Lateral control in birds and airplanes; abstract. R. R. Graham. *diags Mech Eng* 55: 440-1 Jl '33

Wing-beats. J. D. Batten. *il Roy Aeronautical Soc J* 37:168-76 F '33

*See also*

Aerodynamics  
Aeronautics  
Aviation

**FLIN FLON, Manitoba***Sanitary affairs*

Water supply system and sewers. F. E. Simmons. *il diag Can Eng* 64:25-7 F 23 '33

**FLINT**

Chert and flint, concretions, and cone-in-cone. W. A. Tarr. *Nat Research Council Bul* 89: 90-9 '32

**FLOATING** cranes. See Cranes, Floating

**FLOATING** docks. See Dry docks

# **FLOCCULATION**

Clarifying action of fuller's earth. M. E. Fogle and H. L. Olin. bibliog il Ind & Eng Chem 25:1069-73 O '33

# **FLOOD control**

Blasting channels for flood control. Manuf Rec 102:46 Ap '33

Building large earth dams with C.C.C. labor; Winooksi River flood-control project in Vermont. il diags Eng N 111:551-6 N 9 '33

Chinese river in Bavaria; model of the Hwang-ho river for flood control studies. il Sci Am 149:17 Jl '33

Discussion of the Report of the committee on floods of the Boston society of civil engineers. Boston Soc C E J 19:491-545 D '32

Greece engaged on huge reclamation project. R. H. Chambers. il maps Civil Eng 3:217-21 Ap '33

Inexpensive water-stage recorder developed; Los Angeles county flood control district. il Eng N 110:677 My 25 '33

Progress made on large engineering projects; land reclamation and flood control. il Eng N 110:158-9 F 2 '33

Rio Grande rectification will control floods; International boundary commission proposals. map Eng N 110:226-7 F 16 '33

Wrestling with some of China's rivers. O. J. Todd. il maps Civil Eng 3:304-8 Je '33

Yellow river—a major flood menace in China. A. M. Shaw. il maps Eng N 111:261-5 Ag 31 '33

See also

Dams	Reclamation of land
Dikes (engineering)	Reservoirs
Levees	Rivers—Regulation
Mississippi river—	
Flood control projects	

**FLOODLIGHTING.** See Light projection

# **FLOODS**

Emergency protection of water works in flooded areas. F. E. Hall. Am Water Works Assn J 24:1850-4 D '32

Erosion; a real menace in the Southwest. B. P. Fleming. Science 78:391-5 N 3 '33

How emergency flood conditions were met at Cincinnati. E. A. Munyan. il Gas Age 71:415-17 Ap 22 '33

Reservoirs and floods; review of report by committee appointed by the Institution of civil engineers. Engineer 156:188-9 Ag 25 '33

Treatment of flood-contaminated wells. Pub Works 64:32 S '33

See also

Flood control	Spokane flood (glacial)
Rain and rainfall	

## **California**

Analysis of flood produced by severe California cloudburst. Eng N 111:128 Ag 3 '33

## **China**

1931 flood in China; an economic survey. 74p pa \$1 Univ. of Chicago press '32

Yellow river—a major flood menace in China. A. M. Shaw. il maps Eng N 111:261-5 Ag 31 '33

## **Denver, Colorado**

Castlewood Dam failure floods Denver. il diags Eng N 111:174-6, 182 Ag 10 '33

Data on Castlewood Dam failure and flood. J. E. Field. Eng N 111:279-80 S 7 '33

Denver natural gas cut off by flood; standby plant fills sudden demand. il Gas Age 72:300-1 S 23 '33

## **Illinois**

Flooded waterworks requires emergency sanitation measures. Streater, Ill. il Eng N 111:225-6 Ag 24 '33

## **New England**

Discussion of the Report of the committee on floods of the Boston society of civil engineers. Boston Soc C E J 19:491-545 D '32

## **Ohio**

Tree and crop damage in flood-detention basins; Miami conservancy district. C. H. Eiffert. Eng N 111:370-1 S 28 '33

## **United States**

Ohio floods recede and none expected in Mississippi river. il Eng N 110:418-19 Mr 30 '33

## **Western states**

Record floods in Colorado, Wyoming and Arizona formulized. P. V. Hodges. map Eng N 111:171 Ag 10 '33

## **FLOODWAYS**

New plans for the Mississippi; special river problems studied by models; tests of Bonnet Carré railway embankment and floodway. il map Eng N 111:79-81 Jl 20 '33

## **FLOOR cleaning machines**

Large uses of steel in small ways. il Steel 93:34 Jl 17 '33

## **FLOOR coverings**

Bare floors no more; floor covering industry comes in early on the upturn. Business Week p14-15 Je 10 '33

See also

Carpets  
Linoleum  
Rugs

## **FLOOR surfacing machines**

Large uses of steel in small ways. il Steel 93:34 Jl 17 '33

Profits in sander rentals. R. Slayter. il Am Bld 55:67-8 Ag '33

## **FLOORING**

Details of special design floors of resilient materials. il Am Arch 143:35-40 Mr '33

Development and use of a Canadian plastic magnesia. A. F. Gill. il Can Chem & Met 17:200-3+ O '33

Durability of floor surfaces; Dorry abrasion test. J. R. Shank. Can Eng 64:17 Ja 24 '33  
Hardwood flooring industry. J. H. Worman. J Account 55:117-33 F '33

Mixture of asphalt and cypress wood fibre used as flooring; cypreturf. il Roads & Sts 76:344 S '33

Resilient flooring materials; selection and use of rubber, cork, asphalt, wood fibre and related synthetic composition floorings. diags Am Arch 143:89-95 Mr '33

When floors become worn or slippery. il Nat Safety N 27:21-2 My '33

See also

Motor buses—Floors

## **FLOORING, Rubber**

Lino floor covering. India Rubber W 87:26 Mr '33

Maintaining rubber floors. India Rubber W 87:40 D '32

## **FLOORS**

Abrasive resistance of natural stone floor tiles. J Fr Inst 215:739-40 Je '33

Fire test of steel-joist floors. F. Burton. Eng N 109:656-7 D 1 '32

Floor research. J. H. Longshore. 48p pa \$1 Continental chemical corporation, 303 Scott st, Watseka, Ill. '30

New materials and improved construction methods; lightweight roof and floor construction. A. L. Kocher and A. Frey. il diags Arch Rec 73:282-3 Ap '33

Les planchers à poutrelles en acier enrobées de béton. F. Chaudy. diags Génie Civil 103:283-4 S 16 '33

Strength of flat-arch floor construction. pt. 1, End spans. G. E. Large and C. T. Morris. il diags Ohio State U Eng Exp Sta Bul 78:1-49 '33; Excerpts. Brick & Clay Rec 83:88-9 S '33

See also

Bridges—Floors	Motor buses—Floors
Factories—Floors	Pavements

## **Anti-slip surfaces**

Alundum rubber bonded safety treads. il Safety Eng 65:189 My '33; Paper Tr J 96:25 Je 8 '33

Falls of persons. H. W. Mowery. Safety Eng 64:250+ D '32



**FLOORS**—Anti-slip surfaces—*Continued*

When floors become worn or slippery. *il Nat Safety N* 27:21-2 My '33

**Resurfacing**

Floor sanding needs more quality work. *G. S. Bartleson. il Am Bld* 54:34-5+ F; 38-9+ Mr '33

**Testing**

Essais de planchers nervurés soumis à l'effet de charges concentrées. *F. Biron. diags Génie Civil* 103:433-4 O 28 '33

**FLOORS, Concrete**

Concrete floor finishes. *il diags* 23p Portland cement assn, 33 W. Grand av, Chicago '33

Concrete floors. *Can Min J* 54:265-6 JI '33

Durable concrete floors made with a careful choice of aggregate and workmanship. *L. H. Corning. il Oil & Gas J* 32:10+ JI 27 '33

Fast-truck concrete haul cuts building cost; construction of the Meadowbrook hospital in Nassau county, New York. *W. J. Barney. il Eng N* 109:779 D 29 '32

Fireproof concrete homes may be built at moderate cost. *il Concrete* 41:3-4 My '33

How to maintain floors for greatest net profit. *H. L. Schultz. il diags Maintenance Eng* 91:33-6 F '33; [cont as] *Factory Management* 91:199-202 My '33

Longer life for concrete floors; obtaining dust-proof, waterproof and fireproof qualities with Ironite. *il Chem Age (Lond)* 27:435 N 5 '32

Metal forms for floor become finished ceiling. *il Iron Age* 132:27 S 14 '33

Newspaper building floor designed for 2,100-lb. load; Times-Star building in Cincinnati, supported with pipe-pile foundations. *W. A. Lensky. il plans Eng N* 110:586-8 My 11 '33

Place colored concrete floor finish by unique method. *G. E. Warren. il Concrete* 40:11 D '32

Precast concrete joists called key to firesafe homes. *E. W. Dienhart. il diag Concrete* 41:15-16 Mr '33

Precast joists for low cost concrete floors. *il Am Bld* 55:39 Ap '33

Progress with precast concrete joist floors for residences. *R. E. Copeland. il Rock Prod* 36:50-1 O '33

Reinforced concrete combined with light steel joists; composite floor construction well adapted to light occupancy. *R. C. Johnson. il diag Concrete* 41:3-4 N '33

Unique floor slab uses two kinds of concrete; long-span, light-weight construction in new Pine Plains, N.Y. school. *il diags Eng N* 111:565-6 N 9 '33

**Cleaning**

How to clean an oil-soaked floor. *Power* 77:494 S '33

**Testing**

Goodrich floor wear tester. *il India Rubber W* 89:68 O '33

**FLOORS, Steel**

Giant hangar has all-welded floors. *Sci Am* 147:370 D '32

Grandstand deck is formed of steel plates, all arc welded. *il Steel* 92:25 Ap 17 '33

New type deck used on Reading pier. *il Ry Age* 95:82-3 JI 8 '33

Objections to use of welded steel floors. *C. O. Skinner. il Iron Age* 131:387-8+ Mr 9 '33

**FLOORS, Wood**

How to maintain floors. *H. L. Schultz. Factory Management* 91:201-2 My '33

When to lay wood floors over concrete sub-floors. *M. E. Dunlap. il Eng & Contr* 71:275-6 D '32

**FLORENCE, Italy****Architecture**

Public stadium in Florence; views and plans. *Arch Rec* 74:105-12 Ag '33

**FLORICIN**

Frequency variation of the dielectric constant of dilute non-aqueous solutions. *J. L. Oncley and J. W. Williams. diags Phys R* 43:341-54 Mr 1 '33

**FLORICULTURE**

Florist business. *E. A. White. 426p \$4 Macmillan* '33

Response of crops to electric light. *R. B. Withrow. il Elec W* 102:411-12 S 23 '33

**FLORIDIN**

Catalytic polymerization of propylene. *F. H. Gayer. bibliog Ind & Eng Chem* 25:1122-7 O '33

**FLORISTS****Advertising**

Florists are preparing for Easter now and here is the perfect tie-up. *il Inland Ptr* 90:37-9 Ja '33

**FLOTATION plants**

Design, equipment, and construction costs of the Davis-Dunkirk concentrator, Prescott, Ariz. *E. L. Sweeney. flow sheet U S Bur Mines Information Circ* 6730:1-5 '33

Hoge mill; fifty-ton plant treats gold ore formerly unworkable. *F. G. Moses. flow sheet il Eng & Min J* 134:422-4 O '33

Milling practice of Roumanian gold mines. *G. Quittkat. flow sheets il Can Min J* 53:531-6 D '32

**FLOTATION process**

Advance in flotation; sphalerite and copper minerals separated. *R. E. Barthelemy. Eng & Min J* 134:280-1 JI '33

Amalgamation-flotation of gold ore; metallurgical operations at the Boise-Rochester mill of the St Joseph lead company. *S. Campbell. flow sheet il Eng & Min J* 134:188-90 My '33

Coarse flotation. *diags Can Min J* 54:276-7 JI '33

Consumption of flotation reagents in 1931. *Min & Met* 14:92 F '33

Developments in flotation-cyanidation. *L. E. Tucker and S. J. Swainson. Eng & Min J* 133:618-20 D '32

Economic results of the new technique in phosphate recovery. *C. E. Heinrichs. Min & Met* 14:329-32; Discussion. 332, 350 Ag '33

Effect of particle size on flotation of sphalerite. *R. L. Kidd and W. A. Wall. Min & Met* 14:421-2 O '33

Flotation—basic science at the World's fair. *il Can Min J* 54:352-3 S '33

Flotation on the mother lode; Idaho Maryland mines co, Grass Valley, Calif. *E. W. Ellis. flow sheet il Eng & Min J* 134:382-3 S '33

Flotation plant practice. *P. Rabone. 141p Mining publications, Ltd, London* '32

Gravity milling and flotation of low-grade gold ore; Beebe gold mining company. *J. B. Huttel. flow sheet il diag Eng & Min J* 133:630-1 D '32

Identification of cerussite and anglesite, and flotation with galena. *F. D. DeVaney and R. E. Evans. il U S Bur Mines Rep of Invest* 3214:1-9 '33

McIntyre metallurgy; flotation and cyanidation. *J. J. Denny. flow sheet il diags plan Eng & Min J* 134:472-84 N '33

Metallurgical practice at Broken Hill, New South Wales. *flow sheets il Eng & Min J* 134:61-4 F '33

Metallurgy of gold. *A. J. Clark. Min & Met* 14:15-16 Ja '33

Microscope reveals influence of mill grinding on floatability of gold. *G. L. Oldright and R. E. Head. bibliog il Eng & Min J* 134:223-32 Je '33; Discussion. *J. W. Neill. 134:349 Ag '33*

Ore concentration and consumption of flotation reagents in 1931; abstracts. *T. H. Miller and R. L. Kidd. Min & Met* 14:92 F '33; *Eng & Min J* 134:98 Mr '33

Phosphate flotation. *C. E. Heinrichs. Chem Markets* 32:231-2 Mr '33

Physical chemistry of flotation. *I. W. Wark and others. bibliog J Phys Chem* 37:623-44, 797-819 My-Je '33

Progress in concentrating Tintic Standard silver-lead ore; flotation and gravity concentration. *C. A. Schempp. Min & Met* 14:291-2 JI '33

**FLOTATION process—Continued**

- Recovery by flotation of mineral particles of colloidal size. A. M. Gaudin and P. Malozemoff. *J Phys Chem* 37:597-607 [bibliog p606-7] My '33
- Soluble metal xanthates and their effect on differential flotation. S. P. Warren. *Min Cong J* 19:39+ My '33
- Statistical microscopic examination of mill products of the Copper Queen concentrator, of the Phelps Dodge corporation, Bisbee, Ariz. R. E. Head and others. *flow sheet diags U S Bur Mines Tech Pa* 533:1-48 '32
- Surface actions of some sulfur-bearing organic compounds on some finely-ground sulfide minerals. A. M. Gaudin and W. D. Wilkinson. *bibliog J Phys Chem* 37:833-45 O '33

**Bibliography**

- Flotation index; a bibliography of articles on flotation. [Third annual revision, April 1, 1933] 34 numb 1 Great western electrochemical company, San Francisco '33

**FLOTATION process (coal)**

- Flotation processes for cleaning fine coal. H. F. Yancey and J. A. Taylor. *U S Bur Mines Information Circ* 6714:1-31 '33
- Les procédés de flottage pour l'épuration des charbons fins. C. Berthelot. *bibliog il diags Chimie & Ind* 30:770-86 O '33
- Why and when to use flotation process. E. W. Mayer. *Coal Age* 38:333-4, 375-9 O-N '33

**FLOUR**

- Diskussionstagung über weizen- und weizenmehlqualität, Halle a. d. S., 27. und 28. Januar 1933. *Angew Chemie* 46:154-8 Mr 11 '33
- Effect of the addition of oils and fats to doughs on the composition of the washed-out glutens. E. A. Fisher and P. Halton. *Soc Chem Ind J* 52:195T-8T Je 30 '33
- Flour milling is not merely grinding but selective grinding. C. G. Harrel and R. C. Benson. *il Food Ind* 5:450-2+ N '33
- How science can help to improve the nation's food supply; wheat. E. A. Fisher. *il Soc Chem Ind J (Chem & Ind)* 52:630-6; Discussion. 636-7 Ag 4 '33
- Some problems of the chemist in the flour industry. A. J. Hammer. *bibliog Soc Chem Ind J (Chem & Ind)* 52:152-5 F 24 '33
- Taking the mystery out of a new car of flour. R. J. Clark. *il Food Ind* 5:435-7+ N '33

*See also*

Soy bean flour

**Testing**

- Examination of the claim that the swelling of gluten in acid solution is a satisfactory foundation for the evaluation of flour quality. E. A. Fisher and P. Halton. *Soc Chem Ind J* 52:91T-7T Ap 7 '33

**Transportation**

- Conditioning cars for flour loading. O. W. Galloway. *Ry Mech Eng* 106:517 D '32
- Paper bags carry flour into North woods. *il Pulp & Pa of Can* 34:326 My '33

**FLOUR mills**

- Cleaner plant at less expense: Fisher flouring mills company. F. J. White. *il plan Factory Management* 91:94-5 Mr '33
- Decline of Northwestern flour milling. V. G. Pickett and R. S. Valle. *il diags Univ of Minnesota Studies in Economics and Business* 5:1-83 '33

*See also*

Corn products plants

**Equipment**

- No more costly shutdowns with this modern power transmission; Buffalo flour mills company. *il Factory Management* 91:349-50 S '33

**FLOUR trade**

- Changes in wheat and flour trade channels. Bradstreet's 61:299 F 4 '33
- Flour millers fail to reach agreement with A.A.A. Food Ind 5:464 N '33
- More convenience in the home; Sno Sheen cake flour. *il Ptr Ink* 163:54 My 18 '33

**Advertising**

- Grocer gets a prize, too; Washburn-Crosby company. *Ptr Ink* 162:64 Mr 9 '33
- 2,000,000 cakes in one week. *Ptr Ink* 161:71 D 22 '32
- You sold chemises, not flour! W. T. Laing. *Ptr Ink* 164:64+ Ag 10 '33

**Statistics**

- Wheat, flour and cereals; wheat and flour trends. *Food Ind* 5:46-7 F '33
- Wheat flour; consumption and production, July 1931-December 1932. Survey of Cur Business 13:19 Ag '33

**FLOW meters**

- Bailey sewage meters. *il Water Works & Sewerage* 80:71 F '33
- Brown area flow meter. *il diag Melland* 5:124-5 Je-Jl '33; Chem & Met Eng 40:320 Je '33
- Brown flow meter for oils, chemicals, food-stuffs. *il Heating-Piping* 5:210 Ap '33; Power Pl Eng 37:230 My '33; Concrete (mill sec) 41:36 My '33
- Brown mechanical flow meter. *il diag Engineering* 135:530-1 My 12 '33
- Constant head flow meter. W. Gavett. *diag Water Works & Sewerage* 80:282 Ag '33
- Durchflussmesser mit umlaufendem messteil. W. Geyer. *diag Zeit Ver Deutsch Ing* 77:889-90 Ag 12 '33
- Electroflow meters for fluid flow. *il Chem Age (Lond)* 27:452-3 N 12 '32
- Elektrische fernzählung von durchflussmengen. W. Geyer. *diags Zeit Ver Deutsch Ing* 77:75-6 Ja 21 '33
- Escapement type integrator is Bailey development. *diags Concrete (mill sec)* 41:47 F '33; *il Heat & Ven* 30:57-8 F '33; *Power Pl Eng* 37:151 Mr '33
- Flow meters. L. Gess. *diags Heating-Piping* 4:792-3 D '32
- Flow meters and modernization. *il Heating-Piping* 5:34-5 Ja '33
- Fluid-flow ratio regulator. *il diag Engineering* 135:261-2 Mr 3 '33
- Improved type of flow meter for hydraulic turbines. I. A. Winter. *diags Am Soc C E Proc* 59:565-84 Ap '33; Discussion. 59:1046-9, 1524-5 Ag, N '33
- Meters and controllers in the laboratory. *il Chem Age (Lond)* 28:390 Ap 29 '33
- National meter announced. N. B. Wilson. *il Can Eng* 65:16 Ag 15 '33
- New Brown mechanical flow meter. T. R. Harrison. *il Paper Tr J* 96:22-3 Ap 6 '33
- New flow meter uses side contractions only. F. A. Nagler. *il diags Eng N* 111:132 Ag 3 '33
- Old difficulties removed by Brown area-type flow meter. L. Gess. *il diag Oil & Gas J* 31:72 My 4 '33
- Rate and quantity records transmitted over telephone circuits; Chronoflo system. C. G. Richardson. *il diags Power* 77:304-5 Je '33
- Ring balance flow meter. *il Engineer* 155:558 Je 2 '33
- Rotameter; indicating flow meter. *il Power* 76:320 D '32
- Rotating-piston fluid meter; Revolve meter. *il Engineering* 134:577 N 11 '32
- Steam meters in the heating system. F. G. Austin. *il Heat & Ven* 29:35-8 D '32
- Tagliabue magnetic-clutch flow recorder and controller. *il diags Engineering* 135:582 My 26 '33
- Two methods of measuring water to hydraulic turbines. *diags Power* 77:126-7 Mr '33
- Variable orifice flow meter. G. W. Marks. *diag R Sci Instr* 3:764-5 D '32
- Wide range variable gas flowmeter. B. W. Bradford. *diag Soc Chem Ind J (Chem & Ind)* 52:363-4 Ap 28 '33; Abstract. *Am Gas J* 138:36 Je '33

*See also*

Current meters  
Gas meters  
Orifices

Steam meters  
Venturi flume  
Water meters

**Advertising**

- Three-thousand dollar sales—these days—to executives; Republic flow meters co. H. W. Stoetzel. *Ptr Ink* 165:96-7+ O 19 '33



**FLOW** of air. See Air flow

**FLOW** of gas. See Gas flow

**FLOW** of oil. See Oil flow

**FLOW** of water. See Hydraulics; Water flow

#### **FLOW regulators**

International filter company announces Infilco type CD rate of flow controllers. *il* Water Works & Sewerage 80:309 Ag '33  
Tag magnetic clutch flow controller. *il* Oil & Gas J 31:74 F 9 '33

#### **FLOWERS**

Chemische mittel zum frischerhalten von schnittblumen und schnittpflanzen. W. Liebisch. *Angew Chemie* 46:149-51 Mr 11 '33

See also

Floriculture  
Florists

**FLOWERS**, Color of. See Color of flowers

#### **FLUE dust**

Arresting of flue dust and purification of gases. M. D. Engle. *diags Mech Handling* 20:211-14 J1 '33

Cement industry looks toward byproduct potash recovery; comparison of Multiclone collectors and Cottrell precipitators. P. E. Landolt. *il* Chem & Met Eng 40:345-9 J1 '33

Development of a new type cinder catcher for the Hudson Avenue station. G. C. Cook. *il* diag Power 77:598-9 N '33

Engineering aspects of coal dust control; Brooks, et al. vs. the Edison electric illuminating company of Boston. *Elec W* 102:443-6 S 30 '33

Flue gas dust. J. Mayer. *Power Pl Eng* 37:93 F '33

Flugstaubscheidung aus rauchgasen; kritische zusammenfassung eines berichtes der Electricity commission. W. Reerink. *Zeit Ver Deutsch Ing* 77:770-2 J1 15 '33

Grit emission from power stations; report of committee appointed by Electricity commissioners. *Engineering* 134:714-15 D 16 '32; *Engineer* 154:618-20 D 16 '32; *Elec R (Lond)* 111:923 D 23 '32; *Electrician* 109:810 D 23 '32; *Mech Eng* 55:385 Je '33

Investigations on the emission of dust and grit from power-station chimneys in Holland. A. J. ter Linden. *il* diags *Engineering* 136:279-82, 353-5 S 15, 29 '33

Lodge-Cottrell electrostatic dust-separator plant. *il* *Elec R (Lond)* 113:610 O 27 '33

Recovery of smelter dust and oxide at a secondary metals plant. W. Romanoff and C. O. Thieme. *il* *diag Min & Met* 14:425-7 O '33

Smoke and flue dust. *Power* 77:231 My '33

Smoke and pure air activities mark time. *Power* 77:25 Ja '33

Smoke, cinder, fly ash; symposium at A.S.M.E. meeting, Chicago. *Power* 77:343-4 J1 '33

Die technische gewährleistung für entstauber unter besonderer berücksichtigung der flugstaubscheider. R. Nagel. *Zeit Ver Deutsch Ing* 77:1017-18 S 16 '33

See also

Blast furnace gas

Flue gas

Blast furnaces

Smoke

#### **FLUE gas**

Analysis of chimney-draft equations. J. C. Smallwood. *Mech Eng* 55:32-4 Ja '33

Application to the Battersea power station of researches into the elimination of noxious constituents from flue gases and the treatment of resulting effluents. S. L. Pearce and others. *plans Engineer* 156:32-4 J1 14 '33; *Abstracts. Chem Age (Lond)* 29:49 J1 15 '33; *Soc Chem Ind J (Chem & Ind)* 52:593-4 J1 21 '33; *Elec R (Lond)* 113:50 J1 14 '33; *Electrician* 111:85 J1 21 '33; *Discussion. Soc Chem Ind J (Chem & Ind)* 52:594-5 J1 21 '33; *Elec R (Lond)* 113:84 J1 21 '33; *Electrician* 111:85-6 J1 21 '33

Appraisal of industrial gas fuels. A. E. Blake. *Iron Age* 131:854-5 Je 1 '33

Arresting of flue dust and purification of gases. M. D. Engle. *diags Mech Handling* 20:211-14 J1 '33

Battersea gas washing costs and layout. *Elec W* 102:166 Ag 5 '33

Brown smoke density meter. R. D. Bean. *il* *diag Blast F & Steel Pl* 21:166-7 Mr '33  
Cooperative research in chemical engineering; removal of sulphur dioxide from waste gases. D. B. Keyes. *Chem & Met Eng* 40:404 Ag '33

Effectiveness of flue-gas cleaners; abstract. H. E. Wallsum. *Elec W* 101:608 My 13 '33

Efficient cement clinker making. R. R. Coglan. *Rock Prod* 36:30-2 J1 '33

Feed-water heating. R. Livingstone. *Elec R (Lond)* 111:952-3 D 30 '32

Flue gas heat losses when oil is the fuel. N. C. Ebaugh. *Power* 77:128-9 Mr '33

Flue-gas temperatures; a method of estimating most economical values. R. Livingstone. *Elec R (Lond)* 113:4 J1 7 '33

Herbert flue gas cleaner. *diags Engineer* 155:supp vii F 17 '33

How to make solid CO<sub>2</sub> from flue gas. W. R. Kitzmiller. *il* *diags Power* 77:296-8 Je '33

Minimising the nuisance from boiler flue gases. H. E. Wallsum. *Chem Age (Lond)* 28:167-8 F 25 '33

Mol: direct road to the answer in all combustion problems. E. F. Dawson. *Power* 76:292-4 D '32

Oil fuel firing and combustion equipment. E. G. Peterson. *Power Pl Eng* 37:303-4 J1 '33

Principles in power plant operation essential to smoke abatement. A. E. Grunert. *il* *Power* 77:542-3 O '33

Pure air; current research projects. *Power* 77:263-4 My '33

Removal of solid sulphur compounds from combustion gases; abstract. D. Brownlie. *Mech Eng* 55:700 N '33

Research in fundamentals of combustion space requirements in high temperature gas furnaces. E. O. Mattocks. *il* *diags Am Gas Assn Mo* 15:323-5 Ag '33

Smoke, cinder, fly ash; symposium at A.S.M.E. meeting, Chicago. *Power* 77:343-4 J1 '33

Solid carbon dioxide from flue gas by application of Joule-Thomson effect. F. E. E. Germann. *bibliog Ind & Eng Chem* 25:150-2 F '33

Zinc-blende treatment; electrical precipitating plant for purifying gases produced by roasting. *Electrician* 111:472 O 20 '33

See also

Flue dust  
Smoke

#### **Analysis**

Application of gas analysis to industrial problems. M. Bermann. *Gas Age* 72:211-14 S 2 '33

Flue gas heat losses when oil is the fuel. N. C. Ebaugh. *Power* 77:128-9 Mr '33

#### **FLUES**

Research in fundamentals of combustion space requirements in high temperature gas furnaces. E. O. Mattocks. *il* *diags Am Gas Assn Mo* 15:289-94 J1 '33

See also

Chimneys

**FLUID meters**. See Flow meters

#### **FLUIDITY**

See also

Mobilometer  
Viscosity

#### **FLUIDS**

Behavior of fluids in turbulent motion. A. Page. *bibliog il* *diags Roy Aeronautical Soc J* 37:573-93 J1 '33; *Abstract. Mech Eng* 55:695 N '33; *Discussion. Roy Aeronautical Soc J* 37:593-600 J1 '33

Development of our knowledge of the laws of fluid mechanics. W. F. Durand. *Science* 78:343-51 O 20 '33

Equation of state of real fluid. S. C. Bradford. *Engineering* 135:439 Ap 21 '33; *Abstract. Mech Eng* 55:443 J1 '33

Flow of fluids in closed conduits. R. J. S. Pigott. *Mech Eng* 55:497-501+ Ag '33

Fluid flow; current research projects. *Power* 77:254-6 My '33

**FLUIDS—Continued**

Measurement of the permeability of porous media for homogeneous fluids. R. D. Wyckoff and others. *il diag R Sci Instr* 4:394-405 J1 '33

Most economical size of pipe for transmitting fluids. P. M. Gallo. *Blast F & Steel Pl* 21:326-7, 377-9 Je-J1 '33

Pressure losses of one fluid as a criterion of the pressure losses for any fluid. H. J. Macintire and G. Edwards. *bibliog Refrig Eng* 26:185-9; Discussion. 189 O '33

Spiral flow of gases and liquids; abstract. C. Schuster. *Mech Eng* 55:442-3 J1 '33

*See also*

Aerodynamics

Air flow

Gas flow

Gases

Hydraulic engineering

Hydraulics

Hydrodynamics

Hydrostatics

Liquids

Osmosis

Solution (chemistry)

Vapors

Viscosity

**FLUKES**

Investigations in Puerto Rico on Manson's blood-fluke infection (schistosomiasis mansoni). E. C. Faust. *Science* 78:62-3 J1 21 '33

Specificity of frog flukes. L. G. Ingles. *Science* 78:168 Ag 25 '33

**FLUMES**

Improved transition adds to flume capacity; Agua Fria river flume of Roosevelt irrigation district. J. A. Fraps. *il diags Eng N* 111:110-12 J1 27 '33

**FLUOGERMANIC acid**

Germanium; some new salts of fluoegermanic acid. L. M. Dennis and B. J. Staneslow. *il Am Chem Soc J* 55:4392-6 N '33

**FLUOPHOSPHORIC acid**

Fluorophosphorsäuren; abstract. W. Lange. *Angew Chem* 46:393-4 Je 24 '33

**FLUORENONE**

Occurrence of a new case of isomerism in the fluorenone carboxylic acid series; isomeric products from the action of sulfuric acid upon 3,3'-dichlorodiphenic acid. E. H. Huntress, I. S. Cliff and E. R. Atkinson. *bibliog Am Chem Soc J* 55:4262-71 O '33

Preparation of certain disubstituted fluorenes by the action of heat upon the corresponding substituted diphenic acids or their derivatives. E. H. Huntress and I. S. Cliff. *bibliog Am Chem Soc J* 55:2559-67 Je '33

**FLUORESCENCE**

Les applications de la fluoroscopie. *Génie Civil* 101:467-8 N 5 '32

Correlation of fluorescence spectra with chemical structure of some naphthalene derivatives. A. J. Allen, R. Franklin and E. McDonald. *bibliog il J Fr Inst* 215:705-22 Je '33

Effect of foreign gases upon the relative intensities of the mercury triplet  $2^3P_{012}$ — $2^3S_1$  under conditions of optical excitation. R. T. Macdonald and G. K. Rollefson. *diag Phys R* 43:177-80 F 1 '33

Fluorescence of cells in the ultra-violet. A. C. Giese and P. A. Leighton. *Science* 77: 509 My 26 '33

Fluorescence of diatomic molecules of antimony. J. Genard. *Phys R* 44:468-9 S 15 '33

Fluorescence yield from the LIII level of uranium. R. J. Stephenson. *diag Phys R* 43:527-33 Ap 1 '33

Über fluoreszenz von olivenölen. G. Lunde and F. Stiebel. *diag Angew Chemie* 46:243-7 Ap 29 '33

*See also*

Luminescence

**FLUORIDES**

Fluoride investigations. R. M. King. *Ohio State Univ Eng Exp Sta Bul* 76:1-35 [bibliog p32-5] '33

Phthalyl fluoride. A. T. Dann and others. *Chem Soc J* p15-21 Ja '33

*See also*

Sodium fluoride

**Analysis**

Colorimetric determination of fluoride in water using ferric chloride. M. D. Foster. *Ind & Eng Chem Anal ed* 5:234-6 J1 15 '33

Determination and occurrence of fluorides in sea water. T. G. Thompson and H. J. Taylor. *Ind & Eng Chem Anal ed* 5:87-9 Mr 15 '33

Determination of fluorides in Illinois waters. C. S. Boruff and G. B. Abbott. *bibliog Ind & Eng Chem Anal ed* 5:236-8 J1 15 '33

Estimation of fluorides in waters. E. Elvove. *bibliog Pub Health Rep* 48:1219-22 O 6 '33

Sources of error in the use in water analysis of Fairchild's method for determination of fluoride in phosphate rock. M. D. Foster. *Ind & Eng Chem Anal ed* 5:238 J1 15 '33

**FLUORINATION**

New general method for fluorination of inorganic halides. H. S. Booth and C. F. Swinehart. *Am Chem Soc J* 54:4751-3 D '32

**FLUORINE**

Action of elementary fluorine upon certain aromatic organic compounds under various conditions. L. A. Bigelow and others. *diags Am Chem Soc J* 55:4614-20 N '33

Charge distributions in fluorine and neon. F. W. Brown. *Phys R* 44:214-23 Ag 1 '33

Chemistry of fluorine. D. M. Yost and J. B. Hatcher. *bibliog il diags J Chem Educ* 10: 330-7 Je '33

Homogeneous reaction between hydrogen and fluorine. H. Eyring and L. S. Kassel. *Am Chem Soc J* 55:2796-7 J1 '33

Masses of  $Ne^{20}$  and  $Ne^{21}$ ; the mass of  $Ne^{22}$  and the disintegration of  $F^{19}$ . K. T. Bainbridge. *bibliog il Phys R* 43:424-7 Mr 15 '33

Occurrence of mottled teeth in Iowa. C. T. Ostrem and others. *Science* 76:575-6 D 16 '32

Oxyacids of fluorine. L. M. Dennis and E. G. Rochow. *bibliog Am Chem Soc J* 55:2431-4 Je '33

**Analysis**

Bestimmung des fluors in organischen fluorverbindungen nach einer lampenmethode. G. Cadenbach. *diag Angew Chemie* 46:130 F 25 '33

Colorimetric determination of fluorine. W. D. Armstrong. *bibliog Ind & Eng Chem Anal ed* 5:300-2 S 15 '33

Determination of fluorine by precipitation as triphenyltin fluoride. N. Allen and N. H. Furman. *Am Chem Soc J* 54:4625-31 D '32

Determination of fluorine in cryolite. F. J. Frere. *bibliog Ind & Eng Chem Anal ed* 5:17-18 Ja 15 '33

Modification of the Willard-Winter method for fluorine determination. W. D. Armstrong. *Am Chem Soc J* 55:1741-2 Ap '33

Potentiometric titration method for fluorine. N. Allen and N. H. Furman. *bibliog Am Chem Soc J* 55:90-5 Ja '33

Silicon tetrafluoride volatilization. W. D. Armstrong. *bibliog diags Ind & Eng Chem Anal ed* 5:315-17 S 15 '33

Volumetric method for determination of fluorine. H. H. Willard and O. B. Winter. *bibliog Ind & Eng Chem Anal ed* 5:7-10 Ja 15 '33

**FLUORINE compounds**

Fluorochloroethylenes. H. S. Booth and others. *bibliog Am Chem Soc J* 55:2231-5 Je '33

Stereochemistry of diphenyl; preparation and properties of 2,2'-difluoro-3,3'-dicarboxy-5,5'-dimethyl-6,6'-dinitrodiphenyl. E. C. Kleiderer and R. Adams. *Am Chem Soc J* 55: 716-19 F '33

Stereochemistry of diphenyls; comparison of the racemization of 2,2'-difluoro-6,6'-dicarboxydiphenyl and 2,2'-dimethoxy-6,6'-dicarboxydiphenyl. W. M. Stanley, E. McMahon and R. Adams. *Am Chem Soc J* 55:706-16 F '33

**FLUORINE halides**

Fluorine polyhalides of organic amines. H. S. Booth, W. C. Morris and G. D. Swartzel. *Am Chem Soc J* 55:4466-8 N '33



**FLUOROBENZOPHENONE**

Preparation of 4-fluoro- and 4,4'-difluorobenzophenone. R. D. Dunlop and J. H. Gardner. *Am Chem Soc J* 55:1665-6 Ap '33

**FLUORSPAR**

Fluorspar in 1932. *Chemicals* 38:9 Ap 17 '33

**FLUX**

Choosing aluminum fluxes. J. Brinn. *Metal Ind* 31:129 Ap '33

Eliminates dross and reduces zinc contamination in galvanizing. W. H. Spowers, jr. *Il Steel* 93:23-5 Jl 24 '33

Fluxes for brazing steel. *Bus Transportation* 12:294 Jl '33

Fluxes in brass melting. W. Fröhlich. *Metal Ind* 31:91-2, 123-4 Mr-Apr '33

Fluxing of [coal] ashes and slags as related to the slagging-type furnace; abstract. P. Nicholls and W. T. Reid. *Soc Chem Ind J* 51:sup 1110 D 23 '32

New developments in galvanizing. W. H. Spowers, jr. *Il Iron Age* 131:270-3+ F 16 '33; Excerpt. *Steel* 92:99 Ja 2 '33

Use of auxiliary fluxes in dinnerware bodies. G. A. Loomis. *Am Cer Soc J* 16:356-9 Ag '33

See also

Solder and soldering

**FUXMETER**

Grassot fluxmeter. E. W. Golding. *diags Elec- trician* 111:503-5 O 27 '33

**FLYING boats**

American airplane specifications; tabulation. *Aviation* 32:29 Ja '33

Boeing Totem. *Il Aviation Eng* 7:12 D '32

Die fernflüge des flugschiffes Do X 1930/32. F. Christiansen. *Il map Zeit Ver Deutsch Ing* 77:561-4 My 27 '33

Giant flying boat; Short Reconnaissance. *Il Sci Am* 148:44+ Ja '33

Giant flying boats for Pan-American. *Il Avia- tion Eng* 8:25-6 F '33

Hydro-aviation. G. A. Crocco. *Aviation Eng* 8:17-18 F '33

In a flying boat across the Greenland ice cap to U.S.A. W. Von Gronau. *Il Roy Aeronau- tical Soc J* 36:918-30, 934-44; Discussion. 930-3 N '32

Ocean air transport. *Il map Sci Am* 148:166-8 Mr '33

Seaplane research. H. M. Garner. *bibliog il diags Roy Aeronautical Soc J* 37:830-55; Discussion. 855-63 O '33

Several of the new flying boats; twin float seaplanes and amphibians seen at the Paris aero show; diagrams. *Aero Digest* 22:44 Ja '33

Water tight compartments in flying boat hulls. G. P. Casiraghi. *Aviation Eng* 8:9+ F '33

See also

Seaplanes

**Testing**

Hydrodynamics of marine aircraft. J. H. Lower. *Il diag Roy Aeronautical Soc J* 37: 423-34 My '33

Lesson of the Do.X. C. Dornier. *Il diags maps Roy Aeronautical Soc J* 37:757-76 S '33; Same cond. *Engineer* 155:406-7 Ap 21 '33; Discussion. *Roy Aeronautical Soc J* 37:776-82 S '33

**FLYING machines**

Extracts from the aeronautical and miscel- laneous note-book (ca. 1799-1826) of Sir George Cayley. *Il diags Roy Aeronautical Soc J* 37:547-68 Je '33

**FLYING schools. See Aeronautic schools****FLYWHEELS**

Banding a cracked flywheel hub. A. J. Dixon. *diag Maintenance Eng* 90:462-3 D '32

Bearings for rolling mill gear drives. F. Wal- dorf. *Il Blast F & Steel Pl* 21:201-6+ Ap '33

Fitting motors and clutches to high-inertia loads. R. S. Elberty. *Il Elec W* 101:92-4 Ja 21 '33

Honing flywheel clutch-faces. E. Foldvary. *diag Am Mach* 77:607 S 13 '33

Salerni transmission; combines a fluid fly- wheel with a continuous mesh transmission. *diag Automotive Ind* 68:70 Ja 21 '33

**FOG**

California climate aided by electroclime. *il Elec W* 102:619 N 11 '33

Dusts, smokes, mists, and fogs. S. C. Black- tin. *Soc Chem Ind J (Chem & Ind)* 51:1006-7 D 2 '32; Discussion. 51:1042-3, 1077-8 D 16, 30 '32

Fog lacks appeal to marine underwriters. *Weekly Underw* 127:1242+ D 31 '32

Penetration of clouds and fog by infra-red rays. *Science* 76:sup9 N 18 '32

Le rôle de l'acide fluorhydrique dans la noci- vité du brouillard de la Meuse en 1930. J. Mage and G. Batta. *Chimie & Ind* 30:787-8 O '33

See also

Aviation—Fog prob- lem

**FOG signal stations**

Interlocking sheet piling guards fog signal station from heavy seas. *Il Steel* 93:27 Jl 10 '33

**FOGARTY, John S.**

Memories of "Four Hundred and Fogarty" are linked with romance of early oil fields. T. F. Smiley. *por Oil & Gas J* 31:13+ Ap 6 '33

**FOLDER covers. See Advertising, Mail—Folder covers**

**FOLDERS. See Advertising, Mail—Folders**

**FOLDS (geology)**

Origin of domes in Lincoln and Mitchell coun- ties, Kansas. K. K. Landes and J. W. Oc- kerman. *diags Geol Soc Bul* 44:529-40 Je '33

**FOLLOW-up systems**

How 123 advertisers are handling inquiries. P. H. Erbes, jr. *Ptr Ink* 164:14-16 Jl 13 '33

How to use inquiries to find industrial pros- pects. L. E. Perry. *Ptr Ink* 164:65-6+ Ag 17 '33

I sent a hundred coupons and this is what I discovered. T. L. Wheeler, jr. *Ptd Sales- manship* 60:204-6+ N '32; Discussion. 60: 385-6, 470-1+; 61:50 Ja-Mr '33

19,851 coupons in 16 days pulled by this ad- vertisement; Masonite corp. J. P. Gillies. *il Ptr Ink* 162:10+ Ja 12 '33

See also

Advertising—In- quiries

Advertising, Mail

Commercial corres- pondence

Sales letters

**FOOD**

Everyday foods. J. W. Harris and E. L. Speer. *rev & enl ed* 550p Houghton '33

Food for logging camp would feed a village. W. G. Young. *Il Pulp & Pa of Can* 34:547-9 S '33

Food purchasing for the home. R. D. Blinks and W. Moore. 2d ed rev 434p [Bibliog p418-20] Lippincott '32

Food refrigeration applications. *Il Refrig Eng* 25:312-23+ Je '33

Foods: an introductory college course. M. M. Justin, L. O. Rust and G. E. Vail. 569p \$2.25 Houghton '33

Foods chosen by dependent families. R. Okey and B. B. Smythe. *comps. 40p 25c Univ. of Calif., Berkeley* '33

Future research on food and digestion. L. B. Mendel. *Science* 77:sup8 Ap 28 '33

How science can help to improve the nation's food supply. H. D. Kay and others. *bibliog Soc Chem Ind J (Chem & Ind)* 52:624-45 Ag 4 '33

Hypochlorites as disinfectants (disinfectants and foodstuffs). H. Rawlinson. *Soc Chem Ind J (Chem & Ind)* 52:71-4 Ja 27 '33

Latent heat of foodstuffs. W. R. Woolrich and others. *Univ of Tennessee Eng Exp Sta Bul* 11:1-18 [Bibliog p17] '33; Abstract. *Refrig W* 68:16-18 Ag '33

Manual for food preparation study. F. B. King. 111p \$1.50 Wiley '33

Movement of diffusible substances in food products. J. Alexander. *Science* 77:489-90 My 19 '33

Non-ferrous metals in the food industry. *Chem Age (Lond)* 28:140 F 18 '33

**FOOD—Continued**

Normal absorption and excretion of lead; the effects of normal lead absorption. R. A. Kehoe, F. Thamann and J. Cholak. *J Ind Hygiene* 15:290-300 [bibliog p297-300] S '33  
Sound catering for hard times. V. H. Mottram and E. C. Mottram. 142p Nisbet and Co. Ltd, London '32

Use of non-ferrous metals in the food industry; laboratory corrosion experiments. N. D. Sylvester. *Soc Chem Ind J (Chem & Ind)* 52:141-3 F 17 '33

*See also*

Bakers and bakeries	Fish as food
Baking	Flavoring extracts
Beverages	Flour
Bread	Fruit
Butter	Grain
Cake	Meat
Canned food	Milk
Chocolate	Nutrition
Coloring matter in food	Nuts
Cookery	Proteins
Cost of living	Restaurants
Dairy products	Ships—Steward departments
Diet	Sugar
Drying (food)	Vegetables
Eggs	Vitamins
Farm produce	

**Analysis**

Permanent slides for use in teaching the Howard method. J. D. Wildman. *Science* 77:263 Mr 10 '33

Significance and danger of spray residue. C. N. Myers and others. *bibliog Ind & Eng Chem* 25:624-8 Je '33

Simplified Karns technic for the micro-estimation of iodine. H. von Kolnitz and R. E. Remington. *bibliog diag Ind & Eng Chem Anal ed* 5:38-9 Ja 15 '33

Vitamin-C; specificity of hexuronic acid and a method for its determination in foodstuffs by chemical means; abstract. T. W. Birch, L. J. Harris and S. N. Ray. *Soc Chem Ind J (Chem & Ind)* 52:159-60 F 24 '33

**Bacteriology**

Microbiology of foods. F. W. Tanner. 768p Twin city printing co, Champaign, Ill. '32

**Bibliography**

Abstracts of current literature. Published in monthly numbers of Food industries

**Chemistry**

Chemical treatment of food; some methods which call for attention and control. G. Newman. *Chem Age (Lond)* 29:319-20 O 7 '33

Chemistry of foods. D. L. Thomson. *Soc Chem Ind J (Chem & Ind)* 52:349-50 Ap 21 '33

Verein deutscher lebensmittelchemiker 30. hauptversammlung. *Angew Chemie* 46:479-83 Jl 15 '33

**Insect infestation**

Health hazards in food fumigation. C. L. Williams. *bibliog Chem Markets* 32:45-7 Ja '33

How to prevent vinegar gnat infestation of tomatoes. C. H. Bloedorn. *Food Ind* 5:353 S '33

Insect pests affecting stored products. J. W. Munro. *Soc Chem Ind J (Chem & Ind)* 51:1057-8 D 23 '32; Abstract. *Chem Age (Lond)* 27:549 D 10 '32

Looking at the fine points of vacuum fumigation. D. B. Gooch. *il Food Ind* 5:16-19 Ja '33

Radio waves kill insect pests. J. H. Davis. *il Sci Am* 148:272-3 My '33; Abstract. *Elec J* 30:200 My '33

**Manufacture**

Breaking into the food industries. L. V. Burton. *Chem & Met Eng* 40:29 Ja '33

Queer things that happen in mixing; dry granular materials. L. V. Burton. *il Food Ind* 5:390-1+ O '33

**Prices**

Consumers' guide; new AAA periodical turns spotlight on margin between farm and consumer prices. *Business Week* p10 S 30 '33

Dairy products and poultry products; index numbers, monthly, 1913-1932. *Survey of Cur Business* 13:20 My '33

Dr Howe, as consumers' counsel, sits on price bulges. *Food Ind* 5:366-7 S '33

For price-gougers; AAA plan to keep prices reasonable rests on publicity. *Business Week* p21-2 S 2 '33

Index numbers of the cost of living and retail prices; with sources and notes. *Int Labour R* 27:96-8, 539-57; 28:88-91, 561-4 Ja, Ap, Jl, O '33

International comparison of the retail prices of certain important foodstuffs, July 1929 to October 1932, tables *Int Labour R* 26:116; 27:530-8 Jl '32, Ap '33; Abstract (pt 2)—Monthly Labor R 36:1463-5 Je '33

Potatoes are lower, but the retail prices of most foodstuffs have gone up. *Business Week* p9 My 10 '33

Primary products. *Economist* 116:952-3; 117:803-5 My 6, O 28 '33

Retail food prices; United States, England, France, Germany. Published in monthly numbers of Federal reserve bulletin

Retail prices of food in the United States and in certain foreign countries. *Monthly Labor R* 35:1204-5; 36:420-3; 37:998-1001 N '32, F, O '33

Retail prices of food in United States. Published in Monthly labor review

**Storage**

Research under the Empire marketing board; storage problems for natural produce. *Chem Age (Lond)* 29:143-4 Ag 12 '33

**Transportation**

Will new philosophy change food transportation costs? *Food Ind* 5:106 Mr '33

**FOOD, Dried**

Effect of storage on vitamin A in dried foods. G. S. Fraps and R. Treichler. *Ind & Eng Chem* 25:465-6 Ap '33

**FOOD, Frozen**

Brine fog quick-freezes without extreme temperature. H. Merriman. *il Food Ind* 4:396-8 D '32

Changes which may occur in frozen foods during cold storage. D. K. Tressler. *il Food Ind* 5:346-7, 410+ S-O '33

Enzymes can cause off-flavors even when foods are frozen. H. C. Diehl, J. H. Dingle and J. A. Berry. *bibliog il Food Ind* 5:300-1 Ag '33

Frozen foods have an alluring future. F. X. Burke. *il Refrig Eng* 25:314-16 Je '33

Die kältetechnik im dienste der lebensmittelbewirtschaftung. R. Plank. *il diags Zeit Ver Deutsch Eng* 76:1089-98 N 5 '32

New quick-freezing process; Z process. *il Sci Am* 147:370 D '32

Preservation of perishable foods by new quick-freezing methods. C. Birdseye. *il J Fr Inst* 215:411-24 Ap '33; Same. *Refriger Eng* 25:185-8+ Ap '33

*See also*

Fish, Frozen	Meat, Frozen
Fruit, Frozen	Orange juice, Frozen
Ice cream—Manufacture	Peaches, Frozen

**FOOD, Ready-to-cook**

Just add water; ready and semi-ready, fool-proof products. H. Deutsch. *il Adv & Sell* 20:18+ D 22 '32

**FOOD adulteration and inspection**

Adulteration and analysis of foods and drugs. J. F. Liverseege. 599p J. & A. Churchill, London '32

Chemical treatment of food; some methods which call for attention and control. G. Newman. *Chem Age (Lond)* 29:319-20 O 7 '33



**FOOD adulteration and inspection—Continued.**  
100,000,000 guinea pigs; dangers in everyday foods, drugs, and cosmetics. A. Kallet and E. J. Schlink. 312p \$2 Vanguard press, New York '32; Review by R. Pearl. *Ptr Ink* 163:33+ *My* 25 '33

*See also*

Coloring matter in food

**FOOD dyes.** *See* Coloring matter in food

#### FOOD factories

Cleanliness in modern food factories. E. B. Hughes and others. *Chem Age* (Lond) 28: 76 *Ja* 28 '33

Factory cleanliness in the food industry; symposium. E. B. Hughes and others. *Soc Chem Ind J* (Chem & Ind) 52:75-8, 100-3 *Ja* 27-F 3 '33

Things are different in South America; M. S. Bagley & Cia. Buenos Aires. S. Ragon. *il Food Ind* 5:256-7 *Jl* '33

What is the proper floor? A. E. Hansen. *il Food Ind* 4:391-3 *D* '32

#### Employees

What experience teaches about uniforms. F. K. Lawler. *il Food Ind* 4:399-401 *D* '32

#### Equipment

Better ways to sterilize equipment. P. D. Widmer. *il Food Ind* 5:310-11 *Ag* '33

Food manufacturing equipment; extended use of pure nickel. *il Chem Age* (Lond) 29:23-6 *Jl* 8 '33

Looking at the fine points of condensate removal. T. H. Rea. *diags Food Ind* 5:141-3 *Ap* '33

Rockwood & co. improves product by lowering cost. E. S. Stateler. *il Food Ind* 5:64-5 *F* '33

Sorting of foods by a photoelectric tube. *Science* 78:sup9 *O* 20 '33

Substituting speed control for process control. F. A. Westbrook. *il Food Ind* 5:403-4 *O* '33

Thermostat prevents costly breakdowns in motors. H. C. Brunner. *il Food Ind* 5:212 *Je* '33

Use of non-ferrous metals in the food industry. T. N. Morris and J. M. Bryan. *Soc Chem Ind J* (Chem & Ind) 52:139-41 *F* 17 '33

#### Heating and ventilation

One way to ventilate a food plant. O. S. Arata. *il Food Ind* 5:357 *S* '33

#### Power

\$39,000 a year saved on coal and electricity. N. A. Curtiss. *il Food Ind* 5:343-5+ *S* '33

#### Waste

Installing waste disposal systems in food plants. F. A. Fielder. *il diags Food Ind* 5:440-1 *N* '33

#### FOOD industry and trade

Blue ribbon doctors. *Ptr Ink* 163:56-7 *Je* 1 '33

Food consumer—1933 model. C. W. Dipman. *Adv & Sell* 21:38 *My* 11 '33

Food manufacturer becomes a tax collector. *Food Ind* 5:313-14 *Ag* '33

Food manufacturer profits when a voluntary chain does its job; interview with Arthur P. Williams. O. F. Kost. *il Food Ind* 5:8-10 *Ja* '33

Food strategists; new products and services appear. *Business Week* p8 *Mr* 22 '33

Housewives' committee is organized by Kroger to improve products. *Sales Management* 32: 122 *F* 1 '33

Kroger consults some 750 housewives on its new products. *Business Week* p11 *F* 1 '33

New foods, new fights. *Business Week* p12 *Mr* 29 '33

New step in food wholesaling. R. W. McFadden. *il Nation's Business* 21:48+ *Ja* '33

Operating motor trucks in the food industries. *Food Ind* 5:20-1 *Ja* '33 [cont monthly]

Packages that make the mouth water. D. Gridley. *il Ptr Ink* Mo 26:41-2 *Ap* '33

Rhythmic variations in industry; comparative trends of foods, textiles, building construction, and automobiles. T. M. McNiece. *front il Mech Eng* 55:659-66 *N* '33

Shop check list; food stores. F. A. Pawley. *Arch Forum* 58:385-6 *My* '33

Story of food manufacturing to be told at World's fair. *il Food Ind* 5:37 *Ja* '33

Trends in food distribution. *Comm & Fin* 22:439 *My* 17 '33

Voluntary chains. *Business Week* p11-12 *Ap* 19 '33

What the voluntary domestic allotment plan may mean to the food industries. L. V. Burton. *Food Ind* 5:25-7 *Ja* '33

#### *See also*

Bakers and bakeries	General foods corporation
Bread	Grain trade
Candy trade	Grocery trade
Canned food	Market stores
Coffee trade	Meat industry and trade
Flour trade	
Food, Frozen	

#### Advertising

Advertising portfolio plus; how General Foods helps its salesmen and dealers. E. T. Sajous. *il Ptr Ink* Mo 26:16-17 *Je* '33

Advertising recipe books. *Ptr Ink* 165:53+ *O* 19 '33

Editorial methods basis of this advertising program; Heinz goes to magazines and newspapers. *il Ptr Ink* 164:44-6 *S* 7 '33

Food foundation builds consumer acceptance for chain; Kroger grocery & baking company. *Ptr Ink* 162:96-9 *Ja* 19 '33

General Foods turns stockholders into working customers. C. M. Chester. *Ptr Ink* 161:3-4+ *D* 8 '32

Tests women apply when they buy things. L. Crosby. *il Ptr Ink* Mo 26:13-15+ *My* '33

#### *See also*

Advertisements—	Cereals, Prepared—
Cook books and	Advertising
recipes	Grocery trade—Ad-
Canned food—Ad-	vertising
vertising	

#### Regulation

Salient facts regarding A.A.A. food regulation. *Food Ind* 5:317 *Ag* '33

#### Securities

Attractive list of food company stocks. P. Clay. *Forbes* 30:30-1 *D* 1 '32

Food and packing companies, 1930-1932. *Mag of Wall St Manual* p63-4 *Mr* 6 '33

Position of leading food stocks. *Mag of Wall St* 51:490; 52:431-2 *F* 18, *Ag* 19 '33

#### Statistics

Censuses of manufactures for food industries; summaries for 1931 and 1929. *Food Ind* 5:33 *Ja* '33

Comparing the census statistics of the food industries, 1927, 1929, and 1931. *Food Ind* 5:62-3 *F* '33

Foodstuffs statistics. Published in monthly numbers of Survey of current business

How much food is sold in food stores? L. D. H. Weld. *charts Ptr Ink* Mo 27:34-5+ *Jl* '33

Miscellaneous statistics, 1929 and 1931. *Food Ind* 5:51 *F* '33

#### Argentina

Things are different in South America; M. S. Bagley & Cia, Buenos Aires. S. Ragon. *il Food Ind* 5:256-7 *Jl* '33

#### Great Britain

Progress in the food industry. *Soc Chem Ind J* (Chem & Ind) 51:1015-17 *D* 9 '32

#### United States

AAA codes. *Business Week* p16-17 *Jl* 29; 6-7 *Ag* 12 '33

Developing organization and procedure under Farm relief act. *Food Ind* 5:255 *Jl* '33

Food earnings well maintained. *Bradstreet's* 61:234+ *F* 4 '33

Food jurisdiction; Agricultural adjustment plan and the Industrial recovery plan. *Business Week* p4-5 *Jl* 8 '33

**FOOD industry and trade—United States**  
—Continued

Food marketing agreements—few have been approved. Food Ind 5:411-14, 463 O-N '33  
 Food marketing agreements still in the making. Food Ind 5:363-5 S '33  
 Food processors and distributors flock to A.A.A. with codes. Food Ind 5:316-17 Ag '33  
 Grocery industry master code; proposed text. Food Ind 5:368, 384 S '33  
 Master food code. Business Week p8 O 7 '33  
 Rising commodity prices should aid advertised brands. Ptr Ink 163:70-1 Je 15 '33  
 What lies ahead in the food industry. C. M. Chester. Food Ind 5:3-5 Ja '33  
 What will America eat in 1933? Food Ind 5:42-59 F '33  
 Where do we belong—under N.I.R.A. or A.A.A.? Food Ind 5:263-4 Jl '33

**FOOD laws and legislation**

Advertising and the new food and drugs bill. R. G. Tugwell. Oil Paint & Drug Rep 124:15-16 S 18 '33  
 Advertising or Tugwell; a bitter battle develops over the Professor's bill. il Business Week p 13-14 O 28 '33  
 Beat the Tugwell bill! G. A. Nichols. Ptr Ink 165:6, 10-11+ N 2 '33  
 Capper bill and advertising of medicines and cosmetics. Ptr Ink 164:33, 36-7 Ag 3 '33  
 Case against the Tugwell bill. il Adv & Sell 22:13-14+ N 9 '33  
 Case for the Tugwell bill. il Adv & Sell 21:13-14+ O 26 '33  
 Food and drug act as sent to Congress substitutes a completely new statute; text. Oil Paint & Drug Rep 123:19-21 Je 5 '33  
 Food and drugs act revision being prepared in Department of agriculture. Oil Paint & Drug Rep 123:15 Ap 10; 17 Ap 17; 15 Ap 24 '33  
 Food and drugs act revision to have full support of Dept. of agriculture. Oil Paint & Drug Rep 123:17-18 Je 12 '33  
 Food and drugs bill prepared by Prof. Tugwell. Business Week p10 Je 10 '33  
 Food law revision favored by review committee if—. Ptr Ink 163:79 Ap 27 '33  
 Foods, drugs, teeth; new statute drafted to replace food and drug act. Business Week p12 My 24 '33  
 Lead residue limit on fruit is reduced. Oil Paint & Drug Rep 123:15+ Ap 24 '33  
 Negligence with food, drink, drugs. F. G. Turner. 275p Portia T. McLeland, Miami, Fla. '33  
 Poisonous spray residues on vegetables. W. B. White. bibliog Ind & Eng Chem 25:621-3 Je '33  
 Proposed new food and drugs law embodies fundamental changes. Food Ind 5:265-7, 288 Jl '33  
 Revision of Federal food and drugs law. M. Handler. Oil Paint & Drug Rep 123:17+ Je 26 '33  
 Statute relating to sale of unwholesome food construed; Ohio suit. Pub Health Rep 48:1194 S 29 '33  
 To police food ads; new bill to compel truth in advertising food, drugs, and cosmetics. Business Week p8 Ap 26 '33  
 What the proposed food law really means to food manufacturers; detailed comparison with the present law. Food Ind 5:459-62 N '33

*See also*

Milk supply—Laws and regulations

**Germany**

Lebensmittelgesetzgebung und patentrecht. E. Merres. bibliog Angew Chemie 46:651-2 O 14 '33  
 Legal requirements for coloring-matters for foodstuffs, etc. A. Beythien. Am Dyestuff Rep 22:32-3 Ja 2 '33

**FOOD poisoning**

Occurrence of the paralytic shell-fish poison in the common sand crab. H. Sommer. Science 76:574-5 D 16 '32

**FOOD preservation**

Food preservation problems; annual report of the food investigation board. Chem Age (Lond) 29:188-9 Ag 26 '33  
 Die kältetechnik im dienste der lebensmittelbewirtschaftung. R. Plank. il diags Zeit Ver Deutsch Ing 76:1089-98 N 5 '32  
 Preservative action of spices and related compounds against yeast fermentation. J. W. Corran and S. H. Edgar. Soc Chem Ind J 52:149T-52T My 26 '33  
 Research under the Empire marketing board; storage problems for natural produce. Chem Age (Lond) 29:143-4 Ag 12 '33  
 Solid carbon dioxide as a refrigerant. il Chem Age (Lond) 29:102-3 Jl 29 '33  
 Some recent developments in low-temperature research. W. Hardy. il diag Soc Chem Ind J (Chem & Ind) 52:46-9 Ja 20 '33  
 Verhütung der verderbnis von lebensmitteln; abstract. von Ostertag. Angew Chemie 46:340-1 Je 10 '33

*See also*

Canned food	Eggs—Preservation
Canning and pre-serving	Fish as food—Preservation
Cold storage	Food, Frozen

**FOOD supply**

Factory cleanliness in the food industry; symposium. E. B. Hughes and others. Soc Chem Ind J (Chem & Ind) 52:75-8, 100-3 Ja 27-F 3 '33

**Greece***Bibliography*

Greece; a guide to official statistics of agriculture, population, and food supply. A. M. Hannay, comp. (Agricultural economics bibliography no. 39) 142p U. S. Dept. Agric '32

**Paris**

Le ravitaillement de Paris. A. Rendu. Génie Civil 102:501-2 My 27 '33

**FOOD terminals.** See Railroads—Produce terminals

**FOOT**

Are you losing your feet. il Sci Am 149:77 Ag '33

**Protection**

How feet get hurt. W. H. Tipton. il Nat Safety N 27:25-6 Ja '33

**FOOTBALL**

Football; its business and management lessons. A. R. MacDonald. il System 62:435-7 O '33

**FOOTINGS, Concrete**

Distribution of pressure under a footing. F. J. Converse. il diag Civil Eng 3:207-9 Ap '33

Tank piers carried 50 ft. to rock through old coal mine, Zanesville, Ohio. diag Eng N 110:190 F 9 '33

**FOOTPRINTS, Fossil**

Carboniferous tracks from Nova Scotia. C. M. Sternberg. bibliog diag Geol Soc Bul 44:951-64, pl 35-7 O '33

**FORAMINIFERA, Fossil**

Foraminifera of the upper, middle and part of the lower Miocene of Florida. J. A. Cushman and G. M. Ponton. pls map Florida. Geol S Bul 9:1-147 '32

Lepidocyclina in California. N. L. Talliaferro and H. G. Schenck. bibliog il map Am J Sci 5th ser 25:74-80 Ja '33

Miocene foraminifera of the Coastal Plain of the eastern United States. J. A. Cushman and E. D. Cahill. U S Geol S Prof Pa 175-A:1-35, pl 1-13 '33

Two new genera, pernerina and hagenowella, and their relationships to other genera of the valvulinidae. J. A. Cushman. pls Am J Sci 5th ser 26:19-26 Jl '33

**FORCE and energy**

Conservation of energy. G. Gamow. Science 76:sup10 D 9 '32

Energy and its transformations. H. B. Lemon and H. I. Schlesinger. 25p Univ. of Chicago press '33



**FORCE and energy—Continued**

Energy turned into mass for first time in history. K. T. Bainbridge. *Science* 77:sup9 Ap 7 '33

See also

Impact	Pressure
Mechanics	Strains and stresses
Power (mechanics)	

**FORD, Henry**

Ford, wages, and depression; interview. *Business Week* p10-11 F 22 '33

Mr Ford takes a glimpse into the future. *Comm & Fin* 22:145 F 8 '33

What Henry Ford says about the National recovery act. *Automotive Ind* 69:106 JI 22 '33

**FORD motor company**

Accuracy features cylinder cores; casting of Ford V-8 engine. *il Foundry* 60:12-14+ N '32

Capital now regards Ford bids as eligible. *Automotive Ind* 69:597 N 11 '33

Cars scrapped in giant baling press, melted in huge open-hearth. *il Iron Age* 131:352-3+ Mr 2 '33

Close-ups at the Detroit Ford exhibit which drew more than a million visitors; illustrations. *Automotive Ind* 69:579 N 11 '33

Compresses old automobiles to bales of charging box size. *il Steel* 91:24 D 19 '32

Factory-sponsored Unisales company helps Ford dealers to compete more intelligently. A. F. Denham. *Automotive Ind* 68:754-5 Je 24 '33

Ford balance sheet indicates 1932 loss of \$44,222,567 equal to about \$98 per car. *Automotive Ind* 68:624 My 20 '33

Ford champions the small plant. B. Finney. *il Iron Age* 131:695-7 My 4 '33

Ford dealers carry the flag; in a variety of campaigns of their own, they wage an open war with the enemy. *il Ptr Ink* 164:35-8 Ag 24 '33

Ford draws own wire at Rouge plant. *il Iron Age* 131:166-7 Ja 26 '33

Ford—exponent of modernization. B. Finney. *il Iron Age* 130:795-6+ N 24 '32

Ford factory-outlet formed in Louisville. *Automotive Ind* 67:781+ D 17 '32

Ford finances. *Business Week* p12 JI 1 '33

Ford ignores the NRA. *Econostat* 1:7 S 9 '33

Ford makes starters and generators in model small plant. B. Finney. *il Iron Age* 132:10-14+ N 9 '33

Ford motor company. *Economist* 116:1310 Je 17 '33

Ford sells U.C.C. to C.I.T. for 30 million. *Automotive Ind* 68:627 My 20 '33

Ford stores tried out in Buffalo; factory-operated retail branches may be started in other cities. *Business Week* p8 D 21 '32

Ford threat remains. *Econostat* 1:14-15, 23 JI 22 '33

Ford's experience with rustless steel. J. L. McCloud. *il Iron Age* 132:10-11+ JI 13 '33

Heat-treatment at River Rouge. J. B. Nealey. *il Am Mach* 77:584-7 S 13 '33

Henry Ford begins to appreciate the value of sales incentives. *Sales Management* 31:432+ N 15 '32

Is mass production doomed? T. MacManus. *Adv & Sell* 20:13-14+ D 8 '32

Johnson says court action will follow if Ford violates the automobile code. *Automotive Ind* 69:317+ S 9 '33

Johnson says lack of sympathy with NRA makes Ford ineligible for U.S. contracts. D. Blanchard. *Automotive Ind* 69:546-7 N 4 '33

Johnson vs. Ford. *Business Week* p6-7 N 4 '33

Massachusetts Ford report indicates 1932 loss of \$74,861,644. *Automotive Ind* 69:28 JI 1 '33

Modernization of the River Rouge power plant of the Ford motor company. T. Harvey. *il diag Gen Elec R* 36:262-8 Je '33

New Ford, new fight; Detroit is expecting two new Fords. *il Business Week* p1-2 F 1 '33

New Ford to be advertised. *il Ptr Ink* 162:43-4 F 16 '33

No change in Ford truck chassis prices. *Automotive Ind* 68:204 F 18 '33

Offers new models in bid for business. *Baron's* 13:21 F 20 '33

Plastic molding at the Ford plant. H. Chase. *il Automotive Ind* 69:390-2 S 30 '33

\$30 drop on Ford only major change in list prices on new Ford eight line. *Automotive Ind* 68:206 F 18 '33

**FORD motor company, limited, England**

Ford patents three speed planetary gear. *diags Automotive Ind* 69:37 JI 8 '33

Power-house foundations and circulating-water tunnels at the Ford motor company's works at Dagenham. R. V. Allin and M. Nachshen. *Engineering* 135:169-70 F 10 '33

**FORECASTING (statistical methods)**

Business curve based on interest rates and prices; an adaptation of the quantity theory of money. O. M. Smart. *Am Statist Assn J* 28:76-81 Mr '33

Observations on forecasting annual changes of crop yields. G. W. Hervey. *Science* 78:211-12 S 8 '33

**FORECLOSURE of mortgages. See Mortgages****FOREIGN exchange**

ABC of stabilization. *Business Week* p20-1 JI 8 '33

American dollar abroad. H. P. Willis. *Dun & Bradstreet* 41:5-7+ Je '33

Argentina's use of exchange control. E. B. Dietrich. *Barron's* 13:9 Je 12 '33

Argentine exchange rules handicap group shipments. *Oil Paint & Drug Rep* 122:17 N 28 '32

Banker's relations to foreign exchange. A. Legorreta. *Bankers M* 127:55 JI '33

Bartex; Britishers propose new exchange unit to be based on goods. *Business Week* p23 D 21 '32

Canadian exchange. *Economist* 116:231-2 F 4 '33

Change tariffs to offset currency changes; editorial. *Forbes* 31:5 Ja 1 '33

Compensated trade. *Economist* 115:926 N 19 '32

Crisis and the exchanges. *Economist* 116:510-11 Mr 11 '33

Danubian currency problems. *Economist* 117:5-6 JI 1 '33

Danubian exchange accounts. *Economist* 116:290 F 11 '33

Depreciated currencies affect paper. *Paper Tr J* 96:37 F 2 '33

Depreciated exchange. 720p U.S. Tariff commission, Washington '33

Dollar and the pound. *Economist* 116:1289-90 Je 17 '33

Dynamite in foreign exchange; will attempts to peg currencies prove successful? H. Richmond, Jr. *Mag of Wall St* 52:220+ Je 24 '33

England; purpose of exchange equalization account. *Guaranty Survey* 12:12 Mr '33

Exchange equalisation account. *Economist* 116:sup6-8 My 13 '33

Exchange equalisation account; Mr Chamberlain's announcement of proposed increase. *Economist* 116:904 Ap 29 '33

Exchange equalization fund; purposes and aims. M. Winkler. *Dun & Bradstreet* 41:2-3+ My '33

Exchange problem in Europe. *Elec R (Lond)* 112:127 Ja 27 '33

Exchange restrictions, a barrier to the resumption of export trade. E. J. Pulton. *Burroughs Clearing House* 17:9+ Ap '33

Exchange stabilization. *Nat City Bank* p72-4 My '33

Foreign exchange. A. C. Whitaker. 2d ed 466p \$5 Appleton '33

Foreign exchange in 1932, weekly high and low rates. *Annalist* 41:154-5 Ja 20 '33

Foreign exchange quandry. *Business Week* p14-15 S 23 '33

Foreign exchange rates. Published in monthly numbers of Federal reserve bulletin

Foreign exchange rates daily and weekly. Published in weekly numbers of *Annalist*

Foreign exchange rates, yearly averages, 1924-1932. *Fed Res Bul* 19:35 Ja '33

**FOREIGN exchange—Continued**

- Foreign exchange transactions with Germany. Economist 117:354-5 Ag 19 '33
- Foreign exchanges. Economist 116:sup8-10 F 18 '33
- Foreign exchanges in 1932. Economist 116:59-60 Ja 14 '33
- Foreign trade and the debts. S. Bell. Comm & Fin 21:1474-5 D 28 '32
- Gütterdämmerung of gold; foreign exchange restrictions promulgated. Business Week p5 Mr 22 '33
- Great Britain and gold; why the exchange equalization fund was increased. L. Pasvolksky. Barron's 13:5+ My 22 '33
- International money markets. Published in monthly numbers of Dun & Bradstreet
- International trade barriers. Guaranty Survey 13:8-10 My '33
- Interregional and international trade. B. Ohlin. 617p [bibliog p595-603] Harvard univ. press '33
- Keeping dollars home; Fred I. Kent is back at his old job as watchdog of exchange. Business Week p20-1 My 17 '33
- Modern foreign exchange. F. Escher. 223p \$2 Macmillan '32
- National bank of New Zealand, limited; problem of exchange. Economist 117:144 Jl 15 '33
- New trick in depreciation war; astute maneuver to depress the pound and raise the dollar. Econostat 1:5-6 Jl 29 '33
- Prosperity by exchange depreciation? Economist 117:569-70 S 23 '33
- Restrictions on foreign exchange; growth and significance. Index 13:52-3, 56-8 Mr '33
- Social consequences of a return to gold; an analysis of certain current proposals for an international monetary standard. P. W. Martin and E. J. Riches. Int Labour R 27:25-50 Ja '33
- Steady dollar; Washington is likely to create a fund to buy and sell dollars. Business Week p22-3 Je 7 '33
- Theory of the foreign exchanges. G. J. Goshen. 4th ed 151p \$1.75 Pitman '32
- Way to sell exchange at a profit; described in Modern foreign exchange, by Franklin Escher. J. G. Hodgson. Bankers Mo 50:12 Ja '33
- Way to world prosperity; well-planned world trade revival. E. F. Davies. Bankers M 126:445-50 My '33

*See also*

Balance of payments  
Money, International

**FOREIGN investments.** See Investments, Foreign

**FOREIGN population.** See France—Foreign population; United States—Foreign population

**FOREIGN trade.** See Commerce; Export trade; Imports

**FOREIGN trade convention, National.** See National foreign trade convention

**FOREMEN**

- Accident costs a vital factor in department management. J. C. Henny. Safety Eng 66:59-60 Ag '33
- Down with overhead—\$600,000 down! Consolidated steel corporation. P. B. Ross. Factory & Ind Management 83:459-60 D '32
- Foremen the factor in safety observance. F. M. Gillies. Iron Age 132:27 O 19 '33
- New incentive plan for foremen. E. E. Burke. Mach 39:727-8 Jl '33
- Production control; the foreman's duties. T. M. Landy. Factory Management 91:451-2 N '33
- Requirements of superintendents and foremen for 1933. R. A. Shaw. Safety Eng 65:47 F '33

*See also*

Mine foremen

**Rating**

- J. Jones, foreman—what's his job worth? H. Tilson. Factory Management 91:354-5 S '33

**Training**

- Foreman training in American industry. E. S. Cowdrick. Int Labour R 27:207-19 F '33
- Leadership and labor are the twin problems of industry. K. T. Keller. S A E J 32:7-10 Ap '33
- Report of foremanship conferences; seven years' service to the industries of Indiana, 1923 to 1930. G. F. Buxton. Il map Purdue Univ Eng Extension Dept Bul 25:1-61 '31

*See also*

Foremen's conferences

**FOREMEN'S conferences**

- Report of a training course for foreman conference leaders; a selected sample of many unpublished reports of the work of leader training groups. U S Federal Board for Vocational Education Bul 164:1-83 '32

**FOREST conservation**

- Wanted; a sane forest policy. F. J. D. Barnjum. Pulp & Pa of Can 34:13 Ja '33

**FOREST experiment stations.** See Forestry research**FOREST fire patrol, Aerial**

- Aerial fire protection and photography. F. T. Jenkins. Il Pulp & Pa of Can 34:272-4 Ap '33

**FOREST fires**

- Duff hygrometer for measuring forest fire hazards. diags Pulp & Pa of Can 34:329-30 My '33
- Fighting forest fires. H. C. Johnston. Il Pulp & Pa of Can 34:221-2 Mr '33
- Forest fire losses must be checked. Il Pulp & Pa of Can 34:265-6 Ap '33
- How safe is your investment in woodlands; a basis for measuring the degree of forest protection. B. F. Avery. Il maps Pulp & Pa of Can 33:477-80 D '32
- Lightning and forest fires. H. T. Gisborne. bibliog Il Pulp & Pa of Can 34:327-9 My '33
- Plea for forest-fire-hazard research. J. G. Wright. Il Pulp & Pa of Can 34:223-4+ Mr '33

- Prevention is better than cure; James MacLaren company operates radio communication on the Lievre river. D. E. Bankart. Il Pulp & Pa of Can 34:281+ Ap '33

- Protect my property. Il Pulp & Pa of Can 34:219-20 Mr '33

- Role of silviculture in forest fire control. P. W. Stickel. Il Pulp & Pa of Can 34:20-4 Ja '33

- Some factors underlying forest fire insurance in Massachusetts. C. C. Averill and L. M. Frost. (Harvard forest bul. 17) 80p [bibliog p77-80] pa 75c Harvard univ. press '33

*See also*

Insurance, Forest

**FOREST products**

- Report of the Forest products research board for 1931. Chem Age (Lond) 28:48 Ja 21 '33

*See also*

- |                 |            |
|-----------------|------------|
| Acetic acid     | Rubber     |
| Gums and resins | Turpentine |
| Lumber          | Wood       |
| Lumber trade    | Wood pulp  |
| Pine            |            |

**Statistics**

- Forest products. Published in monthly numbers of Survey of current business

- Revision of the indexes of agricultural marketings. Survey of Cur Business 13:18-20 Mr '33

**FOREST products laboratories**

- Activities of the Pulp and paper division  
Forest products laboratories of Canada. J. H. Ross. Pulp & Pa of Can 34:231-4+ Mr '33

- Pulp and paper problems attacked; Pulp and paper division of the Forest products laboratories of Canada. Pulp & Pa of Can 33:431-2 N '32

*See also*

United States—Forest products laboratory



**FOREST reserves**

- Job-load analysis and planning of executive work in national-forest administration. E. W. Loveridge. 236p U. S. Dept. of agriculture, Forest service, Washington '32
- Mapping Montana's state forests. O. W. White. il maps Civil Eng 3:17-20 Ja '33
- Review of the work of the National forest reservation commission, 1911-33. 21p U.S. National forest reservation commission, Washington '33

**FOREST roads**

- Construction of portage roads for trucks and tractors working in Canadian woods. D. McLaren. il diags Pulp & Pa of Can 34: 451-6 Jl '33
- Roadbuilding amid giant sequoias. O. L. Snider. il Comp Air M 38:4226-9 O '33
- Save road repairs by better building. Pulp & Pa of Can 34:546 S '33

**FOREST surveys**

- Mapping Montana's state forests. O. W. White. il maps Civil Eng 3:17-20 Ja '33

**FOREST taxation**

- Property tax as an obstacle to the private development of idle forest lands. W. De Vries. J Land & Pub Util Econ 9:228-32 Ag '33

**FORESTRY research**

- First ten years of the Northeastern forest experiment station. C. E. Behre. Science 78:139 Ag 18 '33

**FORESTS and forestry**

- Forest cover and the water yield. W. G. Hoyt and H. C. Troxell. Science 78:sup6 Ag 11 '33
- Forestation for watershed protection; abstract. F. W. Besley. Water Works & Sewerage 80:206 Je '33
- Forestry and employment. W. N. Sparhawk. J Land & Pub Util Econ 9:145-9 My '33
- Forests and stream flow. W. G. Hoyt and H. C. Troxell. Am Soc C E Proc 58:1037-66 Ag '32; Discussion. 58:1288-93, 1614-18, 1811-36; 59:376-9, 484-94, 607-16, 535-40, 1149-66 S, N-D '32, F-My, S '33

- Pacific science congress considered forest problems. Pulp & Pa of Can 34:469-70 Jl '33
- Flow for reforestation. il Sci Am 149:230 N '33

- Practical means of using aerial photography in woods operations. F. R. Wilcox. il Pulp & Pa of Can (Convention no) 34:134-8 [F] '33

- Property tax as an obstacle to the private development of idle forest lands. W. De Vries. J Land & Pub Util Econ 9:228-32 Ag '33

- Reforesting of slopes to conserve water supply. C. L. Forsling. Science 77:sup7-8 F 17 '33

- Role of silviculture in forest fire control. P. W. Stickel. il Pulp & Pa of Can 34:20-4 Ja '33

- Woodsmen's manual. A. Cary. 4th ed 366p Harvard university press, Cambridge '32

*See also*

- |                     |                   |
|---------------------|-------------------|
| Forest conservation | Pine              |
| Forest reserves     | Rubber plants and |
| Lumber              | planting          |
| Lumber trade        | Trees             |
| Lumbering           | Wood              |

**Dictionaries**

- Timber technicalities. E. Haynes. 2d ed rev & enl 184p [bibliog p180-4] E. Benn, Ltd, London '33

**Study and teaching**

- Fellowships of the Charles Lathrop Pack forest education board. Science 77:363 Ap 14 '33

- School forest for the University of California. Science 78:303-4 O 6 '33

**Canada**

- Forests, unemployment and settlement. E. Wilson. Pulp & Pa of Can 34:441-2+; Editorial comment. 437 Jl '33

- Timber limits of the Ontario paper company. G. E. Boisvert. il map Pulp & Pa of Can 34:372-6 Je '33

**Massachusetts**

- Some factors underlying forest fire insurance in Massachusetts. C. C. Averill and L. M. Frost. (Harvard forest bul. 17) 80p [bibliog p77-80] pa 75c Harvard univ. press '33

**Montana**

- Mapping Montana's state forests. O. W. White. il maps Civil Eng 3:17-20 Ja '33

**New York (state)**

- Report of Reforestation commission of New York, 1932. Monthly Labor R 36:1241-2 Je '33

**Northwestern states**

- Permanent supply of pulping woods in the Pacific northwest. J. B. Woods. Paper Tr J 96:41-2 My 25 '33

**Southern states**

- Reforestation; Tennessee valley grows only hardwood, and we have plenty of that. Business Week p6 Mr 22 '33
- South organizes for forestry benefits. W. T. White. il Manuf Rec 102:18-19+ N '33

**United States**

- Depression army moves to war. P. H. Hayward. Nation's Business 21:30+ Ag '33
- Emergency conservation program. Science 78: 52 Jl 21 '33
- Federal act providing for relief of unemployment through reforestation. Monthly Labor R 36:1039-40 My '33
- Forest army plans. il Business Week p15 Ap 19 '33
- Forest bankruptcy in America. G. P. Ahern. 319p [bibliog p315-19] Green Lamp league, 1319 F St, N.W. Washington, D.C. '33
- Forestry; an economic challenge. A. N. Pack. 161p \$1.25 Macmillan '33
- Land-conservation camp plan and the Tennessee River basin. S. T. Henry and I. Foos. il map Eng N 110:425-9 Ap 6 '33
- Public aid needed to stabilize forest situation; excerpts from annual report of the Forest service. Paper Tr J 95:34 D 8 '32
- Reforestation—at last! Sci Am 149:9 Jl '33
- U. S. Forest service outlines its plans for emergency work. Eng N 110:420 Mr 30 '33
- Young men preferred for forest conservation work. R. Fechner. Eng N 110:511 Ap 20 '33

**FORGE shops**

- Drop forging industry's overcapacity calls for constructive reorganization. J. B. Sehl. Iron Age 131:819-20+ My 25 '33

**FORGERY**

- Closing the forger's trail. H. A. Crowe. Am Bankers Assn J 26:1 sec 2 N '33
- Forged surety bonds found in latest Kansas scandal. Nat Underw 37:27 S 7 '33; Same. Weekly Underw 129:467 S 9 '33
- Gentle art of paper-hanging, or How to forge a check and how to check a forger. D. J. Johnston. Credit & Fin Management 35:18-19+ O '33
- Tale of a deep sea diver. I. Galt. Burroughs Clearing House 17:11+ Mr '33

*See also*

- Bankers' blanket bond

**FORGING**

- Automatic forging methods perfected; heat control applied to furnaces. Steel 92:89 Ja 2 '33
- Economies made possible by more accurate forgings; abstract. C. D. Harmon. Iron Age 131:791 My 18 '33
- Fewer motions, more output. C. G. Johnson. il plans Factory Management 91:396 O '33
- Forging. J. L. Bacon. rev ed 110p American technical society, Chicago '33
- Generalized diagram for forgeability. S. A. Main. diag Metal Prog 23:47-8 Ja '33
- Machine forgings. F. H. Colvin. il Am Mach 76:1213-16 D 21 '32
- New designs lower forging costs. Iron Age 131:47-8 Ja 5 '33

**FORGING—Continued**

- Press work pressures; diagrams. C. W. Lucas. *Am Mach* 77:662-3 O 11 '33
- Production and capacity in the drop forging industry. J. Hall. 146p U.S. Bur. of foreign and domestic commerce, Washington '32
- Two forging operations; Battle Creek (Mich.) shops of the Grand Trunk Western. *il Ry Mech Eng* 107:177-8 My '33

*See also*

- |                   |                |
|-------------------|----------------|
| Furnaces, Forging | Steel forgings |
| Hammers, Drop     | Welding        |

**FORGING machinery**

- Greenwood and Batley  $\frac{1}{2}$ -in. cold-forging machine. *il diags Engineering* 134:752-3 D 23 '32; *Engineer* 155:240 Mr 10 '33
- Hydraulik G.m.b.H. giant forging press. *il diags Engineer* 155:474-6 My 12 '33
- Machine forgings. F. H. Colvin. *il Am Mach* 76:1213-16 D 21 '32
- Neue schnellschmiedepressen. *il diag Stahl & Eisen* 53:840-1 Ag 10 '33
- Precision forging machine. *il Engineer* 154:569-70 D 2 '32
- Presses à forger hydrauliques de 10 000 tonnes. L. Fèvre. *il diags Génie Civil* 102:300-3 Ap 1 '33
- Progress in forging practice. *il Mach* 39:270-1 D '32
- Waagerechte schmiedemaschinen. G. Wollenweber. *il diags Zeit Ver Deutsch Ing* 77:244-8 Mr 4 '33
- Zwei dampfhydraulische 10 000-t-schmiedepressen. J. Sartorius. *il diags Stahl & Eisen* 52:1171-4 N 24 '32

**Manufacture**

- Arc welding introduces new methods in machine design. E. Chapman. *il Mach* 39:243-6 D '32

**FORGOTTEN man**

- Forgotten man of fifty years ago and of today; Sumner and Roosevelt. M. Sykes. *Comm & Fin* 22:895-6 O 11 '33

**FORMALDEHYDE**

- Action of formaldehyde on amines and amino acids. H. T. Clarke, H. B. Gillespie and S. Z. Weisshaus. *bibliog Am Chem Soc J* 55:4571-87 N '33
- Application of low-temperature tar in the production of phenol-formaldehyde resins. G. T. Morgan, N. J. L. Megson and E. L. Holmes. *diag Soc Chem Ind J* 52:277T-80T S 8 '33
- Condensation of formaldehyde with *p*-nitrophenol. F. D. Chattaway and R. M. Goepp. *Chem Soc J* p699-700 Je '33
- Condensation of sulphamide, dimethylsulphamide, and aniline-*p*-sulphonamide with formaldehyde. F. C. Wood and A. E. Batye. *Soc Chem Ind J* 52:346T-9T O 20 '33
- Early history of acetaldehyde and formaldehyde. F. Walker. *J Chem Educ* 10:546-51 S '33
- Formaldehyde and acetate rayon. *Textile Col* 55:399 Je '33
- Formaldehyde condensations with aliphatic ketones. G. T. Morgan and E. L. Holmes. *Chem Soc J* p2667-73 N '32
- Formaldehyde in the treatment of textile materials. A. J. Hall. *Am Dyestuff Rep* 22:379-81, 399-401 Je 19 '33
- Manufacture of formaldehyde by catalytic oxidation and dehydrogenation of methyl alcohol; abstract. G. Natta and M. Strada. *Soc Chem Ind J* 52:sup100-1 F 3 '33
- Modifying viscose rayon by treatment with formaldehyde. *Textile Col* 55:259-60 Ap '33
- Photosynthesis in tropical sunlight; the presence of formaldehyde in rain water. N. R. Dhar and A. Ram. *bibliog J Phys Chem* 37:525-31 Ap '33
- Polymerisation of gaseous formaldehyde. R. Spence. *Chem Soc J* p1193-7 S '33
- Preparation and properties of silver sols by reduction of silver halides with formaldehyde. T. I. Taylor and W. H. Cone. *Am Chem Soc J* 55:3512-15 S '33
- Reaction of formaldehyde with diphenylamine. D. Craig. *Am Chem Soc J* 55:3723-7 S '33

- Reduction studies of Schiff bases; the condensations of certain secondary aromatic amines with formaldehyde in acid solution; nuclear or N-methylations by means of formaldehyde. E. C. Wagner. *bibliog Am Chem Soc J* 55:724-31 F '33

Some properties of anhydrous formaldehyde. F. Walker. *diag Am Chem Soc J* 55:2821-6 J1 '33

- Über peroxyde des formaldehyds; abstract. A. Rieche. *Angew Chemie* 46:397 Je 24 '33

**Analysis**

- Quantitative determination of formaldehyde and benzaldehyde and their bisulfite addition products. L. H. Donnelly. *Ind & Eng Chem Anal ed* 5:91-2 Mr 15 '33

**FORMAMIDE**

- Electrodeposition of metals and alloys from formamide solutions. R. D. Blue and F. C. Mathers. *bibliog Electrochem Soc Trans* 63 (preprint 32):327-34 My '33

**FORMAMIDINES**

- Attempts to prepare some nitrogenous derivatives of divalent carbon. D. Wood, jr. and F. W. Bergstrom. *Am Chem Soc J* 55:3314-19 Ag '33

**FORMATES**

- Optical properties, densities, and solubilities of the normal formates of some metals of group II of the periodic system. F. W. Ashton, D. F. Houston and C. P. Saylor. *diags U S Bur Stand J Research* 11:233-53 [bibliog p252-3] Ag '33

**FORMIC acid**

- Discovery of formic acid. J. R. Partington. *Soc Chem Ind J* (Chem & Ind) 52:765 S 22 '33
- Recommended specifications for analytical reagent chemicals. W. D. Collins and others. *Ind & Eng Chem Anal ed* 5:290 J1 15 '33
- Rotation of polar groups in organic compounds. J. M. Sturtevant. *bibliog Am Chem Soc J* 55:4478-85 N '33

**Analysis**

- Determination of formic, acetic, and propionic acids in a mixture. O. L. Osburn, H. G. Wood and C. L. Werkman. *bibliog Ind & Eng Chem Anal ed* 5:247-50 J1 15 '33

**FORMICA**

- Machine non-metallic materials. *diags Am Mach* 77:565 Ag 30 '33

**FORMING machines**

- Kane & Roach no. OOX cold roll forming machine. *il Am Mach* 77:290 Ap 26 '33; *Iron Age* 131:710 My 4 '33

**FORMING tools**

- Contour calculations for forming tools. O. A. Johnson. *il diags Am Mach* 76:893-6, 930-2, 968-72, 1001-3, 1026-30, 1061-4, 1097-9, 1126-8, 1161-4, 1224-6; 77:12-13 Ag 3-N 23, D 21 '32-Ja 4 '33
- Forming tools for 90-deg. bends. E. Foldvary. *diag Am Mach* 77:214 Mr 29 '33
- Making contour forming tools without calculations. C. Kugler. *Am Mach* 76:1138 N 9 '32; Discussion. W. S. Rowell. 77:25-6 Ja 4 '33; Reply. 77:250 Ap 12 '33

**FORMOLITE reaction**

- Contribution à l'étude de la réaction des formolites. V. Cercez and I. Ionescu-Muscel. *Chimie & Ind* 29:781-5 Ap '33

**FORMS and blanks, Business**

- Advanced model transportation accounting system. W. Bergmann and H. G. Wingardner. *il N E L A Bul* 19:661-8 N '32
- Binding margins. *System and Management Methods* 62:401 S '33
- Continuous multiple business forms. C. E. Russell, ed. *il Management Methods* 62:266-7 Je '33
- Cutting down the cost of forms. F. E. Kunzel. *il Elec Traction* 29:300 S '33
- Duplicating lowers form cost; Lehigh Valley transit company. *Management Methods* 62:14-15 Ja '33
- Effective plan for beer distribution records; how specialized order routine prevents credit misunderstandings. *il System and Management Methods* 62:390-1 S '33



**FORMS and blanks, Business—Continued**

- Handling C.O.D. mail orders. Management Methods 62:128+ Mr '33
- How simplified procedures reduced Westinghouse operating costs; handling orders, standardizing forms, etc. G. L. Harris. *il* System 62:494-5+ N '33
- Labels, invoices combined. G. E. Russell. *il* System 62:505-6 N '33
- Making forms foolproof; Studebaker corporation. Management Methods 61:664-5 D '32
- Meter route sheets and binders. W. H. German. *Am Gas Assn Proc* 1932:380-6; Discussion. 386
- Multiple form styles; new time savers. Management Methods 62:224 My '33
- Numbering of business forms. Management Methods 62:148 Mr '33
- Order forms used by a jobbing machine shop; Boyar-Schultz corp., Chicago. R. A. Fiske. *il* Iron Age 130:838-9+ D 1 '32
- Production control; preparing the order. T. M. Landy. *il* Factory Management 91:195-7 My '33
- Production control system employs Addressograph equipment. C. H. Getz. *il* Iron Age 131:502-5+ Mr 30 '33
- Saving money on stationery; Studebaker corporation. Management Methods 62:67 F '33
- Seven ways to control copied data. *il* Management Methods 62:178 Ap '33
- Standard window envelopes. G. E. Russell, ed. System and Management Methods 62:400 S '33
- Stationery costs reduced; Libby, McNeill & Libby. Management Methods 62:220-2 My '33
- This form cuts office costs. *il* Management Methods 61:664 D '32
- Three related forms combined. *il* Management Methods 62:224 My '33
- Type in business forms. *il* Management Methods 62:178+ Ap '33
- Unproductive labor time—loose forms and loose carbons. System and Management Methods 62:311 Jl '33
- What the forms supervisor can do. Management Methods 62:76+ F '33
- What we learned about reducing costs of forms and stationery; Westinghouse electric and manufacturing co. W. R. Jacobson. *il* System and Management Methods 62:302-3+ Jl '33
- Wrinkles; compiled by the 1931-32 A.G.A. committee on mechanical office equipment. *il* Am Gas Assn Proc 1932:315-73; Discussion. 374-9

*See also*

- |                   |                    |
|-------------------|--------------------|
| Factories—Records | Purchasing depart- |
| Invoices          | ments—Records      |
| Order blanks      | Records            |
|                   | Sales records      |

**FORT DEARBORN insurance company**

- Referred to Attorney general for action. Nat Underw 37:28 My 11 '33

**FORT VALLEY, Georgia****Water supply**

- Water supply improvements at Fort Valley. T. A. Jones. *Am Water Works Assn J* 25:728-33 My '33

**FORT WILLIAM, Ontario****Sewerage**

- Interceptor and sewage disposal works. R. O. Wynne-Roberts. *il* diags plans Can Eng 63:17-20 D 13 '32

**FORT WORTH, Texas**

- \$100,000,000 improvement program. R. Ady. *il* Manuf Rec 102:20-1 Mr '33

**FORWARD, Alexander**

- Portrait. Pub Util 12:380 S 28 '33

**FOSTER Wheeler corporation**

- Moderate risks for large profits. Mag of Wall St 51:362 Ja 7 '33

**FOUCAULT pendulum**

- Foucault experiment. Science 77:sup9 Ja 27 '33

**FOUNDATION soils**

- Baugrundforschung. A. Hertwig. diags Zeit Ver Deutsch Ing 77:550-6 My 27 '33

Bearing power of clay is determinable. W. S.

Housel. Eng N 110:244-7 F 23 '33

Design of concrete foundations. H. G. Smith.

diag Can Min J 54:154-5 Ap '33

Foundations for George Eastman laboratory of physics and chemistry, Massachusetts institute of technology. H. E. Sawtell. diags Boston Soc C E J 20:155-70 O '33

Friction piles in muck sink evenly under load; construction of the dry-seal waterless gas-holder at Syracuse, N.Y. diags Eng N 109:746 D 22 '32

High dams on pervious glacial drift. E. M. Burd. diags Am Soc C E Proc 59:537-63 Ap '33; Discussion. 59:920-1, 1201-3, 1348-53, 1444-54 My, S-N '33

New methods of excavating quicksands. H. Japp. *il* diags plan Engineer 156:398-402, 422-5 O 27-N 3 '33

Les phénomènes capillaires, funiculaires et pendulaires, dans les eaux souterraines, et leur influence sur les fondations; abstract. Hackstroh. Génie Civil 102:597-8 Je 24 '33

Some shear phenomena in a loaded soil mass. D. P. Krynine. *il* diags plan Civil Eng 3:574-6 O '33

Soundings for bridge foundations. F. Greve. Pub Works 64:24 F '33

Washington monument facts brought up to date. D. H. Gillette. diags Eng N 110:501-2 Ap 20 '33

*See also*

Roads—Subgrades  
Soil mechanics

**Testing**

Appareils pour la mesure des réactions du sous-sol sur les fondations d'ouvrages. diags Génie Civil 102:330-1 Ap 8 '33

Design and construction of rolled-earth dams; field and laboratory verification of soil suitability. R. R. Proctor. *il* Eng N 111:348-51 S 21 '33

Earths and foundations; progress report of special committee, American society of civil engineers. *il* diags Am Soc C E Proc 59:777-820 My '33; Discussion. 59:1054-67, 1207-20, 1358-72, 1461-74, 1648-50 Ag-D '33

La mesure au laboratoire des propriétés des terrains de fondations. E. Marcotte. diags Génie Civil 101:553-6 D 3 '32

New pile-bearing formula from model-pile tests. L. C. Wilcoxon. diags Eng N 109:524-6 N 3 '32; Discussion. R. M. Harris. 109:787 D 29 '32; Reply. 110:355 Mr 16 '33

Sampling and soil tests for Bay bridge, San Francisco. D. E. Moran. *il* diags Eng N 111:404-6 O 5 '33

Soil action shown by model. W. S. Housel; F. R. Harris. *il* Eng N 109:626-7 N 24 '32

Soil action under load shown by test. D. P. Krynine. *il* Eng N 109:782-4 D 29 '32

Soil-bearing tests for Columbus water tanks. J. C. Prior. diags Eng N 111:500-2 O 26 '33

**FOUNDATIONS**

Calculations for the design of bubble tower foundations. W. C. Edmister. diag chart Nat Pet N 25:35-6 F 15; 27-8+ F 22; 35-6 Mr 1 '33

La construction des agrandissements des magasins aux Galeries Lafayette, à Paris; particularités présentées par les fondations. R. L'Hermite. *il* diags plans Génie Civil 102:101-8 F 4 '33

Contractual procedure for foundations of buildings. L. R. Viterbo. *il* Civil Eng 3:126-9 Mr '33

Development of air rights entails difficult substructure work; more than 200 column footings placed at the Pennsylvania station, New York, for post office extension. *il* plan Ry Age 95:342-5 S 2 '33

Earthquake design for bank buildings; four new branches of the Mitsui bank in Japan. P. F. Pape. *il* diags plans Eng N 110:457-60 Ap 13 '33

Excavating close to building without underpinning; deep sewage regulator alongside shallow foundation. W. O. Johnson. *il* diags Eng N 111:376-7 S 28 '33

**FOUNDATIONS—Continued**

Foundation construction; Insurance company of North America, New York City branch building. *il Arch Rec* 74:104 Ag '33

Foundation design for an elevated tank. M. B. Meyer. *il diags Eng N* 109:644-5 D 1 '32

New Lyons Corner house at Marble Arch. Engineering 136:461 O 27 '33

Power-house foundations and circulating-water tunnels at the Ford motor company's works at Dagenham. R. V. Allin and M. Nachshen. Engineering 135:169-70 F 10 '33

Tank piers carried 50 ft. to rock through old coal mine, Zanesville, Ohio. *diag Eng N* 110:190 F 9 '33

Wood borers remove piles from building foundations; loft building in St Paul. C. A. P. Turner. *Eng N* 111:159-60 Ag 10 '33

*See also*

Bridges—Foundations and piers  
Building  
Caissons  
Cofferdams  
Concrete piling  
Dams—Foundations  
Earthwork  
Excavation

Footings, Concrete  
Foundation soils  
Machinery—Foundations  
Piers (foundations)  
Piles and pile driving  
Roads—Foundations  
Walls

**FOUNDATIONS, Charitable and educational**  
Avoiding dangers and waste of long-term private and charitable trusts. H. McLean. Trust Companies 56:309-12 Mr '33

*See also*

Cornell university—Heckscher foundation  
Ella Sachs Plotz foundation for the advancement of scientific investigation

Rockefeller foundation

**FOUNDATIONS, Subaqueous***See also*

Bridges—Foundations and piers  
Caissons  
Cofferdams  
Concrete construction, Subaqueous

Dams—Foundations  
Dredging  
Excavation, Subaqueous  
Marine structures

**FOUNDING. See Foundry practice****FOUNDRIES**

Electric furnace casts all types of ferrous metals; Belle City malleable iron co, Racine, Wis. F. G. Steinebach. *il Foundry* 61:10-12+ S '33

No more ringing door bells in this foundry's sales; D. J. Ryan foundry company, Ecorse, Mich. *Iron Age* 131:933+ Je 15 '33

Steel castings; foundry of Kryn and Lahy at the Garden City, Letchworth. *il Engineer* 155:424 Ap 23 '33

Time is ripe to introduce uniform foundry trade practice. *Iron Age* 131:951-2+ Je 15 '33

*See also*

Brass foundries  
Foundry management  
Foundry practice

**Cleanliness**

Good foundry housekeeping; abstracts of papers at A.F.A. convention. *Foundry* 61:52+ J1 '33

Good housekeeping at Falks. V. J. Hydar. *il Foundry* 61:10-12+ F; 16-18+ Mr '33

**Employees**

Foundry-gray iron code submitted to the industry. *Iron Age* 132:29 Ag 17 '33

Steel founders' society submits code to Washington. *Iron Age* 132:31-2 Ag 17 '33

Wages and hours of labor in foundries and machine shops, 1931; with foundry terms with definitions. tables U S Bur Labor Statistics Bul 570:1-131 '32

Wisconsin foundries co-operate in solving silicosis problem. E. O. Jones. *Foundry* 61:16-17+ Ja '33

**Equipment and supplies**

Carries cores on trolley conveyor; American foundry co. T. E. Wright. *il Foundry* 60:24+ D '32

Collecting system is flexible; apparatus for removing dust from swing frame grinders. *il Foundry* 61:19 O '33

Cupola charging cranes cut cost. M. H. Kidder. *il Blast F & Steel Pl* 21:267-9 My '33

Cupola charging made easy at Nash motors foundry. R. Fiske. *il Iron Age* 131:944-5 Je 15 '33

Fire clay for follow boards. P. Dwyer. *il Foundry* 61:34-5+ Je '33

Foundry saves \$6000 annually in exhaust-fan bearing maintenance. F. A. Westbrook. *il Heating-Piping* 5:94 F '33

Foundrymen see developments; A.F.A. exhibition at Chicago. *il Foundry* 61:21-3+ J1 '33

Gray iron cast to engineering specifications; Eaton-Erb foundry co. F. Erb and E. Bremer. *il Foundry* 61:10-12+ Ap '33

Handle sand and molds on conveyors; Westinghouse foundry. *il plan Foundry* 60:12-14+ D '32

Mass production methods for malleable castings. H. R. Simonds. *il Iron Age* 131:466-7+ Mr 23 '33

Monorail materials handling in the foundry. J. B. Forker. *Mech Handling* 20:117-20 Ap '33

Permanent molds speed production; Delco-Remy corporation. F. G. Steinebach. *il Foundry* 61:10-12+ My '33

Pours steel castings on conveyors; Detroit steel casting co. F. G. Steinebach. *il Foundry* 61:10-12+ Ja '33

Recovers core sand from sand blast; Cleveland foundry of the Aluminum company of America. *il Iron Age* 131:943 Je 15 '33

Some experiments with zircon and zirconia refractories. G. F. Comstock. *il Am Cer Soc J* 16:12-35 Ja '33

Some lifting considerations in a jobbing steel foundry. F. J. Hemming. *diags plans Mech Handling* 20:155-7 My '33

Tipton malleable foundry. *il Engineer* 155:371-2 Ap 14 '33

*See also*

Converters  
Core ovens  
Cupola furnaces  
Electric furnaces, Foundry  
Foundry flasks  
Foundry ladles  
Foundry machinery  
Furnaces, Foundry  
Molds (for casting)

**Power**

Wide variations in power charges imply need for revisions. *Steel* 92:30+ Je 26 '33

**Records**

Inventory, production, and shipping record; Warren foundry and pipe company. *Management Methods* 61:666-7 D '32

**FOUNDRY (periodical)**

Through the years with the Foundry. *Foundry* 60:18-19+ O; 22-3+ N; 15-16 D '32; 61:13-14+ Ja; 18-19+ F; 22-3+ Mr; 22-3, 45-6 Ap '33

**FOUNDRY accounting**

Figuring melting cost of iron. J. J. Rowbottom. *Foundry* 61:36 Mr '33

Profits through classified costs. J. L. Carter. *Foundry* 61:40+ Je '33

Subdivides cleaning costs; classification according to respective operations provides valuable information; Hamilton foundry & machine co. P. E. Rentschler. *Foundry* 61:19, 56 S '33

**FOUNDRY associations**

Four branches of foundry industry move toward industrial codes; form council. *Foundry* 61:14-15+ Ag '33

**FOUNDRY chemistry**

Beiträge zur eisenhüttenchemie. A. Stadel. *Stahl & Eisen* 52:1246-51; 53:149-51, 406-10, 956-9, 1086-9 D 15 '32, F 9, Ap 20, S 14, O 19 '33



**FOUNDRY chemistry—Continued**

Neuere analytische verfahren im eisenhüttenwesen. W. Böttger. *Angew Chem* 46:48-51 Ja 14 '33

See also

Alloys

**FOUNDRY costs**

Electric melting gives superior iron; summary of survey. D. T. Waby. *il Elec W* 101:100-3 Ja 21 '33

Figuring melting cost of iron. J. J. Rowbottom. *Foundry* 61:36 Mr '33

Fixed costs 2.2 times prewar level. R. E. Belt. *Foundry* 60:15-16+ N '32

**FOUNDRY flasks**

Flask equipment cost cut 90 per cent; Nash motors company. *il Iron Age* 131:949 Je 15 '33

Interchangeability features new flasks. *il Foundry* 60:66 D '32

**FOUNDRY ladles**

Bekämpfung der rissbildung bei schlackenempfangen. A. Wilhelm. *il diags Stahl & Eisen* 53:641-6 Je 22 '33

Investigation of some of the refractories used in ladles and in ingot casting; some characteristics of the clays used in the manufacture of runners, stoppers, nozzles, etc. J. E. Priestley and W. J. Rees. *diags Soc Chem Ind J* 52:297T-304T S 22 '33

Ladles and pouring efficiency. A. J. Saute. *Foundry* 61:36+ S '33

Nozzle and stopper rod assemblies. H. V. Beasley. *il diags Blast F & Steel Pl* 21:527-9, 581-6 O-N '33

Uses insulated covered ladles; General motors corp. D. O. Thomas. *il diag Foundry* 61:18-20+ Ja '33

**FOUNDRY machinery**

Expedite construction of pulleys. *il Foundry* 60:26-7+ D '32

Osborn machine blows green and dry sand cores. *il Steel* 92:32 Ja 30 '33; *Iron Age* 131:320 F 23 '33

Pneulec sand milling and mixing machine. *il diag Engineering* 136:234 S 1 '33

Single valve controls new International molding machine co.'s core blower. *il Foundry* 60:76 J1 '33

See also

Casting machines

Die casting machines

Molding machines

**Exhibitions**

Exhibit equipment in London; International foundry trades exhibition. *Foundry* 61:58-9+ Je '33

Foundry show, Chicago, demonstrates improvements in equipment. *Steel* 92:45+ Je 26 '33

Foundrymen see developments; A.F.A. exhibition at Chicago. *il Foundry* 61:21-3+ J1 '33

International foundry trades exhibition, London, April 24-May 3. *il Engineering* 135:486-8, 549-51 My 5, 19 '33

Machines feature Paris display; fourth International foundry congress, Paris. V. Delport. *il Foundry* 60:26-7+ N '32

**FOUNDRY management**

Advantages of mechanisation in foundries. F. J. Cook. *Mech Handling* 20:254 Ag '33

Betriebsorganisation; auswertung von zeitsstudien beim anstauchen von rohren. G. Thelen. *diags Stahl & Eisen* 53:762 J1 20 '33

Changes adapt patterns to other jobs. *Foundry* 60:50 D '32

Company classifies steel castings; Detroit steel casting co. F. G. Steinebach. *il Foundry* 61:14-15+ Ap '33

Consideration of dust hazard in industry; abstract. C. P. McCord. *Foundry* 60:57-8 D '32

Control features steel foundry; Detroit steel casting co. F. G. Steinebach. *il Foundry* 61:20-2+ F '33

Dust problem in the foundry industry. E. G. Meiter. *il Safety Eng* 66:101-4, 141-3 S-O '33

Foundry-gray iron code submitted to the industry. *Iron Age* 132:29-30 Ag 17 '33

Good housekeeping at Falks. V. J. Hydar. *il Foundry* 61:10-12+ F; 16-18+ Mr '33

Handling materials in a brass shop; Hawthorne works of the Western electric co. D. G. Anderson and B. F. McAuley. *il Foundry* 61:28-9+ F '33

Keeping down the dust. E. O. Jones. *Nat Safety N* 28:15+ N '33

Ladles and pouring efficiency. A. J. Saute. *Foundry* 61:36+ S '33

Malleable founders' society code; text and hearing. *Foundry* 61:14-15, 32, 46, 48 O '33

Mass production methods for malleable castings. H. R. Simonds. *il Iron Age* 131:466-7+ Mr 23 '33

No more ringing door bells in this foundry's sales; D. J. Ryan foundry company, Ecorse, Mich. *Iron Age* 131:939+ Je 15 '33

Sand handling system effects labor and material savings and improves product; Massillon steel casting co. F. L. Prentiss. *il Iron Age* 130:840-1+ D 1 '32

Steel founders' society submits code to Washington. *Iron Age* 132:31-3 Ag 17 '33

Study effect of foundry codes. *Foundry* 61:13+ O '33

Subdivides cleaning costs; classification according to respective operations provides valuable information; Hamilton foundry & machine co. P. E. Rentschler. *Foundry* 61:19, 56 S '33

Synthetic time setting in a jobbing foundry; Link-Belt co, Chicago. R. A. Fiske. *Iron Age* 131:655-9 Ap 27 '33

Time is ripe to introduce uniform foundry trade practice. *Iron Age* 131:951-2+ Je 15 '33

Untersuchungen über die ausrüstung der eisenhüttenmännischen verwaltungsbetriebe mit büromaschinen. A. Störmann. *Stahl & Eisen* 53:908-9, 935-6, 961, 989-90 Ag 31-S 21 '33

When annoyed to exasperation it may be well to throw overboard the old belief that the customer is always right. E. N. Simons. *Foundry* 61:23+ Ja '33

Wisconsin foundries co-operate in solving silicosis problem. E. O. Jones. *Foundry* 61:16-17+ Ja '33

See also

Foundries—Clean-

liness

Foundries—Employ-

ees

Foundry accounting

Pattern storage

**FOUNDRY practice**

Accuracy features cylinder cores; casting of Ford V-8 engine. *il Foundry* 60:12-14+ N '32

Alloys feature castings progress. *il Iron Age* 131:42-5 Ja 5 '33

Aluminum removed from red brass. *Foundry* 61:68-9 Je '33

American foundrymen's association annual meeting, Chicago. *Foundry* 61:46-7, 49-50 J1 '33; *Steel* 93:28-30 J1 3 '33

Cast lamp standards; Westinghouse electric & mfg. co. *il Foundry* 61:42 Ap '33

Cast steel in Europe and America. L. Shane. *Foundry* 61:19-20+ Ag '33; Discussion. 61:22-3+ S; 17-18+ O '33

Casting beryllium-copper alloys. E. F. Cone. *Foundry* 61:20-1, 59-60 S '33

Casting of ingots; Roth's method. *diags Engineering* 154:sup[Metallurgist] 165-7 N 25 '32

Chills. *Engineer* 155:sup[Metallurgist] 17-18 Ap 28 '33

Chrysler casts two cylinder blocks in single mold. *il Iron Age* 131:946-9 Je 15 '33

Continuous molding machine aids production. *il Iron Age* 131:628 Ap 20 '33; Same. *Mach* 39:586 My '33

Control features steel foundry; Detroit steel casting co. F. G. Steinebach. *il Foundry* 61:20-2+ F '33

Controlling properties of cores. H. W. Dietert and F. Von Valtier. *Foundry* 61:18-19+ Ap '33

Core assembly handled as unit. *il diag Foundry* 61:10-12+ Ag '33

Corner effect in castings. J. G. Pearce. *diags Engineer* 156:sup[Metallurgist] 73-4 O 27 '33

**FOUNDRY practice—Continued**

Cupola practice for malleable iron. H. H. Farr. Foundry 61:24-5+ Mr '33

Cylinder molds are skin dried; Studebaker corp. il Foundry 61:17+ Ap '33

Design and the foundry. F. W. Rowe. Can Chem & Met 17:148-50 Jl '33

Design of nonferrous castings. diags Foundry 61:16-17+ My '33

Design of steel castings. F. A. Lorenz, jr. il diag Am Soc T M Proc 32 pt 2:58-72 '32; Same abr. Foundry 60:20-2+ O '32; Same. Steel 91:21-2+ D 12; 19-21 D 26 '32; Discussion. Am Soc T M Proc 32 pt 2:73-6 '32

Electric furnace iron used for piston rings and valve tappets; Eaton-Erb company. F. Erb and E. Bremer. il Foundry 61:25-6+ Jl '33

Estimating weights from blue prints. J. H. Hill. diags Foundry 61:36-7+ Je '33

Expedite construction of pulleys. il Foundry 60:26-7+ D '32

Finishing the heat of steel. J. H. Hruska. Blast F & Steel Pl 21:107-9, 151-3, 213-14+, 264-5, 324-5, 372-3, 422-3, 478-9, 532+, 587-8 F-N '33 (to be cont)

Fire clay for follow boards. P. Dwyer. il Foundry 61:34-5+ Je '33

Flask equipment cost cut 90 per cent; Nash motors company. il Iron Age 131:949 Je 15 '33

Fortschritte im giessereiwesen im ersten halbjahr 1932. H. Jungbluth and P. A. Heller. diags Stahl & Eisen 52:1096-1101 N 10 '32

Fortschritte im giessereiwesen im zweiten halbjahr 1932. H. Jungbluth and P. A. Heller. Stahl & Eisen 53:804-9 Ag 3 '33

Foundry practice in relation to engines; abstract. H. E. Beardshaw. Chem Age (Lond) 27:603 D 24 '32

Foundry progress during the depression. Iron Age 131:934-8 Je 15 '33

High alloy castings; their foundry problems. R. D. Alger and G. C. McCormick. il Metal Prog 24:15-19 Jl '33

Humidity and oil sand cores; moisture content of atmosphere influences successful drying. A. S. Coulter. Foundry 61:13+ F '33

Ingot cast by new method; Firth-Sterling steel co, McKeesport, Pa. L. G. Firth. il diags Iron Age 131:197+ F 2 '33

Iron for pressure castings. H. H. Judson. il Foundry 60:24-5+ N '32

Large gears are machine-molded; Link-Belt co. il Iron Age 130:923 D 15 '32

Melting and pouring white bearing metals. E. R. Thews. Engineer 154:sup[Metallurgist] 170-3 N 25 '32

Melting gray iron in the crucible. W. H. Rother. il Foundry 61:16+ Ap '33

Modern metallurgy—a factor in the jobbing iron foundry. A. C. Denison. Iron Age 132:15+ Jl 6 '33

Mold gear wheels on machines. il diags Foundry 61:10-12+ O '33

Nonferrous physical metallurgy; review of literature shows wide variety of work. J. W. Bolton and S. A. Weigand. Min & Met 14:37-8 Ja '33

Permanent molds in manufacturing cream separator parts; DeLaval separator company. Poughkeepsie, N.Y. H. R. Simonds. il Iron Age 131:940-3 Je 15 '33

Permanent molds speed production; Delco-Remy corporation. F. G. Steinebach. il Foundry 61:10-12+ My '33

Pours steel castings on conveyors; Detroit steel casting co. F. G. Steinebach. il Foundry 61:10-12+ Ja '33

Prevent losses with proper gates and risers. P. Dwyer. diags Foundry 60:40-2 D '32; 61:38+ Ja; 41-2+ F; 38, 40+ Mr; 32+ Ap '33

Prevent losses with proper gates and risers; aluminum castings. P. Dwyer. diags Foundry 61:36-8 My; 62+ Je; 31-2+ Ag; 30+ S; 34+ O; 34, 37-8 N '33

Prevent segregation in bronze. J. Brinn. diags Foundry 61:41-2+ Je '33

Produces castings in metal molds; Eaton-Erb foundry co. F. Erb and E. Bremer. il Foundry 61:38-9+ Je '33

Producing small steel castings. R. Burke. diags Foundry 61:22-3+ O '33

Questions and answers covering important problems found in all phases of modern foundry practice. Published in monthly numbers of Foundry

Science perfects bell making; E. W. Van-duzen co. J. B. Nealey. il Foundry 61:17+ F '33

Stainless steel pressure castings; methods of molding, coremaking and gating. S. R. Robinson. il Foundry 60:25+ D '32

Temperature affects molding sand. S. O. V. Nilsson. il diag Foundry 61:10-12+ Mr '33

Test shows cupola melting loss. M. J. Gregory. il Foundry 61:18-20+ My '33

Weigh all air entering the cupola. A. W. Weston. Foundry 61:24+ O '33

**See also**

Aluminum bronze	Furnaces, Iron found-
Aluminum founding	ing
Annealing	Iron founding
Brass founding	Iron metallurgy
Bronze founding	Molding machines
Cast iron	Molds (for casting)
Casting, Centrifugal	Pattern making
Copper founding	Pickling (metals)
Cores	Pig iron
Die casting	Sand, Foundry
Electric furnaces,	Steel castings
Foundry	Steel ingots
Foundries	Type and type found-
Foundry chemistry	ing
Foundry machinery	Verein deutscher
Foundry management	eisenhüttenleute
Furnaces, Foundry	

**Bibliography**

European foundry practice; digest of recent literature. Foundry 60:62 D '32; 61:42 Ja; 64 Mr; 52 Ap; 52 My; 58 Jl; 43 Ag; 64 S; 62 O '33

**Study and teaching**

Course features sand control. Foundry 61:37+ Ag '33

Talk castings at Michigan State; short course in foundry work sponsored by Detroit foundrymen's association. Foundry 61:34 My '33

**FOUNDRY sand.** See Sand, Foundry

**FOUNTAIN pens**

50,000 pens in three months; endless chain selling company is looking for new products and plans to advertise. Ptr Ink 162:35-6 F 2 '33

Retail bonus plan sells higher priced merchandise; Sheaffer urges wider use. Sales Management 33:152 Ag 15 '33

Spencerian adds new product; 75-year-old company, brings out \$1.50 fountain pen. il Ptr Ink 162:35-6 Mr 2 '33

Water-filled fountain pen. Sci Am 147:369-70 D '32

**Advertising**

New pen campaign is keyed to dealer demonstrations; Wahl program. il Ptr Ink 164:76-7 S 14 '33

Retail sales up 306 per cent, Parker expands campaign. Ptr Ink 164:48 Ag 24 '33

**Manufacture**

Red ink or black? Wahl company, Chicago. W. C. Otto. il Factory Management 91:387-9 O '33

**FOUNTAINS****Lighting**

Floodlighting and electric fountains for water works. W. T. Blackwell and C. Gallo. il diags plan Illum Eng Soc Trans 28:407-17 My '33

Fountain lighting. H. E. Lippman. il Elec J 30:138-41, 197-200 Ap-May '33

Sparks Cascades, Jackson, Michigan. il Illum Eng Soc Trans 27:774-5 D '32

**FOUNTAINS, Drinking.** See Drinking fountains

**FOUR power pact**

Four-power pact. Economist 117:167-8 Jl 22 '33



- FOUR** wheel drive auto company, limited  
Extends Canadian manufacture. W. M. Hanson. il Can Eng 64:17 F 7 '33
- FOURIER** series  
Fourier integral and certain of its applications. N. Wiener. 201p [bibliog p200-1] \$3.25 Macmillan '33  
Fourier integrals for practical applications. G. A. Campbell and R. M. Foster. 177p Bell telephone laboratories, New York '31  
New results in the calculation of modulation products. W. R. Bennett. Bell System Tech J 12:228-43 Ap '33
- FOURTH** national investors  
Speculative possibilities among investment trusts. W. Gates. Mag of Wall St 51:157 N 26 '32
- FWLER**, Sir Henry, 1871-  
Sketch. por Soc Chem Ind J (Chem & Ind) 52:762-3 S 22 '33
- FOX**, William  
Upton Sinclair presents William Fox. 377p \$3 Upton Sinclair, Los Angeles (West branch), Calif. '33
- FOX** film corporation  
Fox Film without William Fox. Econostat 1:14-15+ J1 8 '33
- FRACTIONATING** columns. See Distillation apparatus
- FRAME**, Andrew J. 1844-1932  
Late dean of American banking. Bankers M 126:52-3 Ja '33
- FRAMING** (building)  
Les charpentes en lamelles de bois; calcul des fatigues et essais de résistance. F. Crestin. il diags Génie Civil 102:461-6 My 20 '33  
House uses framework of formed cold-rolled strips; Stran-steel house. il diag Iron Age 132:20-1 Ag 10 '33  
Long-Bell to sell enterlocking lumber. diag Am Bld 54:42 D '32  
Lumber house is assembled in 4 days; standardized pre-fabricated lumber. il Am Bld 55:108-9 Je '33  
Nailable steel frame is key to low cost of Stran-steel house; Century of progress exposition. il diags plans Am Bld 55:30-3 Je '33  
New materials and methods in country house construction. R. W. Sherman. il Arch Forum 53:225-8 Mr '33  
New shrink-proof framing to avoid sagging floors and plaster cracks. E. H. Karp. il plans Am Bld 54:36-8 F '33  
Steel framing for small residences; abstracts. Steel 93:36, 38 Ag 28 '33; Iron Age 132:30 Ag 24 '33  
Steel in residence construction. F. T. Llewellyn and F. N. Speller. il diags Arch Rec 73:438-42 Je '33  
*See also*  
Roofs
- FRANCE**  
L'organisation des relations extérieures scientifiques et techniques en France. A. Ranc. Chimie & Ind 30:957-62 O '33  
Spirit of France. P. Cohen-Portheim. 215p Dutton '33  
*See also*  
Chemical industries— Steel industry and trade—France  
Cooperation—France  
Iron industry and trade—France  
Commerce  
L'aide à l'industrie. P. Petit. Chimie & Ind 29:453-6 F '33  
Yearbook, 1932-1933. 340p Chambre de commerce française des États-Unis, inc, 4 E. 52d st, New York '33  
Commercial policy  
French commercial policy. Economist 117:660-1 O 7 '33  
Commercial treaties  
Foreign trade boosts; Germany's pacts with France and Canada. Business Week p26 Ja 11 '33  
New Franco-German trade agreement. L. Pasvolksky. Barron's 13:5 F 13 '33  
Economic conditions  
Budget deficit—prices—business recovery. Economist 116:1073-5 My 20 '33  
Budget, rising money rates, prices. Economist 116:808-9 Ap 15 '33  
Depression in France. W. A. Sollohub. Harvard Business R 11:498-506 J1 '33  
France in 1932. Economist 116:sup13-14 F 18 '33  
France on horns of economic dilemma; artificial internal price level crumbling, but rising world prices may save her. Barron's 13:4 My 1 '33  
France's wall against depression giving way. M. D. Gould. Barron's 13:14 Mr 13 '33  
New Treasury bonds; industrial production; rising prices. Economist 117:363-5 Ag 19 '33  
La régression de l'industrie française pendant ces dernières années. J. Boissonnet. Génie Civil 102:542-6 Je 10 '33  
Foreign population  
Immigration in France. G. Mauco. Int Labour R 27:765-88 Je '33  
Foreign relations  
Italy and her neighbours. Economist 116:58-9 Ja 14 '33  
Role of France. Economist 116:736 Ap 8 '33  
Industries and resources  
Compte rendu du voyage de la Société des ingénieurs civils de France en Savoie, Mai 1932. J. F. Audouin and A. L. Racapé. il diags Soc Ing Civils Bul 85:1001-85 S '32  
Navy  
*See also*  
Warships—France  
Politics and government  
Budget crisis ousts Daladier. Barron's 13:10 O 30 '33  
**FRANCIS**, Charles  
Charles Francis built his business on service to all customers. S. H. Horgan. por Inland Ptr 91:31-2 My '33  
**FRANKFURTER**, Felix  
Brain rivalry; Columbia wing views with misgivings the growing influence of Frankfurter and Harvard. Business Week p14-15 My 24 '33  
**FRANKLAND**, Sir Edward, 1825-1899  
Tribute to Sir Edward Frankland. H. E. Armstrong. Chem Age (Lond) 28:79 Ja 28 '33  
**FRANKLIN**, Dwight  
Third dimension illustrator. pors Sci Am 149:65 Ag '33  
**FRANKLIN**, Edward Curtis  
Beginning of liquid ammonia research in the United States. R. Taft. por J Chem Educ 10:34-9 Ja '33  
**FRANKLIN** institute  
Celebration of the Franklin institute of the completion of fifty years of valuable services by Alfred Rigling, librarian and assistant secretary, 1883-1933. J Fr Inst 215:327-51 Mr '33  
Honors conferred by the Franklin institute. Science 77:538-9 Je 2 '33  
Medal day meeting. J Fr Inst 216:225-40 Ag '33  
New refracting telescope of the Franklin institute. Science 76:619-20 D 30 '32  
**FRASCH** process. See Sulfur mines and mining  
**FRASER**, Alexander, 1889-  
Appointed president of Shell petroleum corp. por Nat Pet N 25:10, 21 S 13 '33  
**FRASER**, J. K.  
Most interesting advertising job I ever did. por Ptr Ink 162:10+ F 2 '33  
True uses of J. K. Fraser. H. Powell. Adv & Sell 20:22-3+ Mr 30 '33  
**FRATERNAL** societies. See Benefit societies

**FRAUD**

- Coty pushes perfume racket war; claim dealers aid fraud. *Sales Management* 33:176 Ag 15 '33
- Fraud and embezzlement, including the use of office machinery, statistics, etc. as preventive measures. I. H. Dearnley. 175p \$2.25 Pitman '33
- Fraudulent buying reduced; Denver dry goods co. *Management Methods* 62:215 My '33
- Hop-skip-jump! story from the Fraud prevention department. C. J. Scully. *Credit & Fin Management* 35:11+ Ag '33
- Phantom real estate fortunes still lure the too trustful. W. H. Williams. *Bankers M* 126: 16 Ja '33
- Uncle Sam: strike out king. C. J. Scully. *il Credit & Fin Management* 35:15+ O '33
- Victims of fraud, a plea for a new law. E. J. Harvey. 304p \$7 Oxford '32
- Will the fraud order axe doom the endless chains? B. Crowell. *Sales Management* 32: 154-5+ F 15 '33
- Worse than burglars! a fact story from the Fraud prevention department. *Credit & Fin Management* 35:29+ F '33

See also

Advertising, Fraudulent  
Competition, Unfair  
Forgery  
Insurance, Fire—  
Moral hazards

Misbranding  
Swindlers and swindling  
Trade marks—Counterfeiting

**FRAUDULENT advertising.** See Advertising, Fraudulent

**FREE energy**

- Complex ions formed by iodine cyanide with cyanide and iodide ions; the vapor pressure, free energy and dissociation of iodine cyanide. D. M. Yost and W. E. Stone. bibliog *Am Chem Soc J* 55:1889-95 My '33
- Dissociation of oxygen to 5000°K; the free energy of atomic oxygen. H. L. Johnston and M. K. Walker. bibliog *Am Chem Soc J* 55:187-93 Ja '33
- Entropy and free energy relations among hydrocarbons. G. S. Parks. bibliog *Ind & Eng Chem* 25:887-91 Ag '33
- Entropy, heat content, and free energy of iron. J. B. Austin. *il Ind & Eng Chem* 24: 1388-91 D '32
- Free energies and heats of formation of tetrahydrate and anhydrous forms of cadmium bromide and their transition temperatures. H. M. Spencer and R. F. Selden. diags *Am Chem Soc J* 54:4504-15 D '32
- Free energies of formation of various forms of lead monoxide. H. M. Spencer and J. H. Mote. *Am Chem Soc J* 54:4618-24 D '32
- Free energies of some organic compounds. G. S. Parks and H. M. Huffman. 251p Chemical catalog co. New York '32
- Free energy of formation of iodine monobromide in carbon tetrachloride solution. D. M. Yost, T. F. Anderson and F. Skoog. *Am Chem Soc J* 55:552-5 F '33
- Free energy of iron oxides. J. Chipman and D. W. Murphy. bibliog *il Ind & Eng Chem* 25:319-27 Mr '33
- Free energy of reactions involving the fused chlorides and bromides of lead, zinc and silver. E. J. Salstrom. *Am Chem Soc J* 55: 2426-8 Je '33
- Free energy of the normal aliphatic alcohols in aqueous solution. J. A. V. Butler, D. W. Thomson and W. H. MacLennan. *Chem Soc J* p674-86 Je '33
- Heat capacity and entropy of calcium oxalate from 19 to 300° absolute; the entropy and free energy of oxalate ion. W. M. Latimer, P. W. Schutz and J. F. G. Hicks. *jr Am Chem Soc J* 55:971-5 Mr '33
- Heat capacity curves of the simpler gases; heat capacity, entropy and free energy of gaseous nitric oxide from near zero absolute to 5000°K. H. L. Johnston and A. T. Chapman. bibliog *Am Chem Soc J* 55:153-72 Ja '33
- Heat capacity curves of the simpler gases; heat capacity, entropy and free energy of gaseous oxygen from near zero absolute to 5000°K. H. L. Johnston and M. K. Walker. bibliog *Am Chem Soc J* 55:172-86 Ja '33

Heat capacity curves of the simpler gases; heat capacity, entropy and free energy of neutral OH from near zero absolute to 5000°K. H. L. Johnston and D. H. Dawson. *Am Chem Soc J* 55:2744-53 Jl '33

Heat of combustion, entropy and free energy of cyanogen gas. J. McMorris and R. M. Badger. bibliog diags *Am Chem Soc J* 55: 1952-7 My '33

Thermal data on organic compounds; the heat capacities, entropies and free energies of ten compounds containing oxygen or nitrogen. G. S. Parks, H. M. Huffman and M. Barmore. *Am Chem Soc J* 55:2733-40 Jl '33

Thermodynamic functions of hydrocarbon gases from spectroscopic data. L. S. Kassel. *Am Chem Soc J* 55:1351-63 Ap '33

Value of the determination of free energy change for organic reactions. D. B. Keyes. *Science* 77:202-4 F 24 '33

**FREE goods.** See Sales policies—Free goods

**FREE trade and protection**

Europe and the American tariff. O. F. Boucke. 163p \$1.50 Crowell '33

International free trade. (In *Intercollegiate debates*. v 12, p73-107) E. R. Nichols, ed. Noble and Noble, New York '31

See also

Dumping (commercial policy)  
Tariff

**Free trade**

Trade suicide. S. Bell. *Comm & Fin* 22:557-8 Je 28 '33

**FREEDOM of the press**

Inland publishers arouse to press freedom menace. *Ptr Ink* 165:80+ O 26 '33

McCormick and Beck see menace to freedom of press. *Ptr Ink* 165:64 N 2 '33

**FREEMAN, John Ripley, 1855-1932**

John Fritz gold medal is awarded posthumously. *Oil Paint & Drug Rep* 124:22 O 30 '33; *Science* 78:401-2 N 3 '33

Sketch. G. de Thierry. *por Zeit Ver Deutsch Ing* 76:1148 N 19 '32

**FREEMAN, William C. 1860-1933**

Sketch. *por Ptr Ink* 164:25-6 S 21 '33

**FREEPORT Texas company**

1932 results. *Barron's* 13:21 F 6 '33

Two sulphur companies compared; Texas Gulf sulphur co. and Freeport Texas co. J. C. Clifford. *il Mag of Wall St* 51:214-15+ D 10 '32

**FREEZING**

Brine fog quick-freezes without extreme temperature. H. Merriman. *il Food Ind* 4:396-8 D '32

Chamber for experimentally freezing horticultural products at very low temperatures. H. C. Diehl. *Science* 78:15-16 Jl 7 '33

Concentrating liquids by freezing in a continuous process; Zorn machine. K. L. Ford. *il Food Ind* 5:129 Ap '33

L'emploi de la congélation pour les travaux des tunnels sous-fluviaux d'Anvers. *il diags Génie Civil* 103:209-11 Ag 26 '33

Food freezing systems. *il Refrig Eng* 25:356 Je '33

Formation of ice on pipe surfaces. F. Rasori. *Refriger Eng* 25:21-6+ Ja '33

Gelation of frozen egg magma. A. W. Thomas and M. I. Bailey. bibliog *il diags Ind & Eng Chem* 25:669-74 Je '33

How to get better quality in frozen peaches; frozen-pack method. J. S. Caldwell, J. M. Lutz and H. H. Moon. bibliog *il Food Ind* 4:402-5 D '32

Die Kältetechnik im dienste der lebensmittelbewirtschaftung. R. Plank. *il diags Zeit Ver Deutsch Ing* 76:1089-98 N 5 '32

New quick-freezing process; Z process. *il Sci Am* 147:370 D '32

Palatability of rapidly frozen meat. L. H. Lampitt and T. Moran. *il Soc Chem Ind J* 52:143T-6T My 26 '33

Peach crop must be saved! It was—but what to do with it? C. C. Street. *il Food Ind* 5: 163-5 My '33



**FREEZING—Continued**

Precautions against freezing of fire extinguishing appliances. *Safety Eng* 64:265-6 D '32

Preservation of perishable foods by new quick-freezing methods. C. Birdseye. *il J Fr Inst* 215:411-24 Ap '33; Same. *Refrig Eng* 25:185-8+ Ap '33

Quick-freezing destroys parasites of trichinous pork. D. K. Tressler. *il Food Ind* 5:177 My '33

Shaft sinking by freezing; Swansea power station. W. L. Lowe-Brown. *il diags Engineer* 155:516-19, 526 My 26 '33

Some recent developments in low-temperature research. W. Hardy. *il diag Soc Chem Ind J (Chem & Ind)* 52:45-9 Ja 20 '33

Studies on the refrigeration of meat; conditions determining the amount of drip from frozen and thawed muscle. W. A. Empey. *Soc Chem Ind J* 52:230T-6T J1 28 '33

Swansea power station; preliminary operations in shaft sinking by the freezing process. *il Electrician*, 109:619 N 11 '32; *Engineer* 154:491 N 11 '32; *Engineering* 134:561 N 11 '32

*See also*

Fish, Frozen  
Food, Frozen  
Fruit, Frozen  
Ice

Refrigeration and refrigerating machinery  
Water pipes—Freezing

**FREEZING points**

Activity coefficients of potassium chloride; an application of the extended Debye-Hückel theory to interpretation of freezing point measurements. H. M. Spencer. *Am Chem Soc J* 54:4490-7 D '32

Complete calculation of activity coefficients from freezing point data. T. F. Young. *bibliog Chem R* 13:103-10 Ag '33

Complex compounds in Eder's solution. G. H. Cartledge and S. L. Goldheim. *Am Chem Soc J* 55:3583-94 S '33

Conditions affecting the freezing temperature of silver. W. F. Roeser and A. I. Dahl. *diag U S Bur Stand J Research* 10:661-8 My '33

Freezing-point lowering. T. B. Greenslade. *J Chem Educ* 10:353 Je '33

Freezing point of iridium. F. Henning and H. T. Wensel. *U S Bur Stand J Research* 10:809-21 Je '33

Freezing point-solubility relations of geometrical isomers; the dynamic isomerism of the anisaldoximes. E. L. Skau and B. Saxton. *J Phys Chem* 37:197-207 F '33

Freezing points and osmotic pressures of lactose solutions. E. O. Whittier. *J Phys Chem* 37:847-9 O '33

Freezing points of aqueous solutions; potassium, sodium and lithium chlorides and bromides. G. Scatchard and S. S. Prentiss. *Am Chem Soc J* 55:4355-62 N '33

Freezing points of solutions of nitrobenzene in benzene and cyclohexane, and their relations to the electrical polarisation. L. G. Davy and N. V. Sidgwick. *Chem Soc J* p281-6 Mr '33

Objective study of dilute aqueous solutions of uni-univalent electrolytes. S. S. Prentiss and G. Scatchard. *bibliog Chem R* 13:139-46 Ag '33

Purification and physical properties of organic compounds; the freezing points of some of the thermometer calibration standards for low temperatures of the Bureau international des étalons physico-chimiques. E. L. Skau. *bibliog J Phys Chem* 37:609-14 My '33

Some errors inherent in the usual determination of the binary freezing point diagram. E. L. Skau and B. Saxton. *bibliog J Phys Chem* 37:183-96 F '33

Systems: diphenyl-diphenylamine, diphenyl-benzophenone and benzophenone-diphenylamine. H. H. Lee and J. C. Warner. *Am Chem Soc J* 55:209-14 Ja '33

Ternary system diphenyl-diphenylamine-benzophenone. H. H. Lee and J. C. Warner. *il Am Chem Soc J* 55:4474-7 N '33

Ternary system: palmitic, margaric and stearic acids. R. L. Shriner, J. M. Fulton and D. Burks, Jr. *Am Chem Soc J* 55:1494-9 Ap '33

Two-component salt mixtures of lead nitrate with thallium or silver nitrate. H. M. Glass, K. Laybourn and W. M. Madgin. *Chem Soc J* p2713-15 N '32

**FREIGHT, Perishable**

Claims from perishable traffic. *Ry Age* 95:159+ J1 22 '33

*See also*

Fruit—Transportation  
Refrigerator cars

**FREIGHT and freightage**

How forwarding agency provides co-ordinated l.c.l. services; Universal carloading and distributing co. *il Ry Age* 95:333-5 S 2 '33

Seatrains see-saw dog-fight between the seatrains and their land and water rivals. *Business Week* p18+ F 1 '33

*See also*

Air express service  
Freight cars  
Freight handling  
Freight rates  
Freight ships  
Packing for shipment

Railroads—Freight  
Railroads—Rates  
River traffic  
Shipment of goods  
Shipping  
Transportation

**FREIGHT car service**

Effect of present car condition on expeditious freight handling. C. J. Nelson. *Ry Age* 94:591-3 Ap 22 '33; Same *abr. Ry Mech Eng* 107:263-4 J1 '33

Freight car loading. Published in weekly numbers of *Railway age*

Higher speed in l.c.l. service. *Ry Age* 95:157-8 J1 22 '33

*See also*

Container system  
(freight handling)

**Car load**

Heavier car loading. *Ry Age* 94:891-2 Je 24 '33; Discussion. 107:202-3, 284 Je, Ag '33

**FREIGHT cars**

Accomplishments in railway mechanical research. *il Ry Age* 94:390-3 Mr 18 '33

All-metal rolling stock; carriages and wagons; use of light metals and alloys; use of autogenous welding. H. N. Gresley, R. Mariani; Dähnck. *Engineer* 155:109-10 F 3 '33

A.R.A. standardization of freight equipment. F. H. Hardin. *Ry Age* 95:17-18 J1 1 '33

Changing freight car. C. B. Peck. *Ry Age* 94:209-12 F 11 '33; Same. *il Mech Eng* 55:151-5 Mr '33

Convenient shipment of bulk cement in new railway hopper car. *il Concrete (mill sec)* 41:32-3 Ap '33

Development of special rail equipment. R. C. Pierce. *il Ry Age* 94:66-70 Ja 21 '33

Freight traffic officer makes some suggestions; how mechanical department can help build up freight traffic. *Ry Mech Eng* 107:159+ My '33; Discussion. 107:202-3 Je '33

Metal roof for open-top cars. *diags Ry Age* 94:8 Ja 7 '33; Same. *Ry Mech Eng* 107:44 F '33

New air brake equipment for freight train cars. *il diags Ry Mech Eng* 107:75-80 Mr '33; Same *abr. Ry Age* 94:98-103 Ja 28 '33

Proposed A.R.A. box car and a clearance diagram for pantograph operation. *Ry Age* 94:414 Mr 18 '33

Railroad car situation involves many problems. A. F. Stuebing. *Iron Age* 132:12-13+ O 12 '33

Rehabilitation of freight cars. *Ry Mech Eng* 107:92-3 Mr '33

Standard-gaging the East Broad Top railroad and coal company; standard-gage car bodies transferred to narrow-gage trucks. *il Ry Age* 95:501 O 7 '33

Twenty-ton railway wagons. *Economist* 116:685 Ap 1 '33

Welded piping on freight and passenger cars. *diags Ry Mech Eng* 106:462-3 N '32

**FREIGHT cars—Continued**

Will lighter freight cars save money for the railroads? A. F. Stuebing. Ry Age 95:339-41 S 2 '33

*See also*

Air brakes	Loading and unloading—Cars
Car wheels	Refrigerator cars
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**Cleaning**

*See* Car cleaning

**Design**

Lackawanna develops self-clearing hopper car for cement. diags Ry Mech Eng 107:282-3 Ag '33

Tendencies in freight car design. P. P. Barthelmy. Ry Mech Eng 107:255-6 Jl '33

**Interchange**

A.R.A. mechanical division arbitration committee report. Ry Mech Eng 107:234-7 Jl '33

Decisions of arbitration cases. Published in monthly numbers of Railway mechanical engineer

Delays to loaded cars in transit. C. J. Nelson. Ry Mech Eng 107:263-4 Jl '33

Rules 32 and 44 and their relation to rule 112. G. Eberman. Ry Mech Eng 107:329 S '33

**Lubrication**

Freight-car lubrication. R. W. Hunt. il Ry Mech Eng 107:262-3 Jl '33

**Manufacture**

L.N.E.R. welded wagon underframes. H. N. Gresley. il diags Engineer 155:600 Je 16 '33

**Private ownership**

Costs of tank car service. H. M. Mabey. Chem Markets 32:331-2 Ap '33

**Repair**

B. & O. rebuilds surplus box cars. il Ry Mech Eng 107:133-5 Ap '33

Conditioning cars for flour loading. O. W. Gal-laway. Ry Mech Eng 106:517 D '32

Deferred freight-car maintenance exceeds \$300,000,000. il Ry Age 95:597-600 O 28 '33

Effect of present car condition on expeditious freight handling. C. J. Nelson. Ry Age 94:591-3 Ap 22 '33; Same abr. Ry Mech Eng 107:263-4 Jl '33

Repairing center sills. il Ry Mech Eng 106:507 D '32

**Statistics**

Deferred freight-car maintenance exceeds \$300,000,000. il Ry Age 95:597-600 O 28 '33

Freight cars ordered in 1932. F. W. Kraeger. Ry Age 94:173-5 F 4 '33

**FREIGHT cars, Steel**

All-welded cars for transporting transformers. O. M. Bloch. il Ry Age 94:36-8 Ja 14 '33

C. & O. panel side hopper cars. il Ry Mech Eng 107:363 O '33

D. & H. rebuilds cars for handling cement. il Ry Mech Eng 107:314-5 S '33

Hopper gondolas for the Kansas City Southern. il diags Ry Mech Eng 106:439-43+ N '32; Same cond. Ry Age 93:572-4 O 22 '32

North American builds four-wheel refrigerator car. il Ry Age 93:698-700 N 19 '32; il diags Ry Mech Eng 106:481-4 D '32

Pullman all-welded hopper car has cast steel underframe. il Iron Age 132:13 Ag 10 '33

Pullman builds 70-ton hopper car with cast-steel underframe. il Ry Age 94:472-4 Ap 1 '33; Same cond. Ry Mech Eng 107:155-8 My '33

Unique welded-truss rail car developed to haul heavy transformers. il Eng N 110:690 My 25 '33

**Repair**

Rack for fabricating hopper-car sides. il Ry Mech Eng 107:297-8 Ag '33

Repairing hopper-car doors. il Ry Mech Eng 107:298 Ag '33

**FREIGHT handling**

Attacking the terminal problem. il Ry Age 95:616-18 O 28 '33

Cooperation simplifies the shippers' job; Union freight terminal, New York. il Nation's Business 21:24-5 F '33

New union inland freight station opened at New York. il plan Ry Age 94:440-3 Mr 25 '33

Off-rail union terminal built in New York by Port of New York authority. il plans diags Eng N 109:768-71 D 29 '32

Significance of car-carrying ships. G. F. Gardner. Harvard Business R 11:512-18 Jl '33

*See also*

Cargo handling	Loading and unloading—Ships
Coal handling	Merchant marine
Container system (freight handling)	Motor trucks in freight service
Containers (for shipping)	Ore handling
Cranes, derricks, etc.	Railroads—Freight
Electric trucks, Industrial	Railroads—Terminals
Freight ships	Terminals
Grain handling	Train ferries
Hoisting machinery	Wharves

**Store door delivery**

Analyze results of pick-up and delivery service; Boston & Maine. Ry Age 95:160-2 Jl 22 '33

Central Vermont co-ordinated service, an effective traffic developer. il Ry Age 94:775-6 My 27 '33

Cutting the cost of store-door delivery; Pacific motor transport co. L. B. Young. il Ry Age 93:952-4 D 24 '32

Experiment in store-door service welcomed by Co-ordinator. F. E. Williamson; J. B. Eastman. Ry Age 95:495-7 O 7 '33

Free pick-up; New England railroads. Business Week p6 D 21 '32

Higher speed in l.c.l. service. Ry Age 95:157-8 Jl 22 '33

How Texas & New Orleans provides store-door service to shippers. H. M. Lull. Ry Age 94:115-16 Ja 28 '33

Is there a demand for store-door service? Ry Age 95:651-3 N 4 '33

Missouri-Kansas-Texas transportation company complete third year of store-door service. il Ry Age 95:318 Ag 26 '33

New container and trailer for co-ordinated service. il Ry Age 93:955-6 D 24 '32

Pennsylvania and Long Island plan New York store-door service. Ry Age 94:597-8 Ap 22 '33

P.R.R. announces plans for store-door service. Ry Age 95:507-8 O 7 '33

Railroad agents and shippers comment on store-door service; Boston & Maine gets first-hand data. Ry Age 95:441-3 S 23 '33

Shall we deliver the goods? J. R. Turney. Ry Age 93:871-3 D 10 '32

Show shippers' views on railways vs. highways; Trans-Missouri-Kansas shippers' board report. Ry Age 93:747-9 N 26 '32

Store-door jam; while railroads and I.C.C. dispute over tariffs, New York gets along without store-door service. Business Week p15 Ja 25 '33

Store-door service adopted by southeastern roads. il map Ry Age 94:595-6 Ap 22 '33

Store-door service—can the railroads afford it? J. R. Turney. Ry Age 94:452-4 Mr 25 '33

Store-door tariffs of Erie and P.R.R. to be protested. Ry Age 95:674 N 4 '33

Traffic increased in 1932 by M-K-T subsidiary. Ry Age 94:455-6 Mr 25 '33

What results from store-door service? il Ry Age 95:685-7+ N 11 '33

**Bibliography**

Store door delivery; a list of references chronologically arranged. 30p Library Bur. of railway economics, Washington, D. C. '33 (typew)

**FREIGHT rates**

Any old port; in Galveston vs. New Orleans, court denies I.C.C.'s right to favor one port against another. Business Week p12 Je 7 '33



**FREIGHT rates—Continued**

Equalization of export and import rates proposed. *Marine Eng* 38:161 *My* '33

Over the water; if I.C.C. approves lighterage charge, traffic may leave Manhattan for the west bank. *Business Week* p13 *F* 8 '33

Unregulated transport destroys farm and business stability. *Ry Age* 93:797-800 *D* 3 '32

Water competition to bring lower freight rates to gulf ports. *Iron Age* 131:640 *Ap* 20 '33

*See also*

Motor trucks in freight service—Rates	Railroads—Rates Shipping—Rates
---------------------------------------	-----------------------------------

**FREIGHT ships**

All-welded Diesel-electric self-unloader for Dolomite products company of Rochester, N. Y. R. H. Macy. *il diags Marine Eng* 38:286-7 *Ag* '33

Cargo ship design. G. S. Baker. *Marine Eng* 38:225-6, 265, 298-301 *Je-Ag* '33

Cargo vessels in the American merchant marine. *Marine Eng* 38:175-6 *My* '33; *Marine R* 63:30 *My* '33

Comparisons of merchant ship performance. L. A. Kniskern. *Marine Eng* 38:128-31 *Ap* '33

Consideration of the improved forms of modern cargo steamers and the effect on their operating cost due to their low fuel consumption. J. T. Batey and J. L. Batey. *diag Marine R* 63:21-2+ *My* '33; Same. *Engineering* 135:393-4 *Ap* 7 '33; Abstract. *Engineer* 155:372 *Ap* 14 '33; Discussion. *Engineering* 135:415 *Ap* 14 '33; *Engineer* 155:369-70 *Ap* 14 '33

Diesel direct drive in freighter Matagalpa. *il Marine R* 63:17 *N* '33

Dolomite No. 1, largest all-welded steel freighter. *il diags Marine R* 63:16-18+ *S* '33

Fiona, cargo steamer. *il diag Engineer* 155:508 *My* 19 '33

Modern cargo-ship machinery. J. H. King. *Marine Eng* 38:51-5 *F* '33; Abstracts. *Marine R* 62:25-6 *D* '32; *Engineering* 135:112-13 *Ja* 27 '33; Discussion. *Marine Eng* 38:66-70 *F* '33

Need replacement program for cargo shipping. H. L. Ferguson. *Marine R* 63:10 *F* '33

Schurbek, an economical cargo ship. *Marine Eng* 38:265-6 *Jl* '33

Schurbek, economical cargo ship, sets low operating cost. *Marine R* 63:22 *Je* '33

Significance of car-carrying ships. G. F. Gardner. *Harvard Business R* 11:512-18 *Jl* '33

Speed of cargo ships. G. S. Baker. *Engineer* 155:217-18 *Mr* 3 '33

Torpedo boat destroyers converted to fruit carriers. B. C. D'Antoni. *il Marine Eng* 38:214-16 *Je* '33

Tricolor, the fastest cargo ship. *il plan Marine Eng* 38:259-61 *Jl* '33

Water-tube boiler of the cargo ship; abstract. W. N. Whayman and W. Gregson. *Mech Eng* 55:312-13 *My* '33

Wm. F. Kenny; all-welded, reverse channel cargo vessel launched. R. D. MacMillen. *il diag Marine R* 63:30, 40 *Ap* '33

Wm. F. Kenny, welded barge, built on reverse channel system. *il diag Marine Eng* 38:223-4 *Je* '33

*See also*

Barges  
Merchant marine  
Tank ships

**Reconstruction**

Modernizing cargo ships in Europe. *Marine Eng* 38:381-2 *O* '33

Self unloader; conversion from lake bulk freighter. *il plan Marine R* 63:17-19 *O* '33

**FREIGHT subways**

Chicago's tunnel company. *il Arch Forum* 59:241 *S* '33

Illinois Terminal improves freight facilities; construction of a modern terminal at St Louis. *il map plans Ry Age* 95:523-6+ *O* 14 '33

**FRENCH language****Dictionaries**

French-English vocabulary in geology and physical geography. G. M. Davies. 140p Van Nostrand '32

**FRENCH spoliation claims**

French spoliation claims of the Insurance co. of North America. C. Axman. *il East Underw* 33:62+ *D* 9 '32

**FREQUENCY, Radio. See Radio frequency****FREQUENCY changers**

Frequency-changing at supply frequencies by static means. F. Brailsford. *diags Inst E E J* 73:309-16 *S* '33

Frequency changing; interconnection of networks in the south of France. M. J. Berger. *il Electrician* 111:414-15 *O* 6 '33

Frequency converters. *Electrician* 111:390, 418, 449 *S* 29-*O* 13 '33

Stromrichter; dampf-entladungsgefäße und spannungsregelnde gleichrichter. O. Löbl. *il diags Zeit Ver Deutsch Ing* 77:605-9 *Je* 10 '33

Stromrichter; wechselrichter und umrichter. O. Löbl. *diags Zeit Ver Deutsch Ing* 77:684-90 *Je* 24 '33

Wayne Junction frequency changer foundations. J. S. Sholl. *N E L A Bul* 19:682+ *N* '32

**FREQUENCY control**

Improving service with automatic control; Alameda Street station of the Los Angeles gas & electric corporation. *il diag Elec W* 102:182-4 *Ag* 5 '33

Large hydro unit adapted for sensitive governing; Ruskin plant of the British Columbia electric railway company. A. N. Geyer. *Elec W* 101:834 *Je* 24 '33

Trend continues toward automatic regulation of frequency. R. Brandt. *Elec W* 101:136-7 *Ja* 28 '33

*See also*

Radio frequency—  
Crystal control

**FREQUENCY distribution (statistics)**

Analysis of variance in a "2xs" table with disproportionate frequencies. A. E. Brandt. *bibliog Am Statist Assn J* 28:164-73 *Je* '33

Anniversary of the normal curve. C. J. Marsh. *Science* 77:583-4 *Je* 16 '33

Partition values. S. Yang. *Am Statist Assn J* 28:184-91 *Je* '33

**FRESH water fauna**

Studies on the bottom fauna of freshwater lakes. F. C. Baker. *Science* 78:190-1 *S* 1 '33

**FRESNEL, Augustin Jean, 1788-1827**

Sidelights on the era of Young and Fresnel. E. L. Nichols. *Opt Soc Am J* 23:1-6 *Ja* '33

**FRICTION**

Analysis of factors influencing rolling pressure and power consumption in the hot rolling of steel. S. Ekelund. *Steel* 93:71-4 *S* 25; 45-6, 48 *O* 2 '33

Effect of viscosity on friction in the region of thin-film lubrication. O. C. Bridgeman, S. A. McKee and F. G. Bitner. *il Am Pet Inst Proc* p154-8 sec 3 *D* '32

Experimental investigation of the friction of screw threads. C. W. Ham and D. G. Ryan. *il diags Ill U Eng Exp Sta Bul* 247:1-60 '32; Summary. *Mech Eng* 55:309-10 *My* '33

Flow of superheated refrigerants in copper tubing. J. E. Linebaugh. *Refriger Eng* 26:82-4 *Ag* '33

Friction of lubricants for laminated concrete; San Gabriel flood-control dams. E. C. Eaton. *il Eng N* 111:442-4 *O* 12 '33

Friction—research evaluates its forces. L. M. Tichvinsky. *il Elec J* 30:300-2 *Jl* '33

Lubricating properties of greases from petroleum oils. F. H. Rhodes and H. D. Allen. *diags Ind & Eng Chem* 25:1275-80 *N* '33

Most economical size of pipe for transmitting fluids. P. M. Gallo. *Blast F & Steel Pl* 21:326-7, 377-9 *Je-Jl* '33

**FRICTION**—*Continued*

Rotatory motion with friction. R. C. Colwell and M. C. Holmes. diags R Sci Instr 4:88-9 F '33

What happens in a bearing? C. M. Larson, H. S. Konheim and W. J. Albersheim. diag Automotive Ind 68:694-8 Je 10 '33

*See also*

Bearings  
Lubrication and lubricants

**FRICTION, Internal**

Internal friction in iron and iron alloys. R. H. Canfield. il diags Am Soc Steel Tr Trans 20:549-74; Discussion. 574-6 D '32

**FRICTION** gearing. *See* Gearing, Friction**FRIEDEL-CRAFTS reaction**

Preparation of tri-para-tolylselenonium chloride by means of the Friedel-Crafts reaction with selenium dioxide. J. H. Crowell and W. E. Bradt. Am Chem Soc J 55:1500-2 Ap '33

Studies in the Friedel and Crafts reaction; effect of size of aluminum chloride particles in the preparation of some keto acids. P. H. Groggins and R. H. Nagel. il Ind & Eng Chem 25:1083-5 O '33

Super-aromatic properties of furan; the Friedel-Crafts reaction. H. Gilman and N. O. Calloway. bibliog Am Chem Soc J 55:4197-205 O '33

**FROGS**

B. coli in cold blooded animals. J. W. Burger and S. Thomas. Am Water Works Assn J 25:1238-44 S '33

Bacteria as food for vertebrates. V. Burke. Science 78:194-5 S 1 '33

Specificity of frog flukes. L. G. Ingles. Science 78:168 Ag 25 '33

**Eggs**

Behavior of frog eggs in an electrical field. D. Mazia. Science 78:107-8 Ag 4 '33

**FROST**

Redwoods and frost. H. D. MacGinitie. Science 78:190 S 1 '33

**FROST protection**

California climate aided by electro-drome. il Elec W 102:619 N 11 '33

Smokiness of oil-burning orchard heaters. W. R. Schoonover and F. A. Brooks. Calif Agric Exp Sta Bul 536:1-67 '32

Smudging without smoke; electric orchard protectors. il Elec West 70:15 Ja '33

**FROTHINGHAM, Robert**

Bob Frothingham remembers. Adv & Sell 19:22-3+ S 29; 30-2 O 13; 26+ O 27; 20:26+ N 10; 26 N 24; 26+ D 8; 26+ D 22 '32

**FROUDE, William, 1810-1879**

Sketch. Engineering 136:60 Jl 21 '33

William Froude. W. S. Abell. Engineer 156:110-11 Ag 4 '33

**FROZEN food.** *See* Food, Frozen**FROZEN fruit.** *See* Fruit, Frozen**FRUCTOSE**

Analytical methods for the determination of levulose in crude products. R. F. Jackson, J. A. Mathews and W. D. Chase. U S Bur Stand J Research 9:597-613 N '32

Extraction of levulose from Jerusalem artichokes. J Fr Inst 216:244-6 Ag '33

Levulose, the sugar of the future. J. H. McGlumphy and J. W. Eichinger, jr. il J Chem Educ 10:453-63 [bibliog p463] Ag '33

Studies in the ketone sugar series; open-chain derivatives of fructose and turanose. E. Pacsu and F. V. Rich. Am Chem Soc J 55:3018-24 Jl '33

**FRUIT**

*See also*

Apples  
Bananas  
Canning and preserving  
Citrus fruit  
Grapes

Oranges  
Spray residue on fruits and vegetables  
Strawberries

**Chemical analysis**

Certain general features common to most fruit-coat fats. T. P. Hilditch. bibliog Soc Chem Ind J 52:169T-71T Je 16 '33

**Diseases and pests**

Flotation sulfur in agriculture. V. Sauchelli. bibliog il Ind & Eng Chem 25:363-7 Ap '33

**Preservation**

*See also*

Canning and preserving  
Fruit, Frozen

**Storage**

*See also*

Grapes—Storage

**Transportation**

Effect of solid and gaseous carbon dioxide upon transit diseases of certain fruits and vegetables. C. Brooks and others. U S Agric Tech Bul 318:1-60 [bibliog p58-9] '32

Why \$8.65 per car of fresh fruits and vegetables? F. E. Winburn. Ry Age 94:863 Je 17 '33

**Washing**

Removal of poisonous spray residues on fruit. R. H. Robinson. il diags Ind & Eng Chem 25:616-20 Je '33

**FRUIT, Frozen**

Chamber for experimentally freezing horticultural products at very low temperatures. H. C. Diehl. Science 78:15-16 Jl 7 '33

Inversion of sucrose by invertase at low temperatures. M. A. Joslyn and M. Sherrill. Ind & Eng Chem 25:416-17 Ap '33

Role of peroxidase in the deterioration of frozen fruits and vegetables. M. A. Joslyn and G. L. Marsh. Science 78:174-5 Ag 25 '33

*See also*

Peaches, Frozen

**FRUIT, Ripening of**

Electric sweating cuts orange curing costs. W. R. Chawner. il Elec West 70:126 Ap '33

Many economies made by using air conditioning in ripening fruits. J. J. Murray. il diag Heating-Piping 5:352-3 Jl '33

**FRUIT jar rings**

Hunts new product ideas, gains unrelated field leadership; Jenkins fruit jar rings. J. R. White. il Ptr Ink 163:44-6 Ap 27 '33

**FRUIT Juices**

Economical clarification through use of enzymes. J. J. Willaman. bibliog il Food Ind 5:294-5+ Ag '33

How Sunkist triple checked a market survey; sale of extractors. W. B. Geissinger. Ptr Ink 163:60-2 My 18 '33

*See also*

Apple juice  
Orange juice

**FRUIT trade**

American fruit and vegetable auctions. J. W. Park. U S Agric Circ 250:1-48 [bibliog p45-7] '32

Sunkist film moves quantities of fruit for growers exchange. W. B. Geissinger. il Sales Management 33:218+ S 1 '33

*See also*

Bananas Fruit, Frozen  
Citrus fruit United fruit company

**Advertising**

*See also*  
Cranberries—Advertising

**Statistics**

Vegetables and fresh fruits. Food Ind 5:58-9 F '33

**FUEL**

Changing aspect in the competitive market for industrial fuels. H. O. Loebell. Am Gas Assn Mo 15:428-32 O '33; Same cond. Gas Age 72:333-6+ O 21 '33; Abstract. Am Gas J 139:26-8 O '33



**FUEL—Continued**

Choosing fuels on the basis of plant performance. G. Mankin. *il Food Ind* 5:221-3 Je '33

Combustion of solid, liquid, and gaseous industrial fuels. H. L. Pirie. *Gas J* (Lond) 201:96-8 Ja 11 '33

Comparative data on solid, liquid and gaseous fuels; abstract. *Heat & Ven* 30:47 Ap '33

Development of the use of gas. S. Lacey. *Gas J* (Lond) 202:158-9; Discussion. 159-60 Ap 19 '33

Economic significance of coal. B. Acworth. *Gas J* (Lond) 202:158; Discussion. 159-60 Ap 19 '33

Fuel and man. W. J. Larke. *Engineer* 156:386-7 O 20 '33; Abstract. *Chem Age* (Lond) 29:368 O 21 '33

Fuel consumption. W. T. Thom, jr. *Science* 77:sup9-10 Ap 28 '33

Fuels; condensed from the 1932 progress report of the A.S.M.E. fuels division. *Mech Eng* 54:849-50 D '32

Fuels in heat treating furnaces; influence of intermittent schedules on costs. H. J. Gregg. *il Metal Prog* 23:37-40 Mr '33

Hydrogen; a commercial fuel for internal combustion engines and other purposes; electrolytic production as off-peak load for power stations; abstracts. R. A. Erren and W. H. Campbell. *Electrician* 110:388 Mr 24 '33; *Mech Eng* 55:377-8 Je '33

International congress on industrial heating, 3d, Paris. *Engineer* 156:389 O 20 '33

New combustion chart insures speed—ease—accuracy. E. Therkelsen. *Power* 77:600-1 N '33

Oil, gas, and coal compete as steam fuels. *il Power* 77:8-9 Ja '33

Place of oil in the world of fuel; abstracts. J. Cadman. *Chem Age* (Lond) 29:343-4 O 14 '33; *Gas J* (Lond) 204:208-9 O 18 '33

Present trends in the choice of fuels. W. Carrott. *Chem Age* (Lond) 28:164 F 25 '33

Proceedings of the Symposium on fuel and coal, held in October and November, 1931, under the auspices of the Department on mechanical engineering, 469p McGill univ. Montreal, Canada '32

Relative fuel economy of electricity, gas, oil, and solid fuel, as heating agents. A. H. Barker. *Inst E E J* 72:269-95 Ap '33; Abstracts. *Electrician* 109:742 D 9 '32; *Elec R* (Lond) 111:816-17 D '32; *Mech Eng* 55:121 F '33; Discussion. *Inst E E J* 72:295-312, 431-4; 73:452-3 Ap-May, O '33; *Electrician* 109:742, 820 D 9, 23 '32; *Elec R* (Lond) 111:852, 889-90 D 9-16 '32

Scandinavian sectional meeting of the World power conference. *Engineering* 136:232-4 S 1 '33

Selling solid smokeless fuel. G. E. Foxwell. *Gas J* (Lond) 203:96-8 Ji 12 '33

Solid smokeless fuel; abstracts. J. W. Napier. *Chem Age* (Lond) 28:78 Ja 28 '33; *Soc Chem Ind J* (Chem & Ind) 52:78; Discussion. 78-9 Ja 27 '33

Some post-war developments in pure and applied organic chemistry. G. R. Clemo. *Soc Chem Ind J* (Chem & Ind) 51:1050-1 D 23 '32

**See also**

Airplane engines—Fuel

Alcohol as fuel

Automobile engines—Fuel

Automotive fuel

Benzol (commercial benzene)

Blast furnace gas

Boilers—Firing

Briquetting (fuel)

Butane

Charcoal

Coal

Coal, Pulverized

Coke

Coke-oven gas

Combustion

Diesel engines—Fuel

Electric plants (central stations)—Fuel

Fuel, Colloidal

Fuel economizers

Fuel economy

Furnaces

Gas, Natural

Gas and oil engines—Fuel

Gas as fuel

Gasoline

Heating

Kerosene

Lignite

Liquid fuel

Locomotives—Fuel

Motor bus engines—Fuel

Motor truck engines—Fuel

Oil fuel

Peat

Petroleum refineries—Fuel

Smoke prevention

Waste fuel

Wood as fuel

**Analysis**

Method of determining values of different fuels for power use. H. M. Faust. *Ohio State Univ Eng Exp Sta Circ* 29:1-8 '33

**Bibliography**

Recent publications relating to ores, fuels, and metallurgy. *Iron & Steel Inst J* 125:711-22 no 1; 126:679-88 no 2 '32; 127:732-41 no 1 '33

**Cost**

Coal, oil, gas; cost of heating with each. J. D. Kroeker. *chart Dom Eng* 142:70-1+ O '33

Significance of efficiency in power plant economics. T. Maynz. *Power Pl Eng* 36:804-5 D '32

What of the future for gas househeating? O. J. Kuenhold. *Am Gas J* 138:14-17 Mr '33

**History**

Century of progress in fuel technology. O. P. Hood. *il Mech Eng* 55:339-44 Je '33; Discussion. 55:645-7 O '33

**Statistics**

Compares outputs from coal, oil, gas. *Elec W* 101:545 Ap 29 '33

Competing natural gas cuts coal consumption. *Oil & Gas J* 31:74 D 1 '32

Competitive relationship of coal and petroleum in the United States forecast to year 1950. W. S. Hutchinson and A. J. Breitenstein. *Oil & Gas J* 31:30-1 F 23 '33

Estimated potential house-heating fuel per season and retail fuel value for the United States in towns of 1000 population and over, estimated from number of dwellings, weighted average degree days, etc.; tabulation. H. W. Hayward. *Gas Age* 71:162 F 18 '33

Fuel consumption figures for 1932. *Gas Age* 71:94 Ja 28 '33

Public utility consumption of fuel in 1929. W. H. Young. *maps Coal Age* 38:19-21 Ja '33

**Testing**

Die deutschen prüfnormen für feste brennstoffe. D. Aufhäuser. *Zeit Ver Deutsch Ing* 77:887-9 Ag 12 '33

Fuel testing. G. W. Himus. 257p [bibliog p251] L. Hill, ltd, London '32

**FUEL, Colloidal**

Coal-oil mixtures. W. R. Ormandy and J. Burns. *Engineer* 156:390 O 20 '33

Colloidal-fuel research; abstract. S. L. Wyndham. *Mech Eng* 55:311 My '33

Future for oil-coal fuel; discussion at World petroleum congress. *Chem Age* (Lond) 29:128-9 Ag 5 '33; *Gas J* (Lond) 203:255-6 Ag 2 '33; *Mech Eng* 55:695-6 N '33

Properties of coal in fine division; suggestions for the ideal colloidal fuel. *Chem Age* (Lond) 27:545-6 D 10 '32

Pulverized coal and colloidal fuel; abstracts. H. D. Tollemache. *Mech Eng* 55:379 Je '33; *Engineering* 136:202-3 Ag 25 '33; *Coal Age* 38:344 O '33

**FUEL economizers**

Design and construction of economisers; abstract. R. P. Wallis. *Elec R* (Lond) 112:346; Discussion. 346 Mr 10 '33

Exchange of heat between three fluids. T. B. Morley. *Engineer* 155:314 Mr 31 '33

Progress in the production and transmission of heat and power; economizers. *diags Paper Tr J* 96:81-2 F 16 '33

**Testing**

Tests of a Simmon rotary economizer; abstract. F. Kaiser. *diags Mech Eng* 55:126-7 F '33

**FUEL economy**

Cut your coal pile in half; power plant modernization. N. D. Gove. *il Elec J* 29:544-5 D '32

**FUEL economy—Continued**

- Developments in fuel technology in 1932; the Fuel economy review. *Chem Age* (Lond) 29:280 S 23 '33
- Engineering economies in silk dyeing and finishing plants. W. K. Clendinning. *diags Textile World* 83:930-1 My '33
- Fuel economy in domestic automatic heating. H. H. Langdon and H. J. Dana. *diags Washington State College Eng Exp Sta Bul* 39: 3-44 '32; Abstracts. *Heat & Ven* 30:48 Ja '33; *Mech Eng* 55:46 Ja '33
- Fuel savings vs. fixed charges. G. R. Hahn. *Power Pl Eng* 36:828 D '32
- Furnace equipment for burning fine anthracite coal. F. A. Bestow. *Lib J* 58:300-1 Ap 1 '33
- Gang bonus system cuts fuel costs in half; Denver tramway co. power plant. L. S. Flint. *Power Pl Eng* 37:383-4 S '33
- Good housekeeping and commonsense operating methods halve fuel bill; Scribner press building. *il Power* 77:178-9 Ap '33
- Higher coal-burning rates and efficiencies with less maintenance; abstract. P. W. Thompson. *Elec W* 100:854-5; Discussion. 855 D 24 '32
- Power decreased 2 per cent, coal reduced 15 per cent; Hotel St George, Brooklyn, N.Y. *il Power* 77:562-4 N '33
- Significance of efficiency in power plant economics. T. Maynz. *Power Pl Eng* 36:804-5 D '32
- Utilization of heat from clinker for preheating secondary air. R. R. Coghlan. *Concrete* (mill sec) 41:27-30 My '33

**See also**

- |                          |   |
|--------------------------|---|
| Air preheaters           | Furnaces                                |
| Boiler plants—Management | Furnaces, Recuperative and regenerative |
| Boilers—Gas firing       | Locomotives—Fuel                        |
| Boilers—Oil firing       | Soot blowers                            |
| Boilers, Waste heat      | Temperature—Regulation                  |
| Coal distillation        | Waste fuel                              |
| Combustion               | Waste heat                              |
| Exhaust steam            |   |
| Feed water heating       |   |
| Fuel economizers         |   |

**FUEL pumps.** See Pumps, Fuel

**FUEL research**

- Fuel research board annual report for the year ended March 31, 1932. *Chem Age* (Lond) 28:165-6 F 25 '33; *Engineer* 155:201 F 24 '33; *Engineering* 135:254 Mr 3 '33; *Elec R* (Lond) 112:281 F 24 '33; *Electrician* 110: 335 Mr 10 '33
- Fuels; current research projects. *Power* 77: 256-7 My '33

**See also**

Coal research

**FUEL tanks.** See Airplanes—Fuel tanks

**FULLAGAR engine**

- Trials of a 2,500-h.p. Fullagar engine. *Engineering* 135:604-5 Je 2 '33

**FULLER brush company**

- Fuller Brush turns to retail stores. *Forbes* 32: 14-15 N 1 '33

**FULLER's earth**

- Clarifying action of fuller's earth. M. E. Fogle and H. L. Olin. *bibliog il Ind & Eng Chem* 25:1069-73 O '33
- Fuller's earth; its sources and its industrial uses. *Chemicals* 38:9 Mr 20 '33
- Petrography of the fuller's earth deposits, Olmstead, Illinois, with a brief study of some non-Illinois earths. R. E. Grim. *il Econ Geol* 28:344-63 Je '33
- Study of some vitamin B adsorbates. V. Birkner. *bibliog Pub Health Rep* 48:7-16 Ja 6 '33

**FULLING**

- Cloth milling with acids. A. Yewdall. *Textile Inst J* 24:P173-7 Ag '33; Same. *Textile Col* 55:692-4 O '33
- Contribution to the theory of milling. J. B. Speakman, E. Stott and H. Chang. *bibliog pl diags Textile Inst J* 22:T339-48; 24:T273-92 Je '31, Jl '33

Development of a laboratory method for testing the fastness to fulling of dyed wool. B. A. Ryberg. *il Am Dyestuff Rep* 21:662-6+ N 21 '32

Fulling and milling machinery. E. K. Scott. *il diags Textile Inst J* 24:P247-63 S '33

Getting the most from soap. W. W. Bray. *Am Dyestuff Rep* 22:178-9; Discussion. 179-84 Mr 13 '33

Researches on fulling point way to marked changes in mill practice. J. B. Speakman. *Textile World* 83:1629 S '33

**FULLING mills**

- Fulling and milling machinery. E. K. Scott. *il diags Textile Inst J* 24:P247-63 S '33
- Hunter model 26 high production fulling mill. *il Melland* 5:34-5 Ap '33

**FUMIGATION**

- Application of fumigants to ships and warehouses. A. B. P. Page and O. F. Lubatti. *Soc Chem Ind J* 52:309T-26T O 6 '33
- Cocoa moth in its chemical aspects. L. E. Campbell. *Soc Chem Ind J* (Chem & Ind) 51:1058-9 D 23 '32; Abstract. *Chem Age* (Lond) 27:549-50 D 10 '32; Discussion. *Soc Chem Ind J* (Chem & Ind) 51:1059-60 D 23 '32; *Chem Age* (Lond) 27:550 D 10 '32
- Destructive action of dermestids and its prevention. A. Herfs. *il Melland* 4:682-3 F '33
- Determination of hydrocyanic acid in air and in air-carbon dioxide mixtures. H. L. Cupples. *il diags Ind & Eng Chem Anal* ed 5:50-2 Ja-15 '33
- Dreadnaught fumigator. *il Ry Mech Eng* 107: 333 S '33
- Equipment for laboratory fumigations with hydrocyanic acid with controlled temperature and humidity. H. L. Cupples. *diags Ind & Eng Chem Anal* ed 5:36-8 Ja 15 '33
- Fumigating books to kill bookworms. *il Sci Am* 148:118 F '33
- Der gasrestnachweis bei äthylenoxyddurchgasungen. W. Deckert. *Angew Chemie* 45: 758 D 3 '32
- Health hazards in food fumigation. C. L. Williams. *bibliog Chem Markets* 32:45-7 Ja '33
- Insect pests affecting stored products. J. W. Munro. *Soc Chem Ind J* (Chem & Ind) 51: 1057-8 D 23 '32; Abstract. *Chem Age* (Lond) 27:549 D 10 '32
- Looking at the fine points of vacuum fumigation. D. B. Gooch. *il Food Ind* 5:16-19 Ja '33
- Manufacture, handling, and use of hydrocyanic acid; fumigation of California orchards. F. J. Carlisle. *il Ind & Eng Chem* 25:959-64 S '33

Measurement of gas concentrations for the control of fumigation. A. B. P. Page. *diags Soc Chem Ind J* 51:369T-74T N 11 '32

New fumigating plant in Los Angeles museum. G. H. Logan. *il diags Ind & Eng Chem News* ed 11:200-1 Jl 10 '33

Reducing inflammability of fumigants with carbon dioxide. R. M. Jones. *diags Ind & Eng Chem* 25:394-6 Ap '33

Safe car fumigator; Calcynator. *il Ry Age* 95: 90-1 Jl 8 '33

Vacuum fumigation protects candy bars from insect damage. G. Williamson. *il Food Ind* 5:166-7 My '33

Vapor pressures of fumigants;  $\alpha$ , $\beta$ -propylene dichloride. O. A. Nelson and H. D. Young. *Am Chem Soc J* 55:2429-31 Je '33

**See also**

- Disinfection and disinfectants
- Insecticides

**FUNCHAL, Madeira****Harbor**

Le prolongement du quai d'accostage du port de Funchal (île de Madère). R. A. M. Guimarães. *il diags plan Génie Civil* 103:276-8 S 16 '33

**FUNCTIONS**

Conformal representation. C. Carathéodory. 105p [bibliog p103-5] University press, Cambridge, Eng. '32

Theory of functions. E. C. Titchmarsh. 454p [bibliog p445-52] Oxford '32



**FUNCTIONS—Continued**

Theory of functions, as applied to engineering problems. R. Rothe, F. Ollendorff and K. Pohlhausen, eds. 189p Massachusetts institute of technology, Cambridge '33

**FUNCTIONS, Exponential**

Exponential and hyperbolic functions and their applications. A. H. Bell. 81p \$1 Pitman '32

**FUNGI**

Arsenic fungi of Gosio. C. Thom and K. B. Raper. Science 76:548-50 D 9 '32

Association of termites with fungi. E. C. Hendee. Science 77:212-13 F 24 '33

Decay in timber; the causes of defects in timber and some measures for their prevention. A. C. Constantine. *il diag Automobile Eng* 23:349-51 S '33

Decomposition of polyuronides by fungi and bacteria; decomposition of pectin and pectic acid by fungi and formation of pectolytic enzymes. S. A. Waksman and M. C. Allen. *Am Chem Soc J* 55:3408-18 Ag '33

Enzyme action in the textile industries. W. F. Edwards. *Am Soc T M Proc* 32 pt 2:725-32 '32; Same. *Am Dyestuff Rep* 21:553-4, 569-70+ S 12 '32

Phycomycetes, ascomycetes and fungi imperfect in Oklahoma soil. R. L. Todd. Science 76:464 N 18 '32

Use of phenosafranin for staining fungi on culture media or in host tissue. E. J. Moore. Science 77:23-4 Ja 6 '33

See also

Bacteriology

Mildew

Molds (botany)

**FUNGI, Pathogenic**

Fungal diseases; a clinico-mycological test. H. P. Jacobson. 317p C. C. Thomas, Springfield, Ill.; Baltimore, Md. '32

**FUNGICIDES**

Effect of concentration on the toxicity of chemicals to living organisms. *U S Agric Tech Bul* 346:1-54 '33

Insecticide-fungicide makers framing code. *Oil Paint & Drug Rep* 124:17-18 S 4 '33

Tests of chemical treatments for control of sap stain and mold in southern lumber. R. M. Lindgren, T. C. Scheffer and A. D. Chapman. *Ind & Eng Chem* 25:72-5 Ja '33

See also

Spraying materials

Sulfur—Agricultural

uses

**FUR**

Rabbit fur makes sharp rise to popularity in textiles. J. Kohlberg. *Textile World* 83:236 F 14 '33

See also

Dyes and dyeing—

Fur

**FUR fabrics.** See **Pile fabrics**

**FUR trade**

Fur (trimmed); trade feels that the worst is past. *Business Week* p10-11 N 23 '32

Trimnings chief support of industry. R. Brennan. *Dun & Bradstreet* 41:4-7 Mr 4 '33

**Taxation**

Fur tax fails; evasions cut three-quarters from the tax yield on fur-trimmed coats. *Business Week* p7-8 Ja 11 '33

**FURAN**

Absolute method for establishing orientation in the furan series. M. G. Van Campen, Jr. and J. R. Johnson. *Am Chem Soc J* 55:430-1 Ja '33

Furan compounds; use in coating formulas. N. F. Peters. bibliog *il Plastic Prod* 9:92-6 My '33

Furan mercurials. H. Gilman and G. F. Wright. *Am Chem Soc J* 55:3302-14 Ag '33

Furan reactions; cyclopropene. C. D. Hurd and F. D. Pilgrim. *Am Chem Soc J* 55:1195-7 Mr '33

Furan reactions; derivatives of furfuryl alcohol. C. D. Hurd and C. L. Thomas. *Am Chem Soc J* 55:423 Ja '33

Furan reactions; furoic acid from furfural. C. D. Hurd, J. W. Garrett and E. N. Osborne. *Am Chem Soc J* 55:1082-4 Mr '33

Nuclear substitution and orientation of furan types. H. Gilman and G. F. Wright. *Chem R* 11:323-67 [bibliog p364-7] D '32

Orientation in the furan nucleus;  $\beta$ -substituted furans. H. Gilman and R. R. Burtner. *Am Chem Soc J* 55:2903-9 Jl '33

Orientation in the furan nucleus; 5-methyl-3-furoic acid. H. Gilman, R. R. Burtner and E. W. Smith. *Am Chem Soc J* 55:403-6 Ja '33

Quinoline derivatives; furanoquinolines. M. A. Haq, M. L. Kapur and J. N. Rây. *Chem Soc J* p1087-9 Ag '33

Super-aromatic properties of furan; the Friedel-Crafts reaction. H. Gilman and N. O. Calloway. bibliog *Am Chem Soc J* 55:4197-205 O '33

**FURAN carbinol**

Furan reactions; derivatives of furfuryl alcohol. C. D. Hurd and C. L. Thomas. *Am Chem Soc J* 55:423 Ja '33

**FURFURAL**

Furan compounds; use in coating formulas. N. F. Peters. bibliog *il Plastic Prod* 9:92-6 My '33

Furan reactions; furoic acid from furfural. C. D. Hurd, J. W. Garrett and E. N. Osborne. *Am Chem Soc J* 55:1082-4 Mr '33

Furfural, an industrial raw material and solvent. A. J. Hammer. bibliog *Chem Chem Ind J (Chem & Ind)* 52:608-12 Jl 28 '33

Interaction of ketene with aromatic aldehydes and its bearing on the Perkin reaction. C. D. Hurd and C. L. Thomas. bibliog *Am Chem Soc J* 55:275-83 Ja '33

Use furfural as the extraction solvent to make motor oils having low viscosity index. R. E. Manley, B. Y. McCarty and H. H. Gross. flow diag bibliog plan *Oil & Gas J* 32:78-9, 81-2 O 26 '33; Same cond. *Nat Pet N* 25:26-8+ O 25 '33

**Analysis**

Determination of furfural produced from hardwoods. H. A. Iddles and P. J. Robbins. bibliog *Ind & Chem Anal* ed 5:55-7 Ja 15 '33

Volumetric potassium bromate-bromide titration of furfural effect of temperature. O. C. Magistad. *Ind & Eng Chem Anal* ed 5:253 Jl 15 '33

**FURFURYL alcohol.** See **Furan carbinol**

**FURIL**

Preparation of furil. W. W. Hartman and J. B. Dickey. *Am Chem Soc J* 55:1228-9 Mr '33

**FURNACE arch**

Furnace arches; some recent installations of modern suspension. *Electrician* 110:747 Je 9 '33

Improving open-hearth furnace design. W. C. Buell, jr. diags *Steel* 92:21-2 Ja 9; 20-1 Ja 16; 21-2 Ja 23; 28-9 Ja 30; 36-7 F 6; 24-5 F 13; 27-8 F 20; 24+ F 27; 25-6 Mr 6 '33

Modern suspended arches; latest scientific principles of furnace construction. *il Soc Chem Ind J (Chem & Ind)* 52:279 Mr 31 '33; *Chem Age (Lond)* 28:248 Mr 18 '33

**FURNACE industry and trade**

All ready for the furnace drive! *Sheet Metal Worker* 24:115-16+ Ap '33

Dealer opportunities in 1933. C. W. Hess. *Sheet Metal Worker* 24:43-4 F '33

High cost of selling furnaces. E. W. Nesbit. *Sheet Metal Worker* 24:15-17 Ja '33

How and where to get furnace business this year. *il Sheet Metal Worker* 24:49-50 F '33

New opportunities for furnacemen. J. L. Elwood. *Sheet Metal Worker* 24:332 O '33 (to be cont)

Operating records of a small exclusive furnace business. *Sheet Metal Worker* 24:105-6 Ap '33

To keep coal dealers out of the furnace business. *Sheet Metal Worker* 23:479-80+ N '32

Traveling mechanics reappearing. *il Sheet Metal Worker* 24:151+ My '33

What is air conditioning? G. A. Voorhees. *Sheet Metal Worker* 24:89-90 Mr '33

**FURNACE industry and trade—Continued****Advertising**

Maybe I have been wrong; competition between furnace and coal dealers. *il Sheet Metal Worker* 23:485-6+ N '32  
 Newspaper advocates early heater cleaning. *Sheet Metal Worker* 24:144-6 My '33

**Service**

Comments on free engineering. *Sheet Metal Worker* 23:511+ D '32

**FURNACES**

Armstrong's EF brick. Blast F & Steel Pl 21:272-3 My '33  
 Cements for furnace settings. *Chem Age* (Lond) 28:234 Mr 18 '33  
 Degussa high temperature gas furnace. *il Metal Ind* 31:255 J1 '33  
 Degussa Lilliput gas-heated laboratory furnace. *diag Chem Age* (Lond) 28:148 F 18 '33  
 Design and operation of industrial gas appliances. E. A. Leask. *diags Gas J* (Lond) 202:622-4 My 31 '33  
 Les méthodes modernes de carbonisation à basse température et de préparation d'anthracite artificiel. C. Berthelot. *bibliog il diags Chimie & Ind* 29:18-44 Ja '33  
 Research in fundamentals of combustion space requirements in high temperature gas furnaces. E. O. Mattocks. *il diags Am Gas Assn Mo* 15:289-94, 323-6 J1-Ag '33

**See also**

Blast furnaces	Glass furnaces
Cement kilns	Glass manufacture
Coke ovens	Heating
Cupola furnaces	Kilns
Draft	Oil burners
Electric furnaces	Open hearth furnaces
Fire brick	Refractory materials
Fuel	Refuse incinerators
Fuel economy	

**Cleaning**

Cleaning work nets 40 per cent. *Sheet Metal Worker* 24:221+ J1 '33  
 Kent double section furnace cleaner. *il Sheet Metal Worker* 24:278 Ag '33

**Control****See also**

Temperature regulators

**Firing**

Design and operation of industrial furnaces using gas, oil, and electricity. S. N. Brayshaw. *Gas J* (Lond) 201:676 Mr 15 '33  
 New combustion chart insures speed—ease—accuracy. E. Therkelsen. *Power* 77:600-1 N '33  
 Oil furnace capacity. G. P. Pearce. *Am Mach* 76:1157 N 23 '32  
 Rotary pulverised fuel furnace for cast iron. P. M. Macnair. *il diag Engineer* 155:175-6 F 17 '33

**Lining**

Insulating refractory for heating furnaces; no. 80 insulating firebrick. *Iron Age* 131:433+ Mr 16 '33  
 Suspended walls for combustion chambers. *il Elec R* (Lond) 113:346 S 15 '33

**FURNACES, Annealing**

Bright annealing in gas atmosphere. S. Z. Owen. *il Elec W* 100:760-1 D 3 '32  
 Burdons oil-fired annealing furnace. *diags Engineering* 135:242, pl 15 Mr 3 '33  
 Car-bottom annealing furnace installations. H. M. Heyn. *il Iron Age* 132:20-1+ Ag 24 '33  
 Shipyard installs annealing and X-ray inspection equipment; Sun shipbuilding & dry dock co. P. E. Shaver. *il Steel* 91:21-3 D 19 '32; Same. *Marine R* 62:34-5 D '32

**FURNACES, Boiler**

Automatic anthracite. PaRco maximatic furnace. *il Business Week* p7-8 Je 7 '33  
 Flame radiation in water-cooled boiler furnaces; abstract. *Mech Eng* 55:511 Ag '33  
 Foyer économiseur fumivore pour chauffage central. J. Delanoue. *il diags Génie Civil* 102: 90-1 Ja 28 '33

Furnace for oil burning. *Power* 77:436-7 Ag '33

Furnace water-walls for marine boilers. *diags Engineering* 135:12-13 Ja 6 '33  
 Modern mechanical paragon; Parco Maximatic furnace. J. H. Morse. *il Manuf Rec* 102:24 J1 '33

Radiation in boiler furnaces; abstract. W. T. Bottomley. *Elec R* (Lond) 112:84-5 Ja 20 '33

**See also**

Boilers  
 Boilers—Firing

**Lining**

Refractory service, with particular reference to boiler furnaces. J. Walker. *diags Engineering* 135:4-7, 34-7 Ja 6-13 '33; Abstract. *Mech Eng* 55:183-4 Mr '33

**FURNACES, Cupola. See Cupola furnaces****FURNACES, Enameling**

Enameling in automatic gas furnaces; American stove co. J. B. Nealey. *il diags Iron Age* 131:901-2+ Je 8 '33; Same. *Am Gas Assn Mo* 15:238-9 Je '33  
 Quality enamel for the jeweler's art. J. E. Bullard. *il Brass W* 28:227-8 N '32

**See also**

Electric furnaces,  
 Enameling

**FURNACES, Forging**

Continuous-type furnaces employed in forging aluminum alloys. J. B. Nealey. *il diag Iron Age* 132:22-3+ Ag 31 '33  
 Cost of open furnace doors. G. P. Pearce. *Power Pl Eng* 37:484 N '33  
 Forging furnace of walking-beam type. *diags Iron Age* 132:22-3 O 19 '33  
 Fuels in heat treating furnaces; influence of intermittent schedules on costs. H. J. Gregg. *il Metal Prog* 23:37-40 Mr '33  
 Herbert pulverised-fuel forge furnace. *il diag Engineering* 135:242, 243 Mr 3 '33  
 Pulverized coal for forge furnaces is excellent and cheap; Norfolk & Western railway. C. P. Blair and C. E. Pond. *il diags Metal Prog* 22:24-8 D '32  
 Use of gas diffusion burner system in forging work. H. M. Heyn. *il Iron Age* 131:945+ Je 15 '33

**FURNACES, Foundry**

Metal melting; A.G.A. forum on gas as fuel. *Am Gas Assn Proc* 1932:634-7

**See also**

Cupola furnaces	Furnaces, Iron found-
Electric furnaces,	ing
Foundry	Furnaces, Non-fer-
	rous melting

**FURNACES, Galvanizing**

Heating galvanizing kettles by diffusion combustion. H. M. Heyn. *il Steel* 93:24-5 N 13 '33

**FURNACES, Heat treating**

American bell-type retort furnace. *il Am Mach* 77:97 F 1 '33; *Mach* 39:417-18 F '33; *Iron Age* 131:319 F 23 '33; *Steel* 92:31 F 27 '33; *Automotive Ind* 68:357 Mr 18 '33; *Am Gas J* 138:54+ Ap '33

Carburizing by continuous gas process proves economical. H. M. Heyn. *il Steel* 92:17-19 Ja 9 '33

Continuous-type furnaces employed in forging aluminum alloys. J. B. Nealey. *il diag Iron Age* 132:22-3+ Ag 31 '33

Fuels in heat treating furnaces; influence of intermittent schedules on costs. H. J. Gregg. *il Metal Prog* 23:37-40 Mr '33

Gas in the wire drawing industry. J. Bradbury. *Gas J* (Lond) 201:199-201 Ja 25 '33; Discussion. 201:263-4 F 1 '33

Hardening and drawing Ford drive shafts by improved methods; Timken-Detroit axle co. J. B. Nealey. *il Mach* 39:472-3 Mr '33

Heat treated alloy steel makes jails escape proof. J. B. Nealey. *il Steel* 92:22-3 Ja 30 '33

Heat-treatment at River Rouge. J. B. Nealey. *il Am Mach* 77:584-7 S 13 '33

Heat treatment furnaces. *il diag Automobile Eng* 23:215-18, 241-4 Je-J1 '33



**FURNACES, Heat treating—Continued**

International furnace equipment co.'s oil-fired heat treatment furnace. diag Engineering 135:213 F 24 '33; Engineer 155:supp ii F 24 '33

Liquid baths for heat treating—bath furnaces and temperature measurement. W. P. Eddy, jr. diags Iron Age 131:230-2 F 9 '33

Manchester oil-fired heat treatment furnace. diags Engineering 135:241, 242 Mr 3 '33

Manufacture and heat treating of twist drills; American twist drill co. J. B. Nealey. il Iron Age 131:508-9 Mr 30 '33

Precision control features heat treating of wrought steel wheels. il Iron Age 132:24-5 Ag 17 '33; Same. Steel 93:25-7 Ag 14 '33

Recent progress in carburizing with gas. R. J. Cowan. il diag Metal Prog 24:44-8 O '33

Refined fuels, so-called, for heat treating. R. M. Keeney. Iron Age 131:827-8 My 25 '33

Rifle and shot gun manufacture. J. B. Nealey. il Am Mach 77:112 F 15 '33; Same. Am Gas Assn Mo 15:462 N '33

Stress relieving furnace handles 35-foot pipes. il Steel 93:28 N 6 '33

**See also**

Electric furnaces,  
Heat treating  
Furnaces, Annealing

**Testing**

Normalizing steel castings. W. S. Scott. il Iron Age 132:20-3 S 21 '33

**FURNACES, Heating**

Coke-fired reheating furnace. F. Lloyd and R. V. Wheeler. diags Engineering 136:479-80 O 27 '33; Abstract. Iron Age 132:17, 74 O 19 '33

Determining the transmission of heat in industrial furnaces. M. H. Mawhinney. il Steel 92:23-5 Ap 24; 23-5 My 8 '33

Fuel comparisons for billet reheating furnaces. G. W. Akerlow. diags plans Gas Age 72:103-6 Jl 29 '33

Gas-fired tire heater. J. B. Nealey. il diag Ry Mech Eng 106:511-12 D '32

Gas furnaces in bolt and nut plant; Graham works of the Pittsburgh screw & bolt co; illustrations. Iron Age 132:30 O 19 '33

Gas in the wire drawing industry. J. Bradbury. Gas J (Lond) 201:199-201 Ja 25 '33; Discussion. 201:263-4 F 1 '33

New device for creep testing. F. H. Norton and J. A. Fellows. diag Metal Prog 24:41-3 O '33

Pack and pair heating furnaces in connection with sheet and tin mills; abstract. R. J. Wean. Steel 93:23 O 30 '33

Special furnace equipment used for bolt production. J. B. Nealey. il Steel 93:27-9 S 25 '33

Wärmeverbrauch von stossöfen bei verschiedener belastung und zeitlicher beanspruchung. A. Herberholz; K. Rummel; C. Arnold. Stahl & Eisen 52:1094-6, 1118-21 N 10-17 '32

**See also**

Furnaces, Forging

**Control**

Furnace atmospheres and steel. C. Upthegrove. Am Gas Assn Mo 15:181-4 My '33

**Manufacture**

Ueber einzelbauteile von blockwärmöfen. J. G. Heer. il diags Stahl & Eisen 53:40-3, 75-7 Ja 12-19 '33

**FURNACES, Iron founding**

Duplexing high test gray iron. W. R. Bean. il Foundry 61:23 Mr '33

Melts iron in rotary furnaces; Armstrong, Whitworth. British foundry installs four units which are fired with pulverized coal. V. Delport. il Foundry 60:26-7 S '32; Abstract. Mech Eng 55:45-6 Ja '33

Rotary pulverised fuel furnace for cast iron; abstracts. P. M. Macnair. il diag Engineer 155:175-6 F 17 '33; Génie Civil 102:276-8 Mr 25 '33

**FURNACES, Metallurgical**

Historical development of furnaces. H. Southern. Gas J (Lond) 201:318-19 F 8 '33

How gas fuel has been applied at the Tooele smelter. J. B. Nealey. il Min & Met 14:375-6 S '33

Morgan lip axis, oil fired furnace. diag Engineer 155:supp iv, v F 17 '33

Morgan oil-fired tilting metal furnace. diag Engineer 155:supp iv F 17 '33; Engineering 135:184 F 17 '33

Practical test manipulation; handling the cupellation furnace. C. C. Downie. Soc Chem Ind J (Chem & Ind) 52:777-8 S 29 '33

Rabbling for multiple hearth furnaces. A. J. Cradick. il diag Engineer 155:648-9 Je 30 '33

**See also**

Blast furnaces  
Cupola furnaces  
Electric furnaces,  
Metallurgical  
Open hearth furnaces

**FURNACES, Non-ferrous melting**

British reverberatory furnaces 600-lb. non-ferrous metal melting furnace. diags Engineering 135:185 F 17 '33

Efficiency furnace for continuous metal melting. il Gas J (Lond) 201:749 Mr 22 '33

Ensign Reynolds develop new stereotype furnace. Gas Age 72:180 Ag 19 '33

Industrial uses of gas. W. M. Carr. diags Gas J (Lond) 201:628-9 Mr 8 '33

Melting equipment in the non-ferrous industry. R. H. Stone. il Metal Ind 31:162-5, 201-3, 241-4 My-Jl '33

New crucible furnace; further aid to industrial gas sales. il diag Gas J (Lond) 202:806 Je 14 '33; Abstract. Am Gas J 139:28 Ag '33

Nonferrous melting at Mare Island. J. B. Nealey. il Foundry 60:44-5 D '32

Treatment of copper wire scrap. E. R. Thews. diag Engineer 155:381-2 Ap 14 '33

**FURNACES, Recuperative and regenerative**

Effective heat exchange in the lower zones of regenerators; abstract. W. B. Mitchell and H. D. Bennie. Chem Age (Lond) 29:86 Jl 22 '33

Principles of recuperation applied to industrial gas furnaces. E. A. Luscombe. biblog il diags Am Gas J 137:9-12 D '32

Regenerator chambers for furnaces using natural gas. H. J. Williams. Iron Age 132:20-2 S 14 '33

**FURNACES, Steel making**

Some factors leading to greater production from a steel furnace. A. Robinson. Engineering 136:345-6 S 22 '33; Abstract. Iron Age 132:28-9 N 2 '33

**See also**

Electric furnaces,  
Steel making  
Open hearth furnaces

**Manufacture**

Welded plate for furnace-work. G. B. Cramp. il diags Metal Prog 23:24-7 My '33

**FURNACES, Warm air**

Fire hazard of domestic heating installations. G. Q. Voight. pls U S Bur Stand J Research 11:353-72 S '33

Gas furnaces condition air to prevent rust on sheet stocks. il Steel 93:28 Ag 14 '33

Investigation of warm-air furnaces and heating systems, pt 5. A. C. Willard, A. P. Kratz and S. Konzo. il diags plans Ill U Eng Exp Sta Bul 246:1-155 '32; Excerpts. Heat & Ven 30:40-1 Mr '33

Will a fire pot coil give enough heat for hot water radiation. Dom Eng 141:41 F '33

**Pipes and fittings**

Aire-Flo, individual pipe system for heating a large building; Talmage mortuary at Roswell. N. M. il plans Sheet Metal Worker 23:512-15 D '32

Reason why this heating system would not heat a room on the heater level. plans Sheet Metal Worker 23:483-4 N '32

Stainless steel smoke pipe. il Sheet Metal Worker 24:148 My '33

Well arranged furnace system. plans Sheet Metal Worker 24:47-8 F '33

**FURNESS, Withy and company, limited**

Annual general meeting, 42d, London. *Economist* 117:248 J1 29 '33

**FURNITURE**

Furniture & furnishing. J. C. Rogers. 110p [bibliog p111] Oxford '32

See also

Interior decoration

Library furniture

**FURNITURE factories****Employees**

Wages and conditions in the furniture industry in Germany. M. P. Medalie. *Monthly Labor R* 36:186-7 Ja '33

Wages and hours of labor in the furniture industry, 1910 to 1931. U S Bur Labor Statistics *Bul* 571:1-58 '32

**FURNITURE industry and trade**

Furniture goes modern again. *Business Week* p7 N 23 '32

Service items in department and furniture stores. L. H. Grinstead. Ohio State Univ Bur of Business Research *Special Bul* 38:1-31 '32

**Exhibitions**

Furniture; Grand Rapids 111th furniture exposition, Jan. 3-14. *Business Week* p6-7 Ja 11 '33

**Southern states**

Southern furniture industry. C. C. Lincoln, jr. *Manuf Rec* 102:20 Ja '33

**United States**

Confidence returning in the furniture trade. R. Brennan. *Dun & Bradstreet* 41:3-5 Mr 18 '33

Furniture distribution in the Gulf Southwest. W. A. Bowers. *il maps U S Bur For & Dom Com Domestic Commerce Ser* 76:1-153 '33

Furniture distribution in the Midwest. C. R. Niklason. *U S Bur For & Dom Com Domestic Commerce Ser* 75:1-99 '32

Furniture distribution in the west mid-continent. W. Mitchell, jr. *maps U S Bur For & Dom Com Domestic Commerce Ser* 68:1-171 '32

**FUROIC acid**

Furan reactions; furoic acid from furfural. C. D. Hurd, J. W. Garrett and E. N. Osborne. *Am Chem Soc J* 55:1082-4 Mr '33

**FUSED salts. See Salts, Fused****FUSION**

Fusion curves for the systems ammonia-propyl alcohols and ammonia-butyl alcohols. H. P. Cady and E. A. Jones. *bibliog diags J Phys Chem* 37:303-20 Mr '33

**FUSION, Heat of**

Latent heat of foodstuffs. W. R. Woolrich and others. *Refrig W* 68:16-18 Ag '33

**FUTURES**

Speculation and its use. T. F. Woodlock. *Comm & Fin* 22:628 J1 19 '33

See also

Exchanges

Speculation

**G****GABBRO**

Contact metamorphism of the slates of Minnesota by granite and by gabbro magmas. F. F. Grout. *il map Geol Soc Bul* 44:989-1039 [bibliog p1033-9] pl 38-9 O '33

**GABLES**

Portfolio of eaves returns on masonry gables. *il Architecture* 67:355-70 Je '33

**GADGETS company**

Gadgets gain dignity of company name; Charms candy ornaments lead to organization of new company. L. P. Fisher. *il Adv & Sell* 20:15+ F 16 '33

**GADOLINIUM**

Observations on the rare earths; the transference numbers of the chlorides of neodymium, samarium and gadolinium. G. Hughes and others. *Am Chem Soc J* 55:3236-42 Ag '33

**GADOLINIUM compounds**

Crystallography of some compounds of gadolinium and samarium. A. Pabst. *Am J Sci* 5th ser 26:72-9 J1 '33

Effect of crystal symmetry and chemical composition on the energy levels of solids. F. H. Spedding and G. C. Nutting. *il Am Chem Soc J* 55:496-504 F '33

Heat capacity of gadolinium sulfate octahydrate below 1° absolute. W. F. Giaque and D. P. MacDougall. *Phys R* 44:235-6 Ag 1 '33

**GAGE boards**

Gage board design for power stations. G. A. Gaffert. *plan Power Pl Eng* 37:418-20 O '33

**GAGES**

Aluminum tire gage. *il Ry Mech Eng* 107:375 O '33

Apparatus for comparison of length of gages. C. Moon. *diags pl U S Bur Stand J Research* 10:249-55 F '33

Combination fillet and length gage. H. R. Hageman. *diag Mach* 39:272 D '32

Continuous inspection of sheet and strip metal; Pratt & Whitney electrolimit gage. *il Iron Age* 132:30 S 7 '33

Cylinder gauging; a comparison of methods and a new type of gauge. *diag Automobile Eng* 22:568 D '32

Develop gage for indicating internal wear of cracking still tubes. J. A. McMonagle, C. A. Pines and J. F. Williams. *diag Nat Pet N* 24:49 N 16 '32; Same. *Oil & Gas J* 31:77 N 17 '32

Federal thickness gage has automatic features. *Iron Age* 132:33 Ag 3 '33; *Am Mach* 77:546 Ag 16 '33; *Mach* 40:60 S '33

Gage for checking inaccessible tapered holes. H. Kaffine. *diag Mach* 39:257-8 D '32

Gages and burnishing tool for locomotive driving-box maintenance. H. H. Henson. *diags Mach* 39:649-50 Je '33

Gaging car wheels. E. C. Edwards. *il Ry Mech Eng* 107:330-3 S '33

Grading and mating parts with electrolimit gages. *il Automotive Ind* 69:309-10 S 9 '33

Inspection and temporary gages. C. E. Schirmer. *Am Mach* 77:560 Ag 30 '33

Inspection gauges used on radial engine crankcases. A. G. Lloyd. *diags Aviation Eng* 8:12-13 Ja '33

Involute spur gear block gaging; reference book sheet. S. Trimbath. *diags Am Mach* 77:373-4 Je 7 '33

Measuring a taper plug gage. A. J. Wormwood. *diag Am Mach* 77:571-2 Ag 30 '33; Discussion. M. Harris. 77:760 N 22 '33

Packard uses special devices to check accuracy of parts. *il Iron Age* 131:233+ F 9 '33

Pistol-grip dial gage for measuring bores accurately and rapidly. D. L. Brown. *diags Mach* 39:315-16 Ja '33

Piston ring gauge; Hepworth & Grandage, Ltd. *il Automobile Eng* 23:172 My '33

Pratt & Whitney electriclimit gage checks several diameters simultaneously. *il Iron Age* 131:400 Mr 9 '33; *Mach* 39:544 Ap '33

Precision bench gage for internal measurements. W. C. Betz. *diag Am Mach* 77:285 Ap 26 '33

Screw micrometer gages for rubber specimens. W. L. Holt. *diags U S Bur Stand J Research* 10:575-82 My '33

Simple gage stop for blanking dies. *Mach* 39:784; 40:166 Ag, N '33

Société Genevoise machine for checking working gages. *il Automotive Ind* 68:410 Ap 1 '33

Spherical internal limit gauge by Vereinigte Kugellagerfabriken. *il diags Engineering* 136:75 J1 21 '33

Standard dial plug gage. *il Am Mach* 77:163 Mr 1 '33



**GAGES—Continued**

Thread gauge for checking internal thread taper. F. B. Gilliams. *il Am Pet Inst Proc* p71-2 sec 3 D '32; Same. *Oil & Gas J* 31:74+ N 17 '32

Trolley shoe condemning gage. H. S. Williams. *diags Elec Traction* 29:40 F '33

See also

Pressure gages

Strain gages

Water gages

**Manufacture**

How to make an accurate multi-spline gage.

W. C. Betz. *diags Mach* 40:22-3 S '33

Profile grinding machine for tools and gages.

O. P. van Steewen. *il Mach* 39:411-13 F '33

**GAGES, Vacuum.** See Vacuum gages

**GAGING**

See also

Oil measurement

Water gages

Water measurement

**GALACTAN**

Chemistry of wood; water-soluble polysaccharide of eastern larch. L. E. Wise, P. L. Hamer and F. C. Peterson. *bibliog Ind & Eng Chem* 25:184-7 F '33

Isolation of a sodium sulfuric acid ester of galactan from irideae laminarioides (rhodophyceae). W. Z. Hassid. *bibliog Am Chem Soc J* 55:4163-7 O '33

**GALACTONIC acid**

Action of alkalies on the monobasic sugar acids; conversion of gluconic to mannonic and of galactonic to talonic acids by the action of barium hydroxide. H. T. Bonnett and F. W. Upson. *Am Chem Soc J* 55:1245-8 Mr '33

**GALACTOSE**

Effect of galactose feeding upon depancreatized dogs. J. H. Roe and R. F. Cahoon. *Science* 77:331-3 Mr 31 '33

**GALACTOSE oxime**

Acetylation of galactose oxime. V. Deulofeu and others. *Am Chem Soc J* 55:3488-93 Ag '33

**GALACTOSE pentaacetate**

Rotatory dispersion of organic compounds; rotatory dispersion and circular dichroism of aldehydic sugars. H. Hudson, M. L. Wolf from and T. M. Lowry. *Chem Soc J* p1179-92 S '33

**GALANGIN**

Anthoxanthins;  $\omega$ -hydroxyphloracetophenone and certain derivatives; synthesis of galangin under milder conditions than those used heretofore. J. J. Chavan and R. Robinson. *Chem Soc J* p368-70 Ap '33

**GALENA**

Disseminated galena in the Upper Cambrian of the central mineral region, Texas. C. L. Baker. *Econ Geol* 28:163-70 Mr '33; Discussion. W. A. Tarr. 28:607 S '33

Identification of cerussite and anglesite, and flotation with galena. F. D. DeVaney and R. E. Evans. *il U S Bur Mines Rep of Invest* 3214:1-9 '33

Oxidation of jamesonite, sphalerite, and tetrahedrite. A. L. Anderson. *il Econ Geol* 27:687-703 D '32

Silver and bismuth-bearing galena from Leadville. E. F. Chapman and R. E. Stevens. *il Econ Geol* 28:678-85 N '33

Surface actions of some sulfur-bearing organic compounds on some finely-ground sulfide minerals. A. M. Gaudin and W. D. Wilkinson. *bibliog J Phys Chem* 37:833-45 O '33

**GALESBURG, Illinois****Railroads**

Modernizing a large gravity yard. *il plans Ry Age* 93:938-42 D 24 '32

**Sewerage**

Flexible lining of tile used for drainage ditch. *il Eng N* 110:585 My 11 '33

**GALLIUM**

Cadmium, thallium, indium, and gallium as by-products of the lithopone industry. W. N. Hirschel. *Soc Chem Ind J (Chem & Ind)* 52:797-8 O 6 '33

Gallium, metal of the future. G. Wagner. *Chem Markets* 32:29 Ja '33

Gallium now commercially available. *Chem & Met Eng* 39:675 D '32

Industrial uses for gallium. *Mach* 40:42 S '33

Die technische gewinnung des rheniums und galliums und einiger ihrer verbindungen. W. Feit. *Angew Chemie* 46:216-18 Ap 15 '33

**GALLIUM compounds**

Action of sodium upon trimethylgallium and dimethylgallium chloride in liquid ammonia. C. A. Kraus and F. E. Toonder. *diag Am Chem Soc J* 55:3547-54 S '33

**GALLS (botany)**

First chemical reagent; extract of gall nuts. *Textile Col* 55:170 Mr '33

Natural occurrence of crown gall on the giant cactus, *carnegiea gigantea*. J. G. Brown and M. M. Evans. *Science* 78:167 Ag 25 '33

**GALVANIZING**

Continuous process for galvanizing wire is simplified by new flux; other developments. *Steel* 92:99-100 Ja 2 '33

Effect of zinc coatings on the endurance properties of steel. W. H. Swanger and R. D. France. *bibliog il Am Soc T M Proc* 32 pt 2:430-48 '32; Same. *U S Bur Stand J Research* 9:9-24 Jl '32; Discussion. *Am Soc T M Proc* 32 pt 2:449-52 '32

Eliminates dross and reduces zinc contamination in galvanizing. W. H. Spowers, jr. *il Steel* 93:23-5 Jl 24 '33

Embrittlement of hot-galvanized structural steel. S. Epstein. *il Am Soc T M Proc* 32 pt 2:293-374; Discussion. 375-9 '32

Hot galvanizing. *Electrician* 110:617 My 12 '33

Hot galvanizing of iron and steel. A. B. Dove. *il diag Can Chem & Met* 17:12-14 Ja '33

Large spangle zinc coat. W. Imhoff. *Metal Ind* 31:344 O '33

New developments in galvanizing. W. H. Spowers, jr. *il Iron Age* 131:270-3+ F 16 '33

**Testing**

Some factors affecting the Preece test for zinc coatings. H. H. Walkup and E. C. Groesbeck. *Am Soc T M Proc* 32 pt 2:453-63; Discussion. 464-7 '32

**GALVANOMETERS**

Brownian motion of the resonance radiometer. G. A. Van Lear, jr. *bibliog R Sci Instr* 4:21-7 Ja '33

Oscillograph for ten thousand cycles. A. M. Curtis. *il diags Bell System Tech J* 12:76-90 Ja '33; Abstract. *Elec Eng* 52:623-5 S '33

**GAMBLE, William, 1864-1933**

Sketch. S. H. Horgan. *Inland Ptr* 91:58 Ag '33

**GAMBLING**

The odds. *Economist* 116:1290-1 Je 17 '33

Tote or tout? *Economist* 116:64-5 Ja 14 '33

**GAMBLING machines.** See Slot machines, Gambling

**GAMBUSIA**

Tiny mosquito fish win. *Sci Am* 149:28 Jl '33

**GAMBUSINO mining.** See Miners—Mexico

**GAME protection**

Distribution of game animals. *Science* 76:sup 11-12 D 9 '32

**GAMES**

Large uses of steel in small ways; pin games. *il Steel* 92:26 Ap 3 '33

Sport in the nickel age; coin-in-the-slot machines. *Business Week* p14 Mr 29 '33

**Advertising**

66-year-old product fights it out with a newcomer; new game threatened Parcheesi's popularity. E. Peterson. *il Ptr Ink* 165:33-4+ O 19 '33

**GAMMA rays**

Emission of  $\gamma$ -rays by nuclei excited by neutrons, and nuclear energy levels. W. D. Harkins. *Phys R* 43:362-3 Mr 1 '33

For testing castings, forgings, welds, navy uses rays from radium. C. S. Barrett. *il Heating-Piping* 5:208-9 Ap '33

Free positive electrons resulting from the impact upon atomic nuclei of the photons from Th C". C. D. Anderson. *Science* 77:432 My 5 '33

Gamma ray radiographic testing. G. E. Doan. *il diags J Fr Inst* 216:183-216, 351-85 [bibliog p384-5] Ag-S '33

Gamma rays to insure internal soundness. D. Lewis. *il Metal Prog* 24:29-31 Jl '33

Positrons from gamma-rays. C. D. Anderson and S. H. Neddermeyer. *il Phys R* 43:1034 Je 15 '33

Possibility of the emission of positive electrons from the nucleus by  $\gamma$  rays. A. Bramley. *J Fr Inst* 216:427-8 O '33

Radium in engineering practice. V. E. Pullin. *Inst Mech Eng Proc* 124:305-22, pl 1-24 [bibliog p322] '33; Same. *Engineer* 155:304-6 Mr 24 '33; Same. *Engineering* 135:340-2, pl 22 Mr 24 '33; Discussion. *Inst Mech Eng Proc* 124:323-32 '33; *Engineer* 155:302 Mr 24 '33; *Engineering* 135:335-6 Mr 24 '33

Secondary effects in ionization by hard gamma rays. E. J. Workman. *diags Phys R* 43: 859-70 Je 1 '33

Use of argon in the ionization method of measuring cosmic rays and gamma-rays. J. J. Hopfield. *bibliog Phys R* 43:675-86 My 1 '33

X-ray and gamma-ray inspection as used in ship construction. H. R. Isenburger. *bibliog il Marine Eng* 38:137-9, 148 Ap '33

**GARAGES**

Garage system for fleet owners is extended to eighteen states. *Sales Management* 33:327 O 1 '33

*See also*

Automobile service stations      Motor bus lines—Garages

Gasoline service stations

**Employees**

Wages and hours of labor in gasoline filling stations and motor-vehicle repair garages, 1931. U S Bur Labor Statistics Bul 578:1-89 '33

**Equipment**

Labor saving devices in garage and repair shop of Pacific gas and electric company. C. W. Geiger. *il Am Gas J* 138:9-11 F '33

Natural gas is my best employee. E. H. Hoover. *il Gas Age* 72:215-+ S 2 '33

**Heating and ventilation**

Carbon monoxide distribution in relation to the heating and ventilation of a one-floor garage. F. C. Houghten and P. McDermott. *il diag Heating-Piping* 5:376-80 Jl '33; Conclusions. *Heat & Ven* 30:35-6 N '33

Electrode boilers in a large bus garage. *il Elec R (Lond)* 112:374 Mr 17 '33

Some points on garage ventilation. P. R. Jordan. *Sheet Metal Worker* 24:6-8+ Ja '33

**Tow-car service**

S-W radio for tow-cars; radio as an adjunct to the garage business. R. M. Hyatt. *il diag Radio N* 14:398-+ Ja '33

**GARAGES, Private**

Converted stable and carriage-house. *il plans Arch Rec* 74:328, sup24 O '33

New styles in garages and equipment. *il Am Bld* 55:30-1 Ap '33

Opportunities in garage modernizing, repairs and new doors. J. B. Mason. *il Am Bld* 55:20-1 S '33

Quality counts in garage construction. *il Am Bld* 55:22-5 S '33

**GARBAGE disposal. See Refuse disposal****GARCINIA morella**

Study of some Indian seed fats; mowha (basia latifolia) and tamal (garcinia morella) fats. D. R. Dhingra, G. L. Seth and P. C. Speers. *bibliog Soc Chem Ind J* 52:116T-18T Ap 28 '33

**GARCININ**

Anthoxanthins; experiments on the synthesis of garcinin. R. Robinson and R. C. Shah. *Chem Soc J* p610-12 Je '33

**GARDENING**

Paper gardens; International paper co. pushes paper patterns and protection for flower beds in one package. *Business Week* p14 Jl 15 '33

Soak station lawns once each week rather than sprinkle daily. J. B. Kelly. *il Nat Pet N* 25:33-4 Je 7 '33

*See also*

Electrohorticulture      Landscape gardening  
Frost protection      Vegetable gardening

**Dictionaries**

New illustrated gardening encyclopædia. R. Sudell, ed. 1152p Scribner '33

**GARDENS**

Community programs for subsistence gardens. J. C. Colcord and M. Johnston. 74p Russell Sage foundation, New York '33

Gardens; a portfolio of paintings by George Stonehill; with notes on the 1933 scene. *il Fortune* 8:67-74 Ag '33

In a week-end garden. M. S. Welch. 298p Sears pub. co. inc. New York '33

The iris garden, estate of Z. G. Simmons, Greenwich, Conn. *il plan Arch Rec* 74: 137-41 Ag '33

Walk water and woodland gardens, including the rock garden and the health garden. G. Jekyll. 8th rev ed 246p Scribner '33

*See also*

Landscape garden-  
ing  
Vegetable gardening

**Lighting**

Artificial light as an aid to the landscape architect. D. W. Atwater and A. Paulus. *il diags Illum Eng Soc Trans* 28:223-38; Discussion. 257-62 Mr '33

Examples of lighting for decoration and festivity. G. R. LaWall and C. M. Cutler. *il diag Illum Eng Soc Trans* 28:249-56; Discussion. 257-62 Mr '33

Light gives the garden another beauty at night; illustrations. *Elec W* 102:348 S 9 '33

Southend illuminations; interesting effects of coloured floodlighting in rock gardens. *il Electrician* 111:243 Ag 25 '33

*See also*

Roof gardens—Light-  
ing

**GARDENS, Employees'**

Cooperative farm plan of the B.F. Goodrich co. *Monthly Labor R* 36:771-4 Ap '33

Garden guide; Akron community gardens, inc. formed by the B. F. Goodrich co. *Business Week* p8 Mr 8 '33

Gardens to call their own. *Factory Management* 91:312 Ag '33

**GARDINER, Glenn Lion**

Sketch. *por Forbes* 32:20 Jl 1 '33

**GARDINOLS**

Fatty alcohol sulphates; their properties and applications. *Textile World* 83:933 My '33

Gardinol and Brilliant Avicol products. A. G. Bruinier. *il Textile Col* 55:456-7 Jl '33

Gardinols. *Textile Col* 54:835-+ D '32

Modern wetting, scouring and dyeing agents. W. W. Bray. *Am Dyestuff Rep* 22:247-50; Discussion. 250-2 Ap 10 '33

Recent developments in the application of the fat alcohol sulfates. S. Lenher. *Am Dyestuff Rep* 22:663-7; Discussion. 667 N 6 '33

Soapless detergents point the way to new trend in an old industry? *il Chem & Met Eng* 40:249 My '33

Sulphonated alcohol products. S. Lenher. *il Am Dyestuff Rep* 22:13-16; Discussion. 16-13 Ja 2 '33

Sulphonated fatty alcohols. S. Lenher. *Am Dyestuff Rep* 21:693-5 D 5 '32; Excerpts. *Chem Markets* 32:127-8 F '33; Discussion. *Am Dyestuff Rep* 21:695-6; 22:21-4 D 5 '32, Ja 2 '33



**GARDNER, H. S.**

Most interesting advertising job I ever did.  
por *Ptr Ink* 162:15 F 9 '33

**GARDNER, W. M.**

Retirement of Professor Gardner as editor.  
Soc Dyers & Col J 49:47-8 F '33

**GARMENT workers**

Decision as to wages and hours of ladies' garment workers, Chicago. *Monthly Labor R* 37:890-1 O '33

Strike of New York's dressmakers. *Business Week* p4 Ag 19 '33

Wages of needle workers in Puerto Rico, 1932-33. *Monthly Labor R* 36:1390 Je '33

See also

Clothing trade—Labor conditions

Shirt factories—Employees

**GARNET**

Contributions to the geology of Maine; an occurrence of garnet in rhyolite. E. S. C. Smith. *Am J Sci* 5th ser 25:225-6 Mr '33

**GARTERS****Advertising**

When is advertising adequate? Paris garters. J. M. Kraus. *Adv & Sell* 20:16 F 2 '33

**Manufacture**

Motion study by mail; garter manufacturer is told the one best way. E. H. MacNiece. *diags Factory & Ind Management* 84:12-13 Ja '33

**GAS**

Le LVI<sup>e</sup> Congrès de l'industrie du gaz (Biarritz, 26-29 juin 1933). *diag Génie Civil* 103: 82-5 Jl 22 '33

Domestic uses of gas. A. E. Forstall. 82p \$1.50 International textbook co, Scranton, Pa. '32

Gas furnishes heat, light and power in big office building of the Dallas gas company. J. B. Nealey. *il plan Am Gas Assn Mo* 15:374-5 S '33

Gas used for cooling and heating model home. *il Dom Eng* 142:66-7 O '33

Qualities of coal gas for welding; cutting of steel by oxygen machines. C. G. Bainbridge. *Gas Age* 71:211 F 25 '33

Recent progress in carburizing with gas. R. J. Cowan. *il diag Metal Prog* 24:44-8 O '33

Versatile farmer is gas; plays big part in cotton, tobacco, alfalfa, prunes, chicks. *Pub Serv M* 55:120 O '33

See also

Acetylene

Blast furnace gas

Butane

Coal distillation

Coke-oven gas

Distillation

Flue gas

Gas, Natural

Gas, Oil

Gas, Producer

Gas, Water

Gas analysis

Gas and oil engines

Gas appliances

Gas as fuel

Gas companies

Gas industry

Gas lighting

Gas manufacture

Gas producers

Gases

Liquefied petroleum

gas

Propane

Sewage sludge—Gas

production

**Analysis**

See Gas analysis

**Gum formation**

Gum deposits in gas distribution systems. A. L. Ward. C. W. Jordan and W. H. Fulweiler. *bibliog il diag Ind & Eng Chem* 24: 969-77, 1238-47; 25:1224-34 S, N '32, N '33

Gum problem in city gas. W. H. Fulweiler. *il diag Am Gas Assn Proc* 1932:838-51; Same. *Gas Age* 70:453-8 O 29 '32; Excerpts. *Gas J* (Lond) 200:570-2 N 23 '32; Discussion. *Am Gas Assn Proc* 1932:851-5

Gum problem in the distribution system. J. A. Perry. *Am Gas Assn Mo* 15:217-19 My '33; Same. *Gas J* (Lond) 203:157-8 Jl 19 '33; Same cond. *Gas Age* 71:387-8 Ap 15 '33

Identification of vapor-phase gum in resinous deposits. R. N. Wenzel. *Gas Age* 71:413-14 Ap 22 '33

Investigation of nitric oxide in works gas. V. Porrazzo. *il Gas Age* 72:123-4+ Ag 5 '33

Recent developments in the gum problem. W. H. Fulweiler. *Gas Age* 72:411-13+ O 28 '33; Excerpt. *Am Gas J* 139:23 O '33

**Manufacture**

See Gas, Water—Manufacture; Gas manufacture; Gas works

**Moisture content**

Beitrag zur feuchtigkeitsmessung. J. Carmann. *diag Stahl & Eisen* 53:94 Ja 26 '33

See also

Gas, Natural—Moisture content

**Nitrogen oxide content**

Gum problem in city gas. W. H. Fulweiler. *Gas Age* 70:453-8 O 29 '32; Excerpts. *Gas J* (Lond) 200:570-2 N 23 '32

**Standards**

Retrospect of ten years of standard gas. E. Czako and E. Schaack. *Gas J* (Lond) 202: 36-7 Ap 5 '33

**Sulfur content**

Determination of organic sulfur in gas. C. W. Wilson. *diag Ind & Eng Chem Anal* ed 5: 20-2 Ja 15 '33

**GAS, Bottled**

How bottled gas opens market for equipment and appliances. R. W. Thomas. *Gas Age* 70: 545-7 N 19 '32; Excerpt. *Am Gas J* 137:17 D '32

Standardization in the bottled gas industry. E. L. Mills. *diag Gas Age* 71:496-7 My 13 '33

**GAS, Natural**

Comparison of steam and hydrocarbon gas as distillation media in petroleum industry. G. Allen and F. T. Gardner. *diag Oil & Gas J* 31:12 My 4 '33

Deviation of natural gas from Boyle's law. T. W. Johnson and W. B. Berwald. *U S Bur Mines Tech Pa* 539:1-29 '32; Excerpt. *Oil & Gas J* 31:30+ F 9 '33; Abstract. *Am Gas J* 138:21-4+ My '33

Direct manufacture of carbon dioxide from natural gas. F. B. Taylor, jr. and J. T. Russell. *diag Gas Age* 71:333-4+ Ap 1 '33

Hazards in connection with natural gas. P. M. Biddison. *Gas Age* 70:681-3 D 24 '32

Is natural gas superior to manufactured gases, and if so, how? L. L. Tonkin. *Sibley J* 47: 99-100 Je '33

Limits of inflammability of natural gases containing high percentages of carbon dioxide and nitrogen. G. W. Jones and R. E. Kennedy. *tables U S Bur Mines Rep of Invest* 3216:1-23 '33; Same. *Am Gas J* 139: 13-15, 46 Jl; 21-3 Ag '33; Same abr. *Gas Age* 72:53-6 Jl 15 '33

Natural gas department, A.G.A. meeting. *Am Gas Assn Proc* 1932:101-26

Natural gas department, A. G. A. stresses taxation and salesmanship at annual meeting. *Gas Age* 72:327-8+ O 7 '33

Natural gas for testing mains. *diag Am Gas J* 138:35 Je '33

Petroleum and natural-gas studies of the United States Bureau of mines. H. C. Fowler. *U S Bur Mines Information Circ* 6737: 1-50 '33

Preparation of pure methane from natural gas. H. H. Storch and P. L. Golden. *Am Chem Soc J* 54:4662-3 D '32

Procedure involved in deriving chemicals from natural gas. *Am Gas J* 138:14-16 F '33

Progress of naphthology, 1932; natural gas and natural gasoline. T. Hoffman. *bibliog Inst Pet Tech J* 19:449-53 Jl '33

Solubility of hydrogen and natural gas in oils at high operating temperature and pressure. V. Ipatieff, jr. V. P. Teodorovitch and I. M. Levine. *diag Oil & Gas J* 32:14+ O 5 '33

What an oil code may mean to the natural gas industry. G. B. Ruddick. *Gas Age* 72: 145-6 Ag 12 '33

See also

Carbon black

Ethane

Gas as fuel—Natural

gas

Gas mixing

Gasoline, Natural

Liquefied petroleum

gas

Methane

Petroleum

## GAS, Natural—Continued

## Accounting

Allocation of costs of natural gas production and pipe line companies. R. A. Ransom. Am Gas Assn Mo 15:386-71+ S '33

Lease rentals and well drilling of natural-gas companies. W. A. Clader. J Account 55:30-5 Ja '33

Three methods may be used in making calculations of gas meter charts. W. H. Richman. Oil & Gas J 31:61 My 11 '33

## Analysis

See Gas analysis

## Change over

Conversion from manufactured to natural gas; A.G.A. subcommittee report. Am Gas Assn Proc 1932:705-7 [bibliog p706-7]

Experience at Evansville due to the change from manufactured gas to natural gas. I. C. Shepard. Am Gas J 137:32-4 D '32

Introduction of natural gas in San Diego. D. H. Perkins. il map Gas Age 71:431-4, 471-5, 489-92 Ap 29-My 13 '33

Public information aspects of the San Diego changeover. D. H. Perkins. il Gas Age 70:701-3 D 31 '32; Same. Am Gas Assn Mo 15:27-8 Ja '33

## Conditioning

Gas conditioning. L. W. Tuttle. il diags Gas Age 71:418-21, 438-41+ Ap 22-29 '33; Same. W Soc E J 33:142-53 Je '33

Mitigating internal corrosion of natural gas lines. A. B. Allyne. diags Gas Age 72:463-5 N 11 '33

## Conservation

Federal oil conservation board analyzes estimated wastage of natural gas. Oil & Gas J 31:136 N 17 '32

Importance of free-gas control in maximum oil recovery. J. R. McWilliams. Am Pet Inst Proc p11-13 sec 4 D '32; Same. Oil & Gas J 31:12-13 N 24 '32; Discussion. Am Pet Inst Proc p13-15 sec 4 D '32

Temporary injunctions have halted enforcement of market demand gas conservation order. Oil & Gas J 31:11+ Ja 5 '33

True conservation of oil and gas will follow application of bottom hole data to problem. J. O. Lewis and H. F. Wright. Oil & Gas J 31:14+ Ap 27 '33

Value of gas conservation and efficient use of a natural water-drive as demonstrated by laboratory models. H. D. Wilde, jr. il Am Pet Inst Proc p4-10 sec 4 D '32

Wide variety of reasons for losses in natural gas production operations. Oil & Gas J 31:74 N 24 '32

## Contracts

Gas contract committee reports work completed and now in progress. T. R. Goebel. Oil & Gas J 32:89 My 25 '33

Important tax decision in favor of Signal Oil. Oil & Gas J 32:27+ S 21 '33; Nat Pet N 25:11 S 27 '33

## Fuel use

See Gas as fuel—Natural gas

## Geology

Careful study of geology of eastern Colorado indicates many oil and gas possibilities. R. M. Van Tuyl and B. H. Parker. map Oil & Gas J 31:12-13+ Mr 9 '33

Migration of oil and natural gas. V. C. Illing. Inst Pet Tech J 19:229-60 [bibliog p258-60]; Discussion. 260-74 Ap '33

## Laws and regulations

Enormous gas wastage in the Panhandle field under proposed conservation legislation. E. Carpenter. Oil & Gas J 31:18+ Ap 27 '33

New Texas act permits a larger Panhandle gas production. Oil & Gas J 31:33 My 11 '33

Oil and gas conservation statutes [annotated]. 432p Federal oil conservation board, Washington; \$1.25 Supt. of doc. '33

State permit needed to operate plants and must report all stocks monthly in Oklahoma. Oil & Gas J 32:29+ Je 8 '33

Suggested basis for ratable take equities in the western Panhandle sweet gas district. J. D. Thompson, Jr. and J. E. Warren. Oil & Gas J 31:43-4 F 23 '33

Texas commission has issued permit to process gas without using residue. Oil & Gas J 31:29 Mr 2 '33

## Leases

Lease rentals and well drilling of natural-gas companies. W. A. Clader. J Account 55:30-5 Ja '33

## Measurement

Gas well deliveries. E. L. Rawlins. Am Gas Assn Proc 1932:105-7

## Merchandizing

Canadian Western stresses modern gas cooking. A. Bell. il Gas Age 72:65-6 Jl 15 '33

Capturing today's home heating with master stroke plan. C. A. Nash. il Gas Age 72:407-10 O 28 '33

Competitive situation in commercial sales; cost data. G. W. Turner. Am Gas Assn Mo 15:284-8+ Jl '33

Consistent education sold natural gas in Utah. P. A. McCarthy. Gas Age 70:574 N 26 '32

Coordination and supervision in master stroke success. C. A. Nash. Gas Age 72:84+ Jl 22 '33

Eastern natural gas men study sales problems of future at regional sales conference, Pittsburgh, March 2-3. Gas Age 71:247-8 Mr 11 '33

Gas companies drive for home heating business in Greater Chicago. P. Truesdell and E. A. Dieterle. il Nat Pet N 25:31-2+ O 11; 35-6 N 1 '33

Home-heating saturation grows 6.5 per cent in 10 weeks. C. A. Nash. Gas Age 71:251-4 Mr 11 '33

Industry's outlook. A. Hewitt. Am Gas Assn Mo 15:128-30 Ap '33

Mason City, Iowa features cost of natural gas heat. L. J. Jellison. Gas Age 70:598 D 3 '32

An outsider looks at the natural gas industry. C. G. Ketchum. Am Gas Assn Mo 15:162-3 Ap '33

Selling the value of gas to the consumer. E. M. Tharp. Gas Age 72:361-2+ O 14 '33; Same abr. Am Gas J 139:17-18 O '33

Southwest natural gas sales conference, 3d, Dallas, Tex. Feb. 24-25. Gas Age 71:257-8 Mr 11 '33; Am Gas J 138:39-40 Mr '33

## Moisture content

Gas line saturation. L. K. Spink. diags Gas Age 71:274-5 Mr 18 '33

Mitigating internal corrosion of natural gas lines. A. B. Allyne. diags Gas Age 72:463-5 N 11 '33

## Odorizing

Canada begins systematic odorization at Edmonton. Am Gas Assn Mo 15:26 Ja '33

## Peak load

Economic aspects of refractory screen oil gas process. A. Johnson. Gas Age 71:545-6+ My 27 '33

Emergency gas plant operation at Denver. E. H. Hoover. Gas Age 72:369-70+ O 14 '33

Emergency substitute for natural gas. E. L. Fischer. Am Gas J 139:21-2 O '33

Gas plants as stand-by for natural gas transmission lines. F. Wills. diags Am Gas J 139:19-20 O '33

Production of high B.t.u. gas in existing water gas equipment. L. J. Willien. Gas Age 72:431-3+ N 4 '33

Refractory screen oil gas process. A. Johnson. il diag Am Gas Assn Proc 1932:892-9; Abstract. Chem & Met Eng 39:663 D '32

Stand-by gas plants for natural gas transmission lines. F. Wills. Gas Age 72:363-5+ O 14 '33

Use of high B.t.u. oil gas during a peak load. F. Wills. Am Gas Assn Mo 15:240-1 Je '33

## Pipe lines

Allocation of costs of natural gas production and pipe line companies. R. A. Ransom. Am Gas Assn Mo 15:368-71+ S '33



**GAS, Natural—Pipe lines—Continued**

Cast-iron pipe brings natural gas to Quincy, Ill. S. E. Nims. *il diag Gas Age* 71:223-4 Mr 4 '33

Denver natural gas cut off by flood; stand-by plant fills sudden demand. *il Gas Age* 72:300-1 S 23 '33

Distribution of gas through high-pressure plants. T. H. Kerr. *diags Gas Age* 71:462-4+ My 6 '33

Emergency substitute for natural gas. E. L. Fischer. *Am Gas J* 139:21-2 O '33

Gas plants as stand-by for natural gas transmission lines. F. Wills. *diags Am Gas J* 139:19-20 O '33

House committee makes report on pipe lines; would regulate the transportation of gas. C. E. Kern. *Oil & Gas J* 31:14+ Mr 9 '33

Introduction of natural gas in San Diego. D. H. Perkins. *il map Gas Age* 71:431-4 Ap 29 '33

Mitigating internal corrosion of natural gas lines. A. B. Allyn. *diags Gas Age* 72:463-5 N 11 '33

Natural gas pipe line construction in 1932 was at low ebb with only short lines built. *Oil & Gas J* 31:72-3 Ja 26 '33

Natural gas transport. A. C. Hartley. *Inst Pet Tech J* 19:492-4 Je '33

New adjustable angle sleeve for repairing field bends. *il Gas Age* 71:348 Ap 1 '33; Same. *Oil & Gas J* 31:120 Mr 30 '33

Reconditioned gas line in California rebuilt with welded joints. W. A. Sawdon. *il diag Am Gas J* 138:12-13 Mr '33

Re-design of high pressure gas metering and pressure regulating stations. W. J. Gray. *diags Oil & Gas J* 31:76 Ja 19 '33

Safe methods of producing and transmitting natural gas. E. J. Egan. *il Gas Age* 70:548-51 N 19 '32

Stand-by gas plants for natural gas transmission lines. F. Wills. *Gas Age* 72:363-5+ O 14 '33

Three-judge U. S. court sustains appeal of pipe line company in Mississippi. *Oil & Gas J* 32:120 O 26 '33

**Production estimates**

Gauging gas wells. *Oil & Gas J* 32:73 Je 23 '33

Relation between gas reserves developed and undeveloped and market requirements. J. H. Dunn. *Am Gas J* 139:16-17 O '33

**Production methods**

Safe methods of producing and transmitting natural gas. E. J. Egan. *il Gas Age* 70:548-51 N 19 '32

Wide variety of reasons for losses in natural gas production operations. *Oil & Gas J* 31:74 N 24 '32

**Rates**

California rate reduction before U.S. Supreme court. *Oil & Gas J* 31:71 Mr 9 '33

Chicago utility rates cut three per cent. *Gas Age* 71:661 Je 24 '33

Contract rates superseded by rates fixed by commission; American Indian oil & gas company v. G. F. Collins & company. *Gas Age* 72:71 Jl 15 '33

Decision on valuation of properties and reasonableness of natural gas rates announced by the Supreme court of Ohio. *Oil & Gas J* 32:69 Jl 13 '33

Emergency rate issued on United gas system of Texas. *Oil & Gas J* 32:65 N 9 '33

Peoples natural gas co. announces new rates. *Gas Age* 71:318 Mr 25 '33

Stormy Oklahoma gas case results in rate reduction. *Pub Util* 11:490-1 Ap 13 '33

Texas commission orders reduction in gate rates. *Oil & Gas J* 32:70 S 21 '33

United States Supreme court decision in Shelby, Montana, rate cutting case. *Oil & Gas J* 31:73+ Ap 20 '33

**Safety measures**

Safe methods of producing and transmitting natural gas. E. J. Egan. *il Gas Age* 70:548-51 N 19 '32

Safety precautions in compressor station operation and maintenance. J. R. Sharp. *Am Gas Assn Mo* 15:482 N '33

Safety precautions while making volume and rock pressure tests. W. A. Hazard. *Am Gas Assn Mo* 15:435 O '33

**Statistics**

Gas: customers, sales and revenue; monthly, 1929-1932. Survey of Cur Business 13:19-20 My '33

Marketed production of natural gas continued to decline in past year. E. B. Swanson. *Oil & Gas J* 32:70 S 21 '33

Natural gas in 1931. G. R. Hopkins and H. Backus. *Gas Age* 71:649-50 Je 24 '33

Production of natural gas in 1932. G. R. Hopkins and E. B. Swanson. *Gas Age* 72:457+ N 11 '33; Same. *Oil & Gas J* 32:64 N 2 '33

U.S. Bureau of mines summary of production and consumption of natural gas statistics, 1932; tabulation. *Oil & Gas J* 32:65 N 9 '33

**Taxation**

Adoption of tax may cause some plants to close. *Oil & Gas J* 31:26 F 23 '33

**Testing**

Comparison of knocking characteristics of vapor recovery and natural gasolines in blends. H. M. Trimble. *bibliog Oil & Gas J* 31:58, 60-1, 64 My 18 '33

Gas testing committee reports on code changes. G. Bunn. *Oil & Gas J* 32:27 My 25 '33

Progress of naphthology, 1932; analysis and testing. W. H. Thomas. *bibliog Inst Pet Tech J* 19:637-8 Jl '33

**Well boring**

Safety precautions in drilling wells for gas and oil. C. F. Huff. *Am Gas Assn Mo* 15:388-9 S '33

**Well control**

Crater wells, Richland gas field, Louisiana. H. B. Hill. *il map plan U S Bur Mines Tech Pa* 535:1-37 '32

Wild gas well, rice land and heavy rains test man's ingenuity in a struggle for control. L. G. E. Bignell. *Oil & Gas J* 32:12 Ag 17 '33

**Alberta**

Hearings concluded on conservation of natural gas in the Turner Valley. *Oil & Gas J* 31:126 Ja 26 '33

**Chicago, Supply to**

Chicago utility rates cut three per cent. *Gas Age* 71:661 Je 24 '33

**Kentucky**

Southwestern Kentucky counties are studied for their oil and natural gas possibilities. D. Hager. *map Oil & Gas J* 32:18+ Ag 24 '33

**Louisiana**

Crater wells, Richland gas field, Louisiana. H. B. Hill. *il map plan U S Bur Mines Tech Pa* 535:1-37 '32

Louisiana gas development and possibilities. M. E. Nash. *il Manuf Rec* 102:21 My '33

Louisiana output less, potential large, Conservation commission reports. M. E. Nash. *Oil & Gas J* 31:68 F 16 '33

Northeast Louisiana gas fields yielded 194,056,194,000 feet up to 1932. *Oil & Gas J* 32:61 Ag 3 '33

**Michigan**

Michigan railroads can lease right of way for oil. *Oil & Gas J* 32:31 Je 29 '33

New drilling campaign for gas planned following Michigan pipe line permit. *Oil & Gas J* 31:74 Ja 12 '33

New natural gas pool opens in Michigan. *Am Gas Assn Mo* 15:213 My '33

Oil and natural gas situation in Michigan. *Am Gas J* 138:11 Mr '33

**GAS, Natural—Michigan—Continued**

Review of the natural gas situation in Michigan. A. W. Stace. Gas Age 72:313-14 S 30 '33

Vernon natural gas pool is now being extended. Oil & Gas J 32:70 S 21 '33

**Minnesota, Supply to**

Fuel fight; labor backs coal and oil men fighting to keep natural gas out of Minneapolis. Business Week p19-20 N 11 '33

**New York (state)**

Deep sand natural gas in Pennsylvania and New York. F. E. Eckert. map Gas Age 72:289-90+ S 23 '33

Subsurface Devonian and Silurian sections across northern Pennsylvania and southern New York. C. R. Pettke. bibliog map Geol Soc Bul 44:601-59 Je '33

**Oregon**

Gas and oil possibilities of lower Willamette valley, Ore. C. S. B. Henry. Gas Age 71:145-6 F 11 '33

**Pennsylvania**

Deep sand natural gas in Pennsylvania and New York. F. E. Eckert. map Gas Age 72:289-90+ S 23 '33

Subsurface Devonian and Silurian sections across northern Pennsylvania and southern New York. C. R. Pettke. bibliog map Geol Soc Bul 44:601-59 Je '33

**Rumania**

Les gaz naturels, aux Etats-Unis et en Roumanie. C. Berthelot. diags Génie Civil 102:296-300 Ap 1 '33

**Tennessee**

Shallow gas field in Macon county, Tenn. G. I. Whitlatch. Oil & Gas J 32:67 Je 15 '33

**Texas**

Conservation of gas in Panhandle field is considered at Amarillo hearing. Oil & Gas J 31:65+ D 22 '32

Enormous gas wastage in the Panhandle field under proposed conservation legislation. E. Carpenter. Oil & Gas J 31:18+ Ap 27 '33

Shocking waste reported in Panhandle area. Gas Age 71:449 Ap 29 '33

Suggested basis for ratable take equities in the western Panhandle sweet gas district. J. D. Thompson, jr. and J. E. Warren. Oil & Gas J 31:43-4 F 23 '33

Temporary injunctions have halted enforcement of market demand gas conservation order. Oil & Gas J 31:11+ Ja 5 '33

Texas production, waste and reserves; cost at well and consuming points. E. H. Johnson. Oil & Gas J 31:76 D 8 '32

Texas railroad commission is restrained on its Panhandle gas field order. Oil & Gas J 31:68+ Ja 5 '33

**United States**

Les gaz naturels, aux Etats-Unis et en Roumanie. C. Berthelot. diags Génie Civil 102:296-300 Ap 1 '33

Production, distribution and marketing in natural gas industry analyzed. S. W. Meals. Oil & Gas J 32:68+ Je 8 '33

Report of I.B.A. oil and natural gas securities committee. Inv Banking 3:97-106 N 25 '32

Trend of the natural gas industry. J. F. Hanst. il Am Gas J 138:17-18+ Ap '33

**Washington (state)**

Present status of natural gas development in Washington. H. E. Culver. Am Gas J 139:30-1 J1 '33

**GAS, Oil**

Economic aspects of refractory screen oil gas process. A. Johnson. Gas Age 71:545-6+ My 27 '33

Emergency gas plant operation at Denver. E. H. Hoover. Gas Age 72:369-70+ O 14 '33

Emergency substitute for natural gas. E. L. Fischer. Am Gas J 139:21-2 O '33

Gas-cracking and reforming processes. G. G. Oberfell and J. A. Guyer. Am Pet Inst Proc (Refining div) p32-5 Je '32

Gas made from oil in local tanks not within commission jurisdiction. Gas Age 71:634 Je 17 '33

Gas plants as stand-by for natural gas transmission lines. F. Wills. diags Am Gas J 139:19-20 O '33

Natural gas greets a substitute; gas manufactured from Diesel oil to replace natural gas when an emergency arises. N. V. Davidson. il Sci Am 148:36-7 Ja '33

New field for the economic utilization of fuel oil. P. T. Dashiell. bibliog il diags Am Pet Inst Proc (Refining div) p39-55 Je '32

New oil gasification process is developed; oil gas rétor process in the Glover West vertical retorts of the Pawtucket gas company. L. C. Allen. diag Gas Age 72:207-8+ S 2 '33

Production and utilization of high heating value Diesel oil gas. Am Gas J 138:12-16 My '33

Production of high B.t.u. gas in existing water gas equipment. L. J. Willen. Gas Age 72:431-3+ N 4 '33

Recirculated oil gas process. E. S. Pettyjohn. diag Am Gas Assn Mo 15:340-2 Ag '33; Excerpts. Chem & Met Eng 40:312 Je '33

Refractory screen oil gas process. A. Johnson. il diag Am Gas Assn Proc 1932:892-9; Abstract. Chem & Met Eng 39:663 D '32

Refractory screen oil gas process development. diag Am Gas J 139:52 S '33

Refractory screen oil gas tests in Denver. G. Wehrle. il diag Am Gas J 139:7-9 Ag '33

Use of high B.t.u. oil gas during a peak load. F. Wills. Am Gas Assn Mo 15:240-1 Je '33

**See also**

Gas oil

**GAS, Producer**

Design of grid-packed cooling towers. C. C. Furnas and R. H. Newton. plan Chem & Met Eng 40:301-4 Je '33

Elements of gas technology; combustion of gases and manufacture of commercial gases. diag Am Gas J 139:19-20 Ag; 44-5 O '33

Gas in industry. E. S. Davies. Gas J (Lond) 201:99; Discussion. 100 Ja 11 '33

Gasification of small coke in built-in producers. Gas J (Lond) 200:694 D 7 '32

Lime production methods of Europe and America. V. J. Azbe. il Rock Prod 35:21-4 D 10 '32

Producer-gas fired settings. G. Allata. diag Gas J (Lond) 203:398-9 Ag 23 '33

Producer gas for heating drill steel. N. H. Auret. Can Min J 54:384 O '33

Sweden and Chile would use gas instead of gasoline. Automotive Ind 68:498 Ap 22 '33

Valuable source of primary power; producer wood gas use in mine power plant. R. C. Rowe. il Can Min J 54:105-7 Mr '33

Waste-heat boilers effect fuel saving. diag Eng & Min J 134:352 Ag '33

**See also**

Gas producers

**GAS, Water**

Application of gas analysis to industrial problems. M. Bermann. Gas Age 72:211-14 S 2 '33

Carburetted-water-gas as a coal-gas auxiliary. Gas J (Lond) 203:394-7, 451-2 Ag 23-30 '33

Chemistry of water gas; abstract. F. Fischer, H. Pichler and R. Reder. Gas Age 72:196 Ag 26 '33

Emergency substitute for natural gas. E. L. Fischer. Am Gas J 139:21-2 O '33

Gum deposits in gas distribution systems. A. L. Ward, C. W. Jordan and W. H. Fulweiler. bibliog il Ind & Eng Chem 25:1224-34 N '33

Reforming gaseous hydrocarbons. W. W. Odell. Am Pet Inst Proc (Refining div) p23-31 Je '32

Some comparisons of 800 B.t.u. water gas with 530 B.t.u. gas. K. B. Nagler. Am Gas J 138:34 Je '33



## GAS, Water—Continued

## Manufacture

- A. G. A. discusses new methods of producing water gas. *Chem & Met Eng* 40:310-12 Je '33
- Aspects of water gas manufacture. F. J. Dent. *Gas J* (Lond) 201:565-6 Mr 1 '33
- Blue gas operation. H. B. Young. *Am Gas Assn Proc* 1932:901-2
- Carbureting oils; examination and evaluation. *Gas J* (Lond) 203:676 S 27 '33
- Charting the relationship of generator fuel and gas oil. R. L. Ellis. *Gas Age* 71:143 F 11 '33
- Continuous production of water gas from powdered fuels. A. Thau. *Gas Age* 70:705 D 31 '32
- Crude oil as a carbureting material for water gas. M. F. B. Hyde. *Gas Age* 71:301+ Mr 25 '33
- Experience with the ignition arch carburetor. H. M. Riley. *il diags Am Gas J* 139:41-3 S '33
- Les formes nouvelles d'emploi du charbon pulvérisé. C. Berthelot. *diags Génie Civil* 103:203-5 Ag 26 '33
- Influence of bunker enriching oil on composition of distillates from water gas tar. C. W. Griffin. *bibliog il Ind & Eng Chem* 25:89-93 Ja '33
- Low density carbureted water gas. *Am Gas J* 138:36+ Je '33
- New field for the economic utilization of fuel oil. P. T. Dashiell. *bibliog il diags Am Pet Inst Proc* (Refining div) p39-55 Je '32
- Operation of western gas heavy oil equipment in Newport, R.I. E. J. Wilson. *Gas Age* 72:27-30 Jl 8 '33
- Production of blue gas; A.G.A. subcommittee report. *Am Gas Assn Proc* 1932:900-1
- Reduction of steam load by modernizing pumping equipment; Public service electric and gas company, Newark, N.J. J. B. Boniface. *diags Gas Age* 71:541-4 My 27 '33
- Report of the Parker-Russell mining & mfg. co. L. B. Henderson. *il Am Gas Assn Proc* 1932:942-3
- Stand-by water gas plant. H. B. Young. *Am Gas Assn Proc* 1932:890-2
- Use of heavy oils for carburetion. F. W. Hartzel and C. J. Lueders. *diag tables Am Gas Assn Proc* 1932:882-9
- Wassergaserzeugung im koksofen. G. Lorenzen. *diags Stahl & Eisen* 53:33-40 Ja 12 '33
- Water gas manufacture. L. Logan. *Am Gas Assn Proc* 1932:976-1015 [bibliog p1002-15]
- Water gas tar and heavy oil in making carbureted water gas. E. S. Pettyjohn. *bibliog Gas Age* 71:643-6+; 72:9-14, 35-7 Je 24-Jl 8 '33

## Bibliography

Water gas manufacture. L. Logan. *Am Gas Assn Proc* 1932:1002-15

## Testing

High B.t.u. gas test at Philadelphia, Pa. using heavy oil. W. K. Beard. *Am Gas J* 138:30-1 Je '33

## GAS analysis

- Application of gas analysis to industrial problems. M. Bermann. *Gas Age* 72:211-14 S 2 '33
- Bestimmung eines geringen sauerstoffgehaltes in gasen. M. Mugdan and J. Sixt. *diag Angew Chemie* 46:90-1 F 4 '33
- Determination of carbon dioxide in continuous gas streams. W. M. Martin and J. R. Green. *bibliog diags Ind & Eng Chem Anal ed* 5: 114-18 Mr 15 '33
- Determination of organic sulfur in gas. C. W. Wilson. *diag Ind & Eng Chem Anal ed* 5: 20-2 Ja 15 '33
- Diffusion as an aid in the analysis of gaseous paraffin hydrocarbon mixtures. R. A. Baxter and L. J. Beckham. *bibliog Am Chem Soc J* 55:3926-36 O '33
- Exhaust gas analysis as a method of determining carbon content of gasoline. C. C. Minter. *diag Nat Pet N* 25:33-4+ Je 28 '33
- Exhaust gas analysis cuts gasoline consumption; Cities service power prover. *il Transit J* 77:88-9 Mr '33
- Fortschritte in der entnahme und bestimmung kleinster gasmengen. R. A. Kölliker. *il diags Chemische Fabrik* 6:299-304 Jl 12 '33
- Freezing-out method for gasoline analysis of refinery gases. J. L. Oberseider. *Nat Pet N* 25:35 S 13 '33
- Gas analysis by measurement of thermal conductivity. H. A. Daynes. *357p \$4.25 Macmillan* '33
- Gasanalytische mikroverfahren. J. Klärning. *diag Stahl & Eisen* 53:357 Ap 6 '33
- Investigation of nitric oxide in works gas. V. Porrazzo. *il Gas Age* 72:123-4+ Ag 5 '33
- Platinized silica gel as an oxidation catalyst in gas analysis; oxidation of hydrogen and carbon monoxide. K. A. Kobe and E. J. Arveson. *Ind & Eng Chem Anal ed* 5:110-12 Mr 15 '33
- Points in gas analysis. *il Power* 77:312 Je '33
- Progress of naphthology, 1932; analysis and testing. W. H. Thomas. *bibliog Inst Pet Tech J* 19:637-8 Jl '33
- Recent developments in the gum problem. W. H. Fulweiler. *Gas Age* 72:411-12 O 23 '33
- Some developments in test methods for petroleum products. G. B. Murphy and C. Wirth. *il diag Nat Pet N* 25:16-18, 20 Ag 30 '33

## See also

## Air—Analysis

## Flue gas—Analysis

also names of gases, subdivision Analysis

e.g. Hydrogen—Analysis; Oxygen—Analysis

## GAS and oil engines

Are we coming to high-compression tractor engines? P. M. Heldt. *Automotive Ind* 68: 556-8 My 6 '33

Cockerills gas engines at Devonshire works of Staveley coal and iron co. *Gas J* (Lond) 201:678 Mr 15 '33

Doman and Marks, two new air-cooled sixes for commercial service. P. M. Heldt. *il Automotive Ind* 69:368-9 S 23 '33

Gas compression problems—and how one of them was solved by use of the gas engine. W. M. Russell. *il Am Gas J* 138:9-11 Mr '33

Gas engines and compressors. W. L. Russell. *il Power* 77:195-6 Ap '33

Gas furnishes heat, light and power in big office building of the Dallas gas company. J. B. Nealey. *il plan Am Gas Assn Mo* 15:374-5 S '33

Harland and Wolff oil engines for the Iraq pipe line. *il Engineer* 156:193 Ag 25 '33

L'influence de l'état physique de l'atmosphère extérieure sur la puissance des moteurs à combustion. Oestrich. *Génie Civil* 103:90-1 Jl 22 '33

Internal combustion engines. J. A. Polson. 475p Wiley '33

Internal-combustion engines; theory and design. V. L. Maleev. 386p \$4 McGraw-Hill '33

Leipzig technical fair. *il diags Engineer* 155: 328-9 Mr 31 '33

Modified gas engine operates as Diesel. *il Power* 77:425 Ag '33

More gas engines in use. S. A. Lauver. *il Manuf Rec* 101:40 D '32

Morris 24-48 h.p. engine. *il diags Engineer* 156:229 S 8 '33

Natural gas engine power in the refrigerating plant. C. T. Baker. *il Refrig Eng* 26:65-7; Discussion. 67, 102 Ag '33

New Lister high-speed oil engines. *Engineer* 156:415 O 27 '33

New theory to explain concentrated wear of cylinder bore. H. Ricardo. *Automotive Ind* 68:429-30 Ap 8 '33

Oil and gas engines strengthen their positions as prime movers. *il Power* 77:16-19 Ja '33

Oil and gas for ice-plant drives; illustrations. *Power* 77:234 My '33

On the formation and dispersion of oil sprays. K. J. De Juhasz, O. F. Zahn, jr. and P. H. Schweitzer. *il diags Penn State College Eng Exp Sta Bul* 40:1-94 [bibliog p87-93] '32

GAS and oil engines—*Continued*

- Piston rings; their influence on oil consumption and cylinder wear. T. R. Twigger. diags Automobile Eng 22:585-6 D '32
- Power production from sludge gas at Springfield, Ill.; with cost data. W. B. Walraven. il diag Water Works & Sewerage 80:151-6 My '33; Same cond. Eng N 110:682-3 My 25 '33
- Progress report, Oil and gas power division A.S.M.E. Power 76:338; Discussion. 338+ Mid-D '32
- Researches on the internal-combustion engine; equipment and projects at the Massachusetts institute of technology. C. F. Taylor. il Mech Eng 55:689-91 N '33
- Shipping, engineering and machinery exhibition power units for marine and industrial purposes. il diags Automobile Eng 23:359-65 O '33
- Some notes and observations on petrol and Diesel engines. H. R. Ricardo. diags Roy Aeronautical Soc J 37:509-22 Je '33; Abstract. Automotive Ind 68:429-30 Ap 8 '33; Discussion. Roy Aeronautical Soc J 37:523-46 Je '33; Automotive Ind 69:153-4 Ag 5 '33
- Steam and gas engineering. T. E. Butterfield, B. H. Jennings and A. W. Luce. 2d ed 488p \$4.50 Van Nostrand '33
- Two-cycle engine. C. F. Caunter. 277p [biblog p273-4] \$4.50 Pitman '32
- Type de diagramme commun aux moteurs à explosion et à combustion interne. A. Grebel. Génie Civil 102:111-13 F 4 '33
- Worthington pump & machinery corp.'s vertical gas engines. il Steel 92:31-2 F 27 '33

*See also*

- |                                      |                          |
|--------------------------------------|--------------------------|
| Aircraft engines                     | Locomotives, Gas and oil |
| Airplane engines                     | Magnetos                 |
| Automobile engines                   | Motor boats              |
| Carbureters                          | Motor bus engines        |
| Cylinders (engines, etc.)            | Motor cars (railroad)    |
| Diesel engines                       | Motor ships              |
| Gas turbines                         | Motor truck engines      |
| Indicators (for gas and oil engines) | Semi-Diesel engines      |
| Locomotives, Diesel-electric         | Tractors                 |

## Air supply

- Clean the air and save the machine. il Power 77:454-6 S '33

## Bearings

- Some notes and observations on petrol and Diesel engines; cracking of bearings. H. R. Ricardo. diags Roy Aeronautical Soc J 37:509-18; Discussion. 523-46 Je '33

## Combustion research

- Absorption spectra of gaseous charges in a gasoline engine. L. Withrow and G. M. Rassweiler. bibliog il diag Ind & Eng Chem 25:923-31 Ag '33
- Combustion and injection in high-speed compression-ignition engines. D. A. C. Dewdney. Inst Pet Tech J 19:213-14 Mr '33
- Combustion in a high-speed compression-ignition engine. A. M. Rothrock. il U S Nat Advisory Com for Aeronautics 1932:63-77 [biblog p77] '33
- Fuel injection and combustion as shown by studies in Germany. C. Krause. il Power 77:94 F '33
- Fuel vaporization and its effect on combustion in a high-speed compression-ignition engine. A. M. Rothrock and C. D. Waldron. bibliog il diags U S Nat Advisory Com for Aeronautics 1932:629-51 '33
- Infra-red radiation from an Otto cycle engine. S. Steele. bibliog il diags Ind & Eng Chem 25:388-93 Ap '33
- Mixture distribution in cylinder studied by measuring spark plug temperature. H. Rabazzana and S. Kalmár. il diag Automotive Ind 66:450-4, 486-91 Mr 19-26 '32; Same. Automotive Eng 22:587-93 D '32
- N.A.C.A. apparatus for studying the formation and combustion of fuel sprays and the results from preliminary tests. A. M. Rothrock. il diags U S Nat Advisory Com for Aeronautics 1932:549-65 [biblog p565] '33

- Oxidizing agent and peroxide in an Otto cycle engine cylinder. S. Steele. bibliog il diags Ind & Eng Chem Anal ed 5:202-6 My 15 '33
- Single-sleeve-valve research engine and preliminary results from compression-ignition tests; abstract. C. F. Taylor and M. S. Huckle. il diag Automotive Ind 69:370-1 S 23 '33
- Über den verbrennungsverlauf von kohlenwasserstoffdampf-luft-gemischen. H. Schildwäcker. bibliog il diags Angew Chemie 46:587-92 S 16 '33
- Velocities of combustion of gasoline-benzol-air mixtures in high-speed ignition-type motors; abstract. K. Schnauffer. Mech Eng 55:381 Je '33
- Zur berechnung der verbrennungsvorgänge im verbrennungsmotor. W. Wentzel. Zeit Ver Deutsch Ing 77:908-10 Ag 19 '33

## Cooling

- Economies effected by the chemical treatment of cooling waters used for pumping engines. H. M. McClain. Oil & Gas J 31:37+ F 23 '33
- Kühlwasserwärme raschlaufender verbrennungsmotoren. E. Drucker. Zeit Ver Deutsch Ing 77:912-13 Ag 19 '33
- Liberty 12 revamped for tank service has air-cooled cylinders, valves and pistons. il diags Automotive Ind 68:340-2 Mr 18 '33

*See also*

- Automobile engines— Diesel engines—Cooling

## Design

- Blast furnace gas engines. F. J. Taylor. il diags Blast F & Steel Pl 21:216-19 Ap '33
- Drehkolben-gasmaschinen. G. Stauber. diags Zeit Ver Deutsch Ing 77:393-9 Ap 15 '33; Abstract (Rotary-piston-type gas engines). Mech Eng 55:381-3, 443-6 Je-Jl '33
- English electric company new medium speed oil engine. il diags Engineer 155:148-50 F 10 '33
- Hedges double-acting petrol engine. S. Bushnell. S A E J 32:sup27 Ap '33; Same. Automotive Eng 23:339 S '33
- High-speed oil engine design. R. Paterson. il diags Engineer 156:134-6 Ag 11 '33; Abstract. Mech Eng 55:697-8 N '33
- Inlet-port arrangements of six cylinder engines. Bourgeois. Automotive Ind 69:220 Ag 19 '33
- Internal-combustion engines; theory, analysis and design. R. L. Streeter and L. C. Lichty. 4th ed 539p \$4.50 McGraw-Hill '33
- Internal-combustion engines; theory and design. V. L. Maleev. 385p \$4 McGraw-Hill '33
- Jameson supercharged two-stroke engine; abstract. diag Mech Eng 55:185 Mr '33
- Leistungsberechnung der viertakt-grossgasmaschine mit und ohne leistungssteigerung. E. Stier. Zeit Ver Deutsch Ing 77:698-700 Jl 1 '33
- Liberty 12 revamped for tank service has air-cooled cylinders, valves and pistons. il diags Automotive Ind 68:340-2 Mr 18 '33
- Progress of naphthology, 1932; oil engine development. P. N. Everett. il diags Inst Pet Tech J 19:600-16 Jl '33

## Detonation

- Combustion knock in Diesel engines; abstracts. P. H. Schweitzer. Aviation Eng 7:8-9+ D '32; Power Pl Eng 37:310-11 Jl '33
- Determination of the upper limit of duration of detonation in internal-combustion engines; abstract. M. Serruys. diags Mech Eng 54:865-6 D '32
- Ignition quality of engine fuels. G. D. Boerlage. diags Engineer 155:482 My 12 '33
- Ozone, knock-inducer extraordinary. D. B. Brooks. diag Inst Pet Tech J 19:835-44 O '33
- Why 350-hp. Diesel engine knocks with less load. Power 76:314-15 D '32

## Exhaust

- Exhaust gas analysis as a method of determining carbon content of gasoline. C. C. Minter. diag Nat Pet N 25:33-4+ Je 28 '33



## GAS and oil engines—Continued

## Fuel

Application of town gas for the running of high-speed internal-combustion engines. C. M. Walter. Gas J (Lond) 203:302-3; Discussion. 303-4 Ag 9 '33

Classement des combustibles liquides pour moteurs à combustion interne, à injection mécanique. P. Dumanois. Génie Civil 102: 379-80 Ap 22 '33

Indice d'isooctane pour les carburants et indice de cétène pour les huiles combustibles. A. Grebel. Soc Ing Civils Bul 86:41-71 Ja '33; Abstract. Génie Civil 102:207-8 Mr 4 '33

Kraftstoff-fragen im besondern für die verkehrswirtschaft, Welt-erdöl-kongress London 1933. A. v. Philippovich. Zeit Ver Deutsch Ing 77:1086-8 O 7 '33

New fuel for rail motor cars. il Ry Age 94: 896 Je 24 '33

Les qualités des huiles lourdes et leur emploi dans les moteurs à combustion. Génie Civil 102:308-9 Ap 1 '33

Relative fuel consumption of Diesel and gasoline engines. P. M. Heldt. Automotive Ind 69:159 Ag 5 '33

Town gas for electricity supply. Gas J (Lond) 203:86 Jl 12 '33

Valuable source of primary power; producer wood gas use in mine power plant. R. C. Rowe. il Can Min J 54:105-7 Mr '33

Volatility improvement and antiknock rating widens kerosene demand. R. Stansfield and A. R. Starks. Oil & Gas J 32:23+ Ag 3 '33

## See also

Airplane engines—	Automotive fuel
Fuel	Diesel engines—Fuel
Automobile engines—	Motor truck engines—
Fuel	Fuel

## Fuel feeding

Bryce fuel-injection equipment. il diags Engineering 135:128-9 F 3 '33; Aviation Eng 8:17-18+ Mr '33; Automobile Eng 23:171-2 My '33

Bryce fuel injection equipment; Kelvin works, Hackbridge. il diags Engineer 155:114, 115-16 F 3 '33

Combustion and injection in high-speed compression-ignition engines. D. A. C. Dewdney. Inst Pet Tech J 19:213-14 Mr '33

Experiments on the distribution of fuel in fuel sprays. D. W. Lee. bibliog il diag U S Nat Advisory Com for Aeronautics 1932:703-17 '33

Flow in oil-engine injection systems; abstracts. S. J. Davies and E. Giffen. Engineer 155:219-20 Mr 3 '33; Automotive Ind 68:610-14 My 20 '33; Engineering 135:715-17 Je 30 '33

Magnetically actuated spray valves meter fuel; Atlasco system. P. M. Heldt. il diags Automotive Ind 68:280-2, 299 Mr 4 '33

On the formation and dispersion of oil sprays. K. J. DeJuhasz, O. F. Zahn, jr. and P. H. Schweitzer. il diags Penn State College Eng Exp Sta Bul 40:1-93 [bibliog p87-93] '32 (\$1)

Rates of fuel discharge as affected by the design of fuel-injection systems for internal-combustion engines. A. G. Gelalles and E. T. Marsh. bibliog diags U S Nat Advisory Com for Aeronautics 1932:607-19 '33

## See also

Airplane engines—	Diesel engines—Fuel
Fuel feeding	feeding
Automobile engines—	Gas and oil engines—
Fuel feeding	Solid injection

## Ignition

Magnetically actuated spray valves meter fuel; Atlasco system. P. M. Heldt. il diags Automotive Ind 68:280-2, 299 Mr 4 '33

Messung von glühzündungstemperaturen in raschlaufenden zündmotoren; benzin-benzol-luft. K. Schnauffer. il diags Zeit Ver Deutsch Ing 77:927-31 Ag 26 '33

## Knock testing engines

C. F. R. committee determines anti-knock values by new motor method. diag Automotive Ind 67:682-4 N 26 '32

Engine method favored for testing Diesel fuels. P. H. Schweitzer, C. H. Dickinson and M. J. Reed. Automotive Ind 69:217-20 Ag 19 '33

## Lubrication

Colloidal graphite combines with metal surfaces; Oilmag. Automotive Ind 68:99 Ja 28 '33

Corrosion-accelerated wear; its effect in relation to cylinders and bearings. H. J. Young. il Automobile Eng 23:295-7 Ag '33

Effect of metallic (lead) dope on the carbonisation of oil in the combustion space of an engine. R. O. King. il Engineering 136: 183-6 Ag 25 '33; Abstract. Mech Eng 55:770-1 D '33

Oil supplied automatically to engine crankcase. O. Adams. il Power 76:310 D '32

Vergleichprüfung von schmierölen in verbrennungsmotoren. Kelling. Zeit Ver Deutsch Ing 76:1099-1102 N 5 '32

## Manufacture

Builds engines for 100 years; Cooper-Bessemer corp. Foundry 61:37-8 Ap '33

Five hundred operations cost less than nineteen cents; drilling and tapping operations on Lycoming straight-eight cylinder blocks. il diags Mach 39:654-6 Je '33

Foundry practice in relation to engines; abstract. H. E. Beardshaw. Chem Age (Lond) 27:603 D 24 '32

## Repair

Rail car engine repairs. il Ry Mech Eng 107: 335-7 S '33

## Solid injection

Ailsa-Craig oil engine for rail traction. il Engineer 156:193 Ag 25 '33

Belliss and Morcom three-cylinder and six-cylinder airless-injection heavy-oil engines. il diag Engineering 135:210, 211 F 24 '33; Engineer 155:supp vii-viii F 17 '33

English electric company's 750-h.p. six-cylinder airless-injection engine. il diag Engineering 136:62-3, pl 3 Jl 21 '33

Mechanism of atomization accompanying solid injection. R. A. Castleman, jr. il U S Nat Advisory Com for Aeronautics 1932:735-44 [bibliog p744] '33

National gas and oil engine co. 72-b.h.p. four-cylinder airless-injection engine. il diags Engineering 135:124-6 F 3 '33

National gas and oil engine co. 630-b.h.p. six-cylinder airless-injection engine. il diags Engineering 135:41-3 Ja 13 '33

Steiger and Cockerell 7-h.p. two-stroke airless-injection engine. il diags Engineering 135:306, 312 Mr 17 '33; Abstract. Mech Eng 55:383 Je '33

Tangye oil engine; abstract. diags Mech Eng 55:255-6 Ap '33

Tangye 120-h.p. six-cylinder airless-injection engine. il Engineering 134:635; 135:204 N 25 '32, F 17 '33

## Specifications

American stock engines specifications; tabulation. Automotive Ind 68:240-7 F 25 '33

High speed Diesel and heavy oil engines specification; tabulation. Automotive Ind 68: 248-9 F 25 '33

## Superchargers

Jameson supercharged two-stroke engine; abstract. diag Mech Eng 55:185 Mr '33

## Testing

Gas engine vis-à-vis air compressor tests. il plan Engineer 155:556, 557 Je 2 '33

Improved engines demand and get improved testing dynamometers. il Elec J 30:19 Ja '33

Testing of high speed internal combustion engines, with special reference to automobile and aircraft types and to the testing of automobiles. A. W. Judge. 2d ed rev & enl 459p [bibliog p423-4] \$7.50 Van Nostrand '33

## Valves

Alloys superior to carbon steel in endurance test of valve springs. P. M. Heldt. diags Automotive Ind 67:672-5+ N 26 '32

**GAS and oil engines—Valves—Continued**

Metallurgical problems arising from internal combustion engine valves. J. R. Handforth. Iron & Steel Inst J 126:93-131, pl 5-16a no 2 '32; Excerpts. Automobile Eng 22:468-75 O '32; Engineering 135:55-8, 83-5 Ja 13-20 '33; Abstract. Engineer 154:309 S 23 '32; Discussion. Iron & Steel Inst J 126:132-57 no 2 '32; Engineering 134:350 S 23 '32; Engineer 154:309 S 23 '32

Successful valve-design considerations. H. L. Horning. S A E J 32:224-5 Je '33; Same. Automobile Eng 23:282 Ag '33  
Surging in helical valve springs. J. Dick. Roy Aeronautical Soc J 37:641-64 Jl '33

**GAS and oil engines, Marine**

Ailsa Craig 72-h.p. six-cylinder marine engine. il diags Engineering 136:252, 253 S 8 '33

British oil engine design. W. S. Burn. diags Engineer 155:506-7 My 19 '33

Energy problems of marine transport; reports at World power conference. Engineer 156:117 Ag 4 '33

Kohler small, low-cost electric plant for yacht and boat service. il Marine Eng 33:404 N '33

Motor tug John Wilson. il Engineer 155:76 Ja 20 '33

Oil engines for H.M.S. Thames. il Engineer 155:226-7 Mr 3 '33; Engineering 135:252, 253-9 Mr 3 '33

Parsons 160 b.h.p. marine oil engine. il Engineer 154:545 N 25 '32

Scripps 12-cylinder marine engine. il Automotive Ind 69:372 S 23 '33

**See also**

Diesel engines, Ma- Motor boats  
rine Motor ships

**Cooling**

Water-cooled piston-rods in two-stroke-cycle double-acting oil engines. S. F. Dorey. Engineer 155:458 My 5 '33; Abstract. Engineering 135:484 My 5 '33; Discussion. Engineer 155:444-5 My 5 '33; Engineering 135:484 My 5 '33

**Exhibitions**

Marine engines; a review of the more interesting exhibits at Olympia. il diags Automobile Eng 22:543-8 N '32

Marine motor show, Olympia. il diags Engineer 154:477-9 N 11 '32; Abstract. Mech Eng 55:124 F '33

Shipping, engineering and machinery exhibition at Olympia. il diags Engineer 156:224-30, supp i-xvi S 8 '33; Engineering 136:349-54 S 8 '33

**Foundations**

Motorfundamente auf schiffen. W. Scholz. il diags Zeit Ver Deutsch Ing 76:1141-7 N 19 '32; Excerpts (Marine oil engine foundations). Marine Eng 38:178-81 My '33

**Gearing**

Parsons oil engine company marine reverse gear. diag Engineer 155:229 Mr 3 '33

**Specifications**

American stock engines specifications; tabulation. Automotive Ind 68:240-7 F 25 '33

**Vibration**

Oil engine generator set with anti-vibration attachment. il Engineer 156:144 Ag 11 '33

**GAS appliances**

Amazing growth in the development of appliances. il Am Gas J 139:64, 66-7 S '33

Century of progress exposition another milestone for gas. il Gas Age 71:614-26+ Je 17 '33

Design and operation of industrial gas appliances. E. A. Leask. diags Gas J (Lond) 202:622-5 My 31 '33

Gas appliance trade advances during last few years. Gas Age 71:137-8+ F 11 '33

Gas plant and apparatus; exhibits in the gas industries section of the British industries fair. il Gas J (Lond) 201:478-97 F 22 '33

Modern gas installation at a Leamington Spa hotel. il Gas J (Lond) 203:209-10 Jl 26 '33

Non-stop pilot control. E. J. Brady. diags Am Gas J 139:24-5 O '33

**See also**

Gas burners	Gas ovens
Gas cooking	Gas stoves
Gas heaters	Gas water heaters
Gas industry	Refrigerators, Gas

**Maintenance and repair**

Appliance inspection and adjustments. Am Gas Assn Mo 15:39-40+ F '33

Appliance servicing; A.G.A. committee report. E. A. Johnson. Am Gas Assn Proc 1932:458-70

Present day practice in customer service. F. A. Lydecker. Am Gas Assn Proc 1932:803-6; Same. Gas Age 70:488-9 N 5 '32; Excerpt. Am Gas J 137:24-5 N '32; Discussion. Am Gas Assn Proc 1932:807-9

Some thoughts on servicing activities. H. D. Lehman. Am Gas Assn Proc 1932:428-30; Discussion. 430-2

**Merchandizing**

Advantages and disadvantages of dealer co-operation. H. H. Cuthrell. Gas Age 71:647-8+ Je 24 '33

Alabama-Mississippi sales maintain high levels. J. A. Johnson. Gas Age 72:91 Jl 22 '33

Associated's Ithaca district cooperates with dealers. W. J. Cashman and F. S. Hoefler. il Gas Age 71:57-8+ Ja 21 '33

Dealer cooperative activities on the Pacific coast. F. M. Banks. Am Gas Assn Proc 1932:423-8

Demonstration coaches build gas load; Peoples natural gas company. M. P. Sullivan. il Gas Age 72:15-16 Jl 1 '33

How telephone selling can help find good prospects. il Gas Age 72:125-6 Ag 5 '33

How the tip-bonus plan helps Colorado public service. E. H. Hoover. Gas Age 72:87-8 Jl 22 '33

Joint dealer-utility display boosts sales in Houston. C. N. Tunnell. Gas Age 70:565-6 N 26 '32

Keep the customer sold after the sale. M. E. Bridston. Gas Age 70:566+ N 26 '32

Los Angeles helps dealers get appliance sales. T. R. Thompson. Gas Age 70:604-5 D 3 '32

Mountain states utilities and retailers adopt code. Gas Age 71:632 Je 17 '33

\$1,683,656 of gas appliances sold by dealer-help plan. H. H. Cuthrell. Dom Eng 141:99-100 Ja '33

Plumbing contractor soft pedals plumbing and goes gas. R. C. Nason. Am Gas J 138:49-50 Ap '33

Rocky Mountain units frame merchandising code. Elec W 102:2 Jl 1 '33

Utilizing the plumber dealer as a company representative to receive applications for gas service. H. R. Jesper. Am Gas Assn Mo 15:99-100 Mr '33

What about new business? Am Gas J 138:29-31 Mr '33

**See also**

Gas companies—Appliance selling

**Safety devices and measures**

Effect of altitude on the limits of safe operation of gas appliances. J. H. Eiseaman, F. A. Smith and C. J. Merritt. il U S Bur Stand J Research 10:619-37 My '33; Same cond. Am Gas J 138:19-23+ Ap '33; Abstract. J Fr Inst 215:602-4 My '33

List of inspected gas, oil, and miscellaneous appliances, January, 1933. 98p National board of fire underwriters, 207 East Ohio st, Chicago '33

**Standards**

Construction, performance, and installation standards for gas-burning appliances. R. M. Conner. Industrial Standardization. 4:49-53; Mr '33



**GAS appliances—Standards—Continued**

Five additional sets of A.G.A. requirements approved as American standard. Am Gas Assn Mo 15:466 N '33

Proposed A.G.A. listing requirements for gas, pressure, and temperature control accessories. H. W. Smith, jr. Am Gas Assn Mo 15:463+ N '33

Standards for gas appliances and accessories and their relation to industrial progress. F. R. Wright. Am Gas Assn Mo 15:390-1 S '33

**Testing**

A.G.A. laboratory tests expose deficiencies of so-called gas savers. Am Gas Assn Mo 15:457 N '33

Effect of altitude on the limits of safe operation of gas appliances. J. H. Eiseman, F. A. Smith and C. J. Merritt. *il* U S Bur Stand J Research 10:619-37 My '33; Same cond. Am Gas J 138:19-23+ Ap '33; Abstract. J Fr Inst 215:602-4 My '33

Scientific investigation and the utilization of town gas. J. W. Wood. Gas J (Lond) 200: 802-4 D 21 '32

**See also**

American gas association—Appliance testing laboratory

**GAS appliances, Domestic**

Gas at the Ideal home exhibition. Gas J (Lond) 202:38-40 Ap 5 '33

Home of controlled climate features gas throughout. *il* Gas Age 72:257+ S 16 '33; Same. Am Gas Assn Mo 15:458-9 N '33

Kitchen compact introduced; domestic uses of gas combined in one layout. *il* Gas Age 71:612 Je 10 '33

Observations of a fitter on the progress of the gas industry. W. J. Viney. Gas J (Lond) 200:862-3 D 28 '32

Upstairs and down; gas equipment in remodeled apartment. E. C. Shanks. *il* Gas Age 72:217-18 S 2 '33

Why kitchen planning? D. Kahl. *il* Gas Age 72:229+ S 9 '33

**See also**

Gas burners	Gas stoves
Gas cooking	Gas water heaters
Gas heaters	Refrigerators, Gas

**Merchandizing**

Appealing to the feminine buyer. A. Freeburg. Am Gas J 138:19-21 Ja '33

Does the gas industry want the domestic kitchen load? A. V. S. Lindsley. Am Gas Assn Mo 15:333-4+ Ag '33

Hartford five-year purchase plan beats electric competition. H. C. Wilson. *il* Gas Age 72: 115-16 Jl 29 '33

Home service can promote modern gas kitchens. R. Kleinmaier. Gas Age 72:67-9 Jl 15 '33; Same. Am Gas J 139:20-2 Jl '33

Home service conference and appliances course draw a large attendance. Gas Age 71: 343 Ap 1 '33

How bottled gas opens market for equipment and appliances. R. W. Thomas. Gas Age 70: 545-7 N 19 '32

Kitchen modernization; A.G.A. Home service subcommittee report. Am Gas J 139:41-3 O '33

Mobile sales offensive; Peoples natural gas company's traveling display kitchen. *il* Am Gas J 138:37-8 Je '33

Model gas kitchen increases sales for Philadelphia store. *il* Am Gas Assn Mo 15:275-6 Jl '33

Modern automatic all-gas kitchen plan. K. Clevenger. Am Gas Assn Proc 1932:692-5

Modernizing the kitchen; symposium. Am Gas J 139:35-7 O '33

N.Y.-N.E. sales group starts drive on domestic load. Gas Age 72:5-6+ Jl 1 '33

Permanent model kitchen sells gas appliances; Allentown-Bethlehem gas company. F. E. Kunkel. *il* Gas Age 72:216+ S 2 '33

Philadelphia kitchen planning headquarters at gas load. E. A. Malony. *il* Gas Age 72:394-6 O 21 '33

Selling gas to Martha and Mary. G. Gardner. Gas Age 70:621-2+ D 10 '32

Visaletter carries picture of gas service into home. *il* Gas Age 72:450 N 4 '33

Y.O.M.! folder brings results in outside campaign. Gas Age 70:671 D 24 '32

**Safety devices and measures**

Hazards in connection with natural gas. P. M. Biddison. Gas Age 70:681-3 D 24 '32

**See also**

Gas stoves—Safety devices

**GAS as fuel**

American gas association publishes new basic data on high temperature combustion. E. E. McCormick. Am Gas Assn Mo 15:468 N '33

American gas makes Mexican beer. J. B. Nealey. *il* Gas Age 71:297-8+ Mr 25 '33; Abstract. Am Gas J 139:33 Jl '33

Application of gas to the heavy industries. W. C. Jackson. *diags* Inst Mech Eng Proc 123:727-43 '32

Application of gas to the tinplate and sheet industries. A. D. Howells. *diags* Gas J (Lond) 201:313-15; Discussion. 315-16 F 8 '33

Application of tunning gas for the running of high-speed internal-combustion engines. C. M. Walter. Gas J (Lond) 203:302-3; Discussion. 303-4 Ag 9 '33

Appraisal of industrial gas fuels. A. E. Blake. Iron Age 131:816-18+, 854-5 My 25-Je 1 '33

Beauty parlors—an undeveloped source of revenue for the gas companies. *il* Am Gas J 139:39 S '33

Car-bottom annealing furnace installations. H. M. Heyn. *il* Iron Age 132:20-1+ Ag 24 '33

Carburizing by continuous gas process proves economical. H. M. Heyn. *il* Steel 92:17-19 Ja 9 '33

Cent's worth of fuel does 100 lb. of work in the jappanning department of the Midland steel products co. at Detroit. J. B. Nealey. *il* Automotive Ind 68:163-4 F 11 '33

Changing aspect in the competitive market for industrial fuels. H. O. Loebell. Am Gas Assn Mo 15:428-32 O '33; Same cond. Gas Age 72:383-6+ O 21 '33; Abstract. Am Gas J 139:26-8 O '33

Church kitchens. *il* Am Gas Assn Mo 15:335 Ag '33

Coal gas as fuel for road transport vehicles. C. H. S. Tupholme. *il* Ind & Eng Chem News ed 11:193-4 Je 20 '33; Abstract. Am Gas J 139:28-9 Jl '33

Coal-gas vehicles and the 1933 finance act. Gas J (Lond) 203:304 Ag 9 '33

Combustion of solid, liquid, and gaseous industrial fuels. H. L. Pirie. Gas J (Lond) 201:96-8 Ja 11 '33

Continuous glass furnace and automatic bottle forming machines. J. B. Nealey. *il* Am Gas Assn Mo 15:16-17+ Ja '33

Continuous-type furnaces employed in forging aluminum alloys. J. B. Nealey. *il* *diag* Iron Age 132:22-3+ Ag 31 '33

Co-ordinated heat conservation at the Normanby Park, steel works, Scunthorpe; abstract. W. J. Brooke. Engineer 156:288-9 S 22 '33; Discussion. Engineer 156:288-9 S 22 '33; Engineering 136:339 S 22 '33

Degussa high temperature gas furnace. *il* Metal Ind 31:255 Jl '33

Design and operation of industrial furnaces using gas, oil, and electricity. S. N. Brayshaw. Gas J (Lond) 201:676 Mr 15 '33

Determination of the effect on wall tile glazes of direct-firing with gas. A. P. Watts. *il* Am Gas Assn Mo 15:131-3+ Ap '33

Development of gas as an industrial fuel. J. E. White. *il* *diag* Gas J (Lond) 202:533-42 My 24 '33; Discussion. 202:755-6+; 203: 37-40 Je 7, Jl 5 '33

Developments in the use of town gas for steam and power production. A. J. Cruise. Gas J (Lond) 202:108-9 Ap 12 '33

Economic utilization of fuel. F. W. Burstall. Gas J (Lond) 200:699-700 D 7 '32

Efficiency furnace for continuous metal melting. *il* Gas J (Lond) 201:749 Mr 22 '33

**GAS as fuel—Continued**

- Enameling in automatic gas furnaces; American stove co. J. B. Nealey. *il* diags Iron Age 131:901-2+ Je 8 '33; Same. *Am Gas Assn* Mo 15:238-9 Je '33
- Energy supply of large-scale industry; reports at World power conference. *Engineer* 156:81 Jl 28 '33
- Flame temperatures of combustible gas-oxygen mixtures. H. H. Lurie and G. W. Sherman. *bibliog il diag Ind & Eng Chem* 25:404-9 Ap '33
- Fuel comparisons for billet reheating furnaces. G. W. Akerlow. *diags plans Gas Age* 72: 103-6 Jl 29 '33
- Fuel gases; air-gas ratios, heating values and costs; data sheet. *Power* 77:194 Ap '33
- Fuels in heat treating furnaces; influence of intermittent schedules on costs. H. J. Gregg. *il Metal Prog* 23:39-40 Mr '33
- Furnace atmospheres and steel. C. Upthegrove. *Am Gas Assn Mo* 15:181-4 My '33
- Gas aids the potter. J. B. Nealey. *il Sci Am* 148:161 Mr '33
- Gas carburizing process is widely adopted in 1932. *il Steel* 92:92-3 Ja 2 '33
- Gas-fired tire heater. J. B. Nealey. *il diag Ry Mech Eng* 106:511-12 D '32
- Gas for commercial and industrial purposes; report of a conference of representatives of the National gas council, the Institution of gas engineers, and the British commercial gas association. *Gas J (Lond)* 201:545-51 Mr 1 '33
- Gas for motor vehicles. *Gas J (Lond)* 203: 349 Ag 16 '33
- Gas fuel improves the lime kiln efficiency. J. B. Nealey. *il Chem & Met Eng* 40:356-7 Jl '33
- Gas furnaces in bolt and nut plant; Graham works of the Pittsburgh screw & bolt co; illustrations. *Iron Age* 132:30 O 19 '33
- Gas heat application; general forum on industrial uses of gas. *Am Gas Assn Proc* 1932:613-37
- Gas in industry. E. S. Davies. *Gas J (Lond)* 201:98-100; Discussion. 100 Ja 11 '33
- Gas in the modern brewery. C. W. Swenson. *il diag Gas Age* 72:227-8 S 9 '33
- Gas in the pottery industry. A. Mackay. *Gas J (Lond)* 202:277 My 3 '33
- Gas in the wire drawing industry. J. Bradbury. *Gas J (Lond)* 201:199-201 Ja 25 '33; Discussion. 201:263-4 F 1 '33
- Gas-works fuels for omnibus engines; creosote oil and compressed coal gas; abstract. D. E. Bell. *Gas J (Lond)* 202:809; Discussion. 809-10 Je 14 '33
- Heat treatment furnaces. *il diag Automobile Eng* 23:241-4 Jl '33
- Improving open-hearth furnace design. W. C. Buell, jr. *Steel* 92:29-30 My 15; 32-3 My 22; 29-30 Je 12 '33
- Industrial furnaces for gas. L. E. Biemiller. *il diags Am Gas J* 138:16-18 Ja '33
- Industrial uses of gas. W. M. Carr. *il diags Gas J (Lond)* 201:552-8, 626-30 Mr 1-8 '33; Discussion. 201:630-1 Mr 8 '33
- Kleinverbraucher von koksofengas in der eisenindustrie. A. Herberholz. *diags Stahl & Eisen* 53:417-22 Ap 27 '33
- Lime production methods of Europe and America. V. J. Azbe. *il Rock Prod* 35:21-4 D 10 '32
- Modern gas heated equipment for industrial drying processes. W. Hind. *il Gas J (Lond)* 201:47-50; Discussion. 50-1 Ja 4 '33
- New Bell type retort furnace. *il Am Gas J* 138:54+ Ap '33
- New crucible furnace; further aid to industrial gas sales. *il diag Gas J (Lond)* 202:806 Je 14 '33; Abstract. *Am Gas J* 139:28 Ag '33
- Nonferrous melting at Mare Island. J. B. Nealey. *il Foundry* 60:44-5 D '32
- Notes on the utilisation of blast-furnace gas. W. B. Baxter. *diags Engineering* 136:318-20 S 15 '33; Same cond. with tables. *Blast F & Steel Pl* 21:593-4 N '33; Abstracts. *Engineer* 156:289 S 22 '33; *Elec R (Lond)* 113: 392 S 22 '33
- Presidential address before Wales and Monmouthshire junior gas association. C. S. Thane. *Gas J (Lond)* 200:500-1 N 16 '32
- Principles of recuperation applied to industrial gas furnaces. E. A. Luscombe. *bibliog il diags Am Gas J* 137:9-12+ D '32
- Producer-gas fired settings. G. Alliat. *diag Gas J (Lond)* 203:398-9 Ag 23 '33
- Producer gas for heating drill steel. N. H. Auret. *Can Min J* 54:384 O '33
- Refined fuels, so-called, for heat treating. R. M. Keeney. *Iron Age* 131:827-8 My 25 '33
- Research in fundamentals of combustion space requirements in high temperature gas furnaces. E. O. Mattocks. *il diags Am Gas Assn Mo* 15:289-94, 323-6 Jl-Ag '33
- Royal mint; extensive application of gas. *il diag Gas J (Lond)* 201:40-1 Ja 4 '33
- Running-in engines by gas. O. W. Roskill. *il Automobile Eng* 23:337-9 S '33
- Savings from proper selection of burner equipment. H. M. Heyn. *il Iron Age* 131: 134+ Ja 19 '33
- Scandinavian sectional meeting of the World power conference. *Engineering* 136:450 O 20 '33
- Sewage to fertilizer in gas-fired rotary dryers; Houston, Texas. J. B. Nealey. *flow sheet il diag Am Gas Assn Mo* 15:106-7 Mr '33
- Special cast iron heaters and heat exchangers will lower cost of treating oil emulsions. L. N. Hunter. *il diag Oil & Gas J* 32:8+ Ag 17 '33
- Special furnace equipment for bolt production. J. B. Nealey. *il Steel* 93:27-9 S 25 '33
- Switch heaters eliminate ice and snow troubles in street railroad yards. J. B. Nealey. *il diags Gas Age* 71:285-6 Mr 18 '33
- Terra cotta makers find gas best fuel to meet demand for color. J. B. Nealey. *Am Gas Assn Mo* 15:53-5+ F '33
- Town-gas 'bus in daily service. *il Gas J (Lond)* 202:37 Ap 5 '33
- Town gas for electricity supply. *Gas J (Lond)* 203:86 Jl 12 '33
- Town's gas for motor vehicles. *il diag Engineer* 154:647 D 23 '32; *Automotive Ind* 68: 170 F 11 '33
- Town's-gas-operated motor vehicle. *il Engineering* 134:605-6 N 18 '32; Abstract. *Gas J (Lond)* 200:556 N 23 '32
- Use of gas diffusion burner system in forging work. H. M. Heyn. *il Iron Age* 131:945+ Je 15 '33
- Use of gaseous fuel in South Wales industries. A. J. Cruise. *Soc Chem Ind J (Chem & Ind)* 52:124-6 F 10 '33
- Uses for gas in industry. G. D. Morton. *Gas J (Lond)* 202:221-2; Discussion. 222-3 Ap 26 '33
- Valuable source of primary power; producer wood gas use in mine power plant. R. C. Rowe. *il Can Min J* 54:105-7 Mr '33
- Where do we go with air conditioning? L. C. Harvey. *Gas Age* 72:391-2 O 21 '33
- Zündgeschwindigkeit von einfachen gasen und gasmischungen. F. Kofler. *Stahl & Eisen* 53: 19-21 Ja 5 '33
- See also*
- |   |                              |
|---|------------------------------|
| Blast furnace gas   | Gas burners                  |
| Boilers—Gas firing  | Gas cooking                  |
| Butane  | Gas heaters                  |
| Coke-oven gas   | Gas heating                  |
| Electric plants (central stations)—Gas engine plants              | Gas ovens                    |
| Gas, Producer   | Gas producers                |
| Gas and oil engines   | Gas stoves                   |
| Gas appliances  | Sewage sludge—Gas production |
| <i>also</i> Chicago—World's fair, 1933—Gas exhibits and equipment |                              |

**Bibliography**

- Bibliography of recent industrial publicity. *Am Gas Assn Mo* 15:63 F '33
- Supplementary industrial gas bibliography. *Am Gas Assn Mo* 14:33, 311-12, 505-6; 15: 336-7 Ja, Jl, D '32, Ag '33
- Women's magazines stress value of gas as fuel. *Am Gas Assn Mo* 15:387 S '33



## GAS as fuel—Continued

## Natural gas

- Advertising gas heat after changeover in St Louis. R. D. Lewis. *il Gas Age* 71:379-80+ Ap 15 '33
- Bake oven conversion progress on the Pacific coast. J. F. Aicher. *il Gas Age* 71:511-13 My 20 '33
- Competing natural gas cuts coal consumption. *Oil & Gas J* 31:74 D 1 '32
- Competitive situation in commercial sales; cost data. G. W. Turner. *Am Gas Assn Mo* 15:284-8+ J1 '33
- Conversion of periodic kilns from coal firing to natural gas for firing glazed clay products. R. F. Grady, Jr. *il Am Cer Soc J* 16:141-51 Mr '33; Discussion. C. F. Geiger. 16:203-4 Ap '33
- Domestic and commercial use of natural gas increased in 1931. *Gas Age* 70:588 N 26 '32
- Facing facts of competition in commercial gas sales; cost data, gas and coal firing compared. G. W. Turner. *Gas Age* 71:360-6 Ap 8 '33
- Firing a continuous kiln with natural gas. M. A. Taylor. *Brick & Clay Rec* 82:135-6 Ap '33
- Gas conversions gain in manufactured gas territory. *Heat & Ven* 30:40 F '33
- Gas heating shows savings in Salt Lake City schools. H. Barker. *il Heat & Ven* 30:24-8 Je '33
- Highest pressure steam plant uses natural gas; Public service company of San Antonio, Texas. J. B. Nealey. *il Am Gas J* 137:29-30 S '32; Same. *Am Gas Assn Mo* 14:496-7+ D '32; Same. *Manuf Rec* 101:34-5 D '32
- Home-heating saturation grows 6.5 per cent in 10 weeks. C. A. Nash. *Gas Age* 71:251-4 Mr 11 '33
- How gas fuel has been applied at the Tooele smelter. J. B. Nealey. *il Min & Met* 14:375-6 S '33
- How industrial gas research solved one tough problem; adapting graphite crucible to gas firing. F. Talcott. *Gas Age* 72:235-6+ S 9 '33
- Monterrey smelter uses natural gas. J. B. Nealey. *il Eng & Min J* 134:233-4 Je '33
- Natural gas can replace cheaper fuel in sea-board industrial operations. P. Golsan. *Oil & Gas J* 32:73 Ag 10 '33
- Natural gas does it better on Texas-Pacific railroad. *il Gas Age* 72:441 N 4 '33
- Natural gas greets a substitute; gas manufactured from Diesel oil to replace natural gas when an emergency arises. N. V. Davidson. *il Sci Am* 148:36-7 Ja '33
- Natural gas is my best employee. E. H. Hoover. *il Gas Age* 72:215+ S 2 '33
- Natural gas proves efficient in the beet sugar industry. L. Cuklin. *il Gas Age* 71:249-50+ Mr 11 '33
- Open-hearth furnaces with natural gas firing. H. J. Williams. *il Iron Age* 132:11-13 Ag 31; 14-17 S 7; 20-2 S 14; 13-15 S 21; 36-7+ S 28 '33
- Our competitors. F. H. Brooks. *Am Gas Assn Proc* 1932:121-3
- Public utility consumption of fuel in 1929. W. H. Young. *maps Coal Age* 38:19-21 Ja '33
- Small automatic stokers vs. natural gas; cost data. C. W. Smith. *Am Gas Assn Mo* 15:253-4 Je '33
- Some general principles of natural gas control. *Locomotive* 39:183-4 Ap '33
- Southern gas-steam electric plants. J. B. Nealey. *il Manuf Rec* 102:24-5 F '33
- Steam generation; A.G.A. forum on gas as fuel. *Am Gas Assn Proc* 1932:631-4

## GAS associations

- A.G.A. affiliated associations how they started and how they have grown. A. G. Schroeder and others. *Am Gas Assn Mo* 14:510-11+; 15:15+ D '32-Ja '33
- Associations affiliated with A.G.A.; list with names of officers. *Am Gas Assn Mo* 15:35 Ja '33 [cont monthly]
- Gas appliance manufacturers organize to further Industrial recovery act. *Am Gas J* 139:34-5 Ag '33

Industry's leaders discuss vital questions; industry control bill. F. W. Parsons. *Gas Age* 71:589-90+ Je 10 '33

New Englanders active in association work 62 years. C. Belden. *Am Gas Assn Mo* 15:242-5 Je '33

**GAS black.** See Carbon black

## GAS boosters

Remote control of pressure in gas mains; Selsyn system. *il diag Gas J (Lond)* 202:410-11 My 17 '33

## GAS burners

- Application of gas fuel to coal-fired boilers. H. F. Rehfeldt. *il Am Gas Assn Mo* 15:158-61 Ap '33
- Application of gas to the tinplate and sheet industries. A. D. Howells. *diags Gas J (Lond)* 201:313-15; Discussion. 315-16 F 8 '33
- Bornkessel burner. *il Chem Age (Lond)* 28:340 Ap 15 '33
- British research board designs burner for heating retorts. *Gas Age* 72:135 Ag 5 '33
- Brûleur pour chambres de semi-carbonisation, alimenté avec du gaz à forte teneur en méthane. *diag Génie Civil* 102:596-7 Je 24 '33
- Concentrating on better sales helps exceed revenue quota; Pacific gas and electric company. F. Talcott. *Gas Age* 70:631-2 D 10 '32
- Economic utilization of fuel. F. W. Burstall. *Gas J (Lond)* 200:699-700 D 7 '32
- Economy and capacity of glass tanks; effect of flame luminosity and of other variables. W. Trinks. *diags Ind & Eng Chem* 25:865-70 Ag '33
- Gas companies drive for home heating business in Greater Chicago. P. Truesdell and E. A. Dieterle. *il Nat Pet N* 25:31-2+ O 11; 35-6 N 1 '33
- Heating galvanizing kettles by diffusion combustion. H. M. Heyn. *il Steel* 93:24-5 N 13 '33
- Industrial uses of gas. W. M. Carr. *il diags Gas J (Lond)* 201:552-3, 626-30 Mr 1-8 '33; Discussion. 201:630-1 Mr 8 '33
- Lighting large boiler units with gas. C. W. Swenson. *il Gas Age* 72:83-4 J1 22 '33
- Non-stop pilot control. E. J. Brady. *diags Am Gas J* 139:24-5 O '33
- Ports of open-hearth furnaces fired with natural gas. H. J. Williams. *diags Iron Age* 132:14-17 S 7 '33
- Redrilling of manufactured gas appliance burners for adaption to higher B.t.u. gas. J. A. Perry. *Am Gas Assn Mo* 15:165 Ap '33
- Research in fundamentals of combustion space requirements in high temperature gas furnaces. E. O. Mattocks. *Am Gas Assn Mo* 15:325-6 Ag '33
- Research on noise abatement in industrial gas burners. H. W. Smith, jr. *Gas Age* 70:643-8 D 17 '32
- Research points way to silent industrial gas utilization. D. W. Chapman. *Am Gas Assn Mo* 15:467 N '33
- Savings from proper selection of burner equipment. H. M. Heyn. *il Iron Age* 131:134+ Ja 19 '33
- Trouble shooting on small bakery conversion jobs. O. Stirling, jr. *il diags Gas Age* 71:147-9 F 11 '33
- Use of gas diffusion burner system in forging work. H. M. Heyn. *il Iron Age* 131:945+ Je 15 '33

## See also

Bunsen burner  
Hammond burners

## Testing

- Effect of altitude on the limits of safe operation of gas appliances. J. H. Eiseman, F. A. Smith and C. J. Merritt. *il U S Bur Stand J Research* 10:619-37 My '33; Same cond. *Am Gas J* 138:19-23+ Ap '33
- Making uniform jets. *il Gas J (Lond)* 201:93 Ja 11 '33

## GAS burners, Laboratory

- Regulating the air supply of micro burners. C. A. Daly. *Science* 77:413 Ap 28 '33

**GAS cleaning***See also*

- Blast furnace gas— Gas purification
- Cleaning Gas washers
- Electric precipitation Gas washing

**GAS companies**

- Banbury gas company; centenary celebrations. *il* Gas J (Lond) 203:559-61 S 13 '33
- Change—the soul of progress. F. W. Parsons. Gas Age 72:141-2+ Ag 12 '33
- Companies enter cash prize contest to sell gas refrigerators. *Am Gas Assn Mo* 15:377-8 S '33

*See also*

- American gas association Consolidated gas company of New York
- Brooklyn Union gas company Consolidated gas, electric light and power company of Baltimore
- Columbia gas and electric corporation

**Accidents**

- Gas employee accidents for the year 1931—United States and Canada; tabulation. *Am Gas Assn Proc* 1932:71-84

**Accounting**

- Account designation plan for public utility companies. C. W. Goris. *maps Am Gas Assn Mo* 15:278-9 J1 '33
- Accounting section, A.G.A. committee reports. *il Am Gas Assn Proc* 1932:201-404
- Accounts payable plans. H. A. Ehrmann. *il Am Gas Assn Proc* 1932:264-303; Discussion. 303-5
- Budgetary control covering fixed capital expenditures during period of construction. E. A. Berry. *Am Gas Assn Proc* 1932:169-80
- Cash budget. F. J. Bischoff, jr. *Am Gas Assn Proc* 1932:180-1
- Control of charges and profits of statutory gas undertakings. W. Cash. *Gas J (Lond)* 203:205-6 J1 26 '33
- Credit and collection system for small companies. L. A. Mayo. *Am Gas Assn Proc* 1932:387-95; Discussion. 396-8
- Customer complaints. L. J. Hamilton. *Am Gas Assn Proc* 1932:144-60
- Departmental budgets. W. F. R. Münnich. *Am Gas Assn Proc* 1932:165-8
- Effective collection procedure for current delinquent bills. J. G. Waddick. *Am Gas Assn Proc* 1932:399-403
- Finding the increment cost of a special class of service; gas for space heating and suburban commutation to and from New York city. *Pub Util* 11:312-14 Mr 2 '33
- Gas industry needs proper merchandise accounting. *Gas Age* 71:175-6 F 18 '33
- Mechanization in gas offices. C. R. Curtis. *Gas J (Lond)* 202:807-9 Je 14 '33
- Rental office system in a 300 million works employing accounting machinery; Ramsgate corporation gas and water department. F. G. Sale. *Gas J (Lond)* 200:623-7; Discussion. 627 N 30 '32
- Scheduling accounting work to facilitate preparation of monthly balance sheet and income account. *Am Gas Assn Mo* 15:384-5 S '33
- Transferring final charges vs. rendering final bills. H. F. Hutcheson. *Am Gas Assn Mo* 15:250-1 Je '33
- Why expenditures for utility advertising should be listed as operating costs. R. B. Calkins. *Pub Util* 12:373-6 S 28 '33
- Wrinkles; compiled by the 1931-32 A.G.A. committee on mechanical office equipment. *il Am Gas Assn Proc* 1932:315-73; Discussion. 374-9

**Appliance renting**

- Connecticut rental-purchases helped sell water heaters. *Gas Age* 71:227+ Mr 4 '33
- Possibilities of rental plan for heating appliances; A.G.A. subcommittee report. *Am Gas Assn Proc* 1932:488-93

**Appliance selling**

- Advantages and disadvantages of dealer cooperation. H. H. Cuthrell. *Gas Age* 71:647-8+ Je 24 '33

Advertising and canvassing help sales at Charleston; South Carolina public service company. F. E. Kunkel. *Gas Age* 71:119 F 4 '33

Analyzing the customers' needs assures satisfaction. R. C. Nason. *Gas Age* 72:195 Ag 26 '33

Associated's Ithaca district cooperates with dealers. W. J. Cashman and F. S. Hoefler. *il Gas Age* 71:57-8+ Ja 21 '33

Combination utilities should not suppress electric cooking. G. W. Van Derzee. *N E L A Bul* 19:659-60 N '32

Dealer cooperative activities on the Pacific coast. F. M. Banks. *Am Gas Assn Mo* 14:512-14 D '32

Dealer relations. C. E. Paige. *Am Gas Assn Proc* 1932:35-7

Energetic campaign to make housewives conscious of gas economy. R. D. Lewis. *il Am Gas Assn Mo* 15:179-80+ My '33

Enlisting employees' efforts. J. H. Hartog. *Am Gas J* 138:30-1 Ja '33

Gas industry needs proper merchandise accounting. *Gas Age* 71:175-6 F 18 '33

Gas service sales departments go over the top in 1932. C. D. Greason. *il Gas Age* 70:537-9 N 19 '32

How Associated uses employee business-building plan. H. M. Henry. *Gas Age* 71:277-81+ Mr 18 '33; Abstract. *Am Gas J* 138:44 Mr '33

How Brooklyn Union is selling 1000 refrigerators a month. R. L. Hallock. *Gas Age* 72:7-8+ J1 1 '33

How employees find prospects and sell gas appliances. G. L. Scofield. *Gas Age* 71:329-32 Ap 1 '33

How gas service company built domestic load during 1932. C. D. Greason. *Gas Age* 71:225-6 Mr 4 '33

How modernizing the kitchen holds and builds gas load. F. M. Rosenkrans. *Gas Age* 72:417-18 O 28 '33

How Northern Indiana compensates its residential gas salesmen. S. Jenks. *Gas Age* 72:405-6+ O 28 '33

How Northern Indiana evaluates gas load-building activities. S. Jenks. *Gas Age* 72:381-2+ O 21 '33

How Savannah gas company gets gas appliance sales. F. E. Kunkel. *Gas Age* 72:166 Ag 19 '33

Industry's leaders discuss vital questions; should our gas utilities give up merchandising appliances. F. W. Parsons. *Gas Age* 71:485-6+ My 13 '33

Kansas anti-merchandising act is held invalid. *Am Gas Assn Mo* 15:271-2 J1 '33

Manufacturer's views on utility gas range sales. T. E. Bullion. *Gas Age* 71:466-9 My 6 '33

Methods and results of employee sales campaigns. H. C. Thomas. *Am Gas Assn Proc* 1932:443-9; Discussion. 449-50

Niagara Hudson system to turn over sales of appliances to dealers. *Gas Age* 70:687 D 24 '32

\$1,683,656 of gas appliances sold by dealer-help plan. H. H. Cuthrell. *Dom Eng* 141:99-100 Ja '33

Organized excitement plan adds 100,000 MCF in 90 days. A. E. Schwarz. *il Gas Age* 71:81-2 Ja 28 '33

Philadelphia company utilities of Pittsburgh sell 3,370 radiant heaters in month. J. McKinley. *Am Gas Assn Mo* 15:280-1 J1 '33

Service and sales of proper appliances. F. M. Banks. *Am Gas Assn Proc* 1932:118-20; Same abr. *Gas Age* 70:485-7 N 5 '32; Excerpts. *Am Gas J* 137:17-18 N '32

Using the telephone to sell gas refrigerators. W. Parker. *il Gas Age* 71:71-2 Ja 21 '33

Washington gas light company has its own new deal. H. M. Brundage, jr. *il Gas Age* 72:239-40 S 9 '33

Westchester Lighting sells 2968 appliances in 40 days. F. J. Gruel. *Gas Age* 71:32-3+ Ja 14 '33

We've led them to water and oh, how they drink! R. E. Williams. *Gas Age* 70:603 D 3 '32



**GAS companies—Appliance selling—Continued**

What price new business? M. DellPlain. Gas Age 72:343-6 O 7 '33; Same. Am Gas Assn Mo 15:426-7+ O '33

**Buildings**

Croydon gas company open new sports pavilion. il Gas J (Lond) 200:619-20 N 30 '32  
Gas furnishes heat, light and power in big office building of the Dallas gas company. J. B. Nealey. il plan Am Gas Assn Mo 15:374-5 S '33  
Home service in a modernistic setting. il Am Gas Assn Mo 15:282-3 JI '33  
Niagara Hudson plans building locations and equipment. R. K. Doran. Gas Age 70:650+ D 17 '32

**Combination with electric utilities**

Industry's leaders discuss vital questions; combination company. F. W. Parsons. Gas Age 71:457-8, 476-8 My 6 '33  
Some thoughts on gas and electric competition. H. E. Dexter. Gas Age 72:63+ JI 15 '33

**Complaints**

Customer complaints. L. J. Hamilton. Am Gas Assn Proc 1932:144-60  
How to explain house-heating costs to the customer. Gas Age 72:209-10+ S 2 '33  
What is to be done about the troublesome customer? S. H. Corson. Am Gas Assn Mo 15:152 Ap '33

**Employees**

A.G.A. develops program of action to promote gas cookery. Am Gas Assn Mo 15:7-8 Ja '33  
Associated Gas system employees win speaking awards in S.J. Magee contest. Am Gas Assn Mo 15:134-5 Ap '33  
Basis of organization for social and sports clubs. J. L. Robson. Gas J (Lond) 200:748-9 D 14 '32  
Classification of positions and wages; personnel administration methods of the Philadelphia gas works company. C. H. Frazier, Jr. Gas Age 72:79-81+ JI 22 '33  
Customer relations training in practice. F. E. Verdin. Am Gas Assn Proc 1932:137-43; Discussion. 143-4  
Education of gas company employees, A.G.A. committee report. Am Gas Assn Proc 1932:85-95  
Employee loyalty—the measure of an industry's greatness. Am Gas J 138:45-6 Ap '33  
Enlisting employees' efforts. J. H. Hartog. Am Gas J 138:30-1 Ja '33  
How Associated uses employee business-building plan. H. M. Henry. Gas Age 71:277-81+ Mr 18 '33; Abstract. Am Gas J 138:44 Mr '33  
How employees find prospects and sell gas appliances. G. L. Scofield. Gas Age 71:329-32 Ap 1 '33  
How the tip-bonus plan helps Colorado public service. E. H. Hoover. Gas Age 72:87-8 JI 22 '33  
Inner-company education; A.G.A. subcommittee report. Am Gas Assn Proc 1932:578-81  
Methods and results of employee sales campaigns. H. C. Thomas. Am Gas Assn Proc 1932:443-9; Discussion. 449-50  
New York employees recognized for heroic deeds. pors Am Gas Assn Mo 15:246+ Je '33  
Observation of contact employees. C. Scott. Am Gas Assn Mo 15:206-7 My '33  
Regulating employment in the offices; A.G.A. committee report. Am Gas Assn Proc 1932:192-8  
Self-help is basis of training plan; Pacific service employees association. A. Barrell. chart Elec West 70:152-3 My '33  
Share-the-work programs. L. M. Ayres. Am Gas Assn Mo 15:205-6 My '33  
Welfare planning for progress. J. L. Robson. Gas J (Lond) 201:42-3 Ja 4 '33

**See also**

Gas companies—  
Salesmen

**Equipment and supplies**

Report on portable equipment in distribution work. F. M. Goodwin. Am Gas Assn Mo 15:216-17 My '33

**Exhibits**

Exhibition houses; demonstrating the uses of gas to private consumers; an interview with J. Sandon Stubbs. il Gas J (Lond) 200:799-800 D 21 '32  
Gas equipment in the home beautiful; ideal home exhibition at Swindon. il Gas J (Lond) 200:614 N 30 '32  
Leeds industrial gas section. Gas J (Lond) 202:615-16 My 31 '33

**Finance**

Commissions must watch interests of consumers and investors. J. Simpson. Gas Age 72:429-30+ N 4 '33  
Consumers gas company has paid dividends for 84 years. Am Gas Assn Mo 14:498 D '32  
Public service co. of northern Illinois nets \$5.70 per share; made \$8.21 in 1931. Gas Age 71:263 Mr 11 '33  
Rate structure as a business builder. A. J. Dobson. Gas J (Lond) 201:208-11 Ja 25 '33  
Relations of investment to revenue; its effect on public relations. R. W. Hendee. Am Gas Assn Proc 1932:110-13; Same. Gas Age 70:439-40+ O 22 '32; Excerpts. Am Gas J 137:16-17 N '32

**Franchises**

Competitive bidding for gas franchise. Gas Age 71:177 F 18 '33  
Court says franchise ordinance cannot be revoked. Gas Age 70:688 D 24 '32

**Insurance requirements**

Gas company insurance against third party liability claims. C. T. Hubbard. Gas Age 71:493+ My 13 '33

**Law**

Court may entertain reparation suit without preliminary commission proceedings. Pub Util 11:252 F 16 '33  
Fixing rates on termination of service under contract with city; Ohio Supreme court. Gas Age 70:632 D 10 '32  
Gas bills for 1933; summary of the main provisions. Gas J (Lond) 201:153 Ja 18 '33  
Gas consumer held bound by contract rates; Allen W. Hinkel dry goods company v. Wichison industrial gas company. Gas Age 72:446 N 4 '33  
Gas made from oil in local tanks not within commission jurisdiction. Gas Age 71:634 Je 17 '33  
Kansas anti-merchandising act is held invalid. Am Gas Assn Mo 15:271-2 JI '33  
Liabilities of gas manufacturers. Engineering 135:282-3 Mr 10 '33  
Recent legal decisions. J. Simpson. Gas Age 71:88 Ja 28 '33  
Summary of statute and case law of 1932. Gas J (Lond) 201:37-9 Ja 4 '33

**Management**

Collection procedure for current delinquent bills. J. G. Waddick. Gas Age 70:541-2 N 19 '32  
Coordination between departments. H. D. Lehman. Am Gas Assn Proc 1932:160-4  
Defence and development of our business in Cardiff. H. D. Madden. il Gas J (Lond) 204:69-72; Discussion. 72-5 O 4 '33  
Development of gas as an industrial fuel. J. E. White. il diag Gas J (Lond) 202:533-42 My 24 '33; Discussion. 202:755-6+; 203:37-40 Je 7, JI 5 '33  
Economics of removing locked meters. N. L. Hoff. Gas Age 71:43-5 Ja 14 '33  
Holding house-heating load for today and tomorrow. Denver. C. B. Wyckoff. Gas Age 72:31-4+ JI 8 '33  
How Northern Indiana evaluates gas load-building activities. S. Jenks. Gas Age 72:381-2+, 405-6+, 427-8+ O 21-N 4 '33  
How our industry contributes to economic stability. A. Forward. Gas Age 71:523-5 My 20 '33

**GAS companies—Management—Continued**

- Importance of following up missed meter readings at this time. J. G. Waddick. *Am Gas Assn Mo* 15:153 Ap '33
- Increasing gas revenues. F. W. Parsons. *Gas Age* 72:359-60+ O 14 '33
- Industry's leaders discuss vital questions. F. W. Parsons. *Gas Age* 72:1-2+ J1 1 '33
- Interdepartmental relations; A.G.A. subcommittee report. *Am Gas Assn Proc* 1932:576-7
- Introduction of natural gas in San Diego. D. H. Perkins. *Il Gas Age* 71:471-5, 489-92 My 6-13 '33
- Los Angeles helps dealers get appliance sales. T. R. Thompson. *Gas Age* 70:604-5 D 3 '32
- Organized excitement plan adds 100,000 MCF in 90 days. A. E. Schwarz. *Il Gas Age* 71:81-2 Ja 28 '33
- Planning and executing an industrial fuel department. O. L. Maddux. *Gas J (Lond)* 204:80-1 O 4 '33
- Rate structure as a business builder. A. J. Dobson. *Gas J (Lond)* 201:208-11 Ja 25 '33
- Rental office system in a 300 million works employing accounting machinery; Ramsgate corporation gas and water department. F. G. Sale. *Gas J (Lond)* 200:623-7; Discussion. 627 N 30 '32
- Sales plans and policies; A.G.A. subcommittee report. *Am Gas Assn Proc* 1932:474-88
- To the end that the gas industry will take its place in the sun; results of a study of the sales and advertising needs of the gas industry. W. A. Gilman. *Am Gas J* 139:15-18 Ag '33

*See also***Gas works—Management****Public relations**

- Building good customer relations. C. Donlan. *Am Gas Assn Mo* 15:277-8 J1 '33
- Customer relations training in practice. F. E. Verdin. *Am Gas Assn Proc* 1932:137-43; Discussion. 143-4
- Executive evaluation of sales activities. E. M. Tharp. *Am Gas Assn Mo* 15:146-8+ Ap '33
- Executive responsibility for sales promotion. E. M. Tharp. *Am Gas Assn Mo* 15:421-4 O '33; Same cond. *Am Gas J* 139:13-16 O '33
- How the Gas-gazette helps build customer good will. J. F. Weedon. *Gas Age* 71:571-2 Je 3 '33
- Public relations and the depression. R. F. Bonsall. *Am Gas Assn Mo* 15:332 Ag '33
- Relations of investment to revenue; its effect on public relations. R. W. Hendee. *Am Gas Assn Proc* 1932:110-13; Same. *Gas Age* 70:439-40+ O 22 '32; Excerpts. *Am Gas J* 137:16-17 N '32

**Records**

- Adapting machines to preparation of field orders. T. J. Perry. *Am Gas Assn Mo* 15:257-9 Je '33
- Meter route sheets and binders. W. H. German. *Am Gas Assn Proc* 1932:380-6; Discussion. 386
- Proposed method and analysis form for computing unaccounted-for gas. D. B. Larson. *Am Gas Assn Proc* 1932:785-9
- Visible records speed customer service. J. F. Branagan and B. Yoepp, jr. *Il Gas Age* 72:461-2 N 11 '33

**Regulation**

- Contract rates superseded by rates fixed by commission; American Indian oil & gas company v. G. F. Collins & company. *Gas Age* 72:71 J1 15 '33
- Current trends in gas regulation. E. Nichols. *Pub Util* 10:431-8, 690-6 O 13, D 8 '32
- When commissions ride roughshod. F. W. Parsons. *Gas Age* 72:271-2+ S 23 '33

**Safety measures**

- Report of A.G.A. accident prevention committee. *Am Gas Assn Proc* 1932:62-84

**Salesmen**

- Advertising and canvassing help sales at Charleston; South Carolina public service company. F. E. Kunkel. *Gas Age* 71:119 F 4 '33
- Allentown is building now for future business; Allentown-Bethlehem gas company. H. P. Bridge, jr. *Il Gas Age* 71:337-8 Ap 1 '33
- How Indiana gas utilities use planned selling. F. Merish. *Gas Age* 70:704-5 D 31 '32
- How industrial gas research solved one tough problem; adapting graphite crucible to gas firing. F. Talcott. *Gas Age* 72:235-6+ S 9 '33
- Sales education at the Philadelphia gas works company. H. M. Swonguer. *Il Gas Age* 70:672+ D 24 '32
- We are giving sales training to technical men; Cleveland heater co. F. H. Leder. *Ptr Ink Mo* 26:29+ F '33

**Securities**

- Stock and share list. Published in weekly numbers of *Gas journal* (London)

**Service**

- Appliance inspection and adjustments. *Am Gas Assn Mo* 15:39-40+ F '33
- Appliance servicing; A.G.A. committee report. E. A. Johnson. *Am Gas Assn Proc* 1932:458-70
- Benefits from a uniform policy for appliance servicing. T. W. Hawley. *Gas Age* 71:459-61+ My 6 '33
- Good distribution service to gas customers. D. S. Martin. *Am Gas J* 138:22-3 Ja '33
- Home service; A.G.A. committee report. *Am Gas Assn Proc* 1932:571-95
- Home service can promote modern gas kitchens. R. Kleinmaier. *Gas Age* 72:67-9 J1 15 '33; Same. *Am Gas J* 139:20-2 J1 '33
- How home service improves customer relations. C. L. Newton. *Gas Age* 71:577-8+ Je 3 '33
- Is home service the Dorothy Dix of the gas industry? C. H. Zillesen. *Am Gas Assn Mo* 15:156-7 Ap '33
- Keep the customer sold after the sale. M. E. Bridston. *Gas Age* 70:566+ N 26 '32
- Kitchen modernization; A.G.A. Home service subcommittee report. *Am Gas J* 139:41-3 O '33
- Mama's night out! home service in Toronto conducts eight o'clock cooking classes; broadcasting of recipes. D. Dignam. *Il Gas Age* 70:669-71 D 24 '32
- Modernizing the kitchen; symposium. *Am Gas J* 139:35-7 O '33
- Philadelphia kitchen planning headquarters aid gas load. R. A. Malony. *Il Gas Age* 72:394-6 O 21 '33
- Some thoughts on servicing activities. H. D. Lehman. *Am Gas Assn Proc* 1932:428-30; Discussion. 430-2
- Ten years of home service. R. Kleinmaier. *Il Gas Age* 72:293-6 S 23 '33
- Tying home service activities to timely community events. *Gas Age* 71:174 F 18 '33
- Visible records speed customer service. J. F. Branagan and B. Yoepp, jr. *Il Gas Age* 72:461-2 N 11 '33

**Shops**

- Labor saving devices in garage and repair shop of Pacific gas and electric company. C. W. Geiger. *Il Am Gas J* 138:9-11 F '33
- Taking the drudgery out of meter cleaning. H. M. Riley. *Il diag Am Gas J* 138:12-13 F '33; Abstract. *Gas Age* 71:146 F 11 '33

**Show windows**

- Are you using the institutional theme in your window displays? S. Bratesman. *Il Am Gas J* 138:29-30 My '33
- Display possibilities in industrial gas. J. A. Malone. *Il Am Gas Assn Mo* 14:503-4 D '32
- Foreign language window displays. S. Bratesman. *Il Am Gas J* 138:28-9 F '33
- Hollywood speaks in window displays. S. Bratesman. *Il Am Gas J* 138:26-7 Je '33
- Introducing new appliances via window displays. S. Bratesman. *Il Am Gas J* 137:16-17 D '32



**Gas companies—Show windows—Continued**

- Is copy important in the window display? S. Bratesman. *il Am Gas J* 138:28-9 Ap '33  
 Story of industrial gas told by window displays. S. Bratesman. *il Am Gas Assn Mo* 15:125-7 Ap '33  
 Why do people stop and read window displays? S. Bratesman. *il Am Gas J* 139:13-14 Ag '33  
 Window display realism. S. Bratesman. *il Am Gas J* 138:14 Ja '33

**Showrooms**

- New step in effective gas merchandising; model all gas kitchen. J. J. Haight. *il Gas Age* 72:57-8 Jl 15 '33  
 Permanent model kitchen sells gas appliances; Allentown-Bethlehem gas company. F. E. Kunkel. *il Gas Age* 72:216+ S 2 '33

**Taxation**

- Customers are informed of burden of taxation. Oil & Gas *J* 32:69 Jl 13 '33  
 Gas companies are staggering under mounting tax burden. P. S. Clapp. *Gas Age* 72:373-5 O 14 '33; Excerpts. *Am Gas J* 139:18-19 O '33

**Valuation of property**

- Decision on valuation of properties and reasonableness of natural gas rates announced by the Supreme court of Ohio. Oil & Gas *J* 32:69 Jl 13 '33

**Gas companies' protection association**

- Annual general meeting, 36th, Oct. 13. *Gas J* (Lond) 204:272-4 O 25 '33

**Gas compressors**

- Gas compression problems—and how one of them was solved by use of the gas engine. W. M. Russell. *il Am Gas J* 138:9-11 Mr '33  
 Gas compressor. *Engineering* 135:210-11, pl 12 F 24 '33

- Gas engines and compressors. W. L. Russell. *il Power* 77:195-6 Ap '33  
 Handling high pressures in chemical synthesis. R. V. Kleinschmidt. *Chem & Met Eng* 40:362, 364 Jl '33

- Ingersoll-Rand air and gas compressor. *il Blast F & Steel Pl* 21:490 S '33

- Modern automatic gas booster station. H. E. Larson. *il Gas Age* 71:12-14 Ja 7 '33

- Modern practice of engineering has simplified design of air-gas lift compressor plants. L. G. E. Bignell. *il Oil & Gas J* 32:49+ O 12 '33

- Reduction of steam load by modernizing pumping equipment; Public service electric and gas company, Newark, N.J. J. B. Boniface. *diags Gas Age* 71:541-4 My 27 '33

- Die regelung der verdichtungsanlagen für die gasfernversorgung. R. v. Dadelsen. *Zeit Ver Deutsch Ing* 77:525-30 My 20 '33

- Town's gas for motor vehicles. *il diag Engineer* 154:647 D 23 '32

**Gas consumption**

- Gas consumption data in cooking tests. *il Am Gas Assn Mo* 15:386 S '33

**Gas containers**

- Handling compressed gases and volatile liquids. F. R. Fetherston. *Chem Age* (Lond) 27:593-4 D 24 '32

- Light-weight high-pressure gas cylinders. F. S. Marsh. *diags Iron & Steel Inst J* 126:75-87, pl 1-4 no 2 '32; Same. *Engineering* 134:489-90 O 21 '32; Discussion. *Iron & Steel Inst J* 126:88-92 no 2 '32; *Engineer* 154:350-1 O 7 '32

- Transport and fire hazards of liquefied gases. A. M. Cameron. *Soc Chem Ind J* (Chem & Ind) 52:789-91; Discussion. *T. J. Dixon*. 791-2 O 6 '33

**See also**

- Gas tanks

**Cleaning**

- Purging gas-containing equipment. *Chem & Met Eng* 39:624 N '32

**Gas cooking**

- All gas cookery at national food show. *il Am Gas Assn Mo* 15:3-4+ Ja '33

- Another radiation enterprise; new research kitchen at Radiation house. *il Gas J* (Lond) 203:153-4 Jl 19 '33

- Domestic cooking load is the bread-and-butter of the gas industry. M. DelPlain. *Am Gas Assn Mo* 15:82-4 Mr '33

- Dramatized cookery demonstrations; Parkinson stove company's novel scheme. *il Gas J* (Lond) 203:673 S 27 '33

- Four thousand meals a day and gas cooks them all. *il Gas Age* 70:649 D 17 '32

- Gas-cooked foods will tickle the palates of millions at the Chicago exposition. *il Am Gas J* 138:30-1 Ap '33; Same abr. *Gas Age* 71:346 Ap 1 '33

- Gas equipment for kitchen economy. C. H. French. *il Gas Age* 72:113-14 Jl 29 '33

- Gas in the catering trade; fine installation in Sheffield. *il Gas J* (Lond) 201:741-2 Mr 22 '33

- Gas is important factor in the roadside diner. C. H. French. *il Am Gas Assn Mo* 15:433-4 O '33

- Hotel, restaurant and food products; A.G.A. committee report. *Am Gas Assn Proc* 1932:649-50

- Hotels, restaurants and wholesale baking; A.G.A. forum on gas as fuel. *Am Gas Assn Proc* 1932:622-31

- How gas and electricity compare for cooking. R. J. Rutherford. *Gas Age* 72:39-40 Jl 8 '33

- Importance of the cooking load to the gas industry. E. R. Acker. *Gas Age* 71:567-8+ Je 3 '33

- Oil vs. gas-burning ranges for commercial cooking. C. H. French. *Gas Age* 71:442+ Ap 29 '33; Same. *Am Gas Assn Mo* 15:210-11 My '33

- Surmounting cooking competition; with cost data. R. M. Conner. *Am Gas Assn Mo* 15:90-3 Mr '33

**See also**

- Gas ovens, Baking  
 Gas stoves

**Cost**

- Gas consumption data in cooking tests. *il Am Gas Assn Mo* 15:386 S '33

- Surmounting cooking competition. R. M. Conner. *Am Gas J* 138:42 Mr '33

**Gas detectors**

- Evolution of methane detecting devices for coal mines. L. C. Ilsley and A. B. Hooker. *U S Bur Mines Information Circ* 6733:1-12 '33

- Gas detection instruments. S. S. Tomkins. *bibliog il Am Gas Assn Proc* 1932:810-25; Same. *Am Gas Assn Mo* 15:511-19 D '33

- Nellissen gas detector. *Gas J* (Lond) 201:695 Mr 15 '33

**Gas distribution**

- Centralized manufacture and distribution of gas in Belgium. G. Evetts. *map Gas J* (Lond) 202:526-32 My 24 '33; Discussion. 203:41-5 Jl 5 '33

- Distribution of gas through high-pressure plants. T. H. Kerr. *diags Gas Age* 71:462-4+ My 6 '33

- Experience at Evansville due to the change from manufactured gas to natural gas. I. C. Shepard. *Am Gas J* 137:32-4 D '32

- Gas industry discusses technical problems; A.G.A. meeting at Atlantic City. *Chem & Met Eng* 39:609-10 N '32

- Good distribution service to gas customers. D. S. Martin. *Am Gas J* 138:22-3 Ja '33

- Gum deposits in gas distribution systems. A. L. Ward. C. W. Jordan and W. H. Fulweiler. *bibliog il diag Ind & Eng Chem* 24:969-77, 1238-47; 25:1224-34 S. N '32, N '33

- Gum problem in the distribution system. J. A. Perry. *Am Gas Assn Mo* 15:217-19 My '33; Same. *Gas J* (Lond) 203:157-8 Jl 19 '33; Same cond. *Gas Age* 71:387-8 Ap 15 '33

- High pressure gas distribution. *Am Gas J* 137:21-5 D '32; 138:24-9 Ja; 17-20 F; 17-21 Mr; 24-24 Ap; 7-10+ My; 12-15+ Je; 139:9-12+ Jl; 24-7+ Ag; 33-6+ S; 18-20+ N '33 (to be cont)

- How emergency flood conditions were met at Cincinnati. E. A. Munyan. *il Gas Age* 71:415-17 Ap 22 '33

**GAS distribution—Continued**

- Long distance gas pressure recording gauges. G. A. S. Cooper. *il diags Gas Age* 72:279-81+ S 23 '33
- Notes on distribution. P. Richbell. *diags Gas J (Lond)* 201:463-72 F 22 '33; Discussion. 201:562-4 Mr 1 '33
- Operating trends in New England. H. G. Taylor. *Am Gas J* 133:22-6 Mr '33
- Philadelphia gas works co. plans to reorganize distribution system. *diag Gas Age* 71:156 F 11 '33
- Points in gas distribution. G. C. Gunston. *Gas J (Lond)* 202:555-8 My 24 '33
- Practice of rationalization. H. Wadsworth. *Gas J (Lond)* 202:281-2; Discussion. 282-3 My 3 '33
- Presidential address before Waverley association of gas managers. G. Braidwood. *il plans Gas J (Lond)* 202:925-32; Discussion. 932-3 Je 28 '33
- Remote control of pressure in gas distribution systems. H. J. Keeling. *il diags Gas Age* 72:262-6 S 16 '33
- Report on portable equipment in distribution work. F. M. Goodwin. *Am Gas Assn Mo* 15:216-17 My '33
- La situation actuelle de l'industrie du gaz. H. Laurain. *diags maps Soc Ing Civils Bul* 85:1177-1217, pl 211 S '32
- Stand-by gas plants for natural gas transmission lines. F. Wills. *Gas Age* 72:363-5+ O 14 '33
- What pressure is best for gas distribution systems? D. L. Sedgwick. *diags Gas Age* 71:408-12 Ap 22 '33
- See also*
- |                         |             |
|-------------------------|-------------|
| Gas, Natural—Pipe lines | Gas holders |
| Gas flow                | Gas leakage |
| Gas governors           | Gas mixing  |
|                         | Gas pipes   |

**Long distance lines**

- Die elektrische fernmessung im dienste der gasfernversorgung. W. Wunsch. *il diags map Zeit Ver Deutsch Ing* 77:658-62 Je 24 '33
- Long-distance gas distribution; the Magdeburg gas-works, Germany. *Gas J (Lond)* 202:271 My 3 '33
- Die regelung der verdichtungsanlagen für die gasfernversorgung. R. v. Dadelen. *Zeit Ver Deutsch Ing* 77:525-30 My 20 '33

**Safety devices and measures**

- Hazards in connection with natural gas. P. M. Biddison. *Gas Age* 70:681-3 D 24 '32
- Safety in gas distribution. H. L. Peden. *il Gas Age* 70:615-19 D 10 '32

**GAS engineering**

- Address before Yorkshire junior gas association. H. E. Copp. *Gas J (Lond)* 200:507-8 N 16 '32
- British gas engineers hold 70th annual meeting. *Gas Age* 71:651-3 Je 24 '33
- German association of gas and water engineers 74th annual meeting, Weimar, Germany, May 26-27. *Gas J (Lond)* 203:95-6 J1 12 '33
- Institution of gas engineers fall meeting, London. *Gas J (Lond)* 200:404-41 N 9 '32; *Engineering* 134:543-4, 591-2 N 4, 18 '32
- Presidential address before Manchester and district junior gas association; problem of unaccounted-for gas. T. H. Williams. *Gas J (Lond)* 204:282-3 O 25 '33
- Presidential address before Manchester district association of gas engineers. G. Dixon. *Gas J (Lond)* 201:692-4; Discussion. 694 Mr 15 '33
- Random reflections on modern gas practice. B. Richardson. *Gas J (Lond)* 200:695-9; Discussion. 699 D 7 '32
- Western junior gas association; address by the president. R. E. Gibson. *Gas J (Lond)* 200:572-5 N 23 '32

*See also*

- |                     |                 |
|---------------------|-----------------|
| Gas and oil engines | Gas lighting    |
| Gas distribution    | Gas manufacture |
| Gas fitting         | Gas works       |
| Gas heating         |                 |

**Examinations**

- City and guilds of London institute, 1933 examinations. *diags Gas J (Lond)* 202:604-6 My 31 '33
- Institution of gas engineers' examinations. *Gas J (Lond)* 202:327-9 My 10 '33
- 1933 institution examinations; list of successful candidates in the examinations of the Institution of gas engineers. *Gas J (Lond)* 203:201-4 J1 26 '33

**Safety devices and measures**

- Gas detection instruments. S. S. Tomkins. *bibliog il Am Gas Assn Proc* 1932:810-25; Same. *Am Gas Assn Mo* 15:511-19 D '33
- Purging apparatus. H. W. Alrich. *il Am Gas Assn Proc* 1932:826-32; Discussion. 833-8

**Study and teaching**

- Brooklyn Poly plans new course in industrial gas engineering. *Am Gas Assn Mo* 15:337+ Ag '33
- Gas industry cooperative research and education. E. S. Pettyjohn. *Gas Age* 71:535-3 My 27 '33
- Natural gas engineering course offered at the University of Oklahoma. *il Am Gas Assn Mo* 15:108 Mr '33; Excerpt. *Gas Age* 71:262 Mr 11 '33
- Oklahoma university first to have natural gas course. E. F. McKay. *il Pub Serv M* 54:85 Mr '33

**Tables, calculations, etc.**

- Gas producer heat balance; calculation of the distribution of useful and waste heat. J. W. Romig. *Am Gas J* 133:17-20 My '33
- Slide nomograms applied to gas-works routine calculations. T. H. Blakeley. *il Gas J (Lond)* 200:860-1 D 28 '32

**GAS engineers**

- Gas engineers graduate from Johns Hopkins. *Am Gas Assn Mo* 15:274 J1 '33

**GAS exhausters**

- Facilitating exhauster change-over. R. D. Keillor. *diag Gas J (Lond)* 201:143 Ja 18 '33

**GAS explosions. See Explosions****GAS fitting**

- High pressure gas distribution. *il Am Gas J* 137:21-5 D '32; 138:24-9 Ja '33
- Recent developments in gas fitting practice. R. N. LeFevre. *il diags Gas J (Lond)* 200:749-53; Discussion. 753-5 D 14 '32

**GAS fittings****Testing**

- Testing of gas fittings and meters. C. D. Blackhall. *Gas J (Lond)* 200:806-7; Discussion. 807 D 21 '32

**GAS flow**

- Chart simplifies design problem of pipe lines in the natural gasoline plants. W. A. Stover. *Oil & Gas J* 31:24+ Mr 30 '33
- Conditions under which gas and liquid mixtures rise. J. Versluys. *il Inst Pet Tech J* 19:694-700 Ag '33
- Expansion correction of contraction coefficient of orifices. A. Busemann. *Am Gas Assn Mo* 15:476-7 N '33
- Flow of gas in pipes. W. E. Benton. *diags Gas J (Lond)* 202:869-72; Discussion. 872-3 Je 21 '33
- Flow of gases at high pressures through metal pipes. D. M. Newitt and S. K. Sirkar. *diags Inst Chem Eng Trans* 9:63-73 '31
- Flow of superheated refrigerants in copper tubing. J. E. Linebaugh. *Refriger Eng* 26:82-4 Ag '33
- Improving open-hearth furnace design. W. C. Buell, Jr. *Steel* 92:32-3 My 22; 34, 37-8 My 29 '33
- Integration and pulsation errors in measurement of qualities of gas flowing through an orifice. D. Gilmour. *Inst Pet Tech J* 19:25-68 Ja '33; Abstract. *Mech Eng* 55:260-1 Ap '33
- Measurement of the permeability of porous media for homogeneous fluids. R. D. Wyckoff and others. *il diag R Sci Instr* 4:394-405 J1 '33



**GAS flow—Continued**

Nemographs for the calculation of air and gas velocity. A. Alison. *Chem & Met Eng* 39:623-4 N '32

Spiral flow of gases and liquids; abstract. C. Schuster. *Mech Eng* 55:442-3 J1 '33

Eine verstellbare messblende. E. Schindel. *il diags Zeit Ver Deutsch Ing* 77:155-6 F 11 '33

Wide range variable gas flowmeter. B. W. Bradford. *diag Soc Chem Ind J (Chem & Ind)* 52:363-4 Ap 28 '33; Abstract. *Am Gas J* 138:36 Je '33

See also

Air flow

Gas measurement

Gas meters

**GAS governors**

Control of retort bench vacuum. W. Campbell. *Gas J (Lond)* 201:149-51; Discussion. 151 Ja 18 '33

High pressure gas distribution; operation and installation of house governors. *il Am Gas J* 138:17-20 F; 17-21 Mr; 24-7 Ap; 7-10+ My '33

House governor performance. A. W. Johnston, Jr. *il Gas Age* 71:325-7+ Ap 1 '33

Notes on distribution. P. Richbell. *diags Gas J (Lond)* 201:470-1 F 22 '33; Discussion. 201:562-4 Mr 1 '33

**GAS heaters**

Brockhouse two-in-one fire. *il Gas J (Lond)* 203:399 Ag 23 '33

Circulating space heaters; A.G.A. subcommittee report. *Am Gas Assn Proc* 1932:494-510

Gas fires in hotels and boarding houses. *il Gas J (Lond)* 204:88 O 4 '33

Large uses of steel in small ways; gas home heaters. *il Steel* 93:45 N 6 '33

Panella fire. *il Gas J (Lond)* 200:492 N 16 '32

Philadelphia company utilities of Pittsburgh sell 3,370 radiant heaters in month. J. McKinley. *Am Gas Assn Mo* 15:280-1 J1 '33

Space heater market. E. C. Adams. *Am Gas J* 138:41-2 Mr '33

Testing radiant efficiency of gas fires. *il Gas J (Lond)* 203:630 S 20 '33

See also

Gas water heaters

**Advertising**

This direct mail strengthened by color, art, ample copy; Coleman lamp and stove company. A. W. Boyer. *il Ptr Ink* 164:69-72 S 14 '33

**Manufacture**

Manufacture of gas fire radiants. *Gas J (Lond)* 202:156 Ap 19 '33

**GAS heating**

Another fine home air conditioned; details of gas-fired installation in a \$20,000 residence. *il plan Sheet Metal Worker* 24:13-14 Ja '33

Building conference volume predicts growth of gas heat; abstract. *Heat & Ven* 30:44-5 Ap '33

Capturing today's home heating with master stroke plan. C. A. Nash. *il Gas Age* 72:407-10 O 28 '33; Excerpts. *Am Gas J* 139:34-5 O '33

Colder weather coming—what it means to the gas industry. R. L. Coryell. *Gas Age* 71:133-6 F 11 '33

Comparison of oil and gas firing in a heating boiler. L. E. Seeley and E. J. Tavanlar. *Heating-Piping* 5:532-5 O '33

Correct use of heat rays for producing comfort in living rooms; abstract with discussion. L. Hill. *Gas J (Lond)* 200:555 N 23 '32

Filling stations offer a market for small gas boilers. *il Gas Age* 72:370 O 14 '33

Gas companies drive for home heating business in Greater Chicago. P. Truesdell and E. A. Dieterle. *il Nat Pet* N 25:31-2+ O 11; 35-6 N 1 '33

Gas conversions gain in manufactured gas territory. *Heat & Ven* 30:40 F '33

Gas-heated Atlanta building gives unit fuel data for southern climate; W. W. Orr doctors' building. R. C. Broach. *Heat & Ven* 30:32-5 S '33

Gas is selected as fuel for San Francisco war memorial. J. R. Ferguson. *il Gas Age* 70:601-3 D 3 '32

Gas used for cooling and heating model home. *il Dom Eng* 142:66-7 O '33

Heating a school with gas effects savings. M. S. Sullivan. *il Gas Age* 71:111-12+ F 4 '33

Heating buildings by gas. A. H. Barker. *diags Gas J (Lond)* 202:516-25 My 24 '33; Abstract. *Engineering* 135:618 Je 9 '33; Discussion. *Gas J (Lond)* 202:750-1; 203:35-7 Je 7, J1 5 '33

Heating buildings with gas; with discussion of air conditioning. C. G. Segeler. *il Heat & Ven* 30:10-18 S '33

Holding house-heating load for today and tomorrow. Denver. C. B. Wyckoff. *Gas Age* 72:31-4+ J1 8 '33

Home heating saturation grows 6.5 per cent in 10 weeks. C. A. Nash. *Gas Age* 71:251-4 Mr 11 '33

House heating; a billion-dollar yearly market. H. W. Hayward. *Gas Age* 71:161-6, 215-19+; 269-73 F 18, Mr 4, 18 '33

House heating and cooling; A.G.A. committee report. tables diags plans *Am Gas Assn Proc* 1932:471-532

Increases gas heating sales by aggressive campaign. W. L. Jones. *il Am Gas Assn Mo* 15:317-18+ Ag '33

Industry's leaders discuss timely problems. *Gas Age* 72:437-8+ N 4 '33

Load and efficiency go together. L. C. Price. *il diag Dom Eng* 142:56-7+ N '33

Neuerungen im bau von drehrostgeneratoren und gasanlagen. W. Kirnich. *il diags Chemische Fabrik* 5:433-7 N 16 '32

Observations on operation of a gas-fired home-heating plant; with cost data. R. B. Leckie. *il Gas Age* 71:27-31 Ja 14 '33

Pawtucket sells gas heating on an economy basis. J. E. Bullard. *Gas Age* 71:97 Ja 28 '33

Progress in automatic heating and air conditioning. W. E. Stark. *Gas Age* 72:187-92 Ag 26 '33

Relative fuel economy of electricity, gas, oil, and solid fuel, as heating agents. A. H. Barker. *Inst E E J* 72:269-95 Ap '33; Discussion. 72:295-312, 431-4; 73:452-3 Ap-My, O '33

Silica-gel plant air conditions Chicago building residence of M. A. Hirschl. flow diag *il Heat & Ven* 30:22-3 S '33

Smethwick's enterprise; extending the applications of gas on the district. *il Gas J (Lond)* 201:196-7 Ja 25 '33

Trend of house heating rates in New England. L. H. Knapp. *Am Gas J* 138:43 Mr '33

What of the future for gas househeating? O. J. Kuenhold. *Am Gas J* 138:21-4 F; 14-17 Mr '33

What one company did to save its house-heating load. *Gas Age* 70:629-30 D 10 '32

Worth while pointers on selling; one method of developing and maintaining a good house-heating prospect list. R. A. Lawder. *Sheet Metal Worker* 24:262-3 Ag '33

Yale Divinity school uses 25,000 MCF of gas a year. C. B. Barr. *il Gas Age* 70:589-90+ D 3 '32; Excerpts. *Am Gas Assn Mo* 15:124 Ap '33

You do it better with gas, sing Kansas City birds; heating of bird house belonging to Dr O. W. Wilke. *il Gas Age* 71:93-4 Ja 28 '33

See also

Gas heaters

Gas water heaters

**Advertising**

Advertising gas heat after changeover in St Louis. R. D. Lewis. *il Gas Age* 71:379-80+ Ap 15 '33

Chicago house-heating drive gains 1000 homes a week. *il Gas Age* 72:291-2 S 23 '33

Mason City, Iowa features cost of natural gas heat. L. J. Jellison. *Gas Age* 70:598 D 3 '32

Winners announced for letter contest on gas house heatings. *Gas Age* 70:586 N 26 '32

## GAS heating—Advertising—Continued

## Control

Automatic gas heating system controls; A.G.A. subcommittee report. Am Gas Assn Proc 1932:511-18

Improved heating control for large buildings. L. H. Brendel. diag Gas Age 72:59+ J1 15 '33  
Up-to-date control equipment helps sell gas heating; Thermochron. C. D. Lyford. Gas Age 72:455 N 11 '33

## Cost

Competitive situation in commercial sales; comparative cost of coal and gas. G. W. Turner. Am Gas Assn Mo 15:284-8+ J1 '33  
Continuation of record of performance of sectional house heating. E. C. Adams. Am Gas Assn Mo 15:154 Ap '33

Gas heating shows savings in Salt Lake City schools. H. Barker. il Heat & Ven 30:24-8 Je '33

How to explain house-heating costs to the customer. Gas Age 72:209-10+ S 2 '33  
Small automatic stokers vs. natural gas; cost data. C. W. Smith. Am Gas Assn Mo 15:253-4 Je '33

## Tables, calculations, etc.

Gas heating calculations simplified. O. J. Kuenhold. Am Gas J 138:21-4 Je; 139:26-8 S '33

## GAS holders

Ashmore, Benson, Pease waterless gasholder. diag Engineer 155:supp ii-iii F 24 '33

Bamag dry gasholder. il Gas J (Lond) 202:161-2 Ap 19 '33

Cold-driven rivets show superiority; construction of a 10,000,000-cu. ft. gasholder. F. G. Thorn, jr. il Eng N 110:784-5 Je 15 '33

Construction and erection of a 3 million spiral guided gasholder in steel tank. W. T. Hobson. diags plan Gas J (Lond) 202:284-7; Discussion. 287 My 3 '33

Economics of high-pressure holders. Segelken. Gas J (Lond) 200:618 N 30 '32

Die explosionskatastrophe von Neunkirchen. K. Bunte, H. Brückner and W. Ludewig. il diags Chemische Fabrik 6:383-8 S 13 '33

Gasholder explosion at Neunkirchen. K. Bunte. il plan Gas J (Lond) 201:460-1 F 22 '33; Same. Gas Age 71:275+ Mr 18 '33

Gasholders and social amenities. Gas J (Lond) 203:410 Ag 23 '33

German holder explosion details given. K. Lempelius. Gas Age 71:238-9 Mr 4 '33

Inauguration of Skipton's high-pressure holder. il Gas J (Lond) 202:917 Je 28 '33

Klönne dry gasholder. W. Beswick. il diags Gas J (Lond) 203:297-9 Ag 9 '33

Neunkirchen disaster. Gas J (Lond) 201:611 Mr 8 '33

Neunkirchen gasholder explosion. F. Jacobi. diags Engineering 135:390-1 Ap 7 '33

Das Neunkirchner explosionsunglück. H. Leiber. il diags Stahl & Eisen 53:665-71 Je 29 '33

New holder in the west of England; Plymouth and Stonehouse gas light and coke company. il Gas J (Lond) 201:613-16 Mr 8 '33

Philadelphia gas holder has unusual features. il Gas Age 71:530 My 20 '33

Piston seal of waterless gas holder. diag Engineer 155:167 F 17 '33

Pressure holders; abstract B. Delaruelle. Gas J (Lond) 203:301 Ag 9 '33

Report of the public prosecutor on the Neunkirchen explosion. Gas J (Lond) 202:157 Ap 19 '33

Unusual features in gas holder at Point Breeze station A of the Philadelphia gas works. il Iron Age 132:60 Ag 17 '33

Upkeep of gasholders. R. J. Milbourne. diags Gas J (Lond) 204:275-8; Discussion. 278-80 O 25 '33

Waterless gasholder inaugurated at St Helens. il Gas J (Lond) 203:561 S 13 '33

Waterless gasholders. F. Naujocks. Gas J (Lond) 201:312 F 8 '33

## Control

Cable control applied to disc gasholders. E. L. Pease. diags Gas J (Lond) 202:603-4 My 31 '33; Abstract. Am Gas J 139:27 J1 '33

## Foundations

Friction piles in muck sink evenly under load; construction of the dry-sink waterless gasholder at Syracuse, N.Y. diags Eng N 109:746 D 22 '32

## Repair

Repairing water leak in inlet connection of two million cu. ft. holder. W. J. Murdock. diag Am Gas Assn Mo 14:522 D '32

## GAS in refrigeration

Development of gas-operated house cooling and air-conditioning equipment. Am Gas J 139:28-9 O '33

Summer air conditioning with gas heat energy; cost data. E. D. Milener. flow sheets il Am Gas Assn Mo 15:85-9 Mr '33

## See also

Refrigerators, Gas

## GAS industry

Gas headed toward greater service throughout world. F. P. Tarratt. Am Gas Assn Mo 15:405-9+ O '33; Same cond. Gas J (Lond) 204:205-7 O 18 '33

Gas industry. G. B. Cortelyou. Am Gas Assn Mo 15:41-8 F '33

Holding the present load and preparing for the future. M. DellPlain. Gas Age 71:221-2, 230 Mr 4 '33; Excerpts. Am Gas J 138:40-1 Mr '33

House heating; a billion-dollar yearly market. E. W. Hayward. Gas Age 71:161-6, 215-19+, 269-73 F 18, Mr 4, 18 '33

Mid-West regional gas sales conference, 7th, Chicago, Feb. 14-15. Gas Age 71:199-200 F 25 '33

Need, purpose, and method of a gas market survey. P. Cabot. Gas Age 72:309-12+ S 30 '33

Research and the gas industry. F. W. Sperr, jr. Gas Age 70:279-81+, 337-40, 411-14, 463-5, 523-5, 569-70+, 625-8, 677-80; 71:39-42, 89-92 S 17, O 1, 15, 29, N 12, 26, D 10, 24 '32, Ja 14, 28 '33; Discussion. 71:167-8+ F 18 '33

What is wrong with the gas industry? D. A. Pratt. Gas J (Lond) 203:682-5; Discussion. 685 S 27 '33

## See also

Gas, Bottled	Gas heating
Gas, Natural	Gas manufacture
Gas appliances	Gas rates
Gas as fuel	Gas stoves
Gas companies	Gas works
Gas distribution	

## Advertising

Advertising; A.G.A. committee report. Am Gas Assn Proc 1932:633-40

Advertising gas heat after changeover in St Louis. R. D. Lewis. il Gas Age 71:379-80+ Ap 15 '33

Buffalo utility-dealer drive sells 1500 gas ranges. W. V. Morrow. il Gas Age 72:456-7 N 11 '33

Chicago house-heating drive gains 1000 homes a week. il Gas Age 72:291-2 S 23 '33

Co-operation with utilities in two cities based on mutual confidence. il Dom Eng 141:48-9+ Ja '33

Cooperative advertising plan for western Pennsylvania. Gas Age 71:354 Ap 8 '33

Cooperative merchandising increases gas load and aids dealers. W. J. Cashman and F. S. Hoefer. il Am Gas Assn Mo 15:94-6 Mr '33

Cost of utility advertising is an investment, not expense. W. G. Woolfolk. Gas Age 72:89-91 J1 22 '33

Current trends in gas company advertising. il Am Gas J 139:20-2 S '33

Effective advertising appeals. Am Gas J 137:30-1 D '32; 138:31-2+ Ja; 35-7 F; 28-9 Mr; 43-4 Ap; 27-8+ My; 39-40 Je; 32-4 Ag '33

Four companies unite to sell more gas in Pittsburgh. F. H. Stone. il Gas Age 72:451-2 N 11 '33

Gas industry needs more and better industrial advertising. D. W. Frye. il Gas Age 72:131-2 Ag 5 '33

How the Gas-gazette helps build customer good will. J. F. Weedon. Gas Age 71:571-2 Je 3 '33



**GAS industry—Advertising—Continued**

Laclede gas light company wins advertising award. *il Gas Age* 71:65-6 **Ja** 21 '33

Laclede wins advertising award. *il Gas Age* 71:519+ **My** 20 '33

Lone Star gas system again wins first place in ad contest. *Am Gas Assn Mo* 15:339 **Ag** '33

Mama's night out! home service in Toronto conducts eight o'clock cooking classes; broadcasting of recipes. *D. Dignam. il Gas Age* 70:670-1 **D** 24 '32

Necessity for greater sales effort by the gas industry. *W. C. Beckjord. Am Gas Assn Proc* 1932:684-6

N. Y. Consolidated advertising receives major honor. *Gas Age* 72:439-40 **N** 4 '33

Northern Indiana public service co. wins advertising award. *il Gas Age* 71:443-4 **Ap** 29 '33

Outstanding gas advertising receives P.U.A.A. awards. *il Gas Age* 72:60-2 **Jl** 15 '33

Peoples gas light & coke co. wins advertising award. *il Gas Age* 71:173-4 **F** 18 '33

Portsmouth gas company wins advertising award. *il Gas Age* 72:174-6 **Ag** 19 '33

Poster advertising. *R. Martin. il Gas Age* 70:696-7; 71:86-7, 196-7, 306-7, 494-5, 654-5; 72:110-11, 282-3, 442-3 **D** 31 '32, **Ja** 28, **F** 25, **Mr** 25, **My** 13, **Je** 24, **Jl** 29, **S** 23, **N** 4 '33

Providence gas company wins advertising award. *il Gas Age* 70:673-4 **D** 24 '32

Public information aspects of the San Diego changeover. *D. H. Perkins. il Gas Age* 70:701-3 **D** 31 '32; Same. *Am Gas Assn Mo* 15:27-8 **Ja** '33

Public service co. of northern Illinois wins advertising award. *il Gas Age* 72:414 **O** 23 '33

Public service of New Jersey wins advertising award. *il Gas Age* 71:276+ **Mr** 13 '33

Public service of northern Illinois wins advertising award. *il Gas Age* 71:629 **Je** 17 '33

Publicity and industry. *A. P. Ryan. Gas J (Lond)* 204:66-8 **O** 4 '33; Same cond. *Am Gas Assn Mo* 15:436-8 **O** '33; Excerpt. *Am Gas J* 139:38-40 **O** '33

Rochester gas & electric corp. wins July advertising award. *il Gas Age* 72:82 **Jl** 22 '33

Today's advertising needs. *W. H. Hodge. Am Gas Assn Proc* 1932:418-21; Discussion. 421-2

Union gas & electric wins advertising award. *il Gas Age* 72:338 **O** 7 '33

United Light and Power wins advertising award. *il Gas Age* 70:540+ **N** 19 '32

*See also*

Gas heating—Advertising      Gas stoves—Advertising

**Exhibitions**

All gas cookery at national food show. *il Am Gas Assn Mo* 15:3-4+ **Ja** '33

Century of progress exposition will open promptly June 1. *C. W. Person. il Gas Age* 71:435-7+ **Ap** 29 '33; Same. *Am Gas Assn Mo* 15:191-5 **My** '33

Crowds flock to Scranton gas appliance show. *il Gas Age* 72:94 **Jl** 22 '33

Display and contact with national industrial organizations; A.G.A. committee report. *il Am Gas Assn Proc* 1932:640-9

Exhibit at 10th annual National exposition of power and mechanical engineering. *il Gas Age* 70:665 **D** 17 '32

Gas at the Ideal home exhibition. *Gas J (Lond)* 202:38-40 **Ap** 5 '33

Gas at the North London exhibition. *Gas J (Lond)* 204:211-12 **O** 18 '33

Gas at the South London exhibition. *il Gas J (Lond)* 201:685-6 **Mr** 15 '33

Gas featured at National power show. *J. A. Malone. il Am Gas Assn Mo* 15:49-50 **F** '33

Gas industry at a Century of progress. *C. W. Person. il Am Gas Assn Mo* 15:119-24 **Ap** '33

Gas industry at Chicago's 1933 World's fair. *il Gas Age* 71:305+ **Mr** 25 '33

Gas plant and apparatus; exhibits in the gas industries section of the British industries fair. *il Gas J (Lond)* 201:478-97 **F** 22 '33

San Antonio stages gas water heater show. *A. W. Roe. il Gas Age* 70:703+ **D** 31 '32

Successful gas exhibition at Southampton. *il Gas J (Lond)* 201:744-5 **Mr** 22 '33

*See also* Chicago—World's fair, 1933—Gas exhibits and equipment

**History**

Gas and Queen Victoria's wedding; fete in Niblo's Gardens, March 25, 1840. *P. Walton. il Gas Age* 72:284 **S** 23 '33

Gas industry increased sales 10% in money panic of 1907. *Am Gas Assn Mo* 15:144-5 **Ap** '33

Picture commemorates first display of gas in America; address at unveiling of painting in the Municipal museum, Baltimore. *A. Forward. il Am Gas Assn Mo* 15:171-4 **My** '33; Excerpts. *Oil & Gas J* 31:65 **My** 4 '33

**Merchandizing**

Changing aspect in the competitive market for industrial fuels. *H. O. Loebell. Am Gas Assn Mo* 15:428-32 **O** '33; Same cond. *Gas Age* 72:383-6+ **O** 21 '33; Abstract. *Am Gas J* 139:26-8 **O** '33

Chicago house-heating drive gains 1000 homes a week. *il Gas Age* 72:291-2 **S** 23 '33

Concentrating on better sales helps exceed revenue quota; Pacific gas and electric company. *F. Talcott. Gas Age* 70:631-2 **D** 10 '32

Dealer cooperative activities on the Pacific coast. *F. M. Banks. Am Gas Assn Mo* 14:512-14 **D** '32

Does the gas industry want the domestic kitchen load? *A. V. S. Lindsley. Am Gas Assn Mo* 15:333-4+ **Ag** '33

Executive evaluation of sales activities. *E. M. Tharp. Am Gas Assn Mo* 15:146-8+ **Ap** '33

Executive responsibility for sales promotion. *E. M. Tharp. Am Gas Assn Mo* 15:421-4 **O** '33; Same cond. *Am Gas J* 139:13-16 **O** '33

Facing facts of competition in commercial gas sales; cost data, gas and coal firing compared. *G. W. Turner. Gas Age* 71:360-6 **Ap** 8 '33

Future sales effort of the gas industry. *W. C. Beckjord. Gas Age* 71:191-2+ **F** 25 '33; Excerpts. *Am Gas J* 138:31-5 **Mr** '33

Gas industry planning for greater sales. *C. N. Lauer. Am Gas Assn Mo* 15:419-20+ **O** '33

Increases gas heating sales by aggressive campaign. *W. L. Jones. il Am Gas Assn Mo* 15:317-18+ **Ag** '33

Industry's leaders discuss timely problems. *Gas Age* 72:437-8+; 453-5+ **N** 4-11 '33

Metropolitan industrial gas sales council's 6th annual meeting. *Gas Age* 71:558 **My** 27 '33

Modern selling policy; address. *W. B. McLusky. Gas J (Lond)* 202:330-1 **My** 10 '33

Pushing gas in combination companies. *E. G. Twohey. Gas Age* 71:193-5+ **F** 25 '33

Selling gas. *A. V. Meldrum. Gas J (Lond)* 202:280 **My** 3 '33

Selling the prospect who can't afford to buy. *C. N. Tunnell. Gas Age* 72:197-8 **Ag** 26 '33

Suggestions for increasing gas consumption. *R. T. Mills. Gas J (Lond)* 202:169-70 **Ap** 19 '33

To the end that the gas industry will take its place in the sun; results of a study of the sales and advertising needs of the gas industry. *W. A. Gilman. Am Gas J* 139:15-18 **Ag** '33

What one company did to save its house-heating load. *Gas Age* 70:629-30 **D** 10 '32

What price new business? *M. DellPlain. Gas Age* 72:343-6 **O** 7 '33; Same. *Am Gas Assn Mo* 15:426-7+ **O** '33; Abstract. *Am Gas J* 139:33-4 **O** '33

*See also*

Gas appliances—Merchandizing	Gas companies—Salesmen
Gas appliances, Domestic—Merchandizing	Gas companies—Show windows
Gas companies—Appliance selling	Gas industry and the plumbing trade

## GAS industry—Continued

## Statistics

- Gas company operations for 1931 and 1932. *Am Gas J* 138:21 Mr '33
- Gas: customrs, sales and revenue; monthly, 1929-1932. *Survey of Cur Business* 13:19-20 My '33
- Gas produced or sold in important countries of the world, 1928-1931. *Am Gas Assn Mo* 15:56-7 F '33
- Gas statistics for 1932. *Am Gas J* 138:13 Ja '33
- Gas utility revenues in 1932. *Am Gas J* 138:26 Mr '33
- House heating load increased in 1932. A. Forward. *Gas Age* 71:21 Ja 7 '33; Same. Oil & Gas *J* 31:68 Ja 5 '33
- Manufactured gas output in Michigan in 1932. *Am Gas J* 138:13 F '33

## Argentina

- Gas industry in Argentina. P. A. Cooper. *Gas J (Lond)* 203:454 Ag 30 '33

## Australia

- Australian affairs; New South Wales gas and electricity act. *Electrician* 109:835 D 30 '32
- Australian gas institute; presidential address. S. J. Janes. *Gas J (Lond)* 201:818-19 Mr 29 '33
- Gas in New South Wales. W. Buchler. *il Gas Age* 71:308-10 Mr 25 '33
- Gas in Queensland. W. Buchler. *il Gas Age* 72:85-6 Jl 22 '33
- Gas in south Australia. W. Buchler. *il Gas Age* 71:67-8 Ja 21 '33

## Belgium

- Centralized manufacture and distribution of gas in Belgium. G. Evetts. *map Gas J (Lond)* 202:526-22 My 24 '33; Abstract. *Engineering* 135:618-19 Je 9 '33; Discussion. *Gas J (Lond)* 202:752-5; 203:41-5 Je 7, Jl 5 '33

## Canada

- Canadian gas association 26th annual convention, Ottawa. *Gas J (Lond)* 204:79-81 O 4 '33
- Canadian gas industry expands in face of competition. *Am Gas Assn Mo* 15:187 My '33
- Gas industry in the Dominion of Canada. H. M'Nair. *Gas J (Lond)* 203:453 Ag 30 '33

## France

- French gas industry; review of the 56th congress of the Union syndicale de l'industrie technique du gaz. *Gas J (Lond)* 203:300 Ag 9 '33
- Gas industry in France; comparison with other European countries. H. Laurain. *Gas J (Lond)* 203:564 S 13 '33
- Position of the gas industry in France. A. Baril. *Am Gas Assn Mo* 15:453-7 N '33; Same cond. *Gas J (Lond)* 204:141-2 O 11 '33
- La situation actuelle de l'industrie du gaz. H. Laurain. *diags maps Soc Ing Civils Bul* 85:1177-1217, pl 211 S '32; Abstract. *Génie Civil* 103:15-17 Jl 1 '33

## Great Britain

- Address before Canadian gas association. F. P. Tarratt. *Gas J (Lond)* 204:84-5 O 4 '33
- British commercial gas association 22d annual general meeting and conference, Bournemouth. *Gas J (Lond)* 204:51-7, 62-5 O 4 '33
- Chairman's address before North of England gas managers' association (auxiliary section). J. B. Henderson. *Gas J (Lond)* 202:625-8 My 31 '33
- Chairman's address before the Gas companies' protection association. R. W. Edwards. *Gas J (Lond)* 200:615-18 N 30 '32
- Commercial development of the gas industry in Great Britain. T. P. Ridley. *Am Gas J* 139:32-3 O '33
- Comparative working results of the three metropolitan and six of the suburban gas companies; tabulation. F. J. Bradfield. *Gas J (Lond)* 201:544 Mr 1 '33
- Control of charges and profits of statutory gas undertakings. W. Cash. *Gas J (Lond)* 203:205-6 Jl 26 '33

- Corporation undertakings' results. *Gas J (Lond)* 202:934; 203:53, 411 Je 28-Jl 5, Ag 23 '33
- Development of the use of gas. S. Lacey. *Gas J (Lond)* 202:158-9; Discussion. 159-60 Ap 19 '33
- Field's analysis, 1932. *Gas J (Lond)* 202:907-8 Je 28 '33
- Fourth census of production (1930). *Gas J (Lond)* 201:94 Ja 11 '33
- Gas and electricity. *Economist* 116:626-7 Mr 25 '33
- Gas companies' results in 1932. *Gas J (Lond)* 201:571, 637-9, 699-701, 761-3, 824-5; 202:59-61, 110, 203:411 Mr 1-Apr 12, Ag 23 '33
- Gas for commercial and industrial purposes report of a conference of representatives of the National gas council, the Institution of gas engineers, and the British commercial gas association. *Gas J (Lond)* 201:545-51 Mr 1 '33
- Gas industry as viewed from outside. E. H. Clarry. *Gas J (Lond)* 202:618-20; Discussion. 620 My 31 '33
- Gas light and coke company and other company meetings. *Gas J (Lond)* 201:379-91, 474-5 F 15-22 '33
- Gas undertakings (basic charges); proceedings of a joint parliamentary committee. *Gas J (Lond)* 200:853-5; 201:44-6 D 28 '32-Ja 4 '33
- Hundred years' service at Hastings. *Gas J (Lond)* 203:49-50 Jl 5 '33
- London's gas supply in 1932. *Chem Age (Lond)* 28:141 F 18 '33
- Municipal undertakings, 1932-33. *Gas J (Lond)* 202:818 Je 14 '33
- National gas council of Great Britain and Ireland 15th annual meeting. *Gas J (Lond)* 202:389-92 My 17 '33
- Particulars relating to the manufacture and supply of gas by authorized gas undertakings in Great Britain for the year 1932; coke oven gas purchased by gas undertakings; tabulations. *Gas J (Lond)* 203:450 Ag 30 '33
- Position and future of the British gas industry. D. Milne-Watson. *Gas J (Lond)* 203:350-1 Ag 16 '33
- Presidential address. I. G. Jenkins. *il Gas J (Lond)* 202:549-53 My 24 '33
- Presidential address before Institution of gas engineers. R. E. Gibson. *Gas J (Lond)* 202:733-6 Je 7 '33; Abstract. *Chem Age (Lond)* 28:510 Je 3 '33
- Presidential address before joint gas conference. G. C. Clayton. *Gas J (Lond)* 201:621-3 Mr 8 '33
- Presidential address before North British association of gas managers. A. S. Nisbet. *Gas J (Lond)* 202:103-7 Ap 12 '33
- Presidential address before North of England gas managers' association. A. Pickering. *Gas J (Lond)* 204:146-8 O 11 '33
- Presidential address before Scottish junior gas association (western district). A. Tran. *Gas J (Lond)* 204:280-1; Discussion. 281-2 O 25 '33
- Presidential address before Southern association of gas engineers and managers. J. H. Cornish. *diags Gas J (Lond)* 202:48-54 Ap 5 '33
- Restrictions on Council House tenants; Gas light and coke company's bill before the House of commons committee. *Gas J (Lond)* 202:42-5, 111-15 Ap 5-12 '33
- Society of British gas industries annual meeting and dinner, London, May 11. *Gas J (Lond)* 202:403-10 My 17 '33
- Society of British gas industries autumn general meeting and luncheon. *Gas J (Lond)* 200:443-9 N 9 '32
- Summary of statute and case law of 1932. *Gas J (Lond)* 201:37-9 Ja 4 '33
- Town gas and industrial revitalization. R. D. Keillor. *Gas J (Lond)* 204:149-50; Discussion. 150 O 11 '33
- Western junior gas association; address by the president. R. E. Gibson. *Gas J (Lond)* 200:572-5 N 23 '32

## India

- Oriental gas company annual general meeting, London, Nov. 24. *Gas J (Lond)* 200:630-1 N 30 '32



## GAS industry—Continued

## Ireland

Irish association of gas managers annual general meeting, Waterford, Aug. 15. Gas J (Lond) 203:400-8 Ag 23 '33  
 Presidential address. F. J. Edmonds. Gas J (Lond) 203:355-7 Ag 16 '33

## Mexico City

Difficulties encountered in Mexico City gas plant. F. H. Bivens. Oil & Gas J 31:100 F 23 '33

## New England

New England gas association 7th annual business conference, Boston, Feb. 16-17. Am Gas J 138:43-4 Mr '33

## New York (state)

New schedules cut heating rates of gas users. Gas Age 72:267-8 S 16 '33

## See also

Associated gas and electric company

## Norway

Gas industry in Norway. J. Irminger. il Gas J (Lond) 204:144-5 O 11 '33

## Oklahoma

Oklahoma utilities face the future confidently; 15th annual convention of the Oklahoma utilities association. Gas Age 71:313-14 Mr 25 '33

## Pacific coast

Dealer cooperative activities on the Pacific coast. F. M. Banks. Am Gas Assn Proc 1932:423-8

## Poland

American gas industry through Polish eyes. G. Malecki. Am Gas Assn Mo 15:11-12 Ja '33

## Scotland

National gas council; 14th annual meeting of executive board for Scotland. Gas J (Lond) 202:614-15 My 31 '33

Presidential address before Waverley association of gas managers. G. Braidwood. il plans Gas J (Lond) 202:925-32 Je 28 '33; Discussion. 202:932-3; 203:84 J1 12 '33

## South Africa

Cape Town and district gas light and coke company 43d annual general meeting, London. Gas J (Lond) 202:566-8 My 24 '33

South African lighting association 44th annual general meeting, London. Gas J (Lond) 202:769-70 Je 7 '33

## Tasmania

Gas in Tasmania. W. Buchler. il Gas Age 71: 138 F 11 '33

## United States

American gas industry through Polish eyes. G. Malecki. Am Gas Assn Mo 15:11-12 Ja '33

Gas industry. A. Hewitt. Am Gas Assn Mo 15:79-81 Mr '33; Same cond. Gas J (Lond) 203:458-9 Ag 30 '33

Gas operating utilities codes are accepted and in force; texts. Gas Age 72:163-5 Ag 19 '33; Same. Am Gas Assn Mo 15:364-5 S '33

Industry's leaders discuss vital questions; industrial recovery bill. F. W. Parsons. Gas Age 71:561-2+, 589-90+, 641-2+ Je 3-10, 24 '33

Industry's outlook. A. Hewitt. Am Gas Assn Mo 15:128-30 Ap '33

Inflation and the gas man. R. S. McBride. Am Gas J 138:9-11 Je '33

Is alarm justified? F. W. Parsons. Gas Age 72:389-90+ O 21 '33

Manufactured gas industry shows small recession; house heating increases. W. W. Case. Annalist 41:758 Je 2 '33

Meeting the ordeal; what will the NRA do to the utilities. F. W. Parsons. Gas Age 72: 205-6+ S 2 '33

Planned economy and the gas industry. F. W. Parsons. Gas Age 72:25-6+ J1 8 '33

Stability of gas industry demonstrated in South. A. Forward. Am Gas Assn Mo 15: 235-7 Je '33

What the next half century may mean for gas. bibliog Gas Age 72:273-7+ S 23 '33

## See also

American gas association

## Vancouver, British Columbia

Gas in British Columbia. W. Buchler. il Gas Age 72:193-4 Ag 26 '33

## GAS industry and the plumbing trade

Brooklyn plumbers act as gas company branches. J. M. Connolly. il Gas Age 72: 147-8 Ag 12 '33

Co-operation with utilities in two cities based on mutual confidence. il Dom Eng 141:48-9+ Ja '33

Fall River dealer cooperation a success for nine years. M. S. Sullivan. Gas Age 72:219-20 S 2 '33

How Boston Consolidated helps appliance dealers to sell. W. C. Beckjord. Gas Age 71:42 Ja 14 '33

Plumbing contractor soft pedals plumbing and goes gas. R. C. Nason. Am Gas J 138:49-50 Ap '33

Utilizing the plumber dealer as a company representative to receive applications for gas service. H. R. Jesper. Am Gas Assn Mo 15:99-100 Mr '33

## GAS laboratories

Modern gas laboratory. S. Cohn. Am Gas Assn Proc 1932:948-50

Work of Watson House; abstract. C. A. Masterman. Illum Engr 26:31-2 F '33; Same. Gas J (Lond) 201:145-6 Ja 18 '33

## See also

American gas association—Appliance testing laboratory

## Equipment

Laboratory cracking furnace for heavy oils and gas oils. I. B. Dick. il diag Am Gas J 138:32-4 Je '33

## GAS lamps

New two-way asymmetrical street lamp. Gas J (Lond) 201:805 Mr 29 '33

## Advertising

This direct mail strengthened by color, art, ample copy; Coleman lamp and stove company. A. W. Boyer. il Ptr Ink 164:69-72 S 14 '33

## Therapeutic use

Croydon's home health week; display of home clinical gas lamps. il Gas J (Lond) 201:311-12 F 8 '33; Same. Am Gas Assn Mo 15:141+ Ap '33

## GAS leakage

Gas detection instruments. S. S. Tomkins. bibliog il Am Gas Assn Proc 1932:810-25; Same. Am Gas Assn Mo 15:511-19 D '33

Hazards in connection with natural gas. P. M. Biddison. Gas Age 70:681-3 D 24 '32

Lost and unaccounted-for gas; A.G.A. subcommittee report. diag Am Gas Assn Proc 1932:759-74

Observations of shade trees in the vicinity of gas leaks. C. G. Deuber. il Am Gas Assn Mo 15:465-6 N '33

Presidential address before Manchester and district junior gas association; problem of unaccounted-for gas. T. H. Williams. Gas J (Lond) 204:282-3 O 25 '33

Soundograph system for gas leak detection. O. L. Smith. il diag Gas Age 71:381-3, 601-3 Ap 15, Je 10 '33

## GAS lifts

Air-gas lifts will find ready application to production conditions in east Texas pool. il Oil & Gas J 32:55 Je 22 '33

Conditions under which gas and liquid mixtures rise. J. Versluys. il Inst Pet Tech J 19:694-700 Ag '33

**GAS lifts—Continued**

- Gas lift to be applied to Oklahoma City wells as the natural formation pressures decline. S. F. Shaw. *il Oil & Gas J* 32:27-8 Ag 31 '33
- Operators in Oklahoma City field are engaged in running tubing and installing compressors. L. G. E. Bignell. *Oil & Gas J* 32:31 Ag 31 '33
- Principles of gaslift. J. Versluys. *diags Inst Pet Tech J* 19:687-93 Ag '33
- Use of kick-off couplings in deep gas-lift oil wells. *Oil & Gas J* 32:38 Ag 31 '33
- GAS light and coke company**  
Ordinary general meeting, 226th, London. *Economist* 116:374-5 F 18 '33

**GAS lighting**

- Curling by gas light. *il Gas J (Lond)* 201:616 Mr 8 '33
- Development of public lighting in the city of Bombay. J. P. Blackmore. *Gas J (Lond)* 203:627-9 S 20 '33; Same cond. *il Illum Engr* 26:274-6 N '33
- Floodlighting by gas of an open-air swimming-bath at Enfield. *il Illum Engr* 26:219 S '33
- Floodlighting of building estates. R. S. Ross. *il Gas J (Lond)* 201:804-5 Mr 29 '33
- Gas floodlighting of parish church, Rothwell. *il Gas J (Lond)* 200:563 N 23 '32
- New field for gas floodlighting; open-air baths. *il Gas J (Lond)* 203:348-9 Ag 16 '33
- Smethwick's enterprise; extending the applications of gas on the district. *il Gas J (Lond)* 201:197-8 Ja 25 '33
- Some observations on the lighting conditions for basic industries in Sheffield. R. W. Daniel. *Illum Engr* 26:207-11 S '33
- Street lighting; abstract. *Lux. Gas J (Lond)* 203:95 Jl 12 '33
- Street lighting of Paris. J. W. Partridge. *Illum Engr* 26:240-1 O '33; Same. *Gas J (Lond)* 204:219-20 O 18 '33

**History**

- Picture commemorates first display of gas in America; address at unveiling of painting in the Municipal museum, Baltimore. A. Forward. *il Am Gas Assn Mo* 15:171-4 My '33; Excerpts. *Oil & Gas J* 31:65 My 4 '33

**GAS losses**

- Lost and unaccounted-for gas; A.G.A. subcommittee report. *diag Am Gas Assn Proc* 1932:759-90

**GAS manufacture**

- American gas association technical sessions. *Gas Age* 72:335-7 O 7 '33
- Carbonization of coal of relatively low coking power. *Gas J (Lond)* 202:215 Ap 26 '33
- Carbonization of screened, mixed, and blended coals. H. Hollings. *flow diags Gas J (Lond)* 201:370-4; Discussion. 374-6 F 15 '33
- Carbonization with 103-in. vertical retorts. F. A. Rhead. *Gas J (Lond)* 201:316-18 F 8 '33
- Centralized manufacture and distribution of gas in Belgium. G. Evetts. *map Gas J (Lond)* 202:526-32 My 24 '33; Discussion. 202:752-5; 203:41-5 Je 7, Jl 5 '33
- Coal testing and other aids in the control of carbonization. N. C. Sturrock. *Gas J (Lond)* 201:754-6 Mr 22 '33
- Control of retort bench vacuum. W. Campbell. *Gas J (Lond)* 201:149-51; Discussion. 151 Ja 18 '33
- Elements of gas technology. *diag Am Gas J* 139:19-20 Ag; 44-5 O; 21-2 N '33
- Gas, coke and by-product making properties of American coals; summary of important results and preliminary conclusions from tests on 20 coals. A. C. Fieldner and J. D. Davis. *tables Am Gas Assn Proc* 1932:860-78
- General design and technical operation of continuous vertical retorts. C. A. Poulson. *Gas J (Lond)* 200:504-6; Discussion. 506-7 N 16 '32
- Der heutige stand des gaserzeugerbaues und -betriebes auf hüttenwerken. F. Lüth. *diags Stahl & Eisen* 52:1213-21 D 8 '32
- Modern equipment in the scientific control of carbonization. J. Duffy. *Gas J (Lond)* 200:805; Discussion. 806 D 21 '32

- New England operating men hear papers on use of oils in gas making; abstracts of papers. *Gas Age* 71:75 Ja 21 '33
- New process produces substitute natural gas in standard water gas set. *Gas Age* 71:157 F 11 '33
- Petroleum refinery gas for city supply in Brooklyn. R. S. McBride. *il diags Chem & Met Eng* 40:508-11 O '33
- Presidential address before Midland junior gas association. S. K. Hawthorn. *Gas J (Lond)* 204:214-16 O 18 '33
- Random reflections on modern gas practice. B. Richardson. *Gas J (Lond)* 200:695-9; Discussion. 699 D 7 '32
- Reconstructed gas-works at Oldham. *il Gas J (Lond)* 202:332-7 My 10 '33
- Reforming gaseous hydrocarbons. W. W. Odell. *Am Pet Inst Proc (Refining div)* p23-31 Je '32
- Refractory screen oil gas process. A. Johnson. *il diag Am Gas Assn Proc* 1932:892-9
- Scientific principles of low-grade gas; Nuneaton gas company. D. Brownlie. *Soc Chem Ind J (Chem & Ind)* 52:432 My 19 '33
- La situation actuelle de l'industrie du gaz. H. Laurain. *diags maps Soc Ing Civils Bul* 85:1177-1217, pl 211 S '32
- Straight line of quality and increased yield in therms per ton (with reflections on tar firing). J. W. Young. *diag Gas J (Lond)* 203:406-8; Discussion. 408 Ag 23 '33
- Young, Beilby, and some experiments on the carbonization of coal. F. S. Sinnatt. *il diags Gas J (Lond)* 203:565-70 S 13 '33

**See also**

- |                             |                  |
|-----------------------------|------------------|
| Coal distillation           | Gas companies    |
| Coke manufacture            | Gas producers    |
| Coke-oven gas               | Gas purification |
| Gas, Oil                    | Gas retorts      |
| Gas, Water—Manu-<br>facture | Gas works        |

**By-products**

- Ammonia liquor losses concentrated into profits; North Berwick gas works. C. H. S. Tupholme. *diags Chem Markets* 31:510-11 D '32
- Ammonia situation in Sweden; abstract. G. H. Hultman. *Gas J (Lond)* 201:95 Ja 11 '33
- Ammonium thiocyanate (Ammonium sulphocyanide). L. Shnidman. *Am Gas Assn Proc* 1932:950-69 [bibliog p968-9]
- Benzol recovery replaces petroleum imports. C. H. S. Tupholme. *il Chem Markets* 32:221-4 Mr '33
- Benzole recovery. F. Blackburn. *Gas J (Lond)* 200:565-8; Discussion. 568-70 N 23 '32
- By-products; A.G.A. subcommittee report. *Am Gas Assn Proc* 1932:903-4
- Direct recovery of standard road tars. F. Cooke. *diag Gas J (Lond)* 202:811-13 Je 14 '33
- Flotation sulfur in agriculture. V. Sauchelli. *bibliog il Ind & Eng Chem* 25:363-7 Ap '33
- Making sulphur in city gas a profitable by-product; ammonia-thylox process. R. S. McBride. *flow sheet il Chem & Met Eng* 40:398-401 Ag '33
- Modern methods of benzole refining; the use of inhibitors for preventing gum formation. W. H. Hoffert and G. Claxton. *Soc Chem Ind J* 52:25T-33T F 3 '33
- New ideas on gas purification and sulfate manufacture; cost data. F. Denig. *Gas Age* 71:593-6+ Je 10 '33
- New textile wetting-out agent developed from gas plant tar. C. H. S. Tupholme. *Ind & Eng Chem News ed* 11:318 N 10 '33; Same. *Textile Col* 55:846 D '33
- Phenol from crude ammonia liquor; abstract. F. Sierp. *diag Am Gas J* 138:37-8 Ap '33
- Random reflections on modern gas practice. B. Richardson. *Gas J (Lond)* 200:698-9; Discussion. 699 D 7 '32
- Recent developments in special by-products of coal carbonization. A. R. Powell. *Am Gas Assn Proc* 1932:904-13; Conclusions. *Chem & Met Eng* 39:610 N '32
- Recent European developments in sulphur extraction. *Gas Age* 70:572 N 26 '32



**GAS manufacture—By-products—Continued**

Récolte et traitement des sous-produits de la carbonisation de la houille; état actuel de ces techniques en Europe et aux États-Unis. C. Berthelot. bibliog il diags Chimie & Ind 30:3-38; Discussion. 38 JI '33

Recovering benzole with activated charcoal; abstracts. A. Engelhardt and H. Rüping. Gas J (Lond) 203:154 JI 19 '33; Am Gas J 139:32 S '33

Recovery of sulphur from spent oxide. Gas J (Lond) 202:219-20 Ap 26 '33

Report, 2d, of the liquor effluents and ammonia sub-committee, Institution of gas engineers. Gas J (Lond) 200:sup11-13 O 26 '32; Same. Gas Age 71:15-18 Ja 7 '33; Abstract. Engineering 134:591-2 N 18 '32; Discussion. Gas J (Lond) 200:425-7, 687-91 N 9, D 7 '32

Solid smokeless fuel. J. W. Napier. Gas J (Lond) 201:264-6 F 1 '33; Abstracts. Chem Age (Lond) 28:78 Ja 28 '33; Soc Chem Ind J (Chem & Ind) 52:78; Discussion. 78-9 Ja 27 '33

T.I.C. process in France; preparation of road tar at Montbéliard gas-works. A. Eichelbrenner. il Gas J (Lond) 200:739-41 D 14 '32

Tar and ammonia output of gas industry in 1931. Oil Paint & Drug Rep 123:38 Ja 9 '33

Tar and liquor separator. A. R. Anderson. Gas J (Lond) 201:148-9 Ja 18 '33

Theoretical aspects of benzole recovery from coal gas. C. M. Wearing. bibliog Gas J (Lond) 201:750-4, 814-17 Mr 22-29 '33; Discussion. 201:817-18 Mr 29 '33

Tricresyl phosphate as solvent for phenol recovery from gas-plant effluents. C. H. S. Tupholme. Ind & Eng Chem 25:303-4 Mr '33

Water gas tar and heavy oil in making carbureted water gas. E. S. Pettyjohn. bibliog il diags Gas Age 71:643-6+; 72:9-14 Je 24-JI 1 '33

See also

Ammonia Coal tar  
Ammonium sulfate—Coke  
Manufacture

**Complete gasification process**

Gasification with oxygen; abstract. Drawe. Gas J (Lond) 203:95 JI 12 '33

Production, distribution and marketing in natural gas industry analyzed. S. W. Meals. Oil & Gas J 32:78 Je 8 '33

Tully gasification plant with waste-heat boiler and automatic operator. W. T. Dunn. il diags Gas J (Lond) 203:620-2 S 20 '33; Abstract. Mech Eng 55:766 D '33

**Cooling**

Design of grid-packed cooling towers. C. C. Furnas and R. H. Newton. plan Chem & Met Eng 40:301-4 Je '33

**Naphthalene problem**

Developments in naphthalene removal by spraying solvent; based on the work of the laboratory of Cracow gas works and of W. J. Piotrowski and J. Winkler. G. Malecki. diags Gas Age 72:285-8 S 23 '33

**GAS masks**

Peacetime activities of the Chemical warfare service. R. E. Sadtler. Chem Ind 33:304-5 O '33

La protection contre les fumées et les gaz, dans les incendies de navires. Manaud. diags Génie Civil 103:70 JI 15 '33

Die regeneration der atemluft in gasschutzgeräten durch alkalisuperoxyde. A. Hloch. Angew Chemie 46:45-7 Ja 14 '33

Significance of the Bureau of mines' approval of gas masks. Safety Eng 64:258 D '32

What permissible means in respiratory protection. W. P. Yant. il Nat Safety N 28: 11-13+ Ag '33

**GAS measurement**

Gas measurement practice in Europe; a comparison with American methods. il diags Gas J (Lond) 202:818-20 Je 28 '33

Integration and pulsation errors in measurement of quantities of gas flowing through an orifice. D. Gilmour. Inst Pet Tech J 19:25-68 Ja '33; Abstract. Mech Eng 55:260-1 Ap '33

Ein neues gerät für die messung kleiner strömender gasmengen. A. Baader. diag Chemische Fabrik 6:171 Ap 19 '33

Slide rules for calculating gas flow meter charts. F. H. Day. il Gas Age 72:258-60 S 16 '33

Eine verstellbare messblende. E. Schindel. il diags Zeit Ver Deutsch Ing 77:155-6 F 11 '33

See also

Gas flow  
Gas meters

**GAS meters**

American meters. il Am Gas J 139:52, 54+ S '33

Association of statutory inspectors of gas meters annual general meeting, London, June 14. Gas J (Lond) 202:867-8 Je 21 '33

Development of gas meters to meet modern needs. E. Butterworth. Gas J (Lond) 200: 509-11 N 16 '32

Economics of removing locked meters. N. L. Hoff. Gas Age 71:43-5 Ja 14 '33

Gas impurities and meters; abstract. O. Knoblauch. Am Gas J 138:38 Ap '33

Kent low-pressure gas-flow recorder. il diags Engineer 155:187 F 24 '33

Metering and its relation to unaccounted-for gas. J. E. Overbeck. Am Gas Assn Proc 1932:77-84

Meters; A.G.A. subcommittee report. Am Gas Assn Proc 1932:707-13

Nouveaux compteurs à gaz pour grands débits (compteurs de fabrication). diags Génie Civil 102:186-7 F 25 '33

Operating trends in New England. H. G. Taylor. Am Gas J 138:22-6 Mr '33

**Cleaning**

Taking the drudgery out of meter cleaning. H. M. Riley. il diags Am Gas J 138:12-13 F '33; Abstract. Gas Age 71:146 F 11 '33

**Diaphragms**

Meter diaphragms. L. M. Van der Pyl. Am Gas J 139:23-4 O '33

Recent work on diaphragm dressings. L. M. Van der Pyl. Am Gas Assn Proc 1932:1015-21; Discussion. 1021-2

**Repair**

Centralization of gas meter repairs. G. M. Johnson. Am Gas J 137:18-20 D '32

**Testing**

Automatic control of meter proving machines. P. B. R. Baas. il Gas Age 71:569-70 Je 3 '33

Prüfverfahren und messergebnisse für trockene gassmesser. H. Müller, Kallmeyer and Glud. il diags Zeit Ver Deutsch Ing 77:759-64 JI 15 '33

Testing of gas fittings and meters. C. D. Blackhall. Gas J (Lond) 200:806-7; Discussion. 807 D 21 '32

Testing of gas meters; the question of re-verification; discussion. Gas J (Lond) 201: 561 Mr 1 '33

Tests on large gas meters. Am Gas J 138:34 My '33

**GAS mixing**

A. G. A. discusses new methods of producing water gas. Chem & Met Eng 40:310-12 Je '33

Economic aspects of refractory screen oil gas process. A. Johnson. Gas Age 71:545-6+ My 27 '33

Emergency substitute for natural gas. E. L. Fischer. Am Gas J 139:21-2 O '33

Gas-cracking and reforming processes. G. G. Oberfell and J. A. Guyer. Am Pet Inst Proc (Refining div) p32-5 Je '32

Gas mixing in St Louis county, Missouri. O. R. Allgeier. plans Am Gas J 139:16-19+ JI '33

Gas mixing in Syracuse. H. K. Seeley. diag Gas Age 71:547-50 My 27 '33; Same cond. Am Gas J 138:16-18+ Je '33

Gas mixing; results of research at A.G.A. testing laboratory. R. M. Conner. Am Gas Assn Mo 15:188-90+ My '33

Gas plants as stand-by for natural gas transmission lines. F. Wills. diags Am Gas J 139:19-20 O '33

**GAS mixing—Continued**

Mixed gas research investigation completed. F. R. Wright. *Am Gas Assn Mo* 14:521 D '32  
 Natural gas greets a substitute; gas manufactured from Diesel oil to replace natural gas when an emergency arises. N. V. Davidson. *il Sci Am* 148:36-7 Ja '33

New oil gasification process is developed; oil gas retort process in the Glover West vertical retorts of the Pawtucket gas company. L. C. Allen. *diag Gas Age* 72:207-8+ S 2 '33

Production and utilization of high heating value Diesel oil gas. *Am Gas J* 138:12-16 My '33

Production of high B.t.u. gas in existing water gas equipment. L. J. Willen. *Gas Age* 72:431-3+ N 4 '33

Reforming gaseous hydrocarbons. W. W. Odell. *Am Pet Inst Proc (Refining div)* p23-31 Je '32

Refractory screen oil gas process. A. Johnson. *il diag Am Gas Assn Proc* 1932:892-9

Selbsttätige regelung des mischungsverhältnisses von gasen in der chemischen technik. Mayer-Witten. *il diags Chemische Fabrik* 6: 61-2 F 1 '33

Stand-by gas plants for natural gas transmission lines. F. Wills. *Gas Age* 72:363-5+ O 14 '33

Use of high B.t.u. oil gas during a peak load. F. Wills. *Am Gas Assn Mo* 15:240-1 Je '33

Use of mixed producer and natural gas for underfiring. C. R. Locke. *diag Am Gas J* 139:24 O '33

**GAS oil**

Carbureting oils; examination and evaluation. *Gas J (Lond)* 203:676 S 27 '33

Charting the relationship of generator fuel and gas oil. R. L. Ellis. *Gas Age* 71:143 F 11 '33

Cracking of Mid continent virgin gas oil over a wide range of temperatures and pressures. P. C. Keith, jr., J. T. Ward and L. C. Rubin. *flow diag tables Am Pet Inst Proc* 14M(3):49-66; Discussion. 67 My '33

Crude oil as a carbureting material for water gas. M. F. B. Hyde. *Gas Age* 71:301+ Mr 25 '33

High B.t.u. gas test at Philadelphia, Pa. using heavy oil. W. K. Beard. *Am Gas J* 138:30-1 Je '33

Influence of bunker enriching oil on composition of distillates from water gas tar. C. W. Griffin. *bibliog il Ind & Eng Chem* 25:89-93 Ja '33

Laboratory cracking furnace for heavy oils and gas oils. I. B. Dick. *il diag Am Gas J* 138:32-4 Je '33

New field for the economic utilization of fuel oil. P. T. Dashiell. *bibliog il diags Am Pet Inst Proc (Refining div)* p39-55 Je '32

Operation of western gas heavy oil equipment in Newport, R.I. E. J. Wilson. *Gas Age* 72:27-30 J 8 '33

Progress of naphthology, 1932; gas oil, Diesel fuel oil, and fuel oil. F. H. Garner. *bibliog Inst Pet Tech J* 19:592-9 J 1 '33

Total heats of gas oils at elevated temperatures and pressures. W. W. Gary, L. C. Rubin and J. T. Ward. *diag Ind & Eng Chem* 25:178-83 F '33

Use of heavy oils for carburetion. F. W. Hartzel and C. J. Lueders. *diag tables Am Gas Assn Proc* 1932:882-9

Vapor-phase cracking. H. P. A. Groll. *bibliog il diags Ind & Eng Chem* 25:784-98 J 1 '33

Water gas tar and heavy oil in making carbureted water gas; the use of heavy oil in the production of water gas. E. S. Pettyjohn. *bibliog Gas Age* 72:35-7 J 8 '33

**See also**

Gas, Oil  
 Gas, Water

**Statistics**

Gas and fuel oils, monthly, 1930-1932. Survey of Cur Business 13:20 F '33

Government data show general decline in demand for fuel and gas oils. *Oil & Gas J* 31:28 N 24 '32

**Testing**

Evaluating oil for carburetion. P. Schlaepfer and S. Schaffhauser. *diags Am Gas J* 139:31 S '33

**GAS ovens**

Drying enamels, lacquers and varnishes; improvements in gas fired conveyor ovens. *il Chem Age (Lond)* 28:222-3 Mr 11 '33

Seamless tubing for cold drawing is dried in continuous oven. H. M. Heyn. *il diag Steel* 93:25-7 Ag 7 '33

**GAS ovens, Baking**

Bake oven conversion progress on the Pacific coast. J. F. Aicher. *il Gas Age* 71:511-13 My 20 '33

Baking by gas; Brungas system for new ovens or conversion. *il Gas J (Lond)* 201: 743 Mr 22 '33

Hotels, restaurants and wholesale baking; A.G.A. forum on gas as fuel. *Am Gas Assn Proc* 1932:622-31

Improvements in gas bakeries; abstract. A. Albrecht. *Gas J (Lond)* 203:96 J 12 '33

Robertshaw new combination control; thermostat and oven gas valve. *il Gas Age* 71:348 Ap 1 '33

Trouble shooting on small bakery conversion jobs. O. Stirling, jr. *il diags Gas Age* 71: 147-9 F 11 '33

**GAS pipes**

Cast-iron pipe joints. M. I. Mix. *il diags Am Gas Assn Proc* 1932:722-57; Discussion. 757-9

High pressure gas-distribution. *Am Gas J* 137:21-5 D '32; 138:24-9 Ja '33

Mechanical joints for cast iron pipe. H. R. Cook. *il diags Pub Works* 64:25-8 Ag '33

Notes on distribution. P. Richbell. *diags Gas J (Lond)* 201:468-72 F 22 '33; Discussion. 201: 562-4 Mr 1 '33

Pipe wall thickness economics. N. L. Hoff. *Am Gas J* 138:36 Je '33

Pipes and pipelines on gas-works and district. A. W. Attwood. *Gas J (Lond)* 202:167-8; Discussion. 168 Ap 19 '33

Points in gas distribution. G. C. Gunston. *Gas J (Lond)* 202:555-8 My 24 '33

Progress report of pipe joint research. K. R. Knapp. *Am Gas Assn Proc* 1932:714-20; Discussion. 720-2

Report of research on mechanical pipe joints; abstract. K. R. Knapp. *Gas Age* 71:406-7 Ap 22 '33

Rubber joints in gas mains. *il Gas J (Lond)* 201:809-10 Mr 29 '33; Abstract. *Am Gas J* 139:32+ S '33

**See also**

Gas, Natural—Pipe	Gas fitting
lines	Gas flow
Gas distribution	

**Cleaning**

Blowing mains and services free of rust. H. N. Johnson. *diags Gas Age* 72:393 O 21 '33

Notes on tetralin. P. E. Cholet. *Am Gas J* 138:29 Ja '33

Vacuum system of cleaning service pipes. E. G. Campbell. *diag Gas Age* 71:59+ Ja 21 '33

**Corrosion**

Application of pipe coating and corrosion research to southern soils. S. Ewing. *Am Gas Assn Mo* 15:298-300 J 1 '33; Same abr. *Gas J (Lond)* 203:353-4 Ag 16 '33

Electrolytic corrosion in gas mains; abstracts. W. Beck. *Engineering* 135:617-18 Je 9 '33;

*Electrician* 110:739 Je 9 '33; *Elec R (Lond)* 112:902 Je 23 '33; Discussion. *Gas J (Lond)* 202:747-50; 203:47 Je 7, J 15 '33

Mitigating internal corrosion of natural gas lines. A. B. Allene. *diags Gas Age* 72:463-5 N 11 '33

Pipe coatings and corrosion; A.G.A. sub-committee report. *Am Gas Assn Proc* 1932: 703-4

Reducing metal corrosion rate by use of an inhibitor. A. R. Dunham. *Gas Age* 71:657-8 Je 24 '33

**Damages from earthquakes**

Effect of earthquake on southern California gas systems. A. F. Bridge. *il Am Gas Assn Mo* 15:175-8 My '33



**GAS pipes**—Damages from earthquakes—*Cont.*  
Long Beach, Cal. gas lines damaged by earthquake. Gas Age 71:319 Mr 25 '33

#### Damages from floods

Denver natural gas cut off by flood; stand-by plant fills sudden demand. il Gas Age 72:300-1 S 23 '33

#### Damages from lightning

Lightning puts a transmission line out of commission. D. P. Hartson. il Gas Age 71:487-8+ My 13 '33

#### Deposits

Developments in naphthalene removal by spraying solvent; based on the work of the laboratory of Cracow gas works and of W. J. Piotrowski and J. Winkler. G. Malecki. diags Gas Age 72:285-8 S 23 '33

New material for the prevention of naphthalene deposits in mains; abstracts. W. v. Piotrowski and J. Winkler. Gas J (Lond) 202:912-13 Je 28 '33; Am Gas J 139:29 Ag '33

Notes on tetralin. P. E. Cholet. Am Gas J 138:29 Ja '33

#### Lubrication

Gas conditioning. L. W. Tuttle. il diags Gas Age 71:418-21, 438-41+ Ap 22-29 '33; Same. W Soc E J 38:142-53 Je '33

#### Protection

Cathodic protection of pipe lines. W. R. Schneider. il diags Gas Age 71:355-9+ Ap 8 '33

Economics of pipe wall thickness in gas distribution. N. L. Hoff. Gas Age 71:573-5 Je 3 '33

Rectifier protects gas main from electrolysis. Elec W 101:217 F 18 '33

#### Repair

Leaks sealed and stopped with new method; Antileke pipe joint. il Gas Age 71:76 Ja 21 '33

#### Stoppers

New mechanical gas main stopper. il Gas Age 71:120-1 F 4 '33; Same. Am Gas Assn Mo 15:111-12 Mr '33

#### Tapping

Tapping a gas main while under pressure. A. R. King. il Gas Age 71:231-2 Mr 4 '33

Tapping a large gas line without interrupting gas flow. il Am Gas J 138:36 Mr '33; Comp Air M 38:4110 Ap '33

#### Testing

Natural gas for testing mains. diag Am Gas J 138:35 Je '33

Soundograph system for gas leak detection. O. L. Smith. il diags Gas Age 71:381-3, 601-3 Ap 15, Je 10 '33

#### GAS pipes, Steel

Almost five miles of steel gas main is Dresser-coupled for World's fair. il Oil & Gas J 32:37 Je 15 '33

Steel mains for bridges. H. V. Williams. il diags Gas J (Lond) 202:170-1; Discussion. 171 Ap 19 '33

#### GAS poisoning. See Carbon monoxide poisoning

#### GAS producers

Les formes nouvelles d'emploi du charbon pulvérisé. C. Berthelot. diags Génie Civil 103:201-5 Ag 26 '33

Fuel economy in internal producers. A. Tran. Gas J (Lond) 202:559-61; Discussion. 561 My 24 '33

Gas plants as stand-by for natural gas transmission lines. F. Wills. diags Am Gas J 139:19-20 O '33

Gas producer heat balance; calculation of the distribution of useful and waste heat. J. W. Romig. Am Gas J 138:17-20 My '33

Gasification of town's refuse, Burnley, England. il diags Engineer 156:355-6 O 13 '33; Engineering 136:383 O 6 '33; Gas J (Lond) 204:81-2 O 4 '33

Der heutige stand des gaserzeugerbaues und -betriebes auf hüttenwerken. F. Lüth. diags Stahl & Eisen 52:1213-21 D 8 '32

Lime production methods of Europe and America. V. J. Azbe. il Rock Prod 35:21-4 D 10 '32

Neuerungen im bau von drehrostgeneratoren und gasanlagen. W. Kirnich. il diags Chemische Fabrik 5:433-7 N 16 '32

Producer gas furnace for Lancashire boilers. diags Engineer 156:156-7 Ag 18 '33

Producing gas from municipal refuse in Burnley, England. Pub Works 64:34 N '33

Running busses on wood; Imbert gas generator uses charcoal. J. Hoffmann. il Elec Traction 29:236-7 Ag '33

Valuable source of primary power; producer wood gas use in mine power plant. R. C. Rowe. il Can Min J 54:105-7 Mr '33

#### GAS purification

Activated carbon in purification of gas; abstract. M. D. Koenigstuhl. diag Am Gas J 139:29 Ag '33

Biological detoxication of coal gas. Gas J (Lond) 204:145 O 11 '33

Causes of the thickening of creosote (solva) wash oil. J. A. Bordo and W. Mühlendyck. Gas J (Lond) 202:35 Ap 5 '33

Design of purifiers for the removal of hydrogen sulphide from town gas by iron oxide. Gas J (Lond) 202:922-4; 203:51-2 Je 28-Jl 5 '33

Developments in naphthalene removal by spraying solvent; based on the work of the laboratory of Cracow gas works and of W. J. Piotrowski and J. Winkler. G. Malecki. diags Gas Age 72:285-8 S 23 '33

Die druckerhitzung der ammoniumthionate und die neueren polythionatverfahren zur gasreinigung. C. Harnist. diag Angew Chemie 46:464-7 Jl 8 '33

Gas purification. D. L. Jacobson and G. M. Carvlin. Am Gas Assn Proc 1932:1022-9 [bibliog p1028-9]

Gum deposits in gas distribution systems. A. L. Ward. C. W. Jordan and W. H. Fulweiler. bibliog il Ind & Eng Chem 25:1224-34 N '33

Gum problem in city gas. W. H. Fulweiler. Gas Age 70:453-8 O 29 '32; Excerpts. Gas J (Lond) 200:570-2 N 23 '32

Handling plant employed in gas desulphurisation; operation by compressed-air motor. il diags Mech Handling 20:141-3 My '33

Illuminating gas poisons are successfully removed in Austria. Ind & Eng Chem News ed 11:21 Ja 20 '33

Improved dry purification of gas. H. Broche, H. Nedelmann and H. Thomas. Gas Age 70:680 D 24 '32

Liquid purification. F. Denig and A. R. Powell. diags Am Gas J 139:22-3 O '33

Liquid purification with otherwise waste ammonia. J. D. Price. Gas J (Lond) 204:142-3 O 11 '33

Making sulphur in city gas a profitable by-product; ammonia-thylox process. R. S. McBride. flow sheet il Chem & Met Eng 40:398-401 Ag '33

New process eliminates arsenic and fluorine from sulfurous gases. P. Gerard. Ind & Eng Chem News ed 11:153 My 20 '33

Oxide purification. Gas Age 71:177 F 18 '33

Oxide purification and Copenhagen. J. F. Edelberg. Gas J (Lond) 202:546 My 24 '33

Purifying gas with ammonia liquor. diags Am Gas J 139:28 Ag '33

Recent developments in the gum problem. W. H. Fulweiler. Gas Age 72:411-13+ O 28 '33

Recovering benzole with activated charcoal; abstracts. A. Engelhardt and H. Rüping. Gas J (Lond) 203:154 Jl 19 '33; Am Gas J 139:32 S '33

Stand und fortschritte der gasentschwefelung. A. Sander. il diags Zeit Ver Deutsch Ing 77:530-2 My 20 '33

Sulphur from gas purification. Chem Age (Lond) 29:231-2, 250-1, 272 S 9-23 '33

Treating gas by refrigeration; abstract. A. Beck. Gas Age 72:58 Jl 15 '33

**GAS purification—Continued**

- Trouble-free gas purification; determining the dimensions of a purifying plant. *Chem Age (Lond)* 29:169-70 Ag 19 '33
- Use of unfluffed ores for dry purification. C. O. Schobel. *diag Gas Age* 71:539-40 My 27 '33; Same. *Am Gas J* 138:31-2 Je '33
- Value of carbon catalysis in gas purification. H. L. Olin, V. Scarth and W. L. Starkweather. *diag Gas Age* 70:561-4 N 26 '32

*See also*

- Blast furnace gas— Gas scrubbers  
Cleaning Gas washers
- Electric precipitation

**GAS purifiers**

- Design of purifiers for the removal of hydrogen sulphide from town gas by iron oxide. *Gas J (Lond)* 202:922-4; 203:51-2 Je 28-Jl 5 '33
- Detroit city gas company's new purifier is welded throughout. *il Gas Age* 71:77 Ja 21 '33
- Principles and procedure in purifier box design. T. F. Bright. *diags Am Gas J* 138:9-12 Ja; 25-7 F '33
- Purifier developed to be used exclusively with tetralin. *diag Gas Age* 71:346 Ap 1 '33
- Purifier expansion theory and its application. C. O. Pratt. *Gas Age* 70:591-7 D 3 '32
- Use of salt glazed bell and spigot terra cotta pipe to facilitate the emptying of overhead purifier boxes. C. O. Schobel. *Am Gas Assn Proc* 1932:899-900

**GAS rates**

- Chicago mixed gas rates argued before commission. *Oil & Gas J* 31:74 Mr 2 '33
- Commissions must watch interests of consumers and investors. J. Simpson. *Gas Age* 72:429-30+ N 4 '33
- Comparative study of gas rates and commodity prices. C. E. Crenshaw. *Gas Age* 71:520-1 My 20 '33
- Consolidated Gas to protest order to reduce rates. *Barron's* 13:7 Ag 28 '33
- Court may entertain reparation suit without preliminary commission proceedings. *Pub Util* 11:252 F 16 '33
- Current trends in gas regulation. E. Nichols. *Pub Util* 10:431-8, 690-6 O 13, D 8 '32
- Development of gas as an industrial fuel. J. E. White. *Gas J (Lond)* 202:534-5 My 24 '33
- Endeavour to formulate a simple part-rate system of gas charges to cover all gas sales. N. Hudson. *Gas J (Lond)* 203:257-9; Discussion. 259-61 Ag 2 '33
- Energy comparisons in gas and electric sales. *Gas Age* 71:229 Mr 4 '33
- Fairness in gas charges. C. R. Ingham. *Gas J (Lond)* 202:547-8; Discussion. 548 My 24 '33
- Finding the increment cost of a special class of service; gas for space heating and suburban commutation to and from New York city. *Pub Util* 11:312-14 Mr 2 '33
- Fixing rates on termination of service under contract with city; Ohio Supreme court. *Gas Age* 70:632 D 10 '32
- Further gas rate cuts peril to service. A. Forward. *Pub Serv Management* 54:53 F '33
- Gas rates. G. W. Woodbridge. *Gas J (Lond)* 201:206-8 Ja 25 '33
- Gas supply and charges. E. Crowther. *Gas J (Lond)* 202:421-2 My 17 '33
- Gas undertakings (basic charges); proceedings of a joint parliamentary committee. *Gas J (Lond)* 200:853-5; 201:44-6 D 28 '32-Ja 4 '33
- Heat energy as a basis for gas billing. T. R. Weymouth. *Gas Age* 71:83-5+ Ja 28 '33
- Holding the present load and preparing for the future. M. Dellplain. *Gas Age* 71:221-2, 230 Mr 4 '33; Excerpts. *Am Gas J* 138:40-1 Mr '33
- How to meet competition in domestic water heating. H. M. Henry. *Gas Age* 71:139-42 F 11 '33
- New principle in making of gas rates offered in Fisher-Naiman formula. *Oil & Gas J* 31:57-8 Mr 16 '33
- New schedules cut heating rates of gas users. *Gas Age* 72:267-8 S 16 '33
- New York starts drive for lower rates. *Gas Age* 71:527 My 20 '33

Promotional rate for volume water heating will improve load factor. S. B. Finch. *Am Gas Assn Mo* 15:23-5 Ja '33

Rate structure as a business builder. A. J. Dobson. *Gas J (Lond)* 201:208-11 Ja 25 '33

Retail prices of gas in the United States. Monthly Labor R 36:416-17 F '33

Some light thrown on the gas situation of Bellefontaine, O. H. Egbert. *Pub Serv M* 54:84 Mr '33

Special tariffs for power gas. F. Schäfer. *Gas J (Lond)* 203:157 Jl 19 '33

Trend of house heating rates in New England. L. H. Knapp. *Am Gas J* 138:43 Mr '33

When commissions ride roughshod. F. W. Parsons. *Gas Age* 72:271-2+ S 23 '33

*See also*

Gas, Natural—Rates

**Bibliography**

Cumulative index of rate structure committee reports, 1921-1932 K. R. Boyes. *Am Gas Assn Mo* 14:500-1 D '32

**GAS refrigerators.** See Refrigerators, Gas

**GAS research**

American gas association publishes new basic data on high temperature combustion. E. E. McCormick. *Am Gas Assn Mo* 15:468 N '33

Gas mixing; results of research at A.G.A. testing laboratory. R. M. Conner. *Am Gas Assn Mo* 15:188-90+ My '33

Glimpse at some important research at A.G.A. testing laboratory. R. M. Conner. *il Am Gas Assn Mo* 15:310-12 Ag '33

Gum problem in city gas. W. H. Fulweller. *Gas Age* 70:453-8 O 29 '32; Excerpts. *Gas J (Lond)* 200:570-2 N 23 '32

Industry's achievements in research. F. C. Weber. *Am Gas J* 139:21 O '33

Mixed gas research investigation completed. F. R. Wright. *Am Gas Assn Mo* 14:521 D '32

Research and the gas industry. F. W. Sperr, jr. *Gas Age* 70:279-81+, 337-40, 411-14, 463-5, 523-5, 569-70+, 625-8, 677-80; 71:39-42, 89-92 S 17, O 1, 15, 29, N 12, 26, D 10, 24 '32, Ja 14, 28 '33; Discussion. 71:167-8+ F 18 '33

Research points way to silent industrial gas utilization. D. W. Chapman. *Am Gas Assn Mo* 15:467 N '33

Scientific investigation and the utilization of town gas. J. W. Wood. *Gas J (Lond)* 200:802-4 D 21 '32

*See also*

Gas laboratories

**GAS retorts**

Brick retorts for low-temperature carbonisation. *Engineering* 136:138-9 Ag 11 '33

British refractories research helps the gas industry. A. C. Blackall. *Gas Age* 71:390 Ap 15 '33

British research board designs burner for heating retorts. *Gas Age* 72:135 Ag 5 '33

C.O.L. vertical chamber plant at Vancouver. *il Gas J (Lond)* 202:278-9 My 3 '33

Carbonization with 103-in. vertical retorts. F. A. Rhead. *Gas J (Lond)* 201:316-18 F 8 '33

Control of retort bench vacuum. W. Campbell. *Gas J (Lond)* 201:149-51; Discussion. 151 Ja 18 '33

Experiences of silica in a continuous vertical plant. O. A. Ternes. *Gas J (Lond)* 201:146-8 Ja 18 '33; Discussion. C. R. F. Threlfall. 201:459 F 22 '33

Furthering gas progress in northern Ireland; Glover-West verticals at Lurgan. T. L. Tallentire. *Gas J (Lond)* 200:675-6 D 7 '32

General design and technical operation of continuous vertical retorts. C. A. Poulson. *Gas J (Lond)* 200:504-6; Discussion. 506-7 N 16 '32

Improvement of design of coal-carbonizing equipment. H. C. Porter. *il diag Ind & Eng Chem* 24:1363-8 D '32; Abstract. *Gas Age* 71:255-6 Mr 11 '33

Lighting-up verticals after repairs. H. Smith. *Gas J (Lond)* 201:211-13; Discussion. 213-15 Ja 25 '33; Reply. 201:319 F 8 '33

Low temperature carbonisation; narrow brick retorts at the Fuel research station; abstracts. *Chem Age (Lond)* 28:178 F 25 '33; *diag Am Gas J* 138:37 Ap '33



**GAS retorts—Continued**

- Modern equipment in the scientific control of carbonization. J. Duffy. Gas J (Lond) 200: 805; Discussion. 806 D 21 '32
- New carbonizing plant at Porthcawl. il Gas J (Lond) 203:680-1 S 27 '33
- New oil gasification process is developed; oil gas retort process in the Glover West vertical retorts of the Pawtucket gas company. L. C. Allen. diag Gas Age 72: 207-8+ S 2 '33
- Novel type of intermittent chamber oven. Gas J (Lond) 201:466 F 22 '33
- Portsmouth's new carbonizing plant. il Gas J (Lond) 203:501-4 S 6 '33
- Vertical retorts for Ireland. A. Law. Gas J (Lond) 203:403-5; Discussion. 405-6 Ag 23 '33
- Young, Beilby, and some experiments on the carbonization of coal. F. S. Sinnatt. il diags Gas J (Lond) 203:565-70 S 13 '33

**GAS sampling**

- Use of pump as gas sampler. R. C. Lee. diags Ind & Eng Chem Anal ed 5:354-6 S 15 '33

**GAS scrubbers**

- Arresting of flue dust and purification of gases. M. D. Engle. diags Mech Handling 20: 211-14 J1 '33
- Curing a difficult expansion problem in a low-pressure gas scrubber. B. Kramer. diags Chem & Met Eng 40:377 J1 '33
- Riley stoker corporation's flue-gas scrubber. diags Engineering 135:70, 74 Ja 20 '33

*See also*

Gas washers

**GAS separators**

- Ammonia purgers. K. Wegemann. il diags Re-frig W 68:21-8 J1 '33

**GAS steam radiators**

- Possibilities of rental plan for heating appliances; A.G.A. subcommittee report. Am Gas Assn Proc 1932:488-93

**GAS storage**

*See also*

Gas holders

Gas tanks

**GAS stoves**

- Birma, new Parkinson cooker. il Gas J (Lond) 200:613 N 30 '32
- Dome panel cooker. il diag Gas J (Lond) 200: 801 D 21 '32
- Standard gas equipment corp. announces new range styled by Norman Bel Geddes. il Gas Age 71:158 F 11 '33
- Stoves learn from autos; new models rouse apathetic dealers. R. S. McFadden. il Sales Management 32:63 Ja 15 '33
- Welsbach co. markets hotzone broiler-griddle. il Gas Age 71:508 My 13 '33

*See also*

Gas cooking

Gas heaters

Gas ovens

**Advertising**

- Back to reason-why copy; American stove company. il Ptr Ink 162:77-8 Mr 30 '33
- Colorado public service promotes gas ranges on jig-saw puzzle page. Gas Age 71:366 Ap 8 '33
- National advertising and sales organization. D. F. Kahn. Am Gas Assn Proc 1932:688-90; Discussion. 691
- New design opens new outlets; direct mail and business-paper campaigns for new gas range. il Ptr Ink 163:51-2 Ap 6 '33

**Merchandizing**

- A.G.A. develops program of action to promote gas cookery. Am Gas Assn Mo 15:7-8 Ja '33
- Buffalo utility-dealer drive sells 1500 gas ranges. W. V. Morrow. il Gas Age 72: 456-7 N 11 '33
- Canadian Western stresses modern gas cooking. A. Bell. il Gas Age 72:65-6 J1 15 '33
- Development, research and advertising—the manufacturers' contribution to the industry, as it affects sales. J. A. Fry. Am Gas J 138: 37-40+ My '33; Same abr. Gas Age 71:517-18+ My 20 '33

- Energetic campaign to make housewives conscious of gas economy. R. D. Lewis. il Am Gas Assn Mo 15:179-80+ My '33
- Hotels, restaurants and wholesale baking; A.G.A. forum on gas as fuel. Am Gas Assn Proc 1932:622-31
- How Philadelphia is selling modern gas ranges. Gas Age 71:461+ My 6 '33
- Importance of the cooking load to the gas industry. E. R. Acker. Gas Age 71:567-8+ Je 3 '33
- Manufacturer's views on utility gas range sales. T. E. Bullion. Gas Age 71:466-9 My 6 '33
- Show the housewife the economy of gas. W. B. Stoddard. Am Gas J 138:50+ Ap '33
- This two-way contest reached both dealer and consumer; Coleman stoves. D. Gridley. Ptr Ink 165:43+ O 12 '33
- Traveling display room takes ranges to the prospect. J. E. Bullard. il Gas Age 71:335-6 Ap 1 '33

**Safety devices**

- Industry's leaders discuss vital questions; safe use of gas ranges. F. W. Parsons. Gas Age 71:129-30+ Ap 29 '33

**Standards**

- Change in requirements for gas ranges. Am Gas Assn Mo 15:201-2 My '33

**GAS supply****Denver**

- Emergency gas plant operation at Denver. E. H. Hoover. Gas Age 72:369-70+ O 14 '33

**Paris, France**

- Gas supply in Paris; annual report of the Société du gaz de Paris. Gas J (Lond) 203: 88 J1 12 '33

**GAS tanks**

- Construction and erection of a 3 million spiral guided gasholder in steel tank. W. T. Hobson. diags plan Gas J (Lond) 202:284-7; Discussion. 287 My 3 '33
- Large pressure tanks for oil-gas storage. L. S. Stiles. il Mech Eng 55:162 Mr '33
- Spherical steel mixing tank for gas is arc welded. il Steel 92:34 My 1 '33; Iron Age 131: 992 Je 22 '33

**GAS testing**

- Effect of atmospheric humidity in gas calorimetry. F. Fahey. Gas Age 72:149-52 Ag 12 '33

*See also*

Gas, Natural—Test-

ing

**GAS torch**

- Welding with manufactured, natural, and mixed gas. H. H. Lurie. il diags Purdue Univ Eng Exp Sta Research Bul 41:1-114 [bibliog p113-14] '32

**GAS traps**

- Two-stage separator hook-ups being used more extensively at Conroe. il Oil & Gas J 31:12+ Ap 27 '33

**GAS turbines**

- Drehkolben-gasmaschinen. G. Stauber. diags Zeit Ver Deutsch Ing 77:393-9 Ap 15 '33; Abstract (Rotary-piston-type gas engines). Mech Eng 55:381-3, 443-6 Je-J1 '33
- Druckfeuerung von dampfkesseln in verbind-ung mit gasturbinen. W. G. Noack. il diags Zeit Ver Deutsch Ing 76:1033-9 O 15 '32; Abstract (Pressure-fired boilers). Power Pl Eng 37:119-20 Mr '33; Discussion. Zeit Ver Deutsch Ing 76:1196 D 3 '32
- Internal-combustion turbines; abstract. P. Lorain. Mech Eng 55:637 O '33
- Processes in a gas turbine, with special reference to pressure firing; abstract. G. Zerkowitz. diag Mech Eng 55:577-80, 634-7 S-O '33
- Thermodynamics of a gas-turbine aggregate; abstract. H. Kirst. Mech Eng 55:52-4 Ja '33
- Velox boiler and over 100 per cent efficiency. W. G. Noack. il diag Engineer 155:22-3 Ja 6 '33; Same. Engineering 135:52-3 Ja 13 '33; Discussion. A. J. Jadot. 135:186-7 F 17 '33

**GAS warfare**

La construction et l'aménagement des abris souterrains contre les gaz toxiques, de Saint-Maurice and G. F. Jaubert. diag Génie Civil 103:333-4 S 30 '33

**GAS washers**

Cooling coil efficiency tests; admiralty brass, glass, and chrome nickel iron as tube materials tested. B. L. Peables and D. K. Taylor. Gas Age 70:653-4 D 17 '32

Stufenversuche an einem hordenwascher. M. Steffes. diag Stahl & Eisen 52:1252-3 D 15 '32

**GAS washing**

Application to the Battersea power station of researches into the elimination of noxious constituents from flue gases and the treatment of resulting effluents. S. L. Pearce and others. plans Engineer 156:32-4 J1 14 '33; Abstracts. Electrician 111:85 J1 21 '33; Power 77:490-1 S '33; Discussion. Electrician 111:85-6 J1 21 '33

Battersea gas washing costs and layout. Elec W 102:166 Ag 5 '33

**GAS water heaters**

Changes in water heater requirements effective immediately. Am Gas Assn Mo 15:343-4 Ag '33

Continuous flow water heaters in unusual installations; heating oil, distilling water, etc. J. A. Johnson. il Gas Age 71:69-70 Ja 21 '33

Domestic water heating by gas. W. B. Payne. diags Gas J (Lond) 200:807-9; Discussion. 809 D 21 '32

Gas and gas coke for hot water supply. Gas J (Lond) 201:679-83; Discussion. 683-4 Mr 15 '33

How to meet competition in domestic water heating. H. M. Henry. Gas Age 71:113-18, 139-42 F 4-11 '33

Ottawa water heater. diag Gas J (Lond) 200:800 D 21 '32

Survey of corrosion prevention in water heater storage tanks. W. P. Cook and H. W. Smith, jr. Am Gas Assn Mo 15:345-6 Ag '33

**Advertising**

Selling the storage water heater; Croydon gas co. Gas J (Lond) 200:742 D 14 '32

**Cost of operation**

Experiences in Boston with the low demand water heater. D. S. Reynolds. Gas Age 71:597-9+ Je 10 '33; Same. Am Gas J 139:10-12+ Ag '33

Selling automatic hot water service. A. M. Apmann. Am Gas J 138:41 Mr '33

**Merchandizing**

Connecticut rental-purchases helped sell water heaters. Gas Age 71:227+ Mr 4 '33

Cooperative merchandizing increases gas load and aids dealers. W. J. Cashman and F. S. Hofer. il Am Gas Assn Mo 15:94-6 Mr '33

Experiences in Boston with the low demand water heater. D. S. Reynolds. Gas Age 71:597-9+ Je 10 '33; Same. Am Gas J 139:10-12+ Ag '33

Marketing automatic water heaters today. J. T. Schilling. Am Gas Assn Proc 1932:436-40; Discussion. 440-3

San Antonio stages gas water heater show. A. W. Roe. il Gas Age 70:703+ D 31 '32

Trend of water heater sales from the manufacturer's viewpoint. A. M. Apmann. Am Gas Assn Mo 15:101-3 Mr '33

Water heating; A.G.A. committee report. tables Am Gas Assn Proc 1932:552-9

Water heating push at Croydon. il Gas J (Lond) 202:45 Ap 5 '33

We are giving sales training to technical men; Cleveland heater co. F. H. Leder. Ptr Ink Mo 26:29+ F '33

**GAS water heating**

Large volume water heating; A.G.A. committee report. Am Gas Assn Proc 1932:651-2

Large volume water heating; A.G.A. committee report. Am Gas J 139:29-31 O '33

Large volume water heating as summer load. H. J. Long. Am Gas Assn Mo 15:224+ Je '33

Promotional rate for volume water heating will improve load factor. S. B. Finch. Am Gas Assn Mo 15:23-5 Ja '33

Volume water heating—a complementary load. E. J. Devlin. Am Gas Assn Mo 15:185-7 My '33

**GAS works**

Gas manufacturing plant for a small works; with cost data. W. Scott. Gas J (Lond) 204:217-18; Discussion. 218 O 18 '33

Long-distance gas distribution; the Magdeburg gas-works, Germany. il plan Gas J (Lond) 202:271-5 My 3 '33

New carbonizing plant at Porthcawl. il Gas J (Lond) 203:680-1 S 27 '33

Wellington's centenary. il Gas J (Lond) 203:91-3 J1 12 '33

**See also**

Gas, Water—Manu-      Gas holders  
facture                      Gas manufacture

**Accounting**

See Gas companies—Accounting

**Costs**

Carburetted-water-gas as a coal-gas auxiliary. Gas J (Lond) 203:394-7, 451-2 Ag 23-30 '33

Presidential address before Waverley association of gas managers. G. Braidwood. il plans Gas J (Lond) 202:925-32 Je 28 '33; Discussion. 202:932-3; 203:84 J1 12 '33

**Electric equipment**

Electricity in gasworks. C. H. S. Tupholme. il Elec R (Lond) 113:42-3 J1 14 '33

Die elektrische fernmessung im dienste der gasfernversorgung. W. Wunsch. il diags Zeit Ver Deutsch Ing 77:658-62 Je 24 '33

Motors for elevators and hoists in gas and coke plants. E. J. Tournier. il diag Gas Age 71:53-6 Ja 21 '33

**See also**

Gas works—Power

**Equipment**

A.G.A.—Bureau of mines coal assay apparatus installed at the Hunts Point station of the Consolidated gas company of New York. A. R. Belyea. il Am Gas Assn Proc 1932:879-81

Coke handling and grading at Beckton. il Gas J (Lond) 203:197-8 J1 26 '33

Coke handling at gas works and coke ovens. il diags Mech Handling 19:421-6 D '32

Coke handling, storage and treatment at Beckton gas works. C. G. Harman. flow diag plant Mech Handling 20:197-201, 234-8, 263-7, 297-301, 330-4, 357-60 Je-N '33

Coke oven plant at Beckton gas works; with cost data. R. W. Hunter. il Gas J (Lond) 202:504-14 My 24 '33; Abstract. Engineering 135:617-7 Je 9 '33; Discussion. Gas J (Lond) 202:743-6; 203:45-6 Je 7, J1 5 '33

Commercial gas company's interesting works at Wapping. Gas J (Lond) 201:101-2 Ja 11 '33

Converting boilers to gas fire at Shrewsbury gas plant. F. C. Meyers il Gas Age 72:171-2 Ag 19 '33

Crowlands gas-works of the Southport corporation. il Gas J (Lond) 202:499-501 My 24 '33

Dust elimination in coke-handling plant. il Mech Handling 20:271-2 Ag '33

Furthering gas progress in northern Ireland; Glover-West verticals at Lurgan. T. L. Tallentire. Gas J (Lond) 200:675-6 D 7 '32

Garston works of the Liverpool gas company. Gas J (Lond) 202:497-8 My 24 '33

Gas mixing in Syracuse. H. K. Seeley. diag Gas Age 71:547-50 My 27 '33

Gas-works extensions in the Isle of Wight. il Gas J (Lond) 203:455-8 Ag 30 '33

Handling plant employed in gas desulphurisation; operation by compressed-air motor. il diag Mech Handling 20:141-3 My '33

Improved portable conveyors for coke and gas plants. E. J. Tournier. il Gas Age 71:169-72 F 18 '33

Improvement of design of coal-carbonizing equipment. H. C. Porter. il diag Ind & Eng Chem 24:1363-8 D '32; Abstract. Gas Age 71:255-6 Mr 11 '33

Large pressure tanks for oil-gas storage. L. S. Stiles. il Mech Eng 55:162 Mr '33



GAS works—Equipment—*Continued*

- Layout and construction of the Lostock Hall works of the Preston gas company. A. Langley. Gas J (Lond) 200:502-3; Discussion. 503 N 16 '32
- Lincoln looks ahead; a big gas-works reconstruction scheme. il Gas J (Lond) 203:29-34 J1 5 '33
- Maintenance and obsolescence of handling equipment. E. J. Tournier. il Gas Age 71:351-4 Ap 8 '33
- Modern equipment in the scientific control of carbonization. J. Duffy. Gas J (Lond) 200:805; Discussion. 806 D 21 '32
- Moore gas plant at Burnham-on-Sea. il diag Gas J (Lond) 202:268-9 My 3 '33
- New carbonizing plant at St. Ives. il Gas J (Lond) 204:209-10 O 18 '33
- New plant at Clacton-on-Sea. il Gas J (Lond) 201:806-9 Mr 29 '33
- New plant at Kilmarnock. il Gas J (Lond) 202:767-8 Je 7 '33
- Oldham gasworks. il diags plan Engineer 156:348-51, 358 O 13 '33
- Petroleum refinery gas for city supply in Brooklyn. R. S. McBride. il diags Chem & Met Eng 40:508-11 O '33
- Portsmouth's new carbonizing plant. il Gas J (Lond) 203:501-5 S 6 '33
- Practice of rationalization. H. Wadsworth. Gas J (Lond) 202:281-2; Discussion. 282-3 My 3 '33
- Presidential address before Midland association of gas engineers and managers. T. H. Poulson. Gas J (Lond) 201:688-91 Mr 15 '33
- Progress in development of gas plant equipment. il Am Gas J 139:44+ S '33
- Purifier expansion theory and its application. C. O. Pratt. Gas Age 70:591-7 D 3 '32
- Reconstructed gas-works at Oldham. il Gas J (Lond) 202:332-7 My 10 '33
- Refractory materials and the gas industry; a progress report. A. T. Green. Gas J (Lond) 202:339-42; Discussion. 342 My 10 '33
- Report of the Improved equipment-Russell engineering corporation. A. O. Schleiffarth. diags Am Gas Assn Proc 1932:924-7
- Report of the Koppers company. Am Gas Assn Proc 1932:915-16
- Report of the Semet-Solvay engineering corporation. R. P. Oliveros. il diags Am Gas Assn Proc 1932:928-41
- Report of United engineers & constructors inc. C. A. Schlegel. il Am Gas Assn Proc 1932:916-23
- Research and refractory materials. A. T. Green. Gas J (Lond) 204:86-7 O 4 '33
- Special chains and buckets in gas and coke plant conveyors. E. J. Tournier. il diag Gas Age 72:167-9+ Ag 19 '33
- Stirling's new carbonizing plant. il Gas J (Lond) 201:746-7 Mr 22 '33
- T.I.C. process in France; preparation of road tar at Montbéliard gas-works. A. Eichelbrenner. il Gas J (Lond) 200:739-41 D 14 '32
- Tar and liquor separator. A. R. Anderson. Gas J (Lond) 201:148-9 Ja 18 '33
- Tully gasification plant with waste-heat boiler and automatic operator. W. T. Dunn. il diag Gas J (Lond) 203:620-2 S 20 '33; Abstract. Mech Eng 55:766 D '33
- Wadsworth works. il Gas J (Lond) 204:262-3 O 25 '33
- Waste heat boiler in the small gas plant. H. M. Riley. il diags Am Gas J 138:33-6 Ap '33
- Weymouth gas-works extensions. il Gas J (Lond) 203:145-50 J1 19 '33

*See also*  
Gas holders  
Gas retorts  
Gas washers

## Fuel

- Charting the relationship of generator fuel and gas oil. R. L. Ellis. Gas Age 71:143 F 11 '33
- Producer-gas fired settings. G. Alliata. diag Gas J (Lond) 203:398-9 Ag 23 '33
- Straight line of quality and increased yield in therms per ton (with reflections on tar firing). J. W. Young. Gas J (Lond) 203:407-8 Ag 23 '33

## Load

- Domestic cooking load is the bread-and-butter of the gas industry. M. DellPlain. Am Gas Assn Mo 15:82-4 Mr '33
- House heating; a billion-dollar yearly market. H. W. Hayward. Gas Age 71:161-6, 215-19+; 269-73 F 18, Mr 4, 18 '33
- Importance of the cooking load to the gas industry. E. R. Acker. Gas Age 71:567-8+ Je 3 '33
- Load registering instrument. G. Becker. diag Am Gas J 138:34-5 My '33
- Off-peak gas for year-round service; Public service company of northern Illinois supplies gas to Benjamin electric manufacturing co. C. F. Henness and F. W. Pearson. il diag Gas Age 72:3-4+ J1 1 '33
- Promotional rate for volume water heating will improve load factor. S. B. Finch. Am Gas Assn Mo 15:23-5 Ja '33
- 30,000 refrigerators! E. J. Devlin. Am Gas Assn Mo 15:138-40+ Ap '33
- Value of refrigeration load to the gas industry. C. Barnes. Gas Age 71:605-6 Je 10 '33
- Volume water heating—a complementary load. E. J. Devlin. Am Gas Assn Mo 15:185-7 My '33

## Maintenance and repair

- Facilitating exhaustor change-over. R. D. Keillor. diag Gas J (Lond) 201:143 Ja 18 '33
- Lighting-up verticals after repairs. H. Smith. Gas J (Lond) 201:211-13; Discussion. 213-15 Ja 25 '33; Reply. 201:319 F 8 '33
- Maintenance costs cut by arc welding. A. F. Davis. il Gas Age 72:129-30+ Ag 5 '33
- Rivets or welds? H. H. Hollis. Gas J (Lond) 200:628-9; Discussion. 629-30 N 30 '32

## Management

- Centralization of gas meter repairs. G. M. Johnson. Am Gas J 137:18-20 D '32
- Control and working of gas-works plant. H. Goodier and A. G. Saunders. diag Gas J (Lond) 202:554, 621 My 24-31 '33; Abstract. Am Gas J 139:23 J1 '33
- Croydon gas works; reconstruction and management. W. Grogono. Gas J (Lond) 202:414-16 My 17 '33
- Emergency gas plant operation at Denver. E. H. Hoover. Gas Age 72:369-70+ O 14 '33
- Methodical development of a gas undertaking. L. Carpentier. Gas J (Lond) 203:300-2 Ag 9 '33
- Practice of rationalization. H. Wadsworth. Gas J (Lond) 202:281-2; Discussion. 282-3 My 3 '33
- Presidential address. I. G. Jenkins. il Gas J (Lond) 202:549-53 My 24 '33
- Welfare planning for progress. J. L. Robson. Gas J (Lond) 201:42-3 Ja 4 '33

## Models

- How we designed a prize-winning gasworks. J. Storrier. il Gas J (Lond) 202:223-5; Discussion. 225 Ap 26 '33

## Peak load

- Carburetted-water-gas as a coal-gas auxiliary. Gas J (Lond) 203:394-7, 451-2 Ag 23-30 '33
- Economic aspects of refractory screen oil gas process. A. Johnson. Gas Age 71:545-6+ My 27 '33

## Power

- Efficient boiler management, with special reference to the cost per therm. J. Webster. Gas J (Lond) 202:165-7 Ap 19 '33
- Electricity in gasworks. C. H. S. Tupholme. il diag Elec R (Lond) 112:701-2 My 19 '33
- Gas compression problems—and how one of them was solved by use of the gas engine. W. M. Russell. il Am Gas J 138:9-11 Mr '33
- Reduction of steam load by modernizing pumping equipment; Public service electric and gas company, Newark, N.J. J. B. Boniface. diags Gas Age 71:541-4 My 27 '33
- Steam for making gas; new boiler plant at the Elizabethtown consolidated gas co. at Elizabeth, N. J. il diags Power Pl Eng 37:414-17 O '33

## GAS works—Continued

## Waste

- Ammonia liquor losses concentrated into profits; North Berwick gas works. C. H. S. Tupholme. *diags Chem Markets* 31:510-11 D '32
- Coke oven effluents; investigation of their toxicity. B. A. Southgate. *Gas J (Lond)* 202:216-18 Ap 26 '33; *Abstract. Gas Age* 72:220 S 2 '33
- Comparison of benzole and tricresyl phosphate for treating effluents. *Gas Age* 71:575 Je 3 '33
- Report, 2d, of the liquor effluents and ammonia subcommittee. Institution of gas engineers. *Gas J (Lond)* 200:suppl-13 O 26 '32; Same. *Gas Age* 71:15-18 Ja 7 '33; *Excerpts. Chem Age (Lond)* 27:456-7 N 12 '32; *Abstract. Engineering* 134:591-2 N 18 '32; *Discussion. Gas J (Lond)* 200:425-7, 687-91 N 9, D 7 '32
- Trade wastes from gas-works. A. McDonald. *Gas J (Lond)* 203:623-6; *Discussion. 626-7 S 20 '33*
- Tricresyl phosphate as solvent for phenol recovery from gas-plant effluents. C. H. S. Tupholme. *Ind & Eng Chem* 25:303-4 Mr '33

## GAS works, Municipal

- Some light thrown on the gas situation of Bellefontaine, O. H. Egbert. *Pub Serv M* 54:34 Mr '33

## GASES

- Application of the law of mathematical probability to the behavior of gases in their pressure-volume-temperature relations. G. A. Linhart. *J Phys Chem* 37:645-53 My '33
- Bicentenary of Joseph Priestley; Priestley's unique contribution to science. A. N. Meldrum. *Chem Soc J* p902-15 Jl '33
- Bright annealing in mixed gas. A. L. Marshall and M. C. Agens. *il Metal Prog* 24:32-4 S '33; *Abstract. Steel* 93:36+ O 9 '33
- Calorimetric determination of the intrinsic energy of gases as a function of the pressure; data on oxygen and its mixtures with carbon dioxide to 40 atmospheres at 28° C. F. D. Rossini and M. Frandsen. *diags U S Bur Stand J Research* 9:733-47 D '32
- Combustion of gases in electric discharges. G. I. Finch. *Soc Chem Ind J (Chem & Ind)* 51:978-9 N 25 '32; *Discussion. 51:1003-6 D 2 '32*
- Compressibilities of certain gases at low pressures and various temperatures. W. Cawood and H. S. Patterson. *Chem Soc J* p619-24 Je '33
- Copper membrane gas-molecule sieve; Callendar's theory of osmosis. D. L. Warrick and E. Mack, jr. *Am Chem Soc J* 55:1324-32 Ap '33
- Corona and spark discharge in gases. J. D. Stephenson. *diags Inst E E J* 73:69-82 [*bibliog p81-2*] Jl '33
- Electronics and electron tubes; gas- or vapor-filled tubes. E. D. McArthur. *diags Gen Elec R* 36:371-6 Ag '33
- Electro-optical Kerr effect in gases. C. W. Bruce. *diags Phys R* 44:682-6 O 15 '33
- Elements of gas technology. *Am Gas J* 138:37-8 Mr; 39-42 Ap; 25-6 My; 19-20 Je; 139:25-6 Jl; 19-20 Ag; 44-5 O; 21-2 N '33
- Empirical molecular heat equations from spectroscopic data. W. M. D. Bryant. *bibliog Ind & Eng Chem* 25:820-3 Jl '33
- Energy exchange in unimolecular gas reactions. O. K. Rice. *Am Chem Soc J* 54:4558-81 D '32
- Evaporation of a liquid into a gas—a correction. W. K. Lewis. *diag Mech Eng* 55:567-8+ S '33
- Experimental determination of the flame temperatures of complex mixtures of combustible gases and a method for calculating them. B. Lewis, H. Seaman and G. W. Jones. *J Fr Inst* 215:149-67 F '33
- Fermi-Dirac statistical theory of gas degeneration. V. Karapetoff. *Mech Eng* 55:237-42, 290-4, 358-62+ Ap-Je '33
- Gases and shrinkage. *Engineer* 155:sup [*Metallurgist*] 33-4 Je 30 '33
- Gases in metals. V. H. Gottschalk and R. S. Dean. *Engineer* 155:sup [*Metallurgist*] 43 Je 30 '33

- Gases in metals symposium. *Min & Met* 14:150-1 Mr '33
- Heat capacity curves of the simpler gases. H. L. Johnston, A. T. Chapman and M. K. Walker. *bibliog Am Chem Soc J* 55:153-86 Ja '33
- High-frequency phenomena in gases. K. K. Darrow. *bibliog diags Bell System Tech J* 11:576-607; 12:91-118 O '32-Ja '33
- Homogeneous catalysis of gaseous reactions. S. Bairstow and C. N. Hinshelwood. *Chem Soc J* p1147-60 S '33
- Ionization and scattering accompanying positive ion impact in gases. C. A. Frische. *diags Phys R* 43:160-8 F 1 '33
- Kinetics of chemical change in gaseous systems. C. N. Hinshelwood. 3d ed \$4.25 Oxford '33
- Low temperatures and low-temperature phenomena. J. C. McLennan. *Engineering* 135:193-4 F 17 '33
- Magnetic susceptibilities of some common gases. G. G. Havens. *diag Phys R* 43:992-1000 Je 15 '33
- Mobilities of gaseous ions in  $\text{CH}_3\text{NO}_2$ - $\text{H}_2$  and  $\text{CH}_3\text{CN}$ - $\text{H}_2$  mixtures. E. A. Higley and C. C. Thorsen. *J Fr Inst* 215:69-80 Ja '33
- Nature of gas ions. O. Luhr. *diag Phys R* 44:459-62 S 15 '33
- Photoelectric currents in gases between parallel plate electrodes. L. A. Young and N. E. Bradbury. *Phys R* 43:34-7 Ja 1 '33
- Physico-chemical factors in high-pressure design. B. F. Dodge. *bibliog Ind & Eng Chem* 24:1353-63 D '32
- Pressure effects of foreign gases on the sodium D-lines. H. Margenau and W. W. Watson. *il Phys R* 44:92-8 Jl 15 '33
- Radiation diffusion and the rapidity of escape of resonance radiation from a gas. C. Kenty. *bibliog Phys R* 42:823-42 D 15 '32
- Remarks on the scattering of X-rays by gases and crystals. G. E. M. Jauncey. *Phys R* 42:453-63 N 15 '32
- Role of dissolved gases in determining the behavior of mineral insulating oils. F. M. Clark. *bibliog diag J Fr Inst* 215:39-67 Ja '33
- Scattering of molecular rays in gases. R. M. Zabel. *Phys R* 44:53 Jl 1 '33
- Solubility of nitrogen and hydrogen in aluminum; abstract. P. Röntgen and H. Braun. *Engineer* 154:sup [*Metallurgist*] 185-7 D 30 '32
- Some theoretical and practical aspects of gases in metals. J. H. Scaff and E. E. Schumacher. *il diags Bell System Tech J* 12:178-96 Ap '33
- Sorption von gasen, dämpfen und nebeln. H. Remy. *Angew Chemie* 46:101-4 F 11 '33
- Transport phenomena in Einstein-Bose and Fermi-Dirac gases. E. A. Uehling and G. E. Uhlenbeck. *Phys R* 43:552-61 Ap 1 '33
- Velocity of sound in an absorptive gas. D. G. Bourgin. *Phys R* 42:721-30 D 1 '32

## See also

- |                     |                      |
|---------------------|----------------------|
| Absorption          | Gas analysis         |
| Acetylene           | Gas flow             |
| Adsorption          | Glass—Gas content    |
| Aerodynamics        | Helium               |
| Air                 | Hydrogen             |
| Argon               | Inflammable mixtures |
| Blast furnace gas   | Ionization, Gaseous  |
| Boyle's law         | Mine gases           |
| Chemistry           | Neon                 |
| Chlorine            | Nitrogen             |
| Coke-oven gas       | Oxygen               |
| Electric discharges | Ozone                |
| Flame propagation   | Vapor pressure       |
| Flue gas            | Water vapor          |
| Gas                 |                      |

## Apparatus

- Automatic Toëpler pump. A. T. Williamson. *diags R Sci Instr* 3:782-9 D '32
- Gasanalytische mikroverfahren. J. Klärting. *diag Stahl & Eisen* 53:357 Ap 6 '33
- Measurement of the absorption and retention of gases and vapours by solids. E. Moore. *diag Soc Chem Ind J* 52:76T-8T Mr 24 '33
- Mercury sealed gas valve. S. F. Essig. *il diags R Sci Instr* 3:762-3 D '32



**GASES—Apparatus—Continued**

Method and the apparatus for the study of permeability of gases through the bird's eggshell. A. L. Romanoff. *diag Science* 77: 393-4 Ap 21 '33

Simple gas generator. D. I. Walker. *diag J Chem Educ* 10:435 Jl '33

Trompe à mercure à collection, entièrement automatique, système Castro. *il diags Génie Civil* 102:279-81 Mr 25 '33

Über die beseitigung von schwebestoffen aus strömenden gasen. H. Remy. *Angew Chemie* 46:610-13 S 23 '33

**Ignition**

Coil ignition of some explosive gaseous mixtures. B. W. Bradford, G. I. Finch and A. M. Prior. *pl Chem Soc J* p227-32 Mr '33

**Liquefaction**

Low temperatures and low-temperature phenomena. J. C. M'Lennan. *Engineering* 135:104-5, 135, 165-6 Ja 27-F 10 '33

New Cambridge laboratory; liquefaction of gases. *il Elec R (Lond)* 112:191 F 10 '33

Transport and fire hazards of liquefied gases. A. M. Cameron. *Soc Chem Ind J (Chem & Ind)* 52:789-91; Discussion. T. J. Dixon. 791-2 O 6 '33

*See also*

Carbon dioxide,  
Liquid

Liquid air  
Oxygen, Liquid

Tables, calculations, etc.

Relative change in properties of perfect gases effected by temperature; tabulation. *Steel* 92:30 My 15 '33

**GASES, Asphyxiating and poisonous**

Engineering principles of industrial hygiene. A. Zimmerman. *il diags W Soc E J* 38:77-96 Ap '33; Same cond. *Chem Markets* 33: 43-7, 136-40 Jl-Ag '33

Explosion and health hazards in sewage works operation; abstract and discussion. G. W. Jones. *Water Works & Sewerage* 80:50 F '33

Gases from thermal decomposition of common combustible materials. J. C. Olsen, G. E. Ferguson and L. Scheffan. *il Ind & Eng Chem* 25:599-603 Je '33; Abstract. *Sci Am* 149:130-1 S '33

Hazards of gas leakage as affected by ventilation; with special reference to methyl chloride. J. B. Churchill and E. T. Williams. *Refrig Eng* 25:256-60 My '33

Health hazards in food fumigation. C. L. Williams. *bibliog Chem Markets* 32:45-7 Ja '33

Residual effects of warfare gases; chlorine, mustard. H. L. Gilchrist and P. B. Matz. 93p U.S. Chemical warfare service, Washington, D.C. '33

Suggested means for detecting harmful gases and protecting workers in oil industry. J. L. Risinger. *il Oil & Gas J* 31:14-15 F 9 '33; Same cond. *Nat Safety N* 27:30-2 Mr '33

Turning war gases to useful purposes. C. Moran. *il Comp Air M* 38:4199-201 Ag '33

*See also*

Carbon disulfide  
Carbon monoxide  
Carbon monoxide poisoning  
Fire damp  
Flue gas

Hydrogen sulfide  
Mine gases  
Sewage tanks—Gases  
Sewer gas  
Sulfur dioxide  
Tear gas

**GASES, Compressed**

Compressed gas manufacturers' assn. looks to new uses for compressed gases. *Chem & Met Eng* 40:82 F '33

Handling compressed gases and volatile liquids. F. R. Fetherston. *Chem Age (Lond)* 27:593-4 D 24 '32

**GASES, Rare**

Conductivity of rare gases irradiated by their own resonance radiations. O. S. Duffendack and R. W. Smith. *Phys R* 43:586-7 Ap 1 '33

Discovery of the elements; the inert gases. M. E. Weeks. *bibliog J Chem Educ* 9:2065-78 D '32

Energy levels of the rare-gas configurations.

G. H. Shortley. *Phys R* 44:666-74 O 15 '33  
Further studies in the rare gases; the diffusion of helium through crystalline substances and the molecular flow through rock masses. W. D. Urry. *diags Am Chem Soc J* 55:3242-9 Ag '33

Les gaz rares de l'air et leurs applications récentes. G. Claude. *Génie Civil* 102:494-6 My 27 '33

Ionization of the noble gases by positive alkali ions; a correction. J. C. Mouzon. *Phys R* 44:688 O 15 '33

Photoelectric and metastable atom emission of electrons from surfaces in the rare gases. C. Kenty. *diag Phys R* 43:181-93 F 1 '33

Rare gases become common chemicals. F. P. Gross. *Chem Markets* 32:115-19 F '33

*See also*

Argon  
Helium  
Neon

**GASHOLDERS.** *See* Gas holders

**GASKETS**

Designing copper gaskets for hydraulic piping. F. E. Wertheim. *diag Heating-Piping* 5:88-9 F '33

Gasket cutting and punching. C. H. Franklin. *il diag Am Mach* 77:554 Ag 30 '33

Gasket cutting machine. *il Ry Mech Eng* 107: 143-4 Ap '33

Handling high pressures in chemical synthesis. R. V. Kleinschmidt. *diag Chem & Met Eng* 40:361-2 Jl '33

**GASOLINE**

Critical solution temperatures of mixtures of gasoline, ethyl alcohol, and water. O. C. Bridgeman and D. Querfeld. *diag U S Bur Stand J Research* 10:693-704 My '33; Excerpt. *Automotive Ind* 69:207 Ag 19 '33

Current low priced engines being built for 65 octane gasoline. *Nat Pet N* 24:23-4 D 28 '32

Ease of starting with benzole, with petrols and with benzole-petrol mixtures. W. H. Hoffer and G. Claxton. *diags Engineering* 135:300-2, 374-6 Mr 17, Ap 7 '33

Fuel characteristics in connection with general engine design factors, operating conditions and performance characteristics; abstract. O. C. Bridgeman. *Oil & Gas J* 32:16 S 7 '33

Gases from thermal decomposition of common combustible materials. J. C. Olsen, G. E. Ferguson and L. Scheffan. *il Ind & Eng Chem* 25:599-603 Je '33

Gasoline and alcohol. G. McIntyre. *Can Chem & Met* 17:184-7 S '33

Gasoline cools outdoor pump motor. H. W. Stalnaker. *il Power* 76:290 D '32

Gasoline pressure appliances require fuels of uniform volatility and low gum content. R. N. St John and R. Grubb. *Oil & Gas J* 32: 16+ Je 29 '33

High quality motor fuels and other products are obtainable from Estonian shale oils. G. Egloff and E. F. Nelson. *Oil & Gas J* 31:14 Ja 12 '33

Inhibitors in cracked gasoline. G. Egloff and others. *bibliog il diags Ind & Eng Chem* 24: 1375-82; 25:804-8 D '32, Jl '33

Leveling out hills with more precise molecules. W. G. Lovell. *il Sci Am* 148:80-2 F '33

Motor fuel quality; a complex problem. G. G. Brown. *Nat Pet N* 24:43-4+ D 14; 37-8+ D 21 '32

Progress of naphthology, 1932; motor spirits and light distillates. D. A. Howes. *bibliog Inst Pet Tech J* 19:557-66 Jl '33

Standardized octane value, balanced fuel volatility, of great importance. J. B. Macauley, jr. *Oil & Gas J* 32:57-8 N 2 '33

Super-Shell; new gas from new cracking process wins quick popularity. *Business Week* p10 My 17 '33

Third-grade gasoline on the way out? J. B. Rathbun. *Pet Age* 27:18-19 My '33

**GASOLINE—Continued**

- Trend in motor fuel quality continues toward increased volatility and octane value. W. T. Ziegenhain. *Oil & Gas J* 31:20-1+ *Ja* 19 '33
- See also*
- |                      |                           |
|----------------------|---------------------------|
| Airplane engines—    | Gasoline handling         |
| Fuel                 | Gasoline service stations |
| Automobile engines—  | Inflammable liquids       |
| Fuel                 | Motor bus engines—        |
| Automotive fuel      | Fuel                      |
| Gas and oil engines— | Petroleum refining        |
| Fuel                 |                           |
- Aging**
- Predicting stability of gasolines to aging. C. Winning and R. M. Thomas. *bibliog il diags Ind & Eng Chem* 25:511-16 *My* '33
- Alcohol mixtures**
- Agricultural alcohol in American motor fuels. G. G. Brown. *bibliog Am Pet Inst Proc* 14M(2):4-14 *My* '33; Same *abr. Oil Paint & Drug Rep* 123:43 *Je* 12; 124:38+ *Jl* 17; 28D *Jl* 24; 36+ *Jl* 31 '33; Abstract. *Nat Pet N* 25:32 *My* 24 '33; Discussion. H. Arnstein. *Oil Paint & Drug Rep* 123:16 *Je* 19 '33
- Alcogas; proposals to blend alcohol from farm products with gasoline. *Business Week* p9 *F* 8 '33
- Alcohol as motor fuel. *J Fr Inst* 215:476-7 *Ap* '33
- Alcohol—benzol—gasoline mixture would be too expensive. *Chemicals* 33:7 *Mr* 20 '33
- Alcohol-gasoline blend bills introduced in Congress. *Nat Pet N* 25:14-15 *F* 15 '33
- Alcohol-gasoline blends as motor fuels. O. C. Bridgeman. *Ind & Eng Chem News* ed 11: 139-40 *My* 10 '33
- Alcohol-gasoline blends would cause enormous economic losses. G. Egloff. *Nat Pet N* 25:30-2+ *Ap* 26 '33; Excerpts. *Oil & Gas J* 31:75 *Ap* 27 '33
- Alcohol-gasoline fuels knock ratings tested. *Oil Paint & Drug Rep* 123:21-2 *Mr* 6 '33
- Alcohol-gasoline mixtures as motor fuels. *il Mech Eng* 55:285-6 *My* '33
- Alcohol in motor fuel. *Oil Paint & Drug Rep* 123:17 *Mr* 13; 15 *Mr* 20; 15 *Mr* 27; 16+ *Ap* 3; 15+ *Ap* 10; 16, 30A-30C *Ap* 17; 14+ *Ap* 24; 17+ *My* 1; 17 *My* 8; 28+ *My* 15 '33
- Alcohol mixing bills would make motorists pay for corn price rise. J. Geschelin. *Automotive Ind* 68:404-6+ *Ap* 1 '33
- Alcohol motor fuel. *Pet Age* 27:20-1 *Jl* '33
- Alcohol motor fuel movement growing. *Oil Paint & Drug Rep* 123:15 *F* 20; 15, 20+ *Mr* 6 '33
- Alcohol motor fuels draw nearer. *Forbes* 31:5-6 *Ap* 15 '33
- Alcohol-petrol mixtures. *Automobile Eng* 23: 238 *Jl* '33
- Alcoholized fuels would cost our customers a half billion. J. Geschelin. *Automotive Ind* 68:644-7 *My* 27 '33
- Alcoholized gasoline for farm relief. R. S. McBride. *Food Ind* 5:169 *My* '33
- Alky blending and the farm market for oil products. *il Pet Age* 27:22-3 *My* '33
- Alky-gas is proposed as amendment to the general revenue bill. A. E. Heiss. *Nat Pet N* 25:11-12+ *My* 3 '33
- Alkygas stations; Illinois tries out the alcohol-gasoline mixture. *Business Week* p11 *Mr* 29 '33
- Alky-gasoline blending proposals dead until next January. *Nat Pet N* 25:13 *My* 31 '33
- Benzol makes possible alky-gas Cities Service sells abroad. *Nat Pet N* 25:23-4 *My* 17 '33
- Bureau of standards issues alky-gas test report. *Nat Pet N* 25:34 *N* 8 '33
- Bureau of standards men conduct tests on alky-gas blends. *Nat Pet N* 25:30 *Je* 14 '33
- C.F.R. makes report on alcohol-blend fuels. *S A E J* 32:sup29 *Jl* '33; Same. *Oil & Gas J* 32:33 *Jl* 6 '33
- Comparative fuel economy with gasoline and with alcohol-gasoline blends. *J Fr Inst* 216:533-5 *O* '33
- Les conditions actuelles de l'emploi de l'alcool comme carburant. *Génie Civil* 102:281-2 *Mr* 25 '33
- Corn alky sold in Iowa station made from southern molasses. E. L. Barringer. *il Nat Pet N* 25:40 *Jl* 5 '33
- Critical solution temperatures of mixtures of gasoline, ethyl alcohol, and water. O. C. Bridgeman and D. Querfeld. *diag U S Bur Stand J Research* 10:693-704 *My* '33; Excerpt. *Automotive Ind* 69:207 *Ag* 19 '33
- Determination of ethyl alcohol in gasoline-alcohol mixtures using a Zeiss immersion refractometer. F. S. Mortimer and E. H. Giese. *Ind & Eng Chem Anal* ed 5:356 *S* 15 '33
- Effect of gasoline volatility on the miscibility with ethyl alcohol. O. C. Bridgeman and D. W. Querfeld. *U S Bur Stand J Research* 10: 841-50 *Je* '33
- Facts about alcohol in motor fuel. D. H. Killefer. *Ind & Eng Chem News* ed 11:117-19 *Ap* 20 '33
- Farm-brewed fuel; farmers would make motorists pay for farm relief. *Business Week* p14+ *Mr* 15 '33
- Gasoline and alcohol. G. McIntyre. *Can Chem & Met* 17:184-7 *S* '33
- German tests of power alcohol. R. Fritzweiler and K. R. Dietrich. *Chem Ind* 33:307-9 *O* '33
- German views on alcoholic gasolines. C. O. Ostwald. *Automotive Ind* 68:549 *My* 6 '33
- Getting alcohol into gasoline to help farm receipts. *Chemicals* 33:3 *My* 15 '33
- Iowa alcohol-gasoline proposal tabled temporarily as idea grips West. *Nat Pet N* 25:11-12 *Mr* 1 '33
- Legislation forcing alcohol blends would create bad precedent. *Nat Pet N* 25:19-20 *Ag* 9 '33
- Legislation proposed to compel use of alcohol in motor fuel. *Chem & Met Eng* 40:156 *Mr* '33
- Looks like alcohol. J. B. Rathbun. *Pet Age* 27:20-1 *Ap* '33
- Make part of motor fuel from grain is proposed as farm relief. *Nat Pet N* 25:15 *Ja* 18 '33
- Manufacture and sale problems of gasoline-alcohol motor fuels. G. G. Brown. *Oil & Gas J* 31:27+ *Mr* 9 '33
- Many fallacies to arguments advanced in favor of laws requiring gasoline-alcohol blends. E. C. Conine. *Oil & Gas J* 31:12+ *F* 23 '33
- Mixing alcohol and gasoline. *Nation's Business* 21:44-5 *My* '33
- New investigation condemns proposed fuel blends of alcohol and gasoline. *Oil & Gas J* 32:31+ *Ag* 10 '33
- 1,600,000 gallons of alcohol. W. Haynes. *Chem Markets* 32:307-9 *Ap* '33
- Opposition to alcohol blends grows as higher federal tax bill is introduced in Congress. *Oil & Gas J* 31:9+ *My* 4 '33
- Permanent farm relief through use of alcohol blends for motor fuel; report by the Motor fuel alcohol committee. *Oil Paint & Drug Rep* 123:17+ *My* 8; 48-48B *My* 22 '33
- Plan to blend alcohol and gasoline in United States is held infeasible. *Oil & Gas J* 31:28+ *Ja* 26 '33
- Program of substituting alcohol for gasoline as motor fuel appears to be short-sighted. W. T. Ziegenhain. *Oil & Gas J* 31:10+ *Mr* 2 '33
- Road tests prove that alcohol blend is uneconomical compared to gasoline. *Oil & Gas J* 32:27 *Jl* 13 '33; Same. *Nat Pet N* 25:19 *Jl* 12 '33
- Sale of alcohol-gasoline blends spreads in Illinois. *Nat Pet N* 25:16 *Mr* 22 '33
- Secretary of agriculture favors the use of alcohol blended motor fuel. C. E. Kern. *Oil & Gas J* 31:15 *My* 11 '33
- 73 radio stations to broadcast alcohol-gas plan address. *Nat Pet N* 25:9+ *F* 1 '33
- Solubility of ethyl alcohol in gasoline. O. C. Bridgeman and D. Querfeld. *diag Ind & Eng Chem* 25:523-5 *My* '33
- Standard oil company (New Jersey) attacks alcohol blending scheme as impracticable. A. E. Mockler. *Oil & Gas J* 31:15+ *My* 11 '33
- Unfairness of alky-gas proposal seen in report to Senate. *Nat Pet N* 25:13-14 *My* 10 '33



**GASOLINE—Alcohol mixtures—Continued**

Use of agricultural products in the manufacture of chemicals to be blended with motor fuels. Oil Paint & Drug Rep 123:17+ Mr 13; 15+ Mr 20; 15+ Mr 27 '33; Same. Oil & Gas J 31:10-11+ Mr 16; 16+ Mr 30 '33  
 Use of grain alcohol in motor fuel involves many difficulties. Nat Pet N 25:25 Ja 25 '33  
 Will gasoline, alcohol mix? J. B. Rathbun. Pet Age 27:22-3 Ja '33

**Analysis**

Determination of paraffin and naphthene content of gasolines. C. C. Minter. Nat Pet N 25:25+ F 22 '33  
 Determination of sulfur and chlorine in gasoline. C. Wirth and M. J. Stross. Ind & Eng Chem Anal ed 5:85-7 Mr 15 '33  
 Exhaust gas analysis as a method of determining carbon content of gasoline. C. C. Minter. diag Nat Pet N 25:33-4+ Je 28 '33  
 Improved apparatus for determination of sulfur by the lamp method. A. R. Choppin and R. L. Menville, jr. diags Nat Pet N 25:19-20, 22 S 27 '33  
 Knock rating of gasolines may be estimated from analysis. A. W. Trusty. Nat Pet N 24:29-30+ D 21 '32  
 Quantitative mercaptan determination with cupric chloride solution. W. A. Schulze and L. V. Chaney. il Nat Pet N 25:37-8, 40 Ag 23 '33  
 Rapid quantitative determination of mercaptans. G. R. Bond, jr. Ind & Eng Chem Anal ed 5:257-60 Jl 15 '33  
 Significance of A.S.T.M. distillation curve. M. G. Blair and R. C. Alden. bibliog Ind & Eng Chem 25:559-62 My '33  
 Some developments in test methods for petroleum products. G. B. Murphy and C. Wirth. il diag Nat Pet N 25:16-18, 20 Ag 30 '33

**Anti-knock and anti-knock mixtures**

Antiknock research coordinates laboratory and road tests. C. B. Veal and others. diags S A E J 32:105-20 [bibliog p119-20] Mr '33; Discussion. 32:104, 187-90 Mr, My '33  
 Arbitration committee to consider knock test method arguments. Nat Pet N 25:36 Mr 8 '33  
**Automotive engine and its fuel.** G. Edgar. S A E J 31:461-3 D '32; Same. Automobile Eng 23:51-2 F '33; Discussion. S A E J 31:463-4 D '32  
 C. F. R. committee determines anti-knock values by new motor method. diag Automotive Ind 67:682-4 N 26 '32  
 C.F.R. motor method for determining octane number approved by D2. Oil & Gas J 31:27 Ja 26 '33  
 Comparison of knocking characteristics of vapor recovery and natural gasolines in blends. H. M. Trimble. bibliog Oil & Gas J 31:58, 60-1, 64 My 18 '33  
 Co-operative research on motor fuels between the petroleum and automobile industries. H. L. Horning. Oil & Gas J 31:15-16 Ap 27 '33  
 Correlation of C.F.R. laboratory knock ratings with behavior of motor fuels in service. C. B. Veal and others. bibliog il diags Am Pet Inst Proc p139-53 sec 3 D '32  
 Correlation of laboratory knock test results with actual road knock. W. V. Hanley and W. H. Paul. il Nat Pet N 25:31-2+ My 3 '33  
 Knock rating of gasolines may be estimated from analysis. A. W. Trusty. Nat Pet N 24:29-30+ D 21 '32  
 Knock-rating of motor gasoline and aviation gasoline; abstracts of papers at World petroleum congress. Nat Pet N 25:23-4 Ag 30 '33  
 Knocking characteristics of naphthene hydrocarbons. W. G. Lovell, J. M. Campbell and T. A. Boyd. bibliog Ind & Eng Chem 25:1107-10 O '33; Excerpt. Oil & Gas J 31:18-19 Ap 6 '33  
 Light hydrocarbons found in natural gasolines maintain rating in new antiknock tests. H. M. Trimble. Oil & Gas J 31:16+ Ja 19 '33

Loss in gasoline antiknock rating with acid treatment dependent on several factors. C. Wirth, E. R. Kanhofer and G. B. Murphy. Oil & Gas J 32:13-14+ Jl 13 '33  
 Mid-continent refiners fail to reach agreement as to changes in gasoline octane ratings. Oil & Gas J 31:23+ Ap 13 '33  
 Motor fuel quality; a complex problem. G. G. Brown. Nat Pet N 24:37-8+ D 21 '32  
 New anti-knock test method. il Pet Age 27:22+ Ap '33  
 Octane rating not wholly dependable? A. Lachman. Sci Am 148:174-5 Mr '33  
 Progress of naphthology, 1932; gasoline engines and knock testing. R. Stansfield. Inst Pet Tech J 19:567-73 Jl '33  
 Relation of antiknock value of gasoline to its volatility and solubility in liquid SO<sub>2</sub>; testing of naphthas. H. T. Ward and A. H. White. bibliog il diags Oil & Gas J 32:38-40 Ja 1 '33  
 Relation of C.F.R. knock ratings to behavior of fuels in service. T. A. Boyd. charts Am Pet Inst Proc (Refining div) p98-102; Discussion. 102-26 Je '32  
 Some refinery technologists object to adopting C.F.R. motor method. R. C. Conine. Oil & Gas J 31:26 F 2 '33  
 Trade wrestles with tests, specifications. J. B. Rathbun. Pet Age 27:28+ Mr '33  
 Trend toward higher octane number in motor fuel despite unwarranted cost in some cases. W. T. Ziegenhain. Oil & Gas J 32:8 My 25 '33  
 Use of synthetic methanol as a motor fuel. D. A. Howes. Inst Pet Tech J 19:301-31 Ap '33

**Blending**

Comparison of knocking characteristics of vapor recovery and natural gasolines in blends. H. M. Trimble. bibliog Oil & Gas J 31:58, 60-1, 64 My 18 '33  
 Economic outlets for natural gasoline and liquefied petroleum gases. G. G. Oberfell. bibliog Am Pet Inst Proc p4-15 sec 3 D '32; Same. Oil & Gas J 31:97-100+ N 17 '32; Abstract. Nat Pet N 24:22-4 N 23 '32; Discussion. Am Pet Inst Proc p16 sec 3 D '32

**Color**

Manufacture of colored gasolines requires use of dyes of high solubility and fastness. R. G. Clarkson. il Oil & Gas J 31:50 Mr 30 '33  
 Method for gauging sunlight exposure period to determine color stability of gasoline. E. C. Hoeman. Oil & Gas J 32:18 S 14 '33

**Ethyl mixtures**

Effect of tetraethyllead on octane number. L. E. Hehl, T. B. Rendel and F. L. Garton. il Ind & Eng Chem 25:187-91 F '33  
 Ethyl gasoline premium to be cut to 2 cents, effective July 28. Nat Pet N 25:20 Jl 19 '33  
 49 refiners now licensed to use "Q" compound. Nat Pet N 25:36 Jl 5 '33  
 Q brand of ethyl compound to be offered licensed refiners and marketers June 1. Oil & Gas J 31:11+ Ap 20 '33; Nat Pet N 25:11-12 Ap 19 '33; Pet Age 27:21 Ap '33  
 Refiners urge lower Ethyl standard under new motor test method. A. L. Foster. Nat Pet N 25:17-18 F 15 '33

**Evaporation losses**

Recommends change in Michigan's gas shrinkage allowance. Nat Pet N 25:58 Mr 22 '33  
 Vapor gathering systems with steel balloons reduce evaporation and corrosion losses. L. G. E. Bignell. il diags Oil & Gas J 32:8+ O 12 '33

**Gum formation**

Chemical nature of gum-forming constituents in gasoline. D. T. Flood, J. W. Hladky and G. Edgar. bibliog Ind & Eng Chem 25:1234-9 N '33  
 Copper dish method of determining gum used by majority of refiners. G. B. Murphy and C. Wirth. Oil & Gas J 31:24 Mr 23 '33

**GASOLINE—Gum formation—Continued**

- Determination of gum gasoline; abstracts of papers at World petroleum congress. Nat Pet N 25:22-3 Ag 16 '33
- Distribution of gum-forming constituents in cracked gasoline. S. M. Martin, jr, W. A. Gruse and A. Lowy, bibliog diag Ind & Eng Chem 25:381-6 Ap '33
- Explain relation of lubricant and fuel to carbon formation with special reference to gum. P. W. Stroud, bibliog Oil & Gas J 31:12+ Ap 6 '33; Abstract. Mech Eng 55:508 Ag '33
- Gum formation in gasoline. T. H. Rogers, J. L. Bussies and P. T. Ward, bibliog, il diag Ind & Eng Chem 25:397-402 Ap '33
- Gum formation in gasoline; control by anti-oxidants. T. H. Rogers and V. Voorhees, bibliog Ind & Eng Chem 25:520-3 My '33
- Gum stability of gasolines; observed and true oxygen bomb induction periods. J. W. Ramsay and H. S. Davis, diag Ind & Eng Chem 25:934-6 Ag '33
- Gumming characteristics of gasolines. O. C. Bridgeman, Am Pet Inst Proc (Refining div) p90-7 Je '32
- Inhibitors in cracked gasoline. G. Egloff and others, bibliog il diags Ind & Eng Chem 24: 1375-82; 25:804-8 D '32, JI '33
- Lubricating gasoline development caused by rising gum content. F. A. Nason, Nat Pet N 25:25+ F 1 '33
- Measurement method and means of preventing formation of undesirable gum in gasoline. T. H. Rogers and V. Voorhees, Oil & Gas J 32:13+ Ag 3 '33
- Modern methods of benzole refining; the use of inhibitors for preventing gum formation. W. H. Hoffert and G. Claxton, Soc Chem Ind J 52:25T-33T F 3 '33
- Modern refining methods. A. L. Foster, Nat Pet N 25:34-5 Ja 18 '33
- Several tests necessary in determining value of gum inhibitors in improving gasolines. W. W. Scheumann, Oil & Gas J 31:22-3 Ap 6 '33; Same abr, Nat Pet N 25:29-30+ Ap 5 '33
- Temperature effect on determination of gum in gasoline. O. C. Bridgeman and J. C. Molitor, S A E J 33:283-90; Discussion. H. S. Davis, 290-2 Ag '33
- Use of inhibitors in treating motor fuels offers satisfactory solution to gum problems. R. C. Conine, Oil & Gas J 31:14+ N 24 '32

**Laws and regulations**

See Gasoline—Alcohol mixtures; Gasoline industry—Laws and regulations

**Lubricating**

- Action of lubricated motor fuel in relation to engine performance. D. H. Foster, Oil & Gas J 31:38+ Ap 6 '33; Same, Nat Pet N 25:66 Ap 12 '33
- Government bureau reports on value of gasoline dopes. Oil & Gas J 31:23 F 23 '33; Same, Nat Pet N 25:18 F 22 '33; Same, Automotive Ind 68:499 Ap 22 '33
- Mid-continent introducing new product; D-X. Pet Age 27:43 Ja '33
- Mid-continent refiners oppose use of lubricants in gasoline. A. L. Foster, Nat Pet N 24:17-18 D 28 '32
- Oiled gas; if the public insists on being fooled, the gasoline sellers can hardly be blamed for providing the wherewithal. Business Week p9 F 1 '33
- Refiner conducts road tests of lubricating gasolines. A. L. Foster, il Nat Pet N 25:26+ Mr 1 '33
- Refiners giving attention to widening demand for lubricated gasolines. Oil & Gas J 31:28 D 8 '32
- Sale of lubricated gasolines stimulates research into practical value. A. L. Foster, Nat Pet N 24:11-12+ D 21 '32
- Tax regulations on gasoline containing lubricants effective. Oil & Gas J 32:25 Je 22 '33
- Ten million mile test given top lubes in Greyhound busses. J. C. Chatfield, Nat Pet N 25:31-2+ F 8 '33; Abstract. Mech Eng 55:312 My '33

Tide Water starts sale of new gasoline containing top cylinder lubricant. Oil & Gas J 32:33 My 25 '33

Two Mid-continent refining companies selling lubricated gasolines. Nat Pet N 25:11-12+ Ja 18 '33

Value of lubricated gasoline being questioned by refiners and automotive engineers. R. C. Conine, Oil & Gas J 31:9+ D 29 '32

**Manufacture**

- Application of inhibitors to cracked gasoline is significant development in plant operation. G. Egloff and others, Oil & Gas J 31:64 Mr 30 '33
- By-products obtained in manufacturing volatile gasolines basis for important new market. C. K. Francis, Oil & Gas J 31:18+ Ja 19 '33
- Caustic soda still indispensable in petroleum refining. J. F. Middleton, Nat Pet N 25:29-30+ Ja 18 '33
- Chemistry and engineering bring rapid developments in refining industry. A. L. Foster, il Nat Pet N 24:26-8 N 16 '32
- Chemistry and technology of cracking. A. N. Sachanen and M. D. Tilicheyev, 389p \$8 Chemical catalog co. '32
- Cold treating process for cracked naphthas. R. A. Halloran, diag Nat Pet N 25:35-6+ JI 26 '33
- Common reflux system gives great flexibility in new Marathon cracking units. J. C. Chatfield, flow sheet il Nat Pet N 25:32-4+ O 18 '33
- Continuous acid treating of light oils in the laboratory. E. V. Zublin, diags Am Pet Inst Proc p79-80 sec 3 D '32; Same, Oil & Gas J 31:74 N 17 '32
- Continuous clay method of treating gasolines assures products of high color stability. C. O. Willson, il diag Oil & Gas J 31:61-2 Mr 30 '33
- Control of fixed gases constitutes important feature in treating east Texas gasoline. A. C. Sturgis, diags Oil & Gas J 31:54 Mr 30 '33
- Cracking light and heavy oils. G. Egloff and E. F. Nelson, tables Am Pet Inst Proc 14M(3):73-80 My '33
- Cracking of Mid continent virgin gas oil over a wide range of temperatures and pressures. P. C. Keith, jr, J. T. Ward and L. C. Rubin, flow diag tables Am Pet Inst Proc 14M(3):49-66; Discussion, 67 My '33
- Design and power innovations in new Pennsylvania re-forming unit. A. L. Foster, flow diag il Nat Pet N 25:35-6+ Ap 26 '33
- Developments in naphtha-reforming practice for octane-number improvement. E. J. Le-Roi and H. W. Ferguson, diags Am Pet Inst Proc 14M(3):68-72 My '33; Same, Nat Pet N 25:120-2+ My 17 '33; Same abr, Oil & Gas J 32:48+ My 25 '33
- Distribution of gum-forming constituents in cracked gasoline. S. M. Martin, jr, W. A. Gruse and A. Lowy, bibliog diag Ind & Eng Chem 25:381-6 Ap '33
- Effect of acid treatment on octane values of cracked gasolines. S. Born, diags Nat Pet N 25:23-8 Ap 5 '33; Excerpts, Oil & Gas J 31:16+ Ap 6 '33
- Freezing-out method for gasoline analysis of refinery gases. J. L. Oberseider, Nat Pet N 25:35 S 13 '33
- Gasoline treating and inhibitors discussed at W.P.R.A. meeting. Nat Pet N 25:25-6 Ap 12 '33
- Loss in gasoline antiknock rating with acid treatment dependent on several factors. C. Wirth, E. R. Kanhofer and G. B. Murphy, Oil & Gas J 32:13-14+ JI 13 '33
- Modern experimental cracking unit. W. W. Gary and J. T. Ward, flow diag plan Am Pet Inst Proc 14M(3):44-8 My '33; Same, Oil & Gas J 32:53+ My 25 '33
- Modern refining methods. A. L. Foster, Nat Pet N 25:34-5 Ja 18; 60+ Ja 25; 22+ F 1 '33
- New catalytic processes for the production of motor fuels having high octane value, flow chart il Oil & Gas J 32:12+ O 19 '33



**GASOLINE—Manufacture—Continued**

New reforming unit enables Pennzoil to refine gasoline of uniformly high octane rating. P. M. Robinson. *il* *diags* Oil & Gas J 31:56+ Mr 30 '33

No expensive processes or reagents needed to eliminate skunk from most gasolines. C. R. Wagner. flow chart *il* Oil & Gas J 31:38 Mr 30 '33

Petrol from coal. W. A. Bristow. Gas J (Lond) 203:211-12 J 26 '33

Preventing escape of mercaptans in reclaiming caustic soda used in washing gasoline recovered from refinery gases. W. Mendius. *Am Pet Inst Proc* (Refining div) p38 Je '32

Refinery and natural gasoline technology; calculation of refinery vaporization and condensation requirements. G. A. Burrell and N. C. Turner. Nat Pet N 25:18-21 N 8 '33

Refinery and natural gasoline technology; extraction of gasoline from natural and refinery gases. G. A. Burrell and N. C. Turner. Nat Pet N 25:22-5 Ag 2 '33

Refining cracked gasoline from a high sulphur crude oil by the use of sulphuric acid. J. C. Morrell, C. Wirth and J. R. Strong. Oil & Gas J 32:12+ J 20 '33

Refining of cracked gasolines and use of gum inhibitors; abstracts of papers at World petroleum congress. Nat Pet N 25:24 Ag 16 '33

Results of brucite treatment of light distillates. E. C. Higgins. Nat Pet N 25:26+ Ap 12 '33; Same. Oil & Gas J 31:10+ My 4 '33

Several tests necessary in determining value of gum inhibitors in improving gasolines. W. W. Scheumann. Oil & Gas J 31:22-3 Ap 6 '33; Same abr. Nat Pet N 25:29-30+ Ap 5 '33

Straightrun gasoline is giving way to cracked at rapid rate because of changing market. W. T. Ziegenhain. Oil & Gas J 31:11+ F 23 '33

Use of inhibitors in treating motor fuels offers satisfactory solution to gum problems. R. C. Conine. Oil & Gas J 31:14+ N 24 '32

*See also*

Gasoline, Natural  
—Manufacture

**Hydrogenation process**

Hydrogenated safety fuel. W. W. White. *il* Safety Eng 64:261-3 D '32

L'hydrogénation industrielle du pétrole par le procédé Standard I.G. A. Grebel. *Génie Civil* 102:442-6 My 13 '33

**Measurement**

All products metered at Kansas City suburban bulk and service station. W. F. Lowe. *il* Nat Pet N 25:42+ F 15 '33

Inlet and outlet losses checked by proper use of meters. *il* Nat Pet N 25:32-4 Ag 9; 39-40 Ag 16 '33

Light oil meters pay out quickly in rural Kansas; Johnson oil co. *il* Nat Pet N 25:38-9 F 15 '33

Monthly saving of 3000 gallons thru bulk plant meters. *il* Nat Pet N 25:41+ S 13 '33

Overfilling shown to be one source of loss in gasoline handling. J. C. Chatfield. *il* Nat Pet N 25:11-12+ F 15 '33

Truck loading dock at refinery meters all bulk deliveries. W. F. Lowe. *il* Nat Pet N 25:36-7 Mr 22 '33

**Price cutting**

As a price cutter sees it. R. K. Shoolroy. Nat Pet N 25:38-41 Ap 19; 34-6 My 10 '33

Cent to cent and half differential held by low price stations. Nat Pet N 25:18 S 13 '33

Majors and independents reach truce in Los Angeles war. Nat Pet N 25:16 O 25 '33

New York garage owners plan fight on commercial discounts. R. B. Stafford. Nat Pet N 25:15 F 22 '33

Reestablishment of higher gasoline prices sought in U. S. court. Nat Pet N 25:14 Ja 18 '33

Why not let agents, dealers help get better gasoline prices; evils of cents per gallon commissions. B. L. Meece. Nat Pet N 25:36-8 F 8 '33

Zone method of meeting cut prices held legal by Federal trade commission. Nat Pet N 25:11-12 Mr 8 '33

**Prices**

Commercial discounts eliminated in new Socony structure. Nat Pet N 25:25 My 17 '33

Differentials in oil prices previously existing expected to continue under new code. W. T. Ziegenhain. Oil & Gas J 32:8+ Ag 24 '33

Ethyl gasoline premium to be cut to 2 cents, effective July 28. Nat Pet N 25:20 J 19 '33

Excessive gasoline tax a handicap to industry in effort to effect recovery under the code. W. T. Ziegenhain. Oil & Gas J 32:7-8 Ag 31 '33

Gasoline is still cheapest of all necessities of modern life; taxes raise consumer cost. A. M. Rowley. Oil & Gas J 32:13 S 28 '33

Government use of group 3 as basis for prices in code follows usual practice of industry. C. O. Willson. map Oil & Gas J 32:6+ Ag 31 '33

Improved demand cause of recent gasoline price advances. J. C. Chatfield. Nat Pet N 25:23-4 J 19 '33

Increased gasoline prices at filling stations are inevitable; average filling station price in the United States, 1913-33. A. M. Rowley. Oil & Gas J 32:11 S 7 '33

New Jersey Standard drops control of retail gasoline prices at stations. A. E. Mockler. Oil & Gas J 32:10+ Je 8 '33

Post your own tank car prices. R. R. Irwin. Nat Pet N 25:31-3 Ap 12 '33; Same abr. Oil & Gas J 31:30 Ap 13 '33

Price sections of code continue recent refinery losses. Nat Pet N 25:17-18 Ag 23 '33

Prices fixed! Pet Age 27:12-13 O '33

Retail gasoline prices show marked recovery in June following new low for all times. W. T. Ziegenhain. Oil & Gas J 32:41-2 J 27 '33

Retail motor fuel market failed to hold gains recorded during the first half of year. W. T. Ziegenhain. Oil & Gas J 31:68-9 Ja 26 '33

Selling gasoline below cost must be stopped. H. Ickes. Oil & Gas J 32:11+ S 28 '33

Standard of Ohio to base gasoline prices on Oklahoma market. J. P. Mosher, Jr. Nat Pet N 25:23-4 Je 14 '33

Tax collector gets more from gasoline than the producer and manufacturer combined. W. T. Anderson. Oil & Gas J 32:9 O 5 '33

Trackage stations ask General Johnson for retail price differential. Nat Pet N 25:15-16 J 5 '33

*See also*

Gasoline, Natural  
—Prices

**Specifications**

Mid-continent refiners fail to reach agreement as to changes in gasoline octane ratings. Oil & Gas J 31:23+ Ap 13 '33

Trade wrestles with tests, specifications. J. B. Rathbun. Pet Age 27:28+ Mr '33

Western refiners to vote on octane grades under new test method. A. L. Foster. Nat Pet N 25:22-3 Ap 12 '33

**Sulfur content**

Determination of sulfur and chlorine in gasoline. C. Wirth and M. J. Stross. *Ind & Eng Chem Anal* 5:85-7 Mr 15 '33

Improved apparatus for determination of sulfur by the lamp method. A. R. Choppin and R. L. Menville, Jr. *diags* Nat Pet N 25:19-20, 22 S 27 '33

No expensive processes or reagents needed to eliminate skunk from most gasolines. C. R. Wagner. flow chart *il* Oil & Gas J 31:38 Mr 30 '33

**Taxation**

Add sales taxes to gasoline prices in Middle West states. Oil & Gas J 32:33 J 6 '33

**GASOLINE—Taxation—Continued**

Administration of the gasoline tax in the United States. F. G. Crawford. 3d ed 66p Municipal administration service, 309 E. 34th st. New York '32  
 Administration told overtaxation one big cause of the oil industry's ills. Oil & Gas J 32:6+ My 25 '33  
 Another attempt to clarify application of federal tax on natural gasoline. Oil & Gas J 31:28 My 4 '33  
 Arguments against federal gasoline tax are before House ways and means committee. C. E. Kern. Oil & Gas J 31:9 F 2 '33  
 Benzene used industrially is held subject to federal gasoline tax. Oil Paint & Drug Rep 123:16; Editorial comment. 15 My 22 '33  
 Bootlegging curbed, Pennsylvania's gasoline tax receipts rise. il Nat Pet N 24:32 D 21 '32  
 Car owner's tax burden. G. E. Anderson. Am Bankers Assn J 25:16+ Ja '33  
 Confiscatory gasoline taxes; nation, states, counties, cities, threaten gasoline taxes by revenue grabs. Barron's 12:19 D 26 '32  
 Cost to American public of diversion of gasoline taxes and motor vehicle fees from their lawful purposes; abstracts. E. N. Smith. Roads & Sts 76:71-3 F '33; Bus Transportation 12:98-100 F '33  
 Demand falls most in high tax areas; highway proposals held dangerous. J. W. Van Dyke. Nat Pet N 25:21-2 Ja 11 '33  
 Double taxation on gasoline may be remedied; legislative conference held at Washington. C. E. Kern. Oil & Gas J 31:12+ F 9 '33  
 Excessive gasoline tax a handicap to industry in effort to effect recovery under the code. W. T. Ziegenhain. Oil & Gas J 32:7-8 Ag 31 '33  
 5040 regulations about ready; to follow existing rulings. Nat Pet N 25:19 Ag 16 '33  
 Funds for highway construction and maintenance must be protected as service charges. Rock Prod 35:36-7 D 10 '32  
 Gas tax; states act to encourage winter driving (and tax-paying) by extending registration dates. Business Week p10-11 Ja 25 '33  
 Gas taxes slump in 1932. Business Week p18-19 Mr 15 '33  
 Gasoline gallonage slumps most in states with high taxes. Nat Pet N 25:14-15 F 8 '33  
 Gasoline tax to rise \$62,000,000 yearly under Recovery bill. Nat Pet N 25:20-1 Je 14 '33  
 Gasoline taxation and its effect on consumption. S. A. Swensrud. Am Pet Inst Proc 14M(2):21-9 My '33; Abstract. Nat Pet N 25:27-8+ My 24 '33  
 Gasoline taxation program is urgently needed. C. B. Ames. Oil & Gas J 31:12+ D 15 '32; Excerpt. Nat Pet N 24:20 D 14 '32  
 Half billion in gas taxes in 1932. Roads & Sts 76:186 My '33; Same. Bus Transportation 12:268 Je '33  
 House passes bill to extend gasoline tax one year. Nat Pet N 25:14 Ap 26 '33  
 House votes to extend gas tax one year. Nat Pet N 25:8-9 F 1 '33  
 Idaho acts to penalize refund fraud cases. Nat Pet N 25:10 Mr 29 '33  
 Increasing amount of motor fuel tax money being diverted from roads. F. E. Packard. Oil & Gas J 32:18+ S 14 '33  
 Institute protests to Congress increase in the federal gasoline tax. Nat Pet N 25:13-14 My 24 '33  
 Is it time to reduce the gasoline tax? B. W. Musser. bibliog Am Pet Inst Proc (Marketing div) p20-5 Je '32  
 Kansas begins war on bootleggers with new trucking rules. il Nat Pet N 25:117-18 My 17 '33  
 Lower taxes needed to save earnings and hold down marketing costs. Nat Pet N 24:19-20 D 14 '32  
 Must prevent misuse of highway funds by other income. Rock Prod 35:34 N 19 '32  
 Nebraska marketers advocate gas tax rate reduction. E. L. Barringer. Nat Pet N 24:17-18 D 14 '32  
 New Texas law expected to end tax evasion and bootlegging. Nat Pet N 25:9 Mr 29 '33

North American gas tax conference, Indianapolis, Sept. 5-7. Nat Pet N 25:23 S 13 '33  
 Oil industry faces an increase in federal gasoline tax. Nat Pet N 25:6-7 My 24 '33  
 Only four states authorize diversion of gas tax. Pub Works 64:30 Je '33  
 Open forum on gasoline tax problems. Am Pet Inst Proc (Marketing div) p34-8 Je '32  
 Oregon tightens tax law to stop evasion. Nat Pet N 25:60 Ap 19 '33  
 Power to destroy; petroleum marketing and taxes. C. Barker. Am Pet Inst Proc p61-6 sec 2 D '32  
 Prepare to enforce new Kansas anti-bootlegging law. Nat Pet N 25:16 Ap 12 '33  
 Present taxation burdens on the oil industry, and suggested ways for relieving them. J. H. Pew. Oil & Gas J 31:16+ My 11 '33  
 Recommends change in Michigan's gas shrinkage allowance. Nat Pet N 25:58 Mr 22 '33  
 Refiner only may deduct gasoline and oil taxes from income. Nat Pet N 25:16 F 22 '33  
 Regulations covering tax free sales issued by Treasury. Nat Pet N 25:19-20 N 1 '33  
 Revenue act makes important changes in tax free sales of gasoline and oil. Oil & Gas J 32:17+ Je 22 '33  
 State gasoline taxes, 1932; tabulation. Pub Roads 14:52-3 My '33  
 Tax free sales to cities and states allowed under new law. Nat Pet N 25:21 Je 14 '33  
 Tax problems in Washington. F. B. Dow. Am Pet Inst Proc (Marketing div) p26-30; Discussion. 30-2 Je '32  
 Tax regulations on gasoline containing lubricants effective. Oil & Gas J 32:25 Je 22 '33  
 Taxation of gasoline. H. F. Long. Am Pet Inst Proc (Gen sess) p28-32 Je '32  
 Taxation of motor vehicle transportation. 196p \$2.50 National industrial conference board, inc. New York '32  
 Taxed to death. C. E. Ames. il Bus Transportation 12:18-21 Ja '33  
 Ten reasons why gasoline tax rate should not be increased. F. B. Dow. Oil & Gas J 32:27 Je 1 '33  
 Tennessee's gasoline tax law is attacked in court. Oil & Gas J 31:27 D 22 '32  
 Treasury decision on tax exemptions issued. Oil & Gas J 32:57 N 9 '33  
 U.S. agents are checking reports of gasoline tax evasion. Nat Pet N 25:15 Ap 12 '33  
 Washington puts teeth in tax law to prevent evasion and fraud. Nat Pet N 25:9-10 Mr 29 '33

**Testing**

Analyses of motor fuel in Detroit show wide differences in knock rating. W. S. Gilbreath. Oil & Gas J 31:21+ N 24 '32  
 Antiknock research coordinates laboratory and road tests. C. B. Veal and others. diags S A E J 32:105-20 [bibliog p119-20] Mr '33; Discussion. 32:104, 187-90 Mr, My '33  
 Arbitration committee to consider knock test method arguments. Nat Pet N 25:36 Mr 8 '33  
 C. F. R. committee determines anti-knock values by new motor method. diag Automotive Ind 67:682-4 N 26 '32  
 C.F.R. motor method for determining octane number approved by D2. Oil & Gas J 31:27 Ja 26 '33  
 Chemical nature of gum-forming constituents in gasoline. D. T. Flood, J. W. Hladky and G. Edgar. bibliog Ind & Eng Chem 25:1234-9 N '33  
 Continuous acid treating of light oils in the laboratory. E. V. Zublin. diags Am Pet Inst Proc p79-80 sec 3 D '32; Same. Oil & Gas J 31:74 N 17 '32  
 Copper dish method of determining gum used by majority of refiners. G. B. Murphy and C. Wirth. Oil & Gas J 31:24 Mr 23 '33  
 Correlation of C.F.R. laboratory knock ratings with behavior of motor fuels in service. C. B. Veal and others. bibliog il diags Am Pet Inst Proc p139-53 sec 3 D '32



**GASOLINE—Testing—Continued**

- Correlation of laboratory knock test results with actual road knock. W. V. Hanley and W. H. Paul. *il Nat Pet N* 25:31-2+ My 3 '33
- Effect of acid treatment on octane values of cracked gasolines. S. Born. *diags Nat Pet N* 25:23-8 Ap 5 '33; *Excerpts. Oil & Gas J* 31:16+ Ap 6 '33
- Effect of automobile engine design on octane number ratings of motor fuels used. W. H. Hubner and G. B. Murphy. *diags Oil & Gas J* 32:15+ S 21 '33
- Effect of gasoline volatility on engine economy. N. MacCoull. *S A E J* 33:363-70 N '33
- Gum formation in gasoline. T. H. Rogers, J. L. Bussies and P. T. Ward. *bibliog il diag Ind & Eng Chem* 25:397-402 Ap '33
- Gum stability of gasolines; observed and true oxygen bomb induction periods. J. W. Ramsey and H. S. Davis. *diag Ind & Eng Chem* 25:934-6 Ag '33
- Gumming characteristics of gasolines. O. C. Bridgeman. *Am Pet Inst Proc (Refining div)* p90-7 Je '32
- Measurement method and means of preventing formation of undesirable gum in gasoline. T. H. Rogers and V. Vorhees. *Oil & Gas J* 32:13+ Ag 3 '33
- Method for gauging sunlight exposure period to determine color stability of gasoline. E. C. Hoeman. *Oil & Gas J* 32:18 S 14 '33
- New anti-knock test method. *il Pet Age* 27:22+ Ap '33
- Ozone, knock-inducer extraordinary. D. B. Brooks. *diag Inst Pet Tech J* 19:835-44 O '33
- Ozone to aid in study of fuel knocking. *Nat Pet N* 25:37 O 18 '33
- Predicting stability of gasolines to aging. C. Winning and R. M. Thomas. *bibliog il diags Ind & Eng Chem* 25:511-16 My '33
- Procedure to be used in knock testing aviation fuels. *Nat Pet N* 25:24+ N 8 '33
- Progress of naphthology, 1932; analysis and testing. W. H. Thomas. *bibliog Inst Pet Tech J* 19:638-40 JI '33
- Progress of naphthology, 1932; gasoline engines and knock testing. R. Stansfield. *Inst Pet Tech J* 19:567-73 JI '33
- Refiner conducts road tests of lubricating gasolines. A. L. Foster. *il Nat Pet N* 25:26+ Mr 1 '33
- Refiners urge lower Ethyl standard under new motor test method. A. L. Foster. *Nat Pet N* 25:17-18 F 15 '33
- Relation of C.F.R. knock ratings to behavior of fuels in service. T. A. Boyd. *charts Am Pet Inst Proc (Refining div)* p98-102; *Discussion. 102-26 Je '32*
- Results of a series of vapor-lock road tests. H. S. White and F. B. Gary. *Am Pet Inst Proc* p134-8 sec 3 D '32; *Same. Oil & Gas J* 31:62+ N 17 '32
- Secondary reference standards for knock testing. A. E. Becker and C. B. Kass. *S A E J* 33:312 S '33
- Significance of A.S.T.M. distillation curve. M. G. Blair and R. C. Alden. *bibliog Ind & Eng Chem* 25:559-62 My '33
- Some developments in test methods for petroleum products. G. B. Murphy and C. Wirth. *il diag Nat Pet N* 25:16-18, 20 Ag 30 '33
- Some refinery technologists object to adopting C.F.R. motor method. R. C. Conine. *Oil & Gas J* 31:26 F 2 '33
- Temperature effect on determination of gum in gasoline. O. C. Bridgeman and J. C. Molitor. *S A E J* 33:283-90; *Discussion. H. S. Davis. 290-2 Ag '33*

**Theft**

- Gasoline pipelines have little trouble with line tappers. A. S. James. *Nat Pet N* 25:31+ Ja 11 '33

**Transportation**

- Marketers building terminals on inland waterways. E. L. Barringer. *Nat Pet N* 25:35-6 JI 19 '33
- Mid-continent refined products move by railroad to vast consuming public. A. S. James. *map Nat Pet N* 25:69-70+ My 17 '33

- Refinery executive explains importance of trucks in aiding business recovery. E. S. Rule. *Oil & Gas J* 31:32 F 9 '33
- 2100-gallon delivery outfit in Florida. *il Nat Pet N* 25:37 Mr 22 '33
- Westland oil obtains reduction in Montana freight rates. *Nat Pet N* 25:36 JI 19 '33

*See also*

- Gasoline pipe lines  
Tank cars  
Tank trucks

**Volatility**

- Car manufacturers change design of engines to obtain maximum advantage of volatility. G. G. Brown. *Oil & Gas J* 31:13+ Ja 19 '33
- Effect of gasoline volatility on engine economy. N. MacCoull. *S A E J* 33:363-70 N '33; *Summary. Automotive Ind* 69:245-6 Ag 26 '33; *Same. Oil & Gas J* 32:16 S 7 '33; *Abstract. Nat Pet N* 25:26 S 13 '33
- Effect of gasoline volatility on the miscibility with ethyl alcohol. O. C. Bridgeman and D. W. Querfeld. *U S Bur Stand J Research* 10:841-50 Je '33
- Further consideration of the disposal of excess volatility in manufacturing motor fuels. E. Kaye. *Oil & Gas J* 32:44+ Je 1 '33
- Motor car manufacturers could help to solve the vapor lock problem. O. C. Bridgeman. *Oil & Gas J* 32:8+ My 25 '33; *Abstract. S A E J* 32:sup26 F '33
- Motor fuel quality; a complex problem. G. G. Brown. *Nat Pet N* 24:43-4+ D 14 '32
- Performance of car is more dependent upon volatility of fuel than generally realized. G. G. Brown. *Oil & Gas J* 31:51, 54 My 18 '33; *Abstract. Nat Pet N* 24:17 My 24 '33
- Relation of antiknock value of gasoline to its volatility and solubility in liquid SO<sub>2</sub>; testing of naphthas. H. T. Ward and A. H. White. *bibliog il diags Oil & Gas J* 32:38-40 Je 1 '33
- Results of a series of vapor-lock road tests. H. S. White and F. B. Gary. *Am Pet Inst Proc* p134-8 sec 3 D '32; *Same. Oil & Gas J* 31:62+ N 17 '32
- Suggest volatility index for motor fuels as aid in the utilization of light hydrocarbons. G. G. Oberfell and R. C. Alden. *Oil & Gas J* 31:14+ Ja 19 '33
- Vapor-handling capacity of automobile fuel systems. O. C. Bridgeman, H. S. White and F. B. Gary. *S A E J* 32:157-63 Ap '33
- GASOLINE, Natural**
- All fields show a reduction in natural gasoline yield except Oklahoma City. *Oil & Gas J* 31:26 F 23 '33
- Economic outlets for natural gasoline and liquefied petroleum gases. G. G. Oberfell. *bibliog Am Pet Inst Proc* p4-15 sec 3 D '32; *Same. Oil & Gas J* 31:97-100+ N 17 '32; *Abstract. Nat Pet N* 24:22-4 N 23 '32; *Discussion. Am Pet Inst Proc* p16 sec 3 D '32
- Further consideration of the disposal of excess volatility in manufacturing motor fuels. E. Kaye. *Oil & Gas J* 32:44+ Je 1 '33
- Natural gasoline is likely to retain its better relative position during 1933. *Oil & Gas J* 31:30 Ja 26 '33
- Natural gasoline is mutual problem of refiner and manufacturer. A. L. Foster. *Nat Pet N* 24:26-7 D 21 '32
- Natural gasoline is slowly regaining its importance as source of motor fuel. *Oil & Gas J* 32:36+ Ag 24 '33
- Natural gasoline plant operators hold profitable meeting in Breckenridge. L. E. Bredberg. *Oil & Gas J* 31:39 Ap 6 '33
- Natural gasoline technical committee is considering many new problems; report before convention of the Natural gasoline association of America. R. C. Alden. *Oil & Gas J* 31:36+ My 18 '33
- Progress of naphthology, 1932; natural gas and natural gasoline. T. Hoffman. *bibliog Inst Pet Tech J* 19:449-53 JI '33
- Trend is reversed in the use of natural gasoline and future encouraging. *Oil & Gas J* 32:33 Je 1 '33

**GASOLINE, Natural—Continued**

Trend toward high motor fuel vapor pressures encourages manufacturers. Oil & Gas J 31:29 D 1 '32

Unusual design of tank permits storing natural gasoline under pressure. il diag Oil & Gas J 32:35 N 9 '33

**Analysis**

Significance of A.S.T.M. distillation curve. M. G. Blair and R. C. Alden. bibliog Ind & Eng Chem 25:559-62 My '33

**Manufacture**

Accounts of an oil company. H. G. Humphreys. J Account 56:276-82 O '33

Chart aids plant operator to properly adjust circulation through absorber. W. A. Stover. Oil & Gas J 32:23 J 20 '33

Chart simplifies design problem of pipe lines in the natural gasoline plants. W. A. Stover. Oil & Gas J 31:24+ Mr 30 '33

Development of natural gasoline plant design and operation. diag Oil & Gas J 32:43 O 26 '33

Developments in natural gasoline manufacture are reflected in safety problems at plants. C. H. Martin. Oil & Gas J 31:14+ D 8 '32

Equilibrium conditions in continuous recycle system. R. B. Smith. Ind & Eng Chem 25: 692-3 Je '33

Operator may determine efficiency of plant by using a convenient chart. W. A. Stover. Oil & Gas J 31:29-30 Mr 9 '33

Principles of rectification. G. A. Burrell and N. C. Turner. Nat Pet N 25:26, 28-31 Mr 22; 25-6+ Ap 19; 23-4+ My 31; 35-6+ Je 14 '33

Refinery and natural gasoline technology; calculation of refinery vaporization and condensation requirements. G. A. Burrell and N. C. Turner. Nat Pet N 25:18-21 N 8 '33

Refinery and natural gasoline technology; extraction of gasoline from natural and refinery gases. G. A. Burrell and N. C. Turner. Nat Pet N 25:22-5 Ag 2 '33

Refinery and natural gasoline technology; oil circulation, plate requirements, in an absorption process. G. A. Burrell and N. C. Turner. Nat Pet N 25:24+ S 27 '33

State permit needed to operate plants and must report all stocks monthly in Oklahoma. Oil & Gas J 32:29+ Je 8 '33

Use of naphtha towers was first step in development of absorption unit. diag Oil & Gas J 32:36 N 2 '33

**By-products**

Carburize the waste from stabilizer at a Skelly natural gasoline plant for use as fuel. A. I. Sellers. il Oil & Gas J 31:12 Mr 23 '33

**Prices**

Attempt to fix natural gasoline prices would prove unusually difficult. Oil & Gas J 32: 27+ S 21 '33

Price of natural varies without regard to that of crude or refinery gasoline. Oil & Gas J 31:27 F 2 '33

Standard form casinghead gas contract takes gasoline price into account. il Oil & Gas J 31:30 D 29 '32

Union oil co. posts prices for natural gasoline. Nat Pet N 25:20 My 10 '33

**Specifications**

Gasoline sales committee reports after year of new specifications in use. S. B. Crooks. Oil & Gas J 32:27+ My 25 '33

**Statistics**

California plants increase output of natural gasoline. Oil & Gas J 32:29 Je 8 '33

Combined capacity of gasoline plants in United States shows decrease for the first time. W. T. Ziegenhain. Oil & Gas J 31:68, 71-2+ My 18 '33

East Texas improves its relative position as a producer of natural gasoline. Oil & Gas J 32:33 J 13 '33

Forecast greater use of natural as direct motor fuel. Oil & Gas J 31:29 D 1 '32

Natural gasoline bore brunt of decline in motor fuel shipments from refineries. Oil & Gas J 31:29 Ja 5 '33

Natural gasoline is important Mid-continent product. Nat Pet N 25:108-9 My 17 '33

Present production and likely future trends of Mid-continent natural gasoline industry. E. Buddrus. Oil & Gas J 31:67+ My 18 '33

Stocks at natural gasoline plants are reduced to lowest point in 7 years. Oil & Gas J 31: 30 F 16 '33

Stocks of natural gasoline show large increase despite lesser production. Oil & Gas J 31: 42 Ap 13 '33

**Taxation**

See Gasoline—Taxation

**Testing**

Compare principal procedures commonly used in making doctor test on natural gasoline. G. A. Boyd. il Oil & Gas J 32:16+ J 13 '33

Light hydrocarbons found in natural gasolines maintain rating in new antiknock tests. H. M. Trimble. Oil & Gas J 31:16+ Ja 19 '33

Natural gasoline has prominent part in new research work covering fuels. H. K. Cummings. Oil & Gas J 32:30 Ag 10 '33

Summarize don'ts in making the Reid vapor pressure test. Oil & Gas J 31:25-6 Mr 23 '33

To codify methods of sampling, measuring and testing wet gas. Oil & Gas J 31:29 D 1 '32

**Transportation**

Bureau of explosives issues revision of shipping rules. Oil & Gas J 32:27 My 25 '33

**GASOLINE, Substitutes for**

Cracking of cottonseed oil. G. Egloff and J. C. Morrell. Ind & Eng Chem 24:1426-7 D '32

See also

Automotive fuel

**GASOLINE appliances**

Gasoline pressure appliances require fuels of uniform volatility and low gum content. E. N. St John and R. Grubb. Oil & Gas J 32: 16+ Je 29 '33

**GASOLINE handling**

Analyzing stock losses. W. W. Brown. Nat Pet N 25:37-8 Je 7 '33

Gasoline is powerful and destructive. Safety Eng 66:96 S '33

Gasoline storage tanks buried at Magnolia's Oklahoma City bulk plant. W. F. Lowe. il plan Nat Pet N 25:32-4, 36 Ap 19 '33

Inlet and outlet losses checked by proper use of meters. il Nat Pet N 25:32-4 Ag 9; 39-40 Ag 16 '33

New vacuum gasoline tank truck makes only metered dumps. il Nat Pet N 25:46 O 11 '33

Overfilling shown to be one source of loss in gasoline handling. J. C. Chatfield. il Nat Pet N 25:11-12+ F 15 '33

Truck loading dock at refinery meters all bulk deliveries. W. F. Lowe. il Nat Pet N 25: 36-7 Mr 22 '33

See also

Gasoline pumps

Gasoline service sta-

tions

Gasoline storage

Tank trucks

**Safety devices and measures**

Improperly designed truck tanks are dangerous fire hazard. G. P. Scott. il Nat Pet N 25:29-30+ Ag 2 '33

**GASOLINE hose**

New army specifications for airplane fuel hose; recent improvements in hose compounded with thiokol. J. P. Bushnell. Rubber Age 34:15 O '33

**GASOLINE industry**

Atlantic Coast prices were higher last year for light products and lower for heavy oils. A. E. Mockler. Oil & Gas J 31:113-14 Ja 26 '33

Big loss in gasoline consumption is threatened by railroad campaign against motor trucks. Oil & Gas J 31:9 D 22 '32



**GASOLINE industry—Continued**

- Consumer is sales manager; Shell petroleum corporation. P. Ryan. *il* Ptr Ink Mo 27:20-1+ N '33; Same cond. Adv & Sell 21:40+ O 26 '33
- Criticism of conditions in the marketing division. P. M. Miskell. Oil & Gas J 31:10+ Ap 6 '33; Same. Nat Pet N 25:20-2 Ap 5 '33; Excerpt. Pet Age 27:16-17+ Ap '33
- Economic outlets for natural gasoline and liquefied petroleum gases. G. G. Oberfell. bibliog Am Pet Inst Proc p4-15 sec 3 D '32; Same. Oil & Gas J 31:97-100+ N 17 '32; Abstract. Nat Pet N 24:22-4 N 23 '32; Discussion. Am Pet Inst Proc p16 sec 3 D '32
- Economic studies of supply and demand as foundation for profits launched by W.P.R.A. in 1925. Nat Pet N 25:78-9+ My 17 '33
- Farm problems result in new sales methods. E. L. Barringer. *il* Nat Pet N 25:27-8 Ag 2 '33
- Further consideration of the disposal of excess volatility in manufacturing motor fuels. E. Kaye. Oil & Gas J 32:44+ Je 1 '33
- Gasoline industry in the twin cities. R. S. Vaile, A. L. Nordstrom and R. E. Brewer. diags Univ of Minnesota Studies in Economics and Business 6:1-89 '33
- Gasoline; marketing practices take a turn for the worse in the East, better in the West. Business Week p9 Je 7 '33
- Hold down number of outlets, emphasize selling, marketers are urged. P. G. Blazer. Nat Pet N 25:39-41 F 22 '33
- How a small refiner handles consignments to dealers. A. A. Hines. Nat Pet N 25:51 Jl 26 '33
- How marketers direct personal sales campaigns. E. L. Barringer. *il* Nat Pet N 25:26+ Ag 30 '33
- If I were a marketer. R. A. Warfel. Nat Pet N 24:41-2+ D 28 '32
- Industries act gives marketing branch authority to remedy present conditions in distribution. C. O. Willson. Oil & Gas J 32:8+ Je 1 '33
- Kind of broadcasting the local independent jobber can cash in on; personal selling. Nat Pet N 25:40+ My 10 '33
- Marketing of petroleum products. W. T. Holliday. Am Pet Inst Proc (Marketing div) p4-9 Je '32
- Meeting the requirements of our customers. M. J. Norrell. Am Pet Inst Proc 14M(2): 37-9 My '33
- Natural gasoline is mutual problem of refiner and manufacturer. A. L. Foster. Nat Pet N 24:26-7 D 21 '32
- Needed: a new oil price structure. H. T. Ashton. Pet Age 26:20-2+ D '32
- Octane number increase greatest in the Mid-continent. Nat Pet N 25:26 Ag 2 '33
- Ohio marketers ask oil companies to adopt sound sales policies. Nat Pet N 25:17-18 My 3 '33
- Ohio marketers hear pleas for general sales tax; annual convention of the Ohio petroleum marketers association. Nat Pet N 25:17-18 F 22 '33
- Open forum on marketing problems. Am Pet Inst Proc (Marketing div) p39-46 Je '32
- Over 1800 eastern dealers organized; movement reported spreading. R. B. Stafford. Nat Pet N 24:17-18 N 30 '32
- Plea for profits. E. W. Sinclair. Am Pet Inst Proc (Marketing div) p10-15 Je '32
- Reducing station sales expense. F. A. Bean. Nat Pet N 24:83-4 N 16; 39-40+ N 30 '32
- Restrictions on highways and taxation threaten progress of oil industry. J. W. Van Dyke. Oil & Gas J 31:10 Ja 5 '33
- Retail prices based on wholesale markets would help solve marketing troubles. H. T. Ashton. Nat Pet N 24:29-32+ N 23 '32
- Six oil giants fail to daunt Austin in Detroit gasoline war. D. G. Baird. *il* Sales Management 33:108+ Ag 1 '33
- Slogan of profits not gallons was not heeded. G. D. Locke. Oil & Gas J 31:14 Ap 6 '33
- Standard of Indiana announces additional revisions in its marketing practices. Oil & Gas J 32:25 Je 8 '33; Same. Nat Pet N 25:13 Je 7 '33
- Standard of Indiana eliminates service station discounts. Nat Pet N 25:15-16+ My 31; 68-9 Je 7; 78+ Je 14 '33
- S. O. New Jersey and Louisiana change gasoline marketing policies. J. P. Mosher. Nat Pet N 25:14+ Je 7 '33
- Straightrun gasoline is giving way to cracked at rapid rate because of changing market. W. T. Ziegenhain. Oil & Gas J 31:11+ F 23 '33
- Superior claims for Zip gasoline retracted. Nat Pet N 24:64 N 23 '32
- Trends in marketing practices; changes in policies of Standard oil company, Indiana. A. Jackson. Nat Pet N 25:9-11 My 24 '33; Same. Pet Age 27:16-17+ My '33; Same cond. Oil & Gas J 32:10+ My 25 '33
- Uphold rights of refiner in using colors at station. Oil & Gas J 31:23 F 23 '33
- What causes gallonage? Pet Age 27:16-17 F '33
- Why not let agents, dealers help get better gasoline prices? evils of cents per gallon commissions. B. L. Meece. Nat Pet N 25:36-8 F 8 '33

**See also**

Gasoline—Prices	Oil bulk stations
Gasoline pipe lines	Petroleum refining
Gasoline service stations	Standard oil companies

**Advertising**

- Advertising effective factor in building up gasoline gallonage. Pet Age 27:24-5 Mr '33
- Associated oil company broadcasts games. Ptr Ink 164:85 S 28 '33
- Compound Q touches off another gas war. *il* Ptr Ink 163:25-7 Je 1 '33
- Ethyl Gasoline advertising for 1933 to be doubled. Nat Pet N 25:14 Ap 12 '33; Excerpt. Ptr Ink 163:75 Ap 13 '33
- Four English posters for Shell corporation. *il* Adv Arts p21-4 N '33
- Haere mai! Texaco; a New Zealand advertising theme. V. H. Freeth. *il* Ptr Ink 164:78+ Ag 31 '33
- How to increase gasoline sales through suggested tours. E. L. Barringer. map Nat Pet N 25:47-8+ Je 28 '33
- How to use advertising. Pet Age 27:33 Je '33
- Indiana Standard localizes scenes in current advertising. Nat Pet N 25:66 My 10 '33
- A king goes to work; cartoon character iterates reasons why in new campaign on Red Crown gasoline. *il* Ptr Ink 164:11-12 Ag 31 '33
- Lèse majesté; Red Crown puts the king to work. *il* Adv & Sell 21:22 S 28 '33
- Letter to new car purchasers helps gasoline sales. Nat Pet N 25:30 Ag 30 '33
- Modest copy proves its power. Adv & Sell 21:28 Jl 6 '33
- New copy theme for new gas. *il* Ptr Ink 164:44 Jl 6 '33
- Oil companies roar more loudly the call of the open road. Sales Management 32:446 Ap 20 '33
- Phantom car new gas symbol. *il* Ptr Ink 164:78 Ag 10 '33
- Post card series opens \$2,000,000 campaign for announcement of new Shell product. *il* Ptd Salesmanship 61:170-1 My '33
- Radio fan newspaper that promotes an advertiser's program; Associated oil company merchandises its advertising thru Associated Spotlight. S. T. Moore. *il* Ptd Salesmanship 61:165-7 My '33
- Rogers vs. Cobb; two humorists compete over different networks for one sponsor, the Gulf refining company. *il* Ptr Ink 163:10+ Ap 20 '33
- Shell stakes \$2,000,000 on a new product. *il* Ptr Ink 163:5-6 Ap 6 '33
- Shell teaches salesmen to write advertising. E. A. Grimes. *il* Ptr Ink 164:42-3, 46-7 S 21 '33

**GASOLINE industry—Advertising—Continued**

600 newspapers introduce Skelly's tailor made gas. J. R. Bailey. *il Sales Management* 32: 106-7 F 1 '33  
 Standard Oil's champions. *il Ptr Ink* 165:42 O 12 '33  
 This code educates salesmen in company's advertising; twelve major propositions, subscribed to by Shell representatives. *Ptr Ink* 164:27-8 S 7 '33

**Aviation market**

Balbo and Post, as customers, widen Standard Oil's prestige. *Sales Management* 33:120+ Ag 1 '33

**Contracts**

California court sustains validity of lease contract. *Oil & Gas J* 31:22 F 16 '33  
 Court won't interfere in lease and agency consideration. *Nat Pet N* 25:17 Ag 16 '33  
 Federal trade commission passes buck to Ickes on lease and agency. R. B. Stafford. *Nat Pet N* 25:3-4+ N 8 '33  
 Mid-continent refiners move part of their plant output on yearly contract with marketers. A. S. James. *Nat Pet N* 25:103-4 My 17 '33  
 Sue to compel Trade commission to report on lease and agency. *Nat Pet N* 25:13-14 Ag 9 '33  
 30 oil associations join in plea against lease and agency. *Nat Pet N* 25:24D O 18 '33  
 Views on lease and agency. N. D. Baker. *Nat Pet N* 25:17-20 Ag 2 '33

**Credit problems**

Credit factor in the new deal. W. C. Wenzel. *Am Pet Inst Proc* 14M(2):40 My '33; Same. *Pet Age* 27:24 My '33; Same abr. *Nat Pet N* 25:19 My 24 '33  
 Effect of improper use of credits in the petroleum industry. C. E. Votrian. *Am Pet Inst Proc* p53-6 sec 2 D '32; Same cond. *Credit & Fin Management* 35:8-9+ F '33; Same cond. *Nat Pet N* 24:26+ N 23 '32; Excerpts. *Oil & Gas J* 31:20+ N 17 '32; *Pet Age* 26:42 N '32  
 Imperial Oil adjusts farm debts, reduces interest charges. *Nat Pet N* 25:57 Mr 1 '33  
 New conception of refinery credit necessary due to changes in marketing conditions. C. E. Votrian. *Oil & Gas J* 31:8+ Ap 6 '33  
 Oil industry aids consumers by keeping credit open. *Nat Pet N* 25:19-20 Mr 8 '33

**Laws and regulations**

Enforcement of proper quotas will bring NRA success in oil. A. J. Byles. *Nat Pet N* 25: 18+ O 25 '33; Same cond. *Oil & Gas J* 32: 100 O 26 '33  
 Kansas begins war on bootleggers with new trucking rules. *il Nat Pet N* 25:117-18 My 17 '33  
 New California laws seek to prevent substitution, unfair practices. *Nat Pet N* 25:33 Je 21 '33  
 New Texas law expected to end tax evasion and bootlegging. *Nat Pet N* 25:9 Mr 29 '33  
 Oklahoma model bill to stop the practice of substitution in marketing all oils. *Oil & Gas J* 31:25+ My 4 '33  
 Program of substituting alcohol for gasoline as motor fuel appears to be short-sighted. W. T. Ziegenhain. *Oil & Gas J* 31:10+ Mr 2 '33  
 Rate of gasoline manufacture put under U.S. control. *Nat Pet N* 25:12 O 25 '33  
 Secure first convictions in New York for substitution of inferior motor fuels. *Oil & Gas J* 31:27 D 22 '32  
 Two dealers convicted and fined for substituting gasoline. *Nat Pet N* 25:18 Mr 1 '33  
*See also*

**Gasoline—Taxation****Premiums**

Chicago dealers campaign against premiums. *Nat Pet N* 25:56 Mr 29 '33

**Service**

Saving money in buying and using motor truck fuels and lubricants; engineering service of gasoline and oil industries. *il Food Ind* 5:268-72 J1 '33

**Statistics**

American oil company obtains large motor fuel government contract; list of government awards. *Oil & Gas J* 31:29+ F 9 '33  
 A.P.I. committee forecasts 3 per cent increase in gasoline demand. *Nat Pet N* 25:15 Ag 2 '33  
 A.P.I. committee on refinery statistics estimates requirements. *Oil & Gas J* 31:23 N 17 '32  
 A.P.I. economic committee estimates offer six months operating pattern for industry. *Oil & Gas J* 32:12+ My 25 '33  
 Committee predicts increase in gasoline demand but warns of crude oil overproduction. *Oil & Gas J* 32:10 Ag 3 '33  
 Control of individual refinery crude runs and gasoline stocks preliminary to price fixing. W. T. Ziegenhain. *Oil & Gas J* 32:10 N 9 '33  
 Domestic gas consumption down 7.8% in 1932. *Nat Pet N* 25:18 Ja 18 '33  
 Final government report shows trends in gasoline demand vary widely. *Oil & Gas J* 32:32 Je 1 '33  
 Final 1932 gasoline consumption totals down 6.2 per cent from preceding year. *Automotive Ind* 68:442 Ap 8 '33  
 Gasoline gallonage slumps most in states with high taxes. *Nat Pet N* 25:14-15 F 8 '33  
 Gasoline taxation and its effect on consumption. S. A. Swensrud. *Am Pet Inst Proc* 14M(2):21-9 My '33; Abstract. *Nat Pet N* 25:27-8+ My 24 '33  
 Natural gasoline bore brunt of decline in motor fuel shipments from refineries. *Oil & Gas J* 31:29 Ja 5 '33  
 Oil industry's markets riding through storm; better days seen ahead. *Pet Age* 26:16-17 D '32  
 Report of the statistical sub-committee of the Institute's committee on refinery statistics and economics. *Am Pet Inst Proc* 14M(1):12-18 My '33; Same abr. *Oil & Gas J* 32:12+ My 25 '33; Abstract. *Nat Pet N* 25:18-19 My 24 '33  
 Sales of gasoline in Illinois, Kansas and Texas show sharp falling off in 1932. *Oil & Gas J* 31:29 Ap 20 '33  
 7.6 to 12.4% drop in demand for gasoline predicted. *Nat Pet N* 25:15-16 Mr 8 '33  
 Statistical survey and economic forecast of the refining situation; reports of A.P.I. committee. A. J. McIntosh; J. W. Frey. tables *Am Pet Inst Proc* (Gen sess) p13-27 Je '32; p6-17 sec 1 D '32  
 Survey of world gasoline trade in 1931 made by officials of Henry L. Doherty & co. *Oil & Gas J* 31:91 N 17 '32  
 Third grade gasoline sales double 1931 level in third quarter. *Nat Pet N* 24:23-4 N 30 '32  
 Thirty-four states show decreases in motor fuel demand. *Oil & Gas J* 31:27 D 1 '32  
 Trend is reversed in the use of natural gasoline and future encouraging. *Oil & Gas J* 32:33 Je 1 '33  
 Voluntary committee for Federal conservation board estimates six months oil demand. *Oil & Gas J* 31:22-3 N 17 '32  
 W.P.R.A. economist explains strong inventory position of motor fuels. H. K. Davis. *Oil & Gas J* 32:33 J1 6 '33  
 Winter motor fuel demand to be down 7.6 to 9.5% committees estimate. *Nat Pet N* 24:11-12 N 16 '32

*See also***Gasoline, Natural—Statistics****California**

California's 1932 motor fuel shipments to East coast were greatly reduced. A. E. Mockler. *Oil & Gas J* 31:80 Ja 26 '33  
 Eastward shipments of gasoline from California gain, other oils move in larger volume. A. E. Mockler. *Oil & Gas J* 32: 87 J 27 '33

**Canada**

Dumping of gasoline in Canada feared as outcome of higher prices here. *Oil & Gas J* 32:36 N 9 '33



## GASOLINE industry—Continued

## Great Britain

Protection for home-produced motor oil. Soc Chem Ind J (Chem & Ind) 52:602 J1 21 '33

## Kansas

Kansas strengthens refinery position with new plants and several improvement programs. C. O. Willson. il Oil & Gas J 31:15-16 F 16 '33

## Mid-continent field

Growth of independent marketers in West aided by refiners. Nat Pet N 25:98+ My 17 '33

Half of the United States lies in normal marketing territory of the Mid-continent. A. S. James. map Nat Pet N 25:43-4 My 17 '33

Mid-continent refiners move part of their plant output on yearly contract with marketers. A. S. James. Nat Pet N 25:103-4 My 17 '33  
Two gasoline pipe lines pump 48,000 barrels daily from Mid-continent refineries. W. F. Lowe. il map Nat Pet N 25:87+ My 17 '33

## Montana

Outside refiners furnish bulk of Montana gasoline. Oil & Gas J 31:26 Mr 16 '33

## Ohio

Standard of Ohio announces changes in price policies. Oil & Gas J 32:28 Je 15 '33

## Russia

Shanghai gas. Business Week p23 My 17 '33

## Texas

To beat the code, Texas gasoline rolls from plants, to buyers unknown. T. W. Watson. Nat Pet N 25:15 S 6 '33

## United States

Factors affecting the demand for gasoline and crude oil over the next few years. S. A. Swensrud. Oil & Gas J 31:14+ Mr 16 '33; Excerpts. Pet Age 27:20-2+ Mr '33

1933 outlook for automobiles in use, effect on gasoline consumption. S. A. Swensrud. Nat Pet N 25:27-8 Ja 18 '33

Old struggle to balance supply with demand now approaches show-down. Pet Age 27:18-19 Ap '33

Petroleum. Bradstreet's 60:1518+, 1662+; 61:84+ N 19, D 17 '32, Ja 21 '33

Tax collector gets more from gasoline than the producer and manufacturer combined. W. T. Anderson. Oil & Gas J 32:9 O 5 '33  
View of the oil industry from the sidelines. W. C. Platt. Nat Pet N 25:24-5 O 25 '33

## GASOLINE pipe lines

Gasoline pipelines have little trouble with line tappers. A. S. James. Nat Pet N 25:31+ Ja 11 '33

House committee makes report on pipe lines; would regulate the transportation of gas. C. E. Kern. Oil & Gas J 31:14+ Mr 9 '33  
Pure Oil, Sun Oil to co-operate on gasoline pipelines. Nat Pet N 25:12 Mr 29 '33

Two gasoline pipe lines pump 48,000 barrels daily from Mid-continent refineries. W. F. Lowe. il map Nat Pet N 25:87+ My 17 '33

## Pumping stations

Great Lakes pipe line powered by Diesels. flowsheet il map Power Pl Eng 37:94-6 F '33

New pump increases advantages of electric power for pipe lines; Rannett unit. il diag Elec W 101:358-60 Mr 18 '33

New pumping unit of radical design revolutionizes oil pipe line practice. A. M. Rowley. il Oil & Gas J 32:33+ O 12 '33

Outdoor operation of Great Lakes pipe line stations presented many problems which inventors and manufacturers solved. il Oil & Gas J 32:45 O 12 '33

Pipe line pumping and automatic control. J. Fies. il diag Elec Eng 52:29-34 Ja '33

Power companies co-operated in electrification of Rannett stations on Great Lakes pipe line. Oil & Gas J 32:45 O 12 '33

## Rates

Lower rates from Mid-continent plants to northern points are reinstated. Oil & Gas J 31:34 Ap 20 '33

## GASOLINE pumps

Gasoline pump manufacturers fix credit terms in code. Nat Pet N 25:8 O 4 '33

Modern pumps with proper settings aid bulk plant operation. W. Lewis. il Nat Pet N 25:39-40+ My 3 '33

## GASOLINE research

Laboratory apparatus for continuous acid treatment of light oils. E. W. Zublin. diag Nat Pet N 24:37+ N 16 '32

Natural gasoline has prominent part in new research work covering fuels. H. K. Cummings. Oil & Gas J 32:30 Ag 10 '33

Use of inhibitors in treating motor fuels offers satisfactory solution to gum problems. R. C. Conine. Oil & Gas J 31:14+ N 24 '32

## GASOLINE service stations

Colonial Beacon oil, youngster among majors, has good record. il Pet Age 27:22-3+ Mr '33

Engineering applied to maintenance in unique Servicenter building, Washington, D.C. J. F. Winchester. il S A E J 32:197-203 Je '33

Major companies blamed for number of new stations built. E. L. Barringer. Nat Pet N 25:19-20 F 15 '33

Service station links private and public transportation; Texas distributing co. Cleveland. E. L. Barringer. il Nat Pet N 25:38-9 J1 19 '33

Staebler opens modern station in Ann Arbor. il Nat Pet N 25:34 My 31 '33

Stations turn to 2-gallon cans to bring oil sales back. Nat Pet N 25:45+ Ap 26 '33

We fought depression with expansion! Sampson oil company of Bloomington, Ill. il Pet Age 27:14-15 My '33

## See also

Automobile service stations

## Accounting

New uniform daily reporting system for station sales and inventory; Da-Rite system. il Nat Pet N 25:33-6 J1 12 '33

## Advertising

Drinking water furnishes copy for tourist signboards. E. L. Barringer. Nat Pet N 25:37-8 Ap 12 '33

No premium gas; Detroit's price-cutting Sunny Service chain takes a knock on its gasoline rating. Business Week p7-8 D 7 '32

This contest sells the salesman; Standard of Indiana's "servisman" contest. il Ptr Ink 163:10+ Ap 27 '33

## Automobile accessories

Automotive specialties; should they be sold at gasoline stations? B. K. Davies. Nat Pet N 25:36+ O 25 '33; Same. Oil & Gas J 32:58 O 26 '33

Batteries create customer contacts for oil company stations. E. L. Barringer. il Nat Pet N 25:38-9 O 18 '33

Display signs help sell accessories as operators service cars. W. F. Lowe. il Nat Pet N 25:14-15 Ag 30 '33

Don't hide your new tires; advertise with them! il Nat Pet N 25:34 O 4 '33

How oil companies are selling and servicing tires and accessories. il Pet Age 27:14-15 F '33

How to sell tires. il Pet Age 26:36-7 N '32

How to use display to sell automotive accessories. il Pet Age 26:36-7 D '32

How we sell tires and car accessories at our own and dealer outlets. A. Wright. il Pet Age 27:16-17 Mr '33

Inspection during servicing is basis for successful selling of accessories. R. B. Stafford. il Nat Pet N 25:43-4 Ag 23 '33

Inspection of car's actual needs basis for station selling. F. F. Schuhle. Nat Pet N 25:46 Je 28 '33

Island cabinets display goods at the point of sale. Nat Pet N 25:47 O 18 '33

**GASOLINE service stations—Automobile accessories—Continued**

Island stores developing new shopping habits. A. H. Dreher. *Ptr Ink* 164:96-7 Ag 17 '33  
 Jobber keeps accessory stock to week's supply to regular re-ordering system. E. L. Barringer. *il Nat Pet N* 25:34-5 Ja 11 '33  
 Jobber markets tires from central storage with quick delivery system. E. L. Barringer. *il Nat Pet N* 24:38+ D 14 '32  
 Major companies differ on display of accessories. *Pet Age* 27:42-3 Ja '33  
 Sales meetings develop ideas on station merchandise. *il Nat Pet N* 25:39 Ja 18 '33  
 Selected accessory items can be sold while the car is on the lift. *il Nat Pet N* 25:28-9 F 1 '33  
 Selling on car's needs built up accessory line of 150 items. *il Nat Pet N* 25:55-6 O 18 '33  
 Selling tires and batteries in winter. *Pet Age* 26:35+ N '32  
 Station managers select the accessory line. E. L. Barringer. *il Nat Pet N* 25:63 S 20 '33  
 Successful accessory merchandising necessitates new station design. *il plan Nat Pet N* 25:33-4 N 1 '33  
 Wholesaling of automotive accessories followed by some oil companies. *il Nat Pet N* 24:11-12+ D 28 '32

**Construction and design**

Four service stations. *Am Arch* 142:55-8 N '32  
 Glass-brick walls inclose new buildings. *il plan Eng N* 110:522 Ap 27 '33  
 Individual service station design. S. T. Moore. *il diag Nat Pet N* 25:53-7 Je 14 '33  
 New! modern station designs. *il Pet Age* 27:16-17+ Je '33  
 Ohio oil co. builds station with glass blocks. *il Nat Pet N* 25:55 J1 26 '33  
 Porcelain-steel for gas stations. *il plan Architecture* 66:356 D '32  
 Sectional panel construction for service stations creates new outlet for steel. H. E. Elber. *il Iron Age* 132:26 Ag 24 '33  
 Service station at Ann Arbor, Michigan; and a station design and model. *Arch Rec* 74:142-4 Ag '33  
 Successful accessory merchandising necessitates new station design. *il plan Nat Pet N* 25:33-4 N 1 '33

**Employees**

Closed shop agreements violate NIRA. J. C. Gall. *Nat Pet N* 25:23-4 O 18 '33  
 Commission men in service stations held to be inside salesmen. *Nat Pet N* 25:23 Ag 23 '33  
 How Crew-Levick trains its salesmen. *Pet Age* 26:32 D '32  
 Illinois marketer trains station attendants in accessory selling. E. L. Barringer. *il Nat Pet N* 25:45-6 O 18 '33  
 Wages and hours of labor in gasoline filling stations and motor-vehicle repair garages, 1931. U S Bur Labor Statistics Bul 578:1-89 '33

**Equipment**

Adapting oil service stations to drive-in markets. plans *Pet Age* 26:38-9+ D '32  
 All products metered at Kansas City suburban bulk and service station. W. F. Lowe. *il Nat Pet N* 25:42+ F 15 '33  
 Buyers' guide; a guide for purchase of materials, equipment and supplies used in marketing petroleum products. *Pet Age* 27:43-6 Mr '33  
 Display. *il Pet Age* 26:338-9 N '32  
 Inter-company equipment deal prices fixed at code conference. *Nat Pet N* 25:29-30 Je 28 '33  
 New Ohmer cash register system for service stations. *Pet Age* 27:24 Ap '33  
 Power tester is booster of servicing ignition system at stations. *il Nat Pet N* 24:40 D 7 '32  
 Sewer tile around lift plunger saves on repair bills. *Nat Pet N* 25:54 Ja 25 '33

**Finance**

Reducing station sales expense. F. A. Bean. *Nat Pet N* 24:83-4 N 16; 39-40+ N 30 '32

**Grounds**

Soak station lawns once each week rather than sprinkle daily. J. B. Kelly. *il Nat Pet N* 25:33-4 Je 7 '33

**Heating and ventilating**

Filling stations offer a market for small gas boilers. *il Gas Age* 72:370 O 14 '33

**Leasing**

California court sustains validity of lease contract. *Oil & Gas J* 31:22 F 16 '33  
 Court won't interfere in lease and agency consideration. *Nat Pet N* 25:17 Ag 16 '33  
 Lease and agency contract again upheld by Ohio court. *Nat Pet N* 24:48-9 N 30 '32  
 Sue to compel Trade commission to report on lease and agency. *Nat Pet N* 25:13-14 Ag 9 '33  
 Views on lease and agency. N. D. Baker. *Nat Pet N* 25:17-20 Ag 2 '33

**Location**

No location is worth a premium. *Pet Age* 27:29 Ag '33

**Lubricating service**

Canned sales talk used to promote sale of packaged goods. J. Westsmith. *il Nat Pet N* 25:39-40+ J1 12 '33  
 Certified lubrication service. E. L. Barringer. *il Nat Pet N* 24:35-6 D 7 '32  
 Crankcase flushing service gains oil customers. W. F. Lowe. *il Nat Pet N* 25:44+ N 8 '33  
 Dispenser provides efficient means for handling oil in sealed cans. *il Nat Pet N* 25:49 Ja 18 '33  
 How we lubricate cars. B. Nesa. *il Pet Age* 27:26-7 Ap '33  
 New equipment for automotive lubrication. *il Nat Pet N* 25:56+ Ja 25 '33  
 New 5-minute oil changer checks, drains crankcase at the island. *il Pet Age* 27:34 F '33  
 1933 trend in merchandising automotive lubrication. *Nat Pet N* 25:53-4 Ja 25 '33  
 Oil trade begins fight to save its automotive lubricant business. *Pet Age* 27:12-13 F '33  
 Selling lubrication by selling motor graveyard. *il diag Pet Age* 27:12-13+ S '33  
 Shell lubrication system interests motorist in grease jobs. *il diag Nat Pet N* 25:36-7+ Ja 4 '33  
 Showing motorist his oil, boosts oil to gasoline ratios. *Nat Pet N* 25:53 My 24 '33  
 Stop-wear! how the Union oil company of California is selling a new idea in lubrication. *il Pet Age* 27:14-16 J1 '33  
 Two-gallon buyer finds cleanliness is an asset in lubrication service. *il Nat Pet N* 25:37-8 J1 5 '33  
 Two-gallon buyer finds good equipment in good repair gives good impression. *il Nat Pet N* 25:31-3 My 31 '33  
 Two-gallon buyer finds less than half of stations follow-up lube customers. *Nat Pet N* 25:48-50 J1 26 '33  
 Two-gallon gasoline purchaser buys car lubrications jobs. *Nat Pet N* 25:21-2 Ap 26; 25-7 My 3; 30-3 My 10 '33  
 Winter special increases sales of gear lubricants 33%. *Nat Pet N* 25:40 F 8 '33

**Management**

Bait to catch the tourist trade for local stations. E. L. Barringer. *il Nat Pet N* 25:35-6+ F 22; 37+ Mr 1 '33  
 Better selling methods from science. G. L. Shartle. *Pet Age* 27:31-2 Ag '33  
 Calling on sick customers all a part of day's work for this marketer; George V. Justin, Cranston, R. I. *Pet Age* 26:24-5 D '32  
 Consumer is sales manager; Shell petroleum corporation. P. Ryan. *il Ptr Ink Mo* 27:20-1+ N '33; Same cond. *Adv & Sell* 21:40+ O 26 '33  
 Credit policy boosts sales; Woods service stations. *Management Methods* 62:214 My '33  
 Dealer maintains volume and prices by active merchandising. *il Nat Pet N* 24:35+ D 14 '32



**GASOLINE service stations—Management***—Continued*

- Five-gallon buyer on tour. Nat Pet N 25:35-6+ Ag 9 '33
- Gas pumpers of yesterday now are trained salesmen. S. A. Noble. Nat Pet N 25:43-4 S 13 '33
- How Kesbec operates its station service. Pet Age 27:28-9 Ag '33
- How we make money through the depression. L. Dryden. Pet Age 27:20+ F '33
- Ideas for oil marketers gleaned from major companies' house organs. Pet Age 27:36-7 Mr '33
- I've just moved to your town; getting customers among new residents. E. L. Barringer. il Nat Pet N 25:27-8+ Mr 29 '33
- Regular, mister? is sales talk on gasoline at stations. E. L. Barringer. Nat Pet N 25:35-6 O 4 '33
- Station realizes 33% on sales letters. Pet Age 27:42 Mr '33
- Station selling for the local marketer to meet today's competition. E. L. Barringer. Nat Pet N 25:33-5 Mr 22 '33
- Super stations centralizing departments. Pet Age 27:35 Mr '33

**Records**

- New uniform daily reporting system for station sales and inventory; Da-Rite system. il Nat Pet N 25:33-6 JI 12 '33
- No guessing here! card system employed in gasoline service stations. C. A. Newkirk. il Pet Age 26:24-5 N '32

**Rent**

- Rental reductions obtained in East when leases are near expiration. R. B. Stafford. Nat Pet N 24:22-3 D 21 '32

**Service**

- Batteries create customer contacts for oil company stations. E. L. Barringer. il Nat Pet N 25:38-9 O 18 '33
- Confidence built by tool display destroyed by clumsy use. W. F. Lowe. il Nat Pet N 25:34+ S 27 '33
- Crank-case cleaning spells profits. il Pet Age 27:20-1 Ja '33
- Don't spill alcohol over paint when you service the radiator. Pet Age 27:26 Ja '33
- Emergency service built our business. F. Carr. Pet Age 27:23-4 Ap '33
- How to make profits on crankcase cleaning. Pet Age 26:26 D '32
- How to sell shock absorber service. J. B. Rathbun. Pet Age 26:30-1+ N '32

**Show windows**

- Christmas at the gas stations. il Ptr Ink 161:59 D 22 '32
- Holiday gifts featured in December station displays. E. L. Barringer. il Nat Pet N 24:34-6+ N 30 '32
- Manufacturer's decorative materials are used in suggested displays of accessories for March. E. L. Barringer. il Nat Pet N 25:37-40 Mr 8 '33
- Mid-winter auto merchandise for January station displays. E. L. Barringer. il Nat Pet N 25:32-5 Ja 4 '33
- Signs, cloth, pedestal blocks build effective station displays. E. L. Barringer. Nat Pet N 24:39-40 D 28 '32

**Side line selling**

- Automatic merchandising at service stations. H. W. Alexander. Pet Age 27:29-30 Ja '33
- Sell oil burners at stations. il Pet Age 27:25 Ag '33
- Things you can sell! il Pet Age 27:14-15 Je '33

**Signs**

- Customers ask for accessories when good signs are used. il Nat Pet N 25:46 S 13 '33
- Station signs rightly placed sell accessories. il Nat Pet N 25:48+ O 18 '33

**Trackage stations**

- Trackage stations ask General Johnson for retail price differential. Nat Pet N 25:15-16 JI 5 '33

**Valuation**

- Iowa tax board suggests values for assessing oil stations. Nat Pet N 25:35 Ja 11 '33

**Winter service**

- Now's the season to earn plus profits with cold weather conditioning. R. B. Stafford. Nat Pet N 25:39-40+ N 8 '33
- Winter service. il Pet Age 27:28+ S; 10-11 O '33
- Winter special increases sales of gear lubricants 33%. Nat Pet N 25:40 F 8 '33
- GASOLINE service stations, Portable**
- High salvage value in porcelain Mid-continent station. Tulsa. il Nat Pet N 25:42 N 8 '33
- GASOLINE storage**
- Application of inhibitors to cracked gasoline is significant development in plant operation. G. Egloff and others. Oil & Gas J 31:64 Mr 30 '33
- Inhibitors in cracked gasoline. G. Egloff and others. bibliog il diags Ind & Eng Chem 24: 1375-82; 25:804-8 D '32, JI '33
- Specifications for A.P.I. underground gasoline tanks. Pet Age 26:30 D '32
- Unique installation at Canadian refinery provides for the refrigerated storage of gasoline. C. O. Willson. il Oil & Gas J 31:9 F 23 '33
- Unusual design of tank permits storing natural gasoline under pressure. il diags Oil & Gas J 32:35 N 9 '33
- Vapor gathering systems with steel balloons reduce evaporation and corrosion losses. L. G. E. Bignell. il diags Oil & Gas J 32: 8+ O 12 '33

*See also*

- Oil bulk stations
- Oil tanks

**Fires and fire protection**

- Handling and storage of inflammable liquids. G. W. Smith. Safety Eng 66:137-8+ O '33 (to be cont)

**GASOLINE tanks**

- Corrosion of oil tankers. N. B. Musser. diags Am Pet Inst Proc p51-62 sec 3 D '32
- How to paint your bulk stations. H. Johnson. il Pet Age 27:27-8 Ap '33
- Unusual design of tank permits storing natural gasoline under pressure. il diags Oil & Gas J 32:35 N 9 '33

**GASTROTRICHA**

- Nomenclatorial notes on gastrotricha. C. H. Blake. Science 77:606 Je 23 '33

**GATES, Hydraulic**

- Automatic radial sluice gate on the river Ouse. F. E. H. Shenton. diags map Engineering 136:422 O 13 '33
- Box gate at Elderslie dock. il diags Engineer 155:170, 174 F 17 '33
- Cost of headgates at Comerford station. Elec W 101:195 F 11 '33
- Discharge through Tainter gate openings; observations made at dams on the Oswego river, New York. T. M. Ripley. il diags Civil Eng 3:386-8 JI '33
- Engineering features of the Illinois waterway. W. M. Smith. diags plans Am Soc C E Proc 57:1189-1218 O '31; Discussion. 58: 268-73, 453-63; 59:441-8 F-Mr '32, Mr '33
- Fabricating the water gates for Boulder Canyon project. C. C. Brinton. il Iron Age 132:10-13+ O 19 '33
- Fabricating the world's largest valves for Boulder dam. il Metal Ind 31:377 N '33
- Glory Hole spillway; Owyhee River dam. A. P. Connor. il diags Power Pl Eng 37:482-3 N '33
- Machining 32-ft. gate valves for Boulder dam. il Am Mach 77:684-5 O 25 '33
- Roller-gate dams for Kanawha river. il diags Eng N 111:337-42 S 21 '33
- Turbines and hydraulic equipment of the Chats Falls development. O. Holden. diag Can Eng 64:6-7 My 9 '33

*See also*

- Locks (hydraulic engineering)

**GATEWAYS**

Group of seven gates; photographs. *Am Arch* 143:41-6 Ja '33

**GATINEAU power company**

Developments. *Can Eng* 64:10 Mr 14 '33

**GDYNIA, Poland**

Danzig and Gdynia. *Economist* 117:448, 451 S 2 '33

**GEAR cases**

Fabricates large gear cases by arc welding; United engineering & foundry co. C. M. Taylor. *il Steel* 92:21-2 F 20 '33

**GEAR cutting**

Cutting worm wheels. H. Walker. *il diags Automobile Eng* 23:254-6 Jl '33

Hobbing unusually small gears in a large hobbing machine. O. S. Marshall. *il Mach* 39: 719-20 Jl '33

New generating method employed to produce Cone hour-glass worm gears. *diags Automobile Ind* 69:460-1 O 14 '33

Standards for production control. A. M. Lindsley. *charts Am Mach* 77:421-4, 462-5, 492-3 Jl 5-Ag 2 '33

**GEAR cutting machines**

Cleveland spiral-bevel gear cutting machine. *il Mach* 40:55 S '33

Farrel-Birmingham gear generator cuts internal gears. *il Am Mach* 77:631 S 27 '33; *Automotive Ind* 69:509 O 28 '33

Gear shaper as an inspection tool. S. Trim-bath. *il diags Am Mach* 77:528-9 Ag 16 '33

National broach & machine co. Red Ring gear finishing machine. *il diags Am Mach* 76:1206-7 D 7 '32; *Iron Age* 131:135 Ja 19 '33; *Automotive Ind* 68:183 F 11 '33

New gear generators cut production time. R. E. Miller. *Iron Age* 131:54-5 Ja 5 '33

Some unusual operations performed on a gear shaper; illustrations. *Mach* 39:568 My '33

Study of production methods as important now as in boom times. C. Berg. *diags Iron Age* 130:764-5 N 17 '32

**GEAR grinding machines**

Fellows gear production machines; lapping and measuring. *il Automobile Eng* 22:583-4 D '32

Precision grinding machines. *il diags Engineer* 154:634-6, 662-3 D 23-30 '32

**GEAR testing machines**

Orcutt involute measuring machine. *il Engineer* 155:408 Ap 21 '33

Testing gears; the new Orcutt involute measuring machine. *il diag Automobile Eng* 23: 265 Jl '33

Zeiss inspection equipment; measuring and testing instruments. *il diags Automobile Eng* 23:91-2 Mr '33

*See also*

**Comparators****GEARING**

Abnutzung von zahnradern. M. Fink and U. Hofmann. *il Zeit Ver Deutsch Ing* 77:978-9 S 9 '33

Apparatus for finding load-carrying capacity of extreme pressure lubricants. S. A. McKee, F. G. Bitner and T. R. McKee. *Nat Pet N* 25:21-2+ S 6 '33

Bostock and Bramley self-contained motor and gear unit. *il diag Engineering* 136:189 Ag 25 '33

Choosing the right drive; the variable speed units. W. Staniar. *il Iron Age* 132:18-22 O 19 '33

Development and manufacture of high precision gears. W. E. Sykes. *il diags Rubber Age* 33:249-52+ S '33

Eight-speed gearbox for Landis threading machines. *il Am Mach* 77:225 Mr 29 '33; *Ry Mech Eng* 107:141-2 Ap '33

Geared motor-reducer. P. W. Arnold. *il diags Factory Management* 91:100-2 Mr '33

Gearmotor problems; abstract. R. S. Marshens. *Iron Age* 131:754 My 11 '33

Gears and motor become as one. *il Elec J* 30:21 Ja '33

Gears and motors combine into new power unit type; Falk corporation. P. C. Day. *diags Elec W* 101:328-9 Mr 11 '33

Die gröösse und genaueigkeit der von koppelkurven ableitbaren stillstände. K. Rauh and W. Knyrim. *diags Zeit Ver Deutsch Ing* 77: 196-8 F 25 '33

LXL motorized speed reducers. *il Am Mach* 77:159-60 Mr 1 '33

Kraftbedarf und ungleichförmigkeitsgrad beim webstuhl. F. Oertel. *diags Zeit Ver Deutsch Ing* 77:437-41 Ap 29 '33

Lubrication of spur, helical, herringbone and bevel gears. J. I. Clower. *diags Iron Age* 130:918-19; 131:122-3 D 15 '32, Ja 19 '33

Mechanical gear of Bangkok memorial bridge, Siam. F. W. Thompson. *Mech Handling* 20:253 Ag '33

Motorized speed reducers and their applications. F. Richardz. *il Mach* 39:508-9 Ap '33

Motorized speed reducers make savings in cost and weight possible. M. H. Nelson. *Mach* 40:111 O '33

Planigrressive speed reducers. *il Mach* 40:53 S '33

Pneumatic tipping gear. *Automobile Eng* 23: 176 My '33

Problem of extreme-pressure lubricants. O. C. Bridgeman. *Am Pet Inst Proc* p114-17 sec 3 D '32; Same. *Oil & Gas J* 31:50+ N 17 '32; Discussion. *Am Pet Inst Proc* p130-1 sec 3 D '32

Speed reducers in the pulp and paper industry. J. A. Porter. *Paper Tr J* 95:31-4 D 22 '32

Stationary-spindle design for oilbath geared powers suitable for east Texas conditions. K. Chickering. *Oil & Gas J* 32:98 Jl 27 '33

Suppression of banding in SAE 3100 gear steels. H. L. Geiger. *il Metal Prog* 23:37-40 Ja '33

Das zadowgetriebe. F. Witte and O. Stamm. *diags Zeit Ver Deutsch Ing* 77:499-502 My 13 '33

Das zahnrad als lärmquelle. A. Soden. *il diags Zeit Ver Deutsch Ing* 77:231-8 Mr 4 '33

*See also*

American gear manufacturers' association

Automobiles—

Gearing

Chain gear

Clutches

Couplings

Draft gears

Gas and oil engines,

Marine—Gearing

Gear cutting machines

Gear grinding machines

Gear testing machines

Hydraulic transmission

Motor trucks—Gearing

Power transmission

**Design**

Designing enclosed gear drives for successful lubrication. A. Kuhns. *il diags Mach* 40: 33-6 S '33

Kritische zähnezahlen bei normalen stirnrädern. Schulze-Pillot. *Zeit Ver Deutsch Ing* 76:57-61 Ja 16 '32; Discussion. 77:152 F 11 '33

Mono-drive automatic gear box; gear changing effected by torque reversal. *il diags Automobile Eng* 23:251-3 Jl '33

Predicting worm-gear efficiency; abstract. H. J. Watson. *Mech Eng* 55:47 Ja '33

Sharp corners. D. Dresden. *diag Engineering* 135:451 Ap 28 '33

Spur gear tooth form—American standard; reference book sheets. *Am Mach* 77:117, 149-50 F 15-Mr 1 '33

Worm adjustment by displaced contact. W. M. Pohl. *diags Am Mach* 77:165-8 Mr 15 '33

**Manufacture**

Centrifugal bronze gear blanks. F. E. Rowe. *il Metal Prog* 23:14-19 Je '33

Cimatool duobore diamond boring machine. *il Mach* 39:291 D '32; *Iron Age* 130:927 D 15 '32

Design and manufacture of large gears for industrial service. T. Holloway. *il Iron Age* 131:1020-3+ Je 29 '33

Fellows gear production machines; lapping and measuring. *il Automobile Eng* 22:583-4 D '32



**GEARING—Manufacture—Continued**

Freight locomotives use ground tooth gears. G. E. Katzenmeyer. *il Am Mach* 77:552-4 Ag 30 '33

Gear finishing; the possibilities of lapping and a new type of machine. *il Automobile Eng* 23:55-6 F '33

Gear finishing; Werner lapping process. *il diags Automobile Eng* 23:343-5 S '33

Gear lapping after heat treatment. R. S. Drummond. *il diags Iron Age* 132:18-21 J1 6 '33; Same. *Am Mach* 77:331-3 My 24 '33; Same cond. *Automotive Ind* 69:46-8 J1 8 '33

Gear lapping as a production job. S. Trim-bath. *il diags Am Mach* 77:590-4 S 13 '33

Gear materials and blanks; American recom-mended practice approved July 31, 1933 by the American standards association. *Am Mach* 77:533-4 Ag 16 '33

Gear tooth finishing. F. H. Colvin. *il Am Mach* 77:357-9, 407-8 Je 7-21 '33

Hardening an 8ft. dia. gear wheel. *il Engi-neer* 155:124 F 3 '33

Hardening and cyaniding of steel gears. E. F. Davis. *il diags Iron Age* 132:26-8+ Ag 3 '33

Heat treating gears in cyanide pot and draw-ing oven; Muncie products division, Gen-eral motors corp. E. M. Kingsley. *il plan Metal Prog* 23:13-18 Ja '33

Heat-treatment of gearing. E. F. Davis. *Am Mach* 77:306-8 My 10 '33; Excerpts. *S A E J* 32:209 Je '33

Heat treatment of steel gears. E. F. Davis. *il Iron Age* 132:8-11 J1 27 '33

Interchangeable quenching die for ring gears which prevents distortion. D. L. Brown. *diag Mach* 39:393-4 F '33

Lapping all teeth of gears simultaneously. C. O. Herb. *il Mach* 39:689-92 J1 '33

Large gears are machine-molded; Link-Belt co. *il Iron Age* 130:923 D 15 '32

Making the Wilson gear box. *il Automobile Eng* 23:375-82 O '33

Michigan gear-lapping machine. *il Am Mach* 77:164 Mr 1 '33; *Mach* 39:486-7 Mr '33

Mold gear wheels on machines. *il diags Foundry* 61:10-12+ O '33

National broach & machine co. lapping ma-chine corrects inaccuracies of spur and helical gears. *il Iron Age* 131:202-3 F 2 '33; *Am Mach* 77:28 Ja 4 '33

Precision required in machining nickel-steel helical gears; Packard motor car co. B. Fin-ney. *il Iron Age* 131:308-9+ F 23 '33

Quieter gears are being demanded! how shall we make them? F. W. Cederleaf. *S A E J* 33:353-7 N '33; Abstract. *Automotive Ind* 69:242-3 Ag 26 '33; Discussion. *S A E J* 33:357-62 N '33

Selection and heat treatment of steel for caterpillar tractors. G. C. Riegel. *il Iron Age* 131:468-9+ Mr 23 '33

Study of production methods as important now as in boom times. C. Berg. *diags Iron Age* 130:764-5 N 17 '32

Technical problems discussed by gear manu-facturers. *Mach* 39:668-70 Je '33

Torch hardening of gear teeth. N. E. Wold-man. *il diags Mach* 39:379-82 F '33; Ab-stract. *Mech Eng* 55:257 Ap '33

Use of all-helical-gear transmission made pos-sible by new equipment; 1933 Dodge, De Soto and Chrysler cars. B. Finney. *il Iron Age* 131:535-7+ Ap 6 '33

**Specifications**

Recommended practice for gear purchasers; reference book sheet. *Am Mach* 77:469-70 J1 19 '33

**Tables, calculations, etc.**

British standard specification for machine cut gears. 63p British standards institution, London '32

Helical gear addenda. V. Lehel. *Am Mach* 77: 434-6 J1 5 '33

Helical gears on oblique shafts. A. B. White. *Am Mach* 77:618-19 S 27 '33

**Testing**

Efficiency tests on 600 h.p. increasing gear. H. E. Merritt. *il diags Engineer* 156:392 O 20 '33

Gear shaper as an inspection tool. S. Trim-bath. *il diags Am Mach* 77:528-9 Ag 16 '33

Société Genevoise d'instruments de physique optical gear tester. *il Automobile Eng* 23:198 Je '33; *Iron Age* 131:1045 Je 29 '33; *Mach* 39: 745-6 J1 '33

**See also**

Gear testing machines

**GEARING, Bevel**

Brown and sons 1000 h.p. bevel increasing gears. *il diag Engineer* 155:331 Mr 31 '33

**GEARING, Epicyclic.** See Gearing, Planetary

**GEARING, Friction**

Reibrad-wendegertriebe. F. G. Altmann. *diags Zeit Ver Deutsch Ing* 77:354-5 Ap 1 '33

**GEARING, Helical.** See Gearing, Spiral

**GEARING, Hypoid**

Gear tooth finishing. F. H. Colvin. *il Am Mach* 77:407-8 Je 21 '33

**GEARING, Non-metallic**

Non-metallic gear materials. *il Mach* 40: 96-7 O '33

**GEARING, Planetary**

La boîte de vitesses Wilson, à trains épi-cloïdaux et à présélection. *diags Génie Civil* 103:379-80 O 14 '33

Davis & Thompson speed reducers with planetary gearing. *il Iron Age* 132:34+ O 19 '33

Fluid flywheel and epicyclic transmission in Toronto buses. *il diag Elec Traction* 28:460-1 N '32

Making the Wilson gear box. *il Automobile Eng* 23:375-82 O '33

Planetary feeding arrangement for deep-hole recessing tool. W. Klinkow. *diags Mach* 39: 582-3 My '33

**GEARING, Spiral**

Brown-Lipe has new line of helical gear transmissions. *il Automotive Ind* 69:486 O 21 '33

Dodge gear box embodying sliding helical gears. *il Automobile Eng* 23:170 My '33

Fuller five-speed gear box; constant mesh helical gears employed. *diag Automobile Eng* 23:304 Ag '33

Gear tooth finishing. F. H. Colvin. *il Am Mach* 77:357-9 Je 7 '33

Helical gear addenda. V. Lehel. *Am Mach* 77: 434-6 J1 5 '33

Helical gears on oblique shafts. A. B. White. *Am Mach* 77:618-19 S 27 '33

Pericentric helical-gear motor. *il Engineer* 154:491 N 11 '32

Precision required in machining nickel-steel helical gears; Packard motor car co. B. Fin-ney. *il Iron Age* 131:308-9+ F 23 '33

Quieter gears are being demanded! how shall we make them? F. W. Cederleaf. *S A E J* 33:353-7; Discussion. 357-62 N '33

Third and fourth speeds have helical gears in new Fuller five-speed transmission. *diag Automotive Ind* 68:343 Mr 18 '33

Use of all-helical-gear transmission made pos-sible by new equipment; 1933 Dodge, De Soto and Chrysler cars. B. Finney. *il Iron Age* 131:535-7+ Ap 6 '33

**GEARING, Spiral bevel**

Cleveland hobbing machine for spiral bevel gears. *il Am Mach* 77:543 Ag 16 '33

Gear tooth finishing. F. H. Colvin. *il Am Mach* 77:407-8 Je 21 '33

**GEARING, Spur**

Gear tooth finishing. F. H. Colvin. *il Am Mach* 77:357-9 Je 7 '33

**Tables, calculations, etc.**

Involute spur gear block gaging; reference book sheet. S. Trim-bath. *diags Am Mach* 77:373-4 Je 7 '33

Spur gear tooth form—American standard; reference book sheets. *Am Mach* 77:117, 149-50 F 15-Mr 1 '33

**GEARING, Worm**

Cutting worm wheels. H. Walker. *il diags Automobile Eng* 23:254-6 J1 '33

**GEARING, Worm—Continued**

- DeLaval high-ratio worm-gear reduction units. *il Mach* 39:420 F '33; *Marine Eng* 38: 50 F '33; *Paper Tr J* 96:18 Ja 12 '33; *Power Pl Eng* 37:102 F '33
- Der eingriffsverlauf des zylindrischen schneckentriebes. W. Vogel. *diags Zeit Ver Deutsch Ing* 77:1139-41 O 21 '33
- Friction gear drive that prevents overload. F. W. Curtis. *diags Mach* 39:518-19 Ap '33
- Handling plant transmission. *il diags Mech Handling* 20:202-5, 233-4 Je-Jl '33
- New generating method employed to produce Cone hour-glass worm gears. *diags Automotive Ind* 69:460-1 O 14 '33; *Am Mach* 77: 641 S 27 '33
- Predicting worm-gear efficiency; abstract. H. J. Watson. *Mech Eng* 55:47 Ja '33
- Radicon reducers. *il diag Engineer* 155:557-8 Je 2 '33; *Engineering* 135:594 Je 2 '33; *Elec R (Lond)* 113:184 Ag 11 '33
- Worm adjustment by displaced contact. W. M. Pohl. *diags Am Mach* 77:165-8 Mr 15 '33
- Worm gears; their mounting in relation to oil-film lubrication. H. Walker. *diags Automobile Eng* 23:27-8 Ja '33

**Testing**

- New program of worm gear tests; abstract. C. B. Hamilton, jr. *Iron Age* 131:754 My 11 '33

**GEGENSCHWEIN. See Zodiacal light****GEIGER counters**

- Amplification and recording of rapid Geiger-Müller counter impulses. G. L. Locher. *diag J Fr Inst* 216:553-8 N '33
- Circuit for recording multiply-coincident discharges of Geiger-Mueller counters. T. H. Johnson and J. C. Street. *il diags J Fr Inst* 215:239-46 Mr '33
- Investigation of mitogenetic radiation by means of a photoelectric counter tube. E. Lorenz. *bibliog diag Pub Health Rep* 48: 1311-18 O 27 '33
- Photoelectric quantum counters for visible and ultraviolet light. G. L. Locher. *il diags Phys R* 42:525-46 N 15 '32
- Portable double Geiger counter. R. D. Bennett, J. C. Stearns and W. P. Overbeck. *diag R Sci Instr* 4:387-90 Jl '33
- Secondary and tertiary particles produced by cosmic rays. J. H. Sawyer, jr. *diags Phys R* 44:241-5 Ag 15 '33
- Temperature effect and its elimination in Geiger-Müller tube counters. L. F. Curtiss. *diag U S Bur Stand J Research* 10:229-32 F '33

**GELATIN**

- Aging effects on gelatin dispersions. W. S. Mueller. *bibliog Ind & Eng Chem* 25:707-9 Je '33
- Die bestimmung der gallertfestigkeit von leim und gelatine. E. Sauer. *diag Chemische Fabrik* 6:293-5 Jl 5 '33
- Edible gelatine; statistical production data by quarters since Jan. 1927. *Chemicals* 38:9 Mr 20 '33
- Emulsion systems containing phenols, water, and gelatin. R. M. Woodman. *Soc Chem Ind J* 52:44T-6T F 10 '33
- pH of gelatin solutions. J. G. Malone and M. G. Malone. *J Phys Chem* 37:219-21 F '33
- Paradoxical solubility phenomenon with gelatin. C. E. Larson and D. M. Greenberg. *Am Chem Soc J* 55:2798-9 Jl '33
- Structure of gelatin sols and gels; the insolubilization of gelatin by heat. S. E. Sheppard and R. C. Houck. *J Phys Chem* 36: 2885-900 D '32
- Study of gels by physical methods. E. Hattschek. *il diags J Phys Chem* 36:2994-3009 D '32
- Uses of glue and gelatine in the textile industries. A. H. Pettinger. *Am Dyestuff Rep* 22:489-90 Ag 14 '33
- Wetting, spreading, and emulsifying agents for use with spray fluids; the effect of gelatin on water losses from leaves. R. M. Woodman and H. R. Barnell. *Soc Chem Ind J* 52:352T-4T O 27 '33

**GELATION**

- Gelation of frozen egg magma. A. W. Thomas and M. I. Bailey. *bibliog il diag Ind & Eng Chem* 25:669-74 Je '33

**GELOMETER**

- Die bestimmung der gallertfestigkeit von leim und gelatine. E. Sauer. *diag Chemische Fabrik* 6:293-5 Jl 5 '33

**GELOZONE**

- Pure vegetable colloid; gelozone. *Chem Age (Lond)* 28:198 Mr 4 '33

**GELS. See Colloids****GEMS***See also*

- Agates
- GENERAL American life insurance company**  
General American now in operation. *Nat Underw (Life ed)* 37:2+ S 15; 3+ S 22; 3+ S 29 '33; *Ins Field (Life ed)* 62:5+ S 15 '33; *Spectator* 131:13+ S 14 '33; *Weekly Underw* 129:498+, 537+ S 16-23 '33
- Missouri State reinsurance approved by Supreme court. *Nat Underw (Life ed)* 37:9 O 27 '33
- Protective group approves contract. *Nat Underw (Life ed)* 37:3+ N 10 '33
- Purchase agreement by which General American Life takes over the Missouri State Life. *East Underw* 34:10+ S 15 '33
- GENERAL American tank car corporation**  
Carloads of beer. R. Laffan. *il Barron's* 13: 76-17 Ap 3 '33
- GENERAL American transportation corporation**  
General American's specialized field. *Econostat* 1:12 Je 10 '33
- GENERAL cigar company**  
Maintains its strength despite decline in industry. W. Gates. *Mag of Wall St* 51:491 F 18 '33
- GENERAL electric company**  
Annual report, year ended Dec. 31, 1932. *Elec W* 101:275 Mr 4 '33
- Appliance sales aid General Electric. *Econostat* 1:14-15 Ap 8 '33
- Radio anti-trust case settled; text of consent decree. *Sci Am* 148:188-9 Mr '33
- Selected stocks to buy for future profit and protection. *Mag of Wall St* 51:678 Ap 15 '33
- Speculative audit; favorable and unfavorable factors affecting common-stock values. *Barron's* 13:14 Ag 7 '33
- GENERAL electric company, London**  
Annual general meeting, London, June 28. *Economist* 117:41 Jl 1 '33
- General Electric results. *Economist* 116:1364 Je 24 '33
- GENERAL engineering company (Canada) Ltd.**  
Old friend with new name. *Can Min J* 54: 355-6 S '33
- GENERAL foods corporation**  
General Foods' earnings prove stable. *Econostat* 1:13 Ap 8 '33
- General Foods finds stockholders an increasingly potent market. *Sales Management* 32: 178 F 15 '33
- How General Foods built up mass selling plan; protected quality, improved packages, scientific pricing and continued advertising. C. Francis. *Ptr Ink* 162:25-8 Mr 9 '33
- How General Foods salesmen help their dealers sell. J. F. Brownlee and C. Whiteman. *il Sales Management* 32:551-3 Je 1 '33
- New sales deal; General Foods revamps its selling strategy for the recovery. *Business Week* p22-3 O 28 '33
- Selected stocks to buy for future profit and protection. *Mag of Wall St* 51:679-80 Ap 15 '33
- Test—test—test; the essentials of a product development program. L. W. Waters. *il Ptr Ink* 162:3-5+ Ja 26 '33
- Today's path to profits—tested, planned selling. C. Francis. *il Management Methods* 62: 163-5+ Ap '33
- Turns stockholders into working customers. C. M. Chester. *Ptr Ink* 161:3-4+ D 8 '32
- GENERAL indemnity corporation of America**  
Acquired by Lloyds. *Ins Field (Fire ed)* 62: 12 Ap 27 '33; *Nat Underw* 37:38 Ap 27 '33



- GENERAL mills, incorporated**  
Maintains stable earning power. F. C. Fullerton. *Mag of Wall St* 52:579+ S 30 '33
- GENERAL motors corporation**  
An automotive U. S. Steel. *Automotive Ind* 69:552-3 N 4 '33  
Coyle, Curtice, Klingler and McCuen are made GM division general managers. *ports Automotive Ind* 69:532+ O 28 '33  
Cuts annual charges \$7,000,000 by big write-down of surplus property. *Automotive Ind* 68:418 Ap 1 '33  
G.M. and R.F.C. end bank muddle. *Automotive Ind* 68:381 Mr 25 '33  
General Motors commands; what centralized control has accomplished in its first year. *Business Week* p12-13 F 22 '33  
General Motors continues 25 cent common dividend despite profit drop to \$164,979. *Automotive Ind* 68:177 F 11 '33  
General Motors coordinates; appointment of Knudsen as second in command. *Business Week* p16 O 21 '33  
G M disbands consolidated selling set-up. *Ptr Ink* 165:99 N 2 '33  
G.M. reports small operating profit. *Econostat* 1:11 Ap 8 '33  
G.M. reverts to traditional organization plan but centralizes supervisory control in Knudsen. *Automotive Ind* 69:536 O 28 '33  
Giant of motors. *Business Week* p10-11 Jl 8 '33  
In the battle of motor giants. T. C. McClary. *il Mag of Wall St* 52:276-8+ Jl 8 '33  
Maintains dividends. *Barron's* 13:21 F 13 '33  
Proving ground of public opinion; General Motors' consumer research. A. P. Sloan, jr. *Ptr Ink* 164:92-3 S 21 '33  
Speculative audit; favorable and unfavorable factors affecting common-stock values. *Barron's* 13:12 Je 19 '33  
Twenty-five years of auto building. R. Willoughby. *il Nation's Business* 21:20-2+ O '33  
25 years of General Motors. B. C. Forbes. *il Forbes* 32:8-10, 27-8 S 15; 10-12 O 1; 9-12, 28-9 O 15 '33
- GENERAL railway signal company**  
What signalling offers; the part General railway signal co. plays in economical and safe operation of railroads. R. P. Cooke. *il Barron's* 13:18-19 Ap 24 '33
- GENERAL reinsurance corporation of New York**  
Annual statement, 1932. *Spectator* 130:35 Mr 16 '33
- GENERAL tire and rubber company**  
Show \$202,353 profit after inventory charge-offs. *Rubber Age* 32:281 Ja 25 '33
- GENES**  
Are genes the product of crossing-over? S. J. Holmes. *Science* 78:309-11 O 6 '33  
Measurement of units of heredity. J. W. Gowen and E. H. Gay. *Science* 77:sup8-9 Ja 6 '33  
Particle size of biological units. J. H. Ferguson. *J Phys Chem* 36:2849-61 [bibliog p2860-1] D '32
- GENETICS**  
Genetics and embryology. C. Zeleny. *Science* 77:177-81 F 17 '33  
Variability and individuality. C. C. Little. *Science* 77:195-7 F 17 '33  
*See also*  
Heredity  
Parthenogenesis
- GENEVA, Illinois**  
Water supply  
Iron removal plant paid for from earnings. E. R. Wells. *il plan Pub Works* 64:18-20 S '33
- GEOCHEMISTRY**  
*See also*  
Geology  
Mineralogy  
Rocks—Analysis
- GEODESY**  
*See also*  
Azimuth  
Surveying
- Soil analysis  
Soils  
Surveying instruments  
Triangulation
- GEOGRAPHICAL literature**  
New German geographical publications. *Science* 78:379 O 27 '33
- GEOGRAPHICAL research**  
Geographic surveys. V. C. Finch and R. S. Platt. (Geographic soc. bul. no. 9) *il maps* 75p, 9 pl pa 50c Univ. of Chicago press '33  
History of the National research council, 1919-1933; Division of geology and geography. W. H. Twenhofel. *Science* 77:618-20 Je 30 '33
- GEOGRAPHY**  
Physical basis of geography. V. F. Searson. 260p George G. Harrap & co, ltd, London '32  
*See also*  
Anthropogeography  
Physical geography
- GEOGRAPHY, Commercial**  
Commercial geography. E. V. Robinson. 1932 ed 466p Rand, McNally & co, New York '32  
Industrial geography. R. H. Whitbeck. 608p [bibliog p579-82] American book co, New York '33  
Modern business geography. E. Huntington and S. W. Cushing. rev ed 352p World book co, Park Hill, Yonkers-on-Hudson, N.Y.; 2126 Prairie av, Chicago '32
- GEOGRAPHY, Economic**  
Economic and social geography. E. Huntington, F. E. Williams and S. Van Valkenburg. 630p \$3.75 Wiley '33  
Geographic factor. R. H. Whitbeck and O. J. Thomas. 422p [bibliog p403-6] \$2.25 Century co. '32  
Geographic surveys. C. C. Colby, ed. 75p Univ of Chicago press '33  
Geography; physical, economic, regional. J. F. Chamberlain. 4th ed rev 513p Lippincott '33  
Man's adaptation of nature. P. W. Bryan. 386p \$3.50 Holt '33  
Nations at work, an industrial and commercial geography. L. O. Packard, C. P. Sinnott and B. Overton. 696p [bibliog p639] Macmillan '33
- GEOLOGICAL laboratories**  
Equipment  
Laboratory equipment for geologic instruction. C. Cronis and G. F. Shepherd. *Geol Soc Bul* 44:541-52, pl 15-18 Je '33
- GEOLOGICAL maps**  
Atlas of American geology. A. K. Lobeck, comp. 92 l Geographical press, Columbia university, New York '32  
Cartography for mining geology. H. Schmitt. *bibliog Econ Geol* 27:716-36 D '32
- GEOLOGICAL research**  
Appropriations for federal geological research. *Science* 76:587 D 23 '32  
Geologic research work near Red Lodge, Montana. W. T. Thom, jr. and R. M. Field. *Science* 78:103-5 Ag 4 '33  
History of the National research council, 1919-1933; Division of geology and geography. W. H. Twenhofel. *Science* 77:618-20 Je 30 '33  
Rôle of analysis in scientific investigation. D. Johnson. *Geol Soc Bul* 44:461-93 Je '33; Same abr. *Science* 77:569-76 Je 16 '33  
Sixteenth International geological congress. *Science* 78:247-54 S 22 '33
- GEOLOGICAL society of America**  
Geological society of America, 1888-1930. H. L. Fairchild. 232p Geological society of America, 419 W 117th st, New York '32  
Officers, correspondents, and fellows. *Geol Soc Bul* 44:123-43 F '33  
Penrose bequest and the G.S.A. Eng & Min J 134:381 S '33  
Proceedings of a joint session of Section E of the American association for the advancement of science and members of the Geological society of America, Atlantic City, N. J. Dec. 27, 1932. *Geol Soc Bul* 44:173-9 F '33  
Proceedings of the forty-fifth annual meeting, Cambridge, Mass. Dec. 28-30, 1932. *Geol Soc Bul* 44:1-122 F '33

**GEOLOGICAL society of America—Continued****Cordilleran section**

Proceedings of the thirty-first annual meeting, Stanford University, Calif. April 8-9, 1932. Geol Soc Bul 44:145-72 F '33

**GEOLOGICAL surveys**

Aerial survey in relation to economic geology. D. Gill. Roy Aeronautical Soc J 37:227-64 [bibliog p258-64, 287]; Discussion. 264-86 Mr '33

Summary information on the state geological surveys and the United States geological survey, Nat Research Council Bul 88:1-136 '32 (\$1)

*See also*

United States—Geological survey

**GEOLOGICAL time**

Actinouranium and the geologic time scale. F. Western and A. E. Ruark. Phys R 43: 205-7 F 1 '33

Half-life of actinouranium and the problem of geologic time. F. Western and A. E. Ruark. Phys R 44:675-81 O 15 '33

Helium and the problem of geological time. W. D. Urry. diags Chem R 13:305-43 [bibliog p342-3] O '33; Abstract. Science 78: sup-9 D 1 '33

Isotopes of uranium, thorium and lead, and their geophysical significance. C. S. Piggot. Phys R 43:51-9 Ja 1 '33

**GEOLOGISTS**

Memorials; with bibliographies. Geol Soc Bul 44:288-421 Ap '33

*See also*

Lyell, Charles

**Directories**

Officers, correspondents, and fellows of the Geological society of America. Geol Soc Bul 44:123-43 F '33

**GEOLOGISTS, Mine**

Limitations of economic geology. C. A. Porter. Eng & Min J 133:609-10 D '32

Mining geology in the Coeur d'Alene district, Idaho. O. H. Hershey. Min & Met 14:85-8 F '33

Mining geology; ore finders, idle, turn to research and authorship. J. T. Singewald, jr. Min & Met 14:9-11 Ja '33

**GEOLOGY**

Aerial survey in relation to economic geology. D. Gill. Roy Aeronautical Soc J 37:227-64 [bibliog p258-64, 287]; Discussion. 264-86 Mr '33

Chamberlin and Salisbury's college textbook of geology. pt 1. Geologic processes and their results. R. T. Chamberlin and P. MacClintock. 2d ed rewritten and rev 445p \$3 Holt '33

Contributions of petroleum geology to pure geology in the southern Mid-continent area. F. H. Lahee. maps Geol Soc Bul 43:953-64 [bibliog p962-4] D '32

Earth-lore; geology without jargon. S. J. Shand. 134p T. Murby & co, London '33

Economic geology and its allied sciences in ancient times. C. L. Sagul. diags Econ Geol 28:20-40 Ja '33

Geological society of America, 1888-1930. H. L. Fairchild. 232p Geological society of America, 419 W 117th st, New York '32

Geology. W. H. Emmons and others. 510p \$4 McGraw-Hill '32

Historical geology. R. C. Moore. 673p [bibliog p651-7] \$4 McGraw-Hill '33

Limitations of economic geology. C. A. Porter. Eng & Min J 133:609-10 D '32

Mineral deposits. W. Lindgren. 4th ed 930p \$6.50 McGraw-Hill '33

Riddle of the earth: efforts to read it. F. Ehrenfeld. il J Fr Inst 216:289-327 S '33

Sir Charles Lyell; his place in geological science and his contributions to the geology of North America. F. D. Adams. Science 78:177-83 S 1 '33

Story of a billion years. W. O. Hotchkiss. 137p Williams & Wilkins '32

Textbook of geology. pt 2, Historical geology. C. Schuchert and C. O. Dunbar. 3d ed 551p \$4 Wiley '33

Wonders of the earth's crust. H. E. Taylor. 215p 75c Pitman '32

*See also*

Asbestos

Asphalt

Caves

Coal—Geology

Continental shelf

Continents

Copper ores

Earth

Earthquakes

Erosion

Faults (geology)

Folds (geology)

Gas, Natural—Geology

Geophysics

Glacial geology

Graphite

Gypsum

Limestone

Metamorphism

Mineralogy

Mines and mineral resources

Moraines

Mountains

Mud cracks

Ocean

Ore deposits

Paleontology

Peat

Peneplains

Petroleum—Geology

Phosphate rock

Physical geography

Quarries and quarrying

Rocks

Rocks, Igneous

Salt domes

Sand

Sedimentation and deposition

Soils

Volcanoes

Water, Underground

**Bibliography**

Annotated bibliography of economic geology for 1933. Zpts. pt 1 (vol. 5, no. 1) 228p \$5 Economic geology pub. co, W. S. Bayley, Univ. of Illinois, Urbana '33 [cont semi-annually]

Mémorials; with bibliographies. Geol Soc Bul 44:287-421 Ap '33

Mining geology; ore finders, idle, turn to research and authorship. J. T. Singewald, jr. Min & Met 14:9-11 Ja '33

Publications of the United States geological survey; geology and water supply. (Price list 15, 23d ed) 53p Supt. of doc. '33

**Dictionaries**

French-English vocabulary in geology and physical geography. G. M. Davies. 140p Van Nostrand '32

**Study and teaching**

Geology; an easier study for boys or for girls? G. Richards. Science 76:434-5 N 11 '32; Discussion. K. Ver Steeg. 77:169 F 10 '33

Laboratory equipment for geologic instruction. C. Croneis and G. F. Shepherd. Geol Soc Bul 44:541-52, pl 15-18 Je '33

Tilting blackboard for geologic instruction. H. S. Palmer. Science 78:388 O 27 '33

**Terminology**

Interbed—a convenient stratigraphic expression. G. W. Crickmay. Science 78:13 Jl 7 '33

Meaningless versus significant terms in geological classification. F. Leverett. Science 77:560 Je 9 '33

Sedimentation and sedimentology. H. Wadell. Science 77:536-7 Je 2 '33

**Africa**

African structures. B. Willis. Min & Met 13: 545 D '32

**Alabama**

Iron ore in the Red Mountain formation in Greasy Cove, Alabama. E. F. Burchard. il map U S Geol S Circ 1:1-49 '33

**Alaska**

Eastern portion of Mount McKinley national park, by S. R. Capps; Kantishna district and mining development in the Tatianika and Totatianika basins, by F. H. Moffit. diags fold maps U S Geol S Bul 836-D:219-345 '32

Geology of the Yakataga, Katalla, and Nichawak districts, Alaska. N. L. Taliaferro. il diags Geol Soc Bul 43:749-82 S '32

Progress of surveys in the anthracite ridge district, Alaska. R. W. Richards and G. A. Waring. maps U S Geol S Bul 849-A:1-27 '33

**Algeria**

Pleistocene Mazouna stage in western Algeria containing artifacts. R. V. V. Anderson. il map Geol Soc Bul 43:847-74, pl 22-3 S '32



## GEOLOGY—Continued

## California

- Geology and paleontology of a portion of Los Angeles, California. E. K. Soper and U. S. Grant. il map Geol Soc Bul 43:1041-67 D '32
- Geology of California. R. D. Reed. 355p American assn. of petroleum geologists, Tulsa, Okla. '33
- Geology of Santa Cruz island, Santa Barbara county, California. C. St J Bremner. Santa Barbara Museum of Nat History Occasional Pa 1:1-33 '32
- Geology of the Lassen volcanic national park, California. H. Williams. il maps Univ of Calif Pub Geological Sciences v 21, no 8: 195-385 '32
- Glacial epochs of the Santa Monica mountains, California. W. M. Davis. bibliog diags map Geol Soc Bul 44:1041-1133, pl 40-56 O '33
- Inglewood fault regarded as important factor in minimizing earthquake effect on oil fields. L. G. E. Bignell. maps Oil & Gas J 31:8-Mr 16 '33
- Notes on the Cambrian rocks of the eastern Mohave desert, California, by J. C. Hazard; with a paleontological report, by C. H. Crickmay. bibliog map pl Univ of Calif Pub Geological Sciences v 23, no 2:57-78 '33
- Palisade glacier of the High Sierra of California. O. D. Von Engeln. il map Geol Soc Bul 44:575-99 Je '33
- Southern California rift club. Science 78:207 S 8 '33
- Volcanic history of Glass mountain, northern California. C. A. Anderson. bibliog il maps Am J Sci 5th ser 26:485-506 N '33
- What happened geologically; cause of earthquake, Long Beach, Calif. J. P. Buwalda. Science 78:148-9 Ag 18 '33

## Canada

- Central Canada's gold belts; a comparison with Western Australia, India, and Southern Rhodesia. C. W. Knight. map Can Min J 54:98-101 Mr '33
- Land and sea on the Canadian shield in Precambrian time. H. C. Cooke. maps Am J Sci 5th ser 26:428-41, 457-74 O-N '33
- Land movements and sedimentation. M. Y. Williams. Geol Soc Bul 43:993-1002 D '32

## Colorado

- Date of recent volcanism in Colorado. R. E. Landon. il maps Am J Sci 5th ser 25:20-4 Ja '33
- Ordovician and Devonian fish horizons in Colorado. C. H. Behre, jr. and J. H. Johnson. bibliog Am J Sci 5th ser 25:477-86 Je '33
- Structure of the Sawatch range. J. T. Stark and F. F. Barnes. maps Am J Sci 5th ser 24:471-80 D '32
- Suggestions for prospecting in the Alma district, Colorado. Q. D. Singewald and B. S. Butler. diag maps Colorado Scientific Soc Proc v13, no4:89-131 '33

See also

## Petroleum—Colorado

## Connecticut

- Danbury granodiorite gneiss of Connecticut. W. M. Agar. il map Am J Sci 5th ser 25:1-19 Ja '33
- Further notes on the Salisbury district of Connecticut. W. M. Agar. Am J Sci 5th ser 25:385-9 My '33
- Geology of Connecticut. T. A. Cook. 112p Bond press, Hartford, Conn. '33

## Connecticut valley

- Late-pleistocene sequence in the Connecticut valley. R. F. Flint. bibliog maps Geol Soc Bul 44:965-88 O '33

## Georgia

- Occurrence of mylonites in the crystalline rocks of Georgia. G. W. Crickmay. bibliog il map Am J Sci 5th ser 26:161-77 Ag '33

## Gulf Coast region

- Try to iron out differences of opinion on paleontology in Gulf Coast area. N. Williams. Oil & Gas J 32:14+ Je 8 '33

## Idaho

- Genesis of the mica pegmatite deposits of Latah county, Idaho. A. L. Anderson. il Econ Geol 28:41-58 Ja '33
- Thunder Mountain mining district, Valley county, Idaho. C. P. Ross. il map Econ Geol 28:587-600 S '33

See also

## Clay—Idaho

## Illinois

- Geological conditions governing location, drilling, and casing of wells. W. C. Imbt. map Am Water Works Assn J 25:1207-15 S '33
- How Chicagoland was made. J. H. Bretz. W Soc E J 38:135-41 Je '33

## Iowa

- Stratigraphy and paleontology of the Gilmore City formation of Iowa. L. R. Laudon. il Iowa Univ Studies in Natural History v 15, no 2:1-74 [bibliog p73-4], pl 1-7 '33

## Kansas

- Angular coal fragments as evidence of a long time break in Pennsylvania sedimentation in eastern Kansas. J. L. Rich. il pl Geol Soc Bul 44:865-9 Ag '33
- Origin of domes in Lincoln and Mitchell counties, Kansas. K. K. Landes and J. W. Ockerman. diags Geol Soc Bul 44:529-40 Je '33

## Kentucky

- Next oil pool. W. R. Jilison. 116p [bibliog p98-103] Transylvania press, Lexington, Kentucky '32
- Origin of the asphalt deposits of western Kentucky. W. L. Russell. map Econ Geol 28:571-86 S '33
- Southwestern Kentucky counties are studied for their oil and natural gas possibilities. D. Hager. map Oil & Gas J 32:18+ Ag 24 '33

## Maine

- Contributions to the geology of Maine. E. S. C. Smith. Am J Sci 5th ser 25:225-8 Mr '33

## Maryland

- Chambersburg (Harrisburg) peneplain in the Piedmont of Maryland and Pennsylvania. M. R. Campbell. map Geol Soc Bul 44:553-73 Je '33

## Massachusetts

- Geology of the Boston area, Massachusetts. L. LaForge. fold map U S Geol S Bul 839: 1-105 [bibliog p93-100] pl 1-15 '32

## Mexico

- Reconnaissance studies in the Sierra de Jimulco, Mexico. L. B. Kellum. il fold map Geol Soc Bul 43:541-64 S '32

## Minnesota

- Contact metamorphism of the slates of Minnesota by granite and by gabbro magmas. F. F. Grout. il map Geol Soc Bul 44:989-1039 [bibliog p1033-9], pl 38-9 O '33
- Geology of the Rove formation and associated intrusives in northeastern Minnesota. F. F. Grout and G. M. Schwartz. il maps Minnesota Geol S Bul 24:1-103 '33

## Missouri

- Intrusive relationship of the granite to the rhyolite (porphyry) of southeastern Missouri. W. A. Tarr. il maps Geol Soc Bul 43:965-92 D '32
- Location and areal extent of the Saint Louis Pennsylvanian outlier. J. B. Knight. maps Am J Sci 5th ser 25:25-48, 166-78 [bibliog p174-5] Ja-F '33
- Petrography and petrology of the Mount Devon diabase porphyry. G. A. Muilenburg and S. S. Goldich. il Am J Sci 5th ser 26:355-67 S '33

**GEOLOGY—Missouri—Continued**

Pleistocene diversion of the Mississippi river across Crowley's Ridge, southeastern Missouri; abstract. F. E. Matthes. *Science* 77: 459-60 My 12 '33

**Montana**

Geologic research work near Red Lodge, Montana. W. T. Thom, Jr. and R. M. Field. *Science* 78:103-5 Ag 4 '33

Geological report on Cut Bank field, Montana outlines many interesting points of area. E. S. Perry. *map Oil & Gas J* 32:15+ JI 13 '33

Geology and gold deposits of the North Moccasin mountains, Fergus county, Montana. J. E. Blixt. 25 1 [bibliog p24-5] Montana school of mines, Butte '33

Geology of a portion of the Rocky mountains of northwestern Montana. C. H. Clapp. 30p Montana school of mines, Butte '32

Physiography and glacial geology of eastern Montana and adjacent areas. W. C. Alden. fold maps *U S Geol S Professional Pa* 174: 1-133, pl 1-51 '32

**Nevada**

Eureka quartzite of the Great Basin region. E. Kirk. *bibliog Am J Sci* 5th ser 26:27-44 JI '33

**New England**

Relation of geology to the groundwater supplies of New England. I. B. Crosby. *diags map N E Water Works Assn J* 47:74-91 [bibliog p89-91]; Discussion. 92-5 Mr '33

**New Jersey**

Magnetite ores of northern New Jersey. L. L. Smith. *il Econ Geol* 28:658-77 N '33

Mineral zoning in the New Jersey-Pennsylvania-Virginia Triassic area. W. H. Newhouse. *bibliog map Econ Geol* 28:613-33 N '33

Origin and structure of the Pensauken gravel. M. R. Campbell and F. Bascom. *maps Am J Sci* 5th ser 26:300-18 S '33

**New Mexico**

Post-bolson faulting in New Mexico. C. L. Dake and L. A. Nelson. *Science* 78:168-9 Ag 25 '33

**New York (state)**

Catskill as a geologic name. G. H. Chadwick. *bibliog Am J Sci* 5th ser 26:479-84 N '33

Closing stage of New York glacial history. H. L. Fairchild. *il fold map Geol Soc Bul* 43: 603-26 S '32

Geologic structure of the Devonian strata of south-central New York. A. A. Wedel. 74p [bibliog p41-2] *Univ. of the state of New York, Albany* '32

Geology of the Newcomb quadrangle. R. Balk. 106p [bibliog p87-90] *Univ. of the state of New York, Albany, N.Y.* '32

Guide to the geology of John Boyd Thacher park (Indian Ladder region) and vicinity. W. Goldring. (New York state museum handbook 14) 112p University of the state of New York, Albany '33

Hamilton red beds in eastern New York. G. H. Chadwick. *Science* 77:86-7 Ja 20 '33

New York moraines. H. L. Fairchild. *il fold map Geol Soc Bul* 43:627-62 [bibliog p659-62] S '32

Ordovician Trenton group in northwestern New York; stratigraphy of the lower and upper limestone formations. G. M. Kay. *il maps Am J Sci* 5th ser 26:1-15 JI '33

Subsurface Devonian and Silurian sections across northern Pennsylvania and southern New York. C. R. Fettke. *bibliog Geol Soc Bul* 44:601-59 Je '33

**Newfoundland**

Yale expedition to Newfoundland. *Science* 78: 232-3 S 15 '33

**North Carolina**

Mineralogy of typical North Carolina clays and shales. W. L. Fabianic and N. H. Stolte. *Am Cer Soc J* 16:6-11 Ja '33

**Northwest Territories, Canada**

Some mineral relationships in the Great Bear Lake area. C. Riley. *il map Can Min J* 54: 137-41 Ap '33

**Ohio**

Glacial stagnation in Ohio. K. Ver Steeg. *Science* 76:516-17 D 2 '32

**Oklahoma**

Geologic relations of deposits reported to contain artifacts at Frederick, Oklahoma. E. H. Sellards. *maps Geol Soc Bul* 43:783-96, pl 13 S '32

Preliminary description of the Honey Creek, Fort Sill, Royer, and Signal Mountain formations of Oklahoma. E. O. Ulrich. *Geol Soc Bul* 43:742-7 S '32

**Ontario**

Engineering and geology; the quest for gold and the outcome; McIntyre Porcupine mines. H. G. Skavlem. *il diags maps Eng & Min J* 134:451-8 N '33

Hollinger geology summarized. L. C. Graton and H. E. McKinstry. *Min & Met* 14:126 Mr '33

Pashkokogan-Misehkwow area. W. S. Dyer. *Can Min J* 54:72-4 F '33

**Oregon**

Copper deposits in the Squaw Creek and Silver Peak districts and at the Almeda mine, southwestern Oregon, with notes on the Pennell & Farmer and Banfield prospects. P. J. Shenon. *il maps U S Geol S Circ* 2:1-35 '33

Gas and oil possibilities of lower Willamette valley, Ore. C. S. B. Henry. *Gas Age* 71: 145-6 F 11 '33

Geology of the Robertson, Humdinger and Robert E. gold mines, southwestern Oregon. P. J. Shenon. *il maps U S Geol S Bul* 830-B:1-55, pl 4-11 '33

New evidence of the age of the John Day formation. E. T. Hodge. *Geol Soc Bul* 43:695-702 S '32

Replacement origin of the albite granite near Sparta, Oregon. J. Gilluly. *U S Geol S Professional Pa* 175-C:65-81, pl 19-23 '33

**Pennsylvania**

"Catskill" sedimentation in Pennsylvania. B. Willard. *Geol Soc Bul* 44:495-515 [bibliog p511-15] Je '33

Chambersburg (Harrisburg) peneplain in the Piedmont of Maryland and Pennsylvania. M. R. Campbell. *Geol Soc Bul* 44:553-73 Je '33

Erosion surfaces in south-central Pennsylvania. W. O. Hickok. *bibliog diags maps Am J Sci* 5th ser 25:101-22 F '33

Field conference of Pennsylvania geologists. B. Willard. *Science* 77:629-30 Je 30 '33

Freeport quadrangle. H. H. Hughes. 272p *diags maps Pennsylvania. Topographic and geologic survey, Harrisburg* '33

Geology and mineral resources of the Middletown quadrangle, Pennsylvania. G. W. Stose and A. I. Jonas. *fold map U S Geol S Bul* 840:1-86, pl 1-15 '33

Hamilton group of eastern Pennsylvania. B. Willard and A. B. Cleaves. *map Geol Soc Bul* 44:757-82 Ag '33

Iron ore deposits at Cornwall, Pennsylvania. W. O. Hickok. *il maps Econ Geol* 28:193-255 My '33

Subsurface Devonian and Silurian sections across northern Pennsylvania and southern New York. C. R. Fettke. *bibliog map Geol Soc Bul* 44:601-59 Je '33

Thorianite from Easton, Pa. R. C. Wells, J. G. Fairchild and C. S. Ross. *Am J Sci* 5th ser 26:45-54 JI '33

**Quebec**

Gold prospecting—Rouyn-Bell River region, Quebec. A. H. Lang. *bibliog il maps Can Min J* 54:267-72 JI '33

**Rhode Island**

New England intercollegiate geological excursion. 28th, Providence and Newport, Oct. 14-15. *Science* 76:465-6 N 18 '32



## GEOLOGY—Continued

## Siberia

- Chrysotile asbestos in the Bajenova district, U.S.S.R. W. A. RuKeyser. il maps Eng & Min J 134:335-9 Ag '33
- Stratigraphy and tectonics of the proterozoic formations in south-central Siberia. A. N. Tchurakov. Geol Soc Bul 43:565-80, pl 11 S '32
- Traces of proterozoic glaciation in the southern part of central Siberia. A. N. Tchurakov. il Geol Soc Bul 43:581-601 [bibliog p599-601] S '32

## South Africa

- Manganese deposits of Postmasburg, South Africa. A. L. Du Toit. bibliog il map Econ Geol 28:95-122 Mr '33

## South Carolina

- Carolina bays—are they meteor craters? F. A. Melton and W. Schriever. il Sci Am 149:106-7, 158-9+ S-O '33

## South Dakota

- Metamorphism and hydrothermal alteration of the Homestake gold-bearing formation. J. K. Gustafson. il map Econ Geol 28:123-62 Mr '33

## Tennessee

- Ground water in north-central Tennessee. A. M. Piper. fold maps U S Geol S Water-supply Pa 640:1-238, pl 1-9 '32

## Texas

- Disseminated galena in the Upper Cambrian of the central mineral region, Texas. C. L. Baker. Econ Geol 28:163-70 Mr '33; Discussion. W. A. Tarr. 28:607 S '33
- Faunal correlation of the Ellenburger limestone of Texas. C. L. Dake and J. Bridge. fold map Geol Soc Bul 43:725-41, pl 12 S '32
- Geology and possibilities of oil in large area northeast of the defined east Texas field. L. Decker. diag map Oil & Gas J 31:12-13+ Ja 5 '33
- Geology of Grayson county, Texas. F. M. Bullard. Texas Univ Bul 3125:1-72 '31
- Geology of Hemphill county, Texas. L. C. Reed and O. M. Longnecker, jr. il map Texas U Bul 3231:1-98 '33
- Tertiary and quaternary geology of the lower Rio Grande region, Texas. A. C. Trowbridge. fold maps U S Geol S Bul 837:1-260, pl 1-45 '32
- Underground waters and subsurface temperatures of the Woodbine sand in northeast Texas. F. P. Plummer and E. C. Sargent. Texas U Bul 3138:1-178 [bibliog p101-10] '31

See also

Petroleum—Texas

## Trinidad

- Contribution to the knowledge of sedimentary volcanism in Trinidad. H. G. Kugler. pls Inst Pet Tech J 19:743-60 [bibliog p760]; Discussion. 760-72 S '33

## United States

- Atlas of American geology. A. K. Lobeck, comp. 100 l Geographical press, New York '32

- Ore deposits of the United States in their relation to geologic cycles. B. S. Butler. maps Econ Geol 28:301-28 Je '33

## Utah

- Eureka quartzite of the Great Basin region. E. Kirk. bibliog Am J Sci 5th ser 26:27-44 Jl '33
- Geology and oil possibilities of the Moab district, Grand and San Juan counties, Utah. A. A. Baker. fold maps U S Geol S Bul 841:1-95, pl 1-11 '33
- Influence of Basin Range faulting in mines at Bingham, Utah. R. Farmin. diags Econ Geol 28:601-6 S '33

## Vermont

- Cambrian and Ordovician stratigraphy of northwestern Vermont. C. Schuchert. bibliog map Am J Sci 5th ser 25:353-81 My '33

## Virginia

- Hydrothermal metamorphism of an ultrabasic intrusive at Schuyler, Virginia. H. H. Hess. il diags Am J Sci 5th ser 26:377-408 O '33
- Kyanite in Virginia. A. I. Jonas. pls map Virginia Geol S Bul 38:1-52 '32
- Lower York-James peninsula. J. K. Roberts. diags pls maps Virginia Geol S Bul 37:1-58 '32
- Mineral zoning in the New Jersey-Pennsylvania-Virginia Triassic area. W. H. Newhouse. bibliog map Econ Geol 28:613-33 N '33

## Washington (state)

- New version of the Spokane flood. I. S. Allison. il maps Geol Soc Bul 44:675-722 Ag '33
- Terraces and coulees along the Columbia river near Lake Chelan, Washington. A. C. Waters. il maps Geol Soc Bul 44:783-820 Ag '33

## Western states

- Guidebook of the western United States; part F. Southern Pacific lines, New Orleans to Los Angeles. N. H. Darton. 29 fold maps U S Geol S Bul 845:1-304 [bibliog p293-6], pl 1-49 '33

## Wisconsin

- Naming of the subdivisions of the Wisconsin glacial age. M. M. Leighton. Science 77:168 F 10 '33

## Wyoming

- Structure, inclusions, and alteration of the Deer Creek intrusive, Wyoming. J. T. Rouse. il Am J Sci 5th ser 26:139-46 Ag '33

## GEOLOGY (term)

- Further note on the earliest use of the word geology. F. D. Adams. Geol Soc Bul 44:321-6 Ag '33

## GEOLOGY, Stratigraphic

- Early man and the associated faunas in the Old World. A. S. Woodward. Science 78:89-92 Ag 4 '33
- Principles of historical geology from the regional point of view. R. M. Field. 80p Princeton university press, Princeton, N.J. '33
- Try to iron out differences of opinion on paleontology in Gulf Coast area. N. Williams. Oil & Gas J 32:14+ Je 8 '33

See also

Glacial geology  
Paleontology

## Algonkian

- Stratigraphy and tectonics of the proterozoic formations in south-central Siberia. A. N. Tchurakov. Geol Soc Bul 43:565-80, pl 11 S '32

- Traces of proterozoic glaciation in the southern part of central Siberia. A. N. Tchurakov. il Geol Soc Bul 43:581-601 [bibliog p599-601] S '32

## Cambrian

- Cambrian and Ordovician stratigraphy of northwestern Vermont. C. Schuchert. bibliog map Am J Sci 5th ser 25:353-81 My '33
- Notes on the Cambrian rocks of the eastern Mohave desert, California, by J. C. Hazard; with a paleontological report, by C. H. Crickmay. bibliog map pl Univ of Calif Pub Geological Sciences v 23, no 2:57-78 '33
- Preliminary generalized Cambrian time scale. C. E. Resser. bibliog Geol Soc Bul 44:735-55 Ag '33

## Carboniferous

- Correlation and extent of Pennsylvanian cyclothems. H. R. Wanless and J. M. Weller. diags Geol Soc Bul 43:1003-16 D '32
- Location and areal extent of the Saint Louis Pennsylvanian outlier. J. B. Knight. maps Am J Sci 5th ser 25:25-48, 166-78 [bibliog p174-5] Ja-F '33

## Cretaceous

- Land movements and sedimentation. M. Y. Williams. Geol Soc Bul 43:993-1002 D '32

**GEOLOGY, Stratigraphic—Continued****Devonian**

Geologic structure of the Devonian strata of south-central New York. A. A. Wedel. 74p [bibliog p41-2] Univ. of the state of New York, Albany '32

Ordovician and Devonian fish horizons in Colorado. C. H. Behre, jr. and J. H. Johnson. bibliog Am J Sci 5th ser 25:477-86 Je '33

Subsurface Devonian and Silurian sections across northern Pennsylvania and southern New York. C. R. Fetteke. bibliog map Geol Soc Bul 44:601-59 Je '33

**Jurassic**

Jurassic system in Great Britain. W. J. Arkell. 681p [bibliog p623-70] Oxford '33

Mount Jura investigation. C. H. Crickmay. Geol Soc Bul 44:895-903, pl 23-34 O '33

**Mesozoic**

Present distribution and thickness of mesozoic systems. W. A. Ver Wiebe. fold maps Geol Soc Bul 44:827-63 Ag '33

**Nomenclature**

Suggestions in stratigraphic nomenclature. G. D. Harris. Science 76:489 N 25 '32

**Ordovician**

Cambrian and Ordovician stratigraphy of northwestern Vermont. C. Schuchert. bibliog map Am J Sci 5th ser 25:353-81 My '33

Canadian and Ordovician formations and fossils of South Manchuria. R. Endo. 152p Smithsonian institution, Washington '32

Eureka quartzite of the Great Basin region. E. Kirk. bibliog Am J Sci 5th ser 26:277-86 Je '33

Ordovician and Devonian fish horizons in Colorado. C. H. Behre, jr. and J. H. Johnson. bibliog Am J Sci 5th ser 25:477-86 Je '33

Ordovician Trenton group in northwestern New York; stratigraphy of the lower and upper limestone formations. G. M. Kay. il maps Am J Sci 5th ser 26:1-15 Jl '33

**Permian**

Age of the Permian limestones of Sicily. A. K. Miller. Am J Sci 5th ser 26:409-27 [bibliog p426-7] O '33

**Pleistocene**

Eldoran epoch of the pleistocene period. G. F. Kay and M. M. Leighton. Geol Soc Bul 44:669-73 Ag '33

Late-pleistocene sequence in the Connecticut valley. R. F. Flint. bibliog maps Geol Soc Bul 44:965-88 O '33

Pleistocene Mazouza stage in western Algeria containing artifacts. R. V. V. Anderson. il map Geol Soc Am 43:847-74, pl 22-3 S '32

**Pre-Cambrian**

Land and sea on the Canadian Shield in Precambrian time. H. C. Cooke. maps Am J Sci 5th ser 25:428-41, 457-74 O-N '33

Structure of the Sawatch range. J. T. Stark and F. F. Barnes. maps Am J Sci 5th ser 24:471-80 D '32

**Quaternary**

Tertiary and quaternary geology of the lower Rio Grande region, Texas. A. C. Trowbridge. fold maps U S Geol S Bul 837:1-260, pl 1-45 '32

**Silurian**

Subsurface Devonian and Silurian sections across northern Pennsylvania and southern New York. C. R. Fetteke. bibliog Geol Soc Bul 44:601-59 Je '33

**Terminology**

Catskill as a geologic name. G. H. Chadwick. bibliog Am J Sci 5th ser 26:479-84 N '33

**Tertiary**

Tertiary and quaternary geology of the lower Rio Grande region, Texas. A. C. Trowbridge. fold maps U S Geol S Bul 837:1-260, pl 1-45 '32

**Triassic**

Mineral zoning in the New Jersey-Pennsylvania-Virginia Triassic area. W. H. Newhouse. bibliog map Econ Geol 28:613-33 N '33

**GEOMETRICAL drawing**

Geometry of repeating design and geometry of design for high schools. A. D. Bradley. 131p [bibliog p129-31] \$1.50 Teachers college '33

**GEOMETRY**

New sequence geometry for schools. J. Gray and F. J. Smith. 500p, iv p Grant educational co. London '31

*See also*

Trigonometry

Trisection of angle

**Study and teaching**

Geometry professionalized for teachers. H. C. Christofferson. 204p [bibliog p193-201] H. C. Christofferson, Oxford, O. '33

Recent developments in the teaching of geometry. J. Shibli. 252p \$2.25 Jabir Shibli, State College, Pennsylvania '32

**GEOMETRY, Analytic**

Analytic geometry. F. S. Nowlan. 295p \$2.25 McGraw-Hill '33

**GEOMETRY, Descriptive**

Descriptive geometry. F. H. Cherry. 127p Macmillan '33

Geometry of engineering drawing; descriptive geometry by the direct method. G. J. Hood. 2d ed 348p \$2.50 McGraw-Hill '33

**GEOMETRY, Plane**

Plane geometry. R. D. Farnsworth. 258p McGraw-Hill '33

Plane geometry. W. R. Good and H. H. Chipman. 280p Lippincott '33

Plane geometry. F. M. Morgan, J. A. Foberg and W. E. Breckenridge. 443p Houghton '33

Plane geometry. M. Sykes, C. E. Comstock and C. M. Austin. 460p Rand, McNally & co, New York '32

Plane geometry. A. M. Welchons and W. R. Krickenberger. 251p \$1.28 Ginn '33

Text and tests in plane geometry. D. E. Smith, W. D. Reeve and E. L. Morss. 286p Ginn '33

**GEOMETRY, Solid**

Solid geometry. M. Sykes, C. E. Comstock and C. M. Austin. 309p Rand, McNally & co, New York '33

Solid geometry. A. M. Welchons and W. R. Krickenberger. 251p \$1.24 Ginn '33

Solid geometry—an entrance requirement for engineering universities. R. C. Rhynearson. J Eng Educ 23:297-302 D '32

**GEOPHYSICAL apparatus**

Recent developments in gravity apparatus. W. Bowie. Science 77:308-10 Mr 24 '33

**GEOPHYSICS**

Geophysics in the mining and geological fields. S. F. Kelly. Min & Met 14:30-1+ Ja '33

Petrotectonics. E. B. Knopf. il diags Am J Sci 5th ser 25:433-70 Je '33

Some recent applications of physics to sedimentation problems. C. E. Van Orstrand. Nat Research Council Bul 89:105-21 [bibliog p113-21] '32

*See also*

Atmospheric electricity

Continents

Earth—Internal structure

Earth pressure

Earth temperature

Earthquakes

Magnetism, Terrestrial

Meteorology

Prospecting—Geophysical methods

**GEORGE, Henry, 1839-1897**

Philosophy of Henry George. G. R. Geiger. 581p \$3 Macmillan '33; Review by S. Bell. Comm & Fin 22:540 Je 21 '33

**GEORGE Washington bridge. See Hudson River bridges****GEORGETOWN, British Guiana****Sewerage**

Sewage pumping installations. G. H. Humphreys and I. M. E. Aitken. Engineering 135:417 Ap 14 '33



**GEORGETTE.** See Crepe

## GEORGIA

Georgia builds for the future. E. Talmadge. Manuf Rec 102:14 F '33

See also  
Clay—Georgia

### Industries and resources

Georgia's part in national progress. P. S. Arkwright. il Manuf Rec 102:16-17 F '33

## GERBER, Heinrich

Heinrich Gerber und die brückenbautechnik. G. Kapsch. il Zeit Ver Deutsch Ing 76:1179-80 N 26 '32

## GERMAN indemnities

Wreck of reparations. J. W. Wheeler-Bennett. 295p \$3 William Morrow & co, New York '33

## GERMAN language

Basic German for science students. M. L. Barker. 164p W. Heffer & sons Ltd, Cambridge, Eng. '33

### Business German

Brush up your German (Frische dein Deutsch auf!) J. B. C. Grundy and W. Schöfer. 142p David McKay co, Washington square, Philadelphia '33

### Dictionaries

Marlborough's German technical words & phrases, in Roman characters; English-German and German-English dictionary. 3d ed enl. and rev. by E. M. Rolfs. 188p \$2 G. E. Stechert & co. N.Y. '32

### Study and teaching

Facilitating the study of German for chemists. R. N. Shreve and J. T. Fotos. J Chem Educ 10:33-4 Ja '33

## GERMANIUM

### Analysis

Electrolytic zinc; the determination of small amounts of germanium. H. Lundin. Electrochem Soc Trans 63 (preprint 20):191-5 My '33

## GERMANIUM compounds

Germanium; action of ammonia upon monochloromonogermane and dichloromonogermane; action of water upon monochloromonogermane. L. M. Dennis and R. W. Work. Am Chem Soc J 55:4486-9 N '33  
Germanium; some new salts of fluogermanic acid. L. M. Dennis and B. J. Staneslow. il Am Chem Soc J 55:4392-6 N '33  
Preparation of some derivatives of triphenylgermanium by means of sodium triphenylgermanide. C. A. Kraus and C. S. Sherman. bibliog Am Chem Soc J 55:4694-7 N '33

Some tolyl derivatives of germanium. J. K. Simons, E. C. Wagner and J. H. Müller. Am Chem Soc J 55:3705-12 S '33

## GERMANIUM iodides

Nitrogen compounds of germanium; the action of ammonia and amines on germanium tetraiodide. W. C. Johnson and A. E. Sidwell. Am Chem Soc J 55:1884-9 My '33

## GERMANY

Germany demands equality. Business Week p24-5+ O 21 '33

Germany plays for time. P. D. Miller. map Mag of Wall St 52:157-8+ Je 10 '33

Hitler terror. Economist 117:440-1 S 2 '33

Modern Germany; a study of conflicting loyalties. P. Kosok. 348p \$3 Univ. of Chicago press '33

Revolutionary Germany. Economist 117:63-4 JI 8 '33

See also

Accounting—Germany

Agriculture—Germany

Banks and banking—Germany

Chemical industries—Germany

Coal mines and mining—Germany

Debts, Public—Germany

Finance—Germany

Industry and state—Germany

Iron industry and trade—Germany

Railroads—Germany

Securities—Germany

Steel industry and trade—Germany

Trade unions—Germany

## Army

Germany's Reichswehr. F. Kuh. il Fortune 7:49-57 Ja '33

## Commerce

American firms dealing with Germany. A. Degener, ed. 93p Albert Degener, New York '33

Le commerce allemand. P. Maquenne. Chimie & Ind 28:1465-70 D '32

Germany's trade position. Economist 116:1230-1 Je 10 '33

## Commercial policy

Deutschlands stellung in der weltwirtschaft; eine betrachtung zur Londoner weltwirtschaftskonferenz. J. W. Reichert. Stahl & Eisen 53:831-5 Ag 10 '33

Exchange war; Czechoslovakia attacks German tariffs; Germany retaliates. Business Week p21 Ap 12 '33

Germans ease Soviet credit terms. Business Week p20-1+ Mr 1 '33

Hitler's farm program. Business Week p22-3 F 22 '33

Trend of Soviet-German commercial relations and its significance. E. D. Foster. Harvard Business R 11:376-85 Ap '33

## Commercial treaties

Foreign trade boosts; Germany's pacts with France and Canada. Business Week p26 Ja 11 '33

New Franco-German trade agreement. L. Pasvolsky. Barron's 13:5 F 13 '33

## Economic conditions

As Germany revives—in comes Hitler. J. C. Cresswill. il Mag of Wall St 51:468-9+ F 18 '33

Economic dilemma of politics. P. F. Douglass. 47p Europress co, New York '32

German paradox. A. Plutynski. 231p Wishart & co, 10 John st, Adelphi, London '33

Germany in 1932. Economist 116:supl4-15 F 18 '33

Impression of Germany. Economist 115:1185-6 D 24 '32

Reich ready for recovery. Business Week p24 Mr 29 '33

Reichskreditgesellschaft report. Economist 117:125 JI 15 '33

La situation économique de l'Allemagne à un tournant de son histoire. P. Maquenne. Chimie & Ind 29:1213-17 My '33

Situation in Germany at the beginning of 1933. 50p National industrial conference board, New York '33

## Economic policy

Germany enters the Third Reich. C. B. Hoover. 243p \$2.50 Macmillan '33

Germany in prospect; Hitler principles. Business Week p22 D 7 '32

Germany's recovery program. Business Week p22-3 Ap 26; 24 Je 10; 22 Je 17 '33

Give them work; Germany's new chancellor concentrates all his efforts on a make-work program. il Business Week p21+ Ja 4 '33

Hitlerizing industry. Business Week p23-4 My 24 '33

Hitler's program is vague. Business Week p24 My 10 '33

Nazi Germany's recovery program. A. Comstock. Barron's 13:3+ S 4 '33

Nazis and German business; new cartel legislation. A. Comstock. Barron's 13:3+ S 18 '33

Revolutionary Germany. Economist 117:63-4, 116-17 JI 8-15 '33

What can we expect from Hitler? M. D. Gould. Barron's 13:3+ Mr 27 '33

## Foreign relations

Germany and Geneva. Economist 116:1007-8 My 13 '33

Hitler shows his hand. Economist 117:749-50 O 21 '33

Limitation of Germany's armaments; Treaty provisions. Economist 117:750-1 O 21 '33

## Industries and resources

Die deutschen ingenieure am Bodensee zur 71. hauptversammlung. C. Matschoss. il Zeit Ver Deutsch Ing 77:537-42 My 27 '33

## GERMANY—Continued

## Politics and government

- Europe's first quarter: German recovery checked by political developments. H. W. Bunn. *Annalist* 41:563+ Ap 21 '33
- German elections. *Economist* 116:508-9 Mr 11 '33
- Germany elects Hitler. *Business Week* p20+ Mr 15 '33
- Hitler comes to power. *Business Week* p5-6 F 8 '33
- Hitler in the saddle. *Economist* 116:224-5 F 4 '33
- Hitler über Deutschland. S. Bell. *Comm & Fin* 22:331 Ap 12 '33
- Outlook in Germany. *Economist* 116:795-6 Ap 15 '33
- Strange interlude—German. *Business Week* p5 Ap 12 '33

## Reichstag fire, 1933

- Leipzig trial. *Economist* 117:619-20, 661-2, 708-9, 756-7, 806, 856-7 S 30-N 4 '33 (to be cont)

## Sanitary affairs

- Street sanitation in Germany; abstract. C. Schneider. *Eng N* 111:446-7 O 12 '33
- Typhoid fever epidemics from water supply in Germany. H. Bruns. *Am Water Works Assn J* 25:1-17; Discussion. A. Wolman. 17-18 Ja '33

## Treaties

- Prospects of revision of the German and Austrian treaties. H. R. Spencer. *Ann Am Acad* 168:197-203 Ji '33

## GERMICIDES. See Disinfection and disinfectants

## GERMINATION

- Accelerating seed germination with gas. C. G. Deuber. *il Am Gas Assn Mo* 15:313-15 Ag '33
- Heavy water prevents seeds from sprouting. G. N. Lewis. *Science* 78:sup7 Ag 18 '33
- Peat mats for germination tests of forest tree seeds. P. C. Wakeley. *Science* 76:627-8 D 30 '32
- Sprouting and grafting fractional parts of avocado embryos with attached cotyledonous material. H. P. Traub and E. C. Auchter. *Science* 78:389 O 27 '33

## GESTALT psychology. See Psychology

## GHERARDI, Bancroft, 1873-

- Award of the Edison medal to Bancroft Gherardi. *Science* 76:562 D 16 '32
- Edison medal for 1932 presented to Bancroft Gherardi; addresses by G. Dunn and H. P. Charlesworth. *por Elec Eng* 52:126-9 F '33
- Sketch. *por Sibley J* 47:33 F '33

## GIBBONS, Grinling, 1648-1721

- In the manner of Grinling Gibbons. *Am Arch* 143:27-30 Mr '33

## GIBBS medal

- Willard Gibbs medal is awarded Dr Willstaetter. *Oil Paint & Drug Rep* 123:16 Ap 17 '33

## GIBBSITE

- X-ray studies on the hydrous oxides. H. B. Weiser and W. O. Milligan. *J Phys Chem* 36:3010-29 D '32

## GIBALTAR tunnel. See Tunnels and tunneling, Subaqueous

## GIFFORD, Walter S.

- Nobody's yes-man. R. K. Leavitt. *Adv & Sell* 21:22-3+ My 25 '33

## GIFT coupons. See Trading stamps

## GIFT tax

- Cash value of life policies gift tax basis in some cases. *Ins Field (Life ed)* 61:21 D 2 '32
- How 1932 tax laws affect life insurance. D. B. Maduro. *East Underw* 34:14 Ja 27 '33; Same. *Nat Underw (Life ed)* 37:3 Ja 20 '33
- Trusts inter vivos and gifts under the new federal tax laws. L. B. Runk. *Trust Companies* 55:687-92 D '32

## GIFTS

- Boom-year sales volume in a slump-year market; Ebeling & Reuss. L. M. Hughes. *il Sales Management* 32:102-3+ F 1 '33

## See also

## Christmas gifts

## GIFTS (law)

- Gifts causa mortis. *Trust Companies* 55:723 D '32

## GILBERT, Walter Edwin, 1899-

- Wings of the North; a series of biographical sketches of northern air pilots. J. P. De Wet. *por Can Min J* 54:390-3 O '33

## GILCHRIST, Peter Spence, 1861-

- American contemporaries. A. M. Webb. *por Ind & Eng Chem* 25:1060 S '33

## GILL, Adam Capen, 1863-1932

- Memorial. G. D. Harris. *por Geol Soc Bul* 44:325-8 [bibliog p327-8] Ap '33

## GILLETTE safety razor company

- Gillette cuts loose; Mr Lambert drops the patent props. *Business Week* p9-10 My 31 '33
- Is Gillette to be "ex" patents? *Barron's* 13:19 Ap 24 '33
- Report for 1932. *Barron's* 13:14 Mr 6 '33
- Reports higher earnings. *Econostat* 1:12+ Mr 25 '33
- Speculative audit; favorable and unfavorable factors affecting common-stock values. *Barron's* 13:14 Je 26 '33

## GILLIES, W. B.

- Vice president, Youngstown sheet & tube co. *por Steel* 93:21 Ag 14 '33

## GILSONITE

- Mining gilsonite in Utah. R. C. Fleming. *il Min & Met* 13:529-30 D '32

## GIMBEL brothers

- Truth; Gimbel's brand. *Business Week* p14 Je 10 '33

## GINGER ale

## Advertising

- Canada Dry looks beyond the prohibition horizon. *il Ptr Ink* 163:68 My 4 '33
- Two full pints idea doubles unit of sale; Clicquot club company. H. E. Kimball. *il Ptr Ink* 161:10+ N 17 '32

## GINGERBREAD house. See Wheatsworth, Incorporated—Gingerbread house

## GIRAGOSSIAN, Garabed T. K.

- Garabed again. *Sci Am* 148:332-3 Je '33

## GIRARD, Stephen

- Stephen Girard in early marine history. *Weekly Underw* 129:704-5 O 14 '33

## GIRARD college

- Girard college chapel. Philadelphia. W. H. Thomas and S. E. Martin. *plans Arch Rec* 73:381-4 Je '33
- Girard college chapel, Philadelphia; views. *Arch Rec* 73:387-422 Je '33

## GIRDERS

- Calcul des poutres planes et des poutres-cloisons en béton armé. R. L'Hermite. *Génie Civil* 102:393-7 Ap 29 '33
- Checking the strength of bridge girders. J. E. Holmstrom. *Engineering* 136:157-9 Ag 18 '33
- Girders of old bridge turned over and reused in highway relocation project between Los Angeles and Bakersfield. L. C. Hollister. *il diag Eng N* 110:414-15 Mr 30 '33
- Hauling and erecting large steel girders; approach plaza of George Washington bridge. W. G. Rapp. *il plan Civil Eng* 3:373-5 Ji '33

- Split-H end connections for wind girders. W. C. Huntington and P. Nielsen. *Civil Eng* 3:457 Ag '33

- Stability of plate girder webs. S. Timoshenko. *Civil Eng* 3:456 Ag '33

- Vancouver's new harbor crossing; Burrard bridge. J. R. Grant. *il diags Eng N* 110:239-41 F 23 '33

## See also

Airplane wings  
Beams  
Bridges  
Building

Roofs  
Steel construction  
Strains and stresses  
Trusses



**GLACIAL epoch**

Climate changes and the last glacial period. W. M. Davis. *Science* 77:sup9 Mr 10 '33

**GLACIAL geology**

Closing stage of New York glacial history. H. L. Fairchild. *il fold map Geol Soc Bul* 43: 603-26 S '32

Date of local glaciation in the White mountains. D. Johnson. *Am J Sci* 5th ser 25: 399-405 My '33

Eldoran epoch of the pleistocene period. G. F. Kay and M. M. Leighton. *Geol Soc Bul* 44:669-73 Ag '33

Glacial epochs of the Santa Monica mountains, California. W. M. Davis. *bibliog diags map Geol Soc Bul* 44:1041-1133, pl 40-56 O '33

Glacial stagnation in Ohio. K. Ver Steeg. *Science* 76:516-17 D 2 '32

How Chicagoland was made. J. H. Bretz. *W Soc B J* 38:135-41 Je '33

Late-pleistocene sequence in the Connecticut valley. R. F. Flint. *bibliog maps Geol Soc Bul* 44:965-88 O '33

Naming of the subdivisions of the Wisconsin glacial age. M. M. Leighton. *Science* 77:168 F 10 '33

New interpretation of drainage shiftings in Ohio; abstract. F. Leverett. *Science* 76:546 D 9 '32

New version of the Spokane flood. I. S. Allison. *il maps Geol Soc Bul* 44:675-722 Ag '33

New York physiography and glaciology west of the Genesee valley. H. L. Fairchild. *maps Rochester Acad of Science Proc v 7, no4:97-135 [bibliog p134-5] pl 27-9 '32*

Palisade glacier of the High Sierra of California. O. D. Von Engeln. *il map Geol Soc Bul* 44:575-99 Je '33

Physiography and glacial geology of eastern Montana and adjacent areas. W. C. Alden. *fold maps U S Geol S Professional Pa* 174: 1-133, pl 1-51 '32

Studies in glacial sediments, 1930-1931. M. M. Leighton and E. Townley. *Nat Research Council Bul* 89:182-229 '32

Terraces and coulees along the Columbia river near Lake Chelan, Washington. A. C. Waters. *il maps Geol Soc Bul* 44:783-820 Ag '33

Traces of proterozoic glaciation in the southern part of central Siberia. A. N. Tchurakov. *il Geol Soc Bul* 43:581-601 [bibliog p599-601] S '32

*See also*

**Moraines****GLACIERS**

Palisade glacier of the High Sierra of California. O. D. Von Engeln. *il map Geol Soc Bul* 44:575-99 Je '33

Study of the abrasional work of river ice and of glaciers. C. K. Wentworth. *Nat Research Council Bul* 89:100-2 '32

*See also*

**Moraines****GLANDS, Ductless**

Endocrine glands. *il Fortune* 8:76-82+ N '33

Inheritance and glands in the control of growth. C. R. Stockard. *Science* 77:sup10 Ap 14 '33

Tides of life. R. G. Hoskins. 353p [bibliog p349] \$3.50 W. W. Norton & co, inc, New York '33

**GLARE**

Glaring lights. *il Safety Eng* 66:92 S '33

How to place road signs for night driving. C. C. Wiley. *il Roads & Sts* 76:75-8 F '33

Reflex theory of glare. E. L. Elliott. *Elec W* 102:126 JI 22 '33

**GLASGOW, Scotland****Subways**

Electrification of the Glasgow subway. *Elec R (Lond)* 112:454 Mr 31 '33

**GLASGOW stock exchange**

Scottish automobile insurance and the Glasgow stock exchange. *Economist* 116:870 Ap 22 '33

**GLASS, Carter**

Personalities in business. *Barron's* 13:4 Ap 17 '33

**GLASS**

Absorption spectra of cobaltous compounds; the alkali oxide-boric oxide glasses. W. R. Brode. *Am Chem Soc J* 55:939-47 Mr '33

American ceramic society, Glass division 35th annual meeting; abstracts of papers. *Glass Ind* 14:27-31, 34 Mr '33

Breakdown of glass under cold cathode discharge; abstract. W. H. Bennett. *Elec Eng* 52:102 F '33

Chemistry in the service of Egyptology. L. C. Newell. *J Chem Educ* 10:261-2 My '33

Color filters for altering color temperature; pyrometer absorption and daylight glasses. H. P. Gage. *bibliog Opt Soc Am J* 23:46-54 F '33

Cooling coil efficiency tests; admiralty brass, glass, and chrome nickel iron as tube materials tested. B. L. Peables and D. K. Taylor. *Gas Age* 70:653-4 D 17 '32

Density of some soda-lime-silica glasses as a function of the composition. F. W. Glaze, J. C. Young and A. N. Finn. *U S Bur Stand J Research* 9:799-805 D '32

Deutsche glastechnische gesellschaft; glastechnische tagung. *Angew Chemie* 46:142-4 Mr 4 '33

Durable glass electrode. D. A. MacInnes and D. Belcher. *bibliog diag Ind & Eng Chem Anal ed* 5:199-200 My 15 '33

Effect of glass containers on the electromotive force of Weston normal cells. G. W. Vinal and M. L. Howard. *il diag U S Bur Stand J Research* 11:255-75 Ag '33

Efficiency of abrasives in the working of glass. J. Wolf. *Glass Ind* 13:189-92 D '32

Electrical properties of glasses. J. T. Littleton and G. W. Morey. 184p \$3 Wiley '33

Enamel coatings on glass; abstract. F. Skaupy. *Am Cer Soc J* 16 (Cer A 12):100 Mr '33

Further systematic study of the glasses containing boric oxide and silica; abstract. E. J. Gooding and W. E. S. Turner. *Soc Chem Ind J (Chem & Ind)* 52:40 Ja 13 '33

Glass and glass manufacture. P. Marson. *rev & enl* 186p [bibliog p138-9] \$1 Pitman '32

Glass for protection from infra-red radiation. E. H. Hobbie. *il Illum Eng Soc Trans* 28:658-64 S '33; Discussion. 28:781-6 N '33

Glass in the decorative scheme; abstract. M. L. Anderson. *Illum Engr* 26:8 Ja '33

Glass in the service of illumination; abstract. W. E. S. Turner. *Illum Engr* 25:334 D '32

Glass is a salt. F. W. Preston. *Glass Ind* 14: 85 Ag '33

Glass phase in fired clay materials. *J Fr Inst* 215:741-2 Je '33

Influence of small amounts of dissolved silicates on the conductance of conductivity water and very dilute solutions of electrolytes. T. I. Taylor. *bibliog J Phys Chem* 37: 765-77 Je '33

Junction potentials between glass and salts in fusion. H. B. Elkins and G. S. Forbes. *Am Chem Soc J* 55:3250-60 Ag '33

Luminescence and crystalline structure. B. E. Cohn. *diag Am Chem Soc J* 55:953-7 Mr '33

Metal-connected glass electrode. M. R. Thompson. *diags U S Bur Stand J Research* 9:833-53 [bibliog p852-3] D '32

Metallized-glass hydrogen electrodes. E. Newbery. *diag Electrochem Soc Trans* 64 (preprint 9):99-110 S '33

Method for the determination of the coefficient of expansion. C. J. Kinzie and C. H. Commons, jr. *diags Am Cer Soc J* 16:1-5 Ja '33

Modified hook-up for routine use of glass electrode. E. C. Gilbert and A. Cobb. *diag Ind & Eng Chem Anal ed* 5:69-70 Ja 15 '33

National auto glass specifications. O. L. Tracy. 449p Standard ptg. co, Denver, Colo. '32

New type of Nessler glass. *diags Chem Age (Lond)* 28:390 Ap 29 '33

**GLASS—Continued**

Les propriétés physique et la fusion du verre, by B. Long. Reviews. *Am Cer Soc J* 16 (Cer A 12):260-1 J1 '33; *Glass Ind* 14:100 S '33; Discussion. 14:112 O '33

Radication of energy through glass. J. L. Blackshaw and F. C. Houghten. *il diags Heating-Piping* 5:523-5 O '33

Roman glass. L. M. Angus-Butterworth. *Glass Ind* 14:65-8 Je '33

Schmelzbereiche von siliciumdioxid-glasoxyd-systemen und einige daraus zu ziehende schlüsse. M. Hollenweger and H. Rumpelt. *il diags Angew Chemie* 46:662-7 O 21 '33

Slag glass. C. A. Basore. *Manuf Rec* 102:68 Ja '33

Some properties of mixed alkali-lime-silica glasses containing dithia, soda, potash and rubidia; abstract. W. E. S. Turner and S. C. Waterton. *Chem Age (Lond)* 29:86 J1 22 '33; Same. *Engineering* 136:87 J1 28 '33

Sorption of water vapor by glass. E. P. Barrett and A. W. Gauger. *diag J Phys Chem* 37:47-51 Ja '33

Study of the volatilization losses from glasses containing potash and silica; abstract. E. Preston and W. E. S. Turner. *Soc Chem Ind J (Chem & Ind)* 52:185 Mr 3 '33

Symposium on glass. G. W. Morey and others. *il Ind & Eng Chem* 25:742-64, 848-72 J1-Ag '33

Über die darstellung und eigenschaften einiger berylliumfluoridgläser. G. Heyne. *il Angew Chemie* 46:473-7 J1 15 '33

Volatilization and vapor tension at high temperatures of the sodium silicate-silica glasses; abstract. E. Preston and W. E. S. Turner. *Am Cer Soc J* 16 (Cer A 12):98 Mr '33

See also

Enamel and enamel-	Pyrex
ing	Silica, Fused
Glass manufacture	Stained glass
Glassware	Windows
Plate glass	

**Analysis**

Chemical analysis of glass. G. E. F. Lundell. *Ind & Eng Chem* 25:853-6 Ag '33

Chemical composition of commercial glasses. D. E. Sharp. *bibliog Ind & Eng Chem* 25:755-64 J1 '33

Rapid method for the estimation of soda in glasses. S. R. Scholes. *Am Cer Soc J* 16:342-3 J1 '33

**Bibliography**

Ceramic abstracts. Published in monthly numbers of American ceramic society journal

**Decolorization**

Color changes in flint glass. A. K. Lyle and D. E. Sharp. *Am Cer Soc J* 16:380-4 Ag '33

Diminution de la teneur en fer des verres décolorés au sélénium. E. Damour and A. Nadel. *Chimie & Ind* 28:1283-8 D '32

**Definition**

Glass is a lobster. F. W. Preston. *Glass Ind* 14:68-9 Je '33

**Gas content**

Gases in glass. R. H. Dalton. *diags Am Cer Soc J* 16:425-32 S '33

**Heat transmission**

Surface absorption of heat from solar radiation. F. G. Hechler and E. R. Queer. *Refrig Eng* 25:89-90 F '33; Abstract. *Heat & Ven* 30:39 Mr '33

**History**

Egyptian glass. L. M. Angus-Butterworth. *Glass Ind* 14:21, 23-4 F '33

**Testing**

Release of strain in glass. J. Bailey and D. E. Sharp. *diags Am Cer Soc J* 16:367-79 Ag '33

Test for chemical resistance of glass containers. F. C. Flint and A. K. Lyle. *Am Cer Soc Bul* 12:296-9 O '33

**GLASS, Colored**

Bent glass signs. C. E. Avery. *il Glass Ind* 14:99 S '33

Selenium ruby glass; preparation and X-ray study. M. H. Bigelow and A. Silverman. *bibliog Am Cer Soc J* 16:214-19 My '33

Les verres colorés pour phares maritimes. A. Blondel. *Génie Civil* 103:262 S 9 '33

See also

Stained glass

**Manufacture**

Great glass mosaic to adorn Rockefeller Center. R. G. Skerrett. *il Glass Ind* 14:4-7+ Ja '33

**GLASS, Heat absorbing**

Windows—and their relation to air conditioning problems. W. W. Shaver. *diags Refriger Eng* 26:133-6 S '33

**GLASS, Laminated**

See also

Glass, Safety

**Manufacture**

Cellulose acetate plastic improves laminated safety glass; comparison with cellulose nitrate plastics. G. B. Watkins and J. D. Ryan. *il Ind & Eng Chem* 25:1192-5 N '33

Laminated safety glass. G. B. Watkins and W. D. Harkins. *il Ind & Eng Chem* 25:1187-92 N '33

Laminated safety glass; a growing field for cellulose plastics. R. H. Miller. *il Plastic Prod* 9:235-7 Ag '33

**Specifications**

Proposed federal specification for laminated plate glass for glazing automobiles. *Glass Ind* 13:199-201 D '32; Same abr. *Safety Eng* 64:255-6 D '32

**GLASS, Opal**

Diffusing glasses for illumination; recent developments in light-diffusing glasses of the spontaneous and controlled types. H. H. Blau. *bibliog il diags Ind & Eng Chem* 25:848-53 Ag '33

Opal glass: a résumé of the work of the B.S.I. sub-committee (ELG/3/2) on light-diffusing glass. S. English. *Illum Engr* 26:4-8 Ja '33; Abstract. *Soc Chem Ind J (Chem & Ind)* 52:38-9 Ja 13 '33

Some aspects of the manufacture of opal glass. W. M. Hampton. *il Illum Engr* 26:48-51 F '33; Abstract. *Soc Chem Ind J (Chem & Ind)* 52:39 Ja 13 '33; Discussion. *Illum Engr* 26:52-3 F '33

Theory and specification of opal diffusing glasses. J. W. Ryde, B. S. Cooper and W. A. R. Stoye. *bibliog il Illum Engr* 26:33-48 F '33; Abstract. *Soc Chem Ind J (Chem & Ind)* 52:39 Ja 13 '33; Discussion. *Illum Engr* 26:52-3 F '33

**GLASS, Optical**

Chemical composition of commercial glasses. D. E. Sharp. *Ind & Eng Chem* 25:761-2 J1 '33

Method for the precise measurement of optical path-difference, especially in stressed glass. R. W. Goranson and L. H. Adams. *il diags J Fr Inst* 216:475-504 O '33

Viscosity of optical glass. W. H. Wadleigh. *diags U S Bur Stand J Research* 11:65-78 J1 '33

See also

Goggles  
Lenses  
Optical instruments

**GLASS, Ornamental**

Bas-relief in wrought glass. *il Glass Ind* 14:88-9 Ag '33

Illuminated glass mural; flight of Amelia Earhart across the Atlantic; new Roxy theatre, Rockefeller Center, New York city. *Architecture* 66:351 D '32

Sculptured glass, a new architectural medium. A. E. Marshall. *il Am Cer Soc Bul* 12:289-90 S '33

**GLASS, Safety**

Armour glass; Britain has a new shatter-proof, twistable glass. *Business Week* p26-7 Ja 11 '33



**GLASS, Safety—Continued**

- Car crash kills girl. *il Safety Eng* 65:55 F '33
- Chemie und automobiltechnik. *Chemische Fabrik* 6:172 Ap 19 '33
- Governor Pinchot signs safety glass protection bill. *Safety Eng* 65:197 Je '33
- Laminated safety glass. G. B. Watkins and W. D. Harkins. *il Ind & Eng Chem* 25:1187-92 N '33
- Laminated safety glass; a growing field for cellulose plastics. R. H. Miller. *il Plastic Prod* 9:235-7 Ag '33
- Manufacture of Triplex safety glass; King's Norton, Birmingham, factory of the Triplex safety glass company, limited. *Engineering* 135:173-4 F 10 '33
- Mythical spectre presented by safety glass; abstract. H. L. Swift. *Transit J* 77:326 O '33
- Ein neues sicherheitsglas. *Chemische Fabrik* 6:253 Je 7 '33
- New safety glass law in New York state; cases of eye injuries caused by flying glass in automobile accidents. *il Safety Eng* 65:161-2 My '33
- New safety glass; Triplex toughened. *il Automobile Eng* 23:356 S '33
- New type of shatter-proof glass; Sekurit. M. Naphtali. *Chem & Met Eng* 39:601 N '32
- Safety engineering goes on the screen; demonstration of safety glass for automobiles. A. C. Carruthers. *il Safety Eng* 64:247-9 D '32
- Safety glass; German chemist's synthetic rubber finds use in shatter-proof glass. *Business Week* p10 O 7 '33
- Safety glass manufacture. *Chem Age (Lond)* 27:472 N 19 '32
- Safety glass; manufacturing procedure at the Triplex works. *il Automobile Eng* 23:257-8 Jl '33
- Safety glass needed in public vehicles. A. C. Carruthers. *Safety Eng* 66:57 Ag '33
- Text of safety glass bill as passed by Nebraska. *Safety Eng* 65:204 Je '33
- Transparent safeguards. R. A. Miller. *Nat Safety N* 28:27+ N '33

*See also*

Glass, Laminated

**Testing**

- Cellulose acetate plastic improves laminated safety glass; comparison with cellulose nitrate plastics. G. B. Watkins and J. D. Ryan. *il Ind & Eng Chem* 25:1192-5 N '33

**GLASS, Structural**

- Glass as a structural and stress-resisting material. F. W. Preston. *diags Am Cer Soc J* 16:163-86 Ap '33

*See also*

Glass brick

**GLASS, Substitutes for**

- Plastics as glass; a summary of illumination characteristics. A. Paulus and C. S. Woodside. *Plastic Prod* 9:268-70 S '33

**GLASS blowing and working**

- Blowing glass containers for varied purposes; T. C. Wheaton company, Millville, N.J. R. G. Skerrett. *il Glass Ind* 14:105-8 O '33

*See also*

Bottle making machinery

Bottles—Manufacture

**GLASS brick**

- Glass-brick walls inclose new buildings. *il plan Eng N* 110:522 Ap 27 '33
- Glass building brick takes practical form. *il Am Bld* 54:32 Ja '33
- Glass houses; new glass bricks are hollow blocks. *Business Week* p18 Ja 4 '33
- Glass terminals and garages, why not? *il Bus Transportation* 12:253 Je '33
- Ohio oil co. builds station with glass blocks. *il Nat Pet N* 25:55 Jl 26 '33

**GLASS construction**

- Glass block building featured at Century of progress fair. *il Glass Ind* 14:91 Ag '33; *Sci Am* 149:128 S '33
- Glass-brick walls inclose new buildings. *il plan Eng N* 110:522 Ap 27 '33

- House in glass and steel; Pierre Chareau, architect. *Arch Forum* 58:302-4 Ap '33
- Messrs Boots' new drug factory, Beeston, Nottinghamshire, England. *il plans Arch Rec* 73:267-73 Ap '33
- Recent developments in architectural ceramics. J. B. Helme. *Am Cer Soc Bul* 12:281-3 S '33
- World's fair visitors curious about Architect Keck's house of tomorrow. *il plans Am Bld* 55:47 Je '33

*See also*

Glass, Structural

Glass brick

**GLASS containers**

- Glass container freight rates greatly reduced. *Glass Ind* 14:111 O '33
- Glass pack coffee; Owens-Illinois goes after the vacuum pack market. *Business Week* p8 Ap 26 '33
- Test for chemical resistance of glass containers. F. C. Flint and A. K. Lyle. *Am Cer Soc Bul* 12:296-9 O '33

*See also*

Bottled goods

Bottles

**Manufacture**

- Blowing glass containers for varied purposes; T. C. Wheaton company, Millville, N.J. R. G. Skerrett. *il Glass Ind* 14:105-8 O '33
- Eternal problem of seed. F. W. Noel. *Glass Ind* 14:1-3 Ja '33

**GLASS factories**

*See also*

Glass furnaces

Glass manufacture

Glass workers

**Equipment**

- Fan, blower and suction pipe systems. J. W. Romig. *Glass Ind* 14:41-3+ Ap '33
- Pressure and suction fans. J. W. Romig. *Glass Ind* 14:75-7 Jl '33

**Management**

- Here's how! motion study cut costs and made better goblets. J. K. Loudon. *il diags Factory & Ind Management* 84:59-61 F '33

**GLASS furnaces**

- Continuous glass furnace and automatic bottle forming machines. J. B. Nealey. *il Am Gas Assn Mo* 15:16-17+ Ja '33
- Gas heat application; general forum on industrial uses of gas. *Am Gas Assn Proc* 1932:618-19
- Methods of melting glass. S. R. Scholes. *il Ind & Eng Chem* 25:870-2 Ag '33
- Refractories for the manufacture of glass. F. S. Thompson and H. M. Kraner. *bibliog il diags Ind & Eng Chem* 25:856-64 Ag '33

*See also*

Glass tanks

**GLASS lining**

- Glass lined equipment at modern American works; illustrations. *Chem Age (Lond)* 28:505 Je 3 '33
- Glass-lined steel equipment in chemical industry. P. S. Barnes. *il Ind & Eng Chem* 25:1080-3 O '33
- How is glass-lined steel equipment made and where is it used? *il Glass Ind* 14:86-7 Ag '33

**GLASS machinery**

- Getriebe bei glasverarbeitungs-maschinen. H. Alt. *il diags Zeit Ver Deutsch Ing* 77:409-14 Ap 22 '33

*See also*

Bottle making machinery

**GLASS making materials**

- Current prices of glass-making materials. Published in monthly numbers of *Glass industry*

**GLASS manufacture**

- Annealing of commercial glassware. F. W. Noel. *diags Glass Ind* 13:175-8, 192-5 N-D '32
- Annealing of glass as a physical problem. L. H. Adams. *J Fr Inst* 216:39-71 Jl '33

**GLASS manufacture—Continued**

- Assyrian text on glass manufacture. A. E. Marshall. *J Chem Educ* 10:267-9 My '33
- Chemical composition of commercial glasses. D. E. Sharp. *bibliog Ind & Eng Chem* 25:755-64 J1 '33
- Diffusing glasses for illumination; recent developments in light-diffusing glasses of the spontaneous and controlled types. H. H. Blau. *bibliog, il diags Ind & Eng Chem* 25:348-53 Ag '33
- Diffusion combustion and its application to glass melting. P. Q. Williams. *il diags Glass Ind* 14:13-21 F '33
- Diminution de la teneur en fer des verres décolorés au sélénium. E. Damour and A. Nadel. *Chimie & Ind* 23:1283-8 D '32
- Discussion of a popular soda-lime tank batch. I. E. Adams. *Glass Ind* 14:55-6 My '33
- Economy and capacity of glass tanks; effect of flame luminosity and of other variables. W. Trinks. *diags Ind & Eng Chem* 25:865-70 Ag '33
- Eternal problem of seed. F. W. Noel. *Glass Ind* 14:1-3 Ja '33
- L'extraction des sables de glacerie à Nemours (Seine-et-Marne). *diag Génie Civil* 102:307-8 Ap 1 '33
- Gas heat application; general forum on industrial uses of gas. *Am Gas Assn Proc* 1932:618-19
- Manufacture of Triplex safety glass; King's Norton, Birmingham, factory of the Triplex safety glass company, limited. *Engineering* 135:173-4 F 10 '33
- Methods of melting glass. S. R. Scholes. *il Ind & Eng Chem* 25:870-2 Ag '33
- Producing glass from furnace slag. C. A. Basore. *Chem & Met Eng* 40:309 Je '33
- Refractories for the manufacture of glass. F. S. Thompson and H. M. Kraner. *bibliog il diags Ind & Eng Chem* 25:856-64 Ag '33
- Safety glass; manufacturing procedure at the Triplex works. *il Automobile Eng* 23:257-8 J1 '33
- Semi-transparent glass from blast furnace slag. *Glass Ind* 13:195+ D '32
- Some aspects of the manufacture of opal glass. W. M. Hampton. *il Illum Eng* 26:48-51 F '33; *Abstract. Soc Chem Ind J (Chem & Ind)* 52:39 Ja 13 '33; *Discussion. Illum Engr* 26:52-3 F '33
- See also*
- Bottles—Manu-  
facture  
Glass, Colored  
Glass factories
- Glass furnaces  
Glassware—Manu-  
facture  
Silica, Fused

**Study and teaching**

- Glass technology course at Alfred university. *Glass Ind* 14:8-9 Ja '33
- Teaching of glass technology. S. R. Scholes. *Am Cer Soc Bul* 12:243-7 Ag '33

**GLASS mountain, California**

- Volcanic history of Glass mountain, northern California. C. A. Anderson. *bibliog il maps Am J Sci* 5th ser 26:485-506 N '33

**GLASS pipes. See Pipes, Glass****GLASS research**

- Contributions to the theory of glass formation and the glassy state. E. Berger. *Am Cer Soc J* 15:647-77 [bibliog p675-71] D '32
- Selenium ruby glass; preparation and X-ray study. M. H. Bigelow and A. Silverman. *bibliog Am Cer Soc J* 15:214-19 My '33

**GLASS tanks**

- Diffusion combustion and its application to glass melting. P. Q. Williams. *il diags Glass Ind* 14:13-21 F '33
- Economy and capacity of glass tanks; effect of flame luminosity and of other variables. W. Trinks. *diags Ind & Eng Chem* 25:865-70 Ag '33
- Stingout openings glass tanks. J. W. Romig. *Glass Ind* 14:115-16 N '33

**GLASS trade**

- See also*
- United glass bottle manufacturers, limited

**Directories**

- Glass factory year book and directory. 1933 edition. 120p \$3 Am. glass review, Century bldg, Pittsburgh '33

**Great Britain**

- Armour glass; Britain has a new shatter-proof, twistable glass. *Business Week* p26-7 Ja 11 '33

**Philippine Islands**

- Glass in the Philippines. W. Buchler. *Glass Ind* 14:122 N '33

**GLASS tubing**

- Heat transfer in an industrial glass heat exchanger. H. C. Bates. *diags Chem & Met Eng* 40:512-13 O '33

**GLASS wool**

- Filters can be used in gravity warm-air systems. F. B. Rowley. *il Heat & Ven* 30:43-4 F '33
- Glass wool cell for measuring aqueous vapor pressure. N. E. Edlefsen. *diags R Sci Instr* 4:345-6 Je '33

**GLASS workers**

- Seventeenth session of the International labour conference; methods of providing rest and alternation of shifts in automatic sheet-glass works. *Int Labour R* 23:328-31 S '33

- Wages and hours of labor in the glass industry, 1932. *Monthly Labor R* 37:917-26 O '33

- Wages and productivity in glass tableware industry of Czechoslovakia and United States. *Monthly Labor R* 36:1059-61 My '33; *Same abr. Glass Ind* 14:72-3 Je '33

**GLASSWARE**

- British start production of cheap glassware. *Glass Ind* 14:8 Ja '33
- Chemical composition of commercial glasses. D. E. Sharp. *bibliog Ind & Eng Chem* 25:755-64 J1 '33
- Glass collecting as a hobby. A. Silverman. *il Glass Ind* 14:118-19, 121 N '33
- Meeting the challenge to premium glassware. W. Fawcett. *Glass Ind* 14:95-6 S '33
- Notable progress in the glass trade. *il Glass Ind* 14:97 S '33

*See also*

- Chemical apparatus      Optical instruments  
Glass, Opal                  Pyrex  
Molds (for glass)

**Design**

- Notes on glass design; with examples of Fostoria glass designed by George Sakier. *il Adv & Sell* 20:sup[Adv Arts] 21-3 Ja '33

**Manufacture**

- Annealing of commercial glassware. F. W. Noel. *diags Glass Ind* 13:175-8, 192-5 N-D '32
- Design of moulds for domestic glassware; abstract. H. W. Howes. *Soc Chem Ind J (Chem & Ind)* 51:1063 D 23 '32
- Here's how! motion study cut costs and made better goblets. J. K. Loudon. *il diags Factory & Ind Management* 84:59-61 F '33
- Moulds; materials and design; abstract. T. Wardley. *Soc Chem Ind J (Chem & Ind)* 51:1063 D 23 '32

**Costs**

- Report to the President on blown-glass tableware. 60p U.S. tariff commission, Washington '33
- Tariff commission report on blown glass tableware costs. *Glass Ind* 14:49-53, 61, 71-3 Ap-Je '33

**GLASSY state**

- Contributions to the theory of glass formation and the glassy state. E. Berger. *Am Cer Soc J* 15:647-77 [bibliog p675-71] D '32

**GLAUBER'S salt. See Sodium sulfates****GLAZES**

- Chemistry and Grecian archaeology. W. Foster. *J Chem Educ* 10:270-1 My '33
- Difficulties in firing decorated whiteware. J. T. Robson. *il Am Cer Soc J* 16:345-55 Ag '33



**GLAZES—Continued**

Glaze adjusting for the plant executive who does not understand chemistry. P. E. Cox. il Brick & Clay Rec 81:198-200; 82:26+ D '32-Ja '33

Zirconium glazes developed for heavy clay products. C. J. Kinzie and C. H. Commons. il Brick & Clay Rec 82:132-3 Ap '33

See also

Enamel and enameling  
Slips (ceramics)

**Testing**

Determination of the effect on wall tile glazes of direct-firing with gas. A. P. Watts. il Am Gas Assn Mo 15:131-3+ Ap '33

**GLEASON, Kate, 1866-1933**

Sketch. Am Mach 77:32d Ja 18 '33; Am Concrete Inst J 4:sup[news letter] 6-7 F '33

**GLENCOE, Illinois****Water supply**

Economy of elevated storage strikingly shown. D. H. Maxwell. il Water Works & Sewerage 80:63-5 F '33

**GLIDDEN company**

Moving from red ink to black. Mag of Wall St 52:528 S 16 '33

**GLIDERS**

Cloud formation and its effect upon gliding. G. T. Walker. il diags Roy Aeronautical Soc J 37:657-76; Discussion. 676-80 Ag '33

Future aspects of the soaring plane. A. C. Loedding. il Aero Digest 21:49-50 D '32

Kleinreise-, sport- und segelflugzeuge, baujahr 1932. E. Bachem. il diag Zeit Ver Deutsch Ing 77:275-7 Mr 11 '33

Kronfeld on gliding and soaring. R. Kronfeld. 379p J. Hamilton, ltd, London '32

Launching of gliders. R. E. Dowd. il Aero Digest 21:72-3 D '32

Soaring on the wings of the wind. A. L. Lawrence. il Sci Am 148:274-6 My '33

Will gliding revive? il Sci Am 148:104-5 F '33

**GLIDING**

Lift and drag characteristics and gliding performance of an autogiro as determined in flight. J. B. Wheatley. il U S Nat Advisory Com for Aeronautics 1932:621-8 '33

**GLOBE and Rutgers fire insurance company**

Annual statement, 34th. Spectator 130:33 F 23 '33

Loses plea to resume active operations now. East Underw 34:17 Ag 18 '33; Nat Underw 37:5+ Ag 17 '33

Presents complete rehabilitation plan to creditors; company given fifteen days to prove solvency. East Underw 34:25-6 My 12 '33; Ins Field (Fire ed) 62:7-8+ My 11 '33; Nat Underw 37:3+ My 11 '33; Spectator 130:25+ My 11; 25 My 18 '33

Rehabilitation. East Underw 34:1, 21+, 22 Mr 31 '33; Ins Field (Fire ed) 62:7-8+ Mr 30; 8-9+ Ap 6 '33; Nat Underw 37:3+ Mr 30; 3+ Ap 6 '33; Spectator 130:29, 32 Mr 30 '33; Weekly Underw 128:630+, 633-4+, 681+ Ap 1-8 '33

Rehabilitation decision delayed. Ins Field (Fire ed) 62:7-8+ Ap 13; 7+ Ap 20; 8+ Ap 27; 9+ My 4 '33; East Underw 34:1+, 36-7 Ap 14 '33; Nat Underw 37:3+ Ap 13; 1+ Ap 20 '33; Weekly Underw 128:725+ Ap 15 '33

Reinsurance transfers from G. & R. ordered. East Underw 34:27 Ag 4 '33; Ins Field (Fire ed) 62:9 Ag 3 '33; Nat Underw 37:2 Ag 3 '33

Seeks order from court to resume business. East Underw 34:17 Jl 14; 18+ Jl 21; 31+ Jl 28 '33

State of Pa. seeks transfer of control from Globe & Rutgers to the American of Newark. East Underw 34:17+ Jl 14 '33; Nat Underw 37:3+ Jl 13 '33

Three new motions seek to free G. & R. reinsurance funds. Insurance Field (Fire ed) 62:7-8 Jl 27 '33; Nat Underw 37:5+ Jl 27 '33

**GLOBE indemnity company**

Review of the 1932 results; abstracts. A. D. Reid. East Underw 34:39+ Mr 3 '33; Ins Field (Fire ed) 62:10+ Mr 2 '33

**GLOBULIN**

Isoelectric point of orange seed globulin. D. C. Carpenter and F. E. Lovelace. il Am Chem Soc J 55:3738-40 S '33

**GLOSS. See Luster****GLOVES**

Dyeing of glove leather. D. Woodroffe. Chem Age (Lond) 28:410 My 6 '33

Gloversville—technocrats' utopia. Business Week p20-1 Je 7 '33

**GLOVES, Rubber****Standards**

New standard specifications for rubber surgeons' gloves. Rubber Age 32:59 O 25 '32; India Rubber W 87:39-40 D '32

**GLOVES, Safety**

Guard those hands! G. E. Burns. il Nat Safety N 27:27-8 Ap '33

**GLUCOCHLORALOSE**

Structure of the chloraloses, alpha and beta-glucochloraloses. A. White and R. M. Hixon. Am Chem Soc J 55:2438-44 Je '33

**GLUCONIC acid**

Action of alkalies on the monobasic sugar acids; conversion of gluconic to mannonic and of galactonic to talonic acids by the action of barium hydroxide. H. T. Bonnett and F. W. Upson. Am Chem Soc J 55:1245-8 Mr '33

Oxidation of 5-keto-gluconic acid with nitric acid in the presence of vanadium. W. E. Barch. Am Chem Soc J 55:3653-8 S '33

**GLUCOSAMINE**

Colorimetric methods for the estimation of glucosamine and acetyl-N-glucosamine; abstract. L. A. Elson and W. T. J. Morgan. Soc Chem Ind J (Chem & Ind) 52:844-5 O 20 '33

**GLUCOSE**

Gluconeogenesis from fat; abstract. J. R. Murlin. Science 77:456 My 12 '33

Glucose industry. A. E. Williams. il Engineering 135:237-8, 397-9 Mr 3, Ap 14 '33

Molecular structure of a polysaccharide produced from glucose by a new species of penicillium and containing units of glucose, galactose, and an unusual hexose; abstract. W. N. Haworth, H. Raistrick and M. Stacey. Soc Chem Ind J (Chem & Ind) 51:980 N 25 '32

Oxidation of alpha and beta glucose and a study of the isomeric forms of the sugar in solution. H. S. Isbell and W. Pigman. U S Bur Stand J Research 10:337-56 Mr '33

Production from glucose of mycophenolic acid and four new phenolic acids by penicillium brevicompactum Dierckx and allies; abstract. P. W. Clutterbuck and others. Soc Chem Ind J (Chem & Ind) 51:979-80 N 25 '32

See also

Dextrose

**GLUCOSE pentaacetate**

Rotatory dispersion of organic compounds; rotatory dispersion and circular dichroism of aldehydic sugars. H. Hudson, M. L. Wolf from and T. M. Lowry. Chem Soc J p1179-92 S '33

**GLUCOSIDES**

Natural glycosides; ruberythric acid. E. T. Jones and A. Robertson. Chem Soc J p1167-9 S '33

Natural glycosides: the hexose residue of phloridzin. A. Müller and A. Robertson. Chem Soc J p1170-2 S '33

Researches on nitrogenous glycosides; the synthesis of glycosido ureides. K. M. Harding and T. B. Johnson. Am Chem Soc J 55:395-402 Ja '33

Some new substituted glucosides. T. M. Reynolds. Chem Soc J p223-6 Mr '33

**GLUCOSIDES—Continued**

Syntheses of glucosides; methyl salicylate vicianoside (? violutoside), A. Robertson and R. B. Waters. *Chem Soc J* p2770-1 N '32

See also

Indican

**GLUE**

Bone glue association offers prizes for uses. *Oil Paint & Drug Rep* 123:14 Mr 27 '33

Estimation of dextrin in the presence of glue. J. Alexander. *Ind & Eng Chem Anal* ed 5:200 My 15 '33

Glue production, 1930-1932. *Oil Paint & Drug Rep* 123:27 Ap 10 '33

Phenolic-resin glues for plywood. A. J. Norton; P. S. Hill. *Mech Eng* 55:649-50 O '33

Le problème du collage dans l'industrie du contre-plaqué. A. Hecquet. *Chimie & Ind* 29:262-7 F '33

To distinguish between glue and casein. *Textile Col* 55:44 Ja '33

Uses of glue and gelatine in the textile industries. A. H. Fettinger. *Am Dyestuff Rep* 22:489-90 Ag 14 '33

See also

Gelatin

**Testing**

Die bestimmung der gallertfestigkeit von leim und gelatine. E. Sauer. *diag Chemische Fabrik* 6:293-5 Jl 5 '33

Ein neuer elastometer zur bestimmung der gallertfestigkeit und des elastizitätsmoduls von leim- und gelatine-gallerten. E. Goebel. *il diag Chemische Fabrik* 6:156-7 Ap 5 '33

**GLUTA CONIC acid**

Chemistry of the glutaric acids; the catalytic effect of acids on the rate of racemisation of *l-trans- $\alpha$ -dimethylglutaric acid*. J. S. Fitzgerald and J. Packer. *Chem Soc J* p595-600 Je '33

**GLUTAMIC acid**

Conductivities of aspartic acid and of glutamic acid and certain of their salts and the influence of temperature thereon. S. Miyamoto and C. L. A. Schmidt. *tables Calif Univ Pub in Physiology* v 8, no 2:9-20 '32

**GLUTARIC acid**

Syntheses of cyclic compounds; the thermal decomposition of substituted glutaric acids;  $\beta\beta$ -dimethylglutaric, cyclopentane- and cyclohexane-1:1-diacetic acids, and the mechanism of the reaction. A. I. Vogel. *Chem Soc J* p1028-31 Ag '33

**GLUTATHIONE**

Glyoxalase activity of the red blood cell; the function of glutathione; abstract. M. Jowett and J. H. Quastel. *Soc Chem Ind J (Chem & Ind)* 52:160-1 F 24 '33

**GLUTEN**

Effect of the addition of oils and fats to doughs on the composition of the washed-out glutes. E. A. Fisher and P. Halton. *Soc Chem Ind J* 52:195T-8T Je 30 '33

Examination of the claim that the swelling of gluten in acid solution is a satisfactory foundation for the evaluation of flour quality. E. A. Fisher and P. Halton. *Soc Chem Ind J* 52:91T-7T Ap 7 '33

**GLYCERIDES**

Doubly conjugated system in the glycerides of  $\alpha$ - and  $\beta$ -oleostearic acids. R. S. Morrell, S. Marks and H. Samuels. *Soc Chem Ind J* 52:130T-2T My 5 '33

Examination of certain azelao-glycerides obtained during the oxidation of some simple synthetic and natural glycerides. T. P. Hilditch and S. A. Saletore. *Soc Chem Ind J* 52:101T-5T Ap 21 '33

Fatty acid and glyceride structure of the seed fat of myristica malabarica. G. Collin. *Soc Chem Ind J* 52:100T Ap 7 '33

Study of some Indian seed fats; mowha (bassia latifolia) and tamal (garcinia morella) fats. D. R. Dhingra, G. L. Seth and P. C. Speers. *bibliog Soc Chem Ind J* 52:116T-18T Ap 28 '33

Synthetic glycerides; esters of aromatic and aliphatic acids. D. T. Jackson and C. G. King. *Am Chem Soc J* 55:678-80 F '33

**GLYCERIN**

Change in the transformation temperature of copper sulfate at 56°C. with the solvent medium. H. J. Abrahams and W. W. Lucasse. *J Phys Chem* 37:521-4 Ap '33

Glycerine from sugar. *Chem Age (Lond)* 28:149 F 18 '33

Glycerin production and sales declined in 1932. *Oil Paint & Drug Rep* 123:33 F 27 '33

Lubricating properties of greases from petroleum oils. F. H. Rhodes and H. D. Allen. *diags Ind & Eng Chem* 25:1275-80 N '33

Resinification of glycerol; sulfates and sulfites as catalysts. S. N. Ushakov and E. M. Obriadina. *Ind & Eng Chem* 25:997-1001 S '33

Retention of glycerol and glycols by cellophane and cotton cellulose. R. S. Shutt and E. Mack, jr. *bibliog diag Ind & Eng Chem* 25:687-92 Je '33

Use of glycerol in iodometry. A. T. Bawden and S. K. Dyche. *Ind & Eng Chem Anal* ed 5:347 S 15 '33

Versuche über die carbonatbildung bei bleiglätte-glycerin-kitt. Typke. *Angew Chemie* 46:20-1 Ja 7 '33

**GLYCEROL.** See Glycerin

**GLYCIDOL**

C<sub>4</sub>-saccharinic acids; further attempts to prepare 2,2'-dihydroxyisobutyric acid; 2,3-dihydroxybutyric acid lactone from glycidol; the preparation of the two isodihydrins of glycerol. J. W. E. Glattfeld and R. Klaas. *Am Chem Soc J* 55:1114-19 Mr '33

**GLYCOGEN**

Sources of quick muscle energy. J. Sacks. *Sci Am* 149:126-7 S '33

**GLYCOL**

Effect of ethylene glycol upon the activity of sulfuric acid in aqueous solutions. H. M. Trimble and P. F. Ebert. *diags Am Chem Soc J* 55:958-68 Mr '33

Monothioethylene glycol; aryl  $\beta$ -hydroxy- and  $\beta$ -chloro-ethyl sulphides. G. Baddeley and G. M. Bennett. *Chem Soc J* p46-8 Ja '33

**GLYCOL borates**

New possibilities in the lubrication of textile fibers. C. B. Ordway. *Am Dyestuff Rep* 22:638-40 O 23 '33

**GLYCOLIC acid**

New group of plasticizers; the esters of phthalic and glycollic acids. T. S. Carswell and A. Kirkpatrick. *Plastic Prod* 9:361-2 N '33

**GLYCOLLIC acid.** See Glycolic acid

**GLYCOLS**

Researches on pyrimidines; uracil-glycol. T. B. Johnson and E. Dyer. *Am Chem Soc J* 55:3781-3 S '33

Retention of glycerol and glycols by cellophane and cotton cellulose. R. S. Shutt and E. Mack, jr. *bibliog diag Ind & Eng Chem* 25:687-92 Je '33

**GLYCOSIDES.** See Glucosides

**GLYOXALASE**

Glyoxalase activity of the red blood cell; the function of glutathione; abstract. M. Jowett and J. H. Quastel. *Soc Chem Ind J (Chem & Ind)* 52:160-1 F 24 '33

**GLYPTAL**

Glyptal used in oil-resisting heat-resisting cable. *Rubber Age* 33:108 Je '33

Sorption of organic vapors by glyptal resins. C. H. Winning and J. W. Williams. *diag J Phys Chem* 36:2915-35 D '32

Sorption of organic vapors by resinous and cellulosic materials. C. H. Winning and J. W. Williams. *Am Chem Soc J* 55:3560-9 S '33

**GOGGLES**

Eye saved. S. J. Owen, jr. *il Nat Safety* N 28:23-4 Ag '33

Goggles. W. F. Weber. *il Safety Eng* 65:123-4 Ap '33

Goggles reduce eye accidents. *Safety Eng* 66:57 Ag '33



**GOGGLES—Continued**

- Goggles worth \$2,000 a pair; protection of workers' eyes by Pennsylvania department of highways. H. D. Immel. *il Safety Eng* 65: 7-8 Ja '33
- How to prevent eye injuries. G. A. Kuechenmeister. *il Safety Eng* 66:119-22+ O '33
- More goggles needed in Ohio. *Safety Eng* 64: 216 N '32
- Willson new transparent cup goggles. *il Safety Eng* 65:145 Ap '33; Same. *Blast F & Steel* Pl 21:272 My '33

**GOITER**

- Endemic goiter in Switzerland. R. Olesen. *Pub Health Rep* 48:651-65 Je 9 '33
- Goiter prevention with food plants grown on iodized soil. K. G. Zwick. *Science* 77:627-8 Je 30 '33
- Incidence of endemic goiter in northeastern Germany. R. Olesen. *map Pub Health Rep* 48:1074-81 S 1 '33
- Inheritance of disease. C. B. Davenport. *il diags Sci Am* 149:162-4 O '33
- Is goiter due to an iodine deficiency per se? H. Levine and R. E. Remington. *il J Chem Educ* 10:649-59 [bibliog p658-9] N '33
- Muscular weakness in Graves' disease. E. Shorr, H. B. Richardson and H. G. Wolff. *Science* 77:sup8 Je 9 '33

**GOLD**

- Bull market in gold goes on. J. C. Clifford. *Mag of Wall St* 52:572-3+ S 30 '33
- Business by-paths. *Econostat* 1:21 Mr 25 '33
- Buying and selling gold; how the London bullion market works. P. Arnold. *Barron's* 13:9 S 25 '33
- Buying and selling of old gold and other precious metals. C. M. Hoke. *Metal Ind* 31: 55-7 F '33
- Can prices be lifted by federal gold operations? T. M. Knappen. *Mag of Wall St* 53:66+ N 11 '33
- Chemistry in the service of Egyptology. L. C. Newell. *il J Chem Educ* 10:262-4 My '33
- Colloid gold. *Science* 77:sup8 Mr 10 '33
- Economic aspects of gold and silver; a review of recent publications by the United States Bureau of mines, together with three papers, by S. Turner. *bibliog U S Bur Mines Information Circ* 6740:1-13 '33
- Executive order relating to the sale and export of gold recovered from natural deposits. *Fed Res Bul* 19:537-8 S '33
- Fine gold and platinum of Snake river, Idaho. T. H. Hite. *il Econ Geol* 28:256-65 [bibliog p264-5] My '33
- Fine structure of electron diffraction beams from a gold crystal and from a silver film on a gold crystal. H. E. Farnsworth. *Phys R* 43:900-6 Je 1 '33
- \$500,000,000 a year production at new U.S. assay office. J. P. Hickman, jr. *il Am Bankers Assn J* 25:38 Ja '33
- Geology and gold deposits of the North Moccasin mountains, Fergus county, Montana. J. E. Blixt. 25 1 [bibliog p24-5] Montana school of mines, Butte '33
- Gold; a world problem; addresses delivered before the round table meetings held by the Academy of world economics of Washington. J. Donaldson, ed. *Ann Am Acad* 165: 167-227 Ja '33; published separately pa 35c
- Academy of world economics, Washington, D. C. '32
- Gold and world trade. J. R. Finlay. *Min & Met* 14:122-6 Mr '33; Discussion. V. L. Havens. 14:196 Ap '33
- Gold market. *Business Week* p22-3 Jl 29 '33
- Gold producers obtain export privilege. *Eng & Min J* 134:386 S '33
- Gold regulations prescribed by the Secretary of the Treasury under the Executive order relating to the sale and export of gold recovered from natural deposits. *Fed Res Bul* 19:608-10 O '33
- Gold ruling and the future. E. H. Clark; P. R. Bradley. *Eng & Min J* 134:404 O '33
- Heat of sorption of water vapor by massive gold. E. P. Barrett. *Am Chem Soc J* 55: 4006-9 O '33
- Hyperfine structure and nuclear moment of gold. J. Wulff. *Phys R* 44:512 S 15 '33
- Liquid gold; abstract. L. Chalmers. *Am Cer Soc J* 16 (Cer A 12):91 Mr '33

- Mountain of gold; sensational developments in South Africa's Rand which produces almost 50% of the world's gold. *Barron's* 12:8 N 21 '32
- Shall we sell gold? new ruling seems to indicate gold ore exports can again be expected. *Business Week* p22 Ag 5; 14 Ag 26 '33
- Solubility of oxygen in gold and in certain silver-gold alloys. F. J. Toole and F. M. G. Johnson. *bibliog J Phys Chem* 37:331-46 Mr '33
- Special features of fine gold from Snake river, Idaho. T. H. Hite. *il Econ Geol* 28: 686-91 N '33
- Sur l'or de l'eau de mer. A. Gourévitch. *Chimie & Ind* 29:284 F '33
- Thermal effects produced by the exposure of massive gold to saturated water vapor. F. Barry and E. P. Barrett. *diag Am Chem Soc J* 55:3088-98 Ag '33
- Thermodynamic properties of solid solutions of gold and silver. A. Wachter. *Am Chem Soc J* 54:4609-17 D '32
- We buy gold abroad. *Business Week* p3-4 N 4 '33
- World must come back to gold; output is rising to new peaks. H. Dodge. *Mag of Wall St* 51:144-6+ N 26 '32

*See also*

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| Gold as money   | Gold mines and mining |
| Gold dredging   | Gold ores             |
| Gold metallurgy | Jewelry               |

**Prices**

- Gold market; first offering of newly mined gold brings \$29.62. *Business Week* p30-1 S 16 '33
- Gold prices at New York. *Barron's* 13:13 N 6 '33
- Price of gold. *Business Week* p22+ O 7 '33
- Relationship of gold prices to security and commodity prices since April 17, 1933; tabulation. *Barron's* 13:6 N 6 '33

**Standards**

- Recommended commercial standard for marking gold filled and rolled gold plate articles other than watch cases. *J Fr Inst* 216:647-8 N '33

**Statistics**

- Canadian gold output increasing; developments at depth favorable. L. D. Huntoon. *Min & Met* 14:81-2 F '33
- Gold production. Published in monthly numbers of Federal reserve bulletin
- Gold production, January 1933; January-December 1932; 1931. *Annalist* 41:364 Mr 10 '33
- Gold production, monthly, 1929-1933. *Fed Res Bul* 19:233-5 Ap '33
- Increasing ratio of gold production to business. P. E. Barbour. *Ann Am Acad* 165:176-80 Ja '33
- India supplies a third of gold output. *Min Cong J* 19:15 F '33
- Is it gold inflation? T. H. Price. *Comm & Fin* 22:144 F 8 '33
- Observations on the present status of the gold mining industry of the Dominion of Canada. H. S. Denny. *Can Min J* 54:196-8, 227-32 My-Je '33
- Production of gold and silver in the United States in 1932. *Min Cong J* 19:15 F '33
- Production of gold for 1932 was \$475 millions. *Business Week* p4 F 1 '33
- Some new records in gold. G. E. Anderson. *Barron's* 13:18-19 Mr 20 '33
- World gold production at record high in 1932. *Annalist* 41:197 F 3 '33

**Transportation**

- Union convention hits big gold risks. *East Underw* 33:29 O 21; 28 D 2 '32

**GOLD alloys**

- King Tut's purple gold. *Science* 77:sup9 Ja 6 '33; Same abr. *Sci Am* 148:181-2 Mr '33
- Solubility of oxygen in gold and in certain silver-gold alloys. F. J. Toole and F. M. G. Johnson. *bibliog J Phys Chem* 37:331-46 Mr '33

**GOLD alloys—Continued**

Structure analogies of alloys. A. Westgren. *Il diags Am Soc Steel Tr Trans* 20:507-28 D '32

**GOLD as money**

A propos de l'abandon de l'étalon-or. M. Israël. *Chimie & Ind* 30:717-24 S '33  
American dollar at home and abroad. T. M. Knappen. *Mag of Wall St* 52:58-60+ My 13 '33

As I see it; worth its weight in gold. C. Benedict. *Mag of Wall St* 52:411 Ag 19 '33  
B.I.S. and the gold standard. L. Pasvolsky. *Barron's* 12:5 D 26 '32

Best year for gold and the worst for silver. S. Turner. *Min & Met* 14:4-6 Ja '33

Bonds and the gold clause. J. U. Grissinger. *Barron's* 13:10 Ap 24 '33

British view of gold standard and American monetary policies. R. McKenna. *Trust Companies* 56:167-9+ F '33

Career of gold and silver since 1817. H. M. Bratter. *Am Bankers Assn J* 25:31-2+ D '32

Did gold cause the depression? *Nat City Bank* p118-22 Ag; 134-40 S; 151-7 O '33

Dollar ignores gold theory; how administration's new gold policy conflicts with world values. C. R. Harrower. *Barron's* 13:4 O 30 '33

Effect of depreciated currencies, as shown by official statistics. R. S. Tucker. *Annalist* 41:595-6 Ap 28 '33

Function of money and the gold standard. *Can Min J* 54:9-11 Ja '33

Functioning of the gold standard. F. Mlynarski. 115p pa 80c World peace foundation '31

Functions of the gold standard. *Nat City Bank* p59-62 Ap '33

Gold: a world problem; addresses delivered before the round table meetings held by the Academy of world economics of Washington. J. Donaldson, ed. *Ann Am Acad* 165:167-227 Ja '33; published separately pa 35c Academy of world economics, Washington, D. C. '32

Gold and prosperity. S. J. Anderson. *Mag of Wall St* 51:538+ Mr 4 '33

Gold and world trade. J. R. Finlay. *Min & Met* 14:122-6 Mr '33; Discussion. V. L. Havens. 14:196 Ap '33

Gold bloc. *Economist* 117:sup8-10 O 14 '33

Gold bloc; Europe's gold countries win first round in gold standard maintenance bout. L. Pasvolsky. *Barron's* 13:11 S 4 '33

Gold currency unit for international exchange. H. Adams. *Eng & Min J* 134:169 Ap '33; Discussion. 134:299-300, 393-4 Jl S '33

Gold holds the spotlight in 1932. *Il Bradstreet's* 61:139-43 Ja 28 '33

Gold movements. Published in monthly numbers of Federal reserve bulletin

Gold movements in 1932. *Economist* 116:285-7 F 11 '33

Gold question. *Nat City Bank* p40-7 Mr '33

Gold reserves of central banks and governments. Published in monthly numbers of Federal reserve bulletin

Gold reserves of central banks and governments, 1913-33. *Fed Res Bul* 19:368-72 Je '33

Gold standard expires. J. S. Lawrence. *Econostat* 1:8-10+ Ap 22 '33

Gold standard in countries producing primary goods. W. C. Ballaine. *J of Business* 6:36-54 Ja '33

Gold standard in theory and practice. R. G. Hawtrey. 3d ed 248p Longmans '33

Gold standard is a lady. *Bradstreet's* 60:1733+ D 31 '32

Gold standard past and present. *Dun & Bradstreet* 41:4-6 My '33

Götterdämmerung of gold; foreign exchange restrictions promulgated. *Business Week* p5 Mr 22 '33

International gold notes. *Economist* 116:853-4 Ap 22 '33

Is a devalued dollar necessary to start industry? T. M. Knappen. *Il Mag of Wall St* 51:612-14+ Ap 1 '33

New gold standard? the true purpose of the gold basis, and how specie payments interfere. C. R. Harrower. *Barron's* 13:3+ Ap 3 '33

1931 and 1933—a contrast. *Economist* 117:60-1 Jl 8 '33

Payable in gold coin; constitutionality of legislation defeating the intent of the gold clause in private obligations. J. D. Du Bois. *Barron's* 13:3+ My 15 '33

Preparatory commission's vague report. L. Pasvolsky. *Barron's* 12:5 D 19 '32

Problem before the World conference. L. S. Amery. *Gas J (Lond)* 202:405-7 My 17 '33

Relation of gold to prices; abstract. F. A. Pearson. *Am Statis Assn J* 27:432-3 D '32

Relationship of gold to prices. G. F. Warren and F. A. Pearson. *Am Statis Assn J* 28:sup118-26; Discussion. E. W. Kemmerer. 126-32 Mr '33

Report of the gold delegation of the financial committee. 83p pa 60c World peace foundation '32

Social consequences of a return to gold: an analysis of certain current proposals for an international monetary standard. P. W. Martin and E. J. Riches. *Int Labour R* 27:25-50 Ja '33

Some new records in gold. G. E. Anderson. *Barron's* 13:18-19 Mr 20 '33

Sound money—an anachronism. J. S. Lawrence. *Econostat* 1:8-10 My 6 '33

Sound money versus inflation as essential to business recovery. F. I. Kent. *Trust Companies* 56:665-9 Je '33

Story of money. N. Angell. 411p \$1 Garden City pub. co, inc. Garden City, N.Y. '29

Tyranny of gold. W. R. Hiskett. 108p 2s 6d Williams & Norgate ltd, London '32

We buy gold abroad. *Business Week* p3-4 N 4 '33

What happened to last year's gold? *Economist* 116:346 F 18 '33

What of the money metals? *Comm & Fin* 22:85 Ja 18 '33

What price gold? unsettled monetary conditions make the future obscure. H. D. Keiser. *Il Eng & Min J* 134:325-7 Ag '33

World monetary position eased by increased output and dehoarding of gold. D. W. Ellsworth. *Annalist* 40:771-2 D 9 '32

World must come back to gold; output is rising to new peaks. H. Dodge. *Mag of Wall St* 51:144-6+ N 26 '32

World's gold reserves and commodity prices; memorandum and statistics. J. Kitchin. *Economist* 116:sup1-4; Editorial comment. 107-8 Ja 21 '33

World's new flood of monetary gold. J. A. Moffitt. *Barron's* 12:20 D 26 '32

See also

Money

**France**

France fights for gold. J. C. Cresswill. *Mag of Wall St* 52:367-8+ Ag 5 '33

What chance for the franc? C. R. Hargrove. *Barron's* 13:18 O 30 '33

Will France desert gold? J. S. Lawrence. *Econostat* 1:8-10 Jl 1 '33

**Germany**

Germany and gold. R. R. Kuczynski. *Ann Am Acad* 165:207-9 Ja '33

**Great Britain**

Britain and gold. *Economist* 115:917-18 N 19 '32

Gold movements this year. *Economist* 117:399-400 Ag 26 '33

Great Britain and gold; why the exchange equalization fund was increased. L. Pasvolsky. *Barron's* 13:5+ My 22 '33

Great Britain and the gold standard. H. F. Fraser. 206p Macmillan '33

Pound sterling, debts and Empire. C. J. S. Sprigge. *Bankers M* 126:437-41 My '33

Return to gold; is the gold standard needful for recovery? T. E. Gregory. *Barron's* 13:18 Ag 28 '33

Sterling and the price level. *Economist* 115:1225-7 D 31 '32



GOLD as money—*Continued*

## Poland

Gold zlotys; Poland has returned to the gold standard. *Business Week* p21 F 22 '33

## South Africa

South Africa and gold. *Economist* 116:4-5 Ja 7 '33

South Africa and the gold standard. *Economist* 115:1231 D 31 '32

## United States

Abrogation of gold clauses. *Fed Res Bul* 19: 333-8 Je '33

Analysis of changes in monetary gold stock. Published in monthly numbers of Federal reserve bulletin

Dollar protection in foreign bonds. *M. Winkler. Mag of Wall St* 52:19+ Ap 29 '33

Dollars down, pounds up. *Business Week* p4-5 My 3 '33

Domestic and international stabilization of monetary standards. *H. H. Preston. Trust Companies* 57:11-16 J1 '33

Dropping the golden ballast. *Econostat* 1:5 Je 3 '33

Excerpts from New York Times on gold embargo. *Management R* 22:138-9 My '33

Executive order forbidding the hoarding of gold coin, gold bullion and gold certificates. *Fed Res Bul* 19:213-15 Ap '33

Executive order relating to foreign exchange and the earmarking and export of gold coin or bullion or currency and Treasury regulations relating to licensing the purchase and export of gold. *Fed Res Bul* 19:266-9 My '33

Executive order relating to the hoarding, export, and earmarking of gold coin, bullion, or currency and to transactions in foreign exchange. *Fed Res Bul* 19:534-7 S '33

Fall of the dollar. *Economist* 116:849-50 Ap 22 '33

Free gold market in America is urged. *H. Fisher. Mag of Wall St* 52:309-11+ J1 22 '33

Gold and silver. *Min Cong J* 19:11-12 N '33

Gold as a measuring rod of value. *C. H. Fowler. Trust Companies* 57:401-5 O '33

Gold clause. *Business Week* p6-7 Je 7 '33

Gold clause. *R. L. Garis. Ann Am Acad* 165: 219-27 Ja '33

Gold clause; until the courts decide otherwise, the answer seems to be "try and get it." *Business Week* p8 My 10 '33

Gold embargo. *Economist* 116:963-4 My 6 '33

Gold market. *Business Week* p22-3 J1 29 '33

Gold movements to and from United States. Published in monthly numbers of Federal reserve bulletin

Gold regulations prescribed by the Secretary of the Treasury under the Executive order relating to the hoarding, export, and earmarking of gold coin, bullion, or currency, and to transactions in foreign exchange. *Fed Res Bul* 19:599-608 O '33

Gold standard and the administration's general economic programme. *B. M. Anderson, jr. Chase Econ Bul* 13:3-21 My 6 '33

Gold stocks at the crossroads; higher costs and fixed prices offer tough problem. *Econostat* 1:5 J1 15 '33

Inflation begins; definite abandonment of the gold standard the first step. *Business Week* p3-4; Editorial comment. 32 Ap 26 '33

Inflation, gold and money. *W. H. Harris. Comm & Fin* 22:437 My 17 '33

Legal aspects of proposed legislation affecting the value of the dollar. *A. W. Fribourg. Analyst* 41:597 Ap 28 '33

Mint receipts and gold-mining activity increase under new monetary policy. *Eng & Min J* 134:497-8 N '33

Monetary gold stock of the United States, gold reserves of Federal reserve banks, and gold in circulation, November 1914-March 1933. *Fed Res Bul* 19:259-60 Ap '33

Net gold imports [or exports] including changes in earmarked gold, monthly, 1923-1932. *Survey of Cur Business* 12:20 D '32

New gold standard? the true purpose of the gold basis, and how specie payments interfere. *C. R. Harrower. Barron's* 13:3+ Ap 3 '33

One-way gold market will strengthen dollar and support monetary policies abroad. *Econostat* 1:7 S 2 '33

Plight of the dollar. *Comm & Fin* 22:230-1 Mr 8 '33

Preserving the gold standard and perils of inflation. *C. F. Childs. Trust Companies* 56: 431-2 Ap '33

Repeal of the gold clause. *il Burroughs Clearing House* 17:9+ J1 '33

Repeal of the gold clause. *S. C. Badger. Barron's* 13:15 My 29 '33

Study in the government policy of gold purchase. *J. F. Wohlgenuth. Nat Underw* 37: 4+ N 2 '33

United States and gold. *R. A. Young. Ann Am Acad* 165:210-18 Ja '33

Woodin reversed; those gold exports to support the dollar upset the Brain Trust plans. *Business Week* p7-8 My 3 '33

## GOLD COAST, Africa

*See also*

Gold mines and mining—Gold Coast, Africa

## GOLD dredging

Bulolo gold-dredging enterprise. *F. W. Griffin. il Min & Met* 13:528+ D '32

Description of the property and operations at the Lewiston dredge, Lewiston, Calif. *L. K. Requa. diag maps plan U S Bur Mines Information Circ* 6660:1-14 '32

Development of gold dredging. *M. L. Summers. Min & Met* 14:106 F '33

Development of limited dredging areas with stacker scow and dragline excavator. *W. F. Boericke. il diag Min & Met* 14:209-10 Ap '33

Fine gold and platinum of Snake river, Idaho. *T. H. Hite. il Econ Geol* 28:256-65 [bibliog p264-5] My '33

Methods and costs of dredging auriferous gravels at Lancha Plana, Amador county, Calif. *C. G. Patmon. flow sheet diags U S Bur Mines Information Circ* 6659:1-16 '32

Thawing and dredging gold at Fairbanks, Alaska. *R. H. Ogburn. il Min & Met* 14:214-16 My '33

## GOLD metallurgy

Amalgamation-flotation of gold ore; metallurgical operations at the Boise-Rochester mill of the St Joseph lead company. *S. Campbell. flow sheet il Eng & Min J* 134: 188-90 My '33

Centrifugal separator for recovery of placer gold. *J. B. Girard. Min Cong J* 19:23-4 F '33

Coarse flotation. *diags Can Min J* 54:276-7 J1 '33

Developments in flotation-cyanidation. *L. E. Tucker and S. J. Swainson. Eng & Min J* 133:618-20 D '32

Le développement de l'industrie des mines d'or en Roumanie. *C. Berthelot. il diags map Génie Civil* 103:373-7 O 14 '33

Flotation on the mother lode; Idaho Maryland mines co, Grass Valley, Calif. *E. W. Ellis. flow sheet il Eng & Min J* 134:382-3 S '33

Gold blankets used in Bussieres mill. *P. R. Bradley. Eng & Min J* 134:284 J1 '33

Gravity milling and flotation of low-grade gold ore; Beebe gold mining company. *J. B. Hutt. flow sheet il diag Eng & Min J* 133: 630-1 D '32

Hoge mill; fifty-ton plant treats gold ore formerly unworkable. *F. G. Moses. flow sheet il Eng & Min J* 134:422-4 O '33

Homestake mine. *J. Simmons. il Can Min J* 54:299-304 Ag '33

Loss of oxygen in cyanide solutions. *H. V. Wallace. Min & Met* 13:522-3 D '32

McIntyre metallurgy; flotation and cyanidation. *J. J. Denny. flow sheet il diags plan Eng & Min J* 134:472-84 N '33

Metallurgical practice at a famous gold mine; mill at Morro Velho, Brazil, of the St John del Rey mining company. *Eng & Min J* 134:139 Ap '33

**GOLD metallurgy—Continued**

- Metallurgy of gold. A. J. Clark. *Min & Met* 14:15-16 Ja '33
- Microscope reveals influence of mill grinding on floatability of gold. G. L. Oldright and R. E. Head. *bibliog il Eng & Min J* 134:228-32 Je '33; Discussion. J. W. Neill. 134:349 Ag '33
- Milling methods and costs at the Golden Cycle mill, Colorado Springs, Colo. L. S. Harner. *flow sheets U S Bur Mines Information Circ* 6739:1-18 '33; Excerpts. *Min Cong J* 19:19 N '33
- Milling practice of Roumanian gold mines. G. Quittkat. *flow sheets il Can Min J* 53:531-6 D '32
- Operating results obtained with Hadsel mill indicate economical reduction. H. Hardinge. *il diag Eng & Min J* 134:82-4 F '33
- Pioneer mill. H. G. Nichols. *flow sheet il Can Min J* 54:5-8 Ja '33
- Progress in the metallurgy of Porcupine and Kirkland Lake ores. H. Hanson. *il Can Min J* 54:221-3 Je '33
- La Roumanie minière. C. Berthelot. *diags Soc Ing Civils Bul* 86:467-77 Mr '33
- Scope for gold-ore flotation. C. F. Jackson and J. B. Knaebel. *Eng & Min J* 134:100 Mr '33
- Tellurides—problem or alibi? W. E. Johnston. *Eng & Min J* 134:333-4 Ag '33; Discussion. 134:412-13 O '33
- To recover and clean gold amalgam from a battery. *Can Min J* 54:345 S '33
- Le traitement des minerais aurifères par la cyanuration continue. C. Berthelot. *il diag Génie Civil* 102:485-90 My '33
- Treating gold ores. T. G. Chapman. *Arizona State Bur of Mines Bul v 3, no 2:1-32 '32*
- Treating high-acid gold ore in Cyprus. C. A. Rose. *Eng & Min J* 134:160 Ap '33
- Treatment at Treadwell-Yukon Bussieres mine in north western Quebec. *Can Min J* 54:180 My '33
- Wooden rocker recovers fine gold. *il Eng & Min J* 134:16 Ja '33

*See also*

Cyanide process  
Gold alloys

**GOLD miners****Ontario**

- Safety and health, major considerations at the McIntyre. A. D. Campbell. *il plan Eng & Min J* 134:492-6 N '33

**Transvaal**

- Miners' phthisis in South Africa. *Monthly Labor R* 35:1086-7 N '32

**GOLD mines and mining**

- Best year for gold and the worst for silver. S. Turner. *Min & Met* 14:4-6 Ja '33
- Boom in gold stocks. *Can Chem & Met* 17:32 F '33
- Bull market in gold goes on. J. C. Clifford. *Mag of Wall St* 52:572-3+ S 30 '33
- Central Canada's gold belts; a comparison with Western Australia, India, and Southern Rhodesia. C. W. Knight. *map Can Min J* 54:98-101 Mr '33
- Cost of making a mine; details of expenditures at the Ashley gold mine. *flow sheet Can Min J* 54:233-6 Je '33
- Essentials for a preliminary report on a small lode-gold mine or prospect, with notes on sampling. C. W. Wright. *diags U S Bur Mines Information Circ* 6748:1-11 '33
- Four new important finds. *Business Week* p6 D 14 '32
- Gold boom; London, Johannesburg, Toronto wild on gold mine shares. *Business Week* p22-3 F 15 '33
- Gold mining fixed trust. *Economist* 116:537-8 Mr 11 '33
- Gold mining stocks at their peak? P. Dobbs. *Mag of Wall St* 51:584+ Mr 18 '33
- Gold stocks as a hedge. E. E. Allen, jr. *Baron's* 13:9 S 25 '33
- Macassa shaft. G. A. Howes. *il Can Min J* 54:93-7 Mr '33
- New hoists help booming gold production. *il Elec J* 30:33 Ja '33

Producer of the most-coveted metal; Lake Shore mines. *Mag of Wall St* 53:28+ O 28 '33

- Six gold stocks for inflation protection. R. S. Wallace. *Forbes* 32:32-3 O 1 '33
- What price gold? unsettled monetary conditions make the future obscure. H. D. Keiser. *il Eng & Min J* 134:325-7 Ag '33

*See also*

Gold dredging

**Bibliography**

- Depression gold rush; published information on prospecting and gold recovery. J. B. Knaebel and M. W. von Bernewitz. *il Min & Met* 13:524-6 D '32

**Placer mining**

- Centrifugal concentration of placer gravel; plant at Oro Blanco, Arizona. J. B. Girand. *il diag Eng & Min J* 134:110-11 Mr '33
- Drilling placer deposits. J. H. Robertson. *il diags Can Min J* 53:541-4 D '32
- Evaluating gold in certain placers by microscopy. A. L. Crawford. *il Min & Met* 14:372-4 S '33
- Improved gold placer machine saves water—capacity 2 to 2½ yd. per hour. *il Eng & Min J* 134:253 Je '33
- Placer mining by centrifugal pump. W. E. Sinclair. *il Eng & Min J* 134:184-7 My '33
- Placer mining symposium held in Alaska. *Min & Met* 14:299+ Jl '33
- Prospecting and operating small gold placers. W. F. Boericke. 136p \$1.50 Wiley '33
- Tilling the sands for gold. A. S. Park. *il diags plan Comp Air M* 38:4075-8 Mr '33

**Africa, West**

- Ashanti goldfields corporation, limited, 36th ordinary general meeting. *Economist* 116:206 Ja 28 '33

**Alaska**

- Thawing and dredging gold at Fairbanks, Alaska. R. H. Osburn. *il Min & Met* 14:214-16 My '33

**Arizona**

- Centrifugal concentration of placer gravel; plant at Oro Blanco, Arizona. J. B. Girand. *il diag Eng & Min J* 134:110-11 Mr '33
- Essentials for a preliminary report on a small gold mine in the Bradshaw mountains quadrangle, Yavapai county, Ariz. D. C. Minton, jr. *flow sheet diags U S Bur Mines Information Circ* 6735:1-10 '33

**Australia**

- Activity in Australasia includes organization of numerous new gold companies. *il Eng & Min J* 134:434-5 O '33
- Intensive exploitation of Australian gold areas continues unabated. *Eng & Min J* 134:390-1 S '33

**British Columbia**

- British Columbia mining industry; a digest of the annual report of the Minister of mines. H. G. Nichols. *il Can Min J* 54:346-51 S '33
- Cariboo gold. H. G. Nichols. *il Can Min J* 54:147-9 Ap '33
- Gold in northern British Columbia. F. A. Kerr. *il Can Min J* 54:175-7 My '33
- New stage in British Columbia mining development. H. G. Nichols. *Can Min J* 54:189-91 My '33
- Operations in British Columbia continue to expand. *Eng & Min J* 134:392 S '33
- Ymir-Sheep Creek goldfield of British Columbia. H. G. Nichols. *il map Can Min J* 54:259-64 Jl '33

**California**

- California gold; intensity of search for the metal steadily increasing. J. B. Hutt. *il Eng & Min J* 134:296-7 Jl '33
- California's 1933 gold rush. E. M. Cunningham. *il Explosives Eng* 11:272-3 S '33
- Mining methods and costs at the Central-Eureka mine, Amador county, Calif. J. Spiers. *diags Explosives Eng* 11:119-23 Ap '33



## GOLD mines and mining—Continued

## Canada

- Canadian gold output increasing; developments at depth favorable. L. D. Huntoon. Min & Met 14:81-2 F '33
- Central Canada's gold belts; a comparison with Western Australia, India, and Southern Rhodesia. C. W. Knight. map Can Min J 54:98-101 Mr '33
- Gold in Canada. il diag map Fortune 7:30-7, 122-5 Je '33
- Observations on the present status of the gold mining industry of the Dominion of Canada. H. S. Denny. Can Min J 54:196-8, 227-32 My-Je '33
- Securing an interest in Canadian gold properties. L. D. Huntoon. Min & Met 14:186 Ap '33

## Cyprus

- Treating high-acid gold ore in Cyprus. C. A. Rose. Eng & Min J 134:160 Ap '33

## Gold Coast, Africa

- Jungle Rand; mining activity revives on the Gold Coast. W. E. Sinclair. il map Eng & Min J 134:317-20 Ag '33

## Idaho

- Amalgamation-flotation of gold ore; metallurgical operations at the Boise-Rochester mill of the St Joseph lead company. S. Campbell. flow sheet il Eng & Min J 134:188-90 My '33
- Fine gold and platinum of Snake river, Idaho. T. H. Hite. il Econ Geol 28:256-65 [bibliog p264-5] My '33
- Thunder Mountain mining district, Valley county, Idaho. C. P. Ross. il map Econ Geol 28:587-600 S '33

## India

- Champion Reef gold mines of India limited ordinary general meeting, London. Economist 116:833 Ap 15 '33

## Kenya colony

- Gold in Kenya. Economist 115:1224-5 D 31 '32

## Manitoba

- Manitoba gold areas. J. P. de Wet. il maps Can Min J 53:549-52 D '32

## Mexico

- Mexican gambusino in El Tigre. W. A. Wasley. il Min & Met 14:187-9 Ap '33
- Reports from Mexico include many new projects. il Eng & Min J 134:391-2 S '33

## New Guinea

- Air transport of mine equipment, supplies, and personnel; Bulolo gold dredging, Ltd, New Guinea. A. Dresel. il Eng & Min J 134:201-2 My '33
- Bulolo gold-dredging enterprise. F. W. Griffin. il Min & Met 13:528+ D '32
- Chemical migration; post-mine phenomena in New Guinea. R. Blanchard. il map Eng & Min J 134:365-8, 425-8 S-O '33

## Ontario

- Geophysics applied to geology. H. Lundberg and F. Kihlstedt. diags Can Min J 53:73-42 S '33
- Hollinger geology summarized. L. C. Gratton and H. E. McKinstry. Min & Met 14:126 Mr '33
- Kenty gold prospect. R. C. Rowe. il map Can Min J 54:49-51 F '33
- Kirkland Lake gold area, Ontario. A. Buisson. Can Min J 54:186 My '33
- Method and cost of exploring, equipping for development, and developing the Central Patricia group of claims, Northern Ontario. A. J. Keast and C. F. Jackson. maps plan U S Bur Mines Information Circ 6681:1-13 '33
- Methods and costs of developing and equipping the Ashley gold mine, Matachewan gold district, Ontario. W. H. Emens and C. F. Jackson. flow sheet map U S Bur Mines Information Circ 6707:1-27 '33
- Mining camps of Ontario. R. S. Lewis. Min & Met 14:483-4 N '33

Ontario gold production in 1932; tabulation. Can Min J 54:114 Mr '33

Prospecting in Ontario; the Swayze district. W. B. Millar. map Min & Met 14:183-6 Ap '33

Shaft-sinking methods and costs, and cost of plant and equipment at the Macassa mine, Kirkland Lake, Ontario. G. A. Howes and C. F. Jackson. diags U S Bur Mines Information Circ 6674:1-10 '32

Story of McIntyre. bibliog il diags maps plans Eng & Min J 134:445-96 N '33

Swayze gold area. H. C. Rickaby. Can Min J 53:546-9 D '32

## Oregon

Geology of the Robertson, Humdinger and Robert E. gold mines, southwestern Oregon, by P. J. Shenon; Notes on the Chieftain and Continental mines, Douglas county, Oregon, by F. G. Wells. il maps U S Geol S Bul 830-B:1-64, pl 4-14 '33

## Peru

Flying heavy freight into the Peruvian Andes. B. Rosette. il Comp Air M 38:4230-2 O '33

## Quebec

Gold industry of northwestern Quebec. Can Min J 54:16 Ja '33

Gold prospecting—Rouyn-Bell River region, Quebec. A. H. Lang. bibliog il maps Can Min J 54:267-72 Jl '33

Mining methods and costs at Granada gold mines (ltd.), Rouyn, Quebec. R. L. Loofbourouw. diags U S Bur Mines Information Circ 6709:1-14 '33

## Rumania

Le développement de l'industrie des mines d'or, en Roumanie. C. Berthelot. il diags map Génie Civil 103:373-7 O 14 '33

Milling practice of Roumanian gold mines. G. Quittkat. flow sheets il Can Min J 53:531-6 D '32

La Roumanie minière. C. Berthelot. il diags map Soc Ing Civils Bul 86:458-77 Mr '33

## South Africa

Optimism in South Africa. il Electrician 110:249 F 24 '33

South African gold boom. Economist 116:243-4 F 4 '33

## South Dakota

Homestake mine. J. Simmons. il Can Min J 54:299-304 Ag '33

Prospecting for placer gold in South Dakota. D. L. M. Anderson, comp. South Dakota State Geol and Nat History S Rep of Invest 15:1-15 '33

## Transvaal

Caution in Kaffirs. Economist 117:419-20 Ag 26 '33

Kaffir positions and prospects. Economist 116:919-20 Ap 29 '33

Kaffir results for 1932. Economist 116:648-50 Mr 25 '33

Kaffir shares. Economist 116:306-7, 364, 420 F 11-25 '33

Kaffir taxation. Economist 117:27-8 Jl 1 '33

New Modderfontein gold mining company, ltd. 35th ordinary general meeting. Economist 115:999-1000 N 26 '32

Outlook for Kaffirs. Economist 117:455-6 S 2 '33

Rand December dividends. Economist 115:1205 D 24 '32

Rand dividends. Economist 117:25-6 Jl 1 '33

Rand gold mines. E. Sturzenegger. 173p pa 21s F. & E. Stoneham, ltd, 79 Cheapside, London, E.C. 2 '31

Rand mines, limited, 35th ordinary general meeting, Johannesburg. Economist 116:1213 Je 3 '33

Rand ore reserve estimates. Economist 116:253 F 4 '33

## United States

Bureau of mines studies small lode gold mines. Min & Met 14:413 O '33

Gold in southern Appalachian states; symposium. il Min & Met 14:243-4 My '33

**GOLD mines and mining—United States—Cont.**  
Gold mines of the United States. Min & Met 14:194 Ap '33

Gold-mining activity continues. Eng & Min J 134:305-6 Jl '33

Gold mining industry. S. Turner. Min Cong J 19:10 Ap '33

Gold sales on world-price basis stimulate mining activity. Eng & Min J 134:429-30+ O '33

How new gold policy affects mining industry. Barron's 13:13 N 6 '33

Mint receipts and gold-mining activity increase under new monetary policy. Eng & Min J 134:497-8 N '33

**GOLD mining association of America**  
Another gold bloc. Business Week p19 N 4 '33; Eng & Min J 134:498 N '33

#### **GOLD ores**

Central Canada's gold belts; a comparison with Western Australia, India, and Southern Rhodesia. C. W. Knight. map Can Min J 54:98-101 Mr '33

Chemical migration; post-mine phenomena in New Guinea. R. Blanchard. il map Eng & Min J 134:365-8, 425-8 S-O '33

Engineering and geology; the quest for gold and the outcome; McIntyre Porcupine mines. H. G. Skavlem. il diags maps Eng & Min J 134:451-8 N '33

Genesis of the deposits of auriferous jacutinga. El. P. de Oliveira. biblog Econ Geol 27:744-9 D '32

Geophysics applied to geology. H. Lundberg and F. Kihlstedt. diags Can Min J 54:337-42 S '33

Gold prospecting—Rouyn-Bell River region, Quebec. A. H. Lang. biblog il maps Can Min J 54:267-72 Jl '33

Metamorphism and hydrothermal alteration of the Homestake gold-bearing formation. J. K. Gustafson. il map Econ Geol 28:123-62 Mr '33

New stage in British Columbia mining development. H. G. Nichols. Can Min J 54:189-91 My '33

Progress in the metallurgy of Porcupine and Kirkland Lake ores. H. Hanson. il Can Min J 54:221-3 Je '33

Tellurides—problem or alibi? W. E. Johnston. Eng & Min J 134:333-4 Ag '33

Where geologists find gold. R. Clarke. Min & Met 14:237-8 My '33

Ymir-Sheep Creek goldfield of British Columbia. H. G. Nichols. il map Can Min J 54:259-64 Jl '33

**GOLD reserves.** See Gold as money

**GOLD standard.** See Gold as money

**GOLDEN Gate bridge.** See San Francisco Bay bridges

#### **GOLDFISH**

Study of the toxicity of rotenone hydrochloride, acetylrotenone and rotenolone using the goldfish as the test animal. W. A. Gersdorff. Am Chem Soc J 55:1147-52 Mr '33

**GOLDMAN-SACHS trading corporation**

Report for 1932. Barron's 13:9 Ja 30 '33

**GOLDSTANDT, Fred S.**

Star salesmen the depression couldn't lick. por Sales Management 33:110, 130-1 Ag 1 '33

#### **GOLF balls**

##### **Manufacture**

Golf ball winding tape. diag India Rubber W 88:27 Jl '33

Rubber under tension and its function as thread in a golf ball. I. T. Gurman. India Rubber W 88:25-6 My; 37-9 Je; 28-30+ Jl; 31-2 Ag '33

**GOLF clubs.** See Country clubs

**GOLF clubs (sticks)**

Golf club trade-ins. Business Week p14+ Mr 29 '33

**GOLF links**

##### **Lighting**

Economic analysis of sports lighting. E. J. Ingram. Illum Eng Soc Trans 28:437-48; Discussion. 448-9 My '33

**GOMPERS, Samuel**

American labor's relation to the International labor organization. S. Miller, jr. Ann Am Acad 166:156-61 Mr '33

**GONDWANA land bridge**

Gondwana land bridges. C. Schuchert. pl maps Geol Soc Bul 43:875-915 [biblog p913-15] D '32

**GONORRHEA**

Dealing with syphilis and gonorrhea as industrial problems. W. Clarke. J Ind Hygiene 15:79-88 Mr '33

**GOOD Humor corporation of America**

Mike Meehan's Good Humor. il Fortune 8: 4+ S '33

**GOOD will (in business)**

See also

Advertising, Educational  
Advertising, Institutional

Complaints  
Public utilities—Public relations

**GOODE, Kenneth M., 1880-**

Sketch. H. Powel. Adv & Sell 20:17-18+ N 24 '32

**GOODING, Idaho**

##### **Sewerage**

Mother Nature forestalls a bond issue; sewage disposal in streams under lava bed. K. Provost. il Explosives Eng 11:174-5 Je '33

**GOODRICH, B. F., company**

Cooperative farm plan. Monthly Labor R 36: 771-4 Ap '33

Financial statement. Rubber Age 32:383+ Mr '33

**GOODYEAR tire and rubber company**

Financial statement. Rubber Age 32:383 Mr '33

**Maintains position.** Econostat 1:11, 23 Jl 22 '33

Moderate risks for large profits. Mag of Wall St 51:340 Ja 7 '33

Reports first loss since 1920. Barron's 13:14 F 20 '33

Speculative audit; favorable and unfavorable factors affecting common-stock values. Barron's 13:14 My 22 '33

**GORHAM, Frederic Poole, 1870-1933**

Sketch. H. E. Walter. Science 77:597-8 Je 23 '33

**GORILLAS**

Gorilla with an exceptional brain. C. J. Connolly. Science 77:sup9-10 My 19 '33

**GOSSYPOL**

Estimation of gossypol in cottonseed meal. J. O. Halverson and F. H. Smith. Ind & Eng Chem Anal ed 5:29-33 Ja 15 '33

Estimation of total and bound (D) gossypol in cottonseed meal; a modified method. F. H. Smith and J. O. Halverson. Ind & Eng Chem Anal ed 5:319-20 S 15 '33

Gossypol in the technology of cottonseed oil. H. D. Royce and F. A. Lindsey, jr. biblog il Ind & Eng Chem 25:1047-50 S '33

Relation of moisture to extraction of gossypol from cottonseed meal with ether. J. O. Halverson and F. H. Smith. Ind & Eng Chem Anal ed 5:320-2 S 15 '33

**GOVERNMENT, Cost of**

Costs of township and county government in Illinois. M. H. Hunter. Ill U Bur of Business Research Bul 45:1-31 '33

See also

Government expenditures

**GOVERNMENT accounting**

Certified political accountancy. il Am Bankers Assn J 26:13+ Ag '33

Municipal and governmental accounting. L. Morey. J Account 56:350-64 N '33

Yardstick for government; Shannon bill to standardize governmental bookkeeping. C. Leasure. Nation's Business 21:50+ S '33

**GOVERNMENT advertising**

Advertising displaces ballyhoo in NRA program. C. B. Larrabee. Ptr Ink 165:3-4+ O 12 '33



**GOVERNMENT advertising—Continued**

Advertising methods to be used to speed recovery. R. Dickinson. *Il Ptr Ink* 164:29-31 J1 27 '33

Buy now, because—NRA's big drive is based on human nature and dollar signs. *il Business Week* p5-6 O 14 '33

Most interesting advertising job I ever did; army service registration, 1918. W. H. Rankin. *Ptr Ink* 162:10+ Mr 9 '33

New NRA advertising drive. *Ptr Ink* 165:6 O 5 '33

*See also*

Municipal advertising

**GOVERNMENT aid to business**

Business editors ask government to maintain statistical service. *Sales Management* 32:529 My 15 '33

Filling in the blind spots in the rubber industry's statistical background. E. G. Holt. *Rubber Age* 32:283-4 Ja 25 '33

Uncle Sam's helping hand to business; Bureau of foreign and domestic commerce. W. L. Thorp. *Credit & Fin Management* 35:6-7+ N '33

*See also*

Commercial policy

Economic policy

Export trade—Gov-

ernment aid

Government publica-

tions

Government research

Reconstruction fi-

nance corporation

Subsidies

**GOVERNMENT art.** *See* Art

**GOVERNMENT bank deposits.** *See* Bank deposits, Government

**GOVERNMENT bonds.** *See* Bonds, Government

**GOVERNMENT bureaus.** *See* United States—Executive departments

**GOVERNMENT competition with business**

Business fostered bureaucracy. G. C. Miller. *Nation's Business* 21:16 F '33

Congress may end Farm board; possibility arising from Shannon hearings. *Pub Serv Management* 53:165-6 D '32

Government competition in business. M. Thorpe. *Oil Paint & Drug Rep Extra* ed 122:33 N 29 '32

Government competition with private enterprise; report of the Special committee appointed to investigate government competition with private enterprise. 253p U.S. Govt. ptg. Washington '33

Government in business. Index 12:237-43 D '32

Government in business. H. L. Clark. *Manuf Rec* 101:24+ D '32

Government is advised to lessen competition. *Oil Paint & Drug Rep* 123:17+ F 13 '33

Government should dispose of its barge line. *Ry Age* 93:852-3 D 3 '32

Guide to firing; since competition with business makes government jobs, the Shannon report may be embarrassing. *Business Week* p18-19 F 22 '33

High cost of paternalistic government to the taxpayer. L. A. Downs. *Pub Util* 11:404-10 Mr 30 '33

Is Uncle Sam your competitor? W. A. McDermid. *Chem Markets* 32:509-12 Je '33

Plea of 225 businesses for relief from government competition. A. F. Dawson. *Pub Serv M* 54:183-4 Je '33

Uncle Sam as an unfair competitor. G. W. Alcock. *Iron Age* 132:25-6+ N 2 '33

Uncle Sam's express business. *Ry Age* 93:824-6 D 3 '32

Yardstick for government; Shannon bill to standardize governmental bookkeeping. C. Leasure. *Nation's Business* 21:50+ S '33

*See also*

Government research

Prison industries

**GOVERNMENT employees**

Ethics of salaried engineers engaging in private practice. *Civil Eng* 3:643-4 N '33

Further contributions to the prestige value of public employment. L. D. White. 88p \$1.50 Univ. of Chicago press '32

Public service as a career. W. E. Mosher. *Ann Am Acad* 169:130-43 S '33

Why absurd and ludicrous jobs are kept by U.S. J. M. Beck. *Ptr Ink* 162:70+ F 9 '33

*See also*

Civil service

Salaries

Executive order reducing salaries of federal employees; text. *Monthly Labor R* 36:1157-8 My '33

Salaries of scientific men working under the British government. *Science* 78:355-6 O 20 '33

**GOVERNMENT expenditures**

America go bust. L. Ludlow. 144p \$1.25 Stratford co, Boston '33

Budgeting federal construction to stabilize employment. D. H. Sawyer. *Eng N* 110:657-9 My 18 '33

Calculation of relief expenditures. C. E. Persons. *Am Statis Assn J* 28:sup68-74 Mr '33

Can the costs of government be reduced? discussions and analyses of the taxes levied by federal, state, and local administrations. E. P. Goodrich and others. *Civil Eng* 3:417-22 Ag '33

Certified political accountancy. *il Am Bankers Assn J* 26:13+ Ag '33

Cut government costs in half. C. A. Clark. *Pub Serv Management* 54:5-6 Ja '33

Depression increases government expenditures \$1,189,000,000. *Pub Serv M* 55:17 J1 '33

Economy in Congress; annual reports of the Senate and House. *Comm & Fin* 22:126 F 1 '33

Expenditures for education; an important factor in increasing government costs. Index 13:72-3, 76-9 Ap '33

Fighting federal waste; the future battleground of economy. C. M. Mills. *Barron's* 13:6 Ag 7 '33

Flow of funds through Washington. map *Am Bankers Assn J* 26:30-1+ O '33

Fly specks on the budget. *Ptr Ink* 162:19-20 F 23 '33

Government economies. H. D. Brown. *Ann Am Acad* 165:138-45 Ja '33

Government extravagance and gross inequalities of income taxation. W. Leslie. *Trust Companies* 55:701-2 D '32

High cost of paternalistic government to the taxpayer. L. A. Downs. *Pub Util* 11:404-10 Mr 30 '33

How a billion can be cut from the budget. J. D. C. Weldon. *Mag of Wall St* 51:139-41+ N 26 '32

How can federal expenditures be reduced? L. M. Gilbreth. *Ann Am Acad* 165:125-30 Ja '33

How to fritter away your money; government bureau expenses are criticized, yet private business losses go on unhindered. T. S. Harding. *il Sci Am* 149:53-5 Ag '33

Keeping up with the Joneses; the present system of political units a factor in excessive public expenditures. M. H. Hunter. *Barron's* 13:3+ F 20 '33

Less government or more? L. Brownlow and C. S. Ascher. 22p pa 25c American library assn, Chicago '33

More government, more money. J. N. Cadby. *Pub Serv Management* 53:169-70 D '32

Most profitable investment of the federal government. W. Davis. *Science* 77:sup8-9 Ap 14 '33

Need for economy in government. *Guaranty Survey* 12:7-10 N '32

Old man necessity sits on the Capitol steps. *Ptr Ink* 161:32-3 D 29 '32

Problem of governmental costs, taxation, and railroad wages; letter to the editor. J. N. Mowery. *Barron's* 12:19 D 12 '32

Pushing the fight against wasteful spending by government. A. I. Findley. *Iron Age* 130:833-4+ D 1 '32

Ray report. *Economist* 115:1018-19 D 3 '32

Reducing federal expenditures. H. P. Seidemann. *Ann Am Acad* 165:131-7 Ja '33

Relation of state governments to business security. W. L. Cross. *Weekly Underw* 127:1102-3 D 10 '32

Relief from relief. M. Sullivan. *il Am Bankers Assn J* 25:11-13 My '33

**GOVERNMENT expenditures—Continued**

- Tax reform can come quietly. Nation's Business 21:44+ Ja '33  
 Time to call a halt. C. F. Williams. Pub Serv Management 54:39 F '33  
 \$250,000 potato. Ptr Ink 162:59-60 F 16 '33  
 We must have lower taxes. G. W. Rossetter. Bankers Mo 50:10-11 Ja '33  
 What is happening to municipal credit and securities? C. P. Dennett. Trust Companies 56:433-6 Ap '33  
 Where are we? business recovery depends on reduction of government costs. H. Bancroft. Barron's 12:4 N 21 '32  
 Why absurd and ludicrous jobs are kept by U.S. J. M. Beck. Ptr Ink 162:70+ F 9 '33

See also

- |                     |                   |
|---------------------|-------------------|
| Budget              | Municipal finance |
| Finance             | State finance     |
| Government research | Taxation          |

**GOVERNMENT fees**

- Fees payable for public works; official rates charged by Quebec public service commission. Can Eng 64:12 Ja 17 '33

**GOVERNMENT investigations**

See also

- |                          |                                     |
|--------------------------|-------------------------------------|
| Federal trade commission | Stock exchange—Senate investigation |
|--------------------------|-------------------------------------|

**GOVERNMENT laboratories**

See also

- Great Britain—Government laboratory

**GOVERNMENT officials. See Public officials****GOVERNMENT ownership**

- Great delusion. E. Greenwood. 238p \$2.50  
 Harper '33; Review by A. D. Schultze. Pub Util 12:37-8 Jl 6 '33  
 How far will government ownership of utilities go? Pub Util 12:276-80 Ag 31 '33  
 Moral justification of birch rod regulation. F. X. Welch. Pub Util 11:164-9 F 2 '33  
 Political hygiene and public ownership. A. E. Morgan. Elec W 102:492-3 O 14 '33  
 Socialisation and transport. H. S. Morrison. 312p 7s 6d Constable & co, ltd, London '33  
 South Dakota abolishes state socialism. Pub Serv M 55:39-40 Ag '33  
 State business ventures under fire in South Dakota. Concrete (mill sec) 41:44-5 F '33  
 Wanted—a standard yardstick for measuring the costs of private and public power plants. M. G. Glaeser. Pub Util 10:663-74 D 8 '32  
 Who will pay for Uncle Sam's utility projects? Pub Util 11:788-92 Je 22 '33

See also

- |   |                                   |
|---|-----------------------------------|
| Banks and banking—Government ownership  | Government regulation of industry |
| Cement plants—Government ownership      | Industry and state                |
| Electric utilities—Government ownership | Inland waterways corporation      |
| Government competition with business    | Insurance, State                  |
|   | Municipal ownership               |
|   | Public lands                      |
|   | Railroads and state               |

**GOVERNMENT paper. See Paper, Government****GOVERNMENT printing office. See United States—Government printing office****GOVERNMENT publications**

- Government documents, printing and distribution. T. F. Currier. Lib J 58:167-8 F 15 '33  
 Public documents clearing house. Special Lib 24:19 Ja '33  
 Shortcomings of government documents and suggested remedies. J. K. Wilcox. Lib J 58:203-5 Mr 1 '33  
 U.S. government documents, federal, state and city. J. L. Wyer. rev ed 56p pa 50c American library assn, Chicago '33  
 Useful government documents of interest to water supply engineers. A. F. Porzellus. Am Water Works Assn J 24:1867-9 D '32

See also

**Municipal publications****Bibliography**

- Government publications showing the work of the government. U S Office of Educ Circ 78:1-7 '33

Government statistics. Special Lib 23:414-16, 450-1; 24:26-7 N '32-Ja '33

N R A, the new deal for business and industry; a bibliography, May-August, 1933. J. K. Wilcox, comp. 78p American library assn, Chicago '33

**GOVERNMENT purchasing. See Purchasing, Government****GOVERNMENT regulation of industry**

- America no longer looks abroad. G. L. Lacher. Iron Age 131:979-80+ Je 22 '33  
 Are we headed toward government price fixing? L. D. H. Weld. Adv & Sell 20:19+ F 16 '33  
 Attitude of the Supreme court toward industrial regulation. Pub Util 12:223-4 Ag 17 '33  
 Before the new deal, Uncle Sam must discard. Iron Age 131:871-5, 906-9 Je 1-8 '33  
 Birth control for new enterprises—a remedy for competitive excesses. C. G. Thoma. Iron Age 131:584+ Ap 13 '33  
 Board men present plan for promoting employment and industry stabilization. Paper Tr J 96:24-5 My 11 '33  
 Business agrees to regulate itself; proposals at the annual meeting of the Chamber are well received. Nation's Business 21:13-18 Je '33  
 Capacity of government to direct business. W. H. Harris. Comm & Fin 22:850 S 27 '33  
 Centralized control of industry. (In Winning debates, orations and speeches of the Pi Kappa Delta. v4) G. W. Finley, comp. p3-142 [bibliog p135-42] Noble and Noble, New York '32  
 Centralized regulation of all transport urged. C. R. Porter. Ry Age 93:706-8 N 19 '32  
 Chamber for change. Business Week p3 My 17 '33  
 Common-sense economics that average men can grasp. F. L. Carlisle. Ptr Ink 165:103-4 O 12 '33  
 Control of industry; legislative possibilities. Business Week p3-4; Editorial comment. p32 My 10 '33  
 Controlling corporations; the new part being played by the government in business. A. A. Berle, jr. Barron's 13:11+ My 22 '33  
 Corporative state—the Duce's economic powers. Economist 116:1133-4 My 27 '33  
 Cows come under utility regulation. Pub Util 12:474-6 O 12 '33  
 Current trend toward governmental regulation; its social and economic portents. Pub Util 11:352-5 Mr 16 '33  
 Effects of governmental regulation of commodity exchanges in the United States. H. B. Killough. Harvard Business R 11:307-15 Ap '33  
 Fair competition; Roosevelt's design for a new order of business. Business Week p 1-2 My 24; 3-7 My 31; 3-4 Je 7 '33; Editorial comment. p32 My 31 '33  
 Government control of industry proposed by Secretary of labor. Iron Age 131:677 Ap 27 '33  
 Government control of production and trade practices purpose of new bill. Oil Paint & Drug Rep 123:14 My 8 '33  
 Government in business. Business Week p23 O 28 '33  
 Government-industry partnership nears. Steel 92:11-12+ My 15 '33  
 How trade groups can avoid governmental dictation. F. H. Figsby. Ptr Ink 163:52-4 Je 8 '33  
 Industrial control by agreements and codes purpose of proposed U.S. law. Oil Paint & Drug Rep 123:17+ My 22 '33  
 Industries enlist for active service under the recovery bill. Business Week p3-7; Editorial comment. 32 My 31 '33  
 Industry—self-regulation or federal control? Am Bankers Assn J 25:24-5 Je '33  
 Industry's leaders discuss vital questions. F. W. Parsons. Gas Age 71:533-4+, 561-2+ My 27-Je 3 '33  
 Invitation from Miss Perkins; control program. Business Week p9 My 3 '33  
 More governmental regulation as an aftermath of the economic crisis. Pub Util 11:533-5 Ap 27 '33



**GOVERNMENT regulation of industry—Cont.**

- My business asked for regulation. L. C. Harbison. *Nation's Business* 21:38+ F '33
- National industrial dictators urged. G. P. Torrence. *Iron Age* 131:484 Mr 23 '33
- National industrial planning is not feasible. V. Jordan. *Iron Age* 132:26B-26D+ J1 20 '33
- New business era. C. W. Boyce. *Paper Tr J* 96:18-20 My 4 '33
- New curb on the contract carrier; decision of the Supreme court. H. C. Spurr. *Pub Util* 11:106-10 Ja 19 '33
- New jobs for the commissions; current trends toward the regulation of industries not heretofore classified as public utilities. T. E. Shearer. *Pub Util* 12:447-55 O 12 '33
- New partnership of government and business. T. M. Knappen. *Mag of Wall St* 52:106-8+ My 27 '33
- New relation of government to business. Guaranty Survey 13:5-7 My '33
- Oil dictatorship bill sidetracked by committee; industry recovery bill being pushed instead. C. E. Kern. *Oil & Gas J* 32:7+ My 25 '33
- Oil may be included in industry agreement bill. *Oil & Gas J* 31:13+ My 18 '33
- Possibilities of industrial control. *Nat City Bank* p123-7 Ag '33
- Public utility regulation as merely the fore-runner of a nation-wide regulation of industry. *Pub Util* 11:792-5 Je 22 '33
- Public-works bill for national recovery. *Eng N* 110:687-90 My 25 '33
- Regulating recovery. *Business Week* p1-2 My 17 '33
- Regulation of Reuben; pending Jones bill. H. C. Spurr. *Pub Util* 11:338-42 Mr 16 '33
- Self regulation puts big task before each industry. *Iron Age* 131:830-1 My 25 '33
- Shall we have production control in the motor industries? industrial recovery bill. L. W. Moffet. *Automotive Ind* 68:616-17 My 20 '33
- Should we try a partnership of business and government? D. Blanchard. *Automotive Ind* 68:586-7 My 13 '33
- Transportation crisis. G. L. Wilson. 335p \$2.50 Sears pub. co, New York '33
- Unique experiment in state regulation that rescues the utility instead of the user; New York's milk control law. H. C. Spurr. *Pub Util* 12:22-7 J1 6 '33
- View of the oil industry from the sidelines. W. C. Platt. *Nat Pet N* 25:24-5 O 25 '33
- We turn a corner; Industrial recovery bill makes a sharp break in our economic history. *Business Week* p6-7 Je 17 '33
- What textile men think about procedure for regulation of industry. *Textile World* 83:904-5 My '33

*See also*

- |                       |  |
|-----------------------|--|
| Coal trade—Regulation | National industrial recovery act, 1933 |
| Commercial policy     | Petroleum industry                     |
| Competition, Unfair   | and trade—Regulation                   |
| Economic councils     |  |
| Economic policy       | Petroleum pipe lines                   |
| Electric utilities—   | —Regulation                            |
| Regulation            | Price fixing, Gov-                     |
| Federal trade com-    | ernment                                |
| mission               | Public utilities—                      |
| Government owner-     | Regulation                             |
| ship                  | Railroads—Rates                        |
| Industrial codes      | Railroads and state                    |
| Industry and state    | Trade associations                     |
| Interstate commerce   | Trade marks                            |
| commission            | Trade practice con-                    |
| Labor laws and legis- | ferences                               |
| lation                | Trusts, Industrial                     |
| Municipal ownership   |  |

**GOVERNMENT research**

- Agriculture and science. H. A. Wallace. *J Fr Inst* 216:137-45 Ag '33
- Bread out of our mouths; a study of government competition. P. Mahler. *Chem Markets* 32:27-9 Ja '33
- Curtailment of scientific work under the government. *Science* 77:600; 78:122-3, 162-3 Je 23, Ag 11, 25 '33
- Government economy and chemical research in Washington. O. Wilson. *Ind & Eng Chem News ed* 11:315-18 N 10 '33

- Huge government research projects guard printer's plant investment. W. Fawcett. *Ind Land Ptr* 90:55-6 Mr '33
- Institutes of chemistry. H. E. Armstrong. *Chem Age (Lond)* 28:4-6 Ja 7 '33
- Most profitable investment of the federal government. W. Davis. *Science* 77:sup8-9 Ap 14 '33
- Proposed grants for scientific research from the Public works board. *Science* 78:30-1 J1 14 '33
- Reductions in the federal budget for scientific work. *Science* 76:561 D-16 '32

**GOVERNMENT statistics**

- Committee on government statistics and information services. S. A. Rice. *Am Statis Assn J* 28:333-4 S '33
- Presidential letter to members of the American statistical association. S. A. Rice. *Am Statis Assn J* 28:206-8 Je '33

**Bibliography**

- Government statistics. *Special Lib* 23:414-16, 450-1; 24:26-7 N '32-Ja '33

**GOVERNMENTAL officials in industry of the United States and Canada, Association of. See Association of governmental officials in industry of the United States and Canada****GOVERNORS (machinery)**

- Back-pressure governor controls steam-pump operation. E. R. Hallam. *diag Power* 77:313 Je '33
- Deceleration governor for winding engines. *il diags Engineering* 135:113, 114-15 Ja 27 '33
- Large hydro unit adapted for sensitive governing; Ruskin plant of the British Columbia electric railway company. A. N. Geyer. *Elec W* 101:834 Je 24 '33
- Maintenance of elevator governors. C. K. Edgar. *diags Power* P1 Eng 37:301 J1 '33
- New governor makes Diesel engines behave. I. C. Martin. *il Elec W* 101:582-3 My 6 '33
- Water wheel governing principles applied to Diesel engines. *Power* 77:228-9 My '33

**GRAB buckets. See Buckets****GRACE, Joseph P.**

- Chairman. W. R. Grace & co. B. K. Price. *por Marine R* 63:39 S '33

**GRADE crossing accidents**

- Grade crossing accidents again decrease. *Ry Age* 95:88 J1 8 '33
- Oil truck wrecks at crossings are numerous. *Ry Age* 95:312-13 Ag 26 '33
- Railroad safety on schedule. C. E. Hill. *Nat Safety N* 27:21-2 Je '33
- Saving 1000 lives a year. H. A. Rowe. *il Nat Safety N* 27:11-12 My '33

**GRADE crossing elimination**

- Builds cutoff to take traffic from city streets; project of the Los Angeles & Salt Lake at Long Beach, Cal. *il map Ry Age* 94:506-8 Ap 8 '33
- Construction under heavy traffic. G. H. Wilsey. *il Civil Eng* 3:142-4 Mr '33
- Depresses tracks formerly elevated to eliminate grade crossings; St Louis Wabash project. *il diag map Ry Age* 95:359-62 S 9 '33
- Eastman favors federal aid to eliminate crossings. *Ry Age* 95:223 Ag 5 '33
- Girderless concrete slabs solve headroom problem; overstreet crossings at Elmira, N. Y. M. Hirschthal. *il diags map Eng N* 109:678-81 D 8 '32
- Girderless flat-slab bridges for grade crossings; experience on the D. L. & W. railroad. M. Hirschthal. *il diags Eng N* 111:344-7 S 21 '33
- Grade separation eliminates many multiple-track crossings; four railroads join in the construction of two long underpasses at Black Rock, N. Y. *il Ry Age* 95:182-4 J1 29 '33
- Grade separation project in St Louis. L. R. Bowen. *il plan Civil Eng* 3:623-5 N '33
- Integral abutment and pier feature grade separation; tracks of Toledo terminal railroad carried over Dixie highway on a plate-girder bridge. *il diags Eng N* 111:568-9 N 9 '33

**GRADE crossing elimination—Continued**

- Long Island is completing another large grade separation project at Valley Stream, N. Y. il plan Ry Age 95:550-3 O 21 '33
- New tunnel eliminates seven grade crossings; Canadian Pacific drives 4,600-ft. bore at Vancouver, B. C. F. W. Alexander. il diags map Ry Age 93:728-31 N 26 '32
- Railroad grade crossings, elimination and separation; report. Ry Age 93:738-9 N 26 '32
- Reinforced concrete subway on Jean Talon street, Montreal. il Can Eng 65:5-8 O 3 '33
- Santa Fe elevates its tracks in Oklahoma City. H. W. Wagner. il map Eng N 111:563-5 N 9 '33
- Speed and bridge design feature grade separation project; Lackawanna eliminates 12 street crossings in Elmira, N.Y. il diag plan Ry Age 95:461-4 S 30 '33
- Structural design of economic types. J. L. Vogel. il Civil Eng 3:140-2 Mr '33
- Three-level crossing involves interesting bridges; flat-slab structure carries Lehigh Valley over new highway. A. B. Cohen. il diag plan Ry Age 94:236-9 F 18 '33
- Three-level rail and road crossing, Newark, N.J. A. B. Cohen. il diags Eng N 110:179-83 F 9 '33
- GRADE crossings**
- Alton replaces crossing flagmen with signals. il diag Ry Age 94:771 My 27 '33
- A.R.E.A. committee report on grade crossings. Ry Age 94:424 Mr 18 '33
- Barrière automatique pour passage à niveau de l'Automatic safety signal gate co. H. S. Hanssen. il Génie Civil 102:140-1 F 11 '33
- Burlington replaces crossing gates with flashing-light signals. W. F. Zane. il plan Ry Age 94:334-5 Mr 4 '33
- Protection des passages à niveau en tenant compte du développement moderne de la circulation sur route. Newlands, Baticle and Miske. Génie Civil 102:209 Mr 4 '33
- Protection of level crossings in view of modern developments in road traffic; summary of reports. Engineer 155:63 Ja 20 '33
- Report of the grade crossing situation of public streets, roads and highways with steam and electric interurban railroads in the state of California. 113p Calif. railroad commission, Sacramento '33

**GRADING (earthwork)***See also*

Roads—Grading

**GRADING and marking (students)**

- Study of grades and grading practices at Northeastern university. W. C. White. bibliog J Eng Educ 23:550-60 Mr '33

**GRADUATE work.** *See* Engineering colleges—Graduate work**GRADUATING**

- Machine for graduating micrometer collars. A. E. Granville. il Am Mach 76:1233 D 21 '32

**GRAFTING**

- Sprouting and grafting fractional parts of avocado embryos with attached cotyledonous material. H. P. Traub and E. C. Auchter. Science 78:389 O 27 '33

**GRAHAM-PAIGE motors corporation**

- Reduces loss despite sales drop. Automotive Ind 68:504 Ap 22 '33

**GRAIN**

- Damage to grain fields by wild fowl overrated. W. L. McAtee. Sci Am 148:119-20 F '33
- Production of industrial alcohol from grain; advantages of the amylo process. Chem Age (Lond) 28:118-19 F 11 '33

*See also*Barley  
CornOats  
Wheat**Transportation**

- Imperial preference diverts cargoes from American vessels on Great Lakes. Marine R 63:21 O '33

- Lake grain movement is now under way. Weekly Underw 128:1042 Je 3 '33

- Transportation developments and the North Atlantic ports. R. W. Harbeson. Harvard Business R 12:82-93 O '33

**GRAIN dust**

- Venting dust explosions. H. R. Brown and R. H. Hanson. bibliog il Chem & Met Eng 40:116-19 Mr '33; Same cond. Food Ind 5:178-9 My '33; Abstract. Eng N 110:436-7 Ap 6 '33

**GRAIN elevators**

- Catenary steel-plate roof for grain elevator at Albany, N.Y. il diags plans Eng N 111:137-40 Ag 3 '33
- Developments in the electrical industry during 1932; grain elevators. J. Liston. il Gen Elec R 36:27-8 Ja '33
- 80,000-ton granary at Bahia Blanca. il diags plans Engineering 135:147-50, 205-8, 220, 267-8, 280, pl 6-8, 19 F 10, 24, Mr 10 '33
- Handling and storing of grain, with special reference to Canadian methods. H. H. Broughton. il diags Inst Mech Eng Proc 124:69-125 [bibliog p120] '33; Same cond. Engineering 135:141-5, 199-201 F 3, 17 '33; Same cond. Engineer 155:111-13, 115, 139-41, supp F 3-10 '33; Same cond. Mech Handling 20:214-17, 248-50, 283-4, 317-18, 338-9 JI-N '33; Discussion. Inst Mech Eng Proc 124:126-74 '33; Engineering 135:136-7 F 3 '33; Engineer 155:120-1 F 3 '33
- Moving forms for concrete construction. H. H. Broughton. il (supp) plan Engineer 155:134-5 F 10 '33
- Self-supporting arc-welded steel roof for grain elevators. il Engineering 135:22 Ja 6 '33; Elec Eng 52:35 Ja '33
- Self-supporting roofs. A. J. T. Eyles. il Elec R (Lond) 113:252 Ag 25 '33
- Le silo à céréales de la Société générale de transbordements maritimes, à Marseille. L. Fèvre. il diags plans Génie Civil 103:1-7 JI 1 '33
- Les silos à grains et leur équipement mécanique. J. Effertz. il diags Génie Civil 103:197-201 Ag 26 '33
- Transmission of numbers in a grain elevator. J. A. Behl. il Elec J 30:216-17 My '33
- What happens in a grain elevator. il Sci Am 148:226-7 Ap '33

**GRAIN handling**

- Avery 12,000-lb. automatic grain-weighing machine. il diags Engineering 135:568-70 My 26 '33; Engineer 155:523-4 My 26 '33
- Discharging grain; a modern automatic electrical system. R. N. Tweedy. il plan Elec R (Lond) 112:337-8 Mr 10 '33
- 80,000-ton granary at Bahia Blanca. il diags plans Engineering 135:147-50, 205-8, 220, 267-8, 280, pl 6-8, 19 F 10, 24, Mr 10 '33
- Exhauster system installed in large grain elevator. Elec W 100:873 D 31 '32
- Handling and storing of grain, with special reference to Canadian methods. H. H. Broughton. il diags Inst Mech Eng Proc 124:69-125 [bibliog p120] '33; Same cond. Engineering 135:141-5, 199-201 F 3, 17 '33; Same cond. Engineer 155:111-13, 115, 139-41, supp F 3-10 '33; Same cond. Mech Handling 20:214-17, 248-50, 283-4, 317-18, 338-9 JI-N '33; Excerpt (Electric equipment). Electrician 110:154 F 3 '33; Discussion. Inst Mech Eng Proc 124:126-74 '33; Engineering 135:136-7 F 3 '33; Engineer 155:120-1 F 3 '33
- Reducing dust explosion losses in grain-handling operations. D. J. Price. il Safety Eng 65:173-6 My '33
- Le silo à céréales de la Société générale de transbordements maritimes, à Marseille. L. Fèvre. il diags plans Génie Civil 103:1-7 JI 1 '33
- Les silos à grains et leur équipement mécanique. J. Effertz. il diags Génie Civil 103:197-201 Ag 26 '33

*See also*

Grain elevators

**GRAIN trade***See also*

Wheat

**Accounting**

- Grain trade accounting in Canada. M. T. Howard. J Account 55:196-214 Mr '33



## GRAIN trade—Continued

## Regulation

Effects of governmental regulation of commodity exchanges in the United States. H. B. Killough. *Harvard Business R* 11:307-15 Ap '33

## Statistics

Grain situation. *Economist* 115:869-70 N 12 '32  
Statistical record of commerce and finance. Published in monthly numbers of Dun & Bradstreet

## Canada

Winnipeg exchange votes to move. *Comm & Fin* 22:316 Ap 5 '33

## Great Britain

Corn trade, 1932. *Economist* 116:sup35-6 F 18 '33

## United States

Inflation and grain prices. *Comm & Fin* 22:909 O 18 '33  
Strong upward trend in grain prices. H. G. Seely. *Dun & Bradstreet* 41:47-8 Ap '33  
Year in the grain markets. P. B. Carey. *Comm & Fin* 22:30 Ja 11 '33

## GRAND CANYON, Arizona

## Water supply

Pumping plant with 3,153-ft. lift at Grand Canyon. *il Eng N* 110:343-4 Mr 16 '33  
Spring water lifted 3000 feet at Grand Canyon. L. J. Cissna. *il Elec J* 30:142-4 Ap '33  
Supervisory-controlled station pumps under 3,000 ft. head. *Elec W* 101:371 Mr 25 '33  
Supervisory system controls pump house; Grand Canyon pumping plant of the Santa Fe. *il Elec West* 70:94-6 Mr '33  
Water pumped out of Grand Canyon under  $\frac{3}{4}$ -mi. head. *il Power* 77:475 S '33

## GRAND CANYON of the Colorado

Naming the Grand Canyon. F. S. Dellenbaugh. *Science* 77:349-50 Ap 7 '33

## GRAND HAVEN, Michigan

## Water supply

Gravel-wall wells on shore of Lake Michigan. N. F. Yonkman. *il diag Water Works & Sewerage* 79:384-6 N '32

## GRAND ISLAND, Nebraska

## Sewerage

Grand Island skates on activated ice. C. Hehnke. *il Water Works & Sewerage* 80:96 Mr '33

## GRAND RAPIDS, Michigan

## Sewerage

Study of ferric chloride treatment of sewage at Grand Rapids. E. F. Eldridge and N. G. Damoose. *il Water Works & Sewerage* 80:207-10 Je '33

## GRANDSTANDS

Engineering features of a pageant. *il diag Engineer* 155:630-2 Je 23 '33

Grandstand deck is formed of steel plates, all arc welded. *il Steel* 92:25 Ap 17 '33

Heating a football grandstand. *il Heat & Ven* 30:43 Ap '33

## GRANITE

Contact metamorphism of the slates of Minnesota by granite and by gabbro magmas. F. F. Grout. *il map Geol Soc Bul* 44:989-1039 [bibliog p1033-9], pl 38-9 O '33

Intrusive relationship of the granite to the rhyolite (porphyry) of southeastern Missouri. W. A. Tarr. *il maps Geol Soc Bul* 43:965-92 D '32

Replacement origin of the albite granite near Sparta, Oregon. J. Gilluly. *U S Geol S Professional Pa* 175-C:65-81, pl 19-23 '33

## GRANDIORITE

Danbury granodiorite gneiss of Connecticut. W. M. Agar. *il map Am J Sci* 5th ser 25:1-19 Ja '33

## GRANT, Ulysses Sherman, 1867-1932

Memorial. H. F. Bain. *por Geol Soc Bul* 44:328-37 [bibliog p333-7] Ap '33

## GRANT, W. T., company

Grant's exceptional management. *Econostat* 1:13, 32 O 21 '33

Selected stocks to buy for future profit and protection. *Mag of Wall St* 51:680 Ap 15 '33

## GRAPE juice

Corrosion of nickel and monel metal by sulfured grape juice. E. M. Mrak and W. V. Cruess. *Ind & Eng Chem* 25:367-9 Ap '33

## GRAPEFRUIT juice, Frozen

Vitamin C content of frozen orange and grapefruit juices. L. W. Conn and A. H. Johnson. *Ind & Eng Chem* 25:218-21 F '33

## GRAPES

New hardy seedless grapes. A. B. Stout. *Science* 77:310-11 Mr 24 '33

Parthenocarp and seedlessness in vitis vinifera. H. M. Pearson. *Science* 76:594 D 23 '32

## Storage

Storage of grapes; plant installed in southern France. *Estrade. Electrician* 110:550 Ap 28 '33

## GRAPHIC arts council

Graphic arts council wins support of all machinery manufacturers. C. N. Everett. *Inland Ptr* 90:25-6 Ja '33

New Graphic arts council to seek equal credit for every printer. *Inland Ptr* 90:65 D '32

## GRAPHIC methods

Break-even chart. H. R. Mallory. *Mech Eng* 55:493-6+ Ag '33

Charting boiler operation saves coal. L. A. Corwin. *Power* 77:409 Ag '33

Charts and their use in purchasing. L. H. D. Acland. *bibliog* 18p 32 charts International management inst. Geneva '33

Decreased production and scientific management make profit possibilities; the break even chart. J. Geschelin. *Automotive Ind* 69:208-11 Ag 19 '33

Design of piping for flexibility by the use of graphs. E. A. Wert, S. Smith and E. T. Cope. *diag Heating-Piping* 5:405-8 Ag '33

Develops application of a practical viscosity temperature coefficient for oil products. T. G. Bell and L. H. Sharp. *bibliog charts Oil & Gas J* 32:13-15, 16 Ag 17 '33

Distribution of cosmic ray paths in a vertical cylinder. D. L. Macadam and M. R. Lipman. *diags J Fr Inst* 216:583-9 N '33

Duration curves. H. A. Foster. *Am Soc C E Proc* 59:1223-45 O '33

Graphic solution of some common pipe bends. S. Kameros. *Heating-Piping* 5:342-6 Jl '33

Graphical analyses of mechanical operations. L. Richardson. *Ry Mech Eng* 107:39-44 F '33

Same cond. *Ry Age* 93:643-6 N 5 '32

Graphical determination of performance of push-pull audio amplifiers. B. J. Thompson. *diags Inst Radio Eng Proc* 21:591-600 Ap '33

Graphical methods for problems involving radio-frequency transmission lines. H. Roder. *bibliog Inst Radio Eng Proc* 21:290-302 F '33

Graphs tell essence facts. R. Atkins. *Credit & Fin Management* 35:26 S '33

Grosszahlforschung. H. C. Plaut. *Chemische Fabrik* 6:237-40 Je 7 '33

Heat effects in lubricating films. A. Kingsbury. *Mech Eng* 55:685-6 N '33

Helical gears on oblique shafts. A. B. White. *Am Mach* 77:618-19 S 27 '33

Method for fitting a straight line to plotted points. H. B. Samson. *Elec Eng* 51:886 D '32

Nomogram; the theory and practical construction of computation charts. H. J. Alcock and J. R. Jones. 209p Pitman '32

Richards-Roope tangent meter. R. von Huhn. *Am Statist Assn J* 28:82 Mr '33

Scientific charts for lantern slides. India Rubber W 87:25-7 F '33

Secondary curves as a measure of the lag or phase difference between two primary curves. R. von Huhn. *bibliog Am Statist Assn J* 28:312-27 S '33

Simple method of indicating fuel savings. F. I. Raymond. *Heat & Ven* 30:19 N '33

**GRAPHIC methods—Continued**

- Synthetic time setting in a jobbing foundry; Link-Belt co, Chicago. R. A. Fiske. Iron Age 131:655-9 Ap 27 '33  
 Use and abuse of the square root scale for charting stock prices. D. W. Ellsworth. Analyst 40:835-6 D 23 '32

*See also*

- Business charts  
 Charts (calculating)  
 Nomography

**GRAPHIC statics**

- Brake-shoes; their design considered graphically. V. G. Barford. diags Automobile Eng 22:555-8 N '32  
 Continuous beam design by the fixed point theory. O. Albert. Eng N 110:842-4 Je 29 '33  
 Graphical analysis of stress in a reinforced concrete section under an eccentric load. H. E. von Bergen. Civil Eng 3:93-4 F '33  
 Graphical representation of two dimensional stress distributions. V. Tesar. diags J Fr Inst 216:217-24 Ag '33

**GRAPHITE**

- Application of graphite as an anode material to high vacuum transmitting tubes. E. E. Spitzer. il Inst Radio Eng Proc 21: 1075-81 Ag '33  
 Colloidal graphite combines with metal surfaces; Oildag. Automotive Ind 68:99 Ja 28 '33  
 Depolarization by graphite anodes in the electrolysis of aluminum oxide. M. DeK. Thompson and R. G. Seyl. Electrochem Soc Trans 64 (preprint 11):123-9 S '33  
 Graphite as a refractory. R. H. Stone. il Am Cer Soc J 16:96-101 F '33  
 Pantograph pan lubrication. F. W. Bellinger. il Elec Traction 29:139-40 My '33  
 Trolley wire lubrication improved. J. V. Lamson. il diags Elec Eng 52:771-6 N '33  
 Vapor pressure and heat of vaporization of graphite. A. L. Marshall and F. J. Norton. Am Chem Soc J 55:431-2 Ja '33

**GRAPHITIZATION**

*See also*

- Cast iron—Graphitization

**GRAPTOLITES**

- Muscle-scars of monograptidae. E. Habermeyer. il Am J Sci 5th ser 25:298-302 Ap '33

**GRASSELLI medal**

- Grasselli medal awarded to Clark. Oil Paint & Drug Rep 122:15 O 24 '32; Chemicals 37:2 N 14 '32; Soc Chem Ind J (Chem & Ind) 51: 943 N 11 '32

**GRASSES**

- Solid and hollow stemmed grasses of the Jornada experimental range. R. H. Canfield. Science 78:342 O 13 '33

*See also*

- Pastures

**GRASSHOPPERS. See Locusts****GRAVEL**

- Cementing value of crushed gravel screenings. R. V. Warren. Rock Prod 36:47 My '33  
 Development of sand and gravel deposits. J. R. Thoenen. bibliog diags U S Bur Mines Information Circ 6689:1-50 '33  
 Effect of different media on trickling filter unloading. W. Rudolfs and N. S. Chamberlin. Civil Eng 3:210-12 Ap '33  
 Investigations in ceramics and road materials; road materials in Quebec, 1930 and 1931. R. H. Picher. p84-170 Canada. Dept. of mines, Ottawa '33  
 Origin and structure of the Pensauken gravel. M. R. Campbell and F. Bascom. maps Am J Sci 5th ser 26:300-18 S '33  
 Possible improvements in sand and gravel production methods. E. Shaw. bibliog Rock Prod 36:38-40 Ag '33  
 Production of aggregates from river gravels in the plains region. J. H. Ruckman. il diag maps Rock Prod 35:20-3 Ap 23; 13-19 Je 4; 22-5 Jl 16; 17-20 D 10 '32

- Prospecting and exploration for sand and gravel. J. R. Thoenen. bibliog diags map U S Bur Mines Information Circ 6668:1-52 '32  
 Settling velocities of gravel, sand, and silt particles. W. W. Rubey. bibliog Am J Sci 5th ser 25:325-33 Ap '33

*See also*

- Concrete—Aggregate  
 gate  
 Roads, Gravel

**GRAVEL handling**

- Concreting plant for Madden dam. A. J. Ackerman. il Eng N 109:672-3 D 8 '32  
 Handling gravel for a man-made mountain; Hoover Dam project. E. A. Slater. il Elec J 30:154-5 Ap '33  
 Placer mining by centrifugal pump. W. E. Sinclair. il Eng & Min J 134:184-7 My '33  
 West Middlesex sewerage scheme. il map Engineer 155:274, 278-80 Mr 17 '33

**GRAVEL industry**

- Facts about sand and gravel industry. H. H. Hughes and F. E. Berquist. Rock Prod 36: 47 My '33

**GRAVEL plants**

- Development of sand and gravel deposits. J. R. Thoenen. bibliog diags U S Bur Mines Information Circ 6689:1-50 '33  
 Method and cost of mining sand and gravel at the Farmington (Conn.) plant of the Atlas sand, gravel and stone co. J. S. Dunning. diags U S Bur Mines Information Circ 6676:1-9 '33  
 Mining methods and costs at plant C, Eliot, Calif. of the Pacific coast aggregates (inc.). E. B. Kendall. diags map U S Bur Mines Information Circ 6705:1-11 '33  
 Mining, treatment methods, and costs at the plant of the Consolidated rock products co, Durbin, Calif. H. D. Jumper. flow sheet U S Bur Mines Information Circ 6607:1-20 '33  
 Mining, treatment methods, and costs at the Western Indiana gravel co's plant No. 1, Lafayette, Ind. D. Dwyer. plans U S Bur Mines Information Circ 6692:1-12 '33  
 New sand and gravel plant in the Boston district; Concrete materials co, Saugus, Mass. W. R. Carmichael. il Rock Prod 36:19-21 Ja '33  
 Obsolescence in the sand and gravel industry. E. C. Harsh. Rock Prod 35:56 D 31 '32  
 Problems of small gravel operation and how it is proposed to solve them. J. H. Spicer. il Rock Prod 36:28-9 O '33  
 Small, economically-operated gravel plants; recent British practice. R. S. Brewis. il Rock Prod 36:17-20 S '33

**Equipment**

- Basalt rock co.'s sand and gravel plant at Healdsburg, Calif. E. Moyer. il diags plan Rock Prod 36:17-26 Jl '33  
 Changes at Missouri sand and gravel plant; Alpha Portland cement co. il Rock Prod 35: 5-6 N 19 '32  
 Dredging methods and costs of the Ross Island sand & gravel co, Portland, Ore. O. E. Perkins. map U S Bur Mines Information Circ 6696:1-10 '33  
 How we solved the soft stone problem. D. Shenk. il diags Rock Prod 36:32-3 O '33  
 Modern New England gravel plant effects unusual mixing flexibility. L. D. H. Anderson. flow sheet il Rock Prod 36:17-20 Je '33  
 Production of aggregates from river gravels in the plains region. J. H. Ruckman. il diags Rock Prod 35:17-20 D 10 '32  
 Sand and gravel plant with unusual features. il diags Rock Prod 36:21-4 F '33  
 Small, economically-operated gravel plants; recent British practice. R. S. Brewis. il Rock Prod 36:17-20 S '33  
**Power**  
 Should a crushed stone or gravel operator make or buy electric power? C. R. Earle. Rock Prod 36:36-7 F '33



**GRAVEL plants—Continued****Safety devices and measures**

Warner company celebrates winning of sand and gravel safety trophy. R. Dinsmore. Rock Prod 35:37-9 N 19 '32

**GRAVEL plants, Portable**

Aggregate plants of movable type. E. Shaw. il Rock Prod 36:17-19 Ap '33  
Portable aggregate plant for Hetch Hetchy tunnel. H. V. Eastling. il diag Eng N 109: 654-6 D 1 '32  
Semi-portable sand and gravel plant. C. S. Huntington. il Rock Prod 35:84-5 D 31 '32

**GRAVEL washing**

Balanced, reciprocating, rake type gravel washer. diags Rock Prod 36:39 S '33

**GRAVES' disease. See Goiter****GRAVIMETRIC analysis**

Determination of fluorine by precipitation as triphenyltin fluoride. N. Allen and N. H. Furman. Am Chem Soc J 54:4625-31 D '32  
Determining aluminum, silicon and chromium oxides in corrosion-resisting steels. C. M. Johnson. Iron Age 132:24-5+ S 21 '33  
New method for determining molybdenum in alloy and plain steels. C. M. Johnson. Iron Age 132:16-17 J1 13 '33  
New rapid determination of aluminum in corrosion-resisting and plain steels. C. M. Johnson. Iron Age 132:14-17 Ag 17 '33  
New rapid determination of titanium in corrosion-resisting and plain steels. C. M. Johnson. Iron Age 132:16-19 Ag 24 '33

**GRAVING docks. See Dry docks****GRAVITATION**

Perihelion of mercury. T. Merriman. Science 77:371-2 Ap 14 '33; Discussion. 77:412, 489 Ap 28, My 19 '33

*See also*

Einstein unitary field theory

**GRAVITOMETER**

Automatic density determinations; instruments applicable to liquid and to gases. il Chem Age (Lond) 27:439 N 5 '32

**GRAVITY**

Gravity expedition in Cuba. R. M. Field. Science 78:7 J1 7 '33  
Laboratory apparatus for the determination of the time of free fall of a body. R. M. Bowie. diag R Sci Instr 3:792-3 D '32  
Recent developments in gravity apparatus. W. Bowie. Science 77:308-10 Mr 24 '33  
Über die grundlegenden berechnungen bei der schwerkraftaufbereitung. L. Schiller and A. Naumann. Zeit Ver Deutsch Ing 77:318-20 Mr 25 '33

**GRAY, John, 1863-1932**

Sketch. A. J. Costain. Soc Chem Ind J (Chem & Ind) 51:942 N 11 '32

**GRAY iron. See Cast iron****GRAY iron institute**

Annual meeting, Cleveland, March 22. Iron Age 131:517-18 Mr 30 '33; Steel 92:14+ Mr 27 '33; Foundry 61:21+ Ap '33  
Institute covers wider field; committee reports at New York meeting. Foundry 60:46+ D '32

**GRAZING**

Influence of overgrazing on erosion and watersheds. H. H. Chapman. il Civil Eng 3:74-8 F '33

**GREASE***See also*

Lubricating greases

**GREAT Atlantic and Pacific tea company**

A&P from A to Z; combination stores carrying more lines and better ones. Business Week p9 N 30 '32

A. & P. profits near high. Econostat 1:11 Ap 22 '33

Biggest family business. Fortune 7:52-5+ Mr '33

Early history. R. J. Bullock. Harvard Business R 11:289-98 Ap '33

History of the Great Atlantic & Pacific tea company since 1878. R. J. Bullock. Harvard Business R 12:59-69 O '33

**GREAT BASIN**

Eureka quartzite of the Great Basin region. E. Kirk. bibliog Am J Sci 5th ser 26:27-44 J1 '33

**GREAT BRITAIN***See also*

Budget—Great Britain  
Child labor—Great Britain  
Electricity supply—Great Britain  
Britain

Gold as money—Great Britain  
Immigration and emigration—Great Britain  
Railroads—Great Britain

**Colonies**

Bibliographical work in connection with the overseas British Empire. E. Lewin. Assn of Sp Lib & Inf Bur Proc 1933:102-10

*See also*

British commonwealth relations conference

**Commerce**

Anglo-American trade. Economist 116:393-6 F 25 '33

Anglo-Scandinavian trade. Economist 116:60-1, 108-9 Ja 14-21 '33

Britain's balance of payments. Economist 116:337-8 F 18 '33

British Central African trade. Engineering 135:584 My 26 '33

British preeminence in Brazil, its rise and decline. A. K. Manchester. 371p [bibliog p343-54] \$3.50 University of North Carolina press, Chapel Hill '33

Co-operative selling in overseas markets; views of chemical plant manufacturers. Chem Age (Lond) 28:91-3 F 4 '33

Direction of overseas trade, 1929-1932. Economist 116:339-40 F 18 '33

Direction of overseas trade, first quarter of 1933. Economist 116:1121-2 My 27 '33

Direction of overseas trade, January-June, 1933. Economist 117:400-1 Ag 26 '33

England's quest of eastern trade. W. Foster. 354p [bibliog p337-43] A. & C. Black Ltd, London '33

Exchange problem in Europe. Elec R (Lond) 112:127 Ja 27 '33

Future outlook. F. Pole. Electrician 109:726 D 2 '32

Half-year's overseas trade. Economist 117:115-16 J1 15 '33

Our overseas trade. Economist 117:752-3 O 21 '33

Overseas trade. Economist 116:sup5-6 F 18 '33

State of trade at home and abroad. Published as the Economist monthly supplement  
Studies in English trade in the fifteenth century. E. E. Power and M. M. Postan, eds. 435p [bibliog p411-16] \$4.25 Macmillan '33

Year's overseas trade. Economist 116:110-11 Ja 21 '33

*See also*

Commercial law—Great Britain

**Commercial policy**

Das britische weltreich auf dem wege zur selbstversorgung mit eisen und stahl. J. W. Reichert. Stahl & Eisen 52:1085-94 N 10 '32

For Empire economic organization; Ottawa conference analyzed. L. Stafford. Barron's 12:5+ N 21 '32

Home-made; London has decreed that more imports must contain larger Empire material and labor content. Business Week p22 F 8 '33

More trade agreements. Economist 116:1060-1 My 20 '33

Our new trade policy. Economist 116:949-50 My 6 '33

*See also*

Imperial conference, 1932, Tariff—Great Britain

**Economic conditions**

Britain's recovery. J. M. Davidson. 25p J. M. Davidson, Belfast '33

British situation. Nat City Bank p184-8 D '32

**GREAT Britain**—Economic conditions—*Cont.*

Condition of the working class in Britain. A. Hutt. 272p \$2 International publishers, New York '33

How to keep trade flowing. H. Withers. Barron's 13:5 O 23 '33

Profession of chemistry. H. McGowan. Soc Chem Ind J (Chem & Ind) 51:1035-8 D 16 '32; Abstract. Chem Age (Lond) 27:574 D 17 '32

**Economic history**

Great Britain from Adam Smith to the present day; an economic and social survey. C. R. Fay. 3d ed 482p \$3.20 Longmans '32

Life and labour in the nineteenth century. C. R. Fay. 2d ed 308p Cambridge univ. press; Macmillan '33

Outlines of English economic history. K. Derry. 280p [bibliog p269-70] G. Bell and sons ltd, London '32

**Economic policy**

Government helps business. D. Spring-Rice. il Rand McNally Bankers Mo 50:594-5+ N '33

Means to prosperity. J. M. Keynes. 37p Macmillan '33

Plan of action, embodying a series of reports issued by the Research committee of the Empire economic union, and other papers. 280p Faber & Faber ltd, London '32

Profit and loss. T. Lever. 255p T. Butterworth, ltd, London '33

Progress & prosperity. C. Y. C. Dawbarn. 302p Longmans '32

Rustic economics. Economist 116:1231-2 Je 10 '33

This is an economic war; we must co-operate with Britain. D. H. Rundle. Mag of Wall St 51:588-9 Mr 18 '33

**Foreign relations**

War or peace? Economist 116:567-8 Mr 18 '33

*Russia*

Britain and Russia. Economist 116:738-9 Ap 8 '33

Moscow and after. Economist 116:847-8, 855 Ap 22 '33

So this is Moscow; Metropolitan-Vickers sabotage case. Business Week p26 Ap 12 '33

Soviet-British break. Business Week p19 My 3 '33

**Government laboratory**

Work of the Government laboratory. Chem Age (Lond) 27:475-6; 29:364 N 19 '32, O 21 '33

**Imperial conference, 1932**

See Imperial conference, 1932

**Industries and resources**

British industries and their organization. G. C. Allen. 338p [bibliog p325-30] \$2.60 Longmans '33

British production in 1932. Economist 116:403 F 25 '33

Industrial research and the nation's balance sheet; abstracts. F. Smith. Engineering 134: 655-6 D 2 '32

Industrial survey of the Lancashire area (excluding Merseyside), made for the Board of trade by the University of Manchester. 380p Great Britain. Board of trade, London '32

1930 census of production. Economist 116:288-9, 513-14 F 11, Mr 11 '33

Possible trend of scientific industry. A. Fleck. Soc Chem Ind J (Chem & Ind) 52:57-9 Ja 20 '33

Raw materials from the Dominions; the work of the Imperial institute. Chem Age (Lond) 29:214 S 2 '33

*See also*

**Agricultural machinery industry—Great Britain**

**Agriculture—Great Britain**

**Airplane industry and trade—Great Britain**

**Chemical industries—Great Britain**

**Coal trade—Great Britain**

**Dye industry—Great Britain**

**Electric industries—Great Britain**

**Gas industry—Great Britain**

**Iron industry and trade—Great Britain**

**Mines and mineral resources—Great Britain**

**Rubber industry and trade—Great Britain**  
**Steel industry and trade—Great Britain**

**National physical laboratory, Teddington**

Annual report for 1932. il diags Engineering 136:95-7, 121-3, 147-9, 173-6, 201-2, 209-11, 379-81, 444-6, 512-13, 616-18, 645-6, 672-3 Jl 28-S 1, O 6, 20, N 10, D 8-22 '33

Electricity department; report for 1932 summarized. Electrician 110:621-2 My 12 '33; Elec R (Lond) 112:640-1 My 5 '33

Engineering department; summary of reports. Engineer 155:459 My 5 '33

Inspection of N.P.L. Electrician 111:10-11 Jl 7 '33

National physical laboratory. Soc Chem Ind J (Chem & Ind) 52:541 Je 30 '33

National physical laboratory; new features at the annual inspection. Chem Age (Lond) 29:10 Jl 1 '33

Report for 1932; colorimetry and metallurgical problems. Chem Age (Lond) 28:427 My 13 '33

**Navy**

Chapters in naval and marine engineering history. E. C. Smith. Engineering 135:561-3, 657-8 My 26, Je 16 '33

Navy estimates; editorial. Engineering 135: 437-8 Ap 21 '33

**Post office department**

See Postal service—Great Britain

**Scientific and industrial research, Department of**

Annual report for the year 1931-1932. Engineer 155:244-5 Mr 10 '33; Chem Age (Lond) 28:209-11 Mr 11 '33; Soc Chem Ind J (Chem & Ind) 52:259-60 Mr 24 '33; Electrician 110:343 Mr 10 '33; Elec R (Lond) 112:342 Mr 10 '33

**Statistics**

Commercial history of 1932. Economist 116: sup4-12 F 18 '33

**GREAT LAKES**

See also

**Shipping—Great Lakes**

**GREAT LAKES casualty company**

Great Lakes Casualty takes Central west casualty co. Weekly Underw 128:1200+ Je 24 '33; Nat Underw 37:23+ Je 22 '33

**GREAT Northern life insurance company**

Merged with Midland casualty company of Wisconsin. Ins Field (Fire ed) 62:10 Je 8 '33; Nat Underw 37:39 Je 8 '33

**GREAT Northern railway**

Earnings of large northwestern carrier show improvement. P. H. Fulton. il Mag of Wall St 52:576-7+ S 30 '33

Great Northern. il map Fortune 6:70-9, 104, 106, 108 D '32

Great Northern's quick recovery. Econostat 1:11+ Jl 1 '33

Great Northern's successful refinancing. Ry Age 95:119-20 Jl 15 '33

Prospects for the Hill roads; Great Northern, Northern Pacific, and Burlington. D. Hovey. il Barron's 13:8-9, 11 Ag 7 '33

**GREAT SALT lake**

Unsalting the Great Salt lake. Science 77: sup8-9 Ap 28 '33

**GREAT universal stores**

Great universal stores. Economist 115:1252 D 31 '32

**GREECE**

Greece engaged on huge reclamation project. R. H. Chambers. il maps Civil Eng 3:217-21 Ap '33

See also

**Finance—Greece**



GREECE—*Continued*

## Antiquities

Chemistry and Grecian archaeology. W. Foster. *il J Chem Educ* 10:270-7 My '33

## Economic conditions

Greece in 1932. *Economist* 116:sup22-3 F 18 '33

## GREECE, Ancient

New deal in ancient Greece; Solon's reforms resemble in many particulars the current program of recovery. E. Groseclose. *Baron's* 13:3+ Ag 28 '33

## See also

Mines and mineral resources—Greece, Ancient

## GREEK fire

Secret of the marine fire or prepared fire used by ancient Greeks; abstract. N. D. Cheronis. *Science* 78:sup8 S 15 '33

## GREEK pottery. See Pottery, Greek

## GREEN, Rufus Lot, 1862-1932

Sketch. F. E. Brasch. *Science* 77:11-12 Ja 6 '33

## GREEN

Mordant green dyes for wool; abstract. G. Raeman. *Textile Col* 55:471 Jl '33

## GREENHEART

Greenheart; lumbering practices. *Engineering* 136:431-2 O 20 '33

Studies in the decomposition of timber under industrial conditions. E. A. Rudge. *il Soc Chem Ind J* 55:283T-5T S 8 '33

## GREENHOUSES

## Electric equipment

Glasshouse horticulture. E. S. Shoults. *Elec R (Lond)* 112:699 My 19 '33

## Heating and ventilation

Electricity in horticulture. F. H. Clough. *il Elec R (Lond)* 112:861 Je 16 '33

Greenhouse heating. A. H. Senner. *U S Agric Circ* 254:1-40 '32

## GREENLAND

Fifth University of Michigan Greenland expedition. W. H. Hobbs. *Science* 77:163 F 10 '33

## GREETING cards

How your greeting cards get their borders. *il Comp Air M* 38:4105 Ap '33

## GREGORY, John Walter, 1864-1932

Memorial tribute. C. R. Longwell. *por Geol Soc Bul* 44:414-15 Ap '33

## GRESHAM life assurance society, limited

Ordinary general meeting, 84th, London. *Economist* 116:1152 My 27 '33

## GRIGNARD reagents

Abnormal reactions of benzylmagnesium chloride; the mechanism of the *o*-tolyl rearrangement. J. R. Johnson. *Am Chem Soc J* 55:3029-32 Jl '33

Acetylene polymers and their derivatives; the preparation of orthoprenes by the action of Grignard reagents on chloro-4-butadiene-1,2. W. H. Carothers and G. J. Berchet. *Am Chem Soc J* 55:2813-17 Jl '33

Action of ethylmagnesium bromide on thal-  
lous chloride and on thallous ethoxide. R. C. Menzies and I. S. Cope. *Chem Soc J* p2862-6 D '32

Conductivity of Grignard reagents in ether solutions. W. V. Evans and F. H. Lee. *Am Chem Soc J* 55:1474-7 Ap '33

Coupling action of the Grignard reagent; benzal chloride and benzotrichloride. R. C. Fuson and W. E. Ross. *Am Chem Soc J* 55:720-3 F '33

Coupling action of the Grignard reagent; the influence of the halogen atom of the reagent. E. Ellingboe and R. C. Fuson. *Am Chem Soc J* 55:2960-6 Jl '33

Effect of traces of carbon disulfide on the yields of Grignard reagents. F. C. Whitmore and D. E. Badertscher. *Am Chem Soc J* 55:4158-60 O '33

Efficiency of the chemiluminescence accompanying oxidation of Grignard compounds. C. D. Thomas and R. T. Dufford. *Opt Soc Am J* 23:251-5 Jl '33

Grignard reaction in the synthesis of ketones; a new method of preparing desoxybenzoins. S. S. Jenkins and E. M. Richardson. *Am Chem Soc J* 55:703-6, 1618-21 F, Ap '33

Grignard reaction in the synthesis of ketones; the preparation and characterization of a series of mono- and dichlorodesoxybenzoins. S. S. Jenkins. *Am Chem Soc J* 55:2896-9 Jl '33

Liquid ketene and ketene polymers. C. D. Hurd, A. D. Sweet and C. L. Thomas. *Am Chem Soc J* 55:335-7 Ja '33

Oxidation of Grignard reagents. M. T. Goebel and C. S. Marvel. *Am Chem Soc J* 55:1693-6 Ap '33

Photovoltaic effect in Grignard solutions; new observations; a possible theory. R. T. Dufford. *J Phys Chem* 37:709-21 Je '33

Preparation and properties of neopentyl chloride in relation to molecular rearrangements. F. C. Whitmore and G. H. Fleming. *bibliog Am Chem Soc J* 55:4161-2 O '33

Reaction between alpha, beta-unsaturated ketones and organic magnesium compounds; the structure of the addition products. E. P. Kohler and W. E. Mydans. *Am Chem Soc J* 54:4667-78 D '32

Reaction between alpha beta-unsaturated ketones and organic magnesium compounds; unsaturated mesitylenic ketones. E. P. Kohler and C. E. Barnes. *Am Chem Soc J* 55:690-5 F '33

Reaction between unsaturated ketones and organic magnesium compounds; the secondary products. E. P. Kohler and W. D. Peterson. *Am Chem Soc J* 55:1073-82 Mr '33

Reaction of alkylchloroamines with Grignard reagents. G. H. Coleman. *Am Chem Soc J* 55:3001-5 Jl '33

Reaction of monobromoamine with Grignard reagents. G. H. Coleman, H. Soros and C. B. Yager. *diags Am Chem Soc J* 55:2075-80 My '33

Reaction of nitrogen trichloride with Grignard reagents. G. H. Coleman, M. A. Buchanan and W. L. Paxson. *Am Chem Soc J* 55:3669-72 S '33

Reactions of triphenylmethylmagnesium bromide. W. E. Bachmann and R. F. Cockerill. *Am Chem Soc J* 55:2932-4 Jl '33

Reducing action of the Grignard reagent; hydrocarbons formed during reduction. C. R. Noller, W. E. Grebe and L. H. Knox. *Am Chem Soc J* 54:4690-6 D '32

Relative reactivities of organolithium and organomagnesium compounds. H. Gilman and R. H. Kirby. *Am Chem Soc J* 55:1265-70 Mr '33

Relative reactivity of various functional groups toward a Grignard reagent. C. E. Entemann, jr. and J. R. Johnson. *Am Chem Soc J* 55:2900-3 Jl '33

Supposed enolizing power of organic magnesium compounds. E. P. Kohler and D. Thompson. *Am Chem Soc J* 55:3822-3 S '33

Yields of some aliphatic tertiary Grignard reagents and the limits of their usefulness as synthetic reagents. F. C. Whitmore and D. E. Badertscher. *Am Chem Soc J* 55:1559-67 Ap '33

## GRIGSBY-GRUNOW company

Problems of Grigsby-Grunow. *Econostat* 1:12, 32 Ag 26 '33

## GRILLES

Grilles of old Marseilles. W. P. Hooper. *il Am Arch* 142:36-8 N '32

## GRINDING

Attachment for grinding proper clearance angles on forged tools and tool bits. H. A. Pearson. *diag Mach* 39:718 Jl '33

Ball grinding under difficulties. F. C. Hudson. *diags Am Mach* 77:206-7 Mr 29 '33

Centerless grinding a versatile process. A. D. Meals. *il diags Iron Age* 132:10-13 Ag 10 '33

**GRINDING—Continued**

- Device for grinding chamfers on cylindrical work. J. E. Hyler. diag Am Mach 77:698 O 25 '33
- Fixture for grinding formed cutters. H. J. Chamberland. il Am Mach 77:604 S 13 '33
- Freight locomotives use ground tooth gears. G. E. Katzenmeyer. il Am Mach 77:552-4 Ag 30 '33
- Grinding cemented carbide 30 to 180 times faster. J. Geschelin. Automotive Ind 68:402 Ap 1 '33
- Grinding fixtures for special work. C. F. Henry. il Am Mach 76:1166 N 23 '32
- Grinding operations in locomotive repair. F. B. Jacobs. il Am Mach 77:233-5 Ap 12 '33
- Grinding, polishing and buffing of monel metal and pure nickel. Am Mach 77:341-2 My 24 '33
- Grinding spherical surfaces in a lathe. C. Kugler. diags Mach 39:718 Jl '33
- Grinding true flat surfaces on the sides of thin cams. H. Kaffine. diags Mach 40:157-8 N '33
- How to make an accurate multi-spline gage. W. C. Betz. diags Mach 40:22-3 S '33
- How to obtain best results in roll-grinding. H. J. Wills. Mach 39:310-12, 374-6, 437-40, 505-7, 565-7 Ja-My '33
- Landis air-sizing device for external and internal grinding operations. il Am Mach 77:670 O 11 '33
- Rolls for finishing stainless strip steel require mirror surface. E. S. Heck. il Steel 93:25-7 Jl 3 '33
- Rolls ground with a crown. A. L. Hartley. il Am Mach 77:238-40 Ap 12 '33
- Sharp-corner grinding. W. Wells. Am Mach 77:86 F 1 '33; Discussion. 77:311, 573 My 10, Ag 30 '33
- Simple equipment for grinding angle-plates. H. C. Sheaffer. diags Mach 39:335 Ja '33
- Technique of size control in precision grinding operations. R. E. W. Harrison. Industrial Standardization 3:299-305; 4:10-17 D '32-Ja '33
- See also*
- |   |                       |
|---|-----------------------|
| Abrasives   | Machine shop practice |
| Honing  | Polishing             |
| Lubrication and lubricants (cutting and grinding) |                       |
- Tables, calculations, etc.
- Determining production rate of centerless grinding, through-feed method. C. W. Hopkins. chart Am Mach 77:277-8 Ap 26 '33
- GRINDING (ores, etc.)** See Crushing
- GRINDING machines**
- Abrasive no. 1½ toolroom surface grinder. il Am Mach 76:1207 D 7 '32; Mach 39:290 D '32
- Automatic vertical feed for a surface grinder. H. F. Loring. il Am Mach 77:251 Ap 12 '33
- Baird automatic multiple-spindle grinder. il Mach 39:485 Mr '33; Iron Age 131:400 Mr 9 '33; Am Mach 77:193-4 Mr 15 '33; Automotive Ind 68:592 My 13 '33
- Baker contour grinder. il Am Mach 77:418 Je 21 '33
- Baker no. 3 contour grinder. il Am Mach 77:642-3 S 27 '33; Automotive Ind 69:508 O 28 '33
- Craven internal splineway grinding machine. il diags Engineering 136:23-4 Jl 7 '33
- Farrel-Birmingham 60-in. by 20-ft. heavy-duty roll grinder. il Am Mach 77:383 Je 7 '33; Iron Age 131:865 Je 1 '33; Mach 39:741-2 Jl '33
- Gallmeyer & Livingston vertical surface grinder with hydraulic table feed. Iron Age 132:26 S 7 '33
- Geometric no. 10 chaser grinder and style E universal chaser grinding fixture. il Am Mach 77:670-1 O 11 '33; Iron Age 132:34 N 2 '33
- Grinding machines of improved design. R. E. Miller. Iron Age 131:53 Ja 5 '33
- Hall eccentric valve seat grinder. il Elec Traction 29:119 Ap '33
- Heald heavy duty vertical grinder. il Automobile Eng 22:581-2 D '32
- Heald internal grinding machine with two wheels on one spindle. il diags Mach 39:664-5 Je '33; Am Mach 77:387 Je 7 '33; Automotive Ind 68:653 My 27 '33
- Heald no. 81 internal grinder with dual control. il Am Mach 77:192-3 Mr 15 '33
- Jones and Shipman precision twist-drill grinder. il diags Engineering 135:266 Mr 3 '33; Engineer 155:373 Ap 14 '33
- Landis air-sizing device for grinding machines. il Mach 40:170-1 N '33; Iron Age 132:36+ O 26 '33
- Landis 14-in. hydraulic universal grinder. il Ry Mech Eng 107:303 Ag '33
- Landis type C 14-in. hydraulic universal grinder. il Mach 39:613 My '33; Automotive Ind 68:532 Ap 29 '33; Iron Age 131:748 My 11 '33; Am Mach 77:352 My 24 '33
- Landis type C 10-in. plain hydraulic grinder. il Am Mach 77:191 Mr 15 '33; Iron Age 131:361 Mr 2 '33; Steel 92:42 Mr 27 '33; Mach 39:546 Ap '33
- Machine for grinding ammonia-tight joints. C. C. Tomney. il diags Am Mach 76:1204h D 7 '32
- Monarch precision toolroom surface grinder. il Am Mach 77:734 N 8 '33; Iron Age 132:27 N 9 '33; Ry Mech Eng 107:413-14 N '33; Steel 93:40 D 4 '33
- Naumann improved profile grinder. il Am Mach 77:96-7 F 1 '33; Iron Age 131:279 F 16 '33
- New crankshaft grinder. il Automobile Eng 23:29-30 Ja '33
- Precision grinding machines. il diags Engineer 154:302-3, 326-8, 332, 348-50, 370-2, 402-3, 424-6, 448-50, 474-5, 502-4, 529-32, 560-2, 584, 585-7, 612-14, 634-6, 662-5 S 23-D 30 '32
- Profile grinding machine for tools and gages. O. P. van Steewen. il Mach 39:411-13 F '33
- Raule multiple-spindle internal grinder. il Am Mach 77:736 N 8 '33
- Reinecker universal tool grinder. il Am Mach 77:738 N 8 '33
- Reinecker worm grinder. il Am Mach 76:1241 D 21 '32
- Roll cambering devices. R. C. Lewis. il diags Iron Age 132:18-23 Ag 3 '33
- Rolls ground with a crown. A. L. Hartley. il Am Mach 77:238-40 Ap 12 '33
- Schleifleistung und arbeitsvermögen von sandpapier; eine grundlage für die berechnung von walzenschleifmaschinen. W. Walter. il Zeit Ver Deutsch Ing 77:713-17 Jl 1 '33
- Simplified reversing mechanism for Thompson surface grinding machines. il Mach 40:57 S '33
- Thompson fully hydraulic surface grinders. il Am Mach 77:158 Mr 1 '33; Iron Age 131:440 Mr 16 '33
- Wichita dual-purpose toolroom grinder. il Am Mach 77:288 Ap 26 '33
- See also*
- |                        |   |
|------------------------|---|
| Gear grinding machines | Lubrication and lubricants (cutting and grinding) |
| Grinding wheels        | Machine shop practice                             |
| Honing machines        | Polishing machines                                |
- GRINDING wheels**
- Abrasives and grinding wheels have kept pace with modern trends. Mach 39:261-3 D '32
- Besly perforated abrasive disk. il Iron Age 130:886 D 8 '32
- Better abrasives available. R. E. Miller. Iron Age 131:53-4 Ja 5 '33
- How to obtain best results in roll-grinding. H. J. Wills. Mach 39:374-6, 437-40 F-Mr '33
- Lapping wheels; a special material for tools of the tungsten carbide type. il Automobile Eng 23:184 My '33
- Standards**
- Standard types of grinding wheels; reference book sheet. Am Mach 77:405-6, 437-8 Je 21-Jl 5 '33
- GRINDSTONES**
- Efficiency of abrasives in the working of glass. J. Wolf. Glass Ind 13:189-92 D '32
- GROCERY stores**
- Drugs in grocery stores. Ptr Ink 164:76-7 Jl 6 '33



**GROCERY stores—Continued.**

Grocery chain distribution trebles Radbill oil sales. *il Sales Management* 32:208-9+ Mr 1 '33

Tooth brushes in grocery stores; Ohio match company's new product. *J. C. Staier. il Ptr Ink* 163:41 Ap 6 '33

**GROCERY trade**

Aids to retail grocery profits. plan U S Bur For & Dom Com Domestic Commerce Ser 71:1-67 '33

Another challenge to nationally advertised brands; market stores, the Big Bear. *il Ptr Ink* 162:41-3 Ja 26 '33

Business needs the courage to refuse to sell. C. B. Larrabee. *il Ptr Ink* 161:3-4+; Discussion. 6 N 24 '32

Cheap thrives, cheap-jack cash-and-carry depots. *Business Week* p11-12 F 8 '33

Credit and the wholesale grocer. A. D. White-side. *Dun's R* 41:7-11+ F 25 '33

Deal strangles chain good-will for branded lines; makes featuring of private brands essential to profits. R. I. Harry. *Ptr Ink* 161:25-8 D 8 '32

Dealing-in the grocer; anticipated price controls and elimination of costly retailing devices. H. Deutsch. *il Adv & Sell* 21:17+ S 14 '33

Do manufacturers render a service by carrying spot stocks? Many think "yes." J. H. Frederick. *Food Ind* 5:14-15 Ja '33

Drugs as groceries; grocery stores selling toilet articles and proprietary medicines. *Business Week* p9 F 15 '33

Food manufacturer profits when a voluntary chain does its job; interview with Arthur P. Williams. O. F. Rost. *il Food Ind* 5:8-10 Ja '33

Grocery manufacturers attack deals, rebates, allowances. *Ptr Ink* 161:69-70 D 15 '32

Grocery manufacturers condemn super-market price cutters. C. B. Larrabee. *il Ptr Ink* 162:41-4 Mr 2 '33

Grocery qualities and prices. R. S. Vaile and A. M. Child. (Studies in economics and business no 7) 52p Univ. of Minnesota press, Minneapolis '33

Grocery retailing with special reference to the effects of competition. R. S. Vaile. (Studies in economics and business no 1) 48p pa 50c Univ. of Minnesota press, Minneapolis '33

Grocery wholesalers demand new deal on national brands. *Sales Management* 31:436 N 15 '32

How General Foods salesmen help their dealers sell. J. F. Brownlee and C. Whiteman. *il Sales Management* 32:551-3 Je 1 '33

How to get retailers to use mass displays; Best Foods, Kraft-Phenix and Carnation are getting co-operation of both salesman and dealer. *il Ptr Ink* 163:24-6+ My 18 '33

Memo for national brand manufacturers: watch the comeback of the general store. M. M. Zimmerman. *il Sales Management* 31:522-4+ D 15 '32

Nineteen ways to make grocers push your product. F. Anderson. *Adv & Sell* 20:21 Mr 30 '33

Productive Saturdays for salesmen; demonstrations in grocery stores by company salesmen. *Ptr Ink* 161:44 D 8 '32

Profit sharing with salesmen doubled this jobber's sales in five years; the House of Krasne. L. M. Hughes. *Sales Management* 31:466-7+ D 1 '32

Profitless selling is biggest problem of advertiser. C. W. Dipman. *il Ptr Ink* Mo 26:13-14+ Je '33

Short-weights; Federal trade commission finds them in chain stores, also in other stores. *Business Week* p10 D 28 '32

Super-markets enter voluntary chain stage. *Ptr Ink* 163:20+ My 4 '33

This chain invites manufacturers to co-operate; Sheffield Farms stores. J. Burlinson. *il Ptr Ink* Mo 27:40+ O '33

Threat of the super-market. H. M. Foster. *Sales Management* 32:436+ Ap 20 '33

3,123 pantries vote for nationally advertised brands. *Ptr Ink* 163:62-3 Je 15 '33

What the voluntary chains think of the manufacturer. *Ptr Ink* 163:64+ Ap 6 '33

Wholesale grocery credit survey; summary. *Dun's R* 41:12-13+ F 25 '33

Will price-wreckers capture retail markets? H. F. Merrill. *il Forbes* 31:15-16 Mr 15 '33

**See also**

Butter	Food industry and trade
Canned food	Great Atlantic and Pacific tea company
Chain stores	Grocery stores
Coffee trade	Kroger grocery and baking company
Eggs	
First national stores, inc.	

**Advertising**

A & P point-of-sale study shows price-casting increases sales. *Sales Management* 32:332 Ap 1 '33

Grocery industry progressing rapidly in their house cleaning; abstract. P. S. Willis. *Sales Management* 31:472-3 D 1 '32

One way to find out what readers read; Three minute cereals company. C. B. Trost. *il Ptd Salesmanship* 60:314-16+ D '32

Point-o-purchase broadcasting test boosts sales 48 per cent. D. G. Baird. *Sales Management* 33:214-15 S 1 '33

**Michigan**

Wholesale distribution of breakfast cereals in southern Michigan. E. H. Gault and R. F. Smith. *Michigan U Bur of Business Research Business Studies* v 5, no4:1-47 '33

**United States**

Grocery industry master code; proposed text. *Food Ind* 5:368+ S '33

Grocery trade in best position in years. *Dun & Bradstreet* 41:16-18 Ag '33

Marketing codes; distributor groups draw up recovery plans. *Business Week* p7-8 J1 8 '33

Movement of groceries continues steady. R. Brennan. *Dun's R* 41:2-5 F 25 '33

Outlook brightens in grocery trade. R. Brennan. *Dun's R* 40:2-4 D 3 '32

GROESBECK, Clarence Edward, 1876-A leader rises. B. C. Forbes. *por Forbes* 31:9-10+ Ap 15 '33

**GROINS**

Du-Plat-Taylor adjustable screw pile groynes. *il diags Engineer* 155:656-7 Je 30 '33

**GROOPMAN, Harry**

Star salesmen the depression couldn't lick. *por Sales Management* 33:110-11 Ag 1 '33

**GROOVING**

Lathe attachment for cutting helical oil-grooves. J. J. Baule. *diag Mach* 40:160 N '33

GROUND returns. See Electrical lines—Ground returns

GROUNDING. See Electric distribution—Grounding

GROUP bonus. See Wage payment plans—Group system

**GROUPS, Continuous**

Continuous groups of transformations. L. P. Eisenhart. 301p [bibliog p293-6] Princeton university press, Princeton, N.J. '33

**GROUTING**

Adding years of service to Great Britain's longest railroad tunnel. S. J. Pearson. *il diags map Comp Air M* 37:4004-9 D '32

Grouting dam foundations and construction joints; experience at Calderwood dam. J. E. Hays. *il diags plan Civil Eng* 3:606-10 N '33

Permanency of mud-jack pavement raising. A. C. Benkelman. *Pub Works* 64:22 F '33

**See also**

Roads, Macadamized  
—Cement grouting

**GROWTH**

Growth and the economic depression; a study of the weight of elementary school children in 1921-27 and in 1933. C. E. Palmer. *bibliog Pub Health Rep* 48:1277-92 O 20 '33

Growth retardation by the partially oxidized sulphydryl of cysteine. F. S. Hammett. *Science* 77:190 F 17 '33

**GROWTH—Continued**

- Inheritance and glands in the control of growth. C. R. Stockard. *Science* 77:sup10 Ap 14 '33
- Is longevity compatible with optimum growth? C. M. McCay. *Science* 77:410-11 Ap 28 '33
- Pantothenic acid as stimulus to growth. R. J. Williams and C. M. Lyman. *Science* 78:sup1-5 S 22 '33
- Seasonal variation of average growth in weight of elementary school children. C. E. Palmer. *Pub Health Rep* 48:211-33 [bibliog p 232-3] Mr 3 '33
- Variations of growth in weight of elementary school children, 1921-28. C. E. Palmer. *bibliog Pub Health Rep* 48:993-1005 Ag 18 '33

*See also***Plant growth****GROWTH curves**

- Growth curves; applications of the Pearl-Reed population curve to the growth of industrial production. W. Rautenstrauch. *Mech Eng* 55:433-7 Jl '33
- GRUHL, Edwin, 1886-1933  
Sketch. *por Transit J* 77:70-1 F '33; *N E L A Bul* 20:62 F '33

**GUANIDINE**

- Determination of direct and acid dyes by means of aryl-substituted guanidines. S. R. Trotman and H. Horner. *Soc Dyers & Col J* 49:256-7 Ag '33
- Monoarylguanidines; benzoselenazoguanidine. G. B. L. Smith, J. P. Miale and C. W. Mason. *Am Chem Soc J* 55:3759-62 S '33
- Preparation of some structurally related mono-guanidines. C. E. Braun. *Am Chem Soc J* 55:1280-4 Mr '33

**GUARANTEE mutual life company**

- Annual statement, 31st. *Spectator* 130:25 Ja 19 '33

**GUARANTY of bank deposits. See Banks and banking—Guaranty of deposits****GUARANTY of earnings. See Wage payment plans—Guaranty of earnings****GUARANTY of employment. See Employment systems—Guaranty of employment****GUARANTY of goods**

- Dated shirt; year's guarantee. *Business Week* p9-10 Ap 12 '33
- Moth cover being watched; maker of cedar chests offers free moth damage insurance. *Nat Underw* 37:21 Jl 6 '33
- Sample-with-sale plan wins 60,000 outlets for Sunshine cereal in first 4 months. *il Sales Management* 33:78 Jl 15 '33
- "Your money back" comes back. *Ptr Ink* 162: 68 F 23 '33

*See also***Trade associations—Guaranties**

- GUARDIAN life insurance company of America**  
Annual statement, 73d, year ended Dec. 31, 1932. *Spectator* 130:17 F 16 '33; *East Underw* 34:6 F 10 '33

**GUAYULE**

- Rubber from the guayule shrub; abstract. J. H. Doering. *Science* 78:sup9 S 15 '33

**GUELPH, Ontario****Water supply**

- Deep well pumping installation for the city of Guelph. H. S. Nicklin. *il Can Eng* 64:13-14 Ja 31 '33

**GUÉNIOT, Alexandre**

- Celebration in honor of Dr Gueniot. *Science* 76:sup10 D 9 '32

**GULF oil corporation**

- Gulf Oil reports a profit. *Econostat* 1:13+ Ap 1 '33
- Nets profit in 1932 after heavy loss the year before. *Nat Pet* N 25:15 Mr 22 '33

**GULF stream**

- Are there cyclonic whirls in the ocean? H. P. Gillette. *Water Works & Sewerage* 80: 344 S '33
- Gulf stream overrated as maker of weather. *Sci Am* 149:173 O '33

**GUMS and resins**

- Anstrichtechnische bedeutung von natur- und kunstharzen. W. Krumbhaar. *Angew Chemie* 46:347-9 Je 17 '33

**Esterpol, a new resin. Melland** 5:79 My '33

- Natural varnish resins. T. H. Barry. 294p E. Benn Ltd, London '32

- Plastics; shellac and natural resin types and their uses. A. J. Gibson. *Soc Chem Ind J* 52:sup S8, S10-12 My 19 '33; *Abstract. J Fr Inst* 216:126-7 Jl '33

*See also***Bakelite****Balsams****Gas—Gum formation****Gasoline—Gum formation****Naval stores****Resinous products****Rosin****Statistics**

- Gums, shellac, waxes. Published in weekly numbers of *Oil, paint and drug reporter*

**GUN carriages**

- Now the gun carriage is welded. *il diag Sci Am* 147:349 D '32

**GUNIT**

- Gunitite retains integrity on Oregon road bridges. C. B. McCullough. *il Eng N* 111: 259-60 Ag 31 '33

- Gunitite 12 years old tests 16,700 lb. in compression. *il Concrete* 40:20 D '32

- Guniting with lumnite cement. A. R. Chadwick. *il Can Eng* 64:11 Ap 18 '33

- New test data aid quality control of gunitite; relining reservoirs for Syracuse, N.Y. provide basic data on nozzle velocities, size and shape of test specimens, cement ratio, etc. E. P. Stewart. *diags Eng N* 111:558-61 N 9 '33

- Shallow bridge permitted by reinforced gunitite, Allentown, Pa. E. W. Meckley. *il diag Eng N* 110:430 Ap 6 '33

- Torkret-blasversatzmaschine. *diag Zeit Ver Deutsch Ing* 77:985 S 9 '33

**GUNNERY**

- Long-range gunnery and high-altitude bombing; a comparison of ballistic merit. L. Thompson. *J Fr Inst* 215:119-32 F '33

**GUNNISON, Herbert F. 1858-1932**

- Sketch. *por Ptr Ink* 161:56 D 1 '32

- GUNPOWDER, Smokeless. See Smokeless powder**

**GUNS****Manufacture**

- Rifle and shot gun manufacture. J. B. Nealey. *il Am Mach* 77:111-13 F 15 '33; *Same. Am Gas Assn Mo* 15:460-2 N '33

**GUNS, Anti-aircraft**

- Die feuerleitung von flakbatterien. A. Kuhlenskamp. *il diags Zeit Ver Deutsch Ing* 77:949-52 S 2 '33

**GUNS, Steam**

- Peace time artillery; guns for explosive treatment of starch and cellulosic materials; patents. F. J. Hopkinson. *Plastics* 8:419-20+ N '32

- GURWITSCH rays. See Mitogenetic rays**

**GUTTA percha**

- Dielectrics; effect of temperature change on resistivity. D. K. McCleery. *diags Elec-trician* 109:745-6 D 9 '32

- Gutta percha substitutes. *Rubber Age* 32:331 F '33

- Rubber and gutta percha. F. A. Middleton. *Elec R (Lond)* 111:774-5 N 25 '32

**GUTTA percha and rubber ltd.**

- Fifty years of service. *il Can Min J* 54:208-9 My '33

**GYMNASIUMS**

- Engineering features of a modern gymnasium; Payne Whitney gymnasium at Yale university. E. E. Seelye. *il Eng N* 111:219-20 Ag 24 '33

- Payne Whitney gymnasium and Ray Tompkins house at Yale university. front *il plans Arch Rec* 73:75-104 F '33



## H

GYMNASIUMS—*Continued*

University gymnasium and athletic club; checklist of planning requirements. I. D. Matthew. *il* diags Arch Rec 73:137-44 F '33

## Heating and ventilation

Temperature gradient observations in a large heated space; field house at the University of Wisconsin. G. L. Larson, D. W. Nelson and O. C. Cromer. *il* diags Heating-Piping 5:477-85 S '33

## GYPSUM

Effect of age on calcined gypsum. A. M. Turner. *Rock Prod* 36:20-3 My '33

Fire tests of columns protected with gypsum. N. D. Mitchell. diags *pls* U S Bur Stand J Research 10:737-55 Je '33; Abstract. *Eng N* 111:195-6 Ag 17 '33

Fire tests of gypsum lath partitions. *J Fr Inst* 215:359-60 Mr '33

Grinding and calcining gypsum in one operation. W. B. Lenhart. *il* *Rock Prod* 36:34-7 Ag '33

Gypsum. C. L. Haddon. *Soc Chem Ind J (Chem & Ind)* 52:24-7 Ja 13 '33

Gypsum; crude, calcined and calcined products; quarterly statistics, 1930-1932. *Survey of Cur Business* 13:20 Ja '33

Gypsum in Canada. *Paper Tr J* 95:40 N 17 '32

Particle analysis of cement and gypsum by sedimentation. W. C. Riddell. *il* *diag Rock Prod* 36:30-1 O '33

Rare crystal habit for gypsum. C. E. Needham. *Science* 76:542 D 9 '32

Reaction between urea and gypsum. C. W. Whittaker, F. O. Lundstrom and S. B. Hendricks. *bibliog Ind & Eng Chem* 25:1280-2 N '33

*See also*

Calcium sulfate  
Plaster of Paris

## GYPSUM cave, Nevada

Gypsum cave, Nevada. M. R. Harrington. 197p pa \$2.50 Southwest museum, Highland Park, Los Angeles '33

## GYPSUM products

Gypsum; crude, calcined and calcined products; quarterly statistics, 1930-1932. *Survey of Cur Business* 13:20 Ja '33

## GYROPHORIC acid

Lichen acids; a synthesis of methyl *O*-tetramethylgyrophorate. F. W. Canter, A. Robertson and R. B. Waters. *Chem Soc J* p493-5 My '33

## GYROSCOPE

Airplanes that fly themselves; Sperry robot pilot. *il* *diag Aviation* 32:213-15 Jl '33

Conte di Savoia, new Italian liner; largest ship with gyroscopic stabilizer. *il* *Marine R* 63:17 Ja '33

Conte di Savoia; noteworthy electrical installation—the Sperry gyro-stabilisers. *il* *Electrician* 109:833-4 D 30 '32

Conte di Savoia, quadruple-screw liner. *il* *diags Engineering* 135:345-8, 507-8, pl 23 Mr 31, My 12 '33

Distance flier takes a chance. R. M. Cleveland. *il* *Sci Am* 149:202-3 N '33

Gyroscopic stabilisation of ships. P. P. Schilovsky. *Engineering* 134:689-90 D 9 '32; Discussion. A. S. Rawlings. 135:53-4 Ja 13 '33; Reply. 135:107 Ja 27 '33

Gyro-stabilizers; installation of three units on the new S.S. Conte di Savoia. *il* *diag plan Marine Eng* 37:504-6 D '32

Preliminary calculations of the sizes of gyroscopes required to stabilise a ship; abstracts. P. Schilovsky. *Engineer* 155:419 Ap 23 '33; *Engineering* 135:470 Ap 28 '33; Discussion. *Engineer* 155:419-20 Ap 28 '33; *Engineering* 135:470, 578 Ap 28, My 26 '33

Sperry automatic airplane pilot. *il* *diag Aero Digest* 22:45 Je '33

Stabilizing the Conte di Savoia. F. P. Hodgkinson. *il* *Marine Eng* 38:122-5+ Ap '33; Excerpt. *Weekly Underw* 128:432 Mr 4 '33

## HABER, Fritz

Award of Rumford medal of the Royal society. *Science* 76:620 D 30 '32

## HABITS

Habits; their making and unmaking. K. Dunlap. 326p [bibliog p275-322] \$3 Liveright, inc, New York '32

## HACKENSACK river

Joint trunk sewers for the Hackensack district in New Jersey. G. W. Fuller. *il* *map Civil Eng* 2:763-6 D '32

## HADDOCK

Electrometric method for detection of relative freshness of haddock. M. E. Stansby and J. M. Lemon. *bibliog Ind & Eng Chem Anal ed* 5:208-11 My 15 '33

Influence of freezing temperatures on haddock's muscle. G. A. Reay. *Soc Chem Ind J* 52:265T-70T Ag 25 '33

Pellagra-preventive value of autoclaved dried yeast, canned flaked haddock, and canned green peas. G. A. Wheeler. *bibliog Pub Health Rep* 58:67-77 Ja 20 '33

## HADSEL mill

Operating results obtained with Hadsel mill indicate economical reduction. H. Hardinge. *il* *diag Eng & Min J* 134:82-4 F '33

HAEMATURIA. *See* Hematuria

## HAFNIUM

Discovery of the elements. M. E. Weeks. *J Chem Educ* 10:162-3 Mr '33

## HAGUE, Robert L.

Vice president and general manager, Standard shipping co. B. K. Price. *por* *Marine R* 63:39 F '33

## HAIL

Hailstone damage to birds. W. H. Gates. *Science* 78:263-4 S 22 '33

## HAIL prints

Hail prints and mud-cracks of proterozoic age. C. L. Fenton and M. A. Fenton. *Science* 77:491 My 19 '33

## HAINSWORTH, William R.

Dr. Hainsworth receives Munroe award. *por* *Refrig W* 63:21-2 O '33

## HAIR

*See also*

Baldness

Dyes and dyeing—

Hair

## HAIR tonic

Baldness; tonics, treatments, and toupees, make a dependable baldness business. *il* *Fortune* 8:52-5+ Jl '33

## HAIRPINS

Novelty packing lifts quality goods above price; how a hairpin company got capacity outlet. G. N. Bolinger. *il* *Ptr Ink* 164:10+ Jl 27 '33

## HALE, George E.

Award of Copley medal of the Royal society. *Science* 76:620 D 30 '32

## HALIBUT liver oil

Sales punch without ethical offense for drug products; Abbott laboratories. L. B. Colby. *il* *Sales Management* 32:472-3+ My 1 '33

## HALIDES

Addition of phenols to the ethylenic linkage; the action of phenols on alkylene halides. R. A. Smith and J. B. Niederl. *Am Chem Soc J* 55:4151-3 O '33

Cyclic and polymeric compounds from the reactions of ethylene mercaptan with polymethylene halides. N. B. Tucker and E. E. Reid. *Am Chem Soc J* 55:775-81 F '33

Electrostriction produced by salts in some aliphatic alcohols. W. C. Vosburgh, L. C. Connell and J. A. V. Butler. *Chem Soc J* p933-42 Ag '33

Influence of halides upon the extinction coefficients, and its bearing upon the constitution, of silver halides in fusion. G. S. Forbes and H. B. Elkins. *diag Am Chem Soc J* 55:3272-6 Ag '33

**HALIDES—Continued**

Influence of poles and polar linkings on the course pursued by elimination reactions; the action of tertiary amines on triphenylmethyl halides. E. D. Hughes. *Chem Soc J* p75-7 Ja '33

Rotatory dispersion in the visible and the ultraviolet range of configurationally correlated carbinols, halides and acids. P. A. Levene and A. Rothen. *Am Chem Soc J* 55:429-30 Ja '33

Study of the polyhalides; reactions in the absence of a solvent. H. W. Cremer and D. R. Duncan. *Chem Soc J* p181-9 F '33

*See also*

Alkali metal halides	Grignard reagents
Alkyl halides	Hydrogen halides
Chlorides	Iodides
Fluorides	Lead chloride
Fluorine halides	Salt

**HALL effect**

Hall e.m.f. and intensity of magnetization. E. M. Pugh and T. W. Lippert. *diag Phys R* 42:709-13 D 1 '32

**HALOCHROMISM**

Halochromism of ketones in acids. L. C. Anderson. *Am Chem Soc J* 55:2094-8 My '33

**HALOFORM reaction**

Cleavage of carbonyl compounds by alkalis; trihalomethylketonic acids. B. A. Bull and R. C. Fuson. *Am Chem Soc J* 55:3424-8 Ag '33

**HALOGEN compounds**

Acetylene polymers and their derivatives; halogen-4-butadienes-1,2; the mechanism of 1,4-addition and of  $\alpha,\gamma$ -rearrangement. W. H. Carothers and G. J. Berchet. *Am Chem Soc J* 55:2807-13 Jl '33

Acetylene polymers and their derivatives; 1-halogen-2-vinylacetylenes. R. A. Jacobson and W. H. Carothers. *Am Chem Soc J* 55:4667-9 N '33

Alkyl derivatives of halogen phenols and their bactericidal action; bromophenols. E. Klarman and others. *Am Chem Soc J* 55:4657-62 N '33

Alkyl derivatives of halogen phenols and their bactericidal action; chlorophenols. E. Klarman, V. A. Shternov and L. W. Gates. *bibliog Am Chem Soc J* 55:2576-89 Je '33

Behavior of mixed halogenated phenols in the Zincke method of nitration. L. C. Raiford and G. R. Miller. *bibliog Am Chem Soc J* 55:2125-31 My '33

Equilibria, complex ions and electrometric titrations; iodine or bromine in hydrochloric acid. J. H. Faull, jr. and G. S. Forbes. *bibliog diag Am Chem Soc J* 55:1809-20 My '33

Halogen derivatives of dehydro-2-naphthol 1-disulphide. J. A. C. McClelland and S. Smiles. *Chem Soc J* p786-8 Jl '33

Hydrolysis of salts of the halogen-substituted aliphatic acids in aqueous solution. H. M. Dawson and N. B. Dyson. *Chem Soc J* p49-56 Ja '33

Keimtötende wirkung und chemische konstitution der isomeren xylene und ihrer monohalogenoderivate. G. Lockemann and T. Kunzmann. *bibliog Angew Chemie* 46:296-301 My 27 '33

Reactions of certain halogen substituted aryl, alkyl and di-alkyl sulfides with benzylamine. T. P. Dawson. *bibliog Am Chem Soc J* 55:2070-5 My '33

Reactivity of *peri*-substituted naphthalenes; the replacement of halogen in 8-halogeno-1-naphthoic acids and in *o*-halogenobenzoic acids. H. G. Rule and A. J. G. Barnett. *Chem Soc J* p2728-32 N '32

Röntgenkontrastwirkung von halogenpyridon-derivaten. A. Binz and others. *Angew Chemie* 45:713-15 N 12 '32

Some halogenated pinacolones. G. A. Hill and E. L. Kropa. *bibliog Am Chem Soc J* 55:2509-12 Je '33

Use of halogens and halogen compounds in the heat treatment of hydrocarbons; abstract. A. W. Nash and J. Mason. *Oil & Gas J* 32:33 S 14 '33

*See also*

Grignard reagents  
Halides

**Analysis**

Determination of nuclear halogens in organic compounds; a critical study and standardization of the Stepanow method. W. A. Cook and K. H. Cook. *bibliog Ind & Eng Chem Anal ed* 5:186-8 My 15 '33

**HALOGENATION**

Action of halogens on polycyclic indole derivatives. S. G. P. Plant and M. L. Tomlinson. *Chem Soc J* p298-300 Mr '33

Halogenation of meta-diphenylbenzene; the monochloro and monobromo derivatives. W. A. Cook and K. H. Cook. *Am Chem Soc J* 55:1212-17 Mr '33

Halogenation reactions; some regularities of relative rates of reaction in liquid media. E. A. Flood and L. Horvitz. *Am Chem Soc J* 55:2534-9 Je '33

Studies on acid iodides; the preparation of halogen substituted aliphatic acid iodides with a note on the atomic refractivity of iodine. E. L. Gustus and P. G. Stevens. *Am Chem Soc J* 55:374-7 Ja '33

$\alpha\alpha\beta$ -Trihalogenated butaldehydes. F. D. Chat-taway, H. Irving and G. H. Outhwaite. *Chem Soc J* p993-5 Ag '33

*See also*

Bromination  
Chlorination  
Iodination

**HALOGENS**

Anomalies in the reactivities of side-chain halogens with special reference to reaction mechanism. J. W. Baker. *Chem Soc J* p128-33 S '33

Coupling action of the Grignard reagent; the influence of the halogen atom of the reagent. E. Ellingboe and R. C. Fuson. *Am Chem Soc J* 55:2960-6 Jl '33

Effect of nuclear halogen substituents on triad prototropic systems in relation to aromatic side-chain reactions. C. W. Shoppee. *Chem Soc J* p1117-20 S '33

Influence of nuclear halogens on aromatic side-chain reactivity. G. M. Bennett. *Chem Soc J* p1112-14 S '33

Influence of the sulphur atom on the reactivity of adjacent atoms or groups; aromatic side-chain and nuclear reactivity. G. Baddeley and G. M. Bennett. *Chem Soc J* p261-8 Mr '33

Lecture experiments in general chemistry; the halogens. S. Morris and A. J. W. Head-lee. *diag J Chem Educ* 10:638 O '33

Relation of electromeric effects and relative polarisabilities of the halogens. R. Robinson. *Chem Soc J* p1114-17 S '33

Substitution in organic compounds. G. M. Bennett and others. *Soc Chem Ind J (Chem & Ind)* 52:433-5, 467-71 My 19, Je 2 '33

Use of halogens and halogen compounds in the heat treatment of hydrocarbons; abstract. A. W. Nash and J. Mason. *Oil & Gas J* 32:33 S 14 '33

*See also*

Bromine	Halogen compounds
Chlorine	Halogenation
Fluorine	Iodine

**Analysis**

Determination of nuclear halogens in organic compounds; a critical study and standardization of the Stepanow method. W. A. Cook and K. H. Cook. *bibliog Ind & Eng Chem Anal ed* 5:186-8 My 15 '33

Estimation and detection of the halogens. A. J. Mee. *bibliog Soc Chem Ind J (Chem & Ind)* 52:520-3 Je 23 '33

Microbomb for determination of organic halogens. F. E. Beamish. *diags Ind & Eng Chem Anal ed* 5:348-9 S 15 '33



**HALOGENS—Analysis—Continued**

Micro estimation of halogens in organic compounds. A. Elek and D. W. Hill. bibliog diag Am Chem Soc J 55:2550-4 Je '33

Die quantitative bestimmung von schwefel und halogenen in verbrennlichen stoffen. W. Grote and H. Krekeler. diags Angew Chemie 46:106-9 F 11 '33

Thompson-Oakdale method for the determination of halogen in organic compounds. J. J. Thompson and U. O. Oakdale. Am Chem Soc J 55:1292 Mr '33

**HALOWAX**

Dispersion of the Kerr electro-optic effect in the short infrared spectrum. L. R. Ingersoll and W. R. Winch. diags Phys R 44:399-405 S 1 '33

**HAMBURG, Germany****Water supply**

Grundwasser-anreicherung; fünf jahre erfahrungen in Curslack. W. Holthusen. plan Zeit Ver Deutsch Ing 77:1013-14 S 16 '33

**HAMBURG-American insurance company**  
Agree to liquidation. Ins Field (Fire ed) 62:8 Mr 30 '33; Spectator 130:33 Mr 30 '33

**HAMILTON, Ontario****Bridges**

Another honor for Canadian engineers; high level bridge at Hamilton wins honorable mention in annual bridge competition of A.I.S.C. il Can Eng 64:9 Je 13 '33

**Sewerage**

Automatic pumping plant at Hamilton, Ont. il Can Eng 64:21 Ap 25 '33

**Water supply**

Hamilton purification plant opened. il Can Eng 64:15-16 Je 20 '33

New water purification and pumping plant at Hamilton. W. L. McPaul. il plan Can Eng 64:15-19 F 28 '33

**HAMMELL, John Edward, 1876-**  
Portrait. Can Min J 54:298 Ag '33

**HAMMERS**

Power shovel equipped with a giant hammer. il Roads & Sts 76:303 Ag '33; Sci Am 149:226 N '33

**HAMMERS, Drop**

Compressed air for hammers. Power Pl Eng 37:79-80 F '33

Disposition rationnelle pour les massifs de fondation des marteaux-pilons. I. Katel. diags Génie Civil 102:161-2 F 18 '33

Der doppel-gesenkhammer. H. Béch. diags Zeit Ver Deutsch Ing 77:1149-50 O 21 '33

Gesenschiemiedehammer neuer bauart. il Stahl & Eisen 53:1033 O 5 '33

Ein neuer elektrisch betriebener gesenkhammer. il diags Stahl & Eisen 53:674-5 Je 29 '33

Pneumatic double-action drop hammer. il Am Mach 77:321 My 10 '33

**HAMMERS, Pneumatic.** See Pneumatic hammers

**HAMMOND, Alonzo John, 1869-**  
Sketch. Civil Eng 3:99-100 F '33

**HAMMOND burners**

Commercial burners for underwater fires. K. A. Kobe and C. W. Hauge. diags Power 77:403 Ag '33

Submerged combustion meets many industrial heating needs. K. A. Kobe and C. W. Hauge. diag Power 77:460-1 S '33

**HAND**

See also  
Advertisements, Pictorial—Hands

**Protection**

Guard those hands! G. E. Burns. il Nat Safety N 27:27-8 Ap '33

What about your hands? S. R. Benedict. Nat Safety N 26:15-16+ D '32

**HAND-to-mouth buying.** See Purchasing—Hand-to-mouth policy

**HANDBAGS**

Handbag fabrics. T. Nelson. il Textile World 82:1163 D '32

**HANDICAPPED**

Overcoming physical handicaps. J. C. Harris. East Underw 34:19+ Je 30 '33

See also

Blind

Deafness

**HANDICRAFT**

Experimental handicraft workshops in Zurich, Switzerland. Monthly Labor R 36:1291 Je '33

Home decorative handicrafts. F. Jefferson-Graham. 325p \$7.50 Pitman '32

Tools and handicraft. H. W. Moore, ed. 350p University society, inc, New York '33

**HANDKERCHIEFS**

Four Arrow handkerchiefs. il Adv & Sell 20: sup[Adv Arts] 20 Ja '33

**HANDLES**

Answering the handle problem. M. H. Frost. il Plastics 8:457 Ja '33

**HANDLING of materials**

Co-ordination of goods handling equipment. J. S. Taylor. il diags Mech Handling 20: 285-9, 347-50 S, N '33

Modernization in chlorine handling. C. Leopold. il Water Works & Sewerage 80:322 S '33

See also

Acid handling

Ash handling

Cargo handling

Cement handling

Coal handling

Conveying machinery

Electric trucks, Industrial

Factory transportation

Farm transportation

Freight handling

Grain handling

Gravel handling

Hoisting machinery  
Loading and unloading

Mechanical handling

Milk handling

Motor trucks, Industrial

Ore handling

Sand handling

Steel handling

Stores systems

Sugar handling

Trucks

**Safety devices and measures**

Handling material a real problem for the safety man. J. A. Purdy. il Nat Safety N 28:17-18 Ag '33

Safety—a by-product of modern methods of handling materials. C. T. Fish. il Nat Safety N 27:31-2+ F '33

**HANDWORK**

Die technische und betriebswirtschaftliche entwicklung des handwerkes. E. Hotz. diags Zeit Ver Deutsch Ing 77:1105-9 O 14 '33

**HANGARS**

Construction of aerodromes. H. A. Lewis-Dale. Engineering 135:329-30 Mr 24 '33

Giant hangar has all-welded floors. Sci Am 147:370 D '32

Underfloor duct at Sunnyvale air base. il Elec West 71:25-6 S '33

Les voiles minces en forme de paraboloïde hyperbolique. F. Almond. diags Génie Civil 102:179-81 F 25 '33

**Fires and fire protection**

Airplane hangar fires. East Underw 34:20 Jl 21 '33; Same, Weekly Underw 129:99 Jl 15 '33

**HANSEN, Carl M.**

Sketch. East Underw 34:19 Ap 28 '33

**HARBORS**

Harbors and waterways in 1932. Engineer 155: 8-9, 35-7 Ja 6-13 '33

Le port à arachides de Kaolack (Sénégal). E. Jacquier. il diags map Génie Civil 102:1-6 Ja 7 '33

Les travaux d'extension du port de Dunkerque; la visite du 5 juillet de la Société des ingénieurs civils. J. Dumas. diags plans Génie Civil 103:87-90 Jl 22 '33

**HARBORS—Continued**

Water terminals of yesterday and today.  
W. J. Cahill. *il* Civil Eng 3:432-4 Ag '33

*See also*

Breakwaters Loading and unload-  
Bulkheads ing—Ships  
Docks Longshoremen  
Dredging Piers  
Dry docks Ports  
Jetties Terminals  
Wharves

also subdivision Harbor under names of cities, e.g. New York (city)—Harbor

**HARD-facing alloys.** *See* Alloys, Hard-facing

**HARD woods**

Exploitation of hardwoods on pulpwood lim-  
its. K. G. Fensom. *Pulp & Pa of Can* 34:  
189-90 F '33

Hardwood flooring industry. J. H. Worman.  
*J Account* 55:117-33 F '33

Wood chemicals respond to changing market  
trends. R. S. McBride. *Chem & Met Eng* 40:  
40-1 Ja '33

**HARDENING**

Hardening cast iron by heat treatment. J. E.  
Hurst. *il* Iron Age 132:24-7+ O 26 '33

*See also*

Case hardening  
Cement—Setting  
Steel, Hardening of

**HARDING, Everhart Percy, 1870-1932**

Sketch. S. C. Lind. *Science* 77:12 Ja 6 '33

**HARDNESS**

Application of the diamond-pyramid indenta-  
tion test to copper and copper-rich alloys  
in the form of thin strip. M. Cook and E.  
C. Larke. *Engineering* 135:367-9 Mr 31 '33;  
Abstract. *Engineer* 155:294 Mr 24 '33; Dis-  
cussion. *Engineering* 135:364 Mr 31 '33;  
*Engineer* 155:294-5 Mr 24 '33

Applications of the Herbert pendulum hard-  
ness tester. *il* Mach 39:541 Ap '33

British standard tables of diamond pyramid  
hardness numbers. 22p British standards in-  
stitution, London '31

Durosop adapted for wire hardness testing.  
*il* Iron Age 131:512-13 Mr 30 '33

Einfluss der probenbreite auf die Brinellhärte.  
H. Kostron. *Stahl & Eisen* 52:1272-3 D 22  
'32

Gage for file test. B. Buxbaum. *Metal Prog*  
23:48 Je '33

Hardness of metals at high temperatures. J.  
F. Kayser. *diag Engineering* 134:604-5 N 18  
'32; Same. *Engineer* 154:sup[Metallurgist]  
173 N 25 '32; Same. *Metal Prog* 23:50+ Mr  
'33

Hardness testing with a file a useful art  
easily learned. *il* Metal Prog 22:14-18 D '32

Hardness values for electrochemical products.  
R. R. Ridgway, A. H. Ballard and B. L.  
Bailey. *il* diags Electrochem Soc Trans 63  
(preprint 27):267-90 My '33

Hot-hardness of high-speed steels and related  
alloys; abstract. E. C. Harder and H. A.  
Grove. *Iron Age* 131:383 Mr 2 '33

Howden and company 125-kg. hardness-  
testing machine. *il* Engineering 135:505-6  
My 5 '33

Magnetic fields and the hardness of metals.  
H. Esser and H. Cornelius. *Engineer* 156:  
sup [Metallurgist] 62-3 Ag 25 '33

Mechanical hardness, influenced by magnetism  
and measured by magnetostrictive effects.  
S. R. Williams. *il* diag Am Soc Steel Tr  
Trans 21:741-68 Ag '33

New hardness ratio. H. S. Kipling. *Automob-  
ile Eng* 22:563 N '32

New indentation hardness tests. T. Matsumu-  
ra. *Engineer* 155:sup[Metallurgist] 5-6 F 24  
'33

Report on the heat conductivity and hardness  
of carbon and high-speed steel, also the  
durability of these steels when cutting  
brass. D. Smith and A. Nield. *diags Inst  
Mech Eng Proc* 123:709-25 '32

Schwankungen in den ergebnissen der härte-  
messung bei gehärteten stählen. O. Heng-  
stenberg. *Stahl & Eisen* 53:352-5 Ap 6 '33

Simplified pendulum hardness tester. *il*  
*Engineer* 156:68 Jl 21 '33

Sintered tungsten carbide Brinell balls; ab-  
stracts. H. Styri. *Mech Eng* 55:182 Mr '33;  
*Engineer* 155:sup[Metallurgist] 21-2 Ap 28  
'33

Standardisation of the scleroscope test for  
specification use. R. Genders. *diag Engineer*  
155:sup[Metallurgist] 46-7 Je 30 '33

Wear of hard metallic surfaces. N. N. Sawin.  
*il* diags Am Mach 77:496-9 Ag 2 '33

Wear tests and value of hardness testing for  
control of product; abstract. A. L. Boege-  
hold. *Iron Age* 131:1040 Je 29 '33

*See also*

Brinell hardness test  
Case hardening  
Steel, Hardening of

**HARDWARE**

Seasonal spurt in sales of hardware. R. Bren-  
nan. *Dun's R* 40:2-4 D 24 '32

Wholesalers face bitter competition. G. James.  
*Adv & Sell* 20:23+ D 8 '32

*See also*

Bolts and nuts Nails  
Building fittings Saws  
Files and rasps Screws  
Hinges Tools

**HARDY, Charles J.**

Succeeds Woodin as A.C.F. president. *por Ry*  
*Age* 94:339-40 Mr 4 '33

**HARMAN**

Yohimbine (quebrachine); harman, a degra-  
dation product. G. Barger and C. Scholz.  
*Chem Soc J* p614-15 Je '33

**HARMONICS (electric waves)**

Absorbers devised for system fifth harmonics.  
J. H. Williams. *Elec W* 101:387 Mr 25 '33

Calculation of harmonic production in ther-  
mionic valves with resistive loads. D. C.  
Espley. *Inst Radio Eng Proc* 21:1439-46  
O '33

Effect of the curvature of the characteristic  
on the frequency of the dynatron genera-  
tor. E. B. Moullin. *Inst E E J* 73:186-95  
Ag '33

Harmonics in transformer circuits. E. Am-  
brose. *Electrician* 111:505 O 27 '33

Influence of mercury-arc rectifiers upon the  
power factor of the supply system. H. Ris-  
sik. *Inst E E J* 72:440-4 My '33

Interdependence of frequency variation and  
harmonic content, and the problem of con-  
stant-frequency oscillators. J. Groszkowski.  
*bibliog diags Inst Radio Eng Proc* 21:958-81  
Jl '33

Ripple voltage of rectifiers; influence of higher  
a.c. harmonics. H. Geise and W. Plathner.  
*Electrician* 109:714-16 D 2 '32

Wave-form distortion; methods of detection  
and measurement. *il* diag Elec R (Lond)  
113:121 Jl 28 '33

**HARRIMAN memorial medals for safety**

New Haven wins Harriman gold medal safe-  
ty award. *Ry Age* 94:872 Je 17 '33; *Nat Safe-  
ty N* 28:26 Jl '33

**HARRIMAN national bank and trust company, New York**

Wall St. vs. Woodin; guarantee of Harriman  
bank deposits. *Business Week* p18 Ap 19  
'33

**HARRINGTON, Gordon Sydney, 1883-**

Portrait. *Can Min J* 54:4 Ja '33

**HARRISON, Ross G.**

Professor Harrison as Croonian lecturer.  
*Science* 77:530-1 Je 2 '33

**HARRODS, limited**

Annual general meeting, 43d, London. *Econ-  
omist* 116:550 Mr 11 '33

**HART, Francis Russell**

President, United fruit co. *por Marine R* 63:  
39 My '33

**HARTFORD electric light company**

Connecticut utility; Hartford electric light co.  
and its affiliate Connecticut power co. *il*  
map *Fortune* 7:37-43+ Ap '33

**HARTFORD family**

Biggest family business; the Great Atlantic  
& Pacific tea co. *Fortune* 7:52-5+ Mr '33



**HARVARD university**

Hersey professorship of the theory and practice of physic at Harvard university. Science 76:588 D 23 '32

**Finance**

Investments. Barron's 12:21 N 28 '32

**Medical school**

One hundred and fiftieth anniversary of the Harvard medical school. Science 78:336-8 O 13 '33

**HARVESTING machinery**

Baby combine. il Business Week p14 S 9 '33

Le XII<sup>e</sup> salon de la machine agricole (Paris, 24-29 janvier 1933). G. Coupan. il diags Génie Civil 102:252-6, 273-6 Mr 18-25 '33

**HARVEY, G. A., & company (London)**

Visit to plant of G. A. Harvey & co. il Soc Chem Ind J (Chem & Ind) 51:959-60 N 18 '32

**HARVEY, Theodore H. 1888-**

President, Steel founders' society of America. por Steel 92:18 Mr 13 '33

**HATFIELD, W. H.**

Awarded Bessemer gold medal for 1933. por Steel 92:17 My 22 '33

**HATS**

Lesson of \$5 hats; Stetson company. G. V. MacKinnon. il Ptr Ink 161:17-20 D 15 '32

New ideas can shock business into action, even now; Knox hat company. F. H. Montgomery. il Ptr Ink 163:3-4+ My 25 '33  
When a new hat is not new. Ptr Ink 164:55 J1 27 '33

**Advertising**

Ad that set a fashion; Camel cigarette hat. il Adv & Sell 20:19-20+ Ja 19 '33

Camel hat. il Ptr Ink 162:62 Ja 12 '33

Mail-order hat sale plan trebles Knox over-the-counter business. il Sales Management 33:220 S 1 '33

Not-so-mad hatters. il Ptr Ink 165:32 O 12 '33

**Manufacture**

Lacquer finishes on straw, felt and fibre hats. G. Rice. il Plastic Prod 9:275-6 S '33

**HATS, Paper. See Paper hats****HATS, Protective**

Protective hats and caps that saved men's lives. A. C. Carruthers. il Safety Eng 64:210-11 N '32

**HAULAGE**

Endless chain haulage gears in quarries and brickworks. A. C. Farren. diags Mech Handling 20:151-4 My '33

Interesting transport job; Patricia transportation co. ltd. il Can Min J 54:12 Ja '33

New LaPlant-Choate 12-yd. wagon. C. B. Smith. il Can Eng 64:23 F 7 '33

**See also**

Cableways  
Conveying machinery  
Delivery of goods  
Electric trucks  
Factory transportation  
Horses  
Ice delivery  
Loading and unloading  
Locomotives

Locomotives, Industrial  
Mine haulage  
Motor trucks  
Motor trucks in freight service  
Petroleum—Transportation  
Tractors  
Trucks

**Tables, calculations, etc.**

Chart determines hauling costs and number of trucks required. R. D. Gladding. Eng N 111:199 Ag 17 '33

**HAUSER, Ernst A. 1896-**

Renowned rubber chemist. por India Rubber W 87:56 D '32

**HAVEG**

From 10 ft. vat to 1 in. pipe; new phenolic-asbestos plastic for chemical resistant apparatus. il Plastic Prod 9:19-21 Mr '33

Haveg; an acid and corrosion-resistant material. il Am Dyestuff Rep 22:33-4 Ja 2 '33;  
Same. Melland 4:638 Ja '33

New plastic which resists corrosion is a German immigrant. Business Week p18 Ja 18 '33

Resinous equipment solves corrosion problems. il diags Chem & Met Eng 40:201-3 Ap '33

**HAVRE, France****Harbor**

Port of Havre. il diags plan map Engineer 155:566-9, 576, 592-5, 616-18, 642-5 Je 9-30 '33

Les travaux d'extension du port du Havre, en 1931 et 1932. Génie Civil 102:18 Ja 7 '33

**HAWAIIAN ISLANDS**

Leprosy conditions in Hawaii. Science 76:sup 9-10 D 23 '32

**See also**

Botany—Hawaiian Islands

**HAWAIIAN trust company, limited**

Interesting history and progress of Hawaiian trust company, limited of Honolulu. il Trust Companies 55:602-3 N '32

**HAWLEY, John H.**

Most interesting advertising job I ever did. por Ptr Ink 162:35-6 F 23 '33

**HAWORTH, Erasmus, 1855-1931**

Memorial. R. C. Moore. por Geol Soc Bul 44:338-47 [bibliog p343-7] Ap '33

**HAY**

Mechanical handling of hay. Mech Handling 20:243 Ag '33

Spontaneous heating and ignition of hay and other agricultural products. C. A. Browne. Science 77:223-9 Mr 3 '33

**HAY drying**

Hay driers; abstract. A. W. Clyde. Mech Eng 55:513 Ag '33

**HAY fever**

Filtered air relieves hay fever. W. H. Welker, B. Z. Rappaport and T. Nelson. il Heating-Piping 5:348-50 J1 '33

Hay fever halted by conditioned air; abstracts. L. N. Gay. Sheet Metal Worker 24:150 My '33; Refrig Eng 26:52 J1 '33

Hay fever victims find new hope. Forbes 32:10 Ag 1 '33

**HAYDEN, E. J. 1890-**

President, International acetylene association. por Steel 92:12 Ja 16 '33

**HAZEL-ATLAS glass company**

Dividends consistently maintained. E. A. Barnes. Mag of Wall St 52:637+ O 14 '33

**HAZELNUT oil**

Hazelnut (filbert) oil. H. A. Schuette and C. Y. Chang. Am Chem Soc J 55:3333-5 Ag '33

**HEAD****Protection**

Check and double check; unusual coincident demonstrating the efficiency of protective headgear. Safety Eng 65:17 Ja '33

Protective hats and caps that saved men's lives. A. C. Carruthers. il Safety Eng 64:210-11 N '32

**Wounds and injuries**

Traumatic head case or cranio-cerebral injury. F. B. Harrington. U S Bur Labor Statistics Bul 577:176-81 '33

**HEADING machines**

Manville automatic machine cold heads both ends of wire blanks simultaneously. il Iron Age 131:107 Ja 12 '33

**HEADLIGHTS****See also**

Automobiles—Lighting

Locomotive headlights  
Searchlights

**HEADLINES.** See Advertisements—Headlines; Newspapers—Headlines

**HEADWAY recorders.** See Street railroads—Headway recorders

**HEALTH**

Health of insured wage earners during 1932. Monthly Labor R 36:786-9 Ap '33

**HEALTH—Continued**

Trends of health in the United States. R. H. Britten. bibliog Pub Health Rep 48:27-41 Ja 13 '33

What to tell the public about health. 255p American public health assn, New York '33

*See also*

Hygiene  
Public health  
Sickness

**HEALTH** and accident underwriters conference Annual convention, 32d, Chicago, June 5-8. Ins Field (Fire ed) (H & A Sup) 62:1-7+ Je 15 '33; Nat Underw 37:27-37 Je 8 '33; East Underw 34:35, 38-41 Je 9 '33; Spectator 130: 32-3 Je 8 '33; Weekly Underw 128:1091-4+ Je 10 '33

**HEALTH** insurance. *See* Insurance, Health

**HEALTH** resorts

Lighting of seaside and health resorts. W. N. C. Clinch. Illum Engr 26:229-30; Discussion, 235 O '33

Seaside lighting. W. J. Jones. il Elec R (Lond) 113:453 O 6 '33

**HEARING**

Function of the round window. E. Culler, G. Finch and E. S. Girden. Science 78:269-70 S 22 '33

Sensitivity of the finger-tip to vibrations at various frequency levels; comparison with ear. L. D. Goodfellow. J Fr Inst 216: 387-92 S '33

*See also*

Deaf, Instruments for Noise  
Deafness Sound

**HEART**

Emanuel Swedenborg on the Thebesian system of the heart. F. H. Pratt. Science 76: 488-9 N 25 '32

Heart favored by evolution. Sci Am 148:102-3 F '33

Simple device for the perfusion of the mammalian heart. J. W. Wilson and J. M. Darlington. diag Science 77:370-1 Ap 14 '33

World's most efficient pump. G. A. Skinner. il Sci Am 148:330-1 Je '33

**Diseases**

Form of experimental endocarditis produced in rabbits. O. F. Hedley and E. J. Rose. Pub Health Rep 48:1038-43 Ag 25 '33

Heart disease pain; relief for angina pectoris. J. C. White. Sci Am 148:285-6 My '33

Observations on heart disease in marine hospital practice. O. F. Hedley. Pub Health Rep 48:565-75 My 26 '33

**HEAT**

Elements of industrial heat. J. A. Randall and J. W. Gillon. v 1 261p \$2.75 Wiley '33

Fortschritte der wärmetechnischen forschung. E. Schmidt. diags Zeit Ver Deutsch Ing 77: 1157-61 O 28 '33

Heat. J. M. Cork. 279p \$3 Wiley '33

Heat and its workings. M. Mott-Smith. 239p [bibliog p229-30] \$2 Appleton '33

Interpretation of heat in relativistic thermodynamics. R. C. Tolman and H. P. Robertson. Phys R 43:564-8 Ap 1 '33

National physical laboratory; physics department. il diags Engineering 136:444-6 O 20 '33

Theory of heat; being volume V of Introduction to theoretical physics. M. K. E. L. Planck. 301p 12s Macmillan '32

Thermal research projects. Power 77:264-5 My '33

*See also*

Atmospheric temperature  
Boiling points  
Calorimeters and calorimetry  
Combustion  
Electric heating  
Evaporation  
Expansion (heat)  
Flame propagation

Flames  
Gas heating  
Heating  
Insulation (heat)  
Melting points  
Pyrometers and pyrometry  
Solution, Heat of  
Specific heat  
Steam

**Temperature**

Thawing  
Thermochemistry  
Thermodynamics  
Thermoelectricity

**Thermometers and**

thermometry  
Vaporization, Heat of  
Waste heat

**HEAT** conduction

Effect of clothing on the rate of cooling of the body. W. S. Weeks. J Ind Hygiene 15: 383-6 S '33

**HEAT** conductivity

Gas analysis by measurement of thermal conductivity. H. A. Daynes. 357p \$4.25 Macmillan '33

Heat conductivity of ice. C. H. Herter. Refrig W 68:27 Ja '33

Heat conductivity of wood at climatic temperature differences. F. B. Rowley. Heating-Piping 5:313-23 Je '33; Excerpts. Refrig Eng 26:88-9 Ag '33

Heat effects in lubricating films. A. Kingsbury. diag Mech Eng 55:685-8 N '33

Precise determination of the thermal diffusivity of zinc. R. H. Frazier. Phys R 43:135-6 Ja 15 '33

Report on the heat conductivity and hardness of carbon and high-speed steel, also the durability of these steels when cutting brass. D. Smith and A. Nield. diags Inst Mech Eng Proc 123:709-25 '32

Some thermal conductivities. Engineer 154:sup [Metallurgist] 173-5 N 25 '32

Thermal conductivity and the plate efficiency in a rectifying column; Vitreosil, cast iron and Alpac. C. P. Warden. diags Soc Chem Ind J (Chem & Ind) 61:405T-11T D 23 '32

Thermal conductivity of iron; abstract. J. W. Donaldson. Chem Age (Lond) 29:251-2 S 16 '33

Thermal conductivity of liquids. O. K. Bates. bibliog il diags Ind & Eng Chem 25:431-7 Ap '33

Thermal conductivity of magnesite brick. G. B. Wilkes. il diag Am Cer Soc J 16:125-30 Mr '33

Thermal insulation. E. Griffiths. Engineering 135:536-7 My 19 '33

Thermal insulation with aluminum foil. R. B. Mason. bibliog il Ind & Eng Chem 25:245-55 Mr '33; Summary. Refrig Eng 25:264 My '33

Thermal properties of mass concrete. C. S. Rippon and L. J. Snyder. il diags Am Concrete Inst J 5:35-40 S '33

Thermal properties of meat. J. H. Awbery and E. Griffiths. diag Soc Chem Ind J 52: 326T-8T O 6 '33

Transport phenomena in Einstein-Bose and Fermi-Dirac gases. E. A. Uehling and G. E. Uhlenbeck. Phys R 43:552-61 Ap 1 '33

*See also*

Heat transmission

**HEAT** convection

Application of the eupatheoscope for measuring the performance of direct radiators and convectors in terms of equivalent temperature. A. C. Willard, A. P. Kratz and M. K. Fahnestock. il diags plans Heating-Piping 5:369-75 Jl '33

**HEAT** engines

Heating a building by means of a refrigerator. T. B. Morley. diags Engineer 155:655 Je 30 '33

Theory of the Velox boiler; editorial. Engineering 134:539-40 N 4 '32; Discussion. 134: 688-9, 690-1, 716 D 9-16 '32

Working cycle of the Velox boiler. O. Klüsener. diags Engineering 136:176 Ag 18 '33; Abstract. Mech Eng 55:641 O '33

*See also*

Diesel engines  
Gas and oil engines  
Heat pumps

Steam engines  
Steam turbines  
Thermodynamics

**HEAT** exchangers

Atomic hydrogen welding solves heat exchange equipment problem. M. W. Brewster. il Iron Age 131:434-5 Mr 16 '33

Bolts and flanges for tanks and heat exchangers. C. O. Sandstrom. diags Chem & Met Eng 40:67-71 F '33; Discussion. 40:314-15 Je '33



**HEAT exchangers—Continued**

- Design of heat exchangers. B. M. Thornton. Engineering 134:500-1 O 28 '32; Abstract. Mech Eng 55:131-2 F '33
- Designing heads for tanks and heat exchangers. C. O. Sandstrom. diags Chem & Met Eng 39:668-72 D '32
- Exchange of heat between three fluids. T. B. Morley. Engineer 155:314 Mr 31 '33
- Gusselserner nadel-wärmeaustauscher. il diags Chemische Fabrik 6:43 Ja 18 '33
- Heat transfer in an industrial glass heat exchanger. H. C. Bates. diags Chem & Met Eng 40:512-13 O '33
- Mean temperature difference and heat transfer coefficient in liquid heat exchangers. A. P. Colburn. Ind & Eng Chem 25:873-7 Ag '33
- Mean temperature differences in multipass heat exchangers. W. M. Nagle. il diags Ind & Eng Chem 25:604-9 Je '33
- More heads for tanks and heat exchangers. C. O. Sandstrom. diags Chem & Met Eng 40:138-41 Mr '33
- Principles of rectification; heat exchange. G. A. Burrell and N. C. Turner. Nat Pet N 25:35-6+ Je 14 '33
- Saving 75 per cent in floor space requirements; closed-plate type heat exchanger permits doubling of pasteurizing and cooling capacity. D. B. Goldberg. il Food Ind 5:350-2 S '33
- Special cast iron heaters and heat exchangers will lower cost of treating oil emulsions. L. N. Hunter. il diag Oil & Gas J 32:8+ Ag 17 '33

**HEAT measurement**

See also

- |                              |                              |
|------------------------------|------------------------------|
| Calorimeters and calorimetry | Temperature—Measurement      |
| Pyrometers and pyrometry     | Thermocouples                |
|                              | Thermometers and thermometry |

- HEAT of activation.** See Activation, Heat of
- HEAT of adsorption.** See Adsorption, Heat of
- HEAT of combustion.** See Combustion, Heat of
- HEAT of dilution.** See Dilution, Heat of
- HEAT of formation.** See Thermochemistry
- HEAT of fusion.** See Fusion, Heat of
- HEAT of solution.** See Solution, Heat of
- HEAT of vaporization.** See Vaporization, Heat of

- HEAT of wetting.** See Wetting, Heat of

**HEAT pump**

- Boilers and heat pumps. Engineer 154:669 D 30 '32; Abstract. Mech Eng 55:259-60 Ap '33
- House heated by pump with 5 to 1 pick-up ratio. G. Wilkes and R. E. Marbury. il diag Elec W 160:828-31 D 17 '32
- New heat storage system developed in Europe. F. Marguerre. diag Power Pl Eng 37:426-7 O '33
- Reversed cooling for heat an economic combination. C. D. Graham. Elec W 102:533-7 O 21 '33
- Reversed refrigerating cycle used in new De La Vergne air conditioner. il diag Heat & Ven 30:57 Je '33
- Science reverses the refrigeration cycle and gives us the heat pump! C. D. Graham and G. Wilkes. il diag Dom Eng 141:55-6+ Mr '33
- Steam-pressure transformers; abstract. T. B. Morley. Mech Eng 55:258-9 Ap '33

**HEAT radiation**

- Application of the eupatheoscope for measuring the performance of direct radiators and convectors in terms of equivalent temperature. A. C. Willard, A. P. Kratz and M. K. Fahnestock. il diags plans Heating-Piping 5:369-75 Jl '33
- Die berechnung der strahlung von gasräumen. E. Schmidt. diags Zeit Ver Deutsch Ing 77:1162-4 O 28 '33
- Le chauffage des locaux par rayonnement au moyen de panneaux chauffants. il Génie Civil 103:85-7 Jl 22 '33
- Cost of open furnace doors. G. P. Pearce. Power Pl Eng 37:484 N '33

- Does copper pipe emit heat? M. B. Lowe. il Dom Eng 141:40-2+ Ap '33
- Present status of the standards of thermal radiation maintained by the Bureau of standards. W. W. Coblenz and R. Stair. bibliog U S Bur Stand J Research 11:79-87 Jl '33
- Radiation in boiler furnaces; abstract. W. T. Bottomley. Elec R (Lond) 112:84-5 Ja 20 '33
- Radiation of energy through glass. J. L. Blackshaw and F. C. Houghten. il diags Heating-Piping 5:523-5 O '33
- Radiometric condenser; the control of oscillating circuits by radiant heat. G. G. Blake. il diags Elec R (Lond) 112:43-4 Ja 13 '33
- Report on the conversion of the potential energy of coal gas into radiant energy. H. Hartley. Gas J (Lond) 200:sup14 O 26 '32; Discussion. 200:427-31 N 9 '32
- Ultra short waves; 60 cm. zero-shunt circuit—new methods for measurement—control by radiometric condensers and inductances. G. G. Blake. bibliog diags Electrician 111:279-80 S 8 '33

See also

- Heat transmission
- Radiators

**HEAT-resisting alloys. See Alloys, Heat-resisting****HEAT storage**

- Electric thermal storage; discussion. Elec R (Lond) 111:890 D 16 '32
- Electric thermal storage installation at Bank-side. il Engineer 156:94 Jl 28 '33; Same. Electrician 111:103 Jl 21 '33
- French thermal-storage scheme for building heating. il Elec R (Lond) 112:776 Je 2 '33
- Molten-salt method of heat storage and heat exchange; abstract. D. Brownlie. Mech Eng 55:49-50 Ja '33
- New energy-storage system offers unusual features. F. Marguerre. Elec W 102:258 Ag 26 '33
- New heat storage system developed in Europe. F. Marguerre. diag Power Pl Eng 37:426-7 O '33
- Office heating installation; Martins bank, ltd. Liverpool. Engineer 155:330-1 Mr 31 '33

**HEAT transmission**

- Air cooling by conduction and convection. W. S. Weeks and F. G. DeBerry. bibliog J Ind Hygiene 15:34-40 Ja '33
- Beitrag zur frage der verwendung von heiss- und sattdampf. E. Kirschbaum. il diags Chemische Fabrik 6:309-12 Jl 19 '33
- Cooling coil efficiency tests; admiralty brass, glass, and chrome nickel iron as tube materials tested. B. L. Peables and D. K. Taylor. Gas Age 70:653-4 D 17 '32
- Design of grid-packed cooling towers. C. C. Furnas and R. H. Newton. plan Chem & Met Eng 40:301-4 Je '33
- Determining the transmission of heat in industrial furnaces. M. H. Mawhinney. il Steel 92:23-5 Ap 24; 23-5 My 8 '33
- Drip condensation. F. A. M. Wulfinhoff. il Mech Eng 55:410 Jl '33
- Der einfluss der überhitzung des dampfes auf den wärmeübergang. H. Claassen. Zeit Ver Deutsch Ing 77:1141-2 O 21 '33
- Evaporating, condensing and cooling apparatus. E. Hausbrand. 5th ed rev & enl 503p \$8 Van Nostrand '33
- Evaporator heat transfer analysis; individual coefficients experimentally determined for ammonia cooling water in inclined steel pipes. F. O. Gaskill. bibliog diags Refrig Eng 26:126-32, 151 S '33
- External heat loss of a blast-furnace. D. F. Marshall. diags Iron & Steel Inst J 127:127-44 no 1 '33; Abstracts. Engineering 135:526 My 12 '33; Engineer 155:471 My 12 '33; Discussion. Iron & Steel Inst J 127:145-51 no 1 '33; Engineering 135:526 My 12 '33; Engineer 155:471 My 12 '33
- Feed-water heating. R. Livingstone. Elec R (Lond) 111:952-3 D 30 '32
- Fortschritte der wärmetechnischen forschung. E. Schmidt. diag Zeit Ver Deutsch Ing 77:1158-9 O 28 '33
- Gas heating calculations simplified. O. J. Kuenhold. Am Gas J 138:21-4 Je '33

**HEAT transmission—Continued**

- Heat loss from copper piping. R. H. Hellman. *il Heating-Piping* 5:458-62 S '33
- Heat losses from open hot-water tank. Elec W 102:190 Ag 5 '33
- Heat transfer; current research projects. Power 77:257-8 My '33
- Heat transfer in electric furnaces. E. G. Fliegen. *diags Engineer* 156:377-9 O 20 '33
- Heat transference in superheaters. T. B. Morley. *Engineer* 155:108 F 3 '33
- Heat transfers in the open-hearth furnace; abstracts. W. C. Buell, jr. *Iron Age* 132:42-3 O 26 '33; *Steel* 93:28 O 30 '33
- Heat transmission. W. H. McAdams. 383p [bibliog p345-71] \$5 McGraw-Hill '33
- Heat transmission from metal surfaces to boiling liquids. D. S. Cryder and E. R. Gilliland. *bibliog diags Ind & Eng Chem* 24:1382-7 D '32; Same, without table. *Refriger Eng* 25:78-83 F '33; Abstract. *Mech Eng* 55:192 Mr '33; Discussion. *Refriger Eng* 25:83-5+ F '33
- Heat transmission in rotary kilns; abstract. W. Gilbert. *Rock Prod* 36:50 F '33
- Heat transmission through building materials. F. B. Rowley and A. B. Algren. *il diags Minn Eng Exp Sta Bul* 8:1-106 '32
- High-boiling-point organic compounds. J. J. Grebe and E. F. Holser. *diags Mech Eng* 55:369-73 [bibliog p373] Je '33
- Ice prevention on aircraft by means of engine exhaust heat and a technical study of heat transmission from a Clark Y airfoil. T. Theodorsen and W. C. Clay. *bibliog il diags U S Nat Advisory Com for Aeronautics* 1932:91-112 '33
- Improving open-hearth furnace design. W. C. Buell, jr. *diag Steel* 92:31-2, 34 Je 19 '33
- Increasing condenser efficiency through production of turbulent flow. B. T. duPont. *diag Nat Pet N* 24:74-5+ N 16 '32
- Industrial heat transfer. A. Schack. 371p \$5 Wiley '33
- It pays to insulate hot water tanks. R. S. Julsrud. *il Dom Eng* 142:44-6+ S '33
- Kondensation und verdampfung; neuere anschauungen und versuche. M. Jakob. *il diag Zeit Ver Deutsch Ing* 76:1161-70 N 26 '32
- Luminous versus non-luminous flame for the open-hearth. V. Balabanov. *diags Blast F & Steel Pl* 21:362-3+, 424-5, 476-7+ J1-S '33
- Most economical size of pipe for transmitting fluids. P. M. Gallo. *Blast F & Steel Pl* 21:326-7, 377-9 Je-J1 '33
- New inorganic heat carrier for super-temperature heating; NS fluid. T. Kayser. *Chem & Met Eng* 40:353-4 J1 '33; Same. *Chem Age (Lond)* 29:229-30 S 9 '33; Abstract. *Sci Am* 149:242-3 N '33
- Photographic records of heat transfer and their analysis. S. Rupprich. [tr. from German of E. Schmidt] *il diags Refrig Eng* 26:19-27+ J1 '33
- Surface absorption of heat from solar radiation. F. G. Hechler and E. R. Queer. *il diag Refrig Eng* 25:86-91 F '33; Abstract. *Heat & Ven* 30:39 Mr '33; Discussion. *Refriger Eng* 25:91+ F '33
- Thermodynamics and heat flow in the typical modern skimming and cracking operation. G. Vandenberg. *diags Oil & Gas J* 32:13-14+ Ag 10 '33
- Transmission of heat through fabrics; abstract. M. C. Marsh. *Mech Eng* 55:586 S '33
- Tube diameter and heat transmission. T. Petty. *Engineer* 156:54 J1 21 '33
- See also*  
Heat conductivity  
Heat radiation  
Heating—Tables, calculations, etc.  
Heating—Tables, calculations, etc.  
Insulation (heat)  
Radiators—Testing  
Tables, calculations, etc.
- Calculation of heat transmission. H. F. P. Purday. *Engineering* 134:659-60 D 2 '32
- Design of heat exchangers. B. M. Thornton. *Engineering* 134:500-1 O 28 '32; Abstract. *Mech Eng* 55:131-2 F '33
- Determination of sun effect on summer cooling loads. G. A. Hendrickson and J. H. Walker. *diag Heat & Ven* 30:20-3 Je '33
- Exchange of heat between three fluids. T. B. Morley. *Engineer* 155:314 Mr 31 '33
- Heat output of concealed radiators. E. A. Allcutt. *diags Heating-Piping* 5:267-74 My '33
- Heat transfer in unit coolers; the effect of humidity at temperatures below and above the freezing point in a dry type floor mounted unit. W. R. Woolrich, P. W. Scates and M. Tucker. *diags Refrig Eng* 26:239-43 N '33; Abstract. *Heat & Ven* 30:39-40 S '33; Discussion. *Refriger Eng* 26:243-5 N '33
- Mean temperature difference and heat transfer coefficient in liquid heat exchangers. A. P. Colburn. *Ind & Eng Chem* 25:873-7 Ag '33
- Mean temperature differences in multipass heat exchangers. W. M. Nagle. *il diags Ind & Eng Chem* 25:604-9 Je '33
- Principles of rectification; heat exchange. G. A. Burrell and N. C. Turner. *Nat Pet N* 25:35-6+ Je 14 '33
- Selecting temperatures and wind velocities for calculating heat losses. P. D. Close. *diag Heating-Piping* 5:526-31 O '33
- HEAT treatment**
- Aging of springs. R. W. Carson. *bibliog Am Mach* 77:202-3 Mr 29 '33
- Beryllium-copper alloys; their manufacture and heat treatment. E. F. Cone. *il Iron Age* 132:14-16+ Ag 10 '33
- Blistering of aluminum. H. Diergarten. *Metal Prog* 24:53-4 O '33
- Casting beryllium-copper alloys. E. F. Cone. *Foundry* 61:20-1, 59-60 S '33
- Chief features of last year's progress in some metallurgical fields. E. F. Cone. *Iron Age* 131:27-8, 31-2+ Ja 5 '33
- Hardening cast iron by heat treatment. J. E. Hurst. *il Iron Age* 132:24-7+ O 26 '33
- Heat treating; A.G.A. forum on gas as fuel. *Am Gas Assn Proc* 1932:620-2
- Heat treating gray iron castings. J. W. Bolton. *Foundry* 61:19-20+ Mr '33
- Heat-treatment at River Rouge. J. B. Nealey. *il Am Mach* 77:584-7 S 13 '33
- Heat-treatment of aluminum alloys. D. B. Hobbs. *Mach* 39:319-20 Ja '33
- Heat treatment of aluminum castings. W. S. Scott. *il diags Metal Prog* 24:21-4 S '33
- Heat treatment of beryllium-copper. E. F. Cone. *il Am Mach* 77:620-2 S 27 '33
- Heat treatment of cast iron. H. Bornstein. *il Metal Prog* 24:31-5 Ag '33
- Heat treatment of cast iron. C. H. Morken. *il Iron Age* 132:24-7 S 28 '33
- Liquid baths for heat treating—bath furnaces and temperature measurements. W. P. Eddy, jr. *diags Iron Age* 131:230-2 F 9 '33
- Liquid baths for heat treating—high-temperature salt baths. W. P. Eddy, jr. *Iron Age* 130:959+ D 22 '32
- Liquid baths for heat treating—medium-temperature salt baths. W. P. Eddy, jr. *Iron Age* 130:721+, 882-3 N 10, D 8 '32
- Making drawing and forging dies from gray cast iron. F. B. Coyle. *il Steel* 92:26-7 Je 19 '33
- Piston ring production. J. S. Irving. *il Automobile Eng* 23:385-7 O '33
- Precipitation-hardening nickel-copper alloys containing aluminum. D. G. Jones, L. B. Pfeil and W. T. Griffiths. *Engineering* 136:505-7 N 3 '33; Abstract. *Engineer* 156:307 S 29 '33; Discussion. *Engineering* 136:367 S 29 '33; *Engineer* 156:307 S 29 '33
- Quenching and tempering in alloys; abstracts. A. Portevin. *Chem Age (Lond)* 28:433-4 My 13 '33; *Engineer* 155:480-1 My 12 '33; *Engineering* 135:549 My 19 '33
- Refined fuels, so-called, for heat treating. R. M. Keeney. *Iron Age* 131:827-8 My 25 '33
- Variation of secondary emission with heat treatment. P. L. Copeland. *diag J Fr Inst* 215:435-43 Ap '33



**HEAT treatment—Continued**

Veining or sub-boundary structures. L. Northcott. Iron & Steel Inst J 126:267-79, pl 23-6b; Discussion. 280-7 no 2 '32

*See also*

Annealing  
Electric furnaces,  
Heat treating  
Furnaces, Heat treat-  
ing  
Steel, Heat treatment  
of

**HEAT units**

Heat energy as a basis for gas billing. T. R. Weymouth. Gas Age 71:83-5+ Ja 28 '33

**HEATERS**

Modern unit heater a production aid; solves many a plant problem other than strictly space heating. il Heating-Piping 5:510-12+ O '33

Modern unit heaters promote effective plant heating with economy. il Heating-Piping 5:445-9+ S '33

Modernizing with unit heaters. il diags Heating-Piping 5:31-3 Ja '33

Trapping unit heaters for industrial-plant heating. il diags Heating-Piping 5:561-4+ N '33

Unit heaters answer many a process problem. L. J. Zorn. il Heating-Piping 5:258 My '33

Unit heaters find increasing use in textile mills. C. L. Hubbard. il Textile World 83: 590-1 Mr '33

Unit heaters; installation and operating methods which insure highest efficiency. C. L. Hubbard. Textile World 83:1630-1 S '33

Use of unit heaters in shops and engine-houses has advantages. il Ry Age 94:559-61 Ap 15 '33

*See also*

Air preheaters  
Electric heaters  
Electric water heaters  
Feed water heaters  
Furnaces  
Gas heaters  
Gas water heaters  
Oil burners  
Oil heaters  
Oil water heaters  
Steam heaters

**HEATHER**

Introduction and use of ling for dyeing yellow. C. D. Mell. Textile Col 55:118-19 F '33

**HEATING**

Air conditioning a residence with district steam. W. H. Rudisill. il Heat & Ven 29: 39-41 D '32

Air conditioning for comfort and health, past—present—future. E. Harrington. il J Fr Inst 215:655-81 Je '33

Alt's house heating plans. 208p Engineering publications, inc, Chicago '33

Automatic draft induction makes for fuel economies. F. A. Westbrook. il Dom Eng 141:67 F '33

Automatic heating equipment; with reference advertisement of Minneapolis-Honeywell regulator company on automatic control. il diags Am Arch 143:95-115 S '33

Le chauffage des locaux par rayonnement au moyen de panneaux chauffants. il Génie Civil 103:85-7 Jl 22 '33

Correct use of heat rays for producing comfort in living rooms; abstracts. L. Hill. Gas J (Lond) 200:555 N 23 '32; Science 77:sup 9-10 Ja 27 '33; Discussion. Gas J (Lond) 200: 555 N 23 '32

Drafting room symbols for drawings relating to pipe, pipe fittings, and heating and ventilating equipment. Heat & Ven 30:42A-42B Je '33

Ever-changing picture of automatic heating for residences. Heat & Ven 30:17-18 Jl '33

Experimental house, Merion, Pa. H. D. Eberlein. il diags plans Arch Forum 58:480-4 Je '33

Farm house construction covered in conference report; abstract. Heat & Ven 30:45-6 Ap '33

Heating a building by means of a refrigerator. T. E. Morley. diags Engineer 155:655 Je 30 '33

Heating and air conditioning in country houses. il diags Arch Forum 58:235-40 Mr '33

Heating equipment for small houses. T. F. Rockwell. il Arch Rec 74:393-407 N '33

House heated by pump with 5 to 1 pick-up ratio. G. Wilkes and R. E. Marbury. il diags Elec W 100:828-31 D 17 '32

How farm homes are heated. Heat & Ven 30:44 F '33

How modern heating equipment saves. il Heating-Piping 5:22-43 Ja '33

Journées d'études concernant le chauffage et la réfrigération (Lyon, 13-15 mars 1933). Génie Civil 102:472-4 My 20 '33

Load and efficiency go together. L. C. Price. il diags Dom Eng 142:56-7+ N '33

Modern heating systems; central fan system and the unit heater. Weekly Underw 129:235-7 Ag 5 '33

Plant and building heating systems; check-lists aid proper maintenance. Heating-Piping 4:797-800 D '32

Reversed cooling for heat an economic combination. C. D. Graham. Elec W 102:533-7 O 21 '33

Science reverses the refrigeration cycle and gives us the heat pump! C. D. Graham and G. Wilkes. il diags Dom Eng 141:55-6+ Mr '33

Some observations on heating practice; abstract. J. Govan. Heat & Ven 30:47-8 Je '33

Technical features of the new General Electric oil furnace. R. S. Thurston. il diags Gen Elec R 35:602-8 D '32

What will be the future development of heating and air conditioning? W. H. Carrier. Heating-Piping 5:16-17 Ja '33; Same. Dom Eng 141:72+ F '33

Windows that sweat. J. Fletcher. il plan Dom Eng 141:38-40 My '33

*See also*

Air conditioning  
Boilers, Heating  
Chimneys  
Electric heaters  
Electric heating  
Fuel  
Furnaces, Warm air  
Gas heaters  
Gas heating  
Heaters  
Heating, Warm air  
Heating from central  
stations  
Hot water heating  
Insulation (heat)  
Mechanical equipment of buildings  
Oil burners  
Oil fuel  
Radiators  
Refractory materials  
Steam heating  
Stoves  
Ventilation

*also* subdivision Heating and ventilation under special subjects, e.g.

Bank buildings  
College buildings  
Factories  
Garages  
Hospitals  
Hotels  
Library buildings  
Office buildings  
Paper mills  
Public buildings  
Railroads—Terminals  
Ships  
Textile mills  
Theaters

*also* American society of heating and ventilating engineers

**Cost**

Coal, oil, gas; cost of heating with each. J. D. Kroeker. chart Dom Eng 142:70-1+ O '33

Gas heating shows savings in Salt Lake City schools; comparison with coal cost. H. Barker. il Heat & Ven 30:24-8 Je '33

Relative fuel economy of electricity, gas, oil, and solid fuel, as heating agents. A. H. Barker. Inst E E J 72:269-95; Discussion. 295-312; 73:452-3 Ap, O '33

Selection of building insulation; calculation of heat economies. T. F. Rockwell. Arch Rec 74:149-54 Ag '33

What of the future for gas househeating? O. J. Kuenhold. Am Gas J 138:14-17 Mr '33

**Tables, calculations, etc.**

Are winters getting warmer? study of Boston winter temperatures. R. M. Nee and D. S. Boyden. Heat & Ven 30:13-15 My '33

Calculating heating surface for buildings; charts. P. L. Rogers. Heating-Piping 5: 203-4, 261, 306, 363, 417, 470, 517, 569 Ap-N '33

Calculating radiation by use of charts. L. Corlett. Heat & Ven 29:17-19 D '32

Chart for finding mean specific heat of air and water vapor. J. W. May. Heating-Piping 5:475-6 S '33

Degree days and unit fuel consumption in typical cities. Published in monthly numbers of Heating and ventilating

**HEATING**—Tables, calculations, etc.—*Cont.*  
 Estimating oil requirements. B. E. Shaw. charts Heat & Ven 30:37-9 Ap '33  
 How to tell how much fuel will be needed. A. J. Mellish. plans Sheet Metal Worker 24:329-31 O '33  
 Outside temperatures used for design in heating calculation in 96 cities; reference data. Heat & Ven 30:26a-26b Jl '33  
 Selecting temperatures and wind velocities for calculating heat losses. P. D. Close. diag Heating-Piping 5:526-31 O '33  
 Selecting the design or outside temperature for heating calculations. map Heat & Ven 30:33-6 My; 34-5 Ag '33  
 Simple, accurate infiltration calculations. O. J. Kuenhold. Heat & Ven 30:37-8 Jl '33  
 Simple method of indicating fuel savings. F. I. Raymond. Heat & Ven 30:19 N '33  
 Six years of degree-day records. Heat & Ven 30:7-9 S '33

**HEATING, Industrial**  
 Application of gas to the heavy industries. W. C. Jackson. diags Inst Mech Eng Proc 123:727-43 '32  
 Application of gas to the tinplate and sheet industries. A. D. Howells. diags Gas J (Lond) 201:313-15; Discussion. 315-16 F 8 '33  
 Appraisal of industrial gas fuels. A. E. Blake. Iron Age 131:816-18+, 854-5 My 25-Je 1 '33  
 Constant temperature baths for dyeing. C. E. Mullin. Textile Col 55:11-12+ Ja '33  
 Determining the transmission of heat in industrial furnaces. M. H. Mawhinney. il Steel 92:23-5 Ap 24; 23-5 My 8 '33  
 Development of gas as an industrial fuel. J. E. White. il diag Gas J (Lond) 202:533-42 My 24 '33; Discussion. 202:755-6+; 203:37-40 Je 7, Jl 5 '33  
 Fabricating and finishing metal stamped ware; National enameling & stamping co, Milwaukee. J. B. Nealey. il Steel 92:21-3 Mr 27 '33  
 Forming aluminum and brass products by the extrusion process. J. B. Nealey. il diags Mach 40:140-2 N '33  
 Gas in the wire drawing industry. J. Bradbury. Gas J (Lond) 201:199-201 Ja 25 '33; Discussion. 201:263-4 F 1 '33  
 Heat technology turns to new mediums. il plan Chem & Met Eng 40:262-4 My '33  
 High-boiling-point organic compounds. J. J. Grebe and E. F. Holser. diags Mech Eng 55:369-73 [bibliog p373] Je '33  
 Improves wire baker economy with refractory combustion chamber formed from silicon carbide tile. diag Steel 93:32 S 18 '33  
 Industrial heat transfer. A. Schack. 371p \$5 Wiley '33  
 Industrial uses of gas. W. M. Carr. il diags Gas J (Lond) 201:552-8, 626-30 Mr 1-8 '33; Discussion. 201:630-1 Mr 8 '33  
 Kleinverbraucher von koksofengas in der eisenindustrie. A. Herberholz. diags Stahl & Eisen 53:417-22 Ap 27 '33  
 Metal melting; A.G.A. forum on gas as fuel. Am Gas Assn Proc 1932:634-7  
 Modern unit heater a production aid; solves many a plant problem other than strictly space heating. il Heating-Piping 5:510-12+ O '33  
 New inorganic heat carrier for super-temperature heating; NS fluid. T. Kayser. Chem & Met Eng 40:353-4 Jl '33; Same. Chem Age (Lond) 29:229-30 S 9 '33; Abstract. Sci Am 149:242-3 N '33  
 Research in fundamentals of combustion space requirements in high temperature gas furnaces. E. O. Mattocks. il diags Am Gas Assn Mo 15:289-94, 323-6 Jl-Ag '33  
 Rubber tires made by gas at Chicago fair. J. B. Nealey. il Am Gas Assn Mo 15:321-2+ Ag '33  
 Special cast iron heaters and heat exchangers will lower cost of treating oil emulsions. L. N. Hunter. il diag Oil & Gas J 32:8+ Ag 17 '33

Submerged combustion meets many industrial heating needs. K. A. Kobe and C. W. Hauge. diag Power 77:460-1 S '33  
 Thaws rink ice at saving of \$116 and 42 hours. E. L. Weber. plans Heating-Piping 5:145-6 Mr '33

La III<sup>e</sup> exposition du chauffage industriel (Paris, 7-22 octobre 1933). Génie Civil 103: 432-3 O 25 '33

Wärme als werkzeug. il diags Zeit Ver Deutsch Ing 77:249-56 Mr 4 '33

See also

Drying	Metallurgy
Drying apparatus	Milk—Pasteurization
Electric heating, Industrial	Oil fuel
Foundry practice	Oil heaters
Furnaces	Open hearth process
Furnaces, Forging	Solder and soldering
Furnaces, Heating	Steel, Heat treatment of
Gas as fuel	Waste heat
Heat treatment	Welding
Kilns	

Cost

Fuel comparisons for billet reheating furnaces. G. W. Akerlow. diags plans Gas Age 72:103-6 Jl 29 '33  
 Producer gas for heating drill steel. N. H. Auret. Can Min J 54:384 O '33

Tables, calculations, etc.

Wärmeverbrauch von stoffen bei verschiedener belastung und zeitlicher beanspruchung. A. Herberholz; K. Rummel; C. Arnold. Stahl & Eisen 52:1094-6, 1118-21 N 10-17 '32

#### HEATING, Warm air

Air conditioning in a modern home. il plans Sheet Metal Worker 23:527-30 D '32  
 Air filters tested in gravity heating. F. B. Rowley. il Sheet Metal Worker 23:471-2 N '32; Excerpts. Heat & Ven 30:43-4 F '33  
 Aire-Flo, individual pipe system for heating a large building; Talmage mortuary at Roswell. N. M. il plans Sheet Metal Worker 23: 512-15+ D '32  
 Automatic controls for forced-air heating systems. S. Konzo and A. F. Hubbard. diags Heating-Piping 5:573-80 N '33  
 Cold-air supply vs. heated-air delivery. diag Sheet Metal Worker 24:77-8 Mr '33  
 Convincing the owner. plans Sheet Metal Worker 24:288-90 S '33  
 Doctor selects air conditioning for his attractive residence; Henry M. Stein, Baltimore. il plans Sheet Metal Worker 23:518-20+ D '32  
 Draft in warm air heating. J. H. Spurgeon. il Sheet Metal Worker 24:142-3+, 176-7 My-Je '33  
 Filtered air furnace systems. F. L. Myers. Sheet Metal Worker 24:81-2, 109-10+ Mr-Ap '33  
 First steps in air conditioning. A. J. Mellish. 85p E. A. Scott pub. co, inc, New York '33  
 Heating a frameless steel house. J. J. Minich. il plans Sheet Metal Worker 23:522-4 D '32  
 Heating and ventilating the new Cincinnati union terminal. L. J. Hart. il diag plan Heat & Ven 30:28-32 O '33  
 Investigation of warm-air furnaces and heating systems. pt 5. A. C. Willard, A. P. Kratz and S. Konzo. il diags plans Ill U Eng Exp Sta Bul 246:1-155 '32; Excerpts. Heat & Ven 30:40-1 Mr '33  
 Panorama building heated by warm-air system; Pantheon de la guerre. A. E. Beitzell. il Heat & Ven 29:20-2 D '32  
 Reason why this heating system would not heat a room on the heater level. plans Sheet Metal Worker 23:483-4 N '32  
 Registers and grilles. J. H. Van Alsbury. Sheet Metal Worker 24:217-19 Jl '33  
 Setting dampers by static. W. E. Keist. plan Sheet Metal Worker 24:111-12 Ap '33  
 Simplified lessons in furnace heating. A. J. Mellish. Sheet Metal Worker 24:51-2 F '33  
 Suggestions on heating lodge hall. plans Sheet Metal Worker 24:258-9 Ag '33



**HEATING, Warm air—Continued**

Velocities and heating duct sizes. B. F. McLouth. Sheet Metal Worker 23:473-4 N '32

See also

**Heaters**

Tables, calculations, etc.

Calculation and design of mechanical warm-air heating systems. J. D. Kroeker. plans Heat & Ven 30:29-33 Ag; 28-31 S '33

**HEATING and piping contractors national association.** See Heating, piping and air conditioning contractors national association, inc.

**HEATING boilers.** See Boilers, Heating

**HEATING contracts**

How one contractor reorganized to meet 1933 conditions; plumbing and heating work at Forest products laboratory. G. Hall. il Dom Eng 141:32-5+ F '33

**HEATING from central stations**

Air conditioning a residence with district steam. W. H. Rudisill. il Heat & Ven 29:39-41 D '32

Air conditioning and ventilating a 31-story office building; Metropolitan life insurance company, New York. E. C. Parker. il diags Heat & Ven 30:14-19 Ag '33

Air control steps up stoker performance; Beacon Street heating plant, Detroit. J. H. Walker. il diag Power 76:282-4 D '32

Chicago district heating plant financing under way. map Heat & Ven 30:20 N '33

Control reduces steam consumption 22 per cent. W. H. Meloan. Heating-Piping 5:351-2 J1 '33

District steam heats First church of Christ, scientist, in Boston. R. M. Nee. diags plan Heat & Ven 30:36-8 Je '33

District steam heats new Milwaukee county court house. H. C. Kimbrough. il Heat & Ven 30:28-9 Mr '33

Economic comparison of by-product power cycles; district heating and electric generating plants. M. W. Benjamin and R. G. Felger. diags Power 77:428-9 Ag '33

Handbook of the National district heating association. 2d ed 538p National district heating assn, Greenville, O. '32

Meeting special heating needs when main plant is shut down; Toronto university. H. H. Angus. diags Heating-Piping 5:144+ Mr '33

National district heating association, 24th annual convention, Chicago. Power Pl Eng 37:339-40 Ag '33

New Cincinnati union terminal has novel features. il Heating-Piping 5:337-40 J1 '33

Planning a central heating plant for a school or institution. A. Kellogg. il Heating-Piping 5:191-3+, 242-4+ Ap-May '33

Sale of steam requires just rate. R. Emerick. Power Pl Eng 37:132-3 Mr '33

Some problems on big job; double heating system uses steam and hot water; Chicago post office. W. W. Stevens. il diags Dom Eng 141:29-33+ Ap '33

Steam service control reduces over- and under-heating in department store. P. A. Hyde. plan Heat & Ven 30:20-3 My '33

Temperature control equipment installed inexpensively. T. Sheehan. diags Power Pl Eng 37:399 S '33

Ten-month season and summer heating demand combine to justify central heat for Duluth. il diag Power 77:514-15 O '33

Transportation and distribution of heating and refrigeration in cities; abstract. C. Boileau. Refrig Eng 24:360 D '32

U.S. steam \$\$ in Baltimore; post office and customs house; estimated costs of purchased and locally generated steam. E. H. Thompson. Power 77:200-1+ Ap '33

**HEATING industry**

Cleaning work nets 40 per cent. Sheet Metal Worker 24:221+ J1 '33

Convincing the owner. plans Sheet Metal Worker 24:288-90 S '33

Index of heating business activity. C. Strock. Heat & Ven 30:7-9 N '33

Kaleidoscopic view of European heating practice. R. Kuhlmann. il diag Heat & Ven 30:27-30 N '33

National joint conference at Detroit; general and group meetings of roofing, slate, sheet metal and warm air heating interests, Jan. 11-14. Sheet Metal Worker 24:20-2 Ja '33  
1932 passes in review. il Heat & Ven 30:11-14 Ja '33

Our industry rushes national code; with initial draft of an outline for the plumbing and heating industries. Dom Eng 142:32-3, 82-6+ J1 '33

Proposed code for heating contractors. Dom Eng 142:29, 88-9+ Ag '33

Rust-it-out as a speedy business producer. Sheet Metal Worker 24:245-6 Ag '33

Selects good prospects for air conditioning; interview with C. A. Doeringer of Van Zandt and Doeringer, plumbing and heating contractor-dealers, Plainfield, N. J. il Dom Eng 141:55-7 Ap '33

Sensible, inexpensive sales plan which meets today's conditions. il Dom Eng 141:25-8 Ap '33

This system stops errors. A. E. Knibb. il Dom Eng 142:31-2+ N '33

Trade associations in 1932. Heat & Ven 30:23-6 Ja '33

What has been done in 1932; what may be done in 1933. il Sheet Metal Worker 23:504-6 D '32

Where to look for selling ideas. il Dom Eng 141:42-4+ Ja '33

Year's new equipment. il Heat & Ven 30:27-30 Ja '33

See also

**Furnace industry****Oil burner industry****Advertising**

Depression reveals 83 per cent of market is neglected; American Radiator merchandises Arcola to old homes. B. A. Grimes. Ptr Ink 165:33-5 O 5 '33

Establishing a price policy with open-letter copy; Herman Nelson corporation combats the chiseler. R. W. Nelson. Ptr Ink 165:35-6 O 12 '33

Excellent example of effective advertising by a dealer. Sheet Metal Worker 24:215+ J1 '33

Hang up record of one sale a day! il Dom Eng 140:86+ D '32

New product, new plan jump sales of entire line; jobber co-operation gets results for Hoffman specialty company. G. Hutchinson. il Ptr Ink 162:40-3 Ja 19 '33

See also

**Oil burner industry—****Advertising****Remodeling**

His business is increasing; distinctive remodeling jobs bring calls for growing service; Hillcrest plumbing company. W. W. Stevens. il diags Dom Eng 142:34-7 J1 '33

Modernizes heating plant with air conditioning. W. Mellor. il plan Dom Eng 141:73-5 Ja '33

1932 experience in modernization jobs means profit in '33. il Dom Eng 141:30-2+ Ja '33

Old home market offers best outlet for heating sales. A. R. Herske. Dom Eng 140:53 D '32

Practical piping data on modernizing. J. A. Masek. il Heat & Ven 30:9-12 My '33

Selling modernizing by guaranteeing high return on investment. G. K. Bringham. plan Heat & Ven 30:17-21 F '33

**Statistics**

Heating and cooking equipment (other than electric)—production, by class, kind, and value, 1931 and 1929. Am Gas J 138:12-13 Ja '33

Year's business—trends, volumes and sales. Heat & Ven 30:14-20 Ja '33

**HEATING pipes**

Advantages of welded piping in home heating systems. F. J. Maeurer. il diags Heat & Ven 30:35-7 Ja '33

**HEATING pipes—Continued**

Heat loss from copper piping. R. H. Heilman. *il Heating-Piping* 5:458-62 S '33  
 Pipe sizer for determining the sizes of pipes and of restricting orifices in a hot-water heating system. L. A. Cherry. *diags Heating-Piping* 5:381-8 J1 '33

*See also*

Furnaces, Warm air  
 —Pipes and fittings  
 Steam pipes

**HEATING, piping and air conditioning contractors national association, inc.**  
 Annual meeting, 44th, Chicago, July 25-28; change of name. *Heat & Ven* 30:44-5 Ag '33; *Dom Eng* 142:83-4 Ag '33

**HEATING research**

Air at 63 and walls at 80 give comfort in this panel heating job. L. W. Schad. *il diag Dom Eng* 141:45-7+ Ja '33  
 Cold walls and their relation to the feeling of warmth. F. C. Houghten and P. McDermott. *il diags Heating-Piping* 5:53-8 Ja '33; *Excerpts. Dom Eng* 141:36-8+ F '33; *Abstract. Heat & Ven* 30:40 Mr '33  
 Fuel economy in domestic automatic heating. H. H. Langdon and H. J. Dana. *diags Washington State College Eng Exp Sta Bul* 39:3-44 '32; *Abstracts. Heat & Ven* 30:43 Ja '33; *Mech Eng* 55:46 Ja '33  
 Heating and ventilating; current research projects. *Power* 77:258-9 My '33  
 Heizung und Lüftung. W. Fischer and F. Schenck. *Zeit Ver Deutsch Ing* 76:1185-8 D 3 '32

Measurement, in relation to human comfort, of the radiation produced by various heating systems; abstract. H. M. Vernon. *Heat & Ven* 29:44-5 D '32

Report of the committee on research for 1932; American society of heating and ventilating engineers. G. L. Larson and F. C. Houghten. *Heating-Piping* 5:165-8 Mr '33

Research work of the year. *il Heat & Ven* 30:20-3 Ja '33

Temperature gradient observations in a large heated space; field house at the University of Wisconsin. G. L. Larson, D. W. Nelson and O. C. Cromer. *il diags Heating-Piping* 5:477-85 S '33

Tests of convectors in a warm wall testing booth. A. P. Kratz, M. K. Fahnestock and E. L. Broderick. *diag plans Heating-Piping* 4:502-8; 5:431-4 J1 '32, Ag '33

*See also*

Steam research

**HEAVISIDE, Oliver**

That eminent man. K. Maynard. *Gen Elec R* 36:186-7 Ap '33  
 Work of Oliver Heaviside. W. E. Sumpner. *bibliog il Inst E E J* 71:837-51 D '32

**HEBREW university, Jerusalem**

Address on the University in Jerusalem and the Jewish telegraphic agency. A. Einstein. *Science* 77:274-5 Mr 17 '33

**HECKSCHER foundation. See Cornell university —Heckscher foundation****HEDENBERGITE**

System, CaO-FeO-SiO<sub>2</sub>. N. L. Bowen, J. F. Schairer and E. Posnjak. *il diags Am J Sci* 5th ser 26:193-284 S '33

**HEDGES, David Le Grand, 1881-1933**

*Sketch. Ptr Ink* 165:100 O 12 '33

**HEDGES engine**

Hedges double-acting petrol engine. S. Bushnell. *S A E J* 32:sup27 Ap '33; *Same. Automobile Eng* 23:339 S '33

**HEDGING**

Hedging. *India Rubber W* 88:55 My '33  
 Profits and losses in egg storage. E. A. Duddy and D. A. Revzan. *J of Business* 6:226-39 J1 '33

*See also*

Speculation  
 Stock exchange

**HEELS**

Pyroxylin plastics for wooden heels. T. D. L. Mabry. *il Plastic Prod* 9:193 J1 '33

**HEELS, Rubber****Manufacture**

Morris automatic heel trimmer. *il India Rubber W* 88:44 Je '33  
 Soles and heels from scrap rubber. *il India Rubber W* 89:33-4 O '33

**HEINZ, Howard**

*Portrait. Ptr Ink* 163:28 Je 1 '33

**HELENA, Arkansas**

Concrete wall with sheetpile cutoff replaces levee at Helena. H. V. Pittman. *il diags plan Eng N* 110:780-4 Je 15 '33

**HELICOPTERS**

Strandgren rotors; abstract. C. B. Strandgren. *Mech Eng* 55:694 N '33

*See also*

Autogiros

**HELIOSTAT**

Héliostat, système Arthel, pour l'ensoleillement des locaux habités. P. Calfas. *il diags Génie Civil* 101:281-4 S 17 '32; *Abstract (Arthel heliostat). Mech Eng* 55:131 F '33

**HELIUM**

Comparison of the masses of He and H<sup>+</sup> on a mass-spectrograph. K. T. Bainbridge. *il Phys R* 43:103-5 Ja 15 '33; *Same. J Fr Inst* 215:201-5 F '33

Comparison of the masses of H<sup>2</sup> and helium. K. T. Bainbridge. *J Fr Inst* 216:270-1 Ag '33; *Same, with reproduction spectra. Phys R* 44:57 J1 '33

Continuous absorption spectrum of helium. J. P. Vinti. *Phys R* 44:524-8 O 1 '33

Dispersion and absorption of helium. J. P. Vinti. *Phys R* 42:632-40 D 1 '32

Effect of exchange on the scattering of slow electrons from atoms. P. M. Morse and W. P. Allis. *Phys R* 44:269-76 Ag 15 '33

Further studies in the rare gases; the diffusion of helium through crystalline substances and the molecular flow through rock masses. W. D. Urry. *diags Am Chem Soc J* 55:3242-9 Ag '33

Helium and the problem of geological time. W. D. Urry. *diags Chem R* 13:305-43 [bibliog p342-3] O '33; *Abstract. Science* 78:sup 8-9 D 1 '33

Inelastic electron scattering by helium atoms. A. L. Hughes and J. H. McMillen. *Phys R* 44:20-4 J1 1 '33

Ionization of argon, neon and helium by A. Ne and He atoms. C. J. Brasefield. *diag Phys R* 43:785-7 My 15 '33

Joule-Thomson effect in helium. J. R. Roebuck and H. Osterberg. *diags Phys R* 43:60-9 Ja 1 '33

Mass defect of helium. E. Wigner. *Phys R* 43:252-7 F 15 '33

Momentum transfer to cathode surfaces by impinging positive ions in a helium arc. E. S. Lamar. *diag Phys R* 43:169-76 F 1 '33

Quantum mechanical cross section for ionization of helium by electron impact. W. W. Wetzel. *Phys R* 44:25-30 J1 1 '33

Some factors affecting action cross section for collisions of the second kind between atoms and ions. O. S. Duffendack and K. Thomson. *Phys R* 43:106-11 Ja 15 '33

Theory of the dispersion and absorption of helium. J. A. Wheeler. *Phys R* 43:258-63 F 15 '33

**Liquefaction**

Low temperatures and low-temperature phenomena. J. C. M'Lennan. *Engineering* 135:165-6 F 10 '33

**Transportation**

Development of special rail equipment; helium car. R. C. Pierce. *il Ry Age* 94:66-7 Ja 21 '33

Mobile helium compressor. *il Aviation Eng* 7:30 D '32

**HELL Gate station. See Electric plants (central stations)—New York (city)**

**HELME, George W., company**

Sound stocks for income and long range profit. *Mag of Wall St* 52:633-4 O 14 '33



**HELMINTHOSPORIN**

Synthesis of helminthosporin. H. Raistrick, R. Robinson and A. R. Todd. *Chem Soc J* p488-9 My '33

**HEMATITE**

Hematite iron ores of Sierra Leone, West Africa. K. Fowler-Lunn. maps *Econ Geol* 28:59-67 Ja '33

**HEMATOXYLIN**

Improving the staining action of iron haematoxylin. R. T. Hance. *Science* 77:287 Mr 17 '33

**HEMATURIA**

Chemical haematuria from handling 5-chloro-ortho-toluidine. A. N. Currie. *J Ind Hygiene* 15:205-13 Jl '33

**HEMICELLULOSE**

Butyric acid and butyl alcohol fermentation of hemicellulose- and starch-rich materials. S. A. Waksman and D. Kirsh. bibliog *Ind & Eng Chem* 25:1036-41 S '33

Operation of Cerini dialysers for the recovery of caustic soda solutions containing hemicellulose. D. J. Eynon. *Soc Chem Ind J* 52:173T-5T Je 16 '33

**HEMICELLULOSES**

Recent advances in the study of the chemistry of the hemicelluloses of wood. M. H. O'Dwyer. bibliog *Soc Chem Ind J (Chem & Ind)* 51:968-71 N 25 '32

**HEMOCYANIN**

Molecular weight of the hemocyanin of octopus vulgaris. T. Svedberg and I. B. Eriksson. *il Am Chem Soc J* 54:4730-8 D '32

**HEMOGLOBIN**

Mammalian life without red blood corpuscles. W. R. Amberson and others. *Science* 78:106-7 Ag 4 '33

**HEMP**

Flax, hemp and jute, 1932. *Economist* 116:sup 44-6, 62 F 18 '33

Report of the Imperial economic committee on the preparing for market and marketing of hemp fibres; review. *Textile Inst J* 23:P292 D '32

**HENDERSON, W. K.**

Goes broke. *Ptr Ink* 161:16 D 8 '32

**HENEY, Michael J.**

Grit, grief and gold; a true narrative of an Alaska pathfinder. F. B. Whiting. 247p \$2 Peacock pub. co, 1106 Third av, Seattle, Wash.

**HENLEY'S, W. T., telegraph works company, limited**

Ordinary general meeting, 54th, London. *Economist* 117:144 Jl 15 '33; *Electrician* 111:78 Jl 14 '33

**HENRY, Thomas, 1734-1816**

Manchester scientists of former days; chemists. J. R. Partington. *Soc Chem Ind J (Chem & Ind)* 52:478-9 Je 9 '33

**HENRY, William, 1774-1836**

Manchester scientists of former days; chemists. J. R. Partington. *Soc Chem Ind J (Chem & Ind)* 52:479-80 Je 9 '33

**HENRY, William Arnon, 1850-1932**

Sketch. F. B. Morrison. *Science* 77:160-2 F 10 '33

**HEPARIN**

Antiprophrombin and globulins. I. P. Earle and P. E. Howe. *Science* 77:213-14 F 24 '33

**HEPPENHEIMER, William Christian, 1860-1933**

Sketch. por Trust Companies 57:296 S '33

**HEPTADECYL alcohol**

Higher aliphatic compounds; systems with ethyl margarate and heptadecyl alcohol. P. C. Carey and J. C. Smith. *Chem Soc J* p635-7 Je '33

**HEPTANE**

Behavior of trimethylene sulfide in heptane and naphtha solutions. R. W. Bost and M. W. Conn. *Ind & Eng Chem* 25:526-8 My '33

High-pressure rectification; *N*-pentane-*N*-heptane system. L. W. T. Cummings, F. W. Stones and M. A. Volante. bibliog *diags Ind & Eng Chem* 25:728-32 Jl '33

System ethyl alcohol-*n*-heptane at 30°C. J. B. Ferguson, M. Freed and A. C. Morris. *J Phys Chem* 37:87-91 Ja '33

**HEPTENE**

Syntheses in the olefin series; the heptenes. F. J. Soday and C. E. Boord. *Am Chem Soc J* 55:3293-302 Ag '33

**HEPTYL bromide**

Possibility of dipole rotation in certain crystalline solids. S. E. Kamerling and C. P. Smyth. *Am Chem Soc J* 55:462-5 F '33

**HERBERT pendulum**

Applications of the Herbert pendulum hardness tester. *il Mach* 39:541 Ap '33

Simplified pendulum hardness tester. *il Engineer* 156:68 Jl 21 '33

**HERBS**

Gardening with herbs for flavor and fragrance. H. M. Fox. 334p [bibliog p313-26] \$3.50 Macmillan '33

**HERCULES powder company**

As a hedge against inflation. J. C. Clifford. *Mag of Wall St* 52:635-6+ O 14 '33

Stocks behind the market—ready to go. *Mag of Wall St* 52:125 My 27 '33

**HERCULLOY. See Bronze****HEREDITY**

General formula of heredity; abstract. H. H. Laughlin. *Science* 77:519-20 My 26 '33

Inheritance and glands in the control of growth. C. R. Stockard. *Science* 77:sup10 Ap 14 '33

Inheritance of disease. C. B. Davenport. *il diags Sci Am* 149:162-4 O '33

Inherited resistance to infectious diseases. L. T. Webster. *Science* 77:sup9 My 12 '33

Principles of genetics. E. W. Sinnott and L. C. Dunn. 2d ed 441p McGraw-Hill '32

Sibling resemblance and its relation to age interval. F. H. Finch. *Science* 77:373-4 Ap 14 '33

*See also*

**Evolution****Genes****Genetics****HERMES, Frank J.**

Sketch. por *Ptr Ink* 165:82 O 19 '33

**HEROES**

Medical heroes. *Science* 76:sup8 D 30 '32

**HERR, Edwin Musser, 1860-1932**

Sketch. por *Elec W* 101:79 Ja 14 '33

Tribute. F. A. Merrick. por *Elec J* 30:43 Ja '33

**HERRICK, Howard U.**

President, Mechanical press builders association. *Steel* 93:21 O 30 '33

**HERRING**

Analysis and composition of fatty material produced by the decomposition of herring in sea water; theory of origin of petroleum in sedimentary deposits. R. C. Wells and E. T. Erickson. *Am Chem Soc J* 55:338-41 Ja '33

Herring by the boatload. *il Ptr Ink* 162:24 Mr 2 '33

**HERRIOT, Edouard**

Portrait. *Business Week* p5 Ap 19 '33

**HERSCHEL, Clemens, 1842-1930**

Sketch. *Boston Soc C E J* 20:62-4 Ap '33

**HERSCHEL effect**

Herschel effect as a result of simultaneous forward and reverse reactions. K. M. Joehneck and J. M. Blair. *il Opt Soc Am J* 23:67-9 F '33

Herschel effect with X-rays and with blue light. J. M. Blair. *Phys R* 43:85-6 Ja 1 '33

**HERSHEY, Pennsylvania**

Hershey—the home of chocolate. C. H. Vivian. *il map Comp Air M* 38:4180-90 Ag '33

**HERSHEY chocolate corporation**

Hershey's profitable altruism. *Econostat* 1:11+ My 20 '33

What is the investment outlook for these companies? *Mag of Wall St* 51:161 N 26 '32

**HERTY, Charles Holmes, 1867-**

American contemporaries. A. V. H. Mory. por *Ind & Eng Chem* 24:1441-2 D '32

**HESELNAN engine**

Trends in tractor engine design; abstract. J. B. Fisher and L. L. Bower. *Automotive Ind* 69:250 Ag 26 '33

**HETCH Hetchy water supply project**

Hazardous tunneling at Hetch Hetchy. il diags Eng N 110:701-4 Je 1 '33

Lining the Coast Range tunnel for Hetch Hetchy water. il diags map Eng N 111:107-10 Jl 27 '33

Portable aggregate plant for Hetch Hetchy tunnel. H. V. Eastling. il diag Eng N 109:654-6 D 1 '32

Safety practices in tunneling operations at the Hetch Hetchy water-supply project, city and county of San Francisco, Calif. S. H. Ash and C. R. Rankin. diags U S Bur Mines Information Circ 6726:1-15 '33

San Francisco's Hetch Hetchy project. L. A. Luther. il map Comp Air M 38:4156-62 Jl '33

**HETEROSIS (biology)**

Heterosis: specific not general in nature. F. A. Coffman. *Science* 77:114-15 Ja 27 '33

**HEWETT, John R.**

Sketch. front (por) Gen Elec R 36:75 F '33

**HEWITT, Arthur**

President, American gas association. por Am Gas J 139:13 S '33

**HEXADECANE sulfonic acid**

Study of the constitution of aqueous solutions of the hydrogen soap, cetyl sulfonic acid. J. W. McBain and R. C. Williams. bibliog Am Chem Soc J 55:2250-7 Je '33

**HEXAFLUORIDES**

Thermochemical constants of the hexafluorides of sulfur, selenium and tellurium. D. M. Yost and W. H. Claussen. *Am Chem Soc J* 55:885-91 Mr '33

**HEXAMETHYLBENZENE**

Catalytic high pressure hydrogenation of aromatic hydrocarbons and catalytic high pressure destruction of the corresponding hydrogenated products. A. Dros, A. J. Tulleners and H. I. Waterman. diags Inst Pet Tech J 19:784-99 S '33

**HEXAMETHYLENETETRAMINE**

Organic reagents in qualitative analysis; the separation of iron, chromium and aluminum. L. Lehrman, E. A. Kabat and H. Weisberg. *Am Chem Soc J* 55:3509-11 S '33

Studies in thiophenol chemistry; a condensation reaction between thiophenols and condensed aldehyde-ammonias. G. Dougherty and W. H. Taylor. bibliog Am Chem Soc J 55:4588-93 N '33

**HEXAMETHYLETHANE**

Hexamethylethane. F. C. Whitmore, C. J. Stehman and J. M. Herndon. *Am Chem Soc J* 55:3807-9 S '33

**HEXANE**

Homogeneous catalysis of gaseous reactions; the influence of iodine on the decomposition of simple aliphatic amines and of hexane. S. Bairstow and C. N. Hinshelwood. *Chem Soc J* p1155-60 S '33

Vapor-liquid equilibria for *N*-hexane-benzene mixtures. C. O. Tongberg and F. Johnston. bibliog Ind & Eng Chem 25:733-5 Jl '33

**HEXOGENE. See Trimethylenetrinitramine****HEXURONIC acid. See Ascorbic acid****HEXYLANILINE**

Preparation of alkylnilines containing tertiary alkyl groups. W. J. Hickinbottom. *Chem Soc J* p946-51 Ag '33

**HEYWARD, DuBose**

DuBose Heyward, insurance agent, tells how he went into literature. por East Underw 33:74 D 9 '32

**HIBBEN, John Grier, 1861-1933**

Sketch. M. Sykes. *Comm & Fin* 22:463 My 24 '33

**HIDES and skins**

Imperfections in skins; abstracts. G. E. L. Carter. *Chem Age (Lond)* 28:244 Mr 18 '33; *Soc Chem Ind J (Chem & Ind)* 52:217 Mr 10 '33

*See also*

Leather  
Tanning

**Statistics**

Hides and leather, 1932. *Economist* 116:sup46-7 F 18 '33

**Transportation**

Cleaning and deodorizing hide cars. il Ry Mech Eng 107:96-8 Mr '33

**HIGGINS, Aldus C.**

President, the Norton co. por Steel 92:15 Ja 30 '33

**HIGH buildings**

All steel skyscrapers are not lightning proof; installation of a modern lightning rod system on the General Electric building, New York. Steel 93:27 N 6 '33

Empire State building, New York city. F. W. Skinner. il diags plans Engineering 134:525-6, 527, 586-9, 641-4, 703-5, 706, 756-8, pl 24 N 4, 18, D 2, 16, 30 '32

Height limits for tall buildings based on plot area. J. Feld. Eng N 110:315 Mr 9 '33

Hot-water heating for skyscrapers; Sixty Wall Tower. T. S. Tenney. il diag Heating-Piping 5:82-6 F '33

RCA building of 69 stories rivals Empire State. il diags plans Eng N 109:587-90 N 17 '32

Skyscraper plumbing in the RCA building. C. M. Wilson. il diags Eng N 109:593-7 N 17 '32

Skyscraper steel erection in the RCA building. il diags plans Eng N 109:618-19 N 24 '32

Some dinosaur eggs which failed to hatch: the nation's unbuilt skyscrapers. il Arch Forum 59:338, sup25-6 O '33

Some unsolved problems in high building. H. S. Swan. *J Land & Pub Util Econ* 9:25-36 F '33

Wind bracing. A. Smith. diags W Soc E J 38:1-18 F '33

Wind pressure on a model of the Empire State building. H. L. Dryden and G. C. Hill. diags pl U S Bur Stand J Research 10:493-523 Ap '33

Wind-stress analysis and moment distribution; Cross method. R. Fleming. Eng N 110:194-5 F 9 '33

*See also*

Empire State building	Office buildings
New York (city)—	Steel construction
Rockefeller Center	

**HIGH POINT, North Carolina****Sewerage**

Sewage treatment at High Point; operating and analytical data. E. H. Moss and C. W. Mengel. il tables Water Works & Sewerage 79:433-8 D '32

**Water supply**

Analysis of metered revenue. P. J. Dishner. *Am Water Works Assn J* 25:375-9 Mr '33

**HIGH school graduates**

Leisure time college. H. A. Harvey. *Lib J* 58:725-7 S 15 '33

**HIGH voltages**

Atomic nucleus and high voltages. M. A. Tuve. il diags chart J Fr Inst 216:1-38 Jl '33

Combined Tesla coil and vacuum tube. C. C. Lauritsen and R. Crane. diags R Sci Instr 4:497-500 S '33

Electrostatic production of high voltage for nuclear investigations. R. J. Van de Graaff, K. T. Compton and L. C. Van Atta. diags Phys R 43:149-57 F 1 '33

High voltage. K. T. Compton. diags Science 78:19-24, 48-52 Jl 14-21 '33

High voltage testing. diags Electrician 110:801, 829, 860; 111:3 Je 16-Jl 7 '33

Large high-voltage testing installation; Brown Boveri co. at Baden, Switzerland. il Elec R (Lond) 112:555 Ap 21 '33

New design for a high-voltage discharge tube. L. C. Van Atta, R. J. Van de Graaff and H. A. Barton. *Phys R* 43:158-9 F 1 '33

Relaying of high voltage interconnections. H. P. Sleeper. il diags Elec Eng 52:402-9 Je '33

Resistor for high-voltage measurements. G. W. Bowdler. diag Inst E E J 73:65-8 Jl '33



**HIGH voltages—Continued**

Ten million volts direct current! electrostatic high voltage generator being constructed at Massachusetts institute of technology. *diags* Power Pl Eng 37:216-17 My '33

*See also*

Lightning  
Lightning, Artificial

**HIGHWAY accounting**

Equipment purchasing practices and rentals. C. N. Connor. *il* Pub Works 64:31-2 My '33

**HIGHWAY administration**

Administrative relationship of state and county. V. J. Brown. *Roads & Sts* 76:79-83 F '33

Centralized road control in North Carolina. *il* Eng N 110:82-4 Ja 19 '33

Construction and maintenance of the Quebec highway system. *il* Can Eng 64:11-16 My 30 '33

County engineer and county leadership. J. W. Mavity. *Roads & Sts* 76:130-1 Mr '33

County road administration; report of A.R.B.A. committee. Eng N 110:113 Ja 26 '33

Demonstrating the economy of good roads; State highway department in Michigan. A. C. Benkelman. *il* Civil Eng 3:379-82 Jl '33

Equipment and plant for county highway maintenance. *Roads & Sts* 76:223-5 Je '33

Estimating the economic value of proposed highway expenditures. T. R. Agg. *Am Soc C E Proc* 59:1093-1103 S '33; Abstract. *Civil Eng* 2:761-2 D '32; Excerpt. *Roads & Sts* 76:404 N '33; Discussion. *Am Soc C E Proc* 59:1504-7, 1660-5 N-D '33

Farm-to-market road program. L. O. Marden. *Pub Works* 64:19 Mr '33

Farm to market road program suggested for Massachusetts. L. O. Marden. *Roads & Sts* 76:164-7 Ap '33

Future road program planned for Illinois. Eng N 110:256 F 23 '33

Highway demand is turning from main to local roads. B. H. Petty. *il* Eng N 110:7-10 Ja 5 '33

Highways organizations in the Canadian provinces; legislation, administration and finance; abstract. R. M. Smith. *Can Eng* 65:45-6; Discussion. J. L. Boulanger. 46-9 S 19 '33

How Pennsylvania is solving the farm-to-market road problem. S. S. Lewis. *Roads & Sts* 76:309+ Ag '33

Local administrative units for rural roads. Eng N 111:101 Jl 27 '33

Major problems. A. M. Hyde. Eng N 109:625 N 24 '32

Making the highway pay for its cost; a chart and interpretation. B. E. Gray. Eng N 110:590-1 My 11 '33

Mounting maintenance costs demand new planning. L. R. Ames. *il* Eng N 110:15-18 Ja 5 '33

Need for economy in road construction; mileage of improved roads in Renfrew county. W. J. Moore. *Can Eng* 64:21-2; Discussion. H. A. Lumsden. 24 Ap 4 '33

Organization of township road systems. P. M. Higgins. *Can Eng* 64:50+ Mr 7 '33; Discussion. G. H. Baker. 64:15-16 Je 27 '33

Planned road systems urged by highway officials. Eng N 111:478-9 O 19 '33

Planning your highway program. W. A. Hardenbergh. *Pub Works* 64:21-2 Ap '33

Proceedings of the eighteenth annual road school, Purdue university, January 25-29, 1932. B. H. Petty, comp. *il* Purdue Univ Eng Extension Dept Bul 28:1-196 '32

Proceedings of the nineteenth annual road school held at Purdue university, January 23-27, 1933. B. H. Petty, comp. *il* Purdue Univ Eng Extension Dept Bul 30:1-112 '33

Protect inalienable rights of highway users. R. D. Chapin. *Automotive Ind* 67:667-8 N 26 '32

Road work in northern Ontario under Department of northern development. J. Sinton. *Can Eng* 64:36-8 Mr 7 '33

Secondary road construction policies in Iowa counties. C. E. Smith. *Roads & Sts* 76:272-3 Jl '33

*See also*

Highway accounting Road workers  
Highway departments Roads—Finance

**HIGHWAY and building congress**

Resolutions adopted by highway and building conference. Brick & Clay Rec 82:54 F '33; Same abr. *Roads & Sts* 76:73 F '33

**HIGHWAY departments**

County organization for construction and maintenance of secondary road system. A. K. Olsen. *il* Roads & Sts 75:508-10 D '32  
Directory; provincial, county, township and municipal officials; charts showing organization of nine Provincial highway departments in Canada. *Can Eng* 65:81-90 S 19 '33

Highway improvement; how to keep it sold to the public. E. J. Mehren. *il* Civil Eng 3:458-60 Ag '33; Same. *Roads & Sts* 76:293-6 Ag '33

Indiana highway department reorganized under new law. Eng N 111:118 Jl 27 '33

Promoting safety in highway construction. H. D. Immel. *il* Roads & Sts 76:187-9 My '33

Upper Darby did more highway work in 1932 than in 1931 and at two-thirds the cost. *Pub Works* 64:18 Jl '33

**Employees**

Goggles worth \$2,000 a pair; protection of workers' eyes by Pennsylvania department of highways. H. D. Immel. *il* Safety Eng 65:7-8 Ja '33

Persons employed on state highway systems, in federal forests and parks, during August, 1932, and ratio of employment to population; tabulation. *Roads & Sts* 76:78 F '33

**Equipment***See also*

Highway accounting

**Exhibits**

Demonstrating the economy of good roads; State highway department in Michigan. A. C. Benkelman. *il* Civil Eng 3:379-82 Jl '33

**Purchasing**

Equipment purchasing practices and rentals. C. N. Connor. *il* Pub Works 64:31-2 My '33

Missouri aggregate producers find a way to save established plants; three-cornered agreement between state highway department, the railroads and the producers. *Rock Prod* 35:46-51 D 31 '32

**HIGHWAY engineering**

Building safety into the rural road. J. L. Bauer. *il* Civil Eng 2:767-70 D '32

Conference on road construction for county and township engineers and road superintendents, 19th, Toronto, Feb. 20-21. *Can Eng* 64:47-8 Mr 7 '33

Engineering and grading policies for single track concrete roads. *il* Roads & Sts 76:21-3 Ja '33

Highway location problem solved by tunnel; connecting link between main Pacific Coast highways in Oregon. E. A. Collier. *il* *diags* Eng N 110:35 Ja 19 '33

Intricate intersections on Queens parkway system, New York. C. U. Powell. *maps* Eng N 110:251-5 F 23 '33

Practical method for taking and preserving soil cores. W. I. Watkins. *il* *diags* Roads & Sts 76:228-30 Je '33

Proceedings of the nineteenth annual road school held at Purdue university, January 23-27, 1933. B. H. Petty, comp. *il* Purdue Univ Eng Extension Dept Bul 30:1-112 '33

Research centers attention on highway technique; papers and reports considered by Highway research board. Eng N 109:687-9 D 8 '32

Revamping the paved road, an increasing obligation. O. W. Merrell. *il* *diags* Eng N 110:18-23 Ja 5 '33

Simplified highway construction plans; Gilmer-Murray highway in Georgia. H. C. Hickman. *plan* Civil Eng 3:626 N '33

**HIGHWAY engineering—Continued**

Solving hydraulic problems necessitated by state highway location, Pine Creek Gorge, California. Pub Works 64:36 S '33

Why we need engineering supervision of low-cost roads. V. J. Brown. Pub Works 64:9 JI '33

*See also*

Bridge design	Pavements
Bridge engineering	Roads
Bridges	Streets
Mountain roads	

**Tables, calculations, etc.**

Length of pavement required for a car to pass a truck of maximum length; chart for determining location of highway markers. J. N. Arnold. Eng N 111:191 Ag 17 '33

Operating economics of highway grades. N. W. Dougherty. Eng N 111:69-70 JI 20 '33

Parabolic vertical curves for highway grades. M. W. Furr. Eng N 109:496-7 O 27 '32; Discussion. 110:258-9 F 23 '33

Solving vertical highway curves by graph and table. R. W. Abbott. Eng N 110:186 F 9 '33

**HIGHWAY finance. See Roads—Finance****HIGHWAY law**

Have pedestrians legal rights? court decisions. A. H. Blanchard. il Civil Eng 3: 269-71 My '33

Highway law, state of New York, and Public works law, special acts, 1932. 534 New York (state). Dept. of public works, Albany '33

Laws relating to federal aid in construction of roads. E. A. Lewis, comp. 59p U.S. Gov't. ptg. office, Washington '32

New curb on the contract carrier; decision of the Supreme court. H. C. Spurr. Pub Util 11:106-10 Ja 19 '33

Recent state legislation regarding highways. Roads & Sts 76:183 My '33

Vehicle limitations recommended by highway officials. Eng N 109:660 D 1 '32

*See also*

Automobile laws and regulations	Motor trucks—Laws and regulations
Highway administration	Motor vehicles—Law
Motor bus lines—Laws and regulations	Traffic regulations

**HIGHWAY officials****Directories**

County, township and municipal directory, Canada. Can Eng 65:91-104 S 19 '33

**HIGHWAY research**

Cement bound macadam; important research now underway for low cost road work. V. J. Brown. il Roads & Sts 76:338-9, 342-3 S '33

Research centers attention on highway technique; papers and reports considered by Highway research board. Eng N 109:687-9 D 8 '32

Research on fillers for brick pavements. J. S. Crandell. Roads & Sts 76:158-60 Ap '33

**HIGHWAY transportation**

Automobile's challenge. B. E. Hutchinson. il Bus Transportation 12:3-6 Ja '33

Brief regarding the railroad-highway transportation controversy. Roads & Sts 76:60-6+ F '33

Brousseau tells Coolidge; 22 fundamentals which N.A.C.C. thinks essential to understanding of transportation problem. Automotive Ind 67:768-9+ D 17 '32

Coming curb on the contract carriers. J. W. Greenleaf and D. J. Teviotdale. Pub Util 11:259-65 Mr 2 '33

Conference on rail and road transport; letter from the members to the Minister of transport. Engineer 154:646-7 D 23 '32

Control of road transport. Economist 116:227 F 4 '33

Controversy over efforts to organize the truckers. Ry Age 95:198+ JI 29 '33

Demand falls most in high tax areas; highway proposals held dangerous. J. W. Van Dyke. Nat Pet N 25:21-2 Ja 11 '33

Eastman studies control of water, motor transport. Ry Age 95:437-8 S 23 '33

Énumération des transports automobiles sur routes; comparaison des trafics sur route et sur voie ferrée; comparaison des impôts; principes pour l'organisation des grandes exploitations automobiles routières. J. Chaudat. Soc Ing Civils Bul 86:647-62 My '33; Abstract. Génie Civil 102:232 Mr 11 '33

Farmers' interest in adequate highways. C. H. Gray. Roads & Sts 76:124-7 Mr '33

Federal regulation of motor transport. H. M. Muller, comp. Ref Shelf v 8, no 9:1-154 [bibliog p19-27] '33

Findings in transit survey in Canada provoke comment. Transit J 76:557+ D '32

Five and a half billion dollar investment with an 18% tax rate paid by motor vehicle owners in 1930. T. P. Henry. Bus Transportation 12:10-12 Ja '33

Forgotten man in transportation. A. J. Brosseau. Am Pet Inst Proc 14M(2):15-20 My '33

45,000 communities rely solely on motor transportation. A. L. Cricher. il Bus Transportation 12:55-7 Ja '33

Germany tackles the road transport problem. Aera 23:1388-92 N '32

High transportation costs are against the public interest. L. J. Taber. Bus Transportation 12:33 Ja '33

Highway improvement; how to keep it sold to the public. E. J. Mehren. il Civil Eng 3:458-60 Ag '33; Same. Roads & Sts 76:292-6 Ag '33

Highway transport; its importance as a job stabilizer. M. L. Pulcher. Roads & Sts 76: 69-70 F '33

I am a farmer; views on transportation and road finance. C. Brand. il Bus Transportation 12:31-2 Ja '33

Industry's stand on highway transport endorsed by Transportation committee. Automotive Ind 68:205+ F 18 '33

Joint rail-highway users committee issues report. Ry Age 94:187+ F 4 '33

Leave the bus alone says Canadian commission. Bus Transportation 11:495 D '32

Little man's stake in motor legislation. R. F. Britton. il Bus Transportation 12:52-4 Ja '33

Making the highway pay for its cost; a chart and interpretation. B. E. Gray. Eng N 110:590-1 My 11 '33; Discussion. M. D. Catton. 111:177 Ag 10 '33

Memorandum submitted to the National transportation committee by the National association of motor bus operators. Bus Transportation 12:sup8-15 Ja '33

Motor payments unlike railway tax assessments. E. E. Shumaker. Ry Age 94:458 Mr 25 '33

Motor vehicle transportation; reports at meeting of National association of railroad and utilities commissioners. Ry Age 93:739-40 N 26 '32

Need for coordination in field of transportation; German practices applicable to railroad service here. K. Pittman. Eng N 110: 366-7 Mr 23 '33

Principles of motor transportation. F. K. Edwards. 377p \$4 McGraw-Hill '33

Proposed code of American highway freight association filed. Ry Age 95:414-15 S 16 '33

Rail-rubber debate; the Chamber of commerce discusses transportation problems. Bus Transportation 12:199 My '33

Railways handicapped in meeting highway competition. il Ry Age 93:811-14 D 3 '32

Regulation of road business lacks necessary unity. T. H. MacDonald. il Eng N 110:2-5 Ja 5 '33

Road users and the Salter report. Economist 115:1132 D 17 '32

Salter report. L. Vickers. Aera 23:1404-9 N '32

Shopkeepers and the highway. G. V. Sheridan. Bus Transportation 12:45 Ja '33

Taxation of road vehicles; unfairness of the Salter report proposals to battery-electrics; effect on street cleansing services. Electrician 109:612 N 11 '32



**HIGHWAY transportation—Continued**

Threats to highway transportation. R. F. Britton. *il Bus Transportation* 12:393-6 O '33

Truck transport expensive with all costs considered. C. B. Sudborough. *Ry Age* 95: 675-6 N 4 '33

Trucking code provides regional rate control. *Automotive Ind* 69:593 N 11 '33

What highways mean in economic, educational and social life of United States. T. H. MacDonald. *Roads & Sts* 76:101-5 Mr '33

What to do about highway transport. *il Ry Age* 93:849-51 D 3 '32

*See also*

Automobiles and roads

Highway engineering

Motor bus lines

Motor trucks and roads

Motor trucks in freight service

Motor vehicles

National highway users conference

Road traffic

Roads

Street traffic

**HILL, George Washington**

He makes America sit up and buy. G. H. Allen. *por Forbes* 31:12-14 Ja 1 '33

**HIMALAYA mountains**

Yale North India expedition. *Science* 77:301 Mr 24 '33

**HINGES**

Lamination in metal work; hinge for church door. E. Clute. *il diags Architecture* 67: 265-8 My '33

Progressive die for hinges. C. D. Olson. *diags Mach* 39:258 D '32

*See also*

Automobiles—Door hinges

**HISTAMINE**

Living organisms as chemical reagents. A. I. Kendall. *il J Chem Educ* 9:2013-25 D '32

Spectroscopic study and assay of histamine. B. Lewis, E. von Gebauer-Fuelnegg and C. J. Farmer. *Am Chem Soc J* 55:2025-7 My '33

**HISTORIC buildings**

Sixteenth century new-world palace abandons charcoal and candles for electricity; La Fortaleza, government house in Puerto Rico. D. O. Bergey. *il N E L A Bul* 19:733-41 D '32

Vehicular ramps in the Chateau d'Amboise. W. Atlee. *il plan Civil Eng* 3:595-7 N '33

**HISTORY****Bibliography**

International bibliography of historical sciences; ed. by International com. of historical sciences. Third year 1928. *cvil*, 458p; Fourth year 1929. *cvil*, 495p Oxford; Wilson, H.W. '33

**HITLER, Adolf**

Hitler on advertising. *por Ptr Ink* 164:78-9 Jl 20 '33

Hitlerism. (In *Capitalism and its alternatives*, p427-48) [bibliog p427-9] J. E. Johnson, comp. (Handbook ser 4, v 4) \$2.40 Wilson, H.W. '33

What can we expect from Hitler? M. D. Gould. *por Barron's* 13:3+ Mr 27 '33

**HOAGLAND, Ira Gould, 1877-1933**

Sketch. *East Underw* 34:19 Ag 11 '33

**HOARDING**

Executive order forbidding the hoarding of gold coin, gold bullion and gold certificates. *Fed Res Bul* 19:213-15 Ap '33

**HOBBIES**

Home hobbyists offer a market. A. W. Wilson. *il Ptr Ink* 163:69+ My 4 '33

Human interests make human librarians. *Lib J* 58:642-7, 742-5 Ag-S 15 '33

Mr Macy, meet the guppy. . . and Mr Advertiser, meet the hobby. R. K. Leavitt. *il Adv & Sell* 21:17-18+ Je 22 '33

**Bibliography**

Reading in pursuit of happiness. *Lib J* 58: 637-41 Ag '33

Those who wish to know what to do and how to do it turn libraryward. *il Lib J* 58:632-6 Ag '33

**HOBGING machines**

Barber-Colman develops spline shaft hobbing machine. *il Steel* 91:37-8 N 28 '32

Hobbing process; abstract. M. N. Hough. *il diags Mech Eng* 55:509 Ag '33

Hobbing unusually small gears in a large hobbing machine. O. S. Marshall. *il Mach* 39: 719-20 Jl '33

**HOBOES. See Migrant problem****HOBS**

Hobbing process; abstract. M. N. Hough. *il diags Mech Eng* 55:509 Ag '33

Modern packaging for ground steel hobs. *il Iron Age* 132:25 Ag 24 '33

Relieving hobs by hand. O. S. Marshall. *il Mach* 39:671 Je '33

**HODOSCOPE**

Cosmic ray hodoscope. T. H. Johnson and E. C. Stevenson. *il diags J Fr Inst* 216: 329-37 S '33

**HOFFMAN, Malvina**

Races of mankind; sculptures in the Field museum of natural history. H. Field. *Science* 78:146-7 Ag 18 '33

Sculptor turns anthropologist. *Sci Am* 149: 209 N '33

**HOFFMANN rearrangement. See Molecular rearrangements****HOGS. See Swine****HOISTING**

Carillon which was hoisted by tractor; illustration. *Sci Am* 148:198 Ap '33

Some lifting considerations in a jobbing steel foundry. F. J. Hemming. *diags plans Mech Handling* 20:155-7 My '33

Speed-torque curves—how they picture crane performance. A. A. Merrill. *il diags Steel* 93:25-8 Jl 31; 23-6 Ag 21; 27-30 S 4 '33

*See also*

Mine hoisting

**HOISTING machinery**

Dangerous light lifting. W. F. Schaphorst. *il Power Pl Eng* 37:213 My '33

Mechanical braking and its influence on winding equipment. J. F. Perry and D. M. Smith. *il diags Inst Mech Eng Proc* 123: 537-602 '32; Same cond. *Engineering* 134: 603-11, 663-5, 696-8 N 18, D 2-9 '32; Discussion. *Inst Mech Eng Proc* 123:603-20 '32

Power-driven hoists handle McIndoes Dam flashboards. *diags Power* 77:570-1 N '33

Record breaking hoist installation at Coniaurum. W. G. Young. *il Can Min J* 54: 145-6 Ap '33

Travelling skip at a Thames side wharf. *il Mech Handling* 20:223-4 Jl '33

White and sons automatic tipping skip. *il diag Engineering* 136:230 S 1 '33; *Engineer* 156:217 S 1 '33

*See also*

Air lifts

Buckets

Cableways

Chains

Conveying machinery

Cranes, derricks, etc.

Elevators

Mine hoisting

Ore handling

Tiering machines

Winding engines

Wire rope

**HOISTING machinery, Electric**

Automatic hoist and monorail tractor solve materials handling problem; Columbia axle co. E. R. Tozer. *il Steel* 93:30 O 23 '33

Construction of an all-welded hoist. W. H. Denlinger. *il Gen Elec R* 36:269-70 Je '33

Get the most out of your maintenance dollar when spent on wire ropes for electric hoists and cranes. C. E. Schirmer. *Maintenance Eng* 91:39-40 F '33

Motors for elevators and hoists in gas and coke plants. E. J. Tournier. *il diag Gas Age* 71:53-6 Ja 21 '33

Screw conveyor and bucket elevator drives. T. N. Haffner. *il diag Rock Prod* 36:25-7 O '33

Sullivan slow speed heavy duty hoist. *il Can Min J* 54:369-70 S '33

*See also*

Mine hoisting, Electric

**HOLDING companies**

- Alabama legislates to regulate holding company. H. White. Elec W 100:796-8 D 10 '32
- Alternative proposals for regulating the holding company. Pub Util 10:635-7 N 24 '32
- Drive for simplified holding company structures. Pub Util 12:343-4 S 14 '33
- Economic justification of the holding company. A. D. Schultz. Pub Util 11:208-16 F 16 '33
- Federal power board seeks holding company jurisdiction; summary of twelfth annual report. Elec W 100:738 D 3 '32
- Financial policies of public utility holding companies. M. H. Waterman. Michigan U Bur of Business Research Business Studies v 5, no 1:1-186 '32; Review, by E. W. Morehouse. Pub Util 11:117-19 Ja 19 '33
- Four-point program for utility legislation. D. E. Lilienthal. Elec W 101:423 Ap 1 '33
- Governor of New York moves for holding company regulation. Pub Util 11:531-3 Ap 27 '33
- Holding companies. C. F. Blanchard. Elec W 102:82-3 Jl 15 '33
- Holding companies show stability in earnings, 1929-1931; tabulation. Elec W 101:26 Ja 7 '33
- Holding company. W. A. Prendergast. Pub Util 11:589-95, 646-51 My 11-25 '33
- Holding company control of licensees of the Federal power commission. 139p U.S. Federal power commission, Washington '32
- Holding company practices that invite regulation. J. C. De Long. Pub Util 10:733-9 D 22 '32
- How one state regulates holding companies by regulating operating companies; Alabama Harrison bill. H. White. Pub Util 11:379-89 Mr 30 '33
- Lessons of the depression. S. Crowther. Pub Util 11:3-11 Ja 5 '33
- Place of the holding company in the structure of business. A. H. Ulm. Pub Util 11:156-62 F 2 '33
- Present and future development of public utility finance. H. M. Addinsell. 26p Chase Harris Forbes corporation, 60 Cedar st, New York '32; Excerpts. Elec W 100:844-6 D 24 '32
- Prospect of federal aid to states in holding company regulation. A. H. Ulm. Pub Util 11:276-82 Mr 2 '33
- Public putting blame where it belongs. S. Ferguson. Elec W 101:95 Ja 21 '33
- Reconciling holding companies with public interest. D. E. Lilienthal. Elec W 100:588-91 O 29 '32; Discussion. 100:812-15 D 17 '32
- Service contracts in the Electric bond and share company. N. S. Buchanan. J Land & Pub Util Econ 9:283-96 Ag '33
- Shall we kill, cure, or regulate the holding company. J. C. Bonbright. Pub Util 10:764-5 D 22 '32
- State commissioners solve regulation of holding companies. A. E. Knowlton. Elec W 100:748-50 D 3 '32
- Use of subsidiary corporations in segregating risks. K. Field. J Land & Pub Util Econ 9:150-71 My '33

*See also*

**Banks and banking—**  
**Group banking**

**Definition**

Just what is a holding company? A. H. Ulm. Pub Util 11:36-41 Ja 5 '33

**HOLDING devices (machine work)**

- Adapting holders to press tools of various angles of dovetail. R. R. Cornell. diag Am Mach 77:187 Mr 15 '33
- Broach-holder that opens and closes automatically. diag Mach 39:255-6 D '32
- Eclipse micro-adjustable holder. il Mach 39:547 Ap '33
- Holding portable drills by electromagnets. J. Steiner. il Am Mach 77:123 F 15 '33
- Spring toolholder for threading. E. Wittmann. diags Am Mach 77:442 Jl 5 '33

Vise jaws vs. milling fixtures. C. W. Hinman. diags Am Mach 77:295 My 10 '33

*See also*

**Arbors and mandrels**  
**Chucks**

**HOLIDAYS**

Saturday half holiday established by law in Argentina. Monthly Labor R 36:180-1 Ja '33

Wages, hours of work and other factors in the remuneration of workers in certain towns in October 1932. Int Labour R 28:104-21, 265-82 Jl-Ag '33

*See also*

**Hours of labor—Five-** Rest days  
day week Vacations

**HOLLAND, William Jacob, 1848-1932**

Memorial. H. Leighton. por Geol Soc Bul 44:347-52 [bibliog p350-2] Ap '33

Sketch. A. Avinoff. Science 77:204-5 F 24 '33

**HOLLICK, Arthur, 1857-1933**

Sketch. E. C. Jeffrey. Science 77:440-1 My 12 '33

**HOLMES, J. H., and company, limited**

Holmes jubilee. Engineer 156:389 O 20 '33; Engineering 136:440 O 20 '33

**HOLMES, William Henry, 1846-1933**

Sketch. W. Hough. Science 77:482-3 My 19 '33

**HOLMES safety association**

Annual report. Safety Eng 65:128+ Ap '33

**HOLOCELLULOSE.** See Cellulose

**HOME**

Home hobbyists offer a market. A. W. Wilson. il Ptr Ink 163:69+ My 4 '33

**HOME economics**

Economic problems of the family. H. Kyrk. 500p \$3.50 Harper '33

Institutions dealing with scientific household management. Int Management Inst Bul 7:120 Ag '33

*See also*

Budget, Household	Hotels—Management
Cost of living	Interior decoration
Food	Kitchens
Fuel	Laundry
Furniture	Purchasing, Household
Heating	

**Bibliography**

Bibliography on household management; selection of publications received at the Institute's library. Int Management Inst Bul 7:125-6 Ag '33

**HOME insurance company of New York**

American Colony is reinsured by Home. East Underw 34:28 Ja 6 '33; Spectator 130:28 Ja 5 '33

Semi-annual statement. Spectator 130:32 F 23 '33

**HOME labor**

Industrial home work in Pennsylvania in 1931. Monthly Labor R 36:503-5 Mr '33

**HOME life insurance company of New York**

Annual statement. East Underw 34:14 F 3 '33

**HOME loan banks**

Future of government banking. J. Hanna. Am Bankers Assn J 25:11-13+ Je '33

History and activities of the Federal home loan bank. C. B. Robbins. Nat Underw (Life ed) 37:3+ O 13 '33

Home loan bank extends \$40,000,000 credit. Am Bld 54:46+ F '33

Home loan banks; the prevailing disposition in Congress is to give the new system a chance. Business Week p13 D 28 '32

Home owners' loan act interpreted; how it differs from Herbert Hoover's federal home loan bank and how it works. Arch Forum 59:74-6 Jl '33

Lending power of home loan banks. D. E. Church. Barron's 12:14 D 5 '32

One bank system is growing. Business Week p20 Ap 19 '33

Place of the Federal home loan bank system in the financial structure. G. L. Bliss. Bankers M 126:240-1+ Mr '33

Roosevelt asks two billion for home building and refinancing. Am Bld 55:12-13 My '33



**HOME loan banks—Continued**

What of the home loan banks? A. Crawford. *Burroughs Clearing House* 17:6-8+ F '33

**HOME office life underwriters association**

Annual meeting, New York, Nov. 17-18. *East Underw* 33:13 N 25 '32; *Nat Underw* (Life ed) 36:3+ N 25 '32; *Spectator* 129:17+ N 24 '32

**HOME owners' loan corporation**

Building industry will benefit from \$2,000,-000,000 home relief act. *Am Bld* 55:12-13+ JI '33

Conflicting stands by states taken on home loan bonds. *East Underw* 34:1+ S 22 '33

Federal mortgage aid outlined. *Am Bld* 55:38+ Ag '33

Home owners' loan act. *Monthly Labor R* 37:92-3 JI '33

Home owners' loan act interpreted; how it differs from Herbert Hoover's federal home loan bank and how it works. *Arch Forum* 59:74-6 JI '33

Home owners' loan act provisions. *Arch Rec* 74:12-13 JI '33

Home owners' loan bond uses explained. R. T. Stuart. *Ins Field* (Life ed) *Conv* no 62:14-15 O 13 '33; *Excerpts. East Underw* 34:35 O 13 '33

Mortgage relief; bond issue puts steam behind the machinery of the Home owners' loan corp. *Business Week* p24 S 16 '33

Procedure under the Home owners' loan act. *Monthly Labor R* 37:911 O '33

Real mortgage relief for the small home owner. *Business Week* p21 Je 17 '33

Save the home; Home owners' loan corp. is organizing its machinery. *il Business Week* p20-1 Ag 12 '33

Success of the H.O.L.C. *il Arch Forum* 59:232-4, 335 S-O '33

Synopsis concerning the bonds. *Comm & Fin* 22:891 O 11 '33

Washington view of H O L C 4% bonds. A. J. Mertzke. *Am Bankers Assn J* 26:32-3 O '33

**HOME ownership**

Home ownership, income and types of dwellings. J. M. Gries and J. Ford, eds. 230p

President's conference on home building and home ownership, Washington, D. C. '32

Home ownership too difficult; form better housing association. *Sales Management* 33:170 Ag 15 '33

Home, sweet home. M. Dawson. *Econostat* 1:17 Ap 22 '33

More homes will be built when more homes are sold. *Brick & Clay Rec* 82:205 Je '33

**Finance**

Building industry will benefit from \$2,000,-000,000 home relief act. *Am Bld* 55:12-13+ JI '33

Crisis in home financing. M. Edwards. *il Nation's Business* 21:30+ Ap '33

Foreclosed homes quickly sold by a rehabilitation plan; First-Central trust co, Akron, O. E. O. Handy. *il Rand McNally Bankers Mo* 50:146-7 Mr '33

Forgotten home owner. *Business Week* p16 Mr 8; 16+ Ap 12 '33

Giving the home owner protection. R. Wilmoughby. *Nation's Business* 21:23-6+ Ag '33

Home district plan proposed. *Am Bld* 55:48+ O '33

Home mortgage refinancing. *Manuf Rec* 102:19 JI '33

Home owner's loan act. *Dun & Bradstreet* 41:7 My '33

Home owners' loan act. *Monthly Labor R* 37:92-3 JI '33

Home owners' loan act interpreted; how it differs from Herbert Hoover's federal home loan bank and how it works. *Arch Forum* 59:74-6 JI '33

Home owners' loan act provisions. *Arch Rec* 74:12-13 JI '33

Home ownership; factors indicating lower costs. *Index* 13:16-20 Ja '33

How to get money for home financing; newly organized federal savings and loan associations backed by government funds. H. M. Quinn. *Am Bld* 55:28-9+ O '33

Present home-mortgage situation; administration's three-fold program to aid home owners. A. J. Mertzke. *Barron's* 13:18 Je 26 '33

Roosevelt asks two billion for home building and refinancing. *Am Bld* 55:12-13 My '33

Safe financing for home for growing income. E. Mowery. *il plans Am Bld* 54:23-5+ Ja '33

Selling the home complete; First national registered homes system. G. W. Dulaney, jr. *Am Bld* 55:102-3+ Je '33

What lies ahead for construction? D. L. Hoopingarner. *Bradstreet's* 61:228-30+ Ja 28 '33

**See also**

Home loan banks  
Home owners' loan corporation

**HOMES, Institutional**

Heating and ventilating a county home with 123,000 sq. ft. of radiators; Monroe County home, hospital, and penitentiary, Rochester, N.Y. F. L. Wadsworth. *il plan Heat & Ven* 29:26-9 N; 30-3 D '32

Home for convalescent babies, Sea Cliff, Long Island; views and plans. *Arch Rec* 74:206-10 S '33

**See also**

Orphanages

**HOMESTAKE** mine. See Gold mines and mining—South Dakota

**HOMICIDE**

Homicide record for 1932. F. Hoffman. *Spectator* 130:10-13+ Mr 30 '33

**HOMOCARONIC acid**

Synthesis of homocaronic acid. J. Owen and J. L. Simonsen. *Chem Soc J* p1225-7 S '33

**HOMODESOXYVERONAL**

Homodesoxyveronal and some of its homologs. A. W. Dox. *Am Chem Soc J* 55:3871-3 S '33

**HOMOGROANATENE**

Aromatic tropene derivatives; derivatives of 8:9-benz- $\Delta^8$ -homogroanatenene. B. K. Blount. *Chem Soc J* p553-5 My '33

**HONDURAS**

United Fruit; the conquest of Honduras. *il Fortune* 7:31-8+ Mr '33

**HONEY**

Bee business. *Business Week* p25-6 N 11 '33

Determination of the diastatic activity of honey. H. A. Schuette and R. J. Pauly. *Ind & Eng Chem Anal* 5:53-4 Ja 15 '33

This honey package is no drone; nature-inspired container idea. *il Ptr Ink* 164:36-7 Ag 17 '33

**Analysis**

Analytical methods for the determination of levulose in crude products. R. F. Jackson, J. A. Mathews and W. D. Chase. *U S Bur Stand J Research* 9:597-613 N '32

Determination of amino acids and related compounds in honey. R. E. Lothrop and S. I. Gertler. *bibliog Ind & Eng Chem Anal* 5:103-5 Mr 15 '33

**HONG KONG**

Wiring in the Far East; high grade modern installations in Hong Kong. *il Electrician* 109:643 N 18 '32

**HONG KONG and Shanghai banking corporation**

Ordinary yearly general meeting. *Economist* 116:823-6 Ap 15 '33

Principal items in the bank's accounts. *Economist* 116:579 Mr 18 '33

**HONG KONG university**

University of Hong Kong. C. A. M. Smith. *il Engineer* 156:78-80, 88 JI 28 '33

**HONING**

Block in 51 seconds; new mirror-like micro-matic honing process. K. W. Connor. *il Automotive Ind* 68:201-2 F 18 '33

Hones for producing smooth and accurate bores. *il diags Mach* 39:772-6, 777 Ag '33

Honing connecting rods. *il Automobile Eng* 23:222 Je '33

**HONING—Continued**

Honing finishes big end bores within 0.0003 in. A. F. Denham. *il* Automotive Ind 68: 438+ Ap 8 '33

Honing flywheel clutch-faces. E. Foldvary. *diag* Am Mach 77:607 S 13 '33

Honing internal splines. *il* *diags* Automobile Eng 23:127-8 Ap '33

Micromatic develops hone for blind end cylinders. *il* *diag* Automotive Ind 69:490 O 21 '33

**HONING machines**

Alexander machinery internal spline honing machine. *il* Engineering 135:714 Je 30 '33; Engineer 155:633 Je 23 '33

Buma portable motor cylinder boring and honing machines. *il* Engineering 135:229 F 24 '33

Precision grinding machines. *il* *diag* Engineer 154:584, 585 D 9 '32

**HOOD rubber company**

Tragic years in the rubber business. Barron's 12:22 N 21 '32

**HOOKER, Samuel Cox**

American contemporaries. S. J. Osborn. *por* Ind & Eng Chem 25:827-8 J1 '33

**HOOKE'S law**

Some applications of the absolute differential calculus to physics. C. Kaplan. *Phys R* 43: 137-42 Ja 15 '33

**HOOKS**

Load hooks for cranes and other lifting appliances. A. L. Haas. *Engineer* 155:476 My 12 '33

**HOOKWORM disease**

Is it fair to say that hookworm disease has almost disappeared from the United States? C. W. Stiles. *Science* 77:237-9 Mr 3 '33

**HOOVER DAM project.** See Colorado river—Boulder Dam project

**HOPKINS, Claude C.**

Quaker Oats returns Hopkins copy to the firing line. *il* *Ptr Ink* 164:20+ Ag 31 '33

**HOPPERS**

How a magazine and hopper feed stepped up production eight times. J. E. Fenno. *diags* Mach 40:9-11 S '33

**HOPS**

Hops prices raised and increased output looms. *Oil Paint & Drug Rep* 123:40 Ap 17 '33

**HORGAN, George Vincent, 1880-1933**

Sketch. *por* *Oil Paint & Drug Rep* 123:14 My 29 '33

**HORMONES**

Biologic indicators of pregnancy. R. J. Main. *il* *J Chem Educ* 10:171-3 Mr '33

Chemical nature of the ovarian and the gonadotropic hormones. H. L. Fevold. *bibliog* *J Chem Educ* 10:174-9 [bibliog p178-9] Mr '33

Endocrine glands. *il* *Fortune* 8:76-82+ N '33

Function of the adrenal cortical hormone and the cause of death from adrenal insufficiency. W. W. Swingle and others. *Science* 77: 58-64 Ja 13 '33; *Discussion*. N. E. Freeman. 77:211-12 F 24 '33

Hormones. E. C. Dodds. *Soc Chem Ind J* (Chem & Ind) 52:123; *Discussion*. 123-4 F 10 '33

International standard for the oestrus-producing hormone. *Soc Chem Ind J* (Chem & Ind) 52:520 Je 23 '33

International standard for the ovarian follicular hormone. *Science* 77:344-5 Ap 7 '33

Male hormone. B. Harrow and C. Funk. *bibliog* *J Chem Educ* 10:338-41 [bibliog p 340-1] Je '33

New hormone of intermediate metabolism isolated from normal urine; abstract. C. Funk. *Soc Chem Ind J* (Chem & Ind) 52: 422 My 12 '33

New hormones from the pituitary gland. H. M. Evans. *Science* 77:sup8 My 19 '33

Die sterine in ihren beziehungen zu anderen physiologisch wichtigen stoffklassen, insbesondere zu den sexualhormonen. A. Bute-  
nandt. *Angew Chemie* 46:639-40 O 7 '33

Studies on the function of the adrenal cortical hormone and the cause of death from adrenal insufficiency in dogs; abstract. W. W. Swingle. *Science* 77:517 My 26 '33

Synthetic experiments in the series of sterols and sexual hormones. W. Schlenk, O. Bergmann and E. Bergmann. *Soc Chem Ind J* 52:209T-10T J1 14 '33

**HOROPTER**

Analytical treatment of the longitudinal horopter; its measurement and application to related phenomena, especially to the relative size and shape of the ocular images. K. N. Ogle. *diags* *Opt Soc Am J* 22:665-728 D '32

**HORSE collar pads****Advertising**

More horses on farm, advertising opens new markets for collar pads. C. F. Mains. *Ptr Ink* 163:6+ My 18 '33

**HORSES**

Horse is still with us; safety in milk delivery. W. C. Washburn. *il* *Nat Safety* N 27:18-20+ Mr '33

Horses; draft animals in strong demand on farms which grow hay but no gasoline. *Business Week* p14 Ja 4 '33

**Diseases and pests**

Mosquito may carry horse plague. *Science* 77: sup6-7 Mr 24 '33

Particle size of the virus of equine encephalomyelitis. A. P. Krueger, B. Howitt and V. Zeiler. *Science* 77:288-9 Mr 17 '33

Relationship of the viruses of vesicular stomatitis and of equine encephalomyelitis. J. T. Gyverton, H. R. Cox and P. K. Olitsky. *Science* 78:216-17 S 8 '33

Respiratory infection in equine encephalomyelitis. L. R. Vawter and E. Records. *Science* 78:41-2 J1 14 '33

Transmission of infectious equine encephalomyelitis in mammals and birds. L. T. Giltner and M. S. Shahan. *Science* 78:63-4 J1 21 '33

Vampire bats and Panama horse disease; murrina, or trypanosomiasis. H. C. Clark. *Science* 76:sup8-9 D 2 '32

**HORTICULTURE****See also**

Electrohorticulture  
Floriculture

**HOSE**

Hose as used in the pulp and paper industry. H. S. Buchanan. *il* *Pulp & Pa of Can* 34:621-2+ O '33

**See also**

Fire hose  
Gasoline hose

**Advertising**

Advertising hydrant hose in 1890. *il* *Rubber Age* 32:321 F '33

**Manufacture**

Rubber machinery; tube, ply, and cover machinery for hose construction. *il* *India Rubber W* 88:29-32 N '33

**HOSIERY**

Anti-run circular hosiery; manufacturers believe it can come back. *il* *Textile World* 83:733+ Ap '33

Deodorizing textiles. R. A. Engel. *Melliand* 5:106-7 Je-J1 '33

Examination of mercerized hosiery yarns. D. A. Clibbens and A. Geake. *pls* *Textile Inst J* 24:T255-72 Je '33

Full-fashioned hosiery. M. C. Miller. *Textile World* 83:419-20 F 28 '33

Hosiery quality rewarded by fair prices only when carefully specified and analyzed. C. Epps. *il* *diag* *Textile World* 83:1256-7 J1 '33

Periodic variations in hank processed yarn, and the patterns produced by them in stocking fabrics. D. A. Clibbens and A. Geake. *pls* *Textile Inst J* 24:T221-32 Je '33

Science of stockings. R. H. Pickard. *Soc Chem Ind J* (Chem & Ind) 51:977-8 N 25 '32

**See also**

Dyes and dyeing—  
Hosiery



## HOSIERY—Continued

## Manufacture

- Cause of barré often eludes the hosiery knitter. H. C. Roberts. *il Textile World* 82:1177 D '32
- Circular hose with square heel and loose welt. *il Textile World* 82:1198 D '32
- Delustering of silk hosiery. L. S. Zisman. *Am Dyestuff Rep* 22:263-4 Ap 24 '33
- Eliminating shade variation in silk hosiery. *il Textile World* 82:974 N '32
- Full-fashioned defect recorded by the camera. H. C. Roberts. *il Textile World* 83:1628 S '33
- Full-fashioned defects. A. E. Parker. *il Textile World* 83:924-5, 1806-7 My, O '33
- Full-fashioned defects avoided with only temporary burden on supervisors. A. E. Parker. *il Textile World* 82:1154-6 D '32
- Hosiery degumming. W. W. Bray. *Textile World* 83:1816-17 O '33
- Mildew in silk. D. S. Chamberlin. *bibliog Melland* 5:25-7, 51-2 Ap-My '33
- Minimizing stitch cutting in circular hosiery. G. W. Sheeley. *diags Textile World* 83:71 Ja '33
- Non-run stockings. W. Hildebrandt. *il Melland* 4:481-5, 565-9 N-D '32
- Peroxide bleach on cotton and cotton-rayon hosiery. W. H. Hand. *il Textile World* 83:740-1 Ap '33
- Photographs often furnish clue to hosiery defects. H. C. Roberts. *il Textile World* 83:571 Mr '33
- Plating wrap hose not so difficult when simple precautions are taken. S. Hall. *diags Textile World* 83:1434 Ag '33
- Practical processing and dyeing of hosiery; cotton, wool, silk, rayon and combinations of these fibers. N. D. White. *il Textile Col* 55:299-302, 371-2+, 446-9, 517-20+, 603-6+, 667-70, 741-3, 817-20 My-D '33 (to be cont)
- Processing of hosiery containing effect threads. L. M. Boyd. *Am Dyestuff Rep* 22:569-71 S 25 '33
- Rapid method of determining the nature of mixability of raw silk. C. W. Meyers. *Am Dyestuff Rep* 22:644-5 O 23 '33
- Rayon in hosiery benefits particularly from dull luster. C. Epps. *il Textile World* 83:1602-3 S '33
- Winding for the hosiery trade. T. A. Purt. *Textile Inst J* 23:P257-61 N '32
- Yarn robbing; a problem unsolved in circular-hosiery knitting. W. A. Simond. *diags Textile World* 82:962-3 N '32

See also

Hosiery machines  
Hosiery mills

## HOSIERY machines

- Construction of the full-fashioned knitting machine. A. E. Parker. *il Melland* 5:4-6, 61-4 Ap-My '33
- Falling-bar adjustment on full-fashioned machines by means of universal gage. W. A. Simond. *diag Textile World* 83:586 Mr '33
- Full-fashioned hosiery machines and their operation. M. C. Miller. *Textile World* 83:70-1, 730-1 Ja, Ap '33
- Full-fashioned welt joiner. *Textile World* 83:1278 Jl '33
- Hosiery machine completely reverses design trend of recent years. *Business Week* p7 F 15 '33
- Individual electric drive for full-fashioned hosiery machines. W. Hildebrandt. *il diags Melland* 4:439-41, 576-9, 617-19, 668-70 O, D '32-F '33
- Pitted full-fashioned sinkers, needles, bits, etc. B. L. Hathorne. *Melland* 5:30 Ap '33
- Single-head full-fashioned hosiery machine. *il Textile World* 83:244 F 14 '33

## HOSIERY mills

- Old 1926 plant kept new as protection for Hanes hosiery co. profits. *il Textile World* 83:438-9 F 23 '33

## Employees

- Hosiery industry; summary of code. Monthly Labor R 37:545-7 S '33; *Textile World* 83:1616-17 S '33
- Hours and earnings in the hosiery and underwear industries, 1930 and 1932. Monthly Labor R 35:1136-50 N '32
- Housing of families of the American federation of full-fashioned hosiery workers, local nos. 1 and 39, Philadelphia, June-July, 1932. W. W. Jeanes. 69p \$1 Kastner & Stonorov, 2021 Chancellor St, Philadelphia '33
- Labor agreement in hosiery field faces test. *Textile World* 83:739 Ap '33

## Equipment

- Silk conditioning; Belmont hosiery borrows machine from shoe industry. *il Textile World* 83:1270 Jl '33
- They invested \$250,000 to save a million! Phoenix hosiery company, Milwaukee. H. P. Dutton. *il Factory & Ind Management* 84:1-3 Ja '33

## Management

- Real silk hosiery mills has accurate system of production control. F. P. Delks. *Textile World* 83:1092-3 Je '33
- Routing hosiery orders. M. G. Berg. *Melland* 5:104-5, 153-4 Je-Jl—Ag-S '33
- They invested \$250,000 to save a million! Phoenix hosiery company, Milwaukee. H. P. Dutton. *il Factory & Ind Management* 84:1-3 Ja '33
- Value of an engineering department in a full-fashioned hosiery mill. E. J. Doerr and D. H. Hoffmann. *diag Melland* 5:11-12, 53-4 Ap-My '33

## Records

- Sales and records at B.Z.B. knitting company go hand in hand. C. L. St Clair. *il Textile World* 82:1174-5 D '32

## HOSIERY trade

- Framing a sales plan to interest big stores; Holeproof hosiery. *Sales Management* 33:346 O 10 '33
- Hosiery code approved. *Textile World* 83:1616-17 S '33
- Knitted-in identification lifts pioneer product's sales; Nelson Rockford socks. *il Ptr Ink* 162:33-4 Ja 19 '33
- National association of hosiery and underwear manufacturers executive conference, New York, Oct. 26-27. *Textile World* 82:958-9 N '32
- Non-run hosiery offers industry big trade-up opportunity. *il Textile World* 83:42-3 Ja '33
- Non-run hosiery sells as fast as the mills can make it. *Business Week* p6 Ja 4 '33
- See also National association of hosiery and underwear manufacturers

## Advertising

- Hosiery ads miss the mark; women object to emphasis on beauty instead of service. R. C. Cook. *il Adv & Sell* 21:20+ Jl 20 '33

## Statistics

- Full-fashioned hosiery stocks decline 3.4%. *Textile World* 83:780 Ap '33
- Hosiery industry. *Am Dyestuff Rep* 22:289 Ap 24 '33
- Hosiery, monthly, 1931-1932. Survey of Cur *Business* 13:19 Ap '33
- Monthly production and shipments of ladies full fashioned stockings, 1928-1932; chart. *Melland* 5:21 Ap '33

## HOSPITAL libraries

- Library journal; hospital library number. Lib J 58:53-67 [bibliog p78-81] Ja 15 '33
- Progress in hospital library work. E. Pomeroy. Lib J 58:837-8 O 15 '33
- Recent books for hospital use. *Booklist* 29:282-5 My '33

## HOSPITAL service. See Medical service—Group plan

## HOSPITALS

- Children's hospital, Montreal, remodeled. *il plans Arch Forum* 58:56 Ja '33

**HOSPITALS—Continued**

- Community assets essential to sustained recovery. O. F. Ball. il Rand McNally Bankers Mo 50:206-7+ Ap-My '33
- Electricity aids surgery; World's fair exhibit model hospital operating room. Pub Serv M 55:86 S '33
- Fast-truck concrete haul cuts building cost; construction of the Meadowbrook hospital in Nassau county, New York. W. J. Barney, il plan Eng N 109:778-9 D 29 '32
- Hospital, today and tomorrow. C. A. Erikson. il plans Architecture 67:68-9 F '33
- How do physicians and patients like the middle-rate plan for hospital care? C. R. Rorem; C. D. Frost; E. R. Day. 53p Julius Rosenwald fund, 4901 Ellis av, Chicago '32
- King's hospital; St Bartholomew the Less, London [1598] rules and ordinances for governing. W. Mucklow. J Account 55:443-58 Je '33

*See also*

Medical centers  
Medical service, Industrial

**Accounting**

- Accounting and business procedure for hospitals. 195p New York conference on hospital accounting, New York '33

**Designs and plans**

- Designing procedure for the New York hospital-Cornell medical college buildings. Arch Forum 58:87-116 F '33
- Fourteen hospitals. Architecture 67:70-92 F '33
- New eye hospital, Columbia-Presbyterian medical center. G. Nichols. il plans Arch Rec 74:15-26 Jl '33
- U.S. marine hospital, Cleveland, Ohio. Arch Rec 74:80 Ag '33

**Electric equipment**

- Hospital heating and cooking; electrical equipment in two Plymouth institutions. M. O. F. England. il Elec R (Lond) 111:881, 884 D 16 '32
- Hospital lift installation. il Elec R (Lond) 113:86-7 Jl 21 '33
- Les installations électriques de l'hôpital d'Argenteuil, près de Paris. Génie Civil 102: 452-3 My 13 '33
- Los Angeles hospital installation costs \$840,-890. E. G. Brueggeman. il Elec West 71: 25 S '33
- Voice transmitters in the eye hospital, Columbia-Presbyterian medical center. J. O. Oliver. Arch Rec 74:26 Jl '33

**Equipment**

- Government hospital in Northwest has oil-fired boilers; U.S. marine hospital, Seattle. C. H. Knowles. il Heat & Ven 30:33-6 Ap '33
- Hospital luxury for rich or poor; New York hospital—Cornell medical college group. A. A. Hopkins. il Sci Am 147:340-1 D '32
- Power for the U.S. marine hospital at Seattle. C. H. Knowles. il diags plans Power Pl Eng 37:160-3 Ap '33
- Selector; new German automatic X-ray apparatus for small hospitals. Electrician 110: 827 Je 23 '33
- Springfield, Ohio, constructs an outstanding hospital. W. J. Heinz. il Comp Air M 38: 4055-6 F '33
- Structure and equipment of the New York hospital. il diags plan Arch Forum 58:118-24 F '33
- 300-ton refrigeration plant for New York hospital-Cornell university medical college. W. H. Fisher. il Power 77:482-3 S '33

**Heating and ventilation**

- Government hospital in Northwest has oil-fired boilers; U.S. marine hospital, Seattle. C. H. Knowles. il Heat & Ven 30:33-6 Ap '33
- Heating and ventilating a county home with 123,000 sq. ft. of radiators; Monroe County home, hospital, and penitentiary, Rochester, N. Y. F. L. Wadsworth. il plan Heat & Ven 29:26-9 N; 30-3 D '32

- Le nouvel hôpital de Grange-Blanche, à Lyon; installations de chauffage, ventilation et distribution d'eau chaude. P. Durand. il diags plan Génie Civil 103:53-9 Jl 15 '33
- Power for the U.S. marine hospital at Seattle. C. H. Knowles. il diags plans Power Pl Eng 37:160-3 Ap '33
- \$750 for piping change cuts fuel bill \$2300; Beth Israel hospital, Boston. W. C. Gould and F. A. Westbrook. il diag Heating-Piping 5:14-15 Ja '33

**Lighting**

- Hospital lighting. F. C. Raphael. il diags plan Illum Engr 26:118-25; Discussion. 125-8 My '33
- Operating room lighting in the Institute of ophthalmology. H. L. Logan. il diags Illum Eng Soc Trans 23:537-44 Je '33; Same. Arch Rec 74:27-32 Jl '33

**Power**

- Heat—power—refrigeration for the new Queens general hospital, New York city. il Power 77:568-70 N '33
- New plant at Longview hospital saves 42,000 dollars annually. il diags plan Power Pl Eng 37:456-60 N '33
- Power for the new city hospital at Springfield, Ohio. G. B. Zeller. il plan Power Pl Eng 37:342-5 Ag '33
- Power plant analysis for Cincinnati general hospital. A. A. Fette. il Power Pl Eng 37: 134-7 Mr '33
- Reliability—keynote of hospital power plant; New York hospital medical center. W. H. Fisher. il Power 77:398-401 Ag '33

**Safety devices and measures**

- Safety in hospitals. S. J. Owen, jr. comp. 56p 25c American hospital assn, Chicago '33

**HOSPITALS, Naval and marine**

- Neuropsychiatric service in a marine hospital, Ellis Island. J. D. Reichard. Pub Health Rep 48:1136-43 S 15 '33

**HOSPITALS, Psychiatric**

- Neuropsychiatric service in a marine hospital, Ellis Island. J. D. Reichard. Pub Health Rep 48:1136-43 S 15 '33

**HOT plates**

- Versuche mit hochleistungsplatten für elektrische haushalterde. M. Howald. il Zeit Ver Deutsch Ing 76:1228 D 10 '32

**HOT springs**

- Thermal springs of Virginia. F. Reeves. diags pls map Virginia Geol S Bul 36:1-56 '32

**HOT water heaters****Advertising**

- Uses consumer market as an industrial demonstrator; International Nickel continues sampling idea with increased advertising of new monel metal tanks and heaters. R. Dickinson. il Ptr Ink 163:62-5 Je 29 '33

**HOT water heating**

- Air conditioning a residence with district steam. W. H. Rudisill. il Heat & Ven 29:39-41 D '32
- Air conditioning a small office building; Ditzler color company. J. J. Murray. il diags plan Heat & Ven 30:28-30 Jl '33
- Central heating and hot water supply for private houses. G. C. Sanford. 172p C. Lockwood and son, London '32
- Depression reveals 83 per cent of market is neglected; American Radiator merchandises Arcola to old homes. B. A. Grimes. Ptr Ink 165:33-5 O 5 '33
- Electrode boilers in a large bus garage. il Elec R (Lond) 112:374 Mr 17 '33
- Force-flo one-pipe hot water heating system. il diag Heat & Ven 30:58 Ja '33
- French thermal-storage scheme for building heating. il Elec R (Lond) 112:776 Je 2 '33
- Fuel economy in domestic automatic heating. H. H. Langdon and H. J. Dana. diags Washington State College Eng Exp Sta Bul 39: 3-44 '32; Abstracts. Heat & Ven 30:48 Ja '33; Mech Eng 55:46 Ja '33
- Fuel is saved by equalizing flow in hot-water heating systems. E. L. Weber. il Dom Eng 140:48-9 D '32



**HOT water heating—Continued**

- Heating and air conditioning a New England mansion. C. E. Center. *il plans Heat & Ven* 30:40-3 Ja '33
- Holden and Brooke circulating pump for hot-water heating systems. *il Engineering* 135:448 Ap 21 '33
- Hot-water heating for skyscrapers; Sixty Wall Tower. T. S. Tenney. *il diag Heating-Piping* 5:82-6 F '33
- Improved circulating pump for hot water heating systems. *il diag Engineer* 155:124 F 3 '33
- Meeting special heating needs when main plant is shut down; Toronto university. H. H. Angus. *diags Heating-Piping* 5:144+ Mr '33
- Le nouvel hôpital de Grange-Blanche, à Lyon; installations de chauffage, ventilation et distribution d'eau chaude. P. Durand. *il diags plan Génie Civil* 103:53-9 JI 15 '33
- Pipe sizer for determining the sizes of pipes and of restricting orifices in a hot-water heating system. L. A. Cherry. *diags Heating-Piping* 5:381-8 JI '33
- Question regarding a hot water radiator. *diags Dom Eng* 142:46+ O '33
- Reversed returns; equalization of flow in hot water heating mains. *diags plans Dom Eng* 141:42+ Je '33
- Some problems on big job; double heating system uses steam and hot water; Chicago post office. W. W. Stevens. *il diags Dom Eng* 141:29-33+ Ap '33
- Submerged combustion meets many industrial heating needs. K. A. Kobe and C. W. Hauge. *diag Power* 77:460-1 S '33
- Trouble inspection report. *diags Dom Eng* 141:58+ Ap '33
- Will a fire pot coil give enough heat for hot water radiation. *Dom Eng* 141:41 F '33

**Panel system**

- Office heating installation; Martins bank, Ltd. Liverpool. *Engineer* 155:330-1 Mr 31 '33

**Tables, calculations, etc.**

- Heat output of concealed radiators. E. A. Allcutt. *diags Heating-Piping* 5:267-74 My '33

**HOT water supply**

- Air conditioning a residence with district steam. W. H. Rudisill. *il Heat & Ven* 29:39-41 D '32
- By-pass feeder connections. R. H. Parrish. *diags Factory Management* 91:109-10 Mr '33
- Gas and gas coke for hot water supply. Gas J (Lond) 201:679-83; Discussion. 683-4 Mr 15 '33
- Heat losses from open hot-water tank. *Elec W* 102:190 Ag 5 '33
- Le nouvel hôpital de Grange-Blanche, à Lyon; installations de chauffage, ventilation et distribution d'eau chaude. P. Durand. *il diags plan Génie Civil* 103:53-9 JI 15 '33
- Piping arranged to save hot condensate. T. Sheehan. *diag Power Pl Eng* 37:120 Mr '33
- Remodeled water heating system shows savings in hotel. J. Fletcher. *il diags Dom Eng* 141:32-4 Je '33
- Why hot water attacks the piping. *il Dom Eng* 141:45-6 Ap '33

**See also**

- |                        |                   |
|------------------------|-------------------|
| Boilers, Range         | Gas water heaters |
| Electric water heaters | Oil water heaters |
|                        | Water heaters     |

**Cost**

- How to meet competition in domestic water heating. H. M. Henry. *Gas Age* 71:113-18, 139-42 F 4-11 '33

**HOT water tanks**

- It pays to insulate hot water tanks. R. S. Julsrud. *il Dom Eng* 142:44-6+ S '33

**HOTBEDS**

- Electric heating for hot beds; editorial. *Engineering* 136:337-8 S 22 '33
- Electric hotbeds speed sprouting and maturing. *il Elec W* 101:554 Ap 29 '33
- Forcing frames and seed beds; soil heating by means of lead-covered resistance cables. E. A. Beavis. *il diag Electrician* 110:552-3 Ap 28 '33

- Use of electricity for soil heating. C. A. Candron Brown. *Engineer* 156:131 Ag 11 '33

**HOTELS**

- Wire for reservations; hotels are beginning to fill those long-vacant rooms. *Business Week* p14-15 Ag 12 '33

**See also****Restaurants****Accounting**

- Apportionment of general expenses to the telephone department of a hotel. *J Account* 55:153-6 F '33
- Uniform system of accounts for hotels. 2d ed 95p Hotel assn. of New York city '33

**Advertising**

- Hotels vs. furnished room. *il Ptr Ink* 162:44 Ja 19 '33
- Making the copy fit the market, hotel advertisers to West Pointers. *il Ptr Ink* 161:45 D 8 '32
- Tailored advertising; Reliance property management, inc. W. Baker. *il Ptr Ink* 162:62-4 F 9 '33
- What features shall a successful hotel house organ include? E. Deuss. *Ptd Salesmanship* 60:299+ D '32

**Decoration**

- Entertainment rooms, Hotel Sherman, Chicago; views. *Arch Forum* 58:399-401 My '33
- Public rooms of the Park Plaza, St Louis, Mo.; views. *Architecture* 67:279-82 My '33

**Designs and plans**

- Hotel, Tripolis. *Arch Forum* 58:509-10 Je '33
- La Quinta hotel and cottages at Indio, California; views and plans. *Arch Rec* 74:345-51 N '33

**Employees**

- Wages and hours of union hotel and restaurant employees. *Monthly Labor R* 37:350-4 Ag '33

**Equipment**

- Modern gas installation at a Leamington Spa hotel. *il Gas J (Lond)* 203:209-10 JI 26 '33

**Heating and ventilation**

- Gas fires in hotels and boarding houses. *il Gas J (Lond)* 204:88 O 4 '33
- Remodeled water heating system shows savings in hotel. J. Fletcher. *il diags Dom Eng* 141:32-4 Je '33

**Insurance requirements**

- Hotel keepers need cover against liability for baggage of guests. *East Underw* 34:26 Ag 18 '33

**Management**

- Tailored advertising; Reliance property management, inc. W. Baker. *il Ptr Ink* 162:62-4 F 9 '33

**Power**

- Costs down  $\frac{2}{3}$ , kw.-hr. load up  $\frac{1}{3}$ —the record at Deshler-Wallick. *Power* 77:230-1 My '33
- Power decreased 2 per cent, coal reduced 15 per cent; Hotel St George, Brooklyn, N.Y. *il Power* 77:562-4 N '33

**Rates**

- Wholesale hotel rates sought by National commercial men's employers' group. *Sales Management* 32:624 Je 15 '33

**Remodeling**

- Hotels are seeking the way out; modernization campaign. J. S. Warren. *Nation's Business* 21:45+ Ja '33
- Modernization of facilities in a Cleveland hotel. R. P. Wallis. *il plan Eng N* 110:552-4 My 4 '33
- Modernizing methods for hotels and apartments. *il plans Arch Forum* 58:29-40 Ja '33
- Remodeled hotel shows 33% increase; Carter hotel, Cleveland. M. A. Boyd. *il Dom Eng* 142:38-41+ S '33

**HOTELS**—Remodeling—*Continued*

Structural changes in building alterations; Bankers trust company building and Herald Square hotel, New York. *il diags Eng N 110:551-2 My 4 '33*

**Safety devices and measures**

Guests don't see hazards. *E. Deuss. il Nat Safety N 27:23+ My '33*

**HOURS of labor**

Adjusted length of work-week as cure for unemployment; S. Odenheimer, New Orleans manufacturer would make plan compulsory. *T. E. Dabney. Concrete (mill sec) 41:44-5 Ja '33*

Attitude of cotton manufacturers toward shorter hours and higher wages. *Monthly Labor R 35:1164-5 N '32*

Average man-hours worked and average hourly earnings. Published in *Monthly labor review*

Balanced employment. *L. S. Chadwick. 234p \$2 Macmillan '33*

Changes in English wage rates and hours of labor in 1932. *Monthly Labor R 37:393-6 Ag '33*

Earnings and hours in the machine-building industry in Germany in October, 1931. *Monthly Labor R 36:185-6 Ja '33*

Effect of the shorter work day on public service companies. *G. Soule. Pub Util 11:12-16 Ja 5 '33*

Employment agreement offered all industries. *Oil Paint & Drug Rep 124:17-18+ Jl 24 '33*

For federal control of working hours. *S. Odenheimer. Comm & Fin 21:1467 D 21 '32*

Forty-hour week. *Economist 116:105-6 Ja 21 '33*

Hours and earnings in the hosiery and underwear industries, 1930 and 1932. *Monthly Labor R 35:1136-50 N '32*

Hours and earnings in the men's clothing industry, 1930 and 1932. *Monthly Labor R 36:350-60 F '33*

Hours and wage rates reported to NRA; special committee of Construction league compiles data. *Eng N 111:382-4 S 28 '33*

Hours and wages in textile mills frankly criticized. *W. C. Teagle. Textile World 82:1162 D '32*

Hours of earnings, United States, 1926 and 1933. *Management R 22:278-9 S '33*

Hours of minors in unregulated occupations in Great Britain. *Monthly Labor R 37:557-9 S '33*

How the utilities will be affected by the shorter work week. *G. Soule. Pub Util 12:82-6 Jl 20 '33*

Human aspects of business in the new consumption era. *H. W. Hess. Ann Am Acad 165:120-1 Ja '33*

If economic theory could be tested in the laboratory! *R. G. G. Bousfield. Factory & Ind Management 83:456 D '32*

International reduction of hours of work. *F. Sitzler. Int Labour R 26:765-76 D '32*

Italian eight-hour day law. *Monthly Labor R 37:590-2 S '33*

Labor—the crucial factor in business recovery. *C. M. Wright. Mag of Wall St 51:136-8+ N 26 '32*

Labor will fight for a shorter work period, for unemployment insurance; against the sales tax and work-sharing. *Business Week p14-15 D 14 '32*

Laws regulating hours of labor of motor-bus drivers. *Monthly Labor R 36:109-16 Ja '33*

Legal restrictions on hours of labor of men in the United States, as of January 1, 1933. *Monthly Labor R 36:1-10 Ja '33*

NRA labor policy and recovery; overzealous unemployment efforts may stall progress. *J. S. Lawrence. Econostat 1:5-10+ Ag 26 '33*

New era—a new hope. *Brick & Clay Rec 82:20-1 Ja '33*

Next labor offensive. *Fortune 7:59-60 Ja '33*

Parts industry fights for forty hour maximum week. *D. Blanchard. Automotive Ind 69:413-14, 430-1 O 7 '33*

Preparatory conference on the forty-hour week. *F. Maurette. Int Labour R 27:299-326 Mr '33*

Recent official enquiries into wages and hours of work in various industries in Germany; chemical, metal-working and engineering, and boot and shoe industries. *Int Labour R 28:531-9 O '33*

Revolution or jobs. *T. E. Dabney. 251p \$1.50 Lincoln MacVeagh, Dial press, inc, 152 W. 13th st, New York '33*

Seventeenth session of the International labour conference; methods of providing rest and alternation of shifts in automatic sheet-glass works. *Int Labour R 28:328-31 S '33*

Seventeenth session of the International labour conference; reduction of hours of work. *Int Labour R 28:332-6 S '33*

Shipbuilders demand a forty-hour week; editorial. *Marine Eng 38:395-7 N '33*

Shorter hours under industry act require greater manufacturing efficiency. *W. W. Hay. Annalist 41:891-2 Je 30 '33*

Shorter work periods in industry. 56p National industrial conference board, inc, New York '32; Abstract. *Monthly Labor R 36:87-91 Ja '33*

Shorter working day and a minimum wage. *S. Hillman. Harvard Business R 11:457-61 Jl '33*

Spread work movement gains momentum. *Management Methods 61:611-12 N '32*

Tripartite conference on international establishment of 40-hour week. *Monthly Labor R 36:1159-60 My '33*

Unbroken working day. *M. Milhaud. Int Labour R 26:797-812 D '32*

Union rates of wages and full-time hours of labor in the metal trades. tables *Monthly Labor R 36:1375-83 Je '33*

Union scales of wages and hours of labor in 1933. *Monthly Labor R 37:660-73 S '33*

Usury on labor. *R. Matthews. Elec Eng 51:866 D '32*

Wages and hours in the English cutlery trade, 1931. *Monthly Labor R 36:370-5 F '33*

Wages and hours in Wyoming, 1932. *Monthly Labor R 36:620-3 Mr '33*

Wages and hours of labor. Published in *Monthly labor review*

Wages and hours of labor in air transportation, 1931. *U S Bur Labor Statistics Bul 575:1-41 '33*

Wages and hours of labor in Canada, 1931 and 1932. *Monthly Labor R 36:907-10 Ap '33*

Wages and hours of labor in foundries and machine shops, 1931. tables *U S Bur Labor Statistics Bul 570:1-143 '32*

Wages and hours of labor in gasoline filling stations and motor-vehicle repair garages, 1931. *U S Bur Labor Statistics Bul 578:1-89 '33*

Wages and hours of labor in metalliferous mines, 1924 and 1931. *U S Bur Labor Statistics Bul 573:1-64 '33*

Wages and hours of labor in rayon and other synthetic yarn manufacturing, 1932. *Monthly Labor R 36:607-12 Mr '33*

Wages and hours of labor in the bakery industry—bread and cake departments, 1931. tables *U S Bur Labor Statistics Bul 580:1-104 '33*

Wages and hours of labor in the boot and shoe industry, 1910 to 1932. *U S Bur Labor Statistics Bul 579:1-111 '33*

Wages and hours of labor in the dyeing and finishing of textiles, 1932. *U S Bur Labor Statistics Bul 588:1-72 '33*

Wages and hours of labor in the furniture industry, 1910 to 1931. *U S Bur Labor Statistics Bul 571:1-58 '32*

Wages and hours of labor in the iron and steel industry, 1931. *U S Bur Labor Statistics Bul 567:1-166 '32*

Wages and hours of labor in the manufacture of silk and rayon goods, 1931. *U S Bur Labor Statistics Bul 568:1-57 '32*

Wages and hours of labor in the motor-vehicle industry, 1932. tables *Monthly Labor R 36:1365-75 Je '33*

Wages and hours of labor in the Portland cement industry, 1929 and 1932. *Monthly Labor R 36:595-606 Mr '33*



**HOURS of labor—Continued**

Wages and hours of labor in the pottery industry, 1925 and 1932. Monthly Labor R 36: 853-62 Ap '33

Wages and hours of labor in the slaughtering and meat-packing industry, 1931. U S Bur Labor Statistics Bul 576:1-165 '33

Wages and hours of labor in woolen and worsted goods manufacturing, 1932. U S Bur Labor Statistics Bul 584:1-64 '33

Wages and hours of labor of common street laborers, 1932. Monthly Labor R 37:143-66 Jl '33

Wages and hours of union blacksmiths. Monthly Labor R 37:355-7 Ag '33

Wages and hours of union hotel and restaurant employees. Monthly Labor R 37:350-4 Ag '33

Wages and hours of union pulp, sulphite, and paper mill workers. Monthly Labor R 37:941-2 O '33

Wages and hours of union quarry workers in the United States, January, 1933. Monthly Labor R 36:862-3 Ap '33

Wages and hours of work in the coal-mining industry in 1931. Int Labour R 28:371-94 S '33

Wages and hours; vital factors in profit picture. Textile World 83:388-9 F 28 '33

Wages, hours of work, and other factors in the remuneration of workers in certain towns in October 1932. tables Int Labour R 27:815-38; 28:104-21, 265-82 Je-Ag '33

What the machine has done to us. W. S. Giele. Iron Age 131:622-7+ Ap 20 '33

Working hours of truck drivers. Roads & Svs 76:289 Ag '33

**See also**

Fatigue	Part-time employment
Holidays	Rest days
Night work	Woman—Employment
Overtime	

**Five-day week**

Agreement establishing 5-day week for printers in Chicago. Monthly Labor R 35:1374 D '32

Chemical industry and the five-day week. F. D. Hartford. Chem & Met Eng 40:122 Mr '33

Extent of 5-day week in American industry in 1932. Monthly Labor R 35:999-1004 N '32

Five-day week in advertising. Ptr Ink 165: 107 O 19 '33

Five-day week in the Government printing office. Monthly Labor R 36:502-3 Mr '33

Share-the-work programs. L. M. Ayres. Am Gas Assn Mo 15:205-6 My '33

**Six-hour day**

Adding 400 workers; the Kellogg company's six-hour day. Nation's Business 21:56 Ja '33

Are you ready for a shorter day? R. H. Rositzke. il Factory Management 91:211-13 Je '33

Basic 6-hour day sought by railway labor unions. Ry Age 94:564 Ap 15 '33

How would you vote on the 6-hour day? M. A. Lee and P. H. Setzler. Factory Management 91:169-72 My '33; Conclusions. Business Week p4 My 10 '33

I.C.C. report on six-hour day investigation. Ry Age 93:911-14 D 17 '32

Report on proposed six-hour day for railroad employees. Monthly Labor R 36:367-9 F '33

Study of a change from 8 to 6 hours of work. E. L. Best. U S Women's Bur Bul 105:1-14 '33

What industry thinks of the six-hour day. M. A. Lee and P. H. Setzler. Food Ind 5: 205-7 Je '33

**Thirty-hour week**

Anti-trust laws; Roosevelt proposes to relax anti-trust restrictions if business will pledge the 6-hour day, 5-day week at higher wages. Business Week p3 F 15 '33

Industrial council favored; 30 hour week opposed. R. P. Lamont. Iron Age 131:746 My 11 '33; Abstract. Steel 92:12 My 8 '33

Let's be sane about the five-day week; alternative suggestion. A. L. Deane. Forbes 31: 15-16 Ap 15 '33

Thirty-hour bill held sure to pass as part of larger plan for controlled economy. L. W. Moffett. Automotive Ind 68:531+ Ap 29 '33

Thirty-hour, five-day week bill meets with strong protests. Iron Age 131:596 Ap 13 '33

Thirty-hour week. Nat City Bank p74-6 My '33

Thirty-hour week favored by industrial leaders. Management Methods 62:213 My '33

Thirty-hour week in small plants. E. C. Smith. Iron Age 131:638 Ap 20 '33

30-hr. week on municipal work adopted in San Francisco; wage scale. Eng N 110:35 Ja 5 '33

Thirty-hour week would not work in the steel industry. T. H. Gerken. Iron Age 131:613-14+ Ap 20 '33

Thirty-hour workweek bill dangerous, master printers assert. A. G. Fegert. Inland Ptr 91:23-4 My '33

Thirty hours a week; Black bill. Business Week p4-5 Ap 19 '33

Work-week laws not impossible under present abnormal conditions. P. Wooton. Textile World 83:246 F 14 '33

**HOUSE decoration**

Interiors of a London house; views. Architecture 67:39-40 Ja '33

Modernization and alteration; residence of Mrs Alma Wertheim in Washington Mews, New York city; views. Arch Rec 74:113-15 Ag '33

Practical house decorating. M. Vince. 89p Pitman '32

This plan built sales; Macy's Forward house. il System 62:504-5 N '33

**See also**

Furniture  
Interior decoration  
Rooms

**HOUSE lighting**

Convenience control of residence lighting. J. C. Runyon. diags plans Elec W 102:349-51 S 9 '33

Guide to better home lighting. Elec W 102: 338-9 S 9 '33

Home lighting; Northwest electric light and power association committee report. Elec West 70:263-6 Je '33

Increasing home-lighting sales. R. E. Fisher. il Elec W 101:768 Je 10 '33

Trends in lighting and electrical equipment for country houses. il Arch Forum 58:241-4 Mr '33

What home owners want. Elec W 100:887-91; 101:299 D 31 '32, Mr 4 '33

**Bibliography**

Current articles on home lighting. Illum Eng Soc Trans 28:85-6, 184-6, 284-5, 373-4, 450-1, 545, 619-20, 692-3 Ja-S '33

**HOUSE numbers**

Making illuminated house numbers. il Sheet Metal Worker 24:10 Ja '33

**HOUSE organs**

Death among the house-organs. Management R 22:124 Ap '33

House-organs can be made to pay. J. Mangan. Inland Ptr 91:43-4 My '33

How a house organ grew up to be a trade journal; the Union special machine company and The Needle's Eye. J. R. Armstrong. il Ptd Salesmanship 61:177+ My '33

How a news letter creates new trust accounts; Montclair trust company news letter. il Ptd Salesmanship 60:447 F '33

How the Gas-gazette helps build customer good will. J. F. Weedon. Gas Age 71:571-2 Je 3 '33

Inexpensive house-organ can win customers and help hold them. C. M. Jickling. Inland Ptr 91:44-5 My '33

Information bulletins and house journal of the Mond nickel company, limited. E. W. Parker. Assn of Sp Lib & Inf Bur Proc 1933:62-6

One way to find out what readers read; Three minute cereals company. C. B. Trost. il Ptd Salesmanship 60:314-16+ D '32

**HOUSE organs—Continued**

One way to test reader interest in a house organ; readers' preferences in other magazines. J. N. Krohne. *il Ptd Salesmanship* 60:216-17 N '32

Outside advertisers help promote a sales contest; special number of "Life Aetna-izer." *il Ptr Ink Mo* 26:27+ Je '33

Professional editing pays its own way. J. N. Krohne. *il Ptd Salesmanship* 61:44-5+ Mr '33

Ritter makes its house organ do double duty as a magazine insert. G. E. Mitchell. *il [8p insert] Ptd Salesmanship* 61:340-3 Ag '33

Technical house journal of Edgar Allen & co. with a circulation of 15,000 copies a month. E. N. Simons. *Assn of Sp Lib & Inf Bur Proc* 1933:71-3

Technical news bulletin and the house journal of the Metropolitan-Vickers electrical company. B. M. Dent. *Assn of Sp Lib & Inf Bur Proc* 1933:56-8

This house organ born at the depth of the depression; D. Myers and sons, Wheel of style. T. A. Newhoff. *il Ptd Salesmanship* 62:26+ S '33

What belongs on a house organ's table-of-contents page? A. D. Luse. *Ptd Salesmanship* 60:376+ Ja '33

What features shall a successful hotel house organ include? E. Deuss. *Ptd Salesmanship* 60:299+ D '32

Why our house organ is loose-leaf in form; Reeves pulley co. Speed gab. J. M. Jewell. *il Ptd Salesmanship* 60:366-8 Ja '33

*See also*

Employees' magazines

Salesmen's magazines

**Covers**

Humorous drawings of great Dr. Seuss feature covers of Telechron house organ. W. K. Opdyke. *il Ptd Salesmanship* 61:84-5 Ap '33

**Directories**

House magazines. *Ptr Ink* 164:70, 72-3+ Ag 10; 165:82-3 N 9 '33

**Titles**

Five hundred readers helped name our new house organ; General indemnity corporation. G. W. Lee. *il Ptd Salesmanship* 61:180-2 My '33

**HOUSE plants****Lighting**

Lighted house plants offer profitable new field. *il Elec W* 102:105 J1 22 '33

**HOUSE-to-house selling.** See *Canvassing*

**HOUSEHOLD appliances.** See *Domestic appliances*

**HOUSEHOLD budget.** See *Budget, Household*

**HOUSEHOLD management.** See *Home economics*

**HOUSEHOLD products industries**

**Finance**

Household products and appliances companies, 1930-1932. *Mag of Wall St Manual* p61 Mr 6 '33

**HOUSES**

Advantages of tested home building methods. H. V. Walsh. *il Brick & Clay Rec* 82:194-6 Je '33; Same. *Am Bld* 55:14-15+ J1 '33

Architect and small house costs. H. Wright. *il plans Arch Rec* 72:389-94 D '32

Big market is in small houses. *Am Bld* 54:20 F '33

House market; inter-industry competition. *il Business Week* p14 N 23 '32

Insulation for house construction. J. D. Hoffman. *diags Purdue Univ Eng Extension Dept Bul* 31:1-29 '33

Machines for living; functionalist housing. L. Mumford. *il Fortune* 7:78-80, 82, 84, 87-8 F '33

Modernizing the small house; check list and suggestions. F. A. Pawley. *il Arch Forum* 58:3-8 Ja '33

New materials and improved construction methods. A. L. Kocher and A. Frey. *il diags plans Arch Rec* 73:281-93 Ap '33

Recommended minimum requirements for small dwelling construction. *il diags U S Bur Stand Building and Housing Pub* 18:1-107 '32

Small house of the future. L. E. Olsen. *plans Am Bld* 54:23-5+ D '32

Steel should improve existing methods of home building. L. H. Miller. *il Brick & Clay Rec* 82:58-9 F '33; Excerpt. *Can Eng* 64:14 Mr 21 '33

Trends in residence construction. E. T. Peterson. *il Adv & Sell* 20:22-3+ Mr 2 '33

What should the worker demand in his house? W. F. Shaw. *Am Bld* 54:21+ Mr '33

*See also*

Apartment houses

Architecture, Domestic

Brick houses

Concrete houses

Copper houses

Cottages

Country houses

Farmhouses

House lighting

Log cabins

Rooms

Steel houses

**HOUSES, Fabricated**

Cellular steel-unit house. C. M. Price. *il front Arch Rec* 74:249-51, 313 O '33

Crossett—a prefabricated lumber house through retail dealers; Century of progress exposition. *il Am Bld* 55:48 Je '33

Eight-day houses. *Business Week* p22 J1 22 '33

Fabricated homes demand new products from clay products industry. O. W. Renkert. *Brick & Clay Rec* 82:21+ Ja '33

Fabricated house at Elmhurst, Illinois, General houses, inc.; view and plans. *Arch Rec* 74:409 N '33

Factory-built houses—industry's potential market. *il Factory Management* 91:320-2 Ag '33

Factory-made house is not such a bogey man. *il Brick & Clay Rec* 82:100+ Mr '33

Houses cannot be built like automobiles. A. T. North. *il Am Arch* 142:18-20 D '32; Discussion. J. Burchard. 143:72; Reply. 72 Ja '33

Long-Bell to sell enterlocking lumber. *diag Am Bld* 54:42 D '32

Lumbermen offer a shop-built house for local dealers and builders. W. F. Shaw. *il diags plans Am Bld* 54:14-17 F '33

Mass-produced houses in review. *il plans Fortune* 7:52-7+ Ap '33

Model T home; Sears, Roebuck offers a new line of small houses. *il plan Business Week* p8-9 Ap 19 '33

New steel houses should be marketed through established building channels. B. Chapple. *il Am Bld* 54:18-19+ F '33

Please ship three dozen assorted houses. R. J. Dudley. *il Ptr Ink Mo* 25:32-4 D '32

Prefabricated concrete homes. R. E. Copeland. *il Rock Prod* 36:46-7 Je '33

Pre-fabricated houses—what will they do to the dealer's business? B. L. Johnson. *il Am Bld* 54:62-3 F '33

Welded house introduces new type of construction. *il Dom Eng* 140:37-9 D '32

Wheeling enters steel house field. *diag Iron Age* 132:29-30 J1 27 '33

*See also*

Houses, Portable

**HOUSES, Model**

Air conditioning in model house at Century of progress. *il plan Sheet Metal Worker* 24:149-50 My '33

Exhibition houses; demonstrating the uses of gas to private consumers; an interview with J. Sandon Stubbs. *il Gas J (Lond)* 200:799-800 D 21 '32

Exhibits at Century of progress exposition. *il plans Arch Rec* 73:sup26 My '33

Experimental house, Merion, Pa. H. D. Eberlein. *il diags plans Arch Forum* 58:480-4 Je '33

Home of controlled climate features gas throughout. *il Gas Age* 72:257+ S 16 '33

Homes and housing materials to be exhibited at World's fair, Chicago. *il Eng N* 110:293 Mr 2 '33

Housing exhibit; Century of progress exposition. *il plans Am Bld* 55:29-48, 66-7 Je '33



**HOUSES, Model—Continued**

- Modern houses of the Century of progress exposition. il diags plans map Arch Forum 59:51-62 J1 '33
- Most unusual brick house designed for Century of progress. il Brick & Clay Rec 81:196-7 D '32
- New mode in living; modern homes on exhibit at the Century of progress exposition. W. W. Stevens. il Dom Eng 142:33-5+ Ag '33
- Newest ideas in home building at a Century of progress. il Brick & Clay Rec 82:158-9, 198-9 My-Je '33
- Synthetic houses; house that chemistry built at the Century of progress exposition. il Sci Am 149:180 O '33
- This plan built sales; Macy's Forward house. il System 62:504-5 N '33
- Trend of progress in house design; demonstration houses at a Century of progress. il plans Am Arch 143:22-9 J1 '33
- World's most unusual brick house ready for millions of visitors; Century of progress. il Brick & Clay Rec 83:14-16 J1 '33

**HOUSES, Portable**

- Portable houses of copper, Germany; views and plans. Arch Forum 58:145-7 F '33

**HOUSES, Remodeled**

- Before & after folio of remodeled houses. il plans Arch Forum 58:9-28 Ja '33
- Cleveland launches renovize drive. il Am Bld 54:22-3 Mr '33
- Cleveland's banks are having architects compete for remodeling foreclosed homes. il Arch Forum 58:337 Ap '33
- Everything modernized but the view; home of J. C. Forbes, Katonah, N.Y. il plans Am Bld 54:26-7 F '33
- Four remodeling ideas. E. L. Broecker. il Am Bld 55:32-3 J1 '33
- Geneseo, N.Y. house of Lockwood F. Young; alterations; views and plans. Am Arch 143:75-6 My '33
- How American Builder sets the style. E. O'Brien, jr. il Am Bld 55:34 My '33
- Modernized economically. il plans Am Bld 54:40-1 F '33
- Modernizing—the liveliest field for 1933 building; five pleasing transformations of a common type of house; illustrations. Am Bld 54:18-19 Ja '33
- New ideas for modernizing your home. 64p pa \$1 Better homes and gardens, Des Moines, Iowa '33
- Remodeled house for Dr Jerome Wagner, Old Lyme, Conn.; views and plans. Am Arch 143:87-90 J1 '33
- Remodeled house of Anne L. MacLeod and Edith N. Nason, Fayetteville, New York; views and plans. Arch Rec 74:211-13 S '33
- Remodeled house of Irwin Wheeler, Trinity Lake, New York; views and plans. Am Arch 143:57-60 Ja '33
- Remodeled houses, Washington, D.C.; views and plans. Am Arch 143:65-6 Ja '33
- Remodeled residence, Garrison, N.Y.; views and plans. Arch Forum 59:131-2 Ag '33
- Remodeling a city house, New York city; views and plans. Arch Rec 74:325-7 O '33
- Renovating houses for resale; with checklist of suggested alterations. N. N. Rice. plans Arch Rec 74:214-15 S '33
- St Martin's rectory and Clarence J. Gamble residence, Chestnut Hill, Pa. and a Port Chester, N.Y. residence; views and plans. Arch Forum 59:289-94 O '33
- Six steps in the remodeling of a valuable residential property. il Am Bld 55:40-1 O '33
- Three remodeled houses; views and plans. Arch Forum 58:311-26 Ap '33
- Week-end house of Richard B. Scandrett, jr. at Idlewild, New York; views. Arch Rec 74:118-20 Ag '33
- What Kearney, Neb. builders did to remake the house nobody wanted. H. McClure. il Am Bld 55:14-17 O '33

**HOUSES, Restored**

- Renascence of Carter's Grove on the James river, Virginia, now the home of A. M. McCrea. W. D. Lee. il plans Architecture 67:185-94 Ap '33

**HOUSES, Row**

- Design of low-cost row houses with use of new materials and new construction methods. E. Born. il plans Arch Rec 73:290-1 Ap '33
- Heating equipment for small houses; row houses. T. F. Rockwell. Arch Rec 74:404-5 N '33
- Housing—where, when, and how? case for group housing. H. Wright. il diags plans Architecture 68:79-110 Ag '33

**HOUSING**

- Community pays for bad housing, President's committee reports. Safety Eng 65:39 Ja '33
- Economics—the new basis of architectural practice. E. R. Coburn. Am Arch 143:50-4 S '33
- Farm and village housing. 293p [bibliog p265-81] President's conference on home building and home ownership, Washington, D. C. '32
- General index to the final reports of the President's conference on home building and home ownership. J. M. Gries and J. Ford, eds. 114p President's conference on home building and home ownership, Washington, D.C. '33
- Good housing versus food. G. C. M. McGonigle. Monthly Labor R 37:912-13 O '33
- Home ownership, income and types of dwellings. J. M. Gries and J. Ford, eds. 230p President's conference on home building and home ownership, Washington, D. C. '32
- Housing objectives and programs. J. M. Gries and J. Ford, eds. 345p President's conference on home building and home ownership, Washington, D. C. '32
- Housing problems and the depression. G. Méquet. Int Labour R 27:159-83 F '33
- Housing problems heard at meeting of city planners. Eng N 109:632 N 24 '32
- Housing; the President's conference gave the home-building industry a handbook; the Chicago exposition may give it publicity. il Business Week p16+ Ja 4 '33
- Housing—where, when, and how? H. Wright. il diags plans Architecture 68:1-32, 79-110 J1-Ag '33
- Jungle housing; the unemployed create a new village on the shores of Puget Sound. H. K. Wolfe. il Am Arch 143:24-5 Ja '33
- Minimum house. E. M. Fisher. Architecture 67:45 Ja '33
- National conference on slum clearance held in Cleveland, July 6-7. Eng N 111:58-9 J1 13 '33
- Preparedness for slum clearance; federal aid. J. H. Millar. il Civil Eng 3:506-7 S '33
- See also*
- |                    |   |
|--------------------|---|
| Apartment houses   | National better housing association     |
| Building—Cost      | City planning                           |
| Company towns      | National conference on low-cost housing |
| Construction camps | ing                                     |
| Home ownership     | Rent                                    |
| Housing laws       |   |
| Housing projects   |   |

**Bibliography**

- Bibliography on building, housing and construction. 18p Chamber of commerce of U.S.A. Washington '33 (typew)

**History**

- Evolving house. A. F. Bemis and J. Burchard. v1 502p \$4 [bibliog p469-89] Technology press, Massachusetts institute of technology, Cambridge, Mass. '33

**Berlin**

- Present and pre-war rents in Berlin. Monthly Labor R 37:139 J1 '33

**Chicago**

- Chicago housing project. G. F. Keck and R. P. Schweikher. il plans Arch Rec 73:159-63 Mr '33

**Cleveland**

- Cleveland housing studies. W. R. McCornack. il map plans Arch Rec 73:150-3 Mr '33
- Housing demand shown by Cleveland inventory. Arch Rec 74:11 J1 '33

## HOUSING—Continued

## Dayton, Ohio

Dayton's homestead unit no. 1. map Arch Forum 59:78-9 J1 '33

## Europe

International statistics of rents in certain towns in 1932. tables Int Labour R 28: 248-64 Ag '33

Taxes into houses; European housing subsidies. L. Mumford. Fortune 7:48-9+ My '33

## Germany

Public provision of houses for unemployed workers in Germany. S. B. Redecker. Monthly Labor R 37:913-14 O '33  
Public subsidy for repair and remodeling of dwellings in Germany. Monthly Labor R 37:29-30 J1 '33

## Great Britain

British housing; success of private low-cost housing projects has removed need for government subsidy. Business Week p24-5 Ja 11 '33

England's two million houses, new. L. Mumford. il map plans Fortune 6:32-7+ N '32; Excerpts. Brick & Clay Rec 83:19-20+ J1 '33

English working-class houses seen as public utilities. Eng N 111:503 O 26 '33

Englishman's castle. Economist 117:311-12 Ag 12 '33

Housing and the Commons. Economist 115: 1182-3 D 24 '32

Housing and the government. Economist 117:850-1 N 4 '33

National housing effort. Economist 116:338-9 F 18 '33

New housing legislation in England. Monthly Labor R 37:914-15 O '33

Rent restriction. Economist 115:1070-1 D 10 '32

Slum clearance. Economist 116:796-7 Ap 15 '33

## New York (city)

First R.F.C. housing project; Fred F. French's Knickerbocker Village, New York city. il Arch Forum 58:433-5 My '33

French, with R.F.C. aid, starts to transform New York slum market. Sales Management 33:416 O 20 '33

New York architects apply for federal loan on Chrystie-Forsyth housing project. il Arch Rec 74:13-14 J1 '33

Workers' homes; New York considers one that cuts all frills. Business Week p13 D 28 '32

## Philadelphia

Housing of families of the American federation of full-fashioned hosiery workers, local nos. 1 and 39, Philadelphia, June-July, 1932. W. W. Jeanes. 60p \$1 Kastner & Stonorov, 2021 Chancellor St, Philadelphia '33

Housing problems in Philadelphia. Monthly Labor R 37:626-31 S '33

Housing research in Philadelphia. B. J. Newman. il Arch Rec 74:170-4 S '33

## Pittsburgh

Housing status of salaried workers employed in Pittsburgh. T. A. Veenstra. Pittsburgh Univ Bur of Business Research Monographs no 1:1-99 '32

## United States

Are we ready for an American housing advance? H. Wright. il plans Architecture 67: 309-16 Je '33

Bright prospects for home building seen by National conference on the renewal of home building, Chicago. Concrete 41:13 Je '33; Brick & Clay Rec 82:171, 203 My-Je '33

Building operations in principal cities, 1932. Monthly Labor R 36:585-94, 833-52 Mr-Apr '33

Costs of dwelling units in various cities, as shown by building permits in 14 selected cities for the year 1931. Monthly Labor R 35:1388-96 D '32

Extent of housing construction in comparison with increase in number of families.

Monthly Labor R 37:135 J1 '33

Housing; accumulated shortage is 500,000 units, and \$2,800 millions. Business Week p19 My 24 '33

Housing division of the Public works administration. Arch Forum 59:159 S '33

Huge home shortage developing. Brick & Clay Rec 83:57-8+ Ag '33

Progress in housing; a summary of activities by architects and associations. maps Arch Rec 73:147-9, 321 Mr, My '33

Sad story of American housing. H. Wright. il Architecture 67:123-30 Mr '33

Trend of building construction in groups of cities of classified size, 1921-1932. Monthly Labor R 37:136-9 J1 '33

U. S. housing policy. Business Week p14-15 S 9 '33

## See also

Public works emergency housing corporation

## HOUSING, Cooperative

Negro housing proposed for Richmond, Va. A. Kastner. il diag plans Arch Rec 73:164-8+ Mr '33

## HOUSING finance

Basis for procedure in slum clearance. A. C. Holden. diag Arch Rec 73:217-21 Mr '33

England's two million houses, new. L. Mumford. il map plans Fortune 6:32-7+ N '32; Excerpts. Brick & Clay Rec 83:19-20+ J1 '33

Federal financing of housing proposed thru Public works act. Brick & Clay Rec 83: 84, 122 S-O '33

First thing in housing and the last. E. Klaber. Arch Forum 59:sup15+ Ag '33

Housing circular no. 4; information required with preliminary applications for loans for low-cost housing or slum clearance projects. il Arch Forum 59:160-1 S '33; Same. Arch Rec 74:159-60 S '33

Housing; New York's law, the only one under which R.F.C. aid can be had, fits only New York conditions. Business Week p18 D 21 '32

Housingometer. F. R. Ballard. chart Arch Forum 59:sup16-17 Ag '33; Discussion. A. M. Butts. 59:sup16 S '33; Reply. 59:sup 21 O '33

Information needed for housing loans listed by PWA. Eng N 111:210 Ag 17 '33

Low-cost housing progresses steadily under PWA program. Eng N 111:482+ O 19 '33

Negro housing proposed for Richmond, Va. A. Kastner. il diag plans Arch Rec 73:164-8+ Mr '33

New housing for the lowest third; Howard Burton's plan. il plans Arch Forum 57:551-4 D '32; Discussion. E. H. Klaber. 58:sup17 Ja '33

Plan for real estate; common sense program for housing development. A. C. Holden. Arch Forum 58:338-40 Ap '33

PWA housing loans promised to Cleveland and five other cities. Eng N 111:332 S 14 '33

Sad story of American housing. H. Wright. il Architecture 67:123-30 Mr '33

Taxes into houses; European housing subsidies. L. Mumford. Fortune 7:48-9+ My '33

We endorse your stand on federal money for housing projects, Mr. President. Brick & Clay Rec 83:86-7, 123-4 S-O '33

## See also

Building—Finance  
Home ownership—  
Finance

## HOUSING laws

Housing; New York's law, the only one under which R.F.C. aid can be had, fits only New York conditions. Business Week p18 D 21 '32

New housing laws. Business Week p18-19 Ap 26 '33

New housing legislation in England. Monthly Labor R 37:914-15 O '33

Ohio's new housing law. Business Week p24 S 16 '33



**HOUSING laws—Continued**

Passage of housing law in Ohio. Monthly Labor R 36:320-1 F '33

Rent restriction. Economist 115:1070-1 D 10 '32

*See also*

Building laws and regulations

**HOUSING projects**

Analytical charts of planned communities. Arch Forum 58:255-74 Ap '33

Are we ready for an American housing advance? H. Wright. il plans Architecture 67:309-16 Je '33

Chicago housing project. G. F. Keck and R. P. Schweikher. il plans Arch Rec 73:159-63 Mr '33

Colonial Village development in Kansas City, Mo.; views and plans. Arch Rec 73:191-5 Mr '33

Comparison of two ways of housing 5,000 people; Hillside housing development and typical New York tenements. il plans Arch Forum 58:126-7 F '33

Dayton's homestead unit no. 1. map Arch Forum 59:78-9 Jl '33

First housing approvals by the Public works administration. Arch Forum 59:234-5, 326-8 S-O '33

First housing projects approved by Public works administration. il plans Arch Rec 74:164-7 S '33

First R.F.C. housing project; Fred F. French's Knickerbocker Village, New York city. il Arch Forum 58:433-5 My '33

Forest Hills, Cleveland; brief summary of its present status. Arch Forum 58:341 Ap '33

Group houses, Chestnut Hill, Pa.; views and plan. Architecture 68:223-6 O '33

Hillside housing project, Bronx, New York, may be financed by R.F.C. il Arch Rec 72:352 D '32

Homes are still being sold in River Oaks, Houston's non-profit subdivision. Arch Forum 59:82 Jl '33

Housing and slum-clearance projects eligible for loans and subsidies. Arch Rec 74:157-9 S '33

Housing progress under the PWA. R. D. Kohn. il Arch Rec 74:333-5 N '33

Housing—where, when, and how? case for group housing. H. Wright. il diags plans Architecture 68:79-110 Ag '33

Lawrence farms, Bronxville, N.Y. il Arch Forum 59:82-3 Jl '33

Nation's proving ground for big-scale housing will probably be Cleveland. Arch Forum 58:521 Je '33

Neighborhood unit for Radburn, N.J. L. Levine. plan Arch Rec 73:230-1 Mr '33

New housing for the lowest third; Howard Burton's plan. il plans Arch Forum 57:551-4 D '32; Discussion. E. H. Klaber. 58:sup17 Ja '33

New York architects apply for federal loan on Chrystie-Forsyth housing project. il Arch Rec 74:13-14 Jl '33

Nichols Hills in Oklahoma City. il Arch Forum 58:526 Je '33

Plan low-cost fireproof apartments for slum clearance project. plans Concrete 41:6-7 Jl '33

Planned community. L. Mumford. Arch Forum 58:253-4 Ap '33

Policies governing housing and slum-clearance projects; National conference on slum clearance, Cleveland, July 6-7. Arch Rec 74:87-9 Ag '33

Pre-planning low cost housing projects to meet economic requirements. A. M. Butts. chart Am Arch 143:31-4 Mr '33

\$60,000,000 home project holds hope for Pacific-Northwest brick men; State builders, inc. Seattle. Brick & Clay Rec 82:169-70 My '33

Slum clearance vs. the community. W. S. Parker. il Arch Rec 72:347-51 D '32

Technische aufgaben der siedlung. M. Mengerhausen. il diags Zeit Ver Deutsch Ing 77:543-9 My 27 '33

U. S. backs big housing projects. Am Bld 55:47 S '33

Utility distribution systems in housing projects. N. B. Jacobs. Am Water Works Assn J 25:633-44 My '33

*See also*

Apartment houses  
Housing, Cooperative

**HOUSING projects, Company**

Employee housing. A. H. Hubbell. il diags plans Eng & Min J 133:204-9, 270-5, 387-91, 516-20; 134:69-73, 113-17 Ap-My, Jl, O '32, F-Mr '33

Mill village cost a burden on manufacturers in southern states. Textile World 83:1804 O '33

*See also*

Company towns

**HOUSING projects, Government**

Land settlement for unemployed. Monthly Labor R 37:834-41 O '33

Low-cost housing. Business Week p14 N 4 '33

Public provision of houses for unemployed workers in Germany. S. B. Redecker. Monthly Labor R 37:913-14 O '33

Suburban settlements for unemployed in Stuttgart, Germany. S. Morris, jr. Monthly Labor R 35:1278-80 D '32

**HOUSING projects, Municipal**

Municipal housing. H. L. Alfred. 35p [bibliog p34-5] pa 10c League for industrial democracy, 112 E. 19th st, New York '32

**HOUSING study guild**

Housing study guild. Architecture 68:sup8 S '33; Excerpt. Arch Forum 59:sup44 S '33

Housing study guild; its program of studies. A. Mayer. Architecture 68:sup2+ O '33

**HOUSING surveys**

Housing research in Philadelphia. B. J. Newman. il Arch Rec 74:170-4 S '33

**HOUSTON, Texas**

Factors in the growth of Texas' largest city. B. Rule. il Manuf Rec 102:16-17+ My '33

**Sewerage**

Houston turns waste into profit. F. W. Sultan, jr. il Comp Air M 38:4106-7 Ap '33

**Water supply**

Ground water sanitation at Houston. J. A. Sauls, Jr. and C. R. Harvill. il map diag Am Water Works Assn J 25:557-78 Ap '33

**HOVGGAARD, William**

Professor emeritus of naval construction. por Marine Eng 38:419 N '33

**HOWARD, Henry, 1868-**

American contemporaries. S. W. Wilder. por Ind & Eng Chem 25:1299 N '33

**HOWARD, James Leland**

Life insurance vice president has four times been decorated by governments. por East Underw 33:4 D 9 '32

**HOWE, Ernest, 1875-1932**

Sketch. C. H. Warren. Am J Sci 5th ser 25:97-100 F '33

**HUAICOS. See Landslides****HUDSON Bay**

Up Hudson Bay by canoe. W. B. Airth. il map Can Min J 54:59-63 F '33

**HUDSON Bay mining and smelting company**

Report, 1932. Can Min J 54:206-7 My '33

**HUDSON Bay region**

*See also*

Churchill, Manitoba

**HUDSON motor car company**

Hudson's successful Terraplane. Econostat 1:11, 32 Ag 26 '33

**HUDSON river**

Evolution of the Hudson-Delaware-Susquehanna drainage. J. H. Mackin. maps Am J Sci 5th ser 26:319-31 S '33

Hudson River landings. P. Wilstach. 311p \$3.75 Bobbs '33

Improvement of Hudson river by narrowing the navigable fairway. L. J. Bevan. map Am Soc C E Proc 58:705-12 My '32; Discussion. 58:1428-38; 59:477-9 O '32, Mr '33

**HUDSON River bridges**

- George Washington bridge; approaches and highway connections. J. C. Evans. *il diags maps Am Soc C E Proc* 59:317-55 F '33; Discussion. 59:906-12 My '33
- George Washington bridge; construction of the steel superstructure. E. W. Bowden and H. R. Seely. *il diags plans Am Soc C E Proc* 59:65-152 Ja '33
- George Washington bridge; construction of substructure. M. B. Case. *il diag plans Am Soc C E Proc* 59:29-64 Ja '33
- George Washington bridge; design of superstructure. A. Dana, A. Andersen and G. M. Rapp. *il diags plans Am Soc C E Proc* 58:1661-1726 D '32
- George Washington bridge; design of the towers. L. S. Moisseiff. *il diags Am Soc C E Proc* 58:1727-68 D '32
- George Washington bridge; general conception and development of design. O. H. Ammann. *il diags plan map Am Soc C E Proc* 58:969-1035 Ag '32; Discussion. 58:1610-13; 59:196-8, 369-75, 832-4 N '32, Ja-F, My '33
- George Washington bridge; materials and fabrication of steel structure. H. J. Baker. *il diags Am Soc C E Proc* 59:269-316 F '33
- Hauling and erecting large steel girders; approach plaza of George Washington bridge. W. G. Rapp. *il plan Civil Eng* 3:373-5 Jl '33

**HUDSON River stone corporation**

- Large crushing and screening plant reflects engineering progress. L. A. Slattery. *il diags plans Eng & Min J* 134:2-10 Ja '33

**HUDSON'S Bay company**

- Report. *Economist* 116:818 Ap 15 '33

**HUGHES tool company**

- Hughes tool co. plant, started in corner of a building, now requires traffic regulations; invention and manufacture of rock bit for well boring. T. F. Smiley. *il Oil & Gas J* 32:15-16 Je 8 '33

**HUMBLE oil and refining company**

- Sound stocks for income and long range profit. *Mag of Wall St* 52:634+ O 14 '33

**HUMIDIFIERS**

- Decentralized humidity; unique control layout gives uniformity. F. A. Westbrook. *Textile World* 83:1442 Ag '33
- Heating equipment for small houses. T. F. Rockwell. *il Arch Rec* 74:401-3 N '33
- Humidity control prevents a.c. brush disintegration. E. F. Bracken. *Elec W* 102:410-11 S 23 '33
- Sturtevant speed heater humidifiers. *il Power Pl Eng* 37:273 Je '33
- Vitalaire humidifier operates on waste heat from stack. *diag Heat & Ven* 30:59-60 Ja '33
- Westinghouse portable humidifier meters moisture to suit conditions. *Refrig Eng* 26:31 Jl '33

**HUMIDITY**

- Air conditioning for comfort and health. E. Harrington. *il plan Gen Elec R* 36:166-76 Ap '33
- Application of calcium chloride brine to air conditioning. G. T. Condon. *diag Heat & Ven* 30:11-13 Ag '33
- Atmospheric control in the textile industry. R. H. Brown. *il Am Soc T M Proc* 32 pt 2:733-42 '32
- Chart for finding mean specific heat of air and water vapor. J. W. May. *Heating-Piping* 5:475-6 S '33
- Chemical changes in the fat of frozen and chilled meat; the effect of smoking and the influence of atmospheric humidity on the keeping properties of bacon. C. H. Lea. *Soc Chem Ind J* 52:57T-63T Mr 3 '33
- Comfort temperatures in air conditioning. M. Tomlinson. *Dom Eng* 141:83-5 Ja '33
- Conditioning of air for ice-can agitation. L. Washington. *Refrig Eng* 25:199-201 Ap '33
- Control of humidity; a novel laboratory arrangement. *il Chem Age (Lond)* 28:391 Ap 29 '33
- Effect of atmospheric humidity and temperature on the relation between moisture content and electrical conductivity of cotton. A. C. Walker. *bibliog Textile Inst J* 24:T145-60 Ap '33

Effect of atmospheric humidity in gas calorimetry. F. Fahey. *Gas Age* 72:149-52 Ag 12 '33

Effect of humidity on engine power at altitude. D. E. Brooks and E. A. Garlock. *U S Nat Advisory Com for Aeronautics* 1932:523-9 '33

Effect of relative humidity on the moisture content and bursting strength of four container boards. C. O. Seborg, R. H. Dougherty and P. K. Baird. *bibliog Paper Tr J* 97:37-42 O 12 '33

Effects of atmospheric moisture on the physical properties of vegetable and chrome tanned calf leathers. W. D. Evans and C. L. Critchfield. *diags U S Bur Stand J Research* 11:147-62 Jl '33

Electric heat for humidity control in sugar storage warehouse. D. T. Waby. *il Elec W* 102:409-10 S 23 '33

Entnebelung von gewerberäumen. A. Lichte. *Zeit Ver Deutsch Ing* 77:1089-95 O 7 '33

Evaporation of a liquid into a gas—a correction. W. K. Lewis. *diag Mech Eng* 55:567-8+ S '33

Heat transfer in unit coolers; the effect of humidity at temperatures below and above the freezing point in a dry type floor mounted unit. W. R. Woolrich, P. W. Scates and M. Tucker. *diags Refrig Eng* 26:239-43; Discussion. 243-5 N '33

Humidity. E. S. Turner. *Elec West* 70:245-6 Je '33

Humidity and oil sand cores; moisture content of atmosphere influences successful drying. A. S. Coulter. *Foundry* 61:13+ F '33

Humidity and viscose rayon; effect on strength and extensibility. *Textile Col* 55:404-5 Je '33

Importance of humidity; abstract. R. H. Pickard. *Soc Chem Ind J (Chem & Ind)* 51:960-1 N 18 '32

Influence of the humidity of the air on capacity for work at high temperatures; abstracts. H. M. Vernon and G. C. Warner. *J Ind Hygiene* 15:sup15-16 Mr '33; *Heat & Ven* 30:45 Ap '33

Modernized humidification will aid textile mills in maintaining profits. G. Fuller. *Heating-Piping* 5:394-6 Ag '33

Properties of air-water vapor mixtures; tabulation. *Power* 77:362 Jl '33

Simplified lessons in furnace heating. A. J. Mellish. *Sheet Metal Worker* 23:375-7, 446-7+; 24:51-2 Ag, O '32, F '33

Temperature regulation in air cooling and conditioning. R. C. Davis. *Refrig Eng* 25:149+ Mr '33

Thermocouple psychrometer requires no artificial air motion; abstract. H. Wald. *diag Heat & Ven* 29:45-6 D '32

Where is the perspiration line? A. E. Beals. *Heating-Piping* 5:224-7 Ap '33

See also

Air conditioning

**HUMOR**

Some letters that tickle the funny bone. L. E. Frailey. *il Ptd Salesmanship* 60:444-6 F '33

**HUMOROUS advertisements.** See Advertisements, Humorous

**HUNGARY**

Hungary; offered by the Hungarian rotarians. 247p Athenaeum, Budapest, VII; Miksa-utca 8. Szám. '31

See also

Bonds, Government— Labor and laboring classes—Hungary  
Finance—Hungary

Commercial policy

Revamping of European exchange clearings seen. *Barron's* 13:19 Mr 6 '33

Economic conditions

Banking—foreign creditors. *Economist* 116:179-80 Ja 28 '33

Hungary in 1932. *Economist* 116:sup21 F 18 '33

**HUNTER, Philip Vassar, 1883-**  
New president of the I.E.E. *por Electrician* 111:363 S 29 '33



**HUNTER manufacturing and commission company**

Howard E. Coffin heads General textiles, inc. which succeeds Hunter company. Textile World 82:1148-9 D '32

**HUNTINGTON library**

Research at the Huntington library. F. P. Hill. Lib J 58:540-3 Je 15 '33

**HURRICANES**

Bureau puts Texas loss at \$2,500,000. Ins Field (Fire ed) 62:9 S 28 '33

Learning lessons of Puerto Rico hurricane. Weekly Underw 127:1163 D 17 '32

**HUSBAND and wife**

Wife employed by husband granted compensation under Iowa act. Monthly Labor R 37:585 S '33

**HUTCHINSON, Ely C.**

President, Edge Moor iron co. por Steel 92: 15 Ap 17 '33

**HWANG-HO river. See Yellow river****HYBRIDIZATION**

*See also*

Heterosis (biology)

**HYDANTOINS**

Hydrolysis and reduction of hydantoin-oxindoles. H. R. Henze and C. M. Blair. Am Chem Soc J 55:4621-5 N '33

Optically active 5,5'-disubstituted hydantoins. H. Sobotka, M. F. Holzman and J. Kahn. Am Chem Soc J 54:4697-702 D '32

**HYDNOCARPIC acid**

Racemization of chaulmoogric and hydnocarpic acids. W. S. Hinegardner. Am Chem Soc J 55:2831-4 Jl '33

**HYDRAMIDES**

Studies in thiophenol chemistry; a condensation reaction between thiophenols and condensed aldehyde-ammonias. G. Dougherty and W. H. Taylor. bibliog Am Chem Soc J 55:4588-93 N '33

**HYDRANTS**

Hydrant maintenance. E. T. Cranch. il Water Works & Sewerage 80:197-9 Je '33

Identification markings on fire plugs; discussion. Am Water Works Assn J 24:1854-61 D '32

Kennedy fire hydrant extension section. il Water Works & Sewerage 80:71 F '33

Maintenance of valves and hydrants. W. H. Durbin. Am Water Works Assn J 25:525-8 Ap '33

Standardization of hydrant markings. S. S. Anthony. N E Water Works Assn J 47:103-6 Je '33

**Manufacture**

Fire hydrants assembled in Philadelphia water department shop. S. M. Van Loan. il Eng N 110:413-14 Mr 30 '33

**Testing**

Hydrant pressure and flow survey at Portland, Me. L. R. Smith. Water Works & Sewerage 80:181-2 My '33; Same. N E Water Works Assn J 47:107-10 Je '33

**HYDRASTINE**

Narcotine and hydrastine; a study of the mechanism of their conversion into narceine, methylhydrastine and their derivatives. C. R. Addinall and R. T. Major. bibliog Am Chem Soc J 55:2153-63 My '33

**HYDRATES**

Transition points of salt hydrates in various non-aqueous solvents. W. W. Lucasse and H. J. Abrahams. bibliog J Phys Chem 37: 511-19 Ap '33

*See also*

Carbohydrates

**HYDRATION**

Catalytic vapor-phase hydration of 2-butene under high pressures. L. F. Marek and R. K. Flege. il diag Ind & Eng Chem 24: 1423-31 D '32

Hydration of tricalcium aluminate. W. D. Foster. bibliog il Am Concrete Inst J 4:189-200 D '32; Excerpts. Concrete (mill sec) 41:29-30 Je '33

Relation between hydration capacity and pentosan content of soft wood pulps. G. H. Young and B. N. Rowland. bibliog Paper Tr J 97:44-6 O 12 '33

**HYDRATION, Heat of**

Cement investigations for the Hoover dam. R. E. Davis and others. Am Concrete Inst J 4:413-31 Je '33

Grind cement clinker and lime-clay to produce new cements. Concrete (mill sec) 41: 27-30 S '33

**HYDRAULIC control**

Fluid flywheel and epicyclic transmission in Toronto buses. il diag Elec Traction 28:460-1 N '32

Hele-Shaw Beacham hydraulic telecontrol gear. il diags Engineering 135:591-2 Je 2 '33

Hydraulic coupling and engineering co.'s infinitely variable speed driving with Vulcan-Sinclair device. Electrician 110:747 Je 9 '33

Hydraulic coupling for speed adjustment. Power 76:353 Mid-D '32

Hydraulic speed control features drive of Broken Hill hoist. F. J. Mars. Eng & Min J 134:170 Ap '33

Hydraulic throttle control. diag Aviation 31:479 D '32

Improved heating control for large buildings. L. H. Brendel. diag Gas Age 72:59+ Jl 15 '33

**HYDRAULIC conveying**

Conveying cement through steel pipes. il Mech Handling 20:257 Ag '33

**HYDRAULIC engineering**

Egypt and the Sudan; abstracts. M. Macdonald. Engineer 154:460-1 N 4 '32; Engineering 134:562-3 N 11 '32

New England's classic contributions to hydraulic science. C. W. Sherman. N E Water Works Assn J 47:153-63 Je '33

Progressive silting of a river delta studied; tidal model built to predict conditions at mouth of Rangoon river, Burma. H. H. Wheaton. il plan Civil Eng 3:89-91 F '33

Reservoir storage above spillway level. H. K. Barrows. Civil Eng 3:233 Ap '33

Water conservation—the key to national development. C. V. Davis. il Sci Am 148:92-5 F '33

*See also*

Aqueducts  
Breakwaters  
Bridges—Foundations and piers  
Caissons  
Canals  
Cofferdams  
Culverts  
Dams  
Dikes (engineering)  
Docks  
Drainage  
Dredging  
Embankments  
Flood control  
Flumes  
Gates, Hydraulic  
Harbors  
Hydraulic jump  
Hydraulic models  
Hydraulics  
Hydrodynamics  
Hydroelectric plants  
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Leaves  
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Locks (hydraulic engineering)  
Penstocks  
Pumping  
Pumping machinery  
Pumping stations  
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Reclamation of land  
Reservoirs  
Rivers—Regulation  
Siphons  
Spillways  
Stream flow  
Surge tanks  
Tidal power  
Tunnels and tunneling, Subaqueous  
Turbines  
Water  
Water conduits  
Water flow  
Water power  
Water supply  
Water supply engineering  
Waterworks  
Wells  
Wharves

*also* Illinois waterway; Welland ship canal

Tables, calculations, etc.

Application of duration curves to hydroelectric studies. G. H. Hickox and G. O. Wesenauer. diag Am Soc C E Proc 58:713-27 My '32; Discussion. 58:1439-48, 1606-9; 59: 192-5, 480-3 O-N '32, Ja, Mr '33

Duration curves. H. A. Foster. Am Soc C E Proc 59:1223-45 O '33

*See also*

Stream flow

**HYDRAULIC filling**

Backfilling permits recovery of abandoned pillars while preserving surface improvements. H. A. Dierks. *il diags Coal Age* 38:255-8 Ag '33

Construction of the Cobble Mountain dam of the Springfield water works. H. H. Hatch. *il N E Water Works Assn J* 46:327-44 D '32; Same. *Eng & Contr* 71:233-8 O '32

Improved internal drainage for hydraulic-fill dams. E. M. Moore. *diag Eng N* 111:224-5 Ag 24 '33

Non-slip hydraulic-fill dam for San Diego. H. N. Savage. *il diags plan Eng N* 111:33-6 JI 13 '33

Tests for hydraulic-fill dams. H. H. Hatch. *diags Am Soc C E Proc* 58:1301-42 O '32; Discussion. 59:212-15, 387-9, 495-502, 617-20, 843-57, 1167-84 Ja-My, S '33

**HYDRAULIC gates.** See Gates, Hydraulic**HYDRAULIC jump**

Hydraulic jump in standard conduits; general formula for rectangular channels extended to trapezoidal and curvilinear sections. J. C. Stevens. *il Civil Eng* 3:565-7 O '33

Solving hydraulic problems necessitated by state highway location, Pine Creek Gorge, California. *Pub Works* 64:36 S '33

**HYDRAULIC laboratories**

New plans for the Mississippi River model design and operation; U. S. waterways experiment station at Vicksburg. *il diags Eng N* 111:14-17, 41-5, 79-81 JI 6-20 '33

Research institute for hydraulic engineering and water power; world's largest outdoor hydraulic laboratory at Oberrach near Munich; abstract and discussion. H. Rouse. *Power* 76:340 Mid-D '32

Tower to test new hydraulic problems; National hydraulic laboratory. *il Dom Eng* 141:38 Mr '33

**HYDRAULIC machinery**

Designing copper gaskets for hydraulic piping. F. E. Wertheim. *diag Heating-Piping* 5:88-9 F '33

Hammond hydraulic drilling, reaming and tube-inserting machine. *il Mach* 39:303-4 Ag '33

High-pressure hydraulic gland packing. H. Sondermann. *diags Engineering* 136:325-6 S 22 '33

Hydraulic machinery. D. W. Mead. 396p \$4 McGraw-Hill '33

New device in machine design; electric-hydraulic thrusters. S. A. Holme. *il Mach* 39:442-5 Mr '33

Olsen hydraulic universal testing machines. *il Mach* 39:362-3 Ja '33

Welco self-contained hydraulic generator. *diags Am Mach* 77:385 Je 7 '33

See also

Hydraulic presses  
Pumps

Turbines  
Valves, Hydraulic

**Cavitation**

Korrosion bei kavitation; bericht über versuche am Walchenseekraftwerk. H. Schröter. *il diag Zeit Ver Deutsch Ing* 77: 865-9 Ag 12 '33; Abstract (Corrosion and cavitation). *Mech Eng* 55:766-7 D '33

**HYDRAULIC mining**

California's 1933 gold rush. E. M. Cunningham. *il Explosives Eng* 11:272-3 S '33

Placer mining in Nevada. A. M. Smith and W. O. Vanderburg. *il diags fold map Univ of Nevada Bul v* 26, no 8:1-104 [bibliog p101-4] '32

See also

Gold mines and mining—Placer mining

**HYDRAULIC models**

Causes and prevention of bed erosion and the protection of structures controlling rivers and canals. A. D. Butcher and J. D. Atkinson. *Engineering* 134:709 D 16 '32

Chinese river in Bavaria; model of the Hwang-ho river for flood control studies. *il Sci Am* 149:17 JI '33

Hydraulic-model tests for Boulder Dam spillways. E. W. Lane. *il diags Eng N* 111:155-9 Ag 10 '33

Model law for motion of salt water through fresh. M. P. O'Brien and J. Chernow. *il diags Am Soc C E Proc* 58:1769-88 D '32; Discussion. 59:531-4, 638-91, 882-4, 1020-3, 1336-9 Mr-My, Ag, O '33

New plans for the Mississippi River model design and operation; U.S. waterways experiment station at Vicksburg. *il diags Eng N* 111:14-17, 41-5, 79-81 JI 6-20 '33

Progressive silting of a river delta studied; tidal model built to predict conditions at mouth of Rangoon river, Burma. H. H. Wheaton. *il plan Civil Eng* 3:89-91 F '33

Severn barrage model experiments; abstracts. A. H. Gibson. *il Engineer* 155:623-4, 626 Je 23 '33; *Engineering* 135:599-600 Je 2 '33

La similitude des barrages mobiles; expériences de l'usine de la Gentille. C. Camichel, L. Escande and E. Crausse. *il Génie Civil* 103:211-12 Ag 26 '33

Study of stilling-basin design. C. M. Stanley. *il diags Am Soc C E Proc* 58:1521-43 N '32; Discussion. 59:673-81 Ap '33

See also

Dams—Models

**HYDRAULIC presses**

Baling presses designed to give high rate of production. A. C. Buttfeld. *il Iron Age* 131:278-9 F 16 '33

Chance Vought corp. self-contained hydraulic forming press. *il Iron Age* 130:768 N 17 '32

Compresses old automobiles to bales of charging box size. *il Steel* 91:24 D 19 '32

Elektrodenpresse mit 10 000 t höchstdruck. H. Fey. *il Stahl & Eisen* 53:960-1 S 14 '33

French oil mill machinery co.'s plastic-products molding presses. *il Mach* 39:543-4 Ap '33; *Am Mach* 77:289 Ap 26 '33

Hannifin three-column hydraulic press. *il Mach* 39:547-8 Ap '33

H.P.M. heavy-duty production stamping press. *il Am Mach* 77:416 Je 21 '33; *Iron Age* 131: 953 Je 15 '33; *Mach* 39:739 JI '33

H-P-M self-contained hydraulic presses. *il Am Mach* 77:577 Ag 30 '33; *Automotive Ind* 69:283 S 2 '33; *Iron Age* 132:28 S 7 '33

Hydraulik G.m.b.H. giant forging press. *il diags Engineer* 155:474-6 My 12 '33

Presses à forger hydrauliques de 10 000 tonnes. L. Fèvre. *il diags Génie Civil* 102:300-3 Ap 1 '33

Regler für hohen wasserdruck. H. Sondermann. *diag Stahl & Eisen* 52:1101-2 N 10 '32

Soy-bean oil; quality and yield as affected by conditions of expression. R. L. Smith and H. R. Kraybill. *il Ind & Eng Chem* 25:334-6 Mr '33

10,000-ton electrode press made by Hydraulik G. m. b. H. of Duisburg. *il Engineer* 156: 146 Ag 11 '33

Zwei dampfhydraulische 10 000-t-schmiedepressen. J. Sartorius. *il diags Stahl & Eisen* 52:1171-4 N 24 '32

**HYDRAULIC rams**

Barnes drilling machine features smooth hydraulic ram feed. *il Iron Age* 132:25 Ag 31 '33

Hydraulic ram. M. P. O'Brien and J. E. Gosline. *diags pls Univ of Calif Pub in Engineering v* 3, no 1:1-58 '33

**HYDRAULIC research**

Behavior of siphons. J. C. Stevens. *il diags Am Soc C E Proc* 59:925-44 Ag '33; Discussion. 59:1654-6 D '33

Flow and percolation studied abroad; Hydraulic institute of the Technical university of Berlin. D. P. Barnes. *il diags Civil Eng* 3:389-91 JI '33

Hoover Dam construction guided by extensive research. E. Mead. *il Eng N* 109:724-7 D 15 '32

Water power; current research projects. *Pow-er* 77:265-6 My '33

**HYDRAULIC transmission**

Les applications de la transmission hydraulique à la commande des machines-outils. *diag Génie Civil* 102:474-5 My 20 '33



**HYDRAULIC transmission—Continued**

Austro-Daimler pneumatic tired rail car. il diags Ry Age 95:219-21 Ag 5 '33; Same. Ry Mech Eng 107:309-12 S '33

Fluid transmission system; abstract. E. J. Cosford. S A E J 32:sup50-1 F '33

Hydraulic torque converter. il diags Engineer 156:362-3 O 13 '33; Excerpts. Mech Eng 55:767 D '33

Is a turbine torque converter the answer? J. Jandasek. diags Automotive Ind 69:34-7 JI 8 '33

Modern hydraulic operation of machine-tools. H. C. Town. il diags Inst Mech Eng Proc 123:211-303 '32; Same cond. Engineer 154:533-5, 568-9, 587-8, 624-5 N 25-D 16 '32; Same cond. Engineering 134:632-4, 723-6, 778-80 N 25, D 16, 30 '32; Discussion. Inst Mech Eng Proc 123:304-23 '32; Engineer 154:540 N 25 '32; Engineering 134:629-30 N 25 '32

Possibilities of the hydraulic transmission for automobiles. L. C. Price. diag Sibley J 47:117-19+, 135-6+ O-N '33

Selbstgreifer für massengut mit elektrisch-hydraulischem eigenantrieb. diags Zeit Ver Deutsch Ing 77:599 Je 3 '33

Self-contained hydraulic transmissions for machine drives. il Iron Age 132:34 Ag 3 '33

Wesche hydraulic transmission operates without tank or relief valves. il Iron Age 131:669 Ap 27 '33

**HYDRAULICS**

Centrifugal pump characteristics; performance, construction, and cost. T. Y. Sherwell and R. Pennington. il diags Inst Mech Eng Proc 123:621-75 '32; Same cond. Engineer 154:556-9 D 2 '32; Discussion. Inst Mech Eng Proc 123:675-708 '32

Evaporation from water surfaces; a symposium. il Am Soc C E Proc 59:223-68 F '33; Discussion. 59:901-5, 1036-45, 1441-3, 1633-6 My, Ag, N-D '33

Experiments on a right-angled triangular notch with incomplete contractions; abstract. S. Yosino and T. Yamada. Mech Eng 55:122 F '33

Hydraulic characteristics of pump blades; abstract. Mech Eng 55:583-4 S '33

Hydraulics. H. W. King and C. O. Wisler. 3d ed 292p \$2.75 Wiley '33

Laws of syphon flow. P. Davies. Engineering 135:115-16 Ja 27 '33

Loss of head and backwashing velocities for anthracite coal in water filters. H. G. Turner and G. S. Scott. Water Works & Sewerage 80:66-8 F '33

Neuere ergebnisse der turbulenzforschung. L. Prandtl. il Zeit Ver Deutsch Ing 77:105-14 [biblog p113-14] F 4 '33; Abstract (Modern developments in the study of turbulence). Mech Eng 55:252-3 Ap '33

See also

Fluids	Seepage
Hydraulic engineering	Siphons
Hydrodynamics	Stream flow
Hydrostatics	Turbines
Intakes	Water
Liquids	Water distribution
Nozzles	Water flow
Oil flow	Water power
Rivers—Regulation	Wells

**Bibliography**

Bibliography on the subject of transportation of solids by flowing water in open channels. 2 pt. in iv U.S. Bur. of reclamation, Denver, Colo. '33

Tables, calculations, etc.

Charts to simplify flow and pressure-drop calculations for process piping. E. Kemler. Heating-Piping 5:513-16, 554-5 O-N '33

Discharge through Tainter gate openings; observations made at dams on the Oswego river, New York. T. M. Ripley. il diags Civil Eng 3:386-8 JI '33

Flow of fluids in pipes. E. Kemler. Heating-Piping 5:252-6, 298-301 My-Je '33

Flow of paper pulps in pipe lines. C. A. Brautlecht and J. R. Sethi. il Ind & Eng Chem 25:283-8 Mr '33

Friction losses in bitumastic lined water pipes. C. W. Sherman. Am Water Works Assn J 25:244-7 F '33

Hydraulic jump in standard conduits; general formula for rectangular channels extended to trapezoidal and curvilinear sections. J. C. Stevens. il Civil Eng 3:565-7 O '33

Hydraulic losses in short tubes determined by experiments. J. A. Oakey. diag Eng N 110:717-18 Je 1 '33

Hydraulic tables. G. S. Williams and A. Hazen. 3d ed rev 115p Wiley '33

Hydraulics of rapid filter sand. R. Hulbert and D. Feben. Am Water Works Assn J 25:19-45 Ja '33; Abstract. Eng N 109:647-50 D 1 '32; Discussion. Am Water Works Assn J 25:45-65 Ja '33

Model law for motion of salt water through fresh. M. P. O'Brien and J. Chernov. il diags Am Soc C E Proc 58:1769-88 D '32; Discussion. 58:531-4, 688-91, 882-4, 1020-3, 1336-9 Mr-May, Ag, O '33

Non-uniform flow of water. F. V. A. E. Engel. il diags Engineer 155:392-4, 429-30, 456-7 Ap 21-May 5 '33

Strömungsgesetze in rauhen rohren. J. Nikuradse. Zeit Ver Deutsch Ing 77:1075-6 S 30 '33

Translatory waves in open channels; theoretical analysis of movement caused by changing the depth of water. H. W. King. il Civil Eng 3:319-21 Je '33

Versuche über den strömungsverlust in gekrümmten leitungen. W. Spalding. diags Zeit Ver Deutsch Ing 77:143-8 F 11 '33

See also

Stream flow  
Water flow

**HYDRAZINE**

Anhydrous hydrazine; hydrazine trinitride monohydrazinate,  $N_2H_4 \cdot N_2H_4$ . A. L. Dresser, A. W. Browne and C. W. Mason. Am Chem Soc J 55:1963-7 My '33

Behavior of the hydronitrogens and their derivatives in liquid ammonia; formation of hydrazine by thermal action of incandescent filaments immersed in liquid ammonia. D. H. Howard, jr. and A. W. Browne. bibliog Am Chem Soc J 55:1968-74 My '33

Behavior of the hydronitrogens and their derivatives in liquid ammonia; influence of pressure upon yields of hydrazine obtained by pyrolysis of liquid ammonia. D. H. Howard, jr. and A. W. Browne. diag Am Chem Soc J 55:3211-14 Ag '33

Electric moments of hydrazine and its derivatives. L. F. Audrieth, W. Nespal and H. Ulich. Am Chem Soc J 55:673-8 F '33

**HYDRAZINE trinitride**

Anhydrous hydrazine; hydrazine trinitride monohydrazinate,  $N_2H_4 \cdot N_2H_4$ . A. L. Dresser, A. W. Browne and C. W. Mason. Am Chem Soc J 55:1963-7 My '33

**HYDRAZONAPHTHALENE**

Some dinaphthyl bases; reduction of 1:1'-azoxy- and 1:1'-azo-naphthalenes; isolation of 1:1'-hydrazonaphthalene. W. M. Cumming and G. Howie. Chem Soc J p133-5 F '33

**HYDRAZONES**

Optical crystallography of acetaldehyde 2,4-dinitrophenylhydrazones. W. M. D. Bryant. Am Chem Soc J 55:3201-7 Ag '33

Rearrangement of the phenylhydrazones of some unsymmetrically substituted dibenzalacetones. L. C. Raiford and J. B. Entrikin. Am Chem Soc J 55:1125-8 Mr '33

**HYDRAZOPHENYLFLUORENE**

Some reactions of hydrazophenylfluorene. L. A. Pinck. Am Chem Soc J 55:1711-16 Ap '33

**HYDRIDES**

Bildung von metallhydriden durch atomaren wasserstoff; abstract. E. Pietsch and others. Angew Chemie 46:449-50 JI 1 '33

See also

Boron hydrides

**HYDRIODIC acid**

Action of hydriodic acid on the difficultly soluble sulfates. E. R. Caley. Am Chem Soc J 55:3947-52 O '33

Photo-oxidation of gaseous hydrogen iodide. J. R. Bates and G. I. Lavin. bibliog Am Chem Soc J 55:81-9 Ja '33

**HYDROBROMIC acid**

Acetylene polymers and their derivatives; the addition of hydrogen bromide to vinylacetylene, bromoprene and dibromobutene. W. H. Carothers, A. M. Collins and J. E. Kirby. *Am Chem Soc J* 55:786-8 F '33

Azeotropic hydrobromic acid solutions at pressures of 100 mm. to 1200 mm. W. D. Bonner, L. G. Bonner and F. J. Gurney. *Am Chem Soc J* 55:1406-9 Ap '33

Ein einfaches verfahren zur darstellung von reinem, trockenem bromwasserstoff. G. Jung and W. Ziegler. *diag Angew Chemie* 46: 279 My 20 '33

Equilibria, complex ions and electrometric titrations; iodine, bromine and hydrobromic acid; iodine tribromide. G. S. Forbes and J. H. Faulk, jr. *bibliog Am Chem Soc J* 55:1820-30 My '33

Hydrolysis of hydrogen cyanide by acids. V. K. Kriebel and A. L. Peiker. *Am Chem Soc J* 55:2326-31 Je '33

Investigations of the olefinic acids; the addition of hydrogen bromide to unsaturated acids. E. J. Boorman, R. P. Linstead and H. N. Rydon. *Chem Soc J* p568-76 Je '33

Peroxide effect in the addition of reagents to unsaturated compounds; the addition of hydrogen bromide to allyl bromide. M. S. Kharasch and F. R. Mayo. *diag Am Chem Soc J* 55:2468-96 Je '33

Peroxide effect in the addition of reagents to unsaturated compounds; the addition of hydrogen bromide to propylene. M. S. Kharasch, M. C. McNab and F. R. Mayo. *Am Chem Soc J* 55:2531-3 Je '33

Peroxide effect in the addition of reagents to unsaturated compounds; the addition of hydrogen bromide to vinyl bromide. M. S. Kharasch, M. C. McNab and F. R. Mayo. *Am Chem Soc J* 55:2521-30 Je '33

Reaction between osmium tetroxide and hydrobromic acid; equilibrium study. H. D. Kirschman and W. R. Crowell. *Am Chem Soc J* 55:488-95 F '33

Studies of conjugated systems; the addition of bromine, hydrogen bromide and hypobromous acid to 1-bromobutadiene. I. E. Muskat and L. B. Grimsley. *bibliog Am Chem Soc J* 55:2140-5 My '33

Thermodynamics of ionized water in potassium and sodium bromide solutions. H. S. Harned and W. J. Hamer. *Am Chem Soc J* 55:4496-507 N '33

**HYDROCARBONS**

Action of radon on some unsaturated hydrocarbons; vinylacetylene and butadiene. G. B. Heisig. *bibliog Am Chem Soc J* 55:2304-11 Je '33

Bromination of saturated aliphatic hydrocarbon gases. W. J. Perelis. *diag Ind & Eng Chem* 25:1160-1 O '33

Chemical nature of gum-forming constituents in gasoline. D. T. Flood, J. W. Hladky and G. Edgar. *bibliog Ind & Eng Chem* 25:1234-9 N '33

Chemical uses of petroleum. F. B. Thole and S. F. Birch. *Chem Ind* 33:310-12 O '33

Chemistry of hydrocarbon combustion. W. A. Bone. *Chem Age (Lond)* 28:259-60 Mr 25 '33

Conversion of fatty and waxy substances into petroleum hydrocarbons. W. F. Seyer. *Inst Pet Tech J* 19:773-83 S '33

Decomposition of saturated petroleum hydrocarbons under oxidizing conditions at low temperatures; abstract. A. W. Burwell. *Oil & Gas J* 32:33 S 14 '33

Dehydrogenation of cholesterol. J. W. Cook and C. L. Hewett. *Soc Chem Ind J (Chem & Ind)* 52:451-2 My 26 '33

Design of fractionating columns for complex mixtures. A. J. V. Underwood. *Soc Chem Ind J* 52:223T-7T J1 28 '33

1,1-Dimethylcyclopentane and 2-methylhexane in a Midcontinent petroleum. J. H. Bruun and M. M. Hicks-Bruun. *bibliog U S Bur Stand J Research* 10:465-73 Ap '33

Ébulliomètre à prise de vapeur pour la détermination des points de rosée et d'ébullition des mélanges de liquides volatils. L. Gay and J. Soulié. *diag Génie Civil* 102:309 Ap 1 '33

Exhaust gas analysis as a method of determining carbon content of gasoline. C. C. Minter. *diag Nat Pet N* 25:33-4+ Je 28 '33

Hydrogenolysis of alcohols to hydrocarbons. B. Wojcik and H. Adkins. *Am Chem Soc J* 55:1293-4 Mr '33

Isolation of a cancer-producing hydrocarbon from coal tar. J. W. Cook, C. L. Hewett and I. Hieger. *pl Chem Soc J* p395-405 Ap '33

Kinetics of dissociation of typical hydrocarbon vapors. R. N. Pease and J. M. Morton. *Am Chem Soc J* 55:3190-200 Ag '33

Knocking characteristics of naphthene hydrocarbons. W. G. Lovell, J. M. Campbell and T. A. Boyd. *bibliog Ind & Eng Chem* 25: 1107-10 O '33; *Excerpt. Oil & Gas J* 31: 18-19 Ap 6 '33

Light hydrocarbons found in natural gasolines maintain rating in new antiknock tests. H. M. Trimble. *Oil & Gas J* 31:16+ Ja 19 '33

Number of stereoisomeric and non-stereoisomeric alkenes. D. D. Coffman. *Am Chem Soc J* 55:695-8 F '33

Number of structurally isomeric hydrocarbons of the acetylene series. D. D. Coffman, C. M. Blair and H. R. Henze. *Am Chem Soc J* 55:252-3 Ja '33

Number of structurally isomeric hydrocarbons of the ethylene series. H. R. Henze and C. M. Blair. *Am Chem Soc J* 55:680-6 F '33

Optical anisotropy of molecular crystals. S. E. Hendricks and M. E. Jefferson. *Opt Soc, Am J* 23:299-307 S '33

Polarity in certain hydrocarbon vapors. K. B. McAlpine and C. F. Smyth. *diags Am Chem Soc J* 55:453-62 F '33

Polymérisation et dédoublement des carbures d'hydrogène sous l'influence de l'effluve électrique. R. Vanier de Saint-Aunay. *bibliog diags Chimie & Ind* 29:1011-25 My '33

Polymerization of some unsaturated hydrocarbons; the catalytic action of aluminum chloride. W. H. Hunter and R. V. Yohe. *Am Chem Soc J* 55:1248-52 Mr '33

Preparation and crystallization of pure ether-soluble rubber hydrocarbon; composition, melting point, and optical properties. W. H. Smith, C. P. Saylor and H. J. Wing. *bibliog diags pls U S Bur Stand J Research* 10:479-92 Ap '33

Preparation of some mono- and dialkylcyclohexanes. F. K. Signaigo and P. L. Cramer. *Am Chem Soc J* 55:3326-32 Ag '33

Pressure-temperature and low pressure total heat relationships of petroleum fractions. E. G. Ragatz, E. R. McCartney and R. E. Haylett. *il diags Ind & Eng Chem* 25:975-9 S '33

Properties of hydrocarbon mixtures as related to some production engineering problems. W. K. Lewis. *Oil & Gas J* 32:14-15+ O 19; 20 O 26; 18, 20 N 2 '33

Purification of hydrocarbons by crystallization from liquid methane; isolation of 2-methylheptane from petroleum. R. T. Leslie. *diags U S Bur Stand J Research* 10: 609-18 My '33

Pyrolysis of alpha unsaturated hydrocarbons. C. D. Hurd and H. T. Bollman. *Am Chem Soc J* 55:699-702 F '33

Rate of solution of methane in quiescent liquid hydrocarbons. R. D. Pomeroy and others. *bibliog diag Ind & Eng Chem* 25: 1014-19 S '33

Rearrangements of polyynes; tetra-biphenyl-di-tertiary-butylethynylthane. J. C.-Y. Tsao and C. S. Marvel. *diag Am Chem Soc J* 55: 4709-13 N '33

Rearrangements of polyynes; tetraphenyl-di-(3-methyl-3-ethylpentinyl-1)-ethane. J. Harmon and C. S. Marvel. *Am Chem Soc J* 55: 1716-22 Ap '33

Rearrangements of the polyynes; reactions of bis-1,1'-(1,3-diphenylindenyl). M. T. Goebel and C. S. Marvel. *Am Chem Soc J* 55:3712-15 S '33

Reducing action of the Grignard reagent; hydrocarbons formed during reduction. C. R. Noller, W. E. Grebe and L. H. Knox. *Am Chem Soc J* 54:4690-6 D '32



## HYDROCARBONS—Continued

Reforming gaseous hydrocarbons. W. W. Odell. *Am Pet Inst Proc (Refining div)* p23-31 Je '32

Ring-system of sterols and bile acids; observations on the structure of the Diels' hydrocarbon  $C_{25}H_{42}$ . O. Rosenheim and H. King. *Soc Chem Ind J (Chem & Ind)* 52:299-301 Ap 7 '33

Separation and identification of sol rubber hydrocarbons. T. Midgley, jr. and A. L. Henne. *J Phys Chem* 36:2880-4 D '32

Solubility of hydrogen and natural gas in oils at high operating temperature and pressure. V. Ipatieff, jr., V. P. Teodorovitch and I. M. Levine. *diag Oil & Gas J* 32:14+ O 5 '33

Structure of the Diels' hydrocarbon  $C_{25}H_{42}$ . J. D. Bernal and D. Crowfoot. *Soc Chem Ind J (Chem & Ind)* 52:729-30 S 8 '33

Suggest volatility index for motor fuels as aid in the utilization of light hydrocarbons. G. G. Oberfell and R. C. Alden. *Oil & Gas J* 31:14+ Ja 19 '33

Symposium on physical properties of hydrocarbon mixtures. G. L. Matheson, L. W. T. Cummings and others. *diags Ind & Eng Chem* 25:723-35, 880-98 Jl-Ag '33

Thermal behavior of sulfur compounds in hydrocarbon solvents; normal butyl sulfide in benzene solution. W. M. Malisoff and E. M. Marks. *bibliog Ind & Eng Chem* 25:780-3 Jl '33

Thermal data on organic compounds; the heats of combustion of nine hydrocarbons. H. Banse and G. S. Parks. *Am Chem Soc J* 55:3223-6 Ag '33

Thermal decomposition of isobutane into primary products. L. F. Marek and M. Neuhaus. *Ind & Eng Chem* 25:516-19 My '33

Thermodynamic functions of hydrocarbon gases from spectroscopic data. L. S. Kassel. *Am Chem Soc J* 55:1351-63 Ap '33

Tower yields less light fractions than suggested by using Raoult's law. G. L. Matheson and L. W. T. Cummings. *diag Oil & Gas J* 31:35 Ap 27 '33

Über den verbrennungsverlauf von kohlenwasserstoffdampf-luft-gemischen. H. Schildwäcker. *bibliog il diags Angew Chemie* 46:587-92 S 16 '33

Über die reaktionsfähigkeit von aliphatischen und alicyclischen kohlenwasserstoffen. A. Schaarschmidt and M. Marder. *Angew Chemie* 46:151-4 Mr 11 '33

Vapor-liquid equilibria of hydrocarbon mixtures. E. C. Bromiley and D. Quiggle. *bibliog Ind & Eng Chem* 25:1136-8 O '33

Vapor-phase cracking. H. P. A. Groll. *bibliog il diags Ind & Eng Chem* 25:784-98 Jl '33

Versuche zur zerlegung leichtsiedender kohlenwasserstoffgemische in ihre komponenten mit hilfe von kieselensäure-gel. H. Hofmeier and H. Meiner. *Angew Chemie* 46:229-32 Ap 22 '33

## See also

Acetylene  
Azulene  
Benzene  
Butane  
Cyclohexene  
Ethane  
Heptane  
Ionene  
Methane

Naphthalene  
Olefins  
Paraffins  
Petroleum  
Petroleum refining  
Propane  
Terpenes  
Toluene  
Xylene

## Analysis

Analysis of hydrocarbon oils. R. H. Griffith and H. Hollings. *Inst Pet Tech J* 19:701-12 Ag '33

Apparatus and methods for precise fractional-distillation analysis. W. J. Podbielniak. *bibliog diags Ind & Eng Chem Anal ed* 5:119-35, 172-8 Mr 15-My 15 '33

Contribution à l'étude de la réaction des formolites. V. Cerchez and I. Ionescu-Muscel. *Chimie & Ind* 29:781-5 Ap '33

Diffusion as an aid in the analysis of gaseous paraffin hydrocarbon mixtures. R. A. Baxter and L. J. Beckham. *bibliog Am Chem Soc J* 55:3926-36 O '33

Thermal decomposition of simple paraffins. F. E. Frey and H. J. Hepp. *bibliog il diags Ind & Eng Chem* 25:441-9 Ap '33

## HYDROCARBONS, Aromatic

Catalytic high pressure hydrogenation of aromatic hydrocarbons and catalytic high pressure destruction of the corresponding hydrogenated products. A. Dros, A. J. Tulleners and H. I. Waterman. *diags Inst Pet Tech J* 19:784-99 S '33

Heats of wetting of cellulose acetate by aliphatic alcohols and aromatic hydrocarbons. S. E. Sheppard and P. T. Newsome. *bibliog J Phys Chem* 37:389-95 Mr '33

Hydrogenation of aromatic compounds at temperatures close to their decomposition in the presence of catalysts. V. Ipatieff. *Am Chem Soc J* 55:3696-701 S '33

Reversible addition of aromatic compounds to conjugated systems. R. C. Fuson, A. P. Kozacki and J. T. Eaton. *Am Chem Soc J* 55:3799-803 S '33

Vapor-phase cracking. H. P. A. Groll. *bibliog il diags Ind & Eng Chem* 25:784-98 Jl '33

## See also

Anthracene  
Benzene

Cyclohexane  
Naphthalene

## HYDROCELLULOSE

Oxycellulose and hydrocellulose; their detection, properties, and probable differences in constitution. H. A. Thomas. *Soc Chem Ind J* 52:79T-86T Mr 31 '33; Same. *Am Dyestuff Rep* 22:355-6, 371-7 Je 5 '33; Abstract. *Textile Col* 55:547+ Ag '33

## HYDROCHLORIC acid

Acetylene polymers and their derivatives; the dihydrochloride of divinylacetylene. D. D. Coffman, J. A. Nieuwland and W. H. Carothers. *Am Chem Soc J* 55:2048-51 My '33

Activity coefficients of hydrochloric acid in aqueous solutions containing either sodium dithionate or perchloric acid. P. G. Murdoch and R. C. Barton. *Am Chem Soc J* 55:4074-9 O '33

Activity coefficients of hydrochloric acid in aqueous solutions containing either sodium or potassium perchlorate. S. J. Bates and J. W. Urmonston. *Am Chem Soc J* 55:4068-73 O '33

Activity coefficients of hydrochloric acid in uni-univalent chloride solutions at constant total molality. J. E. Hawkins. *Am Chem Soc J* 54:4480-7 D '32

Atomic chlorine and its reaction with hydrogen. W. H. Rodebush and W. C. Klingelhoefer, jr. *diags Am Chem Soc J* 55:130-42 Ja '33

Development of acid treatment of oil wells involves careful study of problems of each. S. W. Putnam. *Oil & Gas J* 31:8+ F 23 '33

Effect of water on the photosynthesis of hydrogen chloride. G. K. Rollefson and J. C. Potts. *Am Chem Soc J* 55:860-1 F '33

Equilibria, complex ions and electrometric titrations; iodine or bromine in hydrochloric acid. J. H. Faull, jr. and G. S. Forbes. *bibliog diag Am Chem Soc J* 55:1809-20 My '33

Heat of formation of hydrogen chloride and some related thermodynamic data. F. D. Rossini. *diags U S Bur Stand J Research* 9: 679-702 N '32

Hydrolysis of hydrogen cyanide by acids. V. K. Krieble and A. L. Peiker. *Am Chem Soc J* 55:2326-31 Je '33

Influence of adsorbed ions on the dissolution of colloidal aluminum hydroxide in hydrochloric acid. H. V. Tartar, C. C. Bryan and H. Shinn. *bibliog Am Chem Soc J* 55:2266-72 Je '33

Infra-red spectrum of  $H^2Cl$ ; abstract. J. D. Hardy, E. F. Barker and D. M. Dennison. *Science* 76:521 D 2 '32

Ionization constant of water and the dissociation of water in potassium chloride solutions from electromotive forces of cells without liquid junction. H. S. Harned and W. J. Hamer. *bibliog Am Chem Soc J* 55: 2194-206 Je '33

Liabilities or electronegativities of some unsaturated alkyl radicals as determined by hydrogen chloride scission of organolead compounds. H. Gilman, E. B. Towne and H. L. Jones. *Am Chem Soc J* 55:4689-93 N '33

**HYDROCHLORIC acid—Continued**

Magnetic susceptibilities of hydrochloric acid and lithium chloride solutions. A. F. Scott and C. M. Blair, jr. bibliog J Phys Chem 37:475-82 Ap '33

Photochemical union of chlorine and hydrogen in the presence of oxygen, and the relative rates of formation of water and hydrogen chloride in illuminated mixtures of the three gases rich in oxygen. D. L. Chapman and J. S. Watkins. Chem Soc J p743-5 Jl '33

Reduction potential of vanadic acid to vanadyl ion in hydrochloric acid solutions. C. D. Coryell and D. M. Yost. Am Chem Soc J 55:1909-15 My '33

Sorption of vapors on wood and cellulose. N. H. Grace and O. Maass. diag J Phys Chem 36:3046-63 D '32

Thermodynamics of aqueous hydrochloric acid solutions from electromotive force measurements. H. S. Harned and R. W. Ehlers. bibliog Am Chem Soc J 55:2179-93 Je '33

**Manufacture**

Flowsheet of the electrolytic process for liquid chlorine, caustic soda and synthetic muriatic acid. Chem & Met Eng 40:466 S '33

Die wichtigsten neuerungen auf dem gebiete der anorganisch-chemischen industrie in den jahren 1927-1931. A. Bräuer, J. Reitsstötter and H. Siebeneicher. bibliog Angew Chemie 45:727-38 N 19 '32

**HYDROCHLORIDES**

Acetylene polymers and their derivatives; the chlorination of the hydrochlorides of vinyl-acetylene. W. H. Carothers and G. J. Berchet. Am Chem Soc J 55:1628-31 Ap '33

**HYDROCYANIC acid**

L'acide cyanhydrique. G. H. Buchanan. Chimie & Ind 28:1024-31 N '32

Application of fumigants to ships and warehouses; distribution of hydrogen cyanide in empty warehouses. A. B. P. Page and O. F. Lubatti. Soc Chem Ind J 52:316T-23T O 6 '33

Application of fumigants to ships and warehouses; penetration of hydrogen cyanide into bags of raw cacao stacked in piles of different sizes. A. B. P. Page and O. F. Lubatti. Soc Chem Ind J 52:323T-6T O 6 '33

Equipment for laboratory fumigations with hydrocyanic acid with controlled temperature and humidity. H. L. Cupples. diags Ind & Eng Chem Anal ed 5:36-8 Ja 15 '33

Health hazards in food fumigation. C. L. Williams. bibliog Chem Markets 32:45-7 Ja '33

Hydrolysis of hydrogen cyanide by acids. V. K. Krieble and A. L. Peiker. Am Chem Soc J 55:2326-31 Je '33

Infrared absorption spectrum of hydrogen cyanide. K. N. Choi and E. F. Barker. Phys R 42:777-85 D 15 '32

Manufacture, handling, and use of hydrocyanic acid; fumigation of California orchards. P. J. Carlisle. il Ind & Eng Chem 25:959-64 S '33

Measurement of gas concentrations for the control of fumigation. A. B. P. Page. diags Soc Chem Ind J 51:369T-74T N 11 '32

Studies on hydrogen cyanide; Gattermann's hydrogen cyanide aldehyde synthesis. L. E. Hinkel, E. E. Ayling and W. H. Morgan. Chem Soc J p2793-8 N '32

Die wichtigsten neuerungen auf dem gebiet der anorganisch-chemischen industrie in den jahren 1927-1931. A. Bräuer, J. Reitsstötter and H. Siebeneicher. bibliog Angew Chemie 46:7-15 Ja 7 '33

**Analysis**

Determination of hydrocyanic acid in air and in air-carbon dioxide mixtures. H. L. Cupples. il diag Ind & Eng Chem Anal ed 5:50-2 Ja 15 '33

Quantitative determination of small amounts of hydrocyanic acid. N. Gales and A. J. Pensa. Ind & Eng Chem Anal ed 5:80-1 Mr 15 '33

**HYDRODYNAMICS**

Application of practical hydrodynamics to airship design. R. H. Upson and W. A. Klikoff. bibliog U S Nat Advisory Com for Aeronautics 1932:123-40 '33

Bearing lubrication analysis; handling of performance data by correlation with the hydrodynamic theory. E. M. Barber. diags chart Refrig Eng 25:202-7; Discussion. 207, 218 Ap '33

Behavior of fluids in turbulent motion. A. Fage. bibliog il diags Roy Aeronautical Soc J 37:573-93 Jl '33; Abstract. Mech Eng 55:695 N '33; Discussion. Roy Aeronautical Soc J 37:593-600 Jl '33

Bernoulli's theorem; what it means. J. C. Reed and E. E. Ambrosius. diags Heating-Piping 5:111-12 F '33

Conditions under which gas and liquid mixtures rise. J. Versluys. il Inst Pet Tech J 19:694-700 Ag '33

Fonctionnement des turbines hydrauliques et pompes centrifuges. L. Bergeron. il diags Soc Ing Civils Bul 85:769-97 My '32

Hydrodynamics. H. Lamb. 6th ed 733p \$12 Macmillan '32

Hydrodynamics of marine aircraft. J. H. Lower. il diag Roy Aeronautical Soc J 37:423-34 My '33

Hydrodynamics of reservoir drainage and its relation to well spacing. H. D. Wilde, jr, and T. V. Moore. bibliog Am Pet Inst Proc p83-90 sec 4 D '32

Investigation of the boundary layer between turbulent and streamline flow when the rate of main flow is accelerated or retarded. Mech Eng 55:120-1 F '33

Principles of gaslift. J. Versluys. diags Inst Pet Tech J 19:687-93 Ag '33

Resistance to flow of molasses found to agree with basic laws. G. N. Cox. Eng N 111:441 O 12 '33

Resultant force acting on a solid body floating in a bowl of rotating liquid. W. C. Baker. Science 78:123-4 Ag 11 '33

Reynolds number. R. Fleming. Civil Eng 3:393-4 Jl '33

Seaplane research. H. M. Garner. bibliog il diags Roy Aeronautical Soc J 37:830-55; Discussion. 855-63 O '33

Simplest and most accurate viscometer, and other instruments with suspended level. L. Ubbelohde. il diags Inst Pet Tech J 19:376-420 My '33

Die strömung um flügelprofile und deren anwendung bei strömungsmaschinen. F. Seewald. Zeit Ver Deutsch Ing 77:573-80 [bibliog p580] My 27 '33

Transport phenomena in Einstein-Bose and Fermi-Dirac gases. E. A. Uehling and G. E. Uhlenbeck. Phys R 43:552-61 Ap 1 '33

**See also**

Aerodynamics	Ship resistance
Air resistance	Stokes' law
Hydraulics	Viscosity
Hydrostatics	Water flow

**HYDROELECTRIC plants**

Banner year for hydro-electric generation. Power 77:21-4 Ja '33

Behavior of siphons; Leaburg siphons. J. C. Stevens. il diags Am Soc E E Proc 59:925-44 Ag '33; Discussion. 59:1654-6 D '33

More power over power; Federal power commission granted control over hydroelectric plants on non-navigable streams. Business Week p14 Ap 12 '33

N.E.L.A. hydraulic power committee meeting. N E L A Bul 19:697-8 N '32

New hydroelectric plant authorized to furnish power to railroad company. Pub Util 11:253-4 F 16 '33

Progress in hydraulic power development. Power Pl Eng 36:42-3 Ja '33

Progress made on large engineering projects; hydro-electric power development. il Eng N 110:155-6 F 2 '33

Recent developments in electric power generation. il Elec Eng 52:500-2 [bibliog p503] Jl '33



**HYDROELECTRIC plants—Continued**

Small hydro-electric plants. F. J. Taylor. *il* diags Elec R (Lond) 112:5-6 Ja 6 '33  
Transatlantic trends. *il* Power 77:48 Ja '33

**See also**

Dams	Surge tanks
Hydroelectric power	Turbines
Muscle Shoals project	Water power
Penstocks	

**Accounting**

Segregation of water power costs. W. S. McCrea, jr. Elec Eng 52:313-18 My '33

**Automatic operation**

Automatic hydro-electric plants. F. J. Taylor. *il* diags Elec R (Lond) 112:557-8 Ap 21 '33  
Plant rehabilitation improves operations; Borel hydro plant of the Southern California Edison company. J. B. Davenport and E. M. Scott. *il* diag Elec W 100:876-9 D 31 '32

**Auxiliary plants**

Peak-load station; Pigeon House station, Dublin. R. N. Tweedy. *il* diag Elec R (Lond) 112:117-18 Ja 27 '33  
Reheating turbine installation in Japan; Sanyo Chuo hydro-electric company's station at Shikama. *il* diags plans (supp) Engineer 154: 658-61 D 30 '32  
Tacoma completes 25,000-kw. plant; steam unit supplements Cushman hydro power during low water periods. A. F. Darland. *il* diag Elec West 70:81-4 Mr '33

**Combination with steam plants**

Electric steam generators use excess hydro power. *il* diags Power 76:295-7 D '32

**Construction**

L'aménagement des chutes de Caillaouas (Pyrénées); les centrales de Tramezaygues et de Lassoula, de la Société hydro-électrique du Midi. J. Leclerc du Sablon. *il* diags maps Génie Civil 102:200-7 Mr 4 '33  
Die Bleilochsperre bei Saalburg in Thüringen. H. Hammerstaedt. *il* diag Zeit Ver Deutsch Ing 77:739-40 Ji 8 '33  
Building Hamilton dam on Colorado river in Texas. *il* diags plan Eng N 110:59-62 Ja 12 '33  
Concreting problems—Chats Falls power development. H. L. Trotter and W. Schnarr. *il* diags Am Concrete Inst J 4:249-74 F '33  
Construction of power house for Beauharnois power development. J. A. Knight. *il* Can Eng 65:5-8 Ag 29 '33  
Design and construction of tunnel at Bridge River, B.C. C. E. Blee. *il* diags maps Can Eng 63:5-10 N 29; 31-3 D 13 '32  
Les installations hydrauliques du Grimsel et l'usine électrique de la Handeck (Suisse). J. Dumas. *il* diags maps plans Génie Civil 102:125-33 F 11 '33  
Lochaber water power scheme. *il* diag map Engineer 155:492-5 My 19 '33  
Mandi hydro-electric project. maps Engineer 155:210-11 Mr 3 '33  
Mandi hydro-electric scheme. map Electrician 110:321-2 Mr 10 '33  
Power dam raised 30 ft. under full head; Bristol dam in New Hampshire. *il* diags Eng N 111:185-8 Ag 17 '33  
Les téléferiques de Caillaouas (Hautes-Pyrénées). J. Leclerc du Sablon. *il* diags Génie Civil 102:509-13 Je 3 '33

**Control**

Carrier current for load control. Elec W 102: 523 O 21 '33  
Photo-cell control executes predetermined hydro operation. J. Fies. *il* diags Elec W 102:396-8 S 23 '33  
Semi-automatic operation obtained at low cost. L. M. Robertson. diags Elec W 102: 468-9 O 7 '33

**Costs**

Capital expenditures decrease, 1926-1932; tabulation. Elec W 101:43 Ja 7 '33  
Construction costs at Fifteen-Mile Falls. Elec W 101:298 Mr 4 '33  
Cost of headgates at Comerford station. Elec W 101:195 F 11 '33

Cost of intake racks at Fifteen-Mile Falls station. Elec W 101:99 Ja 21 '33

Equipment costs from Fifteen-Mile Falls. Elec W 102:286 Ag 26 '33

Hydraulic power equipment costs at Fifteen-Mile Falls plant. Elec W 101:617 My 13 '33  
McIndoes hydro development built for \$131 per kva. diag plan Elec W 101:636-8 My 20 '33

Penstock costs at Fifteen-Mile Falls. Elec W 101:258 F 25 '33

Water-power development of the St Lawrence river; with cost data. D. W. Mead. maps Am Soc C E Proc 59:965-82; Discussion. T. H. Hogg. 983-96 Ag '33

**Design**

Beauharnois development of the St Lawrence river. W. S. Lee. *il* diags plan map Elec Eng 52:377-84 Je '33

Dnieper River development. C. C. Whelchel. *il* diags plan map Gen Elec R 36:473-7 N '33

Gramplan hydro-electric works: Loch Erich development. A. S. Valentine, H. M. Gibb and E. M. Bergstrom. Engineering 135:607-8 Je 2 '33

Hoover Dam progress speeds equipment awards. diags plan Elec West 70:50-2 F '33  
Possible economies in low-head plants. Elec W 102:530 O 21 '33

Sivasamudram hydro-electric power scheme, Mysore. *il* diags map Engineering 135:1-3, 16, pl 1 Ja 6 '33

Water-power development of the St Lawrence river; with cost data. D. W. Mead. maps Am Soc C E Proc 59:965-82; Discussion. T. H. Hogg. 983-96 Ag '33

Wyman development arrests steam generation. H. K. Fairbanks. *il* plans Elec W 102:620-3 N 11 '33

**Efficiency**

Eagle Pass tests challenge hydro efficiency records. L. F. Harza and E. Floor. diag Power Pl Eng 36:821-3 D '32

Improved type of flow meter for hydraulic turbines. I. A. Winter. diags Am Soc C E Proc 59:565-84 Ap '33; Discussion. 59:1046-9, 1524-5 Ag, N '33

**Equipment**

Bangor spends to save; installation of synchronous condenser at Veazie station. Elec W 101:363 Mr 18 '33

Beauharnois development of the St Lawrence river. W. S. Lee. *il* diags plan map Elec Eng 52:377-84 Je '33

Down-stream tunnel adds head; recently completed hydro-electric plant in Switzerland. Elec W 102:241 Ag 19 '33

Field tests on 16,667-kv-a. waterwheel-driven generators for the Rock Island development. D. E. Brainard. *il* plan Gen Elec R 35:615-21 D '32

Fusenko power plant, Korea. *il* diag Engineering 136:376-8 O 6 '33

Gramplan hydro-electric works: Loch Erich development. A. S. Valentine, H. M. Gibb and E. M. Bergstrom. Engineering 135:607-8 Je 2 '33

Hoover Dam hydro plant to house largest turbines. *il* plans Power 77:174-5 Ap '33

Hydraulic equipment for the Hoover power plant. diags plan Power Pl Eng 37:124-6 Mr '33

Kaplan turbines on Rhine serve systems at three voltages; Ryburg-Schwoerstadt power station. P. R. Sidler. *il* diag Elec W 100: 816-18 D 17 '32

Das kraftwerk Bleilochsperre unter besonderer berücksichtigung der hydraulisch-mechanischen einrichtungen. C. Schmitthenner and T. Schiel. *il* diags Zeit Ver Deutsch Ing 77:663-72 Je 24 '33

Large hydro unit adapted for sensitive governing; Ruskin plant of the British Columbia electric railway company. A. N. Geyer. Elec W 101:834 Je 24 '33

Oberhasli hydro-electric works. *il* Elec R (Lond) 112:663-4 My 12 '33

Power-driven hoists handle McIndoes Dam flashboards. diags Power 77:570-1 N '33

**HYDROELECTRIC plants—Equipment—Cont.**

- Power from the Rhine; some details of the Kembs hydro-electric undertaking. *il Elec R (Lond)* 113:117-18 J1 28 '33
- Progress in the production and transmission of heat and power; hydraulic power. *Paper Tr J* 96:95- F 16 '33
- Pykara hydro-electric scheme. *il map Electrician* 110:516-17 Ap 21 '33
- Revamping power equipment to keep engineers on the job; Vermont marble company's hydro-electric station at Proctor. *F. A. Westbrook. il Power* 77:424-5 Ag '33
- Rio Cinca power plant. *il diags Engineer* 155:160-2 F 17 '33
- Safe-Harbor plant has a dual oil-purifying system. *J. B. Cutler. il diag Power* 77:464-6 S '33
- 16-ft. butterfly valves close in one minute; Saluda plant of the Lexington water power company. *O. L. Hooper. il diag Power* 76:291 D '32
- Some outstanding features of hydraulic practice in Europe. *R. W. Angus. il diags Can Eng* 64:7-12 F 14 '33
- Synchronous condenser raises system generating capacity; Bangor hydro-electric company. *Elec W* 101:494 Ap 15 '33
- 10,700-hp. Kaplan turbines designed for 76-ft. head; Wéttinger plant, City of Zurich, Switzerland. *il diag Power* 77:363 J1 '33
- Transformers for the Ryburg-Schwörstadt hydro-electric power station. *il diag Engineering* 134:772-4 D 30 '32
- Turbines and hydraulic equipment of the Chats Falls development. *O. Holden. il diags plan Can Eng* 64:5-10 My 9 '33
- Turbines for the Gramplan hydro-electric works. *il diags Engineering* 135:511-13, 520, pl 31 My 12 '33
- Vasteras turbine; largest double-rotation unit. *A. G. Christie. il diags Power* 77:364-6 J1 '33
- Water turbines for Tummel development. *il diags plan Engineer* 155:343-5, 350 Ap 7 '33
- See also*
- Penstocks
- Turbines

**Finance**

- Severn barrage project. *Economist* 116:896-7 Ap 29 '33

**Fires and fire protection**

- CO<sub>2</sub> & H<sub>2</sub>O protect Safe-Harbor plant from fire. *J. B. Cutler. il diags Power* 77:367-9 J1 '33

**Irrigation water use**

- Sivasamudram hydro-electric power scheme, Mysore. *il diags map Engineering* 135:1-3, 16, pl 1 Ja 6 '33

**Maintenance and repair**

- Improving operation of small hydro plants. *L. M. Robertson. Elec W* 101:805-6 Je 17 '33
- Scheduled maintenance reduces brush replacement costs. *R. B. Glen. diags Power* 77:372-3 J1 '33
- Semi-automatic operation obtained at low cost. *L. M. Robertson. diags Elec W* 102:468-9 O 7 '33

**Reconstruction**

- Plant rehabilitation improves operations; Borel hydro plant of the Southern California Edison company. *J. B. Davenport and E. M. Scott. il diag Elec W* 100:876-9 D 31 '32

**Storage type**

- Analysis of hydro-regeneration. *F. A. Allner. Elec Eng* 52:547-50 Ag '33
- Another pumped storage plant for the Rhine-land. *Elec W* 101:121 Ja 28 '33
- Les barrages conjugués et installations de pompage. *G. Laporte. Soc Ing Civils Bul* 85:687-706 My '32
- Electricity from pumped storage; a corollary to the Severn barrage investigation. *J. W. Meares. il Elec R (Lond)* 112:629-30 My 5 '33
- New high-head pumped-storage plant; Schluchsee-Hausern works. *Elec R (Lond)* 111:776 N 25 '32

- Oberhasli hydroelectric development. *il Elec Eng* 52:233-4 Ap '33; *Same. Sci Am* 148:209 Ap '33
- Oberhasli hydro-electric works. *il Elec R (Lond)* 112:663-4 My 12 '33
- Pump storage compensates for power fluctuations in two different hydraulic development areas; Schluchsee project. *R. Leonhardt. il diag map Power Pl Eng* 37:222-3 My '33
- Pumped storage power scheme; Lac Noir. *Elec R (Lond)* 112:113 Ja 27 '33
- Seasonal storage provides year-round power; Oberhasli hydro-electric development. *il Power Pl Eng* 37:308-9 J1 '33
- Severn barrage committee's report. *Engineer* 155:265-6, 317-19 Mr 17, 31 '33
- Severn barrage; report on £50 000 000 power and transport scheme. *maps Electrician* 110:330, 454-5 Mr 10, Ap 7 '33; *il Elec R (Lond)* 112:377 Mr 17 '33
- Severn barrage scheme. *maps Engineering* 135:394-6 Ap 7 '33
- Severn barrage scheme; editorial. *Engineering* 135:307-8 Mr 17 '33
- Sivasamudram hydro-electric power scheme, Mysore. *il diags map Engineering* 135:1-3, 16, pl 1 Ja 6 '33
- Some outstanding features of hydraulic practice in Europe. *R. W. Angus. il diags Can Eng* 64:11-12 F 14 '33
- Les stations de pompage en montagne. *J. Leclerc du Sablon. diags map Soc Ing Civils Bul* 85:707-17 My '32
- Les usines de pompage pour accumulation. *L. Martin. diags Soc Ing Civils Bul* 85:718-34, pl 205 My '32

**Tables, calculations, etc.**

- Application of duration curves to hydro-electric studies. *G. H. Hickox and G. O. Wessenauer. diag Am Soc C E Proc* 58:713-27 My '32; *Discussion. 58:1439-48, 1606-9; 59:192-5, 480-3 O-N '32, Ja, Mr '33*
- Duration curves. *H. A. Foster. Am Soc C E Proc* 59:1240-4 O '33

**British Columbia**

- Design and construction of tunnel at Bridge River. *B. C. E. Blee. il diags maps Can Eng* 63:5-10 N 29; 31-3 D 13 '32
- Hydro developments in British Columbia. *Can Eng* 64:14 Ja 17 '33

**Bulgaria**

- Bulgaria; Vatcha power station discussions *Electrician* 110:182 F 10 '33

**California**

- First all-welded penstock completed; San Francisco plant no. 2 of the Los Angeles bureau of power & light. *C. M. Allen. il Elec West* 70:84-7 Mr '33
- Plant rehabilitation improves operations; Borel hydro plant of the Southern California Edison company. *J. B. Davenport and E. M. Scott. il diag Elec W* 100:876-9 D 31 '32

**Canada**

- Gatineau power co. developments. *Can Eng* 64:10 Mr 14 '33
- Hydro-electric progress in Canada during 1932. *Engineering* 135:526 My 12 '33
- Hydro-electric progress in Canada in 1932. *Elec W* 101:326-7 Mr 11 '33
- Hydro-electric projects completed and under construction in the United States and Canada in 1932; tabulation. *Power* 77:22-3 Ja '33
- Much undeveloped Canadian hydro. *Elec W* 102:307 S 2 '33
- Power; its progress and use in Canada from 1903 to 1933. *A. J. F. Montabone. il Pulp & Pa of Can (Convention no)* 34:86-8 [F] '33
- Review of hydro-electric power development in Canada. *il Can Eng* 64:7-10 Ja 17 '33
- Small Canadian water-power plants. *F. H. Fullerton. Elec R (Lond)* 112:655 My 5 '33
- Steam from Canadian hydro; abstract. *J. Morse and F. T. Kaelin. Power* 77:352 J1 '33

**Ceylon**

- Electricity on a Ceylon tea estate. *H. Crownshaw. il Elec R (Lond)* 113:279 S 1 '33



## HYDROELECTRIC plants—Continued

## England

Electricity from pumped storage; a corollary to the Severn barrage investigation. J. W. Meares. *il Elec R (Lond)* 112:629-30 My 5 '33

Le projet de barrage dans l'estuaire de la Severn, pour la création d'une usine marémotrice en Angleterre. maps Génie Civil 102:492-4 My 27 '33

Report. 2v Great Britain Economic advisory council, Severn barrage committee, London '33

Severn barrage committee's report. *Engineer* 155:265-6, 317-19 Mr 17, 31 '33

Severn barrage model experiments; abstracts. A. H. Gibson. *il Engineer* 155:623-4, 626 Je 23 '33; *Engineering* 135:599-600 Je 2 '33

Severn barrage project. *Economist* 116:896-7 Ap 29 '33

Severn barrage; report on £50 000 000 power and transport scheme. maps *Electrician* 110:330, 454-5 Mr 10, Ap 7 '33; *il Elec R (Lond)* 112:377 Mr 17 '33

Severn barrage scheme. maps *Engineering* 135:394-6 Ap 7 '33

Severn barrage scheme; editorial. *Engineering* 135:307-8 Mr 17 '33

## Europe

Some outstanding features of hydraulic practice in Europe. R. W. Angus. *il diags Can Eng* 64:7-12 F 14 '33

## France

L'aménagement des chutes de Caillaouas (Pyrénées); les centrales de Tramezaygues et de Lassoula, de la Société hydro-électrique du Midi. J. Leclerc du Sablon. *il diags maps Génie Civil* 102:200-7 Mr 4 '33

Another pumped storage plant for the Rhineland. *Elec W* 101:121 Ja 28 '33

L'inauguration des usines hydro-électriques de la Truyère. A. Lebrun. *il plan Génie Civil* 102:594-6 Je 24 '33

Power from the Rhine; some details of the Kembs hydro-electric undertaking. *il Elec R (Lond)* 113:117-18 Jl 28 '33

Pumped storage power scheme; Lac Noir. *Elec R (Lond)* 112:113 Ja 27 '33

Les téléferiques de Caillaouas (Hautes-Pyrénées). J. Leclerc du Sablon. *il diags Génie Civil* 102:509-13 Je 3 '33

Les usines hydro-électriques du groupe d'Ugine de la Société d'électrochimie, d'électrometallurgie et des aciéries électriques d'Ugine. J. F. Audouin and A. L. Racapé. *Soc Ing Civils Bul* 85:1056-63 S '32

## Germany

Die Bleilochsperre bei Saalburg in Thüringen. H. Hammerstedt. *il diag Zeit Ver Deutsch Ing* 77:739-40 Jl 8 '33

Das kraftwerk Bleilochsperre unter besonderer berücksichtigung der hydraulisch-mechanischen einrichtungen. C. Schmitthenner and T. Schiel. *il diags map Zeit Ver Deutsch Ing* 77:663-72 Je 24 '33

New high-head pumped-storage plant; Schluchsee-Hausern works. *Elec R (Lond)* 111:776 N 25 '32

Pump storage compensates for power fluctuations in two different hydraulic development areas; Schluchsee project. R. Leonhardt. *il diag map Power Pl Eng* 37:222-3 My '33

## Great Britain

Water power in Great Britain. A. Gibb. *Engineer* 154:622-3 D 16 '32

## India

Indian hydro-electric scheme; Travancore. *Elec R (Lond)* 113:346 S 15 '33

Mandi hydro-electric project. maps *Engineer* 155:210-11 Mr 3 '33

Mandi hydro-electric scheme. map *Electrician* 110:321-2 Mr 10 '33; Abstract. *Elec R (Lond)* 112:339 Mr 10 '33

Pykara hydro-electric scheme. *il map Electrician* 110:516-17 Ap 21 '33

Sivasamudram hydro-electric power scheme, Mysore. *il diags map Engineering* 135:1-3, 16, pl 1 Ja 6 '33

## Ireland

Economics of hydro-electric turbines; plant at Ardnacrusha (Shannon scheme); abstract. F. O'Kelly. *Elec R (Lond)* 112:523 Ap 14 '33

Free water from an electricity scheme; abstract. M. A. Moynihan. *Elec R (Lond)* 112:83-4 Ja 20 '33

Shannon power scheme. *il Engineer* 156:7 Jl 7 '33

## Japan

Reheating turbine installation in Japan; Sanyo Chuo hydro-electric company's station at Shikama. *il diags plans (supp) Engineer* 154:658-61 D 30 '32

## Korea

Fusenko power plant, Korea. *il diag Engineering* 136:376-8 O 6 '33

World's largest Pelton wheels in Korea plant. R. Leonhardt. *il diags Power Pl Eng* 37:91-2 F '33

## Maine

Wyman development arrests steam generation. H. K. Fairbanks. *il plans Elec W* 102:620-3 N 11 '33

## Maryland

Safe Harbor energy as used in Baltimore. A. S. Loizeaux. *il diags Elec Eng* 52:564-9 Ag '33

## Massachusetts

Hydro-electric power development at Cobble mountain in connection with the Springfield water supply. H. A. Moody. *diag N E Water Works Assn J* 46:356-64 D '32; Abstract. *Eng N* 109:412 O 6 '32

## New England

Construction costs at Fifteen-Mile Falls. *Elec W* 101:258, 298 F 25-Mr 4 '33

Hydraulic power equipment costs at Fifteen-Mile Falls plant. *Elec W* 101:617 My 13 '33

McIndoes hydro development built for \$131 per kva. *diag plan Elec W* 101:636-8 My 20 '33

## New Zealand

Arnold River hydro-electric works. *il plan Engineer* 155:468-9 My 12 '33

## Ontario

Chats Falls development and organization for construction. T. H. Hogg. *il plan map Can Eng* 64:7-12 Ap 11 '33

Chats Falls development, Ontario. J. P. Skillen. *Elec J* 30:335 Ag '33

Concreting problems—Chats Falls power development. H. L. Trotter and W. Schnarr. *il diags Am Concrete Inst J* 4:249-74 F '33

Distribution of electricity in Ontario rural and urban municipalities. *il Can Eng* 65:3-8 S 26 '33

Generation and distribution of power in the Province of Ontario with special reference to the work of the Hydro-electric power commission of Ontario. F. A. Gaby. *il Inst Mech Eng Proc* 123:15-47 '32; Same cond. *Engineering* 134:399-402 S 30 '32; Abstract. *Can Eng* 63:7-12 D 27 '32; Discussion. *Inst Mech Eng Proc* 123:48-56 '32

Large surge tank at Thorold; power development on Welland ship canal. *il Can Eng* 64:13 Mr 14 '33

Turbines and hydraulic equipment of the Chats Falls development. O. Holden. *il diags plan Can Eng* 64:5-10 My 9 '33

## See also

Ontario—Hydro-electric power commission

## Oregon

Work begun on Bonneville dam on the lower Columbia river across the Oregon-Washington boundary. *il Eng N* 111:556-7 N 9 '33

## Palestine

Electricity supply in Palestine. *il Elec R (Lond)* 112:335, 342 Mr 10 '33

**HYDROELECTRIC plants—Continued****Pennsylvania**

Safe Harbor, a notable water power development. *il Elec J* 30:3 Ja '33

**Quebec**

Beauharnois development of the St Lawrence river. W. S. Lee. *il diags plan map Elec Eng* 52:377-84 Je '33

Chute-à-Caron development. M. DuBose. *Can Eng* 65:9 Jl 4 '33

Construction of power house for Beauharnois power development. J. A. Knight. *il Can Eng* 65:5-8 Ag 29 '33

Temiscouata storage dam on sand foundation. J. H. Ings. *il diags Civil Eng* 3:322-5 Je '33

**Russia**

La centrale hydro-électrique du Dniéprostoï et le centre industriel du Dniépro-combinaï (Russie méridionale). M. Gorfinkel. *map Génie Civil* 101:656-7 D 31 '32

Development in Russia. *Electrician* 109:603 N 11 '32

Dnieper River development. C. C. Whelchel. *il diags plan map Gen Elec R* 36:473-7 N '33

Dniéprostoï hydro-electric works. *Elec R (Lond)* 111:787 N 25 '32

Hydro-electric projects north of the Polar circle. *Engineering* 135:430 Ap 21 '33

U. S. S. R. power stations; units aggregating 800,000 kW reported to be in course of construction. *Electrician* 111:350 S 22 '33

**Scotland**

Distribution scheme in Dumfriesshire; inauguration at Lockerbie. *Electrician* 110:189 F 10 '33

Grampian hydro-electric works: Loch Erich development. A. S. Valentine, H. M. Gibb and E. M. Bergstrom. *Engineering* 135:607-8 Je 2 '33; *Abstract. Elec R (Lond)* 112:380-1 Mr 17 '33

Lochaber water power scheme. *il diag map Engineer* 155:492-5 My 19 '33

Turbines for the Grampian hydro-electric works. *il diags Engineering* 135:511-13, 520, pl 31 My 12 '33

Water turbines for Tummel development. *il diags plan Engineer* 155:343-5, 350 Ap 7 '33

**Spain**

Andalusian power station; Jandula hydro-electric power station. *il Elec R (Lond)* 113:385 S 22 '33

Electricity supply in Spain. *Elec R (Lond)* 112:375 Mr 17 '33

Jandula hydro-electric station. *Electrician* 111:232 Ag 25 '33

Rio Cinca power plant. *il diags Engineer* 155:160-2 F 17 '33

Spanische grosswasserkraftanlage am Rio Esla mit 75 000 PS-Francisnturbinen von J. M. Voith. *il Zeit Ver Deutsch Ing* 76:1102 N 5 '32

**Sweden**

Kaplan turbines and the Swedish industry; abstract. E. Engleson. *Engineering* 136:179 Ag 18 '33

Water power; two large power units being built in Sweden. *Electrician* 109:690 N 25 '32

**Switzerland**

Les installations hydrauliques du Grimsel et l'usine électrique de la Handeck (Suisse). J. Dumas. *il diags maps plans Génie Civil* 102:125-33 F 11 '33

Kaplan turbines on Rhine serve systems at three voltages; Ryburg-Schwoerstadt power station. P. R. Sidler. *il diag Elec W* 100:816-18 D 17 '32

Oberhasli hydroelectric development. *il Elec Eng* 52:233-4 Ap '33; *Same. Sci Am* 148:209 Ap '33

Oberhasli hydro-electric works. *il Elec R (Lond)* 112:663-4 My 12 '33

Seasonal storage provides year-round power; Oberhasli hydro-electric development. *il Power Pl Eng* 37:308-9 Jl '33

10,700-hp. Kaplan turbines designed for 76-ft. head; Wettinger plant, City of Zurich, Switzerland. *il diag Power* 77:363 Jl '33

32,000-hp. Francis turbines applied to 1100-ft. head. G. A. Bovet. *diags Power* 77:522-3 O '33

Transformers for the Ryburg-Schwörstadt hydro-electric power station. *il diag Engineering* 134:772-4 D 30 '32

Two 11,450-hp. impulse wheels operate under 3,280-ft. head; Niederenbach hydro-electric station, Switzerland. *il Power* 77:404 Ag '33

Vasteras turbine; largest double-rotation unit. A. G. Christie. *il diags Power* 77:364-6 Jl '33

**Tennessee**

Grouting dam foundations and construction joints; experience at Calderwood dam. J. B. Hays. *il diags plan Civil Eng* 3:606-10 N '33

**Tennessee valley**

Power on the Tennessee river. *il diags map Eng N* 110:579-83 My 11 '33

**Texas**

Building Hamilton dam on Colorado river in Texas. *il diags plan Eng N* 110:59-62 Ja 12 '33

Eagle Pass tests challenge hydro efficiency records. L. F. Harza and E. Floor. *diag Power Pl Eng* 36:821-3 D '32

**United States**

Economic aspects of water power. F. A. Allner. *il Elec Eng* 51:846-52 D '32

Hydro-electric projects completed and under construction in the United States and Canada in 1932; tabulation. *Power* 77:22-3 Ja '33

1,700,000 kw. in new stations. *Elec W* 101:23 Ja 7 '33

Pacific coast hydro is 64 per cent of total. J. T. Johnston. *Elec W* 102:6 Jl 1 '33

Small increase in water power. *Elec W* 102:94 Jl 15 '33

**Wales**

Small Welsh water power scheme; Machynlleth. *il Elec R (Lond)* 112:485 Ap 7 '33

**Washington (state)**

Actual deflections and temperatures in a trial load arch dam; Ariel hydro-electric development. A. T. Larned and W. S. Merrill. *il diags map plan Am Soc C E Proc* 59:723-61 My '33

Field tests on 16,667-kv-a. waterwheel-driven generators for the Rock Island development. D. E. Brainard. *il plan Gen Elec R* 35:615-21 D '32

Grand Coulee power 10 years off; companies do not oppose it, but do ask fair competition. *Pub Serv M* 55:137 N '33

**Western states**

Review of new plants shows continued growth. *Elec West* 70:46-8 F '33

**Wyoming**

Power and irrigation work financed by PWA. *diags map Eng N* 111:251-3 Ag 31 '33

**HYDROELECTRIC power**

L'aménagement hydro-électrique du secteur des cataractes du Bas-Danube. J. Aubert. *il diag map Génie Civil* 102:586-8 Je 24 '33

Economic aspects of water power. F. A. Allner. *il Elec Eng* 51:846-52 D '32

Power economics of the Tennessee project. *maps Elec W* 101:604-7 My 13 '33

Power may be exported to United States. *Paper Tr J* 96:18 Ja 26; 15 Mr 23 '33

Tennessee Valley project. E. Kimble. *J Land & Pub Util Econ* 9:330-3 N '33

Validity of laws forbidding the exportation of power is questioned. J. W. Simonton. *Pub Util* 11:230-2 F 16 '33

What the federal irrigation scheme augurs for the utilities. H. Corey. *Pub Util* 11:636-45 My 25 '33

**See also**

Colorado river—  
Boulder Dam project  
Hydroelectric plants

St Lawrence waterway and power project  
Tidal power  
Water power



**HYDROFLUORIC acid**

Der abbau der cellulose durch fluorwasserstoff und ein neues verfahren der holzverzuckerung durch hochkonzentrierten fluorwasserstoff. K. Fredenhagen and G. Cadenbach. *Angew Chemie* 46:113-17 F 18 '33

Heat of vaporization of hydrogen fluoride. J. H. Simons and J. W. Bouknight. *diag Am Chem Soc J* 55:1458-60 Ap '33

Le rôle de l'acide fluorhydrique dans la nocivité du brouillard de la Meuse en 1930. J. Mage and G. Batta. *Chimie & Ind* 30: 787-8 O '33

**HYDROGEN**

Adsorption of hydrogen by silica gel at elevated temperatures. L. H. Reyerson. *Am Chem Soc J* 55:3105-8 Ag '33

L'altération des aciers par l'hydrogène. L. Jacqué. *Génie Civil* 101:558-9 D 3 '32

Apparatus for the separation of isohydrogen (deuterium) oxide by electrolysis. W. D. Harkins and C. Doede. *diag Am Chem Soc J* 55:4330-1 O '33

Atomic chlorine and its reaction with hydrogen. W. H. Rodebush and W. C. Klingelhoef, jr. *diags Am Chem Soc J* 55:130-42 Ja '33

Biochemistry of water containing hydrogen isotope. G. N. Lewis. *il Am Chem Soc J* 55:3503-4 Ag '33

Chemical properties of the hydrogen isotopes. H. C. Urey. *R Sci Instr* 4:423-5 Ag '33

Colloquium im Harnack-haus über parawasserstoff. O. Stern and others. *Angew Chemie* 46:259-60 My 6 '33

Comparison of the masses of He and H<sup>1</sup> on a mass-spectrograph. K. T. Bainbridge. *il Phys R* 43:103-5 Ja 15 '33; Same. *J Fr Inst* 215:201-5 F '33

Comparison of the masses of H<sup>2</sup> and helium. K. T. Bainbridge. *J Fr Inst* 216:270-1 Ag '33; Same, with reproduction spectra. *Phys R* 44:57 J1 1 '33

Continuous electron affinity spectrum of hydrogen. C. K. Jen. *Phys R* 43:540-7 Ap 1 '33

Contribution to the study of the hydrogen-oxygen reaction; the adsorption of hydrogen on pyrex and quartz. A. T. Williamson. *Am Chem Soc J* 55:1437-41 Ap '33

Conversion of ortho to para hydrogen over promoted iron synthetic ammonia catalysts at -190°. R. W. Harkness and P. H. Emmett. *Am Chem Soc J* 55:3496-7 Ag '33

Critical ignition of explosive hydrogen mixtures. J. H. Maas and C. Ewing. *il diag J Phys Chem* 37:13-15 Ja '33

Effect of ethyl radicals on the thermal decomposition of azomethane; the kinetics of the thermal decomposition of tetraethyllead; ethyl radicals and hydrogen. J. A. Leermakers. *diag Am Chem Soc J* 55:4508-18 N '33

Effect on steel of hydrogen at high pressures and temperatures. N. P. Inglis and W. Andrews. *Iron Age* 132:70+ O 12 '33

Einfluss von wasserstoff auf die A<sub>2</sub>- und A<sub>1</sub>-umwandlung des eisens. H. Esser and H. Cornelius. *diag Stahl & Eisen* 53:885-6 Ag 24 '33

Electrochemical theory of corrosion. O. P. Watts. *Electrochem Soc Trans* 64 (preprint 20):219-44 S '33; Excerpt. *Engineer* 156:267-8 S 15 '33; Abstract. *Science* 78:sup7 S 8 '33

Emission spectrum of molecular hydrogen in the extreme ultraviolet. C. R. Jeppesen. *il diags Phys R* 44:165-84 Ag 1 '33

Equilibrium in the system cyclohexane-benzene-hydrogen. R. B. Purdum and R. N. Pease. *diag Am Chem Soc J* 55:3109-11 Ag '33

Equilibrium in the system SnO<sub>2</sub>-H<sub>2</sub>-Sn-H<sub>2</sub>O; indirect calculation of the values of the water gas equilibrium constants. P. H. Emmett and J. F. Shultz. *Am Chem Soc J* 55: 1390-5 Ap '33

Experimental determination of the flame temperatures of complex mixtures of combustible gases and a method for calculating them. B. Lewis, H. Seaman and G. W. Jones. *J Fr Inst* 215:149-67 F '33

Experimental evidence for activated adsorption of hydrogen by charcoal. R. Burstein, A. Frumkin and N. Fedotow. *Am Chem Soc J* 55:3052-3 J1 '33

Explosions of mixtures of hydrogen and air; the specific heats of steam at high temperatures. G. B. Maxwell and R. V. Wheeler. *Chem Soc J* 1932-5 J1 '33

Fine structure of H<sup>2</sup> alpha. F. H. Spedding, C. D. Shane and N. S. Grace. *Phys R* 44: 58 J1 1 '33

Gaseous thermal diffusion—the principal cause of discrepancies among equilibrium measurements on the systems Fe<sub>3</sub>O<sub>4</sub>-H<sub>2</sub>-Fe-H<sub>2</sub>O, Fe<sub>3</sub>O<sub>4</sub>-H<sub>2</sub>-FeO-H<sub>2</sub>O and FeO-H<sub>2</sub>-Fe-H<sub>2</sub>O. P. H. Emmett and J. F. Shultz. *diag Am Chem Soc J* 55:1376-89 Ap '33

Heats of dissociation of hydrogen and nitrogen. W. W. Lozier. *Phys R* 44:575-81 O 1 '33

Heavy water. G. N. Lewis. *Science* 78:sup8 S 1 '33

Homogeneous reaction between hydrogen and fluorine. H. Eyring and L. S. Kassel. *Am Chem Soc J* 55:2796-7 J1 '33

Hydrides of boron; the preparation of B<sub>2</sub>H<sub>4</sub>; its thermal decomposition and reaction with hydrogen. A. B. Burg and H. I. Schlesinger. *diags Am Chem Soc J* 55:4009-20 O '33

Hydrogenolysis of sugars. W. H. Zartman and H. Adkins. *Am Chem Soc J* 55:4559-63 N '33

Improved calculation of ground state of H<sub>2</sub>. H. M. James and A. S. Coolidge. *Phys R* 43:588-9 Ap 1 '33

Influence of hydrogen on the transformations in iron. H. Esser and H. Cornelius. *diags Am Soc Steel Tr Trans* 21:733-40 Ag '33; Discussion. R. H. Harrington. 21:896-8 O '33

Investigation of the effects of hydrogen and oxygen on the unsoundness of copper-nickel alloys; abstracts and discussion. N. P. Allen and A. C. Street. *Engineer* 155:294 Mr 24 '33; *Engineering* 135:363 Mr 31 '33

Isotope effect in the Lyman series of hydrogen. S. S. Ballard and H. E. White. *il Phys R* 43:941 Je 1 '33

Kinetics of gas explosions; ozone explosions induced by hydrogen. B. Lewis. *bibliog Am Chem Soc J* 55:4001-6 O '33

Kinetics of the hydrogen-oxygen low pressure explosion. A. A. Frost and H. N. Alyea. *Am Chem Soc J* 55:3227-33 Ag '33

Kinetics of the mercury sensitized reaction between hydrogen and oxygen. J. R. Bates. *Am Chem Soc J* 55:426-7 Ja '33

Low pressure hydrogen-oxygen reaction on platinum. E. O. Wiig. *diag Am Chem Soc J* 55:2673-9 J1 '33

Mobilities of gaseous ions in CH<sub>3</sub>NO<sub>2</sub>-H<sub>2</sub> and CH<sub>3</sub>CN-H<sub>2</sub> mixtures. E. A. Higley and C. C. Thorsen. *J Fr Inst* 215:69-80 Ja '33

Parawasserstoff. E. Josephy. *bibliog Angew Chemie* 46:256-8 My 6 '33

Photochemical union of chlorine and hydrogen in the presence of oxygen, and the relative rates of formation of water and hydrogen chloride in illuminated mixtures of the three gases rich in oxygen. D. L. Chapman and J. S. Watkins. *Chem Soc J* p743-5 J1 '33

Photodissociation of hydrogen peroxide in the presence of hydrogen and carbon monoxide and the recombination of OH radicals. G. von Elbe. *diag Am Chem Soc J* 55:62-9 Ja '33

Platinized silica gel as an oxidation catalyst in gas analysis; oxidation of hydrogen and carbon monoxide. K. A. Kobe and E. J. Arveson. *Ind & Eng Chem Anal ed* 5:110-12 Mr 15 '33

Possible physiological effect of the heavy isotope of H in water. T. C. Barnes. *Am Chem Soc J* 55:4332-3 O '33

Production of hydrogen peroxide in the mercury sensitized hydrogen-oxygen reaction. J. R. Bates and D. J. Salley. *Am Chem Soc J* 55:110-23 Ja '33

HYDROGEN—*Continued*

Quantum yields of the photochemical reactions of phosphene. C. W. Montgomery and G. K. Rollefson. *Am Chem Soc J* 55:4025-35 O '33

Reduction by hydrogen and the thermal decomposition of nitrides made by the reaction of ammonia with various promoted and unpromoted iron synthetic ammonia catalysts. P. H. Emmett and K. S. Love. *Am Chem Soc J* 55:4043-50 O '33

Relation of hydrogen to nickel with special reference to the catalytic power of the latter. H. N. Huntzicker and L. Kahlenberg. *bibliog Electrochem Soc Trans* 63 (preprint 33):335-53 My '33

Relative abundance of hydrogen isotopes. W. Bleakney and A. J. Gould. *bibliog diag Phys R* 44:265-8 Ag 15 '33

Separation of hydrogen isotopes by fractional desorption. H. S. Taylor, A. J. Gould and W. Bleakney. *Phys R* 43:496-7 Mr 15 '33

Solubility of hydrogen and natural gas in oils at high operating temperature and pressure. V. Ipatieff, jr, V. P. Teodorovitch and I. M. Levine. *diag Oil & Gas J* 32:14+ O 5 '33

Solubility of nitrogen and hydrogen in aluminum; abstract. P. Röntgen and H. Braun. *Engineer* 154:sup[Metallurgist] 185-7 D 30 '32

Some properties of pure  $\text{H}^2\text{H}^2\text{O}$ . G. N. Lewis and R. T. Macdonald. *Am Chem Soc J* 55:3057-9 Jl '33

Spectroscopic search for  $\text{H}^3$  in concentrated  $\text{H}^2$ . G. N. Lewis and F. H. Spedding. *il Phys R* 43:964-6 Je 15 '33

Studies on overvoltage; the mechanism of the transfer of electrolytic hydrogen and oxygen through thin sheets of platinum and palladium. A. L. Ferguson and G. Dubpernell. *bibliog il diag Electrochem Soc Trans* 64 (preprint 22):253-79 S '33

Study of the catalytic properties of bright platinum and iridium deposits in the activation of hydrogen. L. P. Hammett and A. E. Lorch. *diag Am Chem Soc J* 55:70-80 Ja '33

Study of the effect of water vapor on the surface decarburization of steel by hydrogen with certain developments in gas purification; abstract, with discussion. C. R. Austin. *Iron Age* 132:27 O 12 '33

Temperature coefficient of the photosensitized hydrogen-oxygen reaction. H. S. Taylor and D. J. Salley. *bibliog Am Chem Soc J* 55:96-109 Ja '33

What steel to use at high pressures and temperatures; effect of hydrogen. J. L. Cox. *Chem & Met Eng* 40:405-9 Ag '33

See also

Electric furnaces— Hydrogenation  
Hydrogen atmosphere

## Analysis

Ein halbmikro-apparat zur bestimmung des kohlenstoffes und wasserstoffes nach der methode von Orthner und Reichel. G. Komppa and W. Rohrmann. *il diags Chemische Fabrik* 6:201-2 My 10 '33; Discussion. L. Lindner. 6:277 Je 21 '33

Magneto-optic method of analysis; with particular reference to the detection of elements 85 (alabamine) and 87 (virginium) and the heavy isotope of hydrogen. F. Allison. *il J Chem Educ* 10:71-8 F '33

Eine neue katalytische bestimmung des wasserstoffes mit hilfe von kontaktkerzen. E. Biesalski and H. Giehmman. *diag Angew Chemie* 45:767-9 D 10 '32

Zur bestimmung von kohlenstoff und wasserstoff nach dem centigrammverfahren. K. Küspert. *il diags Chemische Fabrik* 6:63-4 F 1 '33

## Atomic hydrogen

Bildung von metallhydriden durch atomaren wasserstoff; abstract. E. Pietsch and others. *Angew Chemie* 46:449-50 Jl 1 '33

Ein molekül-vermenger zur herstellung von kolloiden und zur hydrierung mit atomarem wasserstoff. S. v. Bogdandy, M. Polanyi and G. Vesz. *diags Chemische Fabrik* 6:1-4 Ja 4 '33

Reaction between atomic hydrogen and carbon tetrachloride. H. F. Smyser and H. M. Smallwood. *Am Chem Soc J* 55:3498-9 Ag '33

Reactions of atomic hydrogen with several alkyl halides. H. M. Chadwell and T. Titani. *diag Am Chem Soc J* 55:1363-76 Ap '33

Recombination of atomic hydrogen. I. Amdur. *Phys R* 43:208 F 1 '33

Recombination of hydrogen atoms. I. Amdur and A. L. Robinson. *Am Chem Soc J* 55:1395-1406 Ap '33

Über eine methode zur herstellung von kolloiden und zur hydrierung mit atomarem wasserstoff. S. v. Bogdandy, M. Polanyi and G. Vesz. *diag Angew Chemie* 46:15-17 Ja 7 '33

## Industrial applications

Erren hydrogen engine. E. P. A. Heinze. *il Engineering* 134:607-8 N 18 '32

Hydrogen; a commercial fuel for internal combustion engines and other purposes; electrolytic production as off-peak load for power stations; abstracts. R. A. Erren and W. H. Campbell. *Electrician* 110:388 Mr 24 '33; *Mech Eng* 55:377-8 Je '33

Hydrogen-cooled and outdoor air-cooled rotating machinery; committee report. *il diags Edison Elec Inst Bul* 1:177-82 S '33

Hydrogen engines for off-peak power utilization; Erren engine. E. P. A. Heinze. *il Power* 77:90-2 F '33

Possibilities of hydrogen as a fuel. E. P. A. Heinze. *Engineering* 135:399-400 Ap 14 '33

## Manufacture

Ammonia cracking; electrical method of generating hydrogen for welding. etc. *Electrician* 110:310 Mr 3 '33

Electrolytes for hydrogen-oxygen cells. W. S. Kirkpatrick, B. P. Sutherland and C. H. Wright. *Electrochem Soc Trans* 63 (preprint 25):251-9 My '33; *Abstract. Elec W* 102:59 Jl 8 '33

Electrolytic production of hydrogen. *il diag Elec R (Lond)* 113:218 Ag 18 '33

Heavy water. H. S. Taylor and H. Eyring. *Science* 77:sup9-10 My 5 '33

Hydrogen; a commercial fuel for internal combustion engines and other purposes; electrolytic production as off-peak load for power stations; abstracts. R. A. Erren and W. H. Campbell. *Electrician* 110:388 Mr 24 '33; *Power* 77:229 My '33

Knowles cells for electrolytic hydrogen. *il Chem Age (Lond)* 28:147 F 18 '33

Moderne grossbatterien zur elektrolytischen wasserstoffherzeugung. A. E. Zdansky. *il diag Chemische Fabrik* 6:49-51 Ja 25 '33; *Abstract. Mech Eng* 55:449-50 Jl '33

Die wirtschaftlichkeit der druckelektrolyse des wassers. H. Cassel and I. Voigt. *Zeit Ver Deutsch Ing* 77:636-8 Je 17 '33

HYDROGEN bromide. See Hydrobromic acid

HYDROGEN chloride. See Hydrochloric acid

HYDROGEN compounds

Energy levels and statistical weights of polyatomic molecules. D. S. Villars. *Chem R* 11:369-436 [bibliog p433-6] D '32

See also

Hydrocarbons

HYDROGEN cyanide. See Hydrocyanic acid

HYDROGEN engines

Erren hydrogen engine. *Engineering* 135:630 Je 9 '33

Erren hydrogen engine. E. P. A. Heinze. *il Engineering* 134:607-8 N 18 '32

Hydrogen engines for off-peak power utilization; Erren engine. E. P. A. Heinze. *il Power* 77:90-2 F '33

Possibilities of hydrogen as a fuel. E. P. A. Heinze. *Engineering* 135:399-400 Ap 14 '33

HYDROGEN fluoride. See Hydrofluoric acid



**HYDROGEN halides**

Dipole rotation and the transitions in the crystalline hydrogen halides. C. P. Smyth and C. S. Hitchcock. *Am Chem Soc J* 55: 1830-40 My '33

Equilibrium in liquid systems of three components. W. T. Reburn and W. N. Shearer. *Am Chem Soc J* 55:1774-9 My '33

See also

Hydriodic acid      Hydrochloric acid  
Hydrobromic acid    Hydrofluoric acid

**HYDROGEN iodide.** See Hydriodic acid

**HYDROGEN ion concentration**

A B C of pH (hydrogen ion) control. 9th ed 62p La Motte chemical products co, Baltimore '33

Action of potassium permanganate solutions of graded hydrogen ion concentration on cotton cellulose. C. Dorée and A. C. Healey. *Soc Dyers & Col J* 49:290-5 S '33

Action of the parenteral administration of sugars on the hydrogen-ion concentration of normal and malignant tissues in living animals. C. Voegtlin, H. Kahler and R. H. Fitch. *Science* 77:567-8 Je 9 '33

Calibration and salt error of the antimony electrode; its application in soil reaction measurements. N. J. King. *bibliog Ind & Eng Chem Anal* ed 5:323-7 S 15 '33

Chemical treatment of rotary drilling fluids; stabilization of weighted dispersions; effect of pH value. H. A. Ambrose and A. G. Loomis. *bibliog Ind & Eng Chem* 25: 1019-22 S '33

Dependence of the ultrafiltrate from a sol of ferric hydroxide upon rate of ultrafiltration; Donnan equilibrium and pH of sols. J. W. McBain and W. L. McClatchie. *Am Chem Soc J* 55:1315-23 Ap '33

Determination of the hydrogen ion concentration of hypochlorite solutions with the glass electrode. G. F. Davidson. *bibliog Textile Inst J* 24:T185-206 My '33; *Abstract. Am Dyestuff Rep* 22:536-7 Ag 28 '33

Effect of hydrogen-ion concentration on the flocculation values of chromic and aluminum oxide sols. M. H. Bedford, W. H. Keller and J. L. Gabbard. *bibliog Am Chem Soc J* 55:3953-6 O '33

Electrometric pH determinations of the walls and contents of the gastro-intestinal tracts of normal albino rats. C. A. Kofoid, E. McNeil and R. Cailleau. *Univ of Calif Pub in Zoology v* 36, no 14:347-55 '32

pH and its practical application. F. L. La Motte, W. R. Kenny and A. B. Reed. 262p Williams & Wilkins co, Baltimore '32

Hydrogen ion concentration control in the textile industry. C. E. Mullin. *Textile Col* 54: 803-5 D '32

pH control in bleaching and finishing cotton. C. E. Mullin. *Textile Col* 55:81-4 F '33

pH control in dyeing and printing cotton. C. E. Mullin. *Textile Col* 55:155-74 Mr '33

Hydrogen ion measurement and control. P. L. Mann. *Am Dyestuff Rep* 22:167-8 F 27 '33

pH of gelatin solutions. J. G. Malone and M. G. Malone. *J Phys Chem* 37:219-21 F '33

pH value of blue-print sensitizing solutions. P. K. Winter and H. V. Moyer. *il Ind & Eng Chem* 25:461-2 Ap '33

Influence of pH in the dyeing of leather. M. C. Lamb and L. Goldman. *Soc Dyers & Col J* 49:257-8 Ag '33

Influence of pH on the deterioration of vegetable-tanned leather by sulphuric acid. R. C. Bowker and E. L. Wallace. *U S Bur Stand J Research* 10:559-65 Ap '33

Measurement and control of hydrogen ion concentration in industrial plants. G. A. Perley. *il Chem & Met Eng* 40:417-20 Ag '33

Metal-connected glass electrode. M. R. Thompson. *diags U S Bur Stand J Research* 9:833-53 [bibliog p852-3] D '32

Micro vessel for glass electrode determinations of hydrogen-ion activity of biological fluids. I. R. Taylor and J. H. Birnie. *diags Science* 78:172-4 Ag 25 '33

Modified hook-up for routine use of glass electrode. E. C. Gilbert and A. Cobb. *diag Ind & Eng Chem Anal* ed 5:69-70 Ja 15 '33

Neue apparate für die pH- und leitfähigkeitsmessung. *il Chemische Fabrik* 6:sup3 Ja 4 '33

Sieben jahre technische pH-messung mit der indikatorfolle. P. Wulff. *Chemische Fabrik* 6:441-3 O 25 '33

Some observations on the pH values of hypochlorite solutions. L. P. Lynch and C. R. Nodder. *Textile Inst J* 23:T309-18 N '32

Some recent industrial applications of hydrogen ion measurements; abstract. S. F. Acree. *Soc Chem Ind J (Chem & Ind)* 51:962 N 18 '32

Studies on the nature and amount of the colloids present in sewage; the influence of the pH value on the physical properties of sewage liquors. E. V. Mills. *Soc Chem Ind J* 51:374T-80T N 11 '32

Universal direct-reading hydrogen-ion potentiometer. C. Morton and F. L. Best. *il diag Soc Chem Ind J* 52:6T-8T Ja 13 '33

Use of the slide rule in calculating hydrogen-ion concentration and pH values. M. C. Sanz. *il Ind & Eng Chem Anal* ed 5:218 My 15 '33

See also

Buffer action  
Isoelectric point

**HYDROGEN peroxide**

Bleaching with peroxides. P. W. Hargreaves. *Textile Col* 54:842-4; 55:43-4 D '32-Ja '33

Comparison of organic inhibitors in chain reactions; photo-polymerization of vinyl acetate; the autoxidation of sodium sulfite; photolysis of hydrogen peroxide. K. Jeu and H. N. Alyea. *Am Chem Soc J* 55:575-88 F '33

Hydrogen peroxide bleaching of wool, cotton, and silk. I. E. Weber. *Textile Inst J* 24: F178-93 Ag '33; *Excerptis. Chem Ind* 33:321, 323 O '33; *Abstracts. Textile Col* 55:701-2 O '33; *Chem Age (Lond)* 29:374 O 21 '33

Interaction of ethyl alcohol and oxygen photosensitized by hydrogen peroxide; a contribution to the Haber-Willstätter mechanism of enzyme reactions. H. S. Taylor and A. J. Gould. *bibliog J Phys Chem* 37:367-74 Mr '33

Kinetics of the reduction, in acid solution, of hydrogen peroxide by iodide ion. H. A. Liebhafsky and A. Mohammad. *bibliog Am Chem Soc J* 55:3977-86 O '33

New complex of cobalt and cysteine and its behavior with hydrogen peroxide. M. P. Schubert. *Am Chem Soc J* 55:3336-42 Ag '33

Peroxide bleaching. H. G. Smollens. *Am Dyestuff Rep* 22:600-2 O 9 '33

Peroxide bleaching of cotton piece goods. C. L. Eddy. *Am Dyestuff Rep* 21:725-7 D 19 '32

Photodissociation of hydrogen peroxide in the presence of hydrogen and carbon monoxide and the recombination of OH radicals. G. von Elbe. *diag Am Chem Soc J* 55:62-9 Ja '33

Production of hydrogen peroxide in the mercury sensitized hydrogen-oxygen reaction. J. R. Bates and D. J. Salley. *Am Chem Soc J* 55:110-23 Ja '33

Weakening of cotton with hydrogen peroxide. L. Kollmann. *Melliand* 5:162 Ag-S '33

**Manufacture**

Luton's chemical industry; how straw hat making fostered Alcoec (peroxide), ltd. and B. Laporte, ltd. *Chem Age (Lond)* 29:256 S 16 '33

**HYDROGEN sulfide**

Behavior of steel in sulphur-containing atmospheres at forging temperatures. D. W. Murphy. *il Am Soc Steel Tr Trans* 21:510-29; *Discussion.* 529-31 Je '33

Design of purifiers for the removal of hydrogen sulphide from town gas by iron oxide. *Gas J (Lond)* 202:922-4; 203:51-2 Je 28-Jl 5 '33

Dielectric constant of solid hydrogen sulfide. J. D. Kemp and G. H. Denison. *Am Chem Soc J* 55:251 Ja '33

Effect of hydrogen sulphide on the corrosion of iron by salt solutions. S. C. Britton, T. P. Hoar and U. R. Evans. *bibliog Iron & Steel Inst J* 126:365-73; *Discussion.* 374-7 no 2 '32

**HYDROGEN sulfide—Continued**

- Effect of solvent on the reaction between iodine and hydrogen sulphide. M. R. A. Rao and B. S. Rao. *diag Chem Soc J* p836-9 J1 '33
- Gas purification. D. L. Jacobson and G. M. Carvlin. *Am Gas Assn Proc* 1932:1022-6
- Generation of hydrogen sulphide in sanitary sewers. F. D. Bowlus and A. P. Banta. *diags map Water Works & Sewerage* 80: 141-3 Ap '33
- Ignition temperatures of mixtures of hydrogen sulphide, carbon disulphide, and air. F. D. Leicester. *diag Soc Chem Ind J* 52: 341T-6T O 20 '33
- Intestinal diseases following chronic inhalation of carbon disulphide and hydrogen sulfide; abstract. W. Weise. *J Ind Hygiene* 15:sup32 My '33
- Lessening the risk of asphyxiation and fire. J. L. Risinger. *il Nat Safety N* 27:30-2 Mr '33
- New method of producing hydrogen sulfide and thiosulfates. G. Lynn and others. *bibliog Ind & Eng Chem* 25:916-18 Ag '33
- Odd occurrence following a tropical storm; discoloring of paint after hurricane in Puerto Rico. D. H. Cook and C. Cintrón. *Science* 76:541 D 9 '32
- Poisoning by industrial gases; compensation not recommended for H<sub>2</sub>S and CO. *Chem Age (Lond)* 29:276 S 23 '33
- Precipitation of rhenium sulfide from ammoniacal solution; a separation of rhenium and molybdenum. J. H. Müller and W. La Lande, jr. *Am Chem Soc J* 55:2376-8 Je '33
- Studies in the precipitation of the copper and tin groups using hydrogen sulfide. L. Lehрман. *J Chem Educ* 10:50-5 Ja '33
- Über den einfluss des druckes beim angriff von schwefelwasserstoff auf stähle. E. Ditt-rich. *diag Chemische Fabrik* 6:25-30 Ja 11 '33
- Über gleichgewichtsmessungen der teilreaktionen bei der umsetzung von schwefelkohlenstoff mit wasserdampf im temperaturgebiet von 350° bis 900° C. E. Terres and H. Wesemann. *diags Angew Chemie* 45:795-802 D 31 '32
- HYDROGEN welding.** See Electric welding—Hydrogen process; Electric welding, Arc—Hydrogen process
- HYDROGENATION**
- Britain agitates for home-produced motor fuels; hydrogenation of tars and tar oils being investigated. C. H. S. Tupholme. *diags Ind & Eng Chem News* ed 11:15-16 Ja 20 '33
- Catalytic high pressure hydrogenation of aromatic hydrocarbons and catalytic high pressure destruction of the corresponding hydrogenated products. A. Dros, A. J. Tulleners and H. I. Waterman. *diags Inst Pet Tech J* 19:784-99 S '33
- Catalytic hydrogenation of esters to alcohols. H. Adkins, B. Wojcik and L. W. Covert. *Am Chem Soc J* 55:1669-76 Ap '33
- Catalytic hydrogenation of the halogenomorphides: dihydrodesoxymorphine-D. L. F. Small, K. C. Yuen and L. K. Eilers. *Am Chem Soc J* 55:3863-70 S '33
- Catalytic hydrogenation of unsaturated compounds; additive mode in relation to selectivity of attack and catalyst activity. E. H. Farmer and R. A. E. Galley. *Chem Soc J* p687-96 Je '33
- Catalytic reduction of aromatic nitro-compounds. S. J. Green. *Soc Chem Ind J* 52: 52T-6T F 24 '33
- Continuous hydrogenation process. C. H. S. Tupholme. *Chem Markets* 33:125 Ag '33
- Conversion of bituminous coals into pseudobitumen; abstract. F. Fischer, K. Peters and W. Cremer. *Gas J (Lond)* 202:912 Je 28 '33
- Economics of coal hydrogenation. *Chem Markets* 33:221-2 S '33
- High-pressure tricks with petroleum. *il Sci Am* 148:168 Mr '33
- Hochdruckhydrierung und fettchemie. W. Schrauth. *Angew Chemie* 46:469-61 J1 '33
- Hydrogenated diluents. A. M. Platow. *Chem Markets* 32:310 Ap '33
- Hydrogenation; abstracts of papers at World petroleum congress. *Nat Pet N* 25:21-2 Ag 16 '33
- Hydrogenation and thermodynamics; abstract. W. J. Sweeney and A. Voorhies. *Oil & Gas J* 32:33-4 S 14 '33
- Hydrogenation of American coals in anthracene. W. L. Beuschlein and C. C. Wright. *Ind & Eng Chem* 25:409-10 Ap '33
- Hydrogenation of aromatic compounds at temperatures close to their decomposition in the presence of catalysts. V. Ipatieff. *Am Chem Soc J* 55:3696-701 S '33
- Hydrogenation of bituminous coal. K. Gordon. *Engineer* 156:191-2 Ag 25 '33; Same cond. *Chem Age (Lond)* 29:108-9; Discussion. 109 J1 29 '33
- Hydrogenation of derivatives of diphenyl. C. R. Waldeland, W. Zartman and H. Adkins. *bibliog Am Chem Soc J* 55:4234-7 O '33
- Hydrogenation of linseed oil. N. E. Cocchiniaras. *Soc Chem Ind J* 51:403T-4T D 16 '32
- Hydrogenation of petroleum products under pressure; abstract. A. Sachanen and M. Tilitschëev. *Soc Chem Ind J* 52:sup212 Mr 17 '33
- Hydrogenolysis of oxygenated organic compounds. R. Connor and H. Adkins. *Am Chem Soc J* 54:4678-90 D '32
- Hydroxy and bromo esters derived from the hydrogenation of certain omega-acetyl esters. E. J. Lease and S. M. McElvain. *Am Chem Soc J* 55:806-8 F '33
- Industrial hydrogenation. J. B. Phillips. *Soc Chem Ind J (Chem & Ind)* 52:51-3 Ja 20 '33; Same. *Chem Markets* 32:321-2 Ap '33; Same cond. *Can Chem & Met* 16:297 D '32
- Mechanism of heterogeneous catalytic organic reactions. O. Schmidt. *Chem R* 12:363-417 [bibliog p413-17] Je '33
- Modes of addition to conjugated unsaturated systems; the hydrogenation of ethyl mucronate and sorbic and B-vinylacrylic acids in the presence of platinum. C. K. Ingold and L. D. Shah. *Chem Soc J* p885-90 J1 '33
- Ein molekül-vermenger zur herstellung von kolloiden und zur hydrierung mit atomarem wasserstoff. S. v. Bogdandy, M. Polanyi and G. Veszi. *diags Chemische Fabrik* 6:1-4 Ja 4 '33
- Preparation of amines by catalytic hydrogenation of derivatives of aldehydes and ketones. C. F. Winans and H. Adkins. *bibliog Am Chem Soc J* 55:2051-8 My '33
- Preparation of paraffins from Carnuba wax by means of catalytic hydrogenation. H. I. Waterman, P. de Kok and A. J. Tulleners. *Inst Pet Tech J* 18:1007-9 D '32
- Quantitative hydrogenation at 100-300 atmospheres. H. Adkins. *il diag Am Chem Soc J* 55:4272-5 O '33
- Reductions in the morphine series; dihydropseudocodeine. R. E. Lutz and L. F. Small. *Am Chem Soc J* 54:4715-30 D '32
- Relation of hydrogen to nickel with special reference to the catalytic power of the latter. H. N. Huntzicker and L. Kahlenberg. *bibliog Electrochem Soc Trans* 63 (preprint 33):335-53 My '33
- Removal of thiophene from benzene by catalytic hydrogenation. R. N. Pease, W. B. Keighton, jr. and W. C. Munro. *Ind & Eng Chem* 25:1012-13 S '33
- Rotenone; note on the hydrogenation of rotenone. H. L. Haller and P. S. Schaffer. *Am Chem Soc J* 55:3494-5 Ag '33
- Solubility of hydrogen and natural gas in oils at high operating temperature and pressure. V. Ipatieff, jr. V. P. Teodorovitch and I. M. Levine. *diag Oil & Gas J* 32:14+ O 5 '33
- Sulfonated higher alcohols; new detergents. D. H. Killeffer. *Ind & Eng Chem* 25:138-40 F '33
- Sur la transformation du benzène, du toluène et du xylène en méthane. A. Mailhe. *Chimie & Ind* 28:1263-71 D '32
- Synthesis and reactions of certain nitrogen ring compounds over nickel. C. F. Winans and H. Adkins. *bibliog Am Chem Soc J* 55:4167-76 O '33



**HYDROGENATION**—*Continued*

Über eine methode zur herstellung von koloiden und zur hydrierung mit atomarem wasserstoff. S. v. Bogdandy, M. Polanyi and G. Veszi. *diag Angew Chemie* 46:15-17 Ja 7 '33

*See also*

Coal liquefaction

Gasoline—Manufacture—Hydrogenation process

Dehydrogenation

**HYDROGENOLYSIS**

Hydrogenolysis of oxygenated organic compounds. R. Connor and H. Adkins. *Am Chem Soc J* 54:4678-90 D '32

**HYDROGRAPHIC surveying**

Hydrographic data. G. T. Rude. *maps Geol Soc Bul* 44:517-27 Je '33

Relation of surveys to marine insurance. *Weekly Underw* 128:954 My 20 '33

U.S. coast and geodetic survey; view of its activities. *il diag Eng N* 110:73-7 Ja 19 '33

**HYDROLS**

Mechanism of reduction by sodium amalgam and alcohol; the reduction of aromatic ketones to hydrols. W. E. Bachmann. *Am Chem Soc J* 55:770-4 F '33

Photochemical reduction of ketones to hydrols. W. E. Bachmann. *Am Chem Soc J* 55:391-5 Ja '33

**HYDROLYSIS**

Bisulphate-ion catalysis in the hydrolysis of esters. H. M. Dawson, E. R. Pycock and E. Spivey. *Chem Soc J* p291-6 Mr '33

Catalytic effect of caustic alkali on the alcoholysis and hydrolysis of fats. G. K. Rowe. *Soc Chem Ind J* 52:49T-52T F 24 '33

Elimination of tertiary alkyl groups from alkyylanilines by hydrolysis. W. J. Hickinbottom. *Chem Soc J* p1070-3 Ag '33

Hydrolysis and rearrangement of certain olefin dibromides containing a tertiary bromine. W. L. Evers and others. *Am Chem Soc J* 55:1136-40 Mr '33

Hydrolysis and reduction of hydantoin-oxindoles. H. R. Henze and C. M. Blair. *Am Chem Soc J* 55:4621-5 N '33

Hydrolysis of acetonesemicarbazone. J. E. W. Rhodes. *diag Chem Soc J* p204-8 F '33

Hydrolysis of hydrogen cyanide by acids. V. K. Kriebel and A. L. Peiker. *Am Chem Soc J* 55:2326-31 Je '33

Hydrolysis of salts of the halogen-substituted aliphatic acids in aqueous solution. H. M. Dawson and N. B. Dyson. *Chem Soc J* p49-56 Ja '33

Hydrolysis of the phenyl and cresyl phosphoric and phosphorous acid esters in alcoholic and aqueous systems. M. I. Smith and E. F. Stohman. *Pub Health Rep* 48:734-9 Je 23 '33

Linen cellulose complex; the effects of alkaline hydrolysis. E. Butterworth and H. A. Elkin. *bibliog diag Textile Inst J* 24:T10-29 Ja '33

Production of a palatable artichoke sirup; hydrolysis of the polysaccharide material. F. A. Dykins and D. T. Englis. *bibliog Ind & Eng Chem* 25:1165-8 O '33

Reduction and hydrolysis of *o*-, *m*-, and *p*-nitrophenetoles. D. H. Richardson and F. W. Smith. *Chem Soc J* p2955-8 D '32

**HYDROMECHANICS**

Development of our knowledge of the laws of fluid mechanics. W. F. Durand. *Science* 78:343-51 O 20 '33

*See also*

Hydraulic engineering Hydrodynamics

Hydraulics

Hydrostatics

**HYDROMETERS**

A. Ångström's total immersion hydrometer. P. F. Gaehr. *R Sci Instr* 4:138-41 Mr '33

Comments on the hydrometer method of mechanical analysis. R. C. Thoreen. *bibliog diags Pub Roads* 14:93-105 Ag '33

Der einfluss der oberflächen-spannung auf die anzeige von aräometern. B. Scheda. *Chemische Fabrik* 6:413-14 O 4 '33

**HYDROQUINONE**

Die synthese des spiegelbildisomeren des hydrochinins; abstract. P. Rabe. *Angew Chemie* 46:21-2 Ja 7 '33

**HYDROSTATICS**

Holding-down power of concrete piles; results of field tests made at Columbus, Ohio, on square precast piles with parallel sides. J. H. Gregory, R. A. Allton and J. H. Blodgett. *diags Civil Eng* 3:66-8 F '33

**HYDROXAMIC acids**

Molecular rearrangements involving optically active radicals; the Lossen rearrangement of optically active hydroxamic acids. E. S. Wallis and R. D. Dripps. *Am Chem Soc J* 55:1701-5 Ap '33

**HYDROXIDES**

Electrometric studies of the precipitation of hydroxides; standardisation of acid solutions by means of mercuric oxide. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p9-10 Ja '33

Electrometric studies of the precipitation of hydroxides; the action of ammonia on solutions of mercuric chloride. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p601-7 Je '33

Electrometric studies of the precipitation of hydroxides; the action of ammonia on solutions of potassium mercuri-iodide, and mercuric bromide, nitrate, sulphate, and perchlorate. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p1045-9 Ag '33

Electrometric studies of the precipitation of hydroxides; the constitution of ammoniacal solutions of (a) silver nitrate, (b) silver oxide. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p1050-3 Ag '33

Über das amphotere verhalten von metallhydroxyden. R. Scholder. *Angew Chemie* 46:509-12 Ag 5 '33

*See also*

Calcium hydroxide Sodium hydroxide

Potassium hydroxide Sulfonium hydroxides

**HYDROXY compounds**

Constitution of eremophilone and of two related hydroxy-ketones from the wood oil of eremophila Mitchellii. A. E. Bradfield, A. R. Penfold and J. L. Simonsen. *Chem Soc J* p2744-59 N '32

Hydroxy and bromo esters derived from the hydrogenation of certain omega-acetyl esters. E. J. Lease and S. M. McElvain. *Am Chem Soc J* 55:806-8 F '33

Reduction of hydroxy-mandelonitriles; a new synthesis of tyramine. J. S. Buck. *Am Chem Soc J* 55:3388-90 Ag '33

Studies in the phenanthrene series; hydroxy aldehydes and hydroxy ketones. E. Mosettig and A. Burger. *Am Chem Soc J* 55:2981-9 Jl '33

**HYDROXYACETOPHENONE**

Synthetic experiments in the chromone group; derivatives of *o*-hydroxy-, 2:5-dihydroxy-, and 2:4:5-trihydroxyacetophenone. T. C. Chadha and K. Venkataraman. *Chem Soc J* p1074-6 Ag '33

**HYDROXYBENZOIC acid**

Salting-out and salting-in of weak acids; the activity coefficients of the molecules of ortho, meta and para-hydroxybenzoic acids in aqueous salt solutions. A. Osol and N. Kilpatrick. *Am Chem Soc J* 55:4440-4 N '33

**HYDROXYCYCLOPENTENONES**

Anionotropic and prototropic changes in cyclic systems; hydroxycyclopentenones. H. Burton, C. W. Shoppee and C. L. Wilson. *Chem Soc J* p720-31 Je '33; Abstract. *Soc Chem Ind J (Chem & Ind)* 51:981 N 25 '32

**HYDROXYDECANOIC acid**

Molecular weight of linear macromolecules by ultracentrifugal analysis; polymeric  $\omega$ -hydroxydecanoic acid. E. O. Kraemer and W. D. Lansing. *Am Chem Soc J* 55:4319-26 O '33

Studies of polymerization and ring formation; polyesters from  $\omega$ -hydroxydecanoic acid. W. H. Carothers and F. J. Van Natta. *Am Chem Soc J* 55:4714-19 N '33

Viscosity and molecular weights of polymeric materials. E. O. Kraemer and F. J. Van Natta. *J Phys Chem* 36:3175-86 D '32

**HYDROXYL group**

Studies in the reactivity of aromatic hydroxyl groups. H. L. Bassett and A. O'Leary. Chem Soc J p2945-6 D '32

**HYDROXYMETHOXYSUCCINIC acid**

New derivatives of hydroxymethoxysuccinic and methoxymalonic acids. J. Pryde and R. T. Williams. Chem Soc J p642-4 Je '33

**HYDROXYPHENACYLOXINDOLE**

Condensation of acetophenone with isatin by the Knoevenagel method. H. G. Lindwall and J. S. MacLennan. Am Chem Soc J 54: 4739-44 D '32

**HYDROXYPHENYL alkyl sulfides**

Hydroxyphenyl alkyl sulfides. E. Miller and R. R. Read. Am Chem Soc J 55:1224-7 Mr '33

**HYDROXYQUINOLINE**

Addition of 8-hydroxyquinoline by thorium and uranium 8-hydroxyquinolates. F. J. Frere. Am Chem Soc J 55:4362-5 N '33

Determination of aluminum in nitriding steels by the use of 8-hydroxyquinoline. H. A. Bright and R. M. Fowler. bibliog U S Bur Stand J Research 10:327-35 Mr '33

**HYGIENE**

American Red cross text-book on home hygiene and care of the sick. J. A. Delano. 4th ed rev & rewritten 391p [bibliog p370-6] \$1.40; pa 75c Blakiston '33

Impairing health by excessive caution. Sci Am 148:235-6 Ap '33

Modern health book. G. N. Gillum. 641p [bibliog p622-6] Gillum book co, 4801 Independence av, Kansas City, Mo. '32

More power to you! W. B. Pitkin. 298p \$1.75 Simon and Schuster, New York '33

Practice of personal hygiene. C. V. Langton and M. P. Isaminger. 351p \$2 Harper '33

*See also*

Air conditioning

Air pollution

Cleanliness

Diet

Disinfection and dis-

infectants

Exercise

Fatigue

Food

Humidity

Nutrition

Physical examina-

tions

Public health

Temperature—

Physiological ef-

fect

Ventilation

Water pollution

Water purification

Water supply

Weight (physiology)

**Bibliography**

Health books for public libraries. E. Wigmore, comp. Lib J 58:413-17 My 1 '33

**HYGIENE, Industrial**

Bad air; abstract. J. B. S. Haldane. Science 76:sup11 D 9 '32

Engineering principles of industrial hygiene. A. Zimmerman. il diags W Soc E J 38: 77-96 Ap '33; Same cond. Chem Markets 33:43-7, 136-40 Jl-Ag '33

Health aspects of radium dial painting. L. Schwartz, F. L. Knowles and others. bibliog il J Ind Hygiene 15:362-82, 433-55 S, N '33

Health education. J. H. Holzbog. Safety Eng 66:143 O '33

Health of workers in a textile plant. Pub Health Rep 48:1351-2 N 3 '33

Heat effects; abstract. R. C. Engel. Nat Safety N 27:54-5 My '33

Heat exhaustion. R. H. Quackenbos. Safety Eng 66:105-6 S '33

Incidence of illness among male industrial employees in 1932 as compared with earlier years. D. K. Brundage. Pub Health Rep 48:869-71 Jl 28 '33

Industrial health; a non-technical symposium for physicians and laymen. Published in monthly numbers of National safety news

Industrial nursing. Published in monthly numbers of Safety engineering

Industrial safety in the new deal. A. C. Carruthers. Safety Eng 66:53-4 Ag '33

Is poor health blamed for too much? abstracts. H. H. Kessler. Nat Safety N 27:23-4+ Je '33; Safety Eng 65:178-9 My '33

Mechanical control of occupational diseases. D. S. Beyer. Nat Safety N 28:21-2+ Ag '33

Medical problems in compensation administration (conclusions from an experience of eleven years' service). C. W. Roberts. U S Bur Labor Statistics Bul 577:159-71; Discussion. 172-5 '33

Need for plant ventilation. F. H. Stebbins. Safety Eng 64:236+ N '32

Physical examinations at termination of employment. Safety Eng 65:147-9 Ap '33

Preliminary surveys of the industrial environment. J. J. Bloomfield. Pub Health Rep 48:1343-51 N 3 '33

Presence of lead dust and fumes in the air of streets, automobile repair shops, and industrial establishments of large cities. J. J. Bloomfield and H. S. Isbell. bibliog J Ind Hygiene 15:144-9 My '33

Protecting the worker against dust inhalation. P. Drinker. Nat Safety N 27:25-6 Mr '33

Quelques considérations sur l'hygiène industrielle. C. Matignon. Chimie & Ind 29:724-7 Mr '33

Some common industrial health hazards. E. R. Hayhurst. U S Bur Labor Statistics Bul 577:190-205; Discussion. 217-24 '33

Wisconsin foundries co-operate in solving silicosis problem. E. O. Jones. Foundry 61:16-17+ Ja '33

*See also*

Air conditioning

Diseases, Industrial

Dust

Dust removal

Eye—Examination

Factories—Lighting

Factory sanitation

Fatigue

Lead poisoning

Lungs—Dust dis-

eases

Medical service, In-

dustrial

Miners—Diseases and

hygiene

Noise work

Noise

Physical examinations

Poisons, Industrial

Rest days

Safety devices and

measures

Temperature—

Physiological ef-

fect

**Bibliography**

Abstract of the literature of industrial hygiene. Published in bi-monthly numbers of Journal of industrial hygiene

**Laws and regulations**

General orders on dusts, fumes, vapors and gases; Industrial commission of Wisconsin; abstract. J Ind Hygiene 15:sup 18-19 Mr '33

Occupational disease legislation. Safety Eng 65:111-13 Mr '33

**HYGIENE, Public.** See Public health

**HYGIENE, Rural**

Extent of rural health service in the United States, 1928-1932. Pub Health Rep 47:2299-314 D 16 '32

Extent of rural health service in the United States, January 1, 1929-December 31, 1932. map Pub Health Rep 48:1222-38 O 6 '33

**HYGRINE alkaloids**

Structure of cuscohygrine; synthesis of ethyl homohygrinate. W. E. Sohl and R. L. Shriner. Am Chem Soc J 55:3828-33 S '33

**HYGROMETER**

Designing to cash in on a popular trend: enter, humidiguide. R. S. McFadden. Sales Management 32:63 Ja 15 '33

Direct reading hygrometer; Negretti and Zambra hygrovisor. il Chem Age (Lond) 28:554 Je 17 '33

Duff hygrometer for measuring forest fire hazards. diags Pulp & Pa of Can 34:329-30 My '33

Ein einfaches instrument zur schnellbestimmung des feuchtigkeitsgehaltes hygroscopischer materialien. A. Pfeiffer, il diag Chemische Fabrik 6:406-7 S 27 '33

Home-made electrically-driven psychrometer. J. F. Townsend. diag Science 77:241-2 Mr 3 '33

New form of a dew-point hygrometer. S. R. Williams. il R Sci Instr 4:549-50 O '33

Pocket model humatagraph. il Chem Age (Lond) 29:258 S 16 '33

Psychrometer has two wet bulbs. Heating-Piping 5:206 Ad '33



**HYGROMETER—Continued**

When to lay wood floors over concrete sub-floors. M. E. Dunlap. *il Eng & Contr* 71: 275-6 D '32

*See also*

Humidity

**HYGROMETRY**

Metering air by psychrometry. D. B. Knight. *Refrig Eng* 25:198+ Ap '33

**HYGROSCOPICITY**

For it's always fair weather and smooth sailing in the plant that deals with hygroscopic materials—if it is air conditioned; Bristol-Myers plant. L. K. Urquhart. *il Factory Management* 91:189-90 My '33

Hygroscopicity of fertilizer salts; reciprocal salt pairs. A. R. Merz and others. *Ind & Eng Chem* 25:136-8 F '33

**HYGROSTAT**

New wood-element hygrosat. *il diag Sci Am* 149:182 O '33

**HYPNOTICS**

Chemical studies of the mechanism of the narcosis induced by hypnotics; the synthesis of colored derivatives of phenobarbital. M. M. Rising, J. H. Shroyer and J. Stieglitz. *Am Chem Soc J* 55:2817-20 J1 '33

Ethylene-N, N'-bisbarbital, a dimolecular barbital with hypnotic properties. A. W. Dox. *Am Chem Soc J* 55:1230-2 Mr '33

Optically active 5,5'-disubstituted hydantoins. H. Sobotka, M. F. Holzman and J. Kahn. *Am Chem Soc J* 54:4697-702 D '32

Physico-chemical properties and hypnotic action of substituted barbituric acids. D. L. Tabern and E. F. Shelberg. *bibliog Am Chem Soc J* 55:328-32 Ja '33

Study of the effect of unsaturated aliphatic groups in barbituric acids. H. A. Shonle and J. H. Waldo. *bibliog Am Chem Soc J* 55:4649-52 N '33

Synthesis of 5- $\alpha$ -naphthyl-5-ethylbarbituric acid. D. T. Keach. *Am Chem Soc J* 55:3440-2 Ag '33

**HYPOBROMITES**

Cleavage of carbonyl compounds by alkalis; the action of hypobromite solutions on betadiketones. C. F. Woodward and R. C. Fuson. *Am Chem Soc J* 55:3472-5 Ag '33

**HYPOBROMOUS acid**

Studies of conjugated systems; the addition of bromine, hydrogen bromide and hypobromous acid to 1-bromobutadiene. I. E. Muskat and L. B. Grimsley. *bibliog Am Chem Soc J* 55:2140-5 My '33

**HYPOCHLORITES**

Determination of the hydrogen ion concentration of hypochlorite solutions with the glass electrode. G. F. Davidson. *bibliog Textile Inst J* 24:T185-206 My '33; *Abstract. Am Dyestuff Rep* 22:536-7 Ag 28 '33

Hypochlorites as disinfectants (disinfectants and foodstuffs). H. Rawlinson. *Soc Chem Ind J (Chem & Ind)* 52:71-4 Ja 27 '33; *Discussion. J. Gibson. 52:145-6 F 17 '33*

*See also*

Calcium hypochlorite

Sodium hypochlorite

**HYPOCHLOROUS acid**

Action of chlorine on *p*-tolueneearsonic acid under the influence of ultraviolet light and its chlorination with hypochlorous acid. C. S. Hamilton and W. N. King. *Am Chem Soc J* 55:1689-92 Ap '33

Dissociation constant of hypochlorous acid; glass-electrode potential determinations. J. W. Ingham and J. Morrison. *diag Chem Soc J* p1200-5 S '33

Reactions of olefinic compounds; the orienting influence of the phenyl group. E. H. Farmer and C. G. B. Hose. *Chem Soc J* p962-8 Ag '33

**HYPOGLUCEMIA**

Aminoguanidine derivatives. V. A. Conard and R. L. Shriner. *Am Chem Soc J* 55:2867-70 J1 '33

**HYPONITRITES**

Studies in dielectric polarisation; benzene solutions of ethyl and benzyl hyponitrites and

*s*-methyl sulphite; dioxan solutions of nitroamine; parachors of methyl, ethyl and *n*-butyl hyponitrites. E. C. Hunter and J. R. Partington. *Chem Soc J* p309-12 Mr '33

**HYPOPHOSPHORIC acid**

Formula of hypophosphoric acid. F. Bell and S. Sugden. *Chem Soc J* p48-9 Ja '33

**HYPOSULFITES**

Bleaching of ground wood. W. Hirschkind. *Paper Tr J* 95:31-2 N 10 '32; *Same. Pulp & Pa of Can* 33:489-90 D '32

**HYSTERESIS**

Formulas for magnetic hysteresis losses; magnetic properties of different grades of silicon sheet steel. S. S. Sidhu. *bibliog Elec Eng* 52:625-30 S '33

**HYSTERESIS (mechanics)**

Damping capacity of steels and correlation with other properties. G. R. Brophy. *il Iron Age* 130:800-2, 989+ N 24, D 29 '32

Elastic hysteresis in crank-shaft steels. S. F. Dorey. *il Inst Mech Eng Proc* 123:479-510; *Discussion. 511-35 '32*

Hysteresis in springs. R. W. Carson. *bibliog Am Mach* 77:494-5 Ag 2 '33

Internal friction in iron and iron alloys. R. H. Canfield. *il diags Am Soc Steel Tr Trans* 20:549-74; *Discussion. 574-6 D '32*

Die veränderlichkeit der werkstoffdämpfung. A. Esau and H. Kortum. *bibliog Zeit Ver Deutsch Ing* 77:1133-5 O 21 '33

**ICE**

Air conditioned commercial ice refrigeration. F. J. Moelter. *diags Refrig W* 68:9-13 Ap '33

Comfort cooling and air conditioning with ice. A. G. Riddell. *Elec West* 70:243 Je '33

Comfort cooling with ice during 1932. G. Bright. *diag Refrig Eng* 25:18-20, 46; *Discussion. 60-1 Ja '33*

Cooling passenger cars. W. Herdlein. *il diag Refrig Eng* 25:240-3+ My '33

Cooling small stores with ice. J. N. Livermore, C. M. Clemens and P. S. Hosman. *il diags layout Heat & Ven* 30:22-7 Mr; 40-2 Ap '33

Cost of ice cooling; abstract. J. Neff. *Heat & Ven* 30:39 S '33

Dipole rotation in crystalline solids. C. P. Smyth and C. S. Hitchcock. *Am Chem Soc J* 54:4631-47 D '32

Heat conductivity of ice. C. H. Herter. *Refrig W* 68:27 Ja '33

Ice as a factor of air conditioning costs. C. F. Holske. *Refrig W* 68:28-30 Ja '33; *Same cond. Refrig Eng* 25:133+ Mr '33

Ice helps bridge builder surmount difficulty. *Comp Air M* 38:4087 Mr '33

Ice temperature and melting point. J. Wade. *Refrig W* 68:46-7 Mr '33

Molecular rotation in ice at 10°K., free energy of formation and entropy of water. W. F. Glaue and M. F. Ashley. *Phys R* 43: 81-2 Ja 1 '33

Study of summer cooling in the research residence at the University of Illinois. A. P. Kratz and S. Konzo. *il diags plans Heating-Piping* 5:115-26 F '33; *Excerpts. Sheet Metal Worker* 24:75-6+ Mr '33; *Dom Eng* 141:63-5 Mr '33

Use of ice—past and future. R. T. Brizzolara. *il Refrig Eng* 25:330-1 Je '33

*See also*

Cold storage

Freezing

Glacial geology

Glaciers

Ice industry

Refrigerators

Thawing

**Manufacture**

Activated water ice. C. H. Herter. *Refrig W* 68:22-3 Je '33

Conditioning of air for ice-can agitation. L. Washington. *Refrig Eng* 25:199-201 Ap '33

Grimsby ice factory. *il diags Engineer* 155: 596-8, 602 Je 16 '33

**ICE—Manufacture—Continued**

- Higgins system of water conditioning. Refrig Eng 26:156 S '33  
 Ice-making plant at Grimsby fish dock. il diags Engineering 135:647-50, pl 36 Je 16 '33  
 Precooling air to avoid condensation troubles. Power 77:493-4 S '33  
 Production of manufactured ice at low brine temperatures. D. Burks, jr. il diags Ill U Eng Exp Sta Bul 254:1-63 '33  
 Treatment of water for ice manufacture; part II. D. Burks, jr. il diags Ill U Eng Exp Sta Bul 253:1-32 '33  
 Water conditioning in raw water ice plants. R. E. Summers. Power Pl Eng 37:305-7 Jl '33  
*See also*

**Ice plants****Measurement**

- Measuring ice. F. B. Krieder. Refrig W 67:44+ D '32

**ICE-breaking vessels**

- Escanaba, coast guard cutter completes successful builder's trials. il Marine R 63:14-16 Ja '33  
 Marine electricity; Diesel-electric propulsion in icebreakers and train ferries. A. C. Hardy. plan Electrician 110:155 F 3 '33  
 Soya Maru, Japanese ice-breaking steamer. Y. Taji. il plan Marine Eng 38:162-4+ My '33  
 Ymer, ice breaking ships. plans Marine Eng 38:165-7 My '33

**ICE cream**

- Aging effects on gelatin dispersions. W. S. Mueller. bibliog Ind & Eng Chem 25:707-9 Je '33  
 Ice cream. H. A. Schuette and F. J. Robinson. bibliog il diag J Chem Educ 10:469-75 Ag '33  
 Vitamin C content of strawberries and strawberry ice cream. C. R. Fellers and M. J. Mack. Ind & Eng Chem 25:1051-2 S '33

**Manufacture**

- Ice cream by the mile. il Sci Am 148:108 F '33  
 Ice cream factory in miniature. J. R. Hunt. Refrig W 68:15 F '33  
 Principles governing the production of bacteriologically pure ice-cream; abstract. D. H. Clayson. Soc Chem Ind J (Chem & Ind) 51:1002; Discussion. 1002-3 D 2 '32

**Standards**

- Bacteriological standards for milk and ice-cream. V. Borland and others. Soc Chem Ind J (Chem & Ind) 51:1001-3 D 2 '32

**ICE cream delivery**

- Kold-Kan refrigeration. il Refrig W 68:22-5 Ap '33  
 Paper ice cream cans have certain advantages. Food Ind 5:144-5 Ap '33

**ICE cream industry**

- Advertising helps fight bootleggers. Forbes 31:15 My 15 '33  
 Bootleg ice cream. Business Week p 12 My 17 '33  
 Ice cream industry. G. E. Wallis. il Refrig Eng 25:313-14 Je '33  
 Passing of the scoop; Melorol. il Ptr Ink 164:85-6 Ag 17 '33  
 Present conditions in the ice cream industry. Refrig Eng 26:89 Ag '33  
 Roll your own distributors; success of Good Humor's touring truck stores. R. K. Leavitt. il Adv & Sell 21:23+ S 14 '33  
 These advertising leaders fight bootleg merchandise. il Ptr Ink 163:10-12 My 11 '33  
 Why Borden stopped giving free equipment to dealers. L. M. Hughes. il Sales Management 33:106-7 Ag 1 '33

**Advertising**

- Mystery advertising. il Ptr Ink 165:72 O 5 '33

**ICE delivery**

- Financial incentive wage system; People's ice co, Syracuse, N. Y. H. D. Sanford. Refrig W 68:24-9 My '33  
 New truck bodies reduce melting. J. E. Tuft. Refrig W 68:50+ F '33

- No mystery about accident prevention; American ice company's experience. E. B. Tichenor. il Nat Safety N 28:39-40 O '33  
 Will the automatic ice vending machine revolutionize the industry? M. T. Zeigler; W. McKemie. Refrig W 67:16-18, 20 D '32

**ICE harvesting**

- Rivers, lakes and ponds still contribute their share of ice. Refrig W 68:16-18+ F '33

**ICE industry**

- Building new business through sales effort. F. O. Ostermueller. Refrig W 68:26-7 Mr '33  
 California holds first Nims managerial conference. R. McKnight. Refrig W 68:19-20+ F '33  
 Consolidation; cooperative lease operation. H. P. Hill. Refrig W 68:10-13 Mr '33  
 Gives the devil his due, saying good bye to old '32. R. McKnight. il Refrig W 67:8-11 D '32  
 How ice cubes proved valuable business asset. F. D. Dotterweich. Refrig W 67:27-8 D '32  
 Ice code. L. C. Smith. Refrig W 68:7-8 S '33  
 Ice industry code of fair competition; text. Refrig W 68:9-16 O '33  
 Ice warms up; new uses, new refrigerator designs. Business Week p8 My 24 '33  
 Industry's job for 1933. Refrig W 67:33, 36+ O; 22+ N; 52 D '32; 68:39-40 Ja '33  
 Let's get together! plans being used by small town dealers to beat the depression. L. S. Flint. Refrig W 68:26-8+ F '33  
 Merchandising ice. J. V. Kelly. Refrig W 68:17-19 Je; 19-20 Jl '33  
 N.A.I.I. presents ice marketing service at Pittsburgh convention. Refrig W 67:22-6+ D '32  
 New outlets for ice will take large tonnage. C. C. Small. Refrig W 68:55-6 Ja '33  
 Situation in 1933. P. Dudley. Refrig W 68:17-21 Ap '33  
 This ice company checks distribution with maps and pins; Southern ice utilities company, Big Spring, Texas. Refrig W 67:21+ D '32  
 Trade organizations. Refrig W 68:63 S '33  
 Treat your business as you expect your business to treat you. R. L. Young. Refrig W 68:15-16 S '33  
 Water still freezes and American Ice still makes money. il Fortune 7:73-6+ My '33  
 What is the matter with the ice industry. R. L. Young. Refrig W 68:10-12 F '33  
 What shall it profit the ice man if he gain back beer and it's not kept on ice! Refrig W 67:19+ D '32  
 What the ice man can do to take advantage of the holiday season. L. S. Flint. Refrig W 67:12-14 D '32  
 Winter profits for the iceman; meat curing. W. K. Yates. Refrig W 68:20-1 Je '33

*See also*

- Ice—Manufacture  
 Ice delivery  
 Ice plants

**Advertising**

- Display window advertising. H. A. Franklin. il Refrig W 68:21-3 My '33  
 Is this cartoon worth \$100,000? 125 West Coast newspapers warned by advertising agency. il Refrig W 68:10-12+ Ja '33

**Exhibits**

- Does it pay the ice man to strut his stuff? R. McKnight. il Refrig W 68:16-18+ Ja '33

**Regulation**

- Ordinance prohibiting sale in city of ice manufactured outside of city, unless made with distilled water, held valid. Pub Health Rep 48:1045-6 Ag 25 '33

**Safety devices and measures**

- No mystery about accident prevention; American ice company's experience. E. B. Tichenor. il Nat Safety N 28:39-40 O '33

*See also*

- Ice plants—Safety  
 devices and measures



**ICE industry—Continued****Statistics**

- Census reports on manufactured ice in 1931.  
Refrig W 68:49 Ja '33  
Ice tonnage declines 25 percent during 1932.  
C. C. Small. Refrig Eng 25:96 F '33

**ICE on rivers, lakes, etc.**

- Ice bombing. F. Wiley. Sci Am 148:169-70 Mr '33  
Study of the abrasional work of river ice and of glaciers. C. K. Wentworth. Nat Research Council Bul 89:100-2 '32  
When the ice breaks. Il Nat Safety N 26:25-7 D '32

**ICE plants***See also*

- Cold storage warehouses

**Ice—Manufacture****Electric equipment**

- Refrigeration in the Far East. Il Elec R (Lond) 113:357 S 15 '33

**Equipment**

- Grimsby ice factory. Il diags Engineer 155: 596-8, 602 Je 16 '33  
Ice-making plant at Grimsby fish dock. Il diags Engineering 135:647-50, pl 36 Je 16 '33  
Large ice factory at Grimsby. Il Elec R (Lond) 113:147-8, 149 Ag 4 '33  
New geyser ice plant, Waco, Texas. Il Refrig W 68:7-11 Ag '33  
Obsolescence of refrigerating machinery. R. M. Fischer. Refrig Eng 25:92-3+ F '33  
Rust! the enemy of the ice plant. A. R. Muir. Refrig W 68:21-2 Ja '33

**Management**

- Consolidation; cooperative lease operation. H. P. Hill. Refrig W 68:10-18 Mr '33  
Ten ways to reduce refrigeration costs. N. T. Pef. diag Food Ind 5:453 N '33  
Watching details cut production cost—increases profit. W. L. Ellis. Refrig W 68: 49-53 S '33

**Power**

- Diesel engine in ice manufacture. C. A. Brown. Refrig W 68:11-14 S '33  
Getting the most from your power rates. M. G. Munce. Refrig W 68:19-22 Mr '33  
Natural gas engine power in the refrigerating plant. C. T. Baker. Il Refrig Eng 26:65-7; Discussion. 67, 102 Ag '33  
Oil and gas for ice-plant drives; illustrations. Power 77:234 My '33  
Why electric power rates should be adjusted. H. P. Hill. Refrig W 68:20-3 S '33

**Safety devices and measures**

- Safety appliances in the ice plant. F. A. Winters. Refrig W 68:19-20 Ja '33

**ICE scoring machines**

- Gifford-Wood Stowaway scoring machine. Il Refrig W 68:58 Ap '33  
Keep the scoring machine working all the time. E. P. Ward. Refrig W 68:47+ Ja '33

**ICE tanks**

- Corrosive action of brine. R. L. Beach. Refrig W 68:11-15 Jl '33

**ICEBERGS**

- Icebergs threaten in northern waters. Weekly Underw 128:858 My 6 '33

**ICKES, Harold L. 1874-**

- Career of new Secretary of the Interior indicates energetic, forceful support of his beliefs. por Oil & Gas J 31:10 Mr 23 '33  
Portrait. Nat Pet N 25:2 Mr 29 '33

**IDAHO***See also*

- Gold mines and mining—Idaho

**IDDINGS, Joseph Paxton, 1857-1920**

- Memorial. E. B. Mathews. por Geol Soc Bul 44:352-74 [bibliog p368-74] Ap '33

**IDEAS in business**

- Ask the salesmen, they know. W. H. Snead. Ptr Ink 165:74+ O 26 '33

- Dynamiting the gasoline. N. A. Hawkins. Adv & Sell 20:24 Mr 16 '33

- Fighting the depression with an idea—instead of price cuts; Multibestos company tailored brake lining. M. T. Rogers. diag Ptr Ink 162:49-51 F 16 '33

- Idea that opened hundreds of new accounts; Cheney brothers cravats designed from game birds. G. W. Hunter. Il Ptr Ink Mo 26:27+ Ja '33

- Ideal management. S. Norvell. Sales Management 32:510-11+ My 15 '33

- New ideas can shock business into action, even now; Knox hat company. F. H. Montgomery. Il Ptr Ink 163:3-4+ My 25 '33

*See also*

- |                       |                    |
|-----------------------|--------------------|
| Advertising cam-      | Products, Improved |
| paigns                | Products, New      |
| Advertising copy      | Questionnaires     |
| Imitation in business | Suggestion systems |

**Protection**

- Guard all copy ideas and dummies against theft with a label. Il Inland Ptr 90:35 Mr '33

- Speculative submissions and the NRA. R. Mannheimer. Il Adv & Sell 21:14 O 26 '33

- Swiping speculative ideas; printer-lithographer problems. R. K. Leavitt. Adv & Sell 21:30+ My 11 '33

**IDENTIFICATION of products. See Products, Identification of****IDOMETER**

- New method for controlling thickness of rubber coatings; Idometer. O. P. Van Steewen. Il diags Rubber Age 34:13-14 O '33

**IGNITION**

- Critical ignition of explosive hydrogen mixtures. J. H. Maas and C. Ewing. Il diag J Phys Chem 37:13-15 Ja '33

- Dissociation pressures of magnesium ammonium phosphate hexahydrate and some related substances. S. J. Kiehl and H. B. Hardt. diags Am Chem Soc J 55:605-18 F '33

- Ignition of gases; ignition by a heated surface; (a) mixtures of ethane, propane, or butane with air; (b) mixtures of ethylene, propylene, or butylene with air. C. A. Naylor and R. V. Wheeler. Chem Soc J p1240-7 S '33

- Ignition of palladium compounds. J Fr Inst 216:399 S '33

- Ignition temperatures of mixtures of hydrogen sulphide, carbon disulphide, and air. F. D. Leicester. diag Soc Chem Ind J 52: 341T-6T O 20 '33

- Ignition through unventilated air space. W. J. Tallamy. Weekly Underw 128:50+ Ja 7 '33

- Observations upon the ignition of magnesium ammonium phosphate. S. J. Kiehl and H. B. Hardt. Il diag Am Chem Soc J 55: 3555-60 S '33

- Über katalytische einflüsse bei selbstzündungsvorgängen. C. Zerbe, F. Eckert and H. Jentzsch. Angew Chemie 46:659-62 O 21 '33

- Zündgeschwindigkeit von einfachen gasen und gasmischungen. F. Kofler. Stahl & Eisen 53: 19-21 Ja 5 '33

*See also*

- |                   |                      |
|-------------------|----------------------|
| Combustion        | Gas and oil engines— |
| Explosions        | Ignition             |
| Flame propagation | Inflammable mixtures |

**IGNITION, Electric. See Electric ignition****ILLINIUM**

- Discovery of the elements. M. E. Weeks. J Chem Educ 10:165-7 Mr '33

- Observations on the rare earths; the basicity of illinium and yttrium. G. Hughes and B. S. Hopkins. Am Chem Soc J 55:3121-3 Ag '33

**ILLINOIS***See also*

- |                    |                     |
|--------------------|---------------------|
| Clay—Illinois      | Labor laws and leg- |
| Finance—Illinois   | islation—Illinois   |
| Labor and laboring | Taxation—Illinois   |
| classes—Illinois   |                     |

ILLINOIS—*Continued*

## Insurance department

Palmer reorganizing Illinois department; makes many changes. East Underw 34:1+ J1 21 '33

## ILLINOIS association of insurance agents

Annual meeting, Rockford. Nat Underw 37:18+ N 9 '33

## ILLINOIS Central railroad

What the Illinois Central means to the Mississippi valley. il map Ry Age 93:sup129-32 D 3 '32

## ILLINOIS life insurance company

Adjustable lien on Illinois Life. Nat Underw (Life ed) 37:4+ Ap 14; 2+ Ap 21; 3+ Ap 28 '33

Bids on Illinois Life detailed in court. Ins Field (Life ed) 62:5+ F 10; 5-6+ F 17; 5-6 F 24 '33; Nat Underw (Life ed) 37:5+ F 10; 5+ F 17 '33

Central Life reinsurance of Illinois Life approved; text of contract. East Underw 34:4, 12-13, 32-3 J1 21 '33

Illinois Life assets valued at \$4,239,999. Ins Field (Life ed) 62:5-6 Ag 18 '33

Illinois Life taken by Central of Iowa. Ins Field (Life ed) 62:5-6+ J1 21; 5+ J1 28 '33; Nat Underw (Life ed) 37:1+ J1 21 '33; Spectator 131:15+ J1 27 '33; Weekly Underw 129:192 J1 29 '33

Indictments found in Illinois Life case. Ins Field (Life ed) 62:5+ F 3 '33; Weekly Underw 128:258+ F 4 '33

Kemper interests get Illinois Life. Nat Underw (Life ed) 37:3+ Mr 3 '33; Ins Field (Life ed) 62:5-6 Mr 3 '33

Kemper withdraws Illinois Life offer; bidding again is thrown open. Nat Underw (Life ed) 37:2+ Je 23 '33

Make distribution from Illinois Life. Nat Underw (Life ed) 37:3+ N 3 '33

Mutualization of Illinois Life proposed. Nat Underw (Life ed) 36:5+ D 16 '32; Ins Field (Life ed) 61:5+ D 23 '32

Receiver solicits reinsurance bids. Nat Underw (Life ed) 36:5+ D 23 '32

Receiver's report. Barron's 13:13 Ja 30 '33

Receivership granted. Weekly Underw 127:1066+ D 3 '32; Nat Underw (Life ed) 36:1+ D 2 '32; Spectator 129:15+ D 1 '32

Seek receivership for Illinois Life. Ins Field (Life ed) 61:5-6 N 25 '32; Nat Underw (Life ed) 36:4+ N 25 '32; East Underw 33:1 N 25 '32

Severe shrinkage in assets. East Underw 34:4 Ja 20 '33; Nat Underw (Life ed) 37:7 Ja 20 '33; Spectator 130:21 Ja 19 '33; Weekly Underw 128:164 Ja 21 '33

Stevens found guilty in embezzlement trial. Spectator 131:17 O 19 '33

## ILLINOIS mining institute

Annual meeting, 40th, Danville, Nov. 4. Coal Age 37:440-1+ D '32

Annual summer meeting, June 9. Coal Age 38:237-8 J1 '33

## ILLINOIS river

Sewage disposal by way of the Illinois river. L. Pearse. il map Civil Eng 3:485-9 S '33

*See also*

Illinois waterway

## ILLINOIS Scully steel warehouse company

Carnegie warehouses pass to Illinois Scully, under Heggie. Steel 91:11 D 19 '32

## ILLINOIS state academy of science

Annual meeting, 26th, East St Louis, May 5-6. Science 77:540-1 Je 2 '33

## ILLINOIS university

Research at the University of Illinois. E. C. Schmidt and E. C. Young. il Ry Age 95:15-16 J1 1 '33

University of Illinois and the tariff on laboratory equipment. Science 76:587 D 23 '32

## ILLINOIS waterway

Bringing the sea to Chicago. M. E. Broan. il map Comp Air M 38:4021-6 Ja '33

Engineering features of the Illinois waterway. W. M. Smith. diags plans Am Soc C E Proc 57:1189-1218 O '31; Discussion. 58:268-73, 453-63; 59:441-8 F-Mr '32, Mr '33

Illinois waterway is now completed. W. G. Gude. il Marine R 63:19-20 Je '33  
New waterway helps Chicago compete in Southwest markets. Steel 92:19 My 8 '33

## ILLIUM

Illium alloys; their physical and chemical properties. il Can Chem & Met 16:282 N '32

ILLNESS. *See* Sickness

## ILLUMINATING engineering society

Address of the president. J. Daniels. Illum Eng Soc Trans 27:691-7 N '32

General secretary's report, 1931-1932. E. H. Hobbie. Illum Eng Soc Trans 27:779-807 D '32

## ILLUMINATING engineering society, London

Annual general meeting, London, May 9. Illum Engr 26:141-58 Je '33

Election of officers and council session 1933-1934. Illum Engr 26:62 Mr '33

## ILLUMINATION of books and manuscripts

De arte illuminandi: the technique of manuscript illumination; tr. from the Latin by D. V. Thompson, Jr. and G. H. Hamilton. 67p Yale univ. press '33

## ILLUMINATORS

Illuminator to facilitate the tracing of X-rays. C. A. Bevans. diags Science 77:116 Ja 27 '33

## L'ILLUSTRATION (periodical)

La nouvelle imprimerie de l'illustration, à Bobigny, près Paris. il diags plans Génie Civil 103:77-82 J1 22 '33

## ILMENITE

Ilmenite-apatite deposits of west-central Virginia. C. W. Ryan. diag Econ Geol 28:266-75 My '33

## IMHOFF tanks

Chlorination controls foaming Imhoff tanks; experience at Stockton, Calif. F. West. il Water Works & Sewerage 80:137 Ap '33

Circulating Imhoff tank sludge. Pub Works 64:22 Je '33

Imhoff-tank effluent aerated to reduce load on filters. W. R. Drury. Eng N 109:752 D 22 '32

## IMIDAZOLE

Imidazole derivatives of barbituric acid. M. S. Taggart and G. H. Richter. Am Chem Soc J 55:1110-11 Mr '33

## IMINO acids

Tyrosine-N-acetic acid: introducing a new general method for preparing symmetrical and asymmetrical imino dibasic acids. D. A. Hahn and A. Litzinger. Am Chem Soc J 54:4663-7 D '32

## IMITATION in business

Copy is a noun. M. Goodman. Ptr Ink 165:32 N 9 '33

Thorny is imitator's path; courts are broadening their conception of what constitutes unfair competition. Ptr Ink 162:68-9 F 9 '33

## IMMIGRANTS in the United States

Immigration and assimilation. H. G. Duncan. 890p \$3.80 Heath '33

*See also*

Italians in New York      Mexicans in the city      United States

## IMMIGRATION and emigration

Decline in emigration; a leading cause of unemployment and a brake on world trade. H. Withers. Barron's 13:20 F 27 '33

Migration and depression: a note on a neglected point in economic history. E. P. Neale. Int Labour R 26:813-25 D '32

*See also*

Agricultural coloniza-

tion  
Migration

## Statistics

Emigration and immigration, 1927-1931; sources and notes and tables. Int Labour R 27:99-132 Ja '33

International conference on migration statistics. Int Labour R 27:1-24 Ja '33

## Canada

Immigration into Canada during 1932. Monthly Labor R 36:968-9 Ap '33



## IMMIGRATION and emigration—Continued

## France

Immigration in France. G. Mauco. *Int Labour R* 27:765-88 Je '33

## Great Britain

British migration in 1932. *Economist* 116:578 Mr 18 '33

## India

Indian labour in Ceylon; the effects of the economic crisis. *Int Labour R* 28:62-73 Jl '33

## Palestine

Economic effects of Jewish immigration in Palestine. W. Preuss. *Ann Am Acad* 164: 108-15 N '32

## United States

Immigration, cultural conflicts and social adjustments. L. G. Brown. 419p \$3 Longmans '33

Occupational trends in immigration to the United States, 1928 to 1932. *Monthly Labor R* 36:704-7 Mr '33

Quotas established under immigration law. fold map *Monthly Labor R* 36:238 Ja '33

## IMMIGRATION law

Quotas established under immigration law. fold map *Monthly Labor R* 36:238 Ja '33

## IMMUNITY

Heterologous experience (immunization) as a factor in resistance to disease. C. Armstrong and W. T. Harrison. *Pub Health Rep* 48:597-609 [biblog p608-9] Je 2 '33

Inherited resistance to infectious diseases. L. T. Webster. *Science* 77:sup9 My 12 '33

Stability of resistance to colds. W. M. Gaffar and J. A. Doull. *Science* 78:314-15 O 6 '33

## See also

Antigens and anti-	Infectious diseases
bodies	Serum
Bacteriophage	Vaccination

## IMPACT

Counteracting destructive vibration in equipment. G. H. Fletcher. *il diag Elec Traction* 28:443+ N '32

Effect of airplane impact on airport surfaces. C. N. Connor. *Aviation Eng* 7:18-21 D '32

Impact tests in specifications for soft steels. F. Giolitti. *Metal Prog* 22:48-9 D '32

Road impact produced by a heavy motor bus. J. A. Buchanan. *il Pub Roads* 13:137-47+ N '32

Two laboratory exercises in impact. W. C. Baker. *diags R Sci Instr* 4:18-20 Ja '33

## See also

Elasticity  
Notched bar testing  
Strains and stresses

## IMPEDANCE

Impedance characteristics of copper-covered-steel conductors. *Edison Elec Inst Bul* 1:32+ My '33

Impedance control by d.c. G. W. Stubbings. *diag Elec R (Lond)* 112:736-7 My 26 '33

Impedance curves of a composite cable. M. I. Pupin. *Elec Eng* 52:115-18 F '33

Mechanical device for calculating impedances. G. O. Harrison. *diag Elec J* 30:130 Mr '33

Method for the investigation of the impedance of the human body to an alternating current. M. A. B. Brazier. *diag Inst E E J* 73:204-9 Ag '33

Mutual impedance of grounded wires for horizontally stratified two-layer earth. J. Rioridan and E. D. Sunde. *Bell System Tech J* 12:162-77 Ap '33

Mutual impedance of grounded wires lying on or above the surface of the earth. R. M. Foster. *Bell System Tech J* 12:264-87 Jl '33

Mutual impedance of two skew antenna wires. F. H. Murray. *Inst Radio Eng Proc* 21:154-8 Ja '33

Radio-frequency bridge for impedance and power-factor measurements. D. W. Dye and T. I. Jones. *bibliog diags Inst E E J* 72: 169-81 F '33

## IMPERIAL canal

Problem of soil in transportation in the Colorado river. S. L. Rothery. *il plans Am Soc C E Proc* 58:1639-59 D '32; Discussion. 59:682-7, 866-81, 1014-19, 1185-91 Ap-My, Ag-S '33

## IMPERIAL chemical industries

Ordinary dividend restored to 1930 level. *Chem Age (Lond)* 28:245 Mr 18 '33

Ordinary general meeting, 6th, April 11. *Soc Chem Ind J (Chem & Ind)* 52:354-5 Ap 21 '33; *Chem Age (Lond)* 28:329-30 Ap 15 '33; *Economist* 116:829-30 Ap 15 '33

Report, 1932. *Chem Age (Lond)* 28:311-12 Ap 8 '33; *Oil Paint & Drug Rep* 123:22 Ap 17; 22 Ap 24 '33

## IMPERIAL conference, 1932

Das britische weltreich auf dem wege zur selbstversorgung mit eisen und stahl. J. W. Reichert. *Stahl & Eisen* 52:1085-94 N 10 '32

For Empire economic organization; Ottawa conference analyzed. L. Stafford. *Barron's* 12:5+ N 21 '32

In the wake of the Imperial economic conference; tariff changes and intra-Empire trade agreements affect pulp and paper. H. Crabtree. *Pulp & Pa of Can* 33:419-21 N '32

Ottawa conference—one year later. J. E. Boyle. *Barron's* 13:10-11 O 2 '33

## IMPERIAL continental gas association

Ordinary general meeting, 185th, London, May 17. *Gas J (Lond)* 202:564-6 My 24 '33; *Economist* 116:1095 My 20 '33

## IMPERIAL institute, London

General value of its work to industry. *Chem Age (Lond)* 29:60-1 Jl 15 '33

Wider utilisation of Empire products; activities of the Imperial institute during 1932. *Chem Age (Lond)* 28:549-50 Je 17 '33

## IMPERIAL oil, limited

Retirements bring several changes in executive and departmental staffs. *Oil & Gas J* 32:10 Jl 6 '33; *Nat Pet N* 25:22 Jl 5 '33

## IMPERIAL tobacco company (of Great Britain and Ireland)

Annual general meeting, Bristol. *Economist* 116:433 F 25 '33

## IMPORTING

Boom-year sales volume in a slump-year market; Ebeling & Reuss. L. M. Hughes. *il Sales Management* 32:102-3+ F 1 '33

## See also

Dumping (commercial policy)

## IMPORTS

Depreciated currencies affect paper. *Paper Tr J* 96:37 F 2 '33

Foreign competition; editorial. *Manuf Rec* 102:11-12 Ja '33

Functions of imports division of NRA. *Paper Tr J* 97:37 N 9 '33

Import-control by NRA ordered by President. *Oil Paint & Drug Rep* 124:15+ O 30 '33

Imports of chemicals n.s.p.f. during 1932. *Chemicals* 38:3 My 1 '33

Statistical mortar for higher tariff walls. J. C. Torbin. *Annalist* 41:227-8 F 10 '33

U.S.; a self-contained nation? *Fortune* 7:49-51+ Mr '33

## See also

Commerce  
Tariff

## Statistics

Smoot-Hawley tariff caused only about \$165,000,000 of 1931 import shrinkage. R. O. Hall. *Annalist* 42:403-4 S 29 '33

## IMPROVED industries corporation

RFC for industry to modernize plant facilities out of savings. *Sales Management* 31: 490 D 1 '32

## IMPROVED products. See Products, Improved

## INAUGURATION day

Inauguration day. *Science* 77:sup8 Mr 3 '33

## INCANDESCENT filaments. See Filaments, Incandescent

**INCAS**

Flight into America's past; Inca peaks and Maya jungles. M. Beale. 286p [bibliog p285-6] \$3.50 Putnam '32

**INCENTIVES (in industry)**

In place of profit; social incentives in the Soviet Union. H. F. Ward. 460p \$2.50 Scribner '33

Problem of incentives in industry. G. H. Miles. 58p Pitman '32

See also

Bonus system	Premiums
Employment management—Incentives	Profit sharing
	Wage payment plans

**INCINERATORS.** See Refuse incinerators; Sewage incinerators**INCOME**

Inflation vs. devaluation; the effects of each on distribution of income. E. C. Harwood. Annalist 42:435-6 O 6 '33

Simple equation. S. Bell. Comm & Fin 22: 710 Ag 16 '33

What is income? J Account 55:401-3 Je '33

See also

Capital  
Profit

**Statistics**

Per capita national incomes; chart showing American, British, and German, 1928-1931. Bradstreet's 61:2 Ja 7 '33

Wages, hours of work, and other factors in the remuneration of workers in certain towns in October 1932. Int Labour R 28: 265-82 Ag '33

**Great Britain**

National income, 1924-1931. C. Clark. 167p \$2.75 Macmillan '32

**United States**

American family income and prosperity. L. Bader. Am Statis Assn J 28:303-11 S '33

California farm income is highest in nation; milk largest crop. Sales Management 33:34 Jl 1 '33

Drop in farm income. A. P. Chew. Barron's 12:16 D 12 '32

Expenditures of American consumers according to income. Monthly Labor R 35:1210 N '32

Farm income, 1919-1932. Bradstreet's 60:1582, 1585-6 D 3 '32

Real income of American families, 1919-1932; chart. Bradstreet's 60:1546 N 26 '32

Sales Management survey of spending power; total spendable money income from all sources and retail sales in 1932 by counties and cities of 10,000 population and over. Sales Management 32:353-420 Ap 10 '33

**INCOME, Limitation of**

Limitation by law of gifts, incomes and inheritances. (In University debaters' annual, 1932-1933). E. M. Phelps, ed. p11-45 [bibliog p42-5] Wilson, H. W. '33

**INCOME tax**

Limitation by law of gifts, incomes and inheritances. (In University debaters' annual, 1932-1933). E. M. Phelps, ed. p11-45 [bibliog p42-5] Wilson, H. W. '33

State income tax. R. G. Blakey. 88p [bibliog p87-8] 50c Univ. of Minnesota press, Minneapolis '32

Tax questions on unemployment gifts; state and federal requirements. East Underw 33: 31 D 2 '32

See also

Corporations—Taxation	Trusts and trustees—Taxation
-----------------------	------------------------------

**Accounting**

Computation of profits for income tax purposes. S. H. Withey. Chem Age (Lond) 28: 571 Je 24 '33

Consolidated return. J. W. Jones. J Account 55:255-71 Ap '33

Depreciation, income tax and dividends. W. A. Clader. J Account 56:47-54 Jl '33

Interest during construction. L. D. Blum. Am Water Works Assn J 24:1970-5 D '32

**Great Britain**

Boydon's income tax & sur-tax practice. A. L. Boydon. 465p Eyre & Spottiswoode, London '33

Computation of profits for income tax purposes. S. H. Withey. Chem Age (Lond) 28: 571 Je 24 '33

United Kingdom income tax; a practical guide for American and other foreign visitors. H. H. Marks. 30p Gee & co, ltd, London '32

**United States**

Brother, do you have a dime? F. E. Seidman. Credit & Fin Management 35:8-9 Mr '33

Companies may take credit for stock losses for income taxes. East Underw 33:17 D 16 '32

Completely worked out specimen income tax returns for filing in 1933. 48p Prentice Hall, inc. '33

Deductibility of excise taxes in computing federal taxes on income. C. E. Kern. Oil & Gas J 31:28 D 29 '32

Digest A. Income tax rulings. April, 1919-December, 1930. 1366p U. S. Office of internal revenue, Washington '32

Federal income and estate tax laws, correlated and annotated. W. E. Barton and C. W. Browning. 5th ed 591p J. Byrne & co, Washington, D.C. '33

Federal tax handbook; Revenue act of 1932. R. H. Montgomery. 1035p Ronald press '32

Federal tax procedure and appeals. J. Conlon. '640p James Conlon, Washington, D.C. '33

Government extravagance and gross inequalities of income taxation. W. Leslie. Trust Companies 55:701-2 D '32

How new income tax laws affect investors; taxation of profits from security transactions. W. D. Zirkle. Mag of Wall St 51: 336-7+ Ja 7 '33

Income tax exemption cannot be lowered. M. Sykes. Comm & Fin 22:48-9 Ja 11 '33

Income taxes and the depression; abstract. Management R 22:337 N '33

Interpretation given of federal tax ruling exempting proceeds. F. L. Morton. East Underw 34:1+ Mr 3 '33

Morgan & co. Business Week p5-6 Je 7 '33

1933 cumulative supplement to Federal income taxation. J. J. Klein. 1134p \$6 Wiley '33

Refiner only may deduct gasoline and oil taxes from income. Nat Pet N 25:16 F 22 '33

Regulations 77 relating to the income tax under the revenue act of 1932. 423p U.S. Office of internal revenue, Washington '33

Revenue act of 1932, approved June 6, 1932. Introduction and indices by Mohun & Elliott. 171p Press of B. S. Adams, Washington, D.C. '32

Tax exemptions; constitutional amendment offered by Senator Hull. Business Week p4 F 22 '33

Tax status of stock losses. Barron's 12:9 D 19 '32

34 tax law changes, rulings, and opinions that affect this year's returns. J. A. Conlin. Management Methods 62:125-6, 144-5+ Mr '33

Useful income tax pointers. M. L. Seidman. Forbes 31:9-10 F 15 '33

Your new income tax; the present Federal income tax law illustrated and explained. J. G. Herndon, jr. 224p \$2 John C. Winston co, Philadelphia '32

**Decisions**

Consolidated income tax return refused. East Underw 34:22 F 10 '33

Important decisions by U.S. Supreme court on taxability of trust income for payment of insurance premiums. F. C. McKinney. Trust Companies 56:677-9 Je '33

Important tax decision in favor of Signal Oil. Oil & Gas J 32:27+ S 21 '33; Nat Pet N 25:11 S 27 '33

Income tax status of funded life insurance trust. G. L. Kappes. East Underw 34:3 Je 16 '33; Same. Trust Companies 57:525-7 N '33



**INCOME tax—United States—Decisions—Cont.**

Several unusual legal and engineering features involved in income tax suit. Oil & Gas J 32:32 Ag 17 '33

Tax liability of companies on agents' commissions clarified in ruling; must file information returns on \$1,500 or more annually paid to producers. East Underw 33:1+ D 2 '32

Trusts inter vivos and gifts under the new federal tax laws. L. B. Runk. Trust Companies 55:687-92 D '32

When entertaining expenses may be deducted in tax reports. J. J. Wechsler. Ptr Ink 163:68-9 Je 1 '33

**Washington (state)**

Income tax act of Washington. 45p Tax commission of the state of Washington, Olympia '33

**Wisconsin**

Effects of a property tax off-set under an income tax. H. D. Simpson. 55p Institute for economic research, Northwestern university, Chicago '32

Rules and regulations of the Wisconsin tax commission under the Income tax act of 1931. 308p Wisconsin tax commission, Madison '32

**INCORPORATED investors**

Buys \$3,500,000 of equities. Barron's 13:7 JI 17 '33

**INCORPORATED municipal electrical association**

Annual meeting, 38th, Bournemouth. Electrician 110:759-85, 827 Je 16-23 '33; Elec R (Lond) 112:839-52 Je 16 '33; Engineer 155:618-20 Je 23 '33; Engineering 136:24-6, 48-9 JI 7-14 '33

**INCUBATORS**

System of temperature control; Bureau of entomology incubators. H. H. Darby and C. B. Bridges. diags J Fr Inst 215:723-9 Je '33

**INDANTHRENE**

Indanthrene resists; abstract. J. S. Turski and R. Izpecht. Textile Col 55:46 Ja '33

**INDEMNITY insurance company of North America**

To reinsure Alliance casualty co. Spectator 130:31 Ap 20 '33

**INDENE**

Gum deposits in gas distribution systems. A. L. Ward, C. W. Jordan and W. H. Fulweiler. bibliog il Ind & Eng Chem 24:1238-47; 25:1224-34 N '32, N '33

Indene from alpha, gamma-bisdiphenylene-beta-phenylalyl alcohol. C. F. Koelsch. Am Chem Soc J 54:4744-9 D '32

**INDEPENDENCE indemnity company**

Judgment issued in Mullin-Acton case; California court holds Independence Indemnity liable on short-term policies written by firm. Ins Field (Fire ed) 62:12 F 16 '33

**INDEPENDENT and individually branded petroleum association**

Trackage operators organize; offer ideas for code. Nat Pet N 25:15-16 JI 12 '33

**INDEPENDENT certified stores service corporation**

New voluntary chain organization started. Automotive Ind 68:542 Ap 29 '33

**INDEPENDENT grocers' alliance of America**

I.G.A. revision; wholesalers take over part of the independent grocers' load. Business Week p25 My 17 '33

Wholesalers get 50 per cent of control in I.G.A. Ptr Ink 163:40 My 11 '33

**INDEPENDENT petroleum association**

Annual meeting, Tulsa, Nov. 14. Oil & Gas J 31:30 N 17 '32

**INDEPENDENT retail tobacconists' association**

A.F.L. joins retailers to combat cigarette price-cutting by chains. Sales Management 32:442-3 Ap 20 '33

**INDEX numbers (economics)**

Actuaries' index—new Economist service. Economist 116:1361-2, 1364 Je 24 '33

Annalist business activity index revised, monthly 1929-1932. Survey of Cur Business 13:19 O '33

Annalist business index again sharply higher; description of the revised index. Annalist 42:213+ Ag 18 '33

Annalist index of business activity. D. W. Ellsworth. Annalist 41:71-2 Ja 20 '33 [cont monthly]

Annalist index of business activity, monthly, 1919-1932. Annalist 41:141 Ja 20 '33

Annalist index of Canadian business activity. H. E. Hansen. Annalist 41:90-3 Ja 20 '33 [cont monthly]

Axe-Houghton index of business activity, monthly, 1895-1918. Annalist 41:127 Ja 20 '33

BBDO buying power index. C. E. Haring. il Adv & Sell 22:16-17+ N 9 '33

Business activity index. Economist 117:274-5 Ag 5 '33

Canadian business indexes, monthly, 1921-1931. Survey of Cur Business 13:18-19 F '33

Economist index of business activity. Published as Economist monthly supplement beginning Oct. 21, 1933

Econostat index of general business. Published in weekly numbers of Econostat

Electrical index closely records mill activity. Elec W 102:80 JI 15 '33

Increasing return. G. T. Jones. 300p Cambridge university press, London '33

Index numbers of the cost of living and retail prices; with sources and notes. Int Labour R 27:96-8, 539-57; 28:88-91, 561-4 Ja, Ap, JI, O '33

Index numbers of the general level of wages; sources and notes. Int Labour R 28:222-48 Ag '33

Index of heating business activity. C. Strock. Heat & Ven 30:7-9 N '33

Index of new enterprise. Bradstreet's 60:1654 D 17 '32

Indexes of financial activity, business activity, and distribution, monthly, 1919-1932. Bradstreet's 61:132, 134-5 Ja 28 '33

Industrial production and trade; the record of physical volume of business in the United States, 1919-33. W. M. Persons. Barron's 13:18 My 15 '33

Measurement of business activity. Economist 117:753-4, supp 1, 8 O 21 '33

New York Times weekly business index; details of May 14, 1933 revision. Annalist 41:692, 698 My 19 '33

New York Times weekly business index, 1930-1932. Annalist 41:156 Ja 20 '33

Oldest index continually compiled in the United States; Bradstreet's commodity price index. F. Greene. Bradstreet's 61:121-2 Ja 28 '33

Prices. G. F. Warren and F. A. Pearson. 386p \$3.90 Wiley '33

Problem of the representative budget in a cost of living index. B. D. Mudgett. Am Statis Assn J 28:sup26-32 Mr '33

Problem of the representative price. R. L. Kozelka. Am Statis Assn J 28:sup20-5 Mr '33

Public purchasing power; its relationship to general business. J. Backman and A. L. Jackson. Barron's 13:11 JI 31 '33

Raw material prices and business conditions. M. T. Copeland. Harvard Univ Graduate School of Business Administration Bur Business Research Studies 2:1-56 '33

Recent and current divergences between the weekly and monthly business indices. D. W. Ellsworth. Annalist 40:804 D 16 '32

Revision of the indexes of agricultural marketings. Survey of Cur Business 13:18-20 Mr '33

Richey index of construction costs. Elec W 101:105 Ja 21 '33

**INDEXES**

Classics of American librarianship; cumulated index to volumes I-X. I. L. Towner, comp. 151p \$1.25 Wilson, H. W. '33

General index to Experiment station record, volumes 51 to 60, 1924-1929. M. C. Gundlach. 677p pa 60c Supt. of doc. '32

**INDEXES—Continued**

General index to the final reports of the President's conference on home building and home ownership. J. M. Gries and J. Ford, eds. 114p President's conference on home building and home ownership, Washington, D.C. '33

Grand master key to biological literature; indexes to Biological abstracts. D. Readick. Science 77:625-7 Je 30 '33

See also

Newspapers—Indexes

Periodicals—Indexes

**Bibliography**

List of cumulated indexes; research of Daniel C. Haskell. K. Brown. Lib J 58:172-3 F 15 '33

**INDEXES, Card**

Filing system for a city engineering office. B. Eisner. Public Works 64:15-16 F '33  
420,000-card index to Printers' Ink articles. Ptr Ink 162:33-4 F 9 '33

**INDEXING**

Classification of subject titles in engineering periodicals. S. W. Gibson. Assn of Sp Lib & Inf Bur Proc 1933:93-9

Co-operation in science. S. C. Bradford. Engineer 156:360-1 O 13 '33

International indexing of scientific and technical papers. S. C. Bradford. Engineering 135:119-22 F 3 '33

Manual of cataloguing and indexing. J. H. Quinn and H. W. Acomb. 286p \$3 Scribner '33

Systematic subject indexes to periodical volumes. A. F. C. Pollard and S. C. Bradford. Assn of Sp Lib & Inf Bur Proc 1932:20-38; Discussion. 39-40

See also

Cataloging Subject headings

Files and filing (documents)

**INDEXING (machine work)**

Air-operated indexing chuck that cuts costs. I. F. Yeoman. Il diags Mach 39:321-2 Ja '33

Automatic indexing die for piercing radial holes. E. L. Soltner. diags Mach 39:650-2 Je '33

Greenlee vertical indexing machine with oscillating cam feed. Il Am Mach 77:255 Ap 12 '33; Automotive Ind 68:533 Ap 29 '33; Mach 39:610 My '33

Indexing by means of disks. H. Coy. diag Am Mach 77:187 Mr 15 '33

Indexing fixture for turning double eccentrics. C. C. Tomney. Il diag Mach 39:781-2 Ag '33

Indexing fixture operated by a single lever. L. L. Locke. diags Am Mach 77:22-3 Ja 4 '33

Ingenious arrangement for indexing multiple-threaded work in an automatic threading lathe. A. S. Kingman. diags Mach 39:641-3 Je '33

Precision grinding machines. Il diags Engineer 154:635-6 D 23 '32

Productomatic no. 35 automatic indexing milling machine. Il Am Mach 77:159 Mr 1 '33; Mach 39:489 Mr '33; Iron Age 131:477 Mr 23 '33

Stevens three-spindle adjustable-angle spiral index centers. diag Am Mach 77:514-15 Ag 2 '33

See also

Dividing (machine work)

**INDIA**

Federal India in formation. Economist 115:1016-17 D 3 '32

Indian conference ends. Economist 115:1223-4 D 31 '32

Knowledge of the metals in ancient India. R. N. Bhagvat. Il J Chem Educ 10:659-66 N '33

Third round table conference; summary of conclusions. Economist 116:9-13 Ja 7 '33

See also

Banks and banking— Chemical industries  
India —India

Drug trade—India  
Electric industries—  
India  
Hydroelectric plants—  
India  
Immigration and  
emigration—India

Labor and laboring  
classes—India  
Railroads—Electrification—India  
Steel industry and  
trade—India  
Tariff—India

**Economic conditions**

India in 1932. Economist 116:sup28-9 F 18 '33

**Industries and resources**

Development of employers' organisations in India. A. H. Maru. Int Labour R 27:220-36 F '33

Need for modern machinery in India. F. Isermann. Mech Handling 20:323-4 O '33

**Politics and government**

Indian white paper. Economist 116:624-5 Mr 25 '33

Programme for India. Economist 117:166-7 Jl 22 '33

**INDIA rubber, gutta percha and telegraph works company**

Ordinary general meeting. 69th, London. Economist 115:1208 D 24 '32

**INDIA tire and rubber company**

Announces profits reaching \$296,834 for the last year. Rubber Age 32:281-2 Ja 25 '33

**INDIAN ocean**

Survey of the Indian ocean. Science 78:29 Jl 14 '33

**INDIANA**

See also

Clay—Indiana

**Commerce**

Aid for analyzing markets in Indiana and Kentucky. maps 24p U. S. Bur. of foreign and domestic commerce, Washington '33

**INDIANA academy of science**

Spring and fall meetings. Science 78:126 Ag 11 '33

**INDIANA university**

Indiana union building; views and plans. Arch Rec 73:17-23 Ja '33

**INDIANAPOLIS, Indiana**

**Rapid transit**

Faster service with Indianapolis trolley buses. L. Wingerter. Il map Elec Traction 29:10 Ja '33

Largest order in recent years placed by Indianapolis. Transit J 77:323-+ O '33

Transit rehabilitation making progress at Indianapolis; street cars, trolley buses and motor buses. Il map Transit J 77:43-6 F '33

**INDIANS of North America**

Disappearance of the red man's culture. M. Barbeau. Il Sci Am 148:22-4 Ja '33

Master of Indian portraiture; Hernando Villa. A. Leinard. Il Ptd Salesmanship 60:222-5+ N '32

**Antiquities**

Ancient American system for collecting water supply. J. B. Hamilton. Il Eng N 110:225 F 16 '33

Building a steel shelter over Casa Grande ruins. F. A. Kittredge and E. A. Nickel. Il diags Eng N 111:46-8 Jl 13 '33

See also

Cliff dwellers

**Government relations**

Irrigation work in the Indian bureau. Il Eng N 110:712-14 Je 1 '33

New commissioner of Indian affairs; John Collier. H. L. Ickes. Science 77:384 Ap 21 '33

**Health and hygiene**

Maternal, fetal, and neonatal mortality among 1,815 hospitalized American Indians. E. B. Sterling. Pub Health Rep 48:522-35 My 19 '33

**INDICAN**

Natural and synthetic indican. A. Robertson and R. B. Waters. Chem Soc J p30 Ja '33

**INDICATOR diagrams**

Indication cards. Marine Eng 38:185-6 My '33



## INDICATORS

*See also*

Recording instruments

Selsyn apparatus  
Water gages

## INDICATORS (for gas and oil engines)

High-speed indicator for internal-combustion engines; abstract. F. Nakanishi, M. Iro and K. Kitamura. *Mech Eng* 55:258 Ap '33Indicators as a means of improving aircraft-engine performance. F. L. Prescott. *il diags S A E J* 31:361-70 S '32; Discussion. 32:41-4 Ja '33Lunken high-speed Diesel-engine indicator; abstract. *Mech Eng* 55:581 S '33Ein neuer indikator für schnellaufende motoren. F. Schmidt. *il diag Zeit Ver Deutsch Ing* 77:748-9 JI 8 '33New high-speed engine indicator. E. S. Taylor and C. S. Draper. *il diags Mech Eng* 55:169-71 Mr '33New Prescott sampling indicator duplicates closely cards of high speed types. *il diags Automotive Ind* 68:371 Mr 25 '33

## INDICATORS and test papers

Indicators for determining chromium and vanadium in alloy steels; oxidized diphenylamine sulfonic acid and oxidized diphenylamine. H. H. Willard and P. Young. *bibliog Ind & Eng Chem Anal ed* 5:154-8 My 15 '33Phenanthroline-ferrous ion; a reversible oxidation-reduction indicator of high potential and its use in oxidimetric titrations. G. H. Walden, jr., L. P. Hammett and R. P. Chapman. *Am Chem Soc J* 55:2649-54 JI '33Sieben jahre technische pH-messung mit der indikatorfolie. P. Wulff. *Chemische Fabrik* 6:441-3 O 25 '33*See also*Chemical reagents  
Colorimetric analysisDiphenylamine  
Phenolphthalein

## INDIGO

Culture of indigo in the South. J. E. Copenhaver. *bibliog Am Dyestuff Rep* 22:55-8 Ja 16 '33Practical notes from an indigo dyehouse. *plan Textile Col* 55:163-4 Mr '33

## INDIGOSOL

Application of indigosols to wool and silk. *Textile Col* 55:194-5 Mr '33Cover prints with indigosols. *Textile Col* 55:319 My '33Dyeing of cotton materials with indigosol dyes. K. Stierwaldt. *Textile Col* 55:689-91 O '33

## INDIGOTIN

Benzoyl derivatives of indigotin. E. Hope, D. Richter and R. W. R. Kersey. *Chem Soc J* p2783-7 N '32; p1000-3 Ag '33INDIRECT lighting. *See* Lighting, Indirect

## INDIUM

Cadmium, thallium, indium, and gallium as by-products of the lithopone industry. W. N. Hirschel. *Soc Chem Ind J (Chem & Ind)* 52:797-8 O 6 '33Chemistry of indium. A. W. Downes and L. Kahlenberg. *Electrochem Soc Trans* 63 (preprint 17):163-6 My '33Production and deposition of indium. W. S. Murray. *Ind & Eng Chem News ed* 11:300 O 20 '33Revision of the atomic weight of indium. G. P. Baxter and C. M. Alter. *Am Chem Soc J* 55:1943-6 My '33

## INDIUM sulfate

Indium sulfate. R. P. Seward. *Am Chem Soc J* 55:2740-4 JI '33

## INDIVIDUALISM

Aspects of the rise of economic individualism. H. M. Robertson. 223p \$3.50 Macmillan '33

Individualism. G. Baxter. 110p Economic press, Norfolk, Va. '32

Individualism: an American way of life. H. M. Kallen. 241p \$2 Liveright, inc, New York '33

Private enterprise. V. Jordan. *Elec Eng* 52:236-7 Ap '33

## INDO-CHINA

*See also*Labor and laboring  
classes—Indo-China

## INDOLE

Action of halogens on polycyclic indole derivatives. S. G. P. Plant and M. L. Tomlinson. *Chem Soc J* p298-300 Mr '33Action of nitric acid on the 1-acyl-2,3-diphenylindoles. R. C. G. Fennell and S. G. P. Plant. *Chem Soc J* p2872-6 D '32Addition reactions of the indole nucleus. S. G. P. Plant and M. L. Tomlinson. *Chem Soc J* p955-60 Ag '33Studies in the indole series; the synthesis of alpha-benzylindoles. P. L. Julian and J. P. P. bibliog *Am Chem Soc J* 55:2105-10 My '33

## INDUCTANCE

Engineering calculation of inductance and reactance for rectangular bar conductors. O. R. Schurig. *Gen Elec R* 36:228-31 My '33  
Tables for the calculation of the mutual inductance of any two coaxial single-layer coils. F. W. Grover. *Inst Radio Eng Proc* 21:1039-49 JI '33

## INDUCTANCE coils

New abac for single-layer coils. H. Seki. *chart Wireless Eng* 10:12-13 Ja '33INDUCTION motors. *See* Electric motors, InductionINDUSTRIAL accidents. *See* Accidents, IndustrialINDUSTRIAL advertising. *See* Advertising—Industries, Appeal toINDUSTRIAL arbitration. *See* Arbitration, Industrial

## INDUSTRIAL arts

Henley's twentieth century formulas, recipes and processes. G. D. Hiscox, ed. new rev ed 809p Henley '33

*See also*Agriculture  
Architecture  
Bookbinding  
Building  
Business  
Canning and preserving  
Chemical engineering  
Chemistry, Technical  
Commerce  
Design  
Dyes and dyeing  
Electric engineering  
Engineering  
Factories  
Foundry practice  
Glass manufacture  
Industry  
Inventions  
Machine shop practice  
Machine shops  
Machinery  
Machinery in industryManufactures  
Masonry  
Mechanical engineering  
Metal work  
Metallurgy  
Painting, Industrial  
Paper making  
Patents  
Photography  
Plumbing  
Pottery  
Printing  
Production  
Rubber  
Shipbuilding  
Tanning  
Technical education  
Technology  
Textile industry  
Waste products  
Weaving  
Woodwork

## Bibliography

Books commonly found in industrial arts libraries in Iowa. F. M. Everhart and H. D. Matt. 91 Industrial arts dept, Iowa state college, Ames '33

Standard catalog for public libraries; annual supplements. p255-85 Wilson, H. W. '32

## Study and teaching

Objectives of industrial arts education. J. J. Voth and W. L. Hunter, comps. 75p Industrial arts dept, Iowa state college, Ames '33 (typew)

## Bibliography

Annotated list of graduate theses and dissertations in industrial-arts education and vocational-industrial education accepted by institutions of higher learning in Iowa. W. L. Hunter. 13p Industrial arts dept, Iowa state college, Ames '33 (typew)

## INDUSTRIAL buildings

Development of industrial buildings. T. L. Condron. *il Civil Eng* 3:434-6 Ag '33

**INDUSTRIAL buildings—Continued**

Heating of buildings; Tootal Broadhurst Lee heating and ventilating installation. Electrician 110:432 Mr 31 '33  
 Housing a laundry in a modern building; Cashman laundry corp. il diags plan Eng N 109:682-4 D 8 '32  
 Industrial terminal innovations; Port of New York Authority's new inland freight station, New York. il diags Elec W 101:198-202 F 11 '33  
 Off-rail union terminal built in New York by Port of New York authority. il plans diags Eng N 109:768-71 D 29 '32  
 Port Authority commerce building, New York city. il plans Arch Rec 73:274-80 Ap '33

*See also*

Automobile factories	High buildings
Chemical plants	Laundries
Concrete construction	Machine shops
Employment agency	Metallurgical plants
buildings	Petroleum refineries
Factories	Printing offices
Foundries	Warehouses

**INDUSTRIAL chemistry.** See Chemistry, Technical

**INDUSTRIAL codes**

Activities of Recovery administration. Guaranty Survey 13:4-7 Ag '33  
 American business enlists under Blue Eagle banner; office worker codes suggested. System and Management Methods 62:347 Ag '33  
 Application of collateral NRA codes to the electric light and power industry. A. Maxwell. Edison Elec Inst Bul 1:197+ O '33  
 Asks special code for advertised trade-marked goods. A. Wineburgh. Ptr Ink 164:55-6 Jl 6 '33  
 Bankers and the NRA; the credit problems of bankers will be simplified by the regulatory measures of the new codes. R. F. Sale. Bankers M 127:351-4 O '33  
 Bargaining codes. Business Week p5-7 Jl 22 '33  
 Basic principles for trade codes. H. S. Johnson. Steel 92:12+ Je 26 '33; Same. Oil Paint & Drug Rep 123:44 Je 26 '33; Same. Refrig Eng 26:98, 108 Ag '33; Abstract. Econostat 1:6 Je 24 '33  
 Big drive for industrial recovery. A. Crawford. il Burroughs Clearing House 17:6-8+ S '33  
 Big four codes; retail codes; and others. Business Week p5-8 Ag 19 '33  
 Building fair competition codes. Ptr Ink 164:74, 76-7 Jl 13 '33  
 Business prepares for partnership. L. Valenstein. Adv & Sell 21:13-14+ Je 22; 20+ Jl 6 '33  
 Can makers and farm equipment manufacturers insist on open shop. Iron Age 132:51C S 28 '33  
 Change—the soul of progress. F. W. Parsons. Gas Age 72:141-2+ Ag 12 '33  
 Code compressor; reorganizing many little codes into one master code. Business Week p7 S 30 '33  
 Code costs and associations. J. S. Seidman. Ptr Ink 165:95 O 5 '33  
 Code evasion via titles; Johnson defines executives. System 62:501-2 N '33  
 Code labyrinth. Business Week p7 O 7; p 11 O 14 '33  
 Code milestones. Business Week p3-11 S 2; 3-8 S 9 '33  
 Codes, or else—. Business Week p5-9 Jl 15 '33  
 Codes, prices. Business Week p8 O 21 '33  
 Codified contracts; the new deal on labor costs calls for a new deal on pre-NIRA contracts. Business Week p 10-11 Ag 26 '33  
 Competitive questions soft-pedaled in approved textile code. C. B. Larrabee. Ptr Ink 164:21-4 Jl 13 '33  
 Consumers' board is against price fixing. Oil Paint & Drug Rep 124:15+ S 18 '33  
 Eagle's beak; drastic penalties for misuse of the Blue Eagle. Business Week p 12-13 O 28 '33  
 First, the big industries. Business Week p5-8 Je 24; 5-8 Jl 1 '33  
 500 codes filed. Business Week p6-9 Jl 29; 6-8 Ag 5 '33

Five NRA codes approved; oil burner, ice, sprinkler, and steel boiler codes; status of Construction league code. Heat & Ven 30:10-11 N '33  
 Flow chart of typical code through set-up of the National industrial recovery act. Business Week p9 Jl 8 '33; Same. Chem & Met Eng 40:380 Jl '33  
 General Johnson plays with dynamite; no manufacturer shall install additional productive machinery without a license. Forbes 32:4 Jl 15 '33  
 How business and NRA cooperate; a thumb-nail view of progress. Nation's Business 21:40 S '33  
 How business is solving its management problems under the Blue Eagle. il System and Management Methods 62:383-5+ S '33  
 How to draft a code for your industry. R. O. Eastman. Sales Management 33:19-20 Jl 1 '33  
 Individual company's responsibilities under the codes. R. H. Rositzke. Management R 22:323-32 N '33  
 Industrial safety in the new deal. A. C. Carruthers. Safety Eng 66:53-4 Ag '33  
 Industry tries the new deal. Nation's Business 21:16-19+ Ag '33  
 Johnson starts hearings on industrial codes. Am Mach 77:436c-436d Jl 5 '33  
 Labor loses its first round; hope held that unionization of all industry may be avoided. Econostat 1:5-6 S 2 '33  
 Legal procedure is out at first hearing on industrial code. A. E. Heiss. Nat Pet N 25:19 Jl 5 '33  
 Major industries fall into line with NRA codes. C. B. Larrabee. Ptr Ink 164:82-4 Ag 24 '33  
 Making of the NRA codes for industry. C. L. Heyniger. Oil Paint & Drug Rep Extra ed 124:10-11 O 11 '33  
 Many codes in filing, hearing and final approval stages. Steel 93:17-18+ S 11 '33  
 Marketing codes; distributor groups draw up recovery plans. Business Week p7-8 Jl 8 '33  
 Model code; NRA is drafting a plan. Business Week p8 N 4 '33  
 More NRA codes appear; Heating, piping and air conditioning contractors national assn. Heat & Ven 30:36-7 S '33  
 NRA codes make progress. Heat & Ven 30:28+ Ag '33  
 NRA scoreboard; industry codes that have been made effective through the President's signature. Business Week p6 Ag 26; 6 S 23; 9 O 14; 12 O 21; 16 O 28; 16 N 11; 14 N 18 '33  
 Nira, versus the Constitution. P. R. Van Dune. Iron Age 132:35-6 Jl 13 '33  
 NRA builds a machine. Business Week p5-10 S 16; p8-9 S 30 '33  
 NRA codes, price fixing and the anti-trust laws. G. H. Montague. Nat Pet N 25:18-19 S 27 '33  
 National recovery administration deluged with flood of new codes. Oil Paint & Drug Rep 124:17+ S 11 '33  
 NRA passes crisis. Business Week p7-11 Ag 26 '33  
 NRA prepares model for industrial codes. Oil Paint & Drug Rep 124:17+ N 13 '33  
 NRA speeds codes for forestall recession. Am Mach 77:463c-468e Jl 19 '33  
 NRA warns all against propositions for "fixing." Oil Paint & Drug Rep 124:56 S 11 '33  
 National recovery movement shows progress in codes and agreements. Oil Paint & Drug Rep 124:17+ Ag 28; 17+ S 4 '33  
 No interpretations; industry must meet each labor issue on its own merits. Business Week p7-8 S 23 '33  
 No progress yet on special code for advertising. C. B. Larrabee. Ptr Ink 164:60-1, 64-5 Jl 6 '33  
 Now, the acid test for codes! H. F. Merrill. Forbes 32:8-9 S 1 '33  
 Open shop and closed shop banished from NRA lexicon. L. W. Moffett. Iron Age 132:32 Ag 31 '33  
 Price control and the N.R.A. G. P. Ellis. Rock Prod 36:24-5 S '33



**INDUSTRIAL codes—Continued**

Profits or losses under the new codes. J. Klein. Mag of Wall St 52:364-6+ Ag 5 '33  
Public utilities NRA codes as a wedge for federal regulation. Pub Util 12:334-40 S 14 '33  
Questions which puzzle employers; labor and code enforcement provisions causing uncertainty. Nation's Business 21:58+ N '33  
Recovery administration lays out plan to handle many codes filed. Oil Paint & Drug Rep 124:17 Ag 7 '33  
Recovery administration will receive codes covering distribution practices. Oil Paint & Drug Rep 124:17+ J1 10 '33  
Recovery labor provisions under cross fire. L. W. Moffett. Iron Age 131:1047-9 Je 29 '33  
Roosevelt kills the merit clause with such art that industry is happy. Business Week p9 O 28 '33  
Self-government under industrial codes. Am Mach 77:709-11 N 8 '33  
Sensible self-government or the steam roller. R. Dickinson. Ptr Ink Mo 27:18 Ag '33  
Several codes approved by President—hearings being held regularly. Iron Age 132:33D-33F N 9 '33  
Spot news on Recovery act planning. Sales Management 33:18+ J1 1 '33  
Status of the codes; organization and procedure of the National recovery administration. Paper Tr J 97:30-1 Ag 24 '33  
Summary of permanent codes adopted. Monthly Labor R 37:518-50, 812-33 S-O '33  
Synopsis of codes approved under the National industrial recovery act, July 9-October 3. Nation's Business 21:22-6 N '33  
United America. H. L. Clark. Manuf Rec 102:14-17 Ag '33  
What industry thinks of industry control; organized labor and unfair employers may profit through delaying codes. J. W. Hook. Iron Age 132:26H-26I J1 20 '33  
What of cost-cutting equipment under the NIRA? Factory Management 91:426-7, 468-70 O-N '33  
What the codes say about advertising and selling practices. Adv & Sell 21:32 O 12 '33  
What the codes will mean to business life. Forbes 32:10 S 1 '33  
What's ahead of management under the codes? R. H. Rositzke. Factory Management 91:407-10 O '33  
When making your codes and agreements, here is the procedure. flow diag Food Ind 5:315 Ag '33  
Wholesaler's place in the sun; drawing up a code. Business Week p12 N 11 '33

**See also**

National industrial recovery act, 1933      Petroleum industry and trade—Codes  
National recovery administration  
National recovery administration publishes Code of fair competition for each industry. ea 5c Supt. of doc. Chamber of commerce of the United States also publishes texts of codes and synopses

**Advertising agencies**

Advertising agency business—code of fair competition. Adv & Sell 21:25, 44+ Ag 31 '33  
Advertising agency NRA code would enforce honesty in advertising. Ptr Ink 164:25-8 Ag 31 '33  
Advertising—small agencies draft code. Ptr Ink 165:84-5 O 19 '33  
Advertising small agency group and Four A's agree on code. Ptr Ink 165:32 O 26 '33

**Air lines**

Air transport coding. Aviation 32:311-12 O '33  
Aviation codes; aircraft manufacturing and air transport. Aviation 32:289-91 S '33

**Aircraft industry**

Code for the aircraft manufacturing industry. Aviation 32:289-90 S '33

**Aluminum**

Aluminum code asks reduction in wages. Oil Paint & Drug Rep 124:19+ O 2 '33

**Automotive industries**

Approved NIRA code of the N.A.C.C.; text. L. W. Moffett. Automotive Ind 69:267-9 S 2 '33  
Automobile code provides for 35-hr. week. Iron Age 132:38D Ag 3 '33  
Automotive industry mobilizes to put through the new deal; with text of code. D. Blanchard. Automotive Ind 69:143-4, 160-1 Ag 5 '33  
Code drafted by N.A.D.A. provides for 20 per cent gross profit on used cars. Automotive Ind 69:23+ J1 1 '33  
Coordination badly needed to avoid hazards of conflicting codes. Automotive Ind 69:342 S 16 '33  
Ford ignores the NRA. Econostat 1:7 S 9 '33  
Jobbers' code would control parts and equipment wholesaling by car factories. Automotive Ind 69:215 Ag 19 '33  
Motor dealers' code. Business Week p7 S 16 '33  
NACC code action uncertain as NRA rules against open shop. Automotive Ind 69:255+ Ag 26 '33  
N.A.D.A. code asks 20% used car gross and guarantees minimum draw for salesmen. Automotive Ind 69:258+ Ag 26 '33  
New deal for dealers. D. Blanchard. Automotive Ind 69:443-5 O 14 '33  
Parts and accessory makers get together and adopt code; with text. A. F. Denham. Automotive Ind 69:115, 126 J1 29 '33  
Parts and equipment code minus merit clause gets President Roosevelt's OK. Automotive Ind 69:592 N 11 '33  
Parts industry fights for forty hour maximum week. D. Blanchard. Automotive Ind 69:413-14, 430-1 O 7 '33  
Revised code filed by commercial body builders. Automotive Ind 69:287+ S 2 '33  
Revised jobber code covers wholesaling by car makers and their distributors. Automotive Ind 69:497 O 21 '33  
Trailer makers ask broad control power. Automotive Ind 69:349 S 16 '33  
What are the costs and how will they affect equipment sales? D. Blanchard. Automotive Ind 69:31-2+ J1 8 '33

**Banking**

Code of fair competition for bankers with a statement of principles of trust institutions; final text. Fed Res Bul 19:610-16 O '33; Same. Am Bankers Assn J 26:38-42 N '33; Same abr. Burroughs Clearing House 18:21, 28-9 N '33  
Code of fair competition for the banks of the United States; text as adopted at the A.B.A. convention. Trust Companies 57:293-5 S '33; Bankers M 127:348-50 O '33  
New bankers' code. Bankers M 127:215-16 Ag '33; Rand McNally Bankers Mo 50:482-3 S '33  
Statement of principles of trust institutions; adopted by American bankers association and made part of bankers code. Trust Companies 57:411-13 O '33; Same. Fed Res Bul 19:614-16 O '33; Same. Am Bankers Assn J 26:40-1 N '33

**Beverage dispensing equipment**

Beverage dispensing equipment industry submits code. il Dom Eng 142:129+ O '33

**Blanket code**

See Industrial codes—President's re-employment agreement

**Boilers**

Principal parts of boiler and radiator code approved by advisory boards. Heat & Ven 30:31-2 N '33

**Carbon black**

Carbon black makers file competition code. Oil Paint & Drug Rep 124:28A+ Ag 28 '33; Same. Oil & Gas J 32:70 S 7 '33  
Carbon black producers present code covering labor, production and prices. Rubber Age 33:265 S '33

## INDUSTRIAL codes—Continued

## Cement

Cement industry and mineral aggregates code hearings. *il Rock Prod* 36:42-6 S '33  
Cement industry code. Concrete (mill sec) 41:31-2 N '33

## Ceramics

Clay codes nearing final form; changes in structural clay products code. *Brick & Clay Rec* 83:116-17 O '33  
Clay industry continues working on its codes. *Brick & Clay Rec* 83:80-2 S '33  
Proposed code for refractories. *Brick & Clay Rec* 83:51-2 Ag '33  
Structural clay products groups formulate master code. *Brick & Clay Rec* 83:46-50 Ag '33

## Chemical industries

Chemical Alliance basic code ready; text. *Oil Paint & Drug Rep* 124:17+ Ag 14 '33;  
Same. *Chem & Met Eng* 40:396-7 Ag '33;  
Same. *Chem Markets* 33:114 Ag '33  
Chemical Alliance revises its code; text. *Oil Paint & Drug Rep* 124:17+ S 4 '33  
Code of consulting chemists and chemical engineers. *Ind & Eng Chem News* ed 11: 255-6 S 10 '33  
Coding chemical engineering. *Chem & Met Eng* 40:451-3 S '33  
Coding the chemical industries. *Chem Markets* 33:115-20 Ag '33  
Government dependence on chemical industry emphasized at code hearing. *Oil Paint & Drug Rep* 124:15+ S 18 '33  
NRA and the chemical industries. *Chem Markets* 33:211-16 S '33  
NRA code developments and plans; chemical and related industries. *Oil Paint & Drug Rep* 124:17+ S 25; 16+ O 2; 14+ O 9; 16+ O 16; 14 O 23; 16 O 30; 14 N 6; 16 N 13; 16 N 20 '33  
S.O.C.M.A. approves Alliance basic code; text of aromatics group code. *Oil Paint & Drug Rep* 124:17+ Ag 14 '33  
Wood chemical code criticized at hearing. *Oil Paint & Drug Rep* 124:14+ O 9 '33

## Coal

Administration rejects district codes for coal; Indiana agreement submitted. *Coal Age* 38: 243-9 Jl '33  
Anthracite code of fair competition submitted to NRA on Oct. 30; text. *Coal Age* 38:386-7 N '33; Same. *Min Cong J* 19:15-17 N '33  
Bituminous coal code—a critical test of the Industrial recovery act. A. T. Shurick. *Analyst* 42:43-4 Jl 14 '33  
Bituminous coal flies the Blue Eagle under code of fair competition; text of code. *il map Coal Age* 38:327-8, 350-3 O '33; *Min Cong J* 19:8-11 O '33  
Bituminous coal points for code hearings. *Coal Age* 38:279-85 Ag '33  
Coal code was a victory, but for whom? *Iron Age* 132:36 S 21 '33  
Coal on the fire. *Business Week* p8-9 Ag 26 '33  
Coal's 27 codes. *Business Week* p5 Ag 12 '33  
Code for coal; a beneficiary. *Pittsburgh coal co. il Fortune* 8:56-63, 138 O '33  
Delay in building a code for the bituminous coal industry is not due purely to cussedness. *Business Week* p8-9 S 16 '33  
Model code of fair competition for bituminous coal. *Coal Age* 38:234 Jl '33  
NRA code making for bituminous coal industry enters into final stages. *Coal Age* 38: 293, 314-18 S '33

## Construction

Construction code—by an eye witness. W. S. Parker. *Arch Rec* 74:168-9 S '33  
Construction code for entire industry submitted to NRA. *Eng N* 111:144, 148-9, 208+ Ag 3, 17 '33  
Construction code making and administration. J. W. Follin. *Eng N* 111:494-5 O 26 '33  
Construction codes today. S. F. Voorhees. *Eng N* 111:492-4 O 26 '33

Construction groups—list of codes submitted. *Am Bld* 55:27 S '33  
Construction industry—code of fair competition; text. *Roads & Sts* 76:327-8 S '33; Same. *Am Bld* 55:26-8, 62+ S '33  
Construction industry code under NRA; with supplementary code for engineers; text. *Civil Eng* 3:631-6 N '33  
Construction industry, roofing and sheet metal contracting division, code of fair competition as submitted on Sept. 13, 1933 and revised on Sept. 27, 1933. *Sheet Metal Worker* 24:315-17 O '33  
Construction industry—text of code for engineers. *Eng N* 111:290-3 S 7 '33; *Refrig Eng* 26:194-7+ O '33  
Contractors code of fair competition; full text. *Eng N* 111:82-4 Jl 20 '33  
Contractors' code of fair competition; text, submitted August 25. *Roads & Sts* 76:329-31 S '33  
Engineers' code subject of hearing by administrator. *Eng N* 111:454 O 12 '33  
Engineers' proposed NRA code would end price competition and free engineering. *Heat & Ven* 30:12-15 N '33

## Copper

Code for the copper industry. *Eng & Min J* 134:359-61 S '33; *Excerpt. Min Cong J* 19: 9-10 S '33  
Copper industry code—individual bargaining asked. *Iron Age* 132:38 Ag 24 '33

## Cotton

Code of fair competition for the cotton-textile industry; text. *Monthly Labor R* 37:265-72 Ag '33; *Textile Col* 55:530-1 Ag '33  
Cotton code; text and hearings. *Textile World* 83:1244-9; *Editorial comment*. 1243 Jl '33  
Cotton textile code of fair competition. *Dun & Bradstreet* 41:2-5 Jl '33  
NACM opposes lifting limits on machine hours. *Textile World* 83:1798 O '33  
Recovery code for cottons discussed; hearing affords precedents for other groups. *Oil Paint & Drug Rep* 124:15+ Jl 3 '33  
Cotton code; text and hearings. *Textile World* 83:1244-9; *Editorial comment*. 1243 Jl '33  
Speed and harmony mark cotton hearing. *Forbes* 32:9 Jl 15 '33  
Textile code ready for President. L. W. Moffett. *Iron Age* 132:44-6 Jl 6 '33

## Drugs

Drug trade codes await President's action on those for retail dealers. *Oil Paint & Drug Rep* 124:19, 32B-32C O 2 '33  
Drug trade groups have filed three drafts of National recovery act codes. *Oil Paint & Drug Rep* 124:17+ Jl 17 '33  
Druggists get special status in retail code. *Oil Paint & Drug Rep* 124:15+ O 30 '33  
Pharmaceutical groups file code for makers; text. *Oil Paint & Drug Rep* 124:15+ Ag 21 '33  
Proprietary medicine makers file code; text. *Oil Paint & Drug Rep* 124:15+ Ag 21 '33  
Retail druggists draft new code; text. *Oil Paint & Drug Rep* 124:17+ Ag 14 '33  
Retail druggists get exemptions from PRA. *Oil Paint & Drug Rep* 124:28A+ Ag 27 '33  
Retail druggists told provisions in proposed code not all acceptable. *Oil Paint & Drug Rep* 124:17+ Ag 28; 17+ S 4 '33  
Wholesale druggists file code with N.R.A.; text. *Oil Paint & Drug Rep* 124:17+ Ag 14 '33

## Electric industries

Electric light and power industry code accepted by National recovery administration. *Edison Elec Inst Bul* 1:133, 164 Ag '33  
Electric utility code emphasizes new problems. *Elec W* 102:225-6 Ag 19 '33  
Electrical contracting code includes transmission and distribution. *Elec W* 102:292-3 S 2 '33  
Electrical manufacturers agree on code-instituting action. *Elec W* 102:419-20 S 30 '33  
Electrical manufacturing code approved. *Elec W* 102:242-4, 307 Ag 19, S 2 '33



**INDUSTRIAL codes—Electric industries—Cont.**

Light and power code submitted. Elec W 102:193-4 Ag 12 '33; Same. Power Pl Eng 37:394 S '33  
Wholesalers code presented; text. Elec W 102:323-5 S 9 '33

**Fertilizers**

Fertilizer code has exceptional definition; text. Oil Paint & Drug Rep 124:16+ N 13 '33  
Fertilizer code is signed by President. Oil Paint & Drug Rep 124:16 N 6 '33  
Fertilizer industry's competitive code discussed at hearing Sept. 6. Oil Paint & Drug Rep 124:17, 23+ S 4; 17-18+ S 11 '33

**Food**

Food code. Business Week p8 O 7 '33  
Food marketing agreements—few have been approved. Food Ind 5:411-14, 463 O-N '33  
Food marketing agreements still in the making. Food Ind 5:363-5 S '33  
Food processors and distributors flock to A.A.A. with codes. Food Ind 5:316-17 Ag '33

**Foundries**

Foundry-gray iron code submitted to the industry. Iron Age 132:29-30 Ag 17 '33  
Foundry industry branches move toward industrial codes; form council. Foundry 61:14-15+ Ag '33  
Foundry men and equipment manufacturers plan organizations and codes. Foundry 61:24+ Jl '33  
Malleable founders' society code; text and hearing. Foundry 61:14-15, 32, 46, 48 O '33  
Study effect of foundry codes. Foundry 61:13+ O '33

**Gas**

Gas operating utilities codes are accepted and in force; texts. Gas Age 72:163-5 Ag 19 '33; Same. Am Gas Assn Mo 15:364-5 S '33  
Planned economy and the gas industry. F. W. Parsons. Gas Age 72:25-6+ Jl 8 '33

**Groceries**

Groceries—dealing-in the grocer; anticipated price controls and elimination of costly retailing devices. H. Deutsch. il Adv & Sell 21:17+ S 14 '33  
Grocery industry master code; proposed text. Food Ind 5:363, 384 S '33

**Heating contractors**

Heating contractors code proposed. Dom Eng 142:29, 88-9+ Ag '33

**Ice**

Ice industry code of fair competition; text. Refrig W 68:9-16 O '33

**Insecticides**

Insecticide, disinfectant industry drafts code; text. Oil Paint & Drug Rep 124:16+ Ag 28 '33  
Insecticide-fungicide makers framing code. Oil Paint & Drug Rep 124:17-18 S 4 '33

**Insurance**

Approval of code of American institute of marine underwriters. Weekly Underw 129:488-9 S 16 '33  
Blue Eagles appear as codes are signed; with text of the National board code. East Underw 34:16, 34 S 8 '33; Ins Field (Fire ed) 62:6,7+ S 7 '33; Weekly Underw 129:405, 407+ S 2 '33  
Tentative approval given agents' code. Ins Field (Fire ed) 62:7+ S 14 '33  
Text of revised section of agents' code on unfair practices. Nat Underw 37:5 N 2 '33; East Underw 34:1+ O 27 '33; Weekly Underw 129:809+ O 28 '33

**Lime**

Lime industry a unit on code. Rock Prod 36:26-7 Jl '33  
Lime industry code is now law. Rock Prod 36:42-4 O '33

Lime industry has code hearing at Washington. Rock Prod 36:45+ Ag '33

**Lumber**

Lumber and hard material dealers unite under one code; text. Am Bld 55:72-5 S '33  
Lumber retailer codes would fix prices and outlaw new dealers. Am Bld 55:62-3 Ag '33  
Lumber's omnibus; code signed by lumber industry has everything. Business Week p8 Ag 26 '33  
What a code costs; Southern pine association's code enforcement bill and set-up. Business Week p12 S 16 '33

**Machinery**

Approval of longer work week seen for capital goods. Iron Age 132:46 O 19 '33  
Machine tool builders file code. Iron Age 132:27G-27H Ag 31 '33; Excerpts. Am Mach 77:564c-564e Ag 30 '33; Mach 40:109 O '33  
Machine tool dealers file code. Am Mach 77:596d-596e S 13 '33; Same. Iron Age 132:41-2 S 14 '33  
Machinery and jobs; NRA begins to think industry needs the breaks, rather than labor, in the capital goods field. Business Week p8 S 30 '33  
Paper machine builders industry code heard. Paper Tr J 97:11+ O 19 '33  
Specialized machinery and equipment codes progress. Iron Age 132:39-40 S 21 '33  
Textile machinery code hearing sets speed record. Iron Age 132:34-5 Ag 31 '33

**Metals**

Drop forge code filed. Iron Age 132:38 S 21 '33  
Fabricated metal products federation code receives hearing. Iron Age 132:46F-46G O 12 '33  
Hearings on steel boiler code, pipe nipple code, metal tank code and others. Iron Age 132:40G-40H O 5 '33  
Metal industry divisions—news of codes. Iron Age 132:39-40 S 7 '33  
Non-ferrous metal and plating industries codes. Metal Ind 31:299-301 S '33  
Non-ferrous metal codes pour in at Washington. Eng & Min J 134:359-63 S '33  
Proposed general code of fabricated metal products. Iron Age 132:41-2 S 7 '33

**Motor bus lines**

Bus code becomes effective Nov. 13. Automotive Ind 69:598 N 11 '33  
Bus group code; coordination of rail and bus regulation held essential. Automotive Ind 69:198 Ag 12 '33  
Code of fair competition for the motor bus industry; text and questions and answers. Bus Transportation 12:397-400 O '33  
Controversy over efforts to organize the truckers. Ry Age 95:198+ Jl 29 '33  
Federated truck operators await NRA action on code of fair competition. Automotive Ind 69:215+ Ag 19 '33  
Motor bus industry—code of fair competition; text. Bus Transportation 12:310-12 Ag '33

**Oil burners**

A.O.B.A. discusses competitive code. Dom Eng 142:60-2 Jl '33  
Oil burner industry code; text. Heat & Ven 30:24-7 O '33; Excerpts. Dom Eng 142:62-7 N '33

**Paint**

Paint code hearing shows industry maintained its wages and employment above general U.S. average. Oil Paint & Drug Rep 124:17-18+ O 2 '33  
Paint code revised; hearing September 26. Oil Paint & Drug Rep 124:16A+ S 18; 17 S 25 '33  
Paint industry code submitted to N.R.A.; text of tentative code. Oil Paint & Drug Rep 124:18-20 Ag 7 '33  
Paint industry discusses code; with text of dry color code. Oil Paint & Drug Rep 124:15-16+ Jl 31 '33  
Paint-varnish-lacquer code effective Nov. 15; text of part 2 covering trade practices. Oil Paint & Drug Rep 124:30A-30B N 13 '33

## INDUSTRIAL codes—Continued

## Paper

- Code of fair competition for the paper bag manufacturers of the United States; and, Fair trade customs of grocery bag group. Paper Tr J 97:22-5 Ag 10 '33
- Code of fair competition for the paper distributing trade; text. Paper Tr J 97:14-16 Ag 31 '33
- Codes of fair competition for the glazed and fancy paper industry and for waxed paper industry; texts. Paper Tr J 97:43-7 S 7 '33
- Folding paper box industry code hearings. Paper Tr J 97:22 N 2 '33
- General code of fair competition for the paper and pulp industry, revised as of August 15; with subordinate codes for the Writing paper manufacturers association division and the Cover paper manufacturers association division; texts. Paper Tr J 97:17-22 Ag 24 '33
- General code of fair competition for the paper and pulp industry; revised text as presented for hearing. Paper Tr J 97:22-4+ S 14 '33
- General code of fair competition for the paper and pulp industry; text as revised for submission to the administrator. Paper Tr J 97:17-21 O 19 '33
- General paper, book paper, paperboard codes; text. Paper Tr J 97:13, 18-22, 24, 39-44 Ag 3; 11 Ag 17; 29 Ag 24 '33
- General paper code hearing. Paper Tr J 97:15, 20-6 S 21 '33
- Glazed and fancy paper hearing. Paper Tr J 97:13 O 19 '33
- National paperboard association's plan for industrial stabilization. Factory Management 91:251-3+ J1 '33
- NRA hearing on newsprint code completed; with text of new code. Paper Tr J 97:15, 21-2+ S 7 '33
- Newsprint manufacturers file shortened code; text. Paper Tr J 97:19-20 Ag 17 '33; Same. Pulp & Pa of Can 34:537-8 S '33
- Newsprint manufacturers submit code; text. Paper Tr J 97:11, 22-5 J1 20 '33; Same cond. Pulp & Pa of Can 34:501-3 Ag '33
- Paper bag manufacturing industry and other paper code hearings. Paper Tr J 97:31-2 N 9 '33; Correction. 97:22 D 7 '33
- Paper distributing trade; text of the amended code. Paper Tr J 97:20+ O 5 '33
- Submits draft of general code for paper. S. L. Willson. Paper Tr J 97:13, 20+ J1 6 '33
- Subordinate codes of fair competition for the sulphate pulp and board division; Kraft paper division; Pulp division; Book paper division; Sulphite papers division; Glassine and greaseproof division; texts. Paper Tr J 97:16-17, 20-3 Ag 31 '33
- U.S. paper men adopt rules; general code. Pulp & Pa of Can 34:493-5+ Ag '33

## Petroleum

- Complete revised text of oil marketing code adopted by the conference at Chicago. Oil & Gas J 32:7-10 Je 29 '33; Same abr. Nat Pet N 25:24-8 Je 28 '33; Summary. Oil Paint & Drug Rep 124:15+ J1 3 '33
- First interpretations of oil code; marketing sections. Nat Pet N 25:16a-16d S 27 '33; Same. Oil & Gas J 32:15+ S 28 '33
- Government's purpose in the oil code. H. L. Ickes. Oil & Gas J 32:23-4+ O 26 '33
- Oil code as amended September 13; complete text. Nat Pet N 25:25-32 S 20 '33; Excerpts. Oil & Gas J 32:10+ S 21 '33
- Oil code signed by Roosevelt; complete text of the code as signed August 19. Nat Pet N 25:25-32 Ag 23 '33; Same. Oil & Gas J 32:9-12+ Ag 24 '33; Same cond. Pet Age 27:14-19, 34 Ag '33
- Petroleum producers prepare code to meet industrial recovery act; text. Oil Paint & Drug Rep 123:17+ Je 26 '33; Same. Nat Pet N 25:22, 24-5 Je 21 '33; Same. Oil & Gas J 32:6-7 Je 22 '33

## Petroleum equipment

- Equipment manufacturers take steps looking to co-operation in national recovery program. Oil & Gas J 32:13 J1 27 '33

Oil-field equipment manufacturers, meeting in Dallas, choose officers and adopt code. L. E. Bredberg. Oil & Gas J 32:15+ Ag 10 '33

## Plastics

Plastics fabricators' code; abstract. Plastic Prod 9:335 O '33

## Plumbing

- Our industry rushes national code; with initial draft of an outline for the plumbing and heating industries. Dom Eng 142:32-3, 82-6+ J1 '33
- Plumbing fixture manufacturers and wholesalers file codes. Dom Eng 142:34-7, 96-102 S '33
- Plumbing trade; each branch of industry relates its own story at code hearing; contractors, manufacturers and wholesalers. Dom Eng 142:22-9+ N '33
- Story of the soil pipe code. W. A. Brecht. Dom Eng 142:30+ N '33

## President's reemployment agreement

- Big blanket. Business Week p3 Ag 19 '33
- Blanket agreement; questions asked and their answers. Am Mach 77:532e-532f Ag 16 '33
- Blanket catechism. Business Week p8-9 Ag 5; 10 Ag 12 '33
- Blanket code idea wins wide support from industry. C. B. Larrabee. Ptr Ink 164:76-7 J1 27 '33
- Dotted line. . . . Roosevelt and Johnson insist the blanket agreement is wholly voluntary. il Business Week p5-6 J1 29; 3-4 Ag 5 '33
- Employment agreement offered all industries. Oil Paint & Drug Rep 124:17-18+ J1 24 '33
- NRA explains price adjustments under the President's reemployment agreement. Rand McNally Bankers Mo 50:630 N '33
- National recovery program meets labor disturbances and deadlocks; PRA modifications. Oil Paint & Drug Rep 124:15+ Ag 21; 30-1 S 4 '33
- President's code aimed at recovery by industry. Chemicals 38:1-2 Ag 7 '33
- President's recovery agreement explained. Oil Paint & Drug Rep 124:17, 19+ Ag 7 '33; Excerpts. Chemicals 38:2 Ag 7 '33
- President's reemployment agreement. Monthly Labor R 37:262-5 Ag '33
- Sniping the Blue Eagle. Business Week p4 S 9 '33
- Substitutions allowed under President's reemployment agreement. Monthly Labor R 37:551-2 S '33
- Text of the blanket agreement for all industries. Food Ind 5:312 Ag '33; Same. Factory Management 91:330-1 Ag '33

## Printing and publishing

- Code of fair competition for the trade book publishing industry. Publishers' Weekly 124: 1590-4 N 4 '33
- Industries basic to advertising and publishing draft codes; paper, printing, etc. Adv & Sell 21:16-18 Ag 17 '33
- Periodical and newspaper publishers submit codes. Adv & Sell 21:26+ Ag 17 '33
- Periodical publishers' code proposed. Adv & Sell 21:26+ Ag 3 '33
- Periodical publishers prepare code; General Johnson calls on advertising to co-operate. C. B. Larrabee. Ptr Ink 164:25-8 Ag 3 '33
- Printers adopt fair trade code; with text as adopted at Chicago meeting, July 13-14. Inland Ptr 91:19-26 Ag; 23 S '33
- Printing and publishing groups basic graphic arts code is NRA objective. Ptr Ink 164: 84-5 S 28 '33
- Printing—how will the graphic arts code affect advertisers' printing costs? J. L. Scott. il Ptd Salesmanship 62:97-100 O '33
- Printing industry vote trade code in Chicago July 13; with text of tentative code. Inland Ptr 91:17-21 J1 '33
- Publisher-printers adopt basic code for graphic arts industry. Inland Ptr 91:21-3 S '33



## INDUSTRIAL codes—Continued

## Retail trade

- How and why of the retail code. L. Hahn. il Nation's Business 21:32, 35-6 Ag '33  
 NRA code for retailers means death of loss leader; buy now drive continues. System 62:500 N '33  
 Retail code. Business Week p 11-12 O 28 '33  
 Retail code compromise. Adv & Sell 22:15+ N 9 '33  
 Retail code hits trade evils; loss leader, deceptive advertising, substitution, hidden demonstration. C. B. Larrabee. Ptr Ink 165: 17-18+ O 26 '33  
 Retail code provides store practice rules. Oil Paint & Drug Rep 124:17+ O 30 '33  
 Retail codes harmony now appears probable. Oil Paint & Drug Rep 124:17+ S 4 '33

## Rock products

- Aggregate industries frame joint code. Rock Prod 36:28-9 Jl '33

## Rubber

- Revised code for tire industry submitted; code for balance of industry also filed. Rubber Age 34:25-6 O '33  
 Road hazard warranties and other practices hit in tire code. R. B. Stafford. Nat Pet N 25:13 N 1 '33  
 Tire industry code completed and forwarded to Recovery administration; text. Rubber Age 33:212-13 Ag '33  
 Try, try again; when you get your code to Washington, you may have only begun to fight. Business Week p7-8 N 4 '33

## Sheet metals

- Roofing and sheet metal contractors code of fair competition. Sheet Metal Worker 24: 280-2, 298 S '33  
 Sheet metal code. Sheet Metal Worker 24: 239-40+ Ag '33

## Shipbuilding

- Shipbuilders and shiprepairers code of fair practice. Marine R 63:13+ Ag '33  
 Shipbuilding code hearings. H. F. Lane. Marine Eng 38:280-2 Ag '33  
 Shipbuilding code; text. Marine Eng 38:279+ Ag '33; Same. Marine R 63:13-14 S '33

## Soap-glycerin

- Soap, glycerin code has lengthy hearing. Oil Paint & Drug Rep 124:15-16+ O 9 '33;  
 Discussion. C. D. Poland. 124:14 O 23 '33  
 Soap-glycerin code signed by President; administration provisions. Oil Paint & Drug Rep 124:36A N 13 '33

## Steel

- American steel warehouse association submits proposed code to members. Iron Age 132:33 Ag 10 '33  
 Board issues supplementary regulations on schedule E. Steel 93:15-16+ S 11 '33; Excerpt (Form of agreement). Iron Age 132: 26FF S 21 '33  
 Code of fair competition of the iron and steel industry; text. Steel 93:17-26, 69 Ag 28 '33  
 Concrete reinforcing code parallels steel provisions. Iron Age 132:46 S 14 '33  
 Final action near on steel code; Johnson would avoid price fixing. L. W. Moffett. Iron Age 132:40-1 Ag 10 '33  
 Institute releases additional regulations affecting code. Steel 93:13-14+ O 2 '33; Iron Age 132:48-50 S 28; 39 O 5 '33  
 Merit clause is attacked in steel casting code. Iron Age 132:44 S 14 '33  
 NRA studies testimony taken in code hearing; action near. Steel 93:11-14 Ag 7 '33  
 Das neue wettbewerbsgesetz der amerikanischen eisen- und stahlindustrie. J. W. Reichert. Stahl & Eisen 53:1031-7 O 5 '33  
 Purchasing methods in oil industry changed by steel code. W. F. Lowe. Nat Pet N 25:33-4 Jl 26 '33  
 Scrap code calls for 40 hours, 37½c. Steel 93:12 Jl 10 '33; Iron Age 132:25 Jl 13 '33

- Steel castings industry needs elasticity in labor conditions. F. A. Lorenz, jr. Foundry 61:25+ O '33  
 Steel code attitude toward the open shop. L. W. Moffett. Automotive Ind 69:103+ Jl 22 '33  
 Steel code enters national industrial arena; with text of code. L. W. Moffett. Iron Age 132:26M-26P, 27-32 Jl 20 '33  
 Steel code undergoing final pass through NRA mill. L. W. Moffett. Iron Age 132: 36-8 Ag 17; 34-6, 40 Ag 24 '33  
 Steel exempt from blanket code, but labor gets weapon. maps Steel 93:11-13 Jl 24 '33  
 Steel founders' society code. Foundry 61:13-14, 43-4 S '33  
 Steel founders' society submits code to Washington. Iron Age 132:31-3 Ag 17 '33  
 Steel industry submits its code. Eng N 111: 89-90 Jl 20 '33  
 Steel industry withdraws controversial labor clause. L. W. Moffett. Iron Age 132:41-6 Ag 3 '33  
 Steel makes good. Business Week p 10 Ag 26 '33  
 Steel wages up as district variations delay trade code. Steel 93:11-12+ Jl 10; 11-12 Jl 17 '33  
 Structural steel and iron fabricating industry code. Iron Age 132:28-36, 72 S 14 '33  
 Truckers protest steel code delivered price clause. Iron Age 132:49 O 26 '33

## Textiles

- Status of textile codes. Textile World 83:1613-16 S '33  
 Textile code-making now extending to minutiae. Textile World 83:1801-2 O '33  
 Textile codes in effect under the Industrial recovery act; texts and hearings. Textile World 83:1414-21+ Ag '33

## Toilet goods

- Toiletries industry drafts NIRA code; text. Oil Paint & Drug Rep 124:28C Jl 24 '33

## Transportation

- Blue Eagle code not needed for railroads. J. B. Eastman. Ry Age 95:367-9 S 9 '33  
 Blue Eagles for the transit industry; abstracts. M. Muir. Bus Transportation 12: 391-3 O '33; Transit J 77:365-6 O 10 '33  
 Code of fair competition for the transit industry. Transit J 77:274-5 S '33  
 Inside story of the transit code. W. E. Wood. Elec Traction 29:262-3+ S '33  
 Motor truck operators temporary code approved. Ry Age 95:348 S 2 '33  
 NRA transportation regulation; with codes. Bus Transportation 12:343-50 S '33  
 New truck group, American trucking associations, filed broad code. Automotive Ind 69: 406 S 30 '33  
 Proposed code of American highway freight association filed. Ry Age 95:414-15 S 16 '33  
 Transportation codes. A. B. Barber. Bus Transportation 12:396 O '33  
 Trucking code provides regional rate control. Automotive Ind 69:598 N 11 '33

## Waste materials

- Waste material code submitted by the National association of waste material dealers, inc; text. Paper Tr J 97:18-20 Ag 31 '33

## Wool

- Code of fair competition for the wool textile industry. Textile Col 55:615-16 S '33

## INDUSTRIAL commissions

- Removal of Arizona industrial commission upheld by court. Monthly Labor R 37:588-90 S '33

## INDUSTRIAL councils

- Establishment of industrial councils in the Netherlands. C. L. Hoover. Monthly Labor R 36:309 F '33

## See also

- Whitley councils

- INDUSTRIAL diseases. See Diseases, Industrial

**INDUSTRIAL districts**

Industrial districts of the Chicago region and their influence on plant location. W. N. Mitchell and M. J. Jucius. map J of Business 6:139-56 Ap '33

**INDUSTRIAL education**

Education for industry in England and in some continental countries. A. Abbott. Soc Dyers & Col J 49:295-6 S '33

Education for trades and industries. C. T. Mills. 164p 6s E. Arnold & Co, London '32

Industrial education in the United States, 1928-1930. Int Labour R 27:805-7 Je '33

Keeping up the morale of the English unemployed. Monthly Labor R 36:1050-6 My '33

Unemployment benefits and measures for occupying the unemployed in Great Britain. H. Fuss and D. C. Tait. Int Labour R 27:595-619 My '33

*See also*

Apprentices  
Employees, Training  
of  
Engineering education  
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Salesmen, Retail—  
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School shops  
Technical education  
Vocational education

**Cooperative plan**

Solving some safety and school problems at the coal mines near Kemmerer, Lincoln county, Wyo. G. M. Kintz. Min Cong J 19:16-17 O '33

**INDUSTRIAL engineering**

Chemical engineering as a basic factor in modern industry. W. E. Gibbs. Engineering 136:102-3 J1 28 '33

Industrial economics. J. W. Roe. J Eng Educ 23:699-707 My '33

L'organisation scientifique dans les services d'études et de recherches techniques. G. Brunerie. plan Chimie & Ind 29:978-87 Ap '33

Principles of industrial organization. D. S. Kimball. 4th ed 460p \$4 McGraw-Hill '33

Statistics and engineering. D. W. Walton. Engineer 154:661-2 D 30 '32

*See also*

Chemical engineering  
Factories—Maintenance and repair  
Industrial management

Power plants  
Technocracy  
Time study

**Study and teaching**

Administrative engineering. T. Weissinger. Sibley J 46:191 N '32

**INDUSTRIAL engineers**

Industrial engineer today; how he can help management. H. V. Coes. Taylor Soc Bul 18:16-19 F '33

**INDUSTRIAL heating.** See Heating, Industrial

**INDUSTRIAL hygiene.** See Hygiene, Industrial

**INDUSTRIAL insurance.** See Insurance, Industrial

**INDUSTRIAL insurers conference**

Annual meeting, French Lick, Ind., Oct. 16-18. Ins Field (Life ed) 62:4-5, 15-16 O 20 '33; Nat Underw 37:25+ O 19 '33; Nat Underw (Life ed) 37:3+ O 20 '33

**INDUSTRIAL laws and legislation**

Economic reconstruction legislation of 1933. 214p pa \$2.50 National industrial conference board, inc, New York '33

*See also*

Coal trade—Regulation  
Competition, Unfair  
Labor laws and legislation

National industrial recovery act, 1933  
Patent laws and legislation  
Trade marks—Law

**INDUSTRIAL lighting.** See Lighting, Industrial

**INDUSTRIAL management**

Applied scientific management; organization and classification. K. Hathaway. Taylor Soc Bul 17:229-34 D '32

Applied scientific management; organization: functions of major executives. K. Hathaway. Taylor Soc Bul 18:6-8 F '33

Applied scientific management; periodic financial reports and their uses. K. Hathaway. Taylor Soc Bul 18:37-40 Ap '33

Are industrial practices in step with the times? H. V. Coes. Manuf Rec 102:15 My '33

Bag of tricks won't do! what to do and how to do it has now become when to do and where to do it. W. N. Polakov. Factory & Ind Management 84:51-3+ F '33

Bankers and the NRA; the credit problems of bankers will be simplified by the regulatory measures of the new codes. R. F. Sales. Bankers M 127:351-4 O '33

Conservation an essential in industrial recovery. H. W. Heinrich. Safety Eng 64:251-2+ D '32

Consultative conference organized by the Institute. Int Management Inst Bul 7:115-18 Ag '33

Cotton textile machine industry—American loom builders. J. T. Lincoln. Harvard Business R 12:94-105 O '33

Decreased production and scientific management make profit possibilities; the break even chart. J. Geschelin. Automotive Ind 69:208-11 Ag 19 '33

Engineers as managers? H. N. Munro. Elec R (Lond) 111:895 D 16 '32

Fire prevention and industrial recovery. J. I. Banash. Nat Safety N 28:19-20 S '33

Gegenwartsfragen der technischen betriebswirtschaft. F. Rosdeck. il plans Stahl & Eisen 52:1133-44 N 24 '32; Discussion. 52:1239-42 D 15 '32

Industrial economies; rehabilitation as applied to industry. B. Lester. il Elec J 29:567-9+ D '32

Influence of scientific management based on a questionnaire addressed to five hundred American firms. S. E. Thompson. Taylor Soc Bul 18:22-5 Ap '33

Introduction to industrial management. E. C. Robbins and F. E. Folts. 356p \$3 McGraw-Hill '33

Management essentials for recovery. C. M. Bigelow. il Mech Eng 54:749-52 N '32; Discussion. 55:263-5 Ap '33

Management of the future. H. Quigley. Electrician 110:250-1 F 24 '33

Managerial centralization vs. decentralization under present conditions. E. H. Schell. Management R 22:227-32 Ag '33

New trends in management; abstract. M. W. Alexander. Management R 22:104-5 Ap '33

Plant analysis. W. A. Lang. il Textile World 83:566-7 Mr '33

Plant efficiency now vital factor. Paper Tr J 97:31 S 21 '33

Price leveling meets three big obstacles; lack of uniformity in cost accounting, management methods, equipment modernization. F. Juraschek. Iron Age 132:30-1 N 2 '33

Principles of industrial management. E. A. Allcut. 218p \$3 Pitman '32

Scientific management; an aid to industrial control. G. Filippetti. 58p [bibliog p57-8] pa 50c Univ. of Minnesota press, Minneapolis '33

Scientific management and economic planning. H. Haan. Ann Am Acad 166:66-74 Mr '33

Scientific management and economic planning; a philosophy and technique of progressive industrial stabilization. H. S. Person. Taylor Soc Bul 17:204-28 D '32

Taylor society and Society of industrial engineers discuss management problems. Factory & Ind Management 84:31-2 Ja '33

Teaching is half of management. C. Berg. il Factory & Ind Management 84:57-8 F '33

Three paths to profits under the new deal. C. H. Hatch. il Am Mach 77:485-7 Ag 2 '33

Trade association's part in coordinate planning. E. L. Heermance. Mech Eng 55:101-4 F '33



**INDUSTRIAL management—Continued**

Wissenschaftliche betriebsführung bei der erzeugung von gegenständen des täglichen bedarfs. O. Kienzle. Zeit Ver Deutsch Ing 76:1113-18 N 12 '32

*See also*

Bonus system  
Branch management  
Budget, Business  
Business manage-  
ment  
Chemical plants—  
Management  
Coal mines and min-  
ing—Manage-  
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Dyehouses—Man-  
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Foundry manage-  
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Motor trucks—Man-  
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Overhead expense  
Planning  
Power plants—Man-  
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Printing offices—  
Management  
Process charts  
Public relations  
Public utilities—Man-  
agement  
Purchasing  
Purchasing depart-  
ments  
Railroads—Man-  
agement  
Rationalization  
Routing systems  
Service (in industry)  
Suggestion systems  
Time study  
Wage payment plans  
Waste, Utilization of

**Bibliography**

Management index. Published in monthly numbers of Management review  
Publications of the American management association (Feb. 1st 1930 to May 30th 1933). Int Management Inst Bul 7:111-13 J1 '33  
Publications received by the Institute's library during the second half of 1932. Int Manage-  
ment Inst Bul 7:16-20 Ja '33

**Measurement**

Measuring operating performance by the kilo man-hour. L. P. Alford and J. E. Hannum. Mech Eng 54:821-4+ D '32

**Russia**

Industry and accounting in the U.S.S.R. V. A. Diakonoff. Harvard Business R 11:205-16 Ja '33

Observation on management in the Soviet Union. M. Van Kleeck. Taylor Soc Bul 18: 31-6 Ap '33

**INDUSTRIAL market**

Are you selling or waiting; analysis of the equipment market. R. A. Balzari. Am Mach 77:581-3 S 13 '33

Factual selling in our metal-working mar-  
kets. W. B. Remington. Iron Age 130:835+ D 1 '32

How to make industrial sales now. H. P. Bailey. diags Iron Age 130:878-81+ D 8 '32; Excerpts. Am Gas J 138:15 Ja '33

Industrial flying wedge wins \$105,000,000 of new business. A. W. Robertson. Sales Man-  
agement 32:22+ Ja 1 '33

Industrial selling must be founded on facts. C. R. Long. Il Adv & Sell 20:19+ Mr 2; 17-18+ Mr 16 '33

Marketing problems discussed by American management association at Industrial mar-  
keting conference. Iron Age 130:924-5 D 15 '32

National rehabilitation program and the op-  
portunity it affords for industrial salesmen. M. Muir. Management R 22:3-10 Ja '33

Net profits—the key to 1933 industrial equip-  
ment sales. H. P. Bailey. Ptr Ink 161:62-4 D 29 '32

Uses consumer market as an industrial demonstrator; International Nickel con-  
tinues sampling idea with increased ad-  
vertising of new monel metal tanks and  
heaters. R. Dickinson. Il Ptr Ink 163:62-5 Je 29 '33

What industrial marketing means. W. L. Rickard. Iron Age 132:32A J1 6 '33

Wholesale electric business in the depression. L. G. Cannon. J Land & Pub Util Econ 9:1-9 F '33

*See also*

Advertising—In-  
dustries, Appeal to  
Equipment industries  
Railroads—Purchas-  
ing

**INDUSTRIAL medicine.** See Medical service, Industrial

**INDUSTRIAL museums**

*See also*

Museum of science  
and industry, Chi-  
cago

**INDUSTRIAL poisons.** See Poisons, Industrial

**INDUSTRIAL rayon corporation**

Profitable half year. Econostat 1:13, 23 J1 29 '33

**INDUSTRIAL recovery act.** See National in-  
dustrial recovery act, 1933

**INDUSTRIAL rehabilitation, National commit-  
tee on.** See National committee on indus-  
trial rehabilitation

**INDUSTRIAL relations**

Analysis of the N.I.R.A. labor section; ques-  
tions and answers. J. C. Gall. Brick & Clay  
Rec 83:118-19 O '33; Excerpt. Nat Pet N 25: 23-4 O 18 '33

Build men or get out. A. G. Ruthven. S A E J 33:sup13-15 Ag '33

Can competitors destroy a liberal labor poli-  
cy? C. C. Balderston. Il Forbes 32:6-9+ Ag 15; 13-14+ O 15 '33

Can the right interpretation confuse section  
7A? J. T. Smith. Automotive Ind 69:578+ N 11 '33

Democratic influences in industry; proceedings  
of the first annual conference of Industrial  
experimenters associated. H. C. Metcalf, ed.  
105p Bureau of personnel administration, 420  
Lexington av, New York '32

Employers of the United States and the In-  
ternational labor organization. T. G. Spates.  
Ann Am Acad 166:146-55 Mr '33

How business is solving its management prob-  
lems under the Blue Eagle, Il System and  
Management Methods 62:383-5+ S '33

Industrial relations in Great Britain. J. H. Richardson. 272p [biblog p236-8] World  
peace foundation '33

International labor office and industrial re-  
lations. G. A. Johnston. Ann Am Acad 166: 75-9 Mr '33

Labor protests NRA codes. Econostat 1:5-6 S 23 '33

Labor relations under the Recovery act. O. Tead and H. C. Metcalf. 259p \$2 Whittlesey  
House, McGraw-Hill '33

No interpretations; industry must meet each  
labor issue on its own merits. Business  
Week p7-8 S 23 '33

Recovery labor provisions under cross fire. L. W. Moffett. Iron Age 131:1047-9 Je 29 '33

Studies on industrial relations. v 1-2 263p; 162p ea \$2 World peace foundation '32-  
'33

What's ahead of management under the  
codes? R. H. Rositzke. Factory Manage-  
ment 91:407-10 O '33

*See also*

Arbitration, Indus-  
trial  
Building trades—  
Labor conditions  
Clothing trade—Labor  
conditions  
Coal miners  
Company towns

Company unions  
Employees  
Employees' repre-  
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agement  
Employment manage-  
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Industrial codes

INDUSTRIAL relations—*Continued*

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Industrial management  
Labor and laboring classes  
National labor board  
Open and closed shop  
Profit sharing  
Safety devices and measures

Strikes and lockouts  
Trade agreements  
Trade unions  
Unemployment  
Wage payment plans  
Welfare work in industry

## Bibliography

- Review of the current literature of industrial relations (semi-annual) and An industrial relations reference library. Industrial Relations Counselors Library Bul no 11:1-38, A1-A20 Ja '33
- INDUSTRIAL research**  
Academic and industrial research in the field of therapeutics. H. H. Dale. Science 77: 521-7 Je 2 '33  
Activities of Mellon institute during 1932-33. E. R. Weidlein. Ind & Eng Chem News ed 11:124-5, 128-9 Ap 20 '33; Excerpts. Chem Age (Lond) 28:457 My 20 '33  
Aims of research. J. H. West. Chem Age (Lond) 28:215 Mr 11 '33  
Application of science to industry. F. B. Jewett. W Soc E J 38:214-23 Ag '33  
Chemical research: a factor of prime importance in American industry. C. M. A. Stine. J Chem Educ 9:2032-9 D '32  
Chemist in industry. Chem Age (Lond) 28: 283-4 Ap 1 '33  
Coming out, yes; but where to? new and better products. C. F. Kettering. Ptr Ink 162:10+ Mr 30 '33  
Current research in power and allied fields; compilation of work completed during 1931, 1932 and 1933, together with work still in progress. Power 77:249-68 My '33  
Imperial institute, London; general value of its work to industry. Chem Age (Lond) 29:60-1 Jl 15 '33  
Importance of research in industry. W. E. Gibbs and A. J. V. Underwood. Chem Age (Lond) 28:177 F 25 '33  
Industrial research and the nation; abstracts. F. Smith. Chem Age (Lond) 27:495 N 26 '32; Engineering 134:655-6 D 2 '32; Electrician 109:725 D 2 '32  
Industrial research in Great Britain; summary of report of the committee on new industrial development. Science 76:458 N 18 '32  
Industrial research laboratories of the United States including consulting research laboratories. C. J. West and C. Hull, comps. 5th ed Nat Research Council Bul 91:1-223 '33 (pa \$2)  
Industrial research laboratories; survey of depression effect. C. J. West and C. Hull. Science 77:420 My 5 '33  
Industrial research plays its part in life insurance; abstract. W. J. McConnell. Management R 22:21-2 Ja '33  
Laboratory scale industrial apparatus in the National research laboratories. F. G. Green. Il Can Chem & Met 17:163-6 Ag '33  
Place of the university in industrial research. B. M. Woods. Il Mech Eng 55:167-8 Mr '33  
Relation of science to industry. W. R. Whitney. Harvard Business R 11:445-56 Jl '33  
Research—a factor in competition. W. Spraragen. Am Cer Soc J (Bul) 16:83-8 Ap '33  
Research and the gas industry. F. W. Sperr, Jr. Gas Age 70:279-81+, 337-40, 411-14, 463-5, 523-5, 569-70+, 625-8, 677-80; 71:39-42, 89-92 S 17, O 1, 15, 29, N 12, 26, D 10, 24 '32, Ja 14, 28 '33; Discussion. 71:167-8+ F 18 '33  
Research creates new markets for sulphonated oils; National oil products co, Harrison, N.J. R. Wechsler. Il Chem & Met Eng 40: 241-3 My '33  
Research in many industries underlies railway development. S. O. Dunn. Il Ry Age 95:4-8 Jl 1 '33  
Research in the metal-working industry not depressed. M. Holland and W. Spraragen. Iron Age 131:102-3+ Ja 12 '33  
Research under the Empire marketing board; storage problems for natural produce. Chem Age (Lond) 29:143-4 Ag 12 '33

Science is ready for the upturn. H. E. Howe. Il Nation's Business 20:44, 46-7 D '32  
Scientific and industrial research; annual report of the Department of scientific and industrial research for the year 1931-32. Engineer 155:244-5 Mr 10 '33; Chem Age (Lond) 28:209-11 Mr 11 '33  
Symposium on laboratory notebooks, records, and reports in the research laboratory. R. A. Baker. J Chem Educ 10:408-11 Jl '33  
Test tube route to recovery. J. Klein. Comm & Fin 22:106-7 Ja 25 '33

## See also

Business research	Laboratories
Cement research	Market research
Ceramic research	Metallurgical research
Chemical research	Paper research
Coal research	Railroad research
Concrete research	Refrigeration research
Cotton research	Scientific research
Dye research	Steel research
Gas research	Textile research
Information service	

## Bibliography

- List of the books, bulletins, journal contributions, and patents by members of Mellon institute of industrial research during the calendar year 1932. (Bibliographic series, sixth supplement to bulletin no. 2. [1911-1927, 80p]) L. H. Pugsley. 10p The institute, Pittsburgh '33
- INDUSTRIAL safety equipment manufacturers' association of the United States of America**  
Manufacturers of industrial safety equipment organize new association. Safety Eng 66: 51 Ag '33
- INDUSTRIAL statistics**  
Columbia university's survey of energy. J. W. Barker. Am Bankers Assn J 25:15+ F '33  
Debt and production. B. Jones. 147p Day '33  
Depreciation and depletion in various industries, 1927-1930; tabulation. Steel 91:11 D 5 '32  
Effect of the depression on multiplant manufacturing organizations. T. E. Thompson. Am Statist Assn J 28:sup75-80; Discussion. G. J. Lawrence. 81-3 Mr '33  
Industrial snapshots. J. Backman and A. L. Jackson. Barron's 13:5 S 18; 5 S 25; 7 O 2; 6 O 16; 17 O 23; 5 O 30; 6 N 6; 9 N 20; 8 N 27; 11 D 18; 7 D 25 '33  
Position of leading industries in relation to their business policies. W. W. Danforth. Annalist 41:86-8+ Ja 20 '33  
Purchasing power and wage policy; the relation thereto of recent changes in payrolls, hours and earnings in the United States. E. H. Welch. Taylor Soc Bul 17:169-84 O '32; Discussion. 18:8-15 F '33  
Size of industrial and commercial establishments in different countries. tables Int Labour R 27:839-59 Je '33  
Statistical position and outlook in leading industries and commodities. A. T. Shurick; W. W. Case. Annalist 42:508-10 O 20 '33  
Statistical record of 1932 in tabloid. Steel 92: 80 Ja 2 '33  
Technocracy, what is it? W. Rautenstrauch. Il Factory & Ind Management 84:39-43 F '33  
Trends of activity in leading industries. Eng N 110:151-2 F 2 '33  
World production. Automobile Eng 23:218 Je '33
- See also*
- |                                       |                        |
|---------------------------------------|------------------------|
| Employment—Statistics                 | Occupations—Statistics |
| Labor and laboring classes—Statistics | Production—Statistics  |
|                                       | Wages—Statistics       |
- also* subdivision Industries and resources under names of countries, e.g. Great Britain  
*also* subdivision Statistics under names of industries, e.g. Petroleum industry and trade—Statistics
- INDUSTRIES, Primitive**  
Economics in primitive communities. R. Thurnwald. 314p [bibliog p299-309] Oxford '32



## INDUSTRY

- Appraisal of American industry; international peace, coordination and control of industry, and debt cancellation. T. F. Woodlock. Management R 22:99-103 Ap '33
- Balancing technocracy. L. W. W. Morrow. Elec W 101:60-2 Ja 14 '33
- Bank credit to industry inadequate, National industrial conference board finds. Am Mach 77:166 Ja 4 '33
- Best industries for fall advertising. Ptd Salesmanship 61:328-30 Ag '33
- British industries and their organization. G. C. Allen. 338p [bibliog p325-30] \$2.60 Longmans '33
- Business and science. R. J. Mackay, ed. 311p British assn. for the advancement of science, London '32
- Can business govern itself? E. L. Heermance. 265p \$3 Harper '33
- Captains of industry need to supply collective leadership. L. D. Edie. Iron Age 131:137-8 Ja 19 '33
- Economic and social effects of urbanization. A. L. Pollard. Mech Eng 55:27-31+ Ja '33
- Engineer and the new deal. W. E. Wicken- den. Elec Eng 52:597-600 S '33
- Era of public enterprise. W. Rautenstrauch. Elec Eng 52:234-6 Ap '33
- Importance of organization in industry. H. McGowan. Soc Dyers & Col J 49:45-6 F '33
- Increasing return; a study of the relation between the size and efficiency of industries with special reference to the history of selected British & American industries, 1850-1910. G. T. Jones. 300p Cambridge univer- sity press, London '33
- Industry and society. A. J. Todd. 626p \$3.75; Students' ed \$3 Holt '33
- Industry must recognize law of diminishing returns. R. B. Prescott. Iron Age 131:225-7 F 9 '33
- Industry—the pulse of the nation; World's fair exhibits. Il Power Pl Eng 37:260-2 Je '33
- Introduction to business. H. N. Gilbert and C. I. Gragg. 2d ed 404p \$3 McGraw-Hill '33
- Modern industrial organization. H. von Beck- erath. 385p \$4 McGraw-Hill '33
- NRA and common stocks; organization of industry must now concern investors. W. W. Hay. Barron's 13:3+ O 9 '33
- Principles of industrial organization. D. S. Kimball. 4th ed 460p \$4 McGraw-Hill '33
- Proceedings of the eighth Conference of major industries, October 21, 1931. 168p Col- umbia university and the Institute of American meat packers, Chicago '31
- Reconstruction of industry by direct action. G. P. Torrence. Mach 39:534-5 Ap '33
- Relation of chemical to other industry. C. M. A. Stine. Il charts Ind & Eng Chem 25:387-95 My '33
- Social trends. E. E. Hunt. Mech Eng 55:234-6 Ap '33
- Die technische und betriebswirtschaftliche entwicklung des handwerks. E. Hotz. diags Zeit Ver Deutsch Ing 77:1105-9 O 14 '33
- Technology and social progress. W. Rauten- strauch. Paper Tr J 96:36-43; Discussion. 43-6 Ap 13 '33
- Today's need—more planning and less execut- ing. C. F. Kettering. Iron Age 131:733-5 My 11 '33
- World resources and industries. E. W. Zim- mermann. 842p [bibliog p810-24] \$5 Harper '33

## See also

Business  
Chemical industries  
Clay industries  
Commerce  
Corporations  
Dairying  
Dye industry  
Economic conditions  
Economic planning  
Efficiency, Industrial  
Electric industries  
Employees' represen-  
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Gas industry  
Gasoline industry  
Government regula-  
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Handicraft  
Home labor  
Industrial market  
Industrial relations  
Iron industry and  
trade  
Labor and laboring  
classes  
Machinery in indus-  
try  
Manufactures  
Mineral industries

Moving pictures in  
industry  
Oil industries  
Organization in in-  
dustry  
Paper industry and  
trade  
Petroleum industry  
and trade  
Production  
Rationalization  
Rubber industry and  
trade  
Service (in industry)  
also subdivision Industries and resources  
under names of countries

Specialization in in-  
dustry  
Stabilization in in-  
dustry  
Standardization  
Steel industry and  
trade  
Stocks  
Technocracy  
Textile industry  
Trade associations  
Unemployment  
Woman—Employ-

ment

## Decentralization

- Ford champions the small plant. B. Finney. Il Iron Age 131:695-7 My 4 '33
- Is decentralization industry's next step? J. Geschelin. Automotive Ind 68:584-5+ My 13 '33
- Is mass production doomed? T. MacManus. Adv & Sell 20:13-14+ D 8 '32
- Mr Ford takes a glimpse into the future. Comm & Fin 22:145 F 8 '33
- New plants—where and why; nine big cities report 619 new firms. Business Week p20 Ap 5 '33
- Small town industries. F. W. Preston. Glass Ind 14:110 O '33
- Vision in kilowatts. S. Chase. Il Fortune 7:34-6+ Ap '33

## History

- Development of industry and engineering dur- ing the century. A. P. M. Fleming. Elec Eng 52:666-71 O '33

## Swope plan

- Business organization comprising all activi- ties proposed to effect recovery. Oil Paint & Drug Rep 124:15, 30C N 6 '33
- Consumer advisers study Swope plan. Oil Paint & Drug Rep 124:17 N 13 '33
- Digests of new Swope plan and 1931 plan. Barron's 13:4 N 6 '33
- Plan for self-government of industry. Steel 93:12-13 N 6 '33
- Self-government; Gerard Swope announces plan. Business Week p11 N 4; 6-8 N 11 '33
- Swope offers plan for industrial administra- tion of Recovery act. Am Mach 77:724c N 8 '33
- Swope plan offers relief from federal domi- nation, even though meeting wide criti- cism. T. H. Gerken. Iron Age 132:33-33B N 9 '33

## INDUSTRY and state

- Business beacons; trade associations are bea- cons to lead industry from depression; in- terview with J. F. Owens. C. H. McCall. Il Credit & Fin Management 35:18-20+ Ja '33
- Government and business. C. E. Merriam. J of Business 6:181-90 Jl '33
- Industrial discipline and the governmental arts. R. G. Tugwell. 241p \$2.50 Columbia univ. press '33; Review. Pub Util 12:34-6 Jl 6 '33
- Industry—self-regulation or federal control? Am Bankers Assn J 25:24-5 Je '33
- Planning for planning; principles for the organization of state and regional planning on a national scale. J. L. Crane, jr. Civil Eng 3:525-6 S '33
- Private enterprise. V. Jordan. Elec Eng 52: 236-7 Ap '33
- Socialization creeps upon us. T. M. Knappen. Il Mag of Wall St 53:10-11+ O 28 '33

## See also

Commercial policy  
Economic councils  
Economic policy  
Government aid to  
business  
Government competi-  
tion with business  
Government owner-  
ship  
Government regula-  
tion of industry

Labor laws and legis-  
lation  
National industrial  
recovery act, 1933  
Public utilities  
Public utilities—  
Regulation  
Public utilities com-  
missions  
Railroads and state  
Tariff

## INDUSTRY and state—Continued

## Bibliography

Industry and government; glimpses of recent books dealing with National industrial recovery. *Mech Eng* 55:618-20 O '33

## Germany

Ständische wirtschaft auf dem marsche. P. Karrenbrock. *Stahl & Eisen* 53:554-8 My 25 '33

Will the National recovery act cartelize American industry? contrast with German cartels. L. H. Marks. *Chem Markets* 33:121-5 Ag '33

## Sweden

Controlled economy as it works out for consumer. M. W. Childs. *Ptr Ink* 165:49+ N 2 '33

## INFANTILE paralysis

Accelerated, experimental poliomyelitis in nasally instilled monkeys. S. Flexner. *Science* 77:413-14 Ap 28 '33

Early changes in the cerebrospinal fluid of monkeys nasally instilled with the virus of poliomyelitis. S. Flexner. *Science* 78:129-30 Ag 11 '33

Poliomyelitis. 562p [bibliog p485-528] Williams & Wilkins co, Baltimore '32

Prevention of poliomyelitis. S. Flexner. *bibliog Science* 77:7-11 Ja 6 '33

## INFANTS' clothing

All about babies in this sales course by mail; Earnshaw knitting company. *Ptr Ink* 163:82-4 My 11 '33

Store buyers hail improved pack for baby togs. R. S. McFadden. *il Sales Management* 32:254+ Mr 15 '33

## INFANTS' foods

## Advertising

Through 1933 with an advertising program still broader; Gerber products company. D. Gerber. *il Ptr Ink* 164:50-2+ Ag 24 '33

## INFECTION

Effect of sunshine through window glass and fresh air on resistance to infection; abstract. J. R. Ross, E. C. Robertson and F. F. Tisdall. *Can Chem & Met* 17:73 Ap '33

What about your hands? S. R. Benedict. *Nat Safety N* 26:15-16+ D '32

See also

Disinfection and disinfectants

## INFECTIOUS diseases

Concept of the ultramicroscopic virus diseases and a classification. E. B. McKinley. *Science* 76:449-54 N 18 '32

Invasion of the body by disease germs. *Science* 77:sup9-10 My 12 '33

Your internal menagerie. R. Hegner. *diags Sci Am* 147:346-8 D '32

See also

Encephalitis, Epidemic	Plague
Fleas as carriers of infection	Smallpox
Immunity	Streptococci
Infantile paralysis	Syphilis
Insects as carriers of infection	Ticks
Leprosy	Tuberculosis
Malaria	Tularemia
Necrobacillosis	Typhoid fever
	Typhus fever
	Viruses
	Yellow fever

## Statistics

Cholera, plague, smallpox, typhus fever, and yellow fever; international statistics. Published in weekly numbers of Public health reports [cumulated monthly]

Current prevalence of communicable diseases in the United States. Published each month in Public health reports

Prevalence of disease. Published in weekly numbers of Public health reports

Standardization of morbidity reporting and development of the morbidity reporting area. R. C. Williams. *Pub Health Rep* 47:2267-81 D 9 '32

## INFLAMMABLE liquids

L'extinction des liquides inflammables en combustion. C. Matignon. *Chimie & Ind* 28:1018-23 N '32

Handling and storage of inflammable liquids. G. W. Smith. *Safety Eng* 66:137-8+, 169-70 O-N '33

Standardizing and testing volatile liquids and fuels. *Can Chem & Met* 17:53 Mr '33

Why use hazardous cleaners? G. M. Briggs. *Nat Safety N* 28:21-2 S '33

See also

Gasoline

Gasoline handling

Petroleum

## INFLAMMABLE mixtures

Coll ignition of some explosive gaseous mixtures. B. W. Bradford, G. I. Finch and A. M. Prior. *pl Chem Soc J* p227-32 Mr '33

Critical ignition of explosive hydrogen mixtures. J. H. Maas and C. Ewing. *il diag J Phys Chem* 37:13-15 Ja '33

Dangerous mixtures of solvents and thinners; abstract. R. Gronemann. *J Ind Hygiene* 15:sup4 Mr '33

Developments in natural gasoline manufacture are reflected in safety problems at plants. C. H. Martin. *Oil & Gas J* 31:14+ D 8 '32

Effect of an electric field on the flame temperature of combustible gas mixtures. B. Lewis and C. D. Kreutz. *Am Chem Soc J* 55:934-8 Mr '33

Experimental determination of the flame temperatures of complex mixtures of combustible gases and a method for calculating them. B. Lewis, H. Seaman and G. W. Jones. *J Fr Inst* 215:149-67 F '33

Explosion and health hazards in sewage works operation; abstract and discussion. G. W. Jones. *Water Works & Sewerage* 80:50 F '33

Explosions of methane and air; propagation through a restricted tube. H. Robinson and R. V. Wheeler. *pl Chem Soc J* p758-60 Jl '33

Explosions of mixtures of hydrogen and air; the specific heats of steam at high temperatures. G. B. Maxwell and R. V. Wheeler. *Chem Soc J* p882-5 Jl '33

Explosive properties of acetone-air mixtures. G. W. Jones, E. S. Harris and W. E. Miller. *il diags U S Bur Mines Tech Pa* 544:1-26 [bibliog p25-6] '33

Explosive properties of dioxan-air mixtures. G. W. Jones, H. Seaman and R. E. Kennedy. *bibliog diag Ind & Eng Chem* 25:1283-6 N '33

Explosive properties of methyl formate-air mixtures; effect of molecular constitution on behavior. G. W. Jones, W. E. Miller and H. Seaman. *diag Ind & Eng Chem* 25:694-6 Je '33

Explosive properties of propylene dichloride-air mixtures. G. W. Jones, W. E. Miller and H. Seaman. *diag Ind & Eng Chem* 25:771-3 Jl '33

Ignition of gases; ignition by a heated surface; (a) mixtures of ethane, propane, or butane with air; (b) mixtures of ethylene, propylene, or butylene with air. C. A. Naylor and R. V. Wheeler. *Chem Soc J* p1240-7 S '33

Ignition temperatures of mixtures of hydrogen sulphide, carbon disulphide, and air. F. D. Leicester. *diag Soc Chem Ind J* 52:341T-6T O 20 '33

Inflammable gases produced by thermal decomposition of plastic insulators in an electric arc. J. B. Littlefield and W. P. Yant. *diag pl U S Bur Mines Rep of Invest* 3194:1-7 '32

Investigations during 1932 of combustibles in manholes in Boston. Mass. G. W. Jones, J. Campbell and F. M. Goodwin. *U S Bur Mines Rep of Invest* 3213:1-17 '33

Kinetics of gas explosions; ozone explosions induced by hydrogen. B. Lewis. *bibliog Am Chem Soc J* 55:4001-6 O '33



**INFLAMMABLE mixtures—Continued**

- Limits of inflammability of natural gases containing high percentages of carbon dioxide and nitrogen. G. W. Jones and R. E. Kennedy. tables U S Bur Mines Rep of Invest 3216:1-23 '33; Same. Am Gas J 139:13-15, 46 J1; 21-3 Ag '33; Same abr. Gas Age 72:53-6 J1 15 '33
- Protection of equipment containing explosive acetone-air mixtures by the use of diaphragms. G. W. Jones, E. S. Harris and B. B. Beattie. diags U S Bur Mines Tech Pa 553:1-24 '33
- Rates of detonation in carbon monoxide-oxygen mixtures. C. Campbell, C. Whitworth and D. W. Woodhead. Chem Soc J p59-62 Ja '33
- Reducing inflammability of fumigants with carbon dioxide. R. M. Jones. diags Ind & Eng Chem 25:394-6 Ap '33
- Studies in the mechanism of flame movement; the fundamental speed of flame in mixtures of methane and air. H. F. Coward and F. J. Hartwell. pls Chem Soc J p2676-84 N '32
- Studies in the mechanism of flame movement; the speed of flame in currents of mixtures of methane and air. H. F. Coward and E. H. M. Georgeson. diag Chem Soc J p546-51 My '33
- Suggested means for detecting harmful gases and protecting workers in oil industry. J. L. Risinger. il Oil & Gas J 31:14-15 F 9 '33; Same cond. Nat Safety N 27:30-2 Mr '33
- Über die explosionsfähigkeit gesättigter alkoholdampf-luft-gemische. K. Fricke. Angew Chemie 46:87-90 F 4 '33
- Vapor travel from vent pipes. Weekly Underw 128:445+ Mr 4 '33
- Welding of vessels containing explosive gases made safe by carbon dioxide. L. G. E. Bignell. il Oil & Gas J 31:13 F 16 '33
- Zündgeschwindigkeit von einfachen gasen und gasmischungen. F. Kofler. Stahl & Eisen 53:19-21 Ja 5 '33

*See also*

Dust explosions  
Explosions

Flame propagation  
Greek fire

**INFLATION (finance)**

- Again, inflation; editorial. Business Week p32 Ag 5 '33
- Are we to inflate? editorial. Barron's 13:10 Ap 10 '33
- Balanced deflation, inflation, or more depression. J. Viner. 30p pa 25c Univ. of Minnesota press, Minneapolis '33
- Baruch kills currency inflation. Business Week p3-4 F 22 '33
- British debt revision; Roosevelt worried over the threat of currency inflation. Business Week p4-5 F 1 '33
- Business man and inflation. J. S. Lawrence. Econostat 1:6-10+ O 21 '33
- Catechism of inflation. Econostat 1:6-7 Ap 22 '33
- Consequences of inflation on construction. T. F. McSweeney. Eng N 110:564-5 My 4 '33
- Controlled inflation. Business Week p18-19 My 17 '33
- Controlled inflation. A. Crawford. il Burroughs Clearing House 17:3-5+ Je '33
- Credit ceiling; credit problems arising from inflation. H. W. Huey. Credit & Fin Management 35:12-13+ My '33
- Cry for inflation. A. Crawford. il Burroughs Clearing House 17:8-10+ Mr '33
- Currency inflation. Business Week p5-6; Editorial comment. p32 S 30 '33
- Currency inflation is economic dynamite. M. S. Rathburn. il Mag of Wall St 51:420-2+ F 4 '33
- Dangers described in the administration inflation program; views of leading American bankers and economists. Trust Companies 56:519-24 My '33
- Dangers of credit inflation. O. Ely. Barron's 13:3+ O 30 '33
- Demand for printing-press money sweeps the South. Business Week p15-16 S 23 '33
- Dire workings of inflation. Barron's 13:3 F 13 '33
- Disaster of a planned inflation. E. C. Harwood. Bankers M 126:13-16 Ja '33
- Dream of the Federal reserve; the dangers of easy money. S. Axley. Barron's 13:3, 8 Ja 9 '33
- Fall of the dollar. Economist 116:849-50 Ap 22 '33
- Farmer philosopher speaks his mind. H. M. Green. Comm & Fin 22:49-50 Ja 11 '33
- Federal reserve policies and perils of inflation. E. Platt. Trust Companies 56:179-80 F '33
- German lesson on inflation. Nat City Bank p62-3 Ap '33
- Glamorous inflation. E. T. Collins. Am Bankers Assn J 26:23+ O '33
- Gold embargo and other administration measures. Nat City Bank p67-71 My '33
- Greenback route to ruin. C. Benedict. Mag of Wall St 52:561+ S 30 '33
- How an inflated currency would affect the utilities. A. A. Bock. Pub Util 11:499-505 Ap 27 '33
- How industries will be affected by inflation. P. Dobbs. Mag of Wall St 52:78+ My 13 '33
- How inflation may affect investments of life companies. C. L. Benner. East Underw 34:1+ Ap 28 '33; Excerpts. Nat Underw (Life ed) 37:1+ Ap 28 '33
- How inflations are started. J. S. Lawrence. Bradstreet's 61:350-2+ F 18 '33
- How to protect your investments against inflation. R. S. Wallace. Forbes 31:31 My 15 '33
- How will inflation affect utility rates, revenues—and security owners? Pub Util 11:667-9 My 25 '33
- I am not afraid of inflation. J. B. Mathes. Adv & Sell 21:20-1+ S 28 '33
- Inflate now, cotton leaders demand. Comm & Fin 22:824 S 20 '33
- Inflation. Guaranty Survey 12:6-10 Ja '33
- Inflation? L. Fisher and H. W. Fisher. 104p \$1.50 Adelphi co, New York '33
- Inflation. D. B. Woodward and M. A. Rose. 165p \$1.50 Whittlesey house, McGraw-Hill '33
- Inflation; a definition in terms of business prospects. L. D. Edie. Adv & Sell 21:17-18+ My 11 '33
- Inflation; an appraisal of the results of our recent monetary policy. H. P. Willis. Analyst 42:307-8+ S 8 '33
- Inflation and federal credit. G. E. Anderson. Am Bankers Assn J 26:32+ S '33
- Inflation and money rates. J. S. Lawrence. Econostat 1:8-10 S 30; 8-10 O 7 '33
- Inflation and silver. J. S. Lawrence. Econostat 1:8-10+ Ap 29 '33
- Inflation and the gas man. R. S. McBride. Am Gas J 138:9-11 Je '33
- Inflation and you. C. Hoskins. Forbes 31:6-7+ My 15 '33
- Inflation and your money. 32p pa 15c Duffield & Green, 200 Madison av, New York '33
- Inflation and your money. E. H. Collins. 32p Guaranty trust company of New York, 140 Broadway, N.Y. '33
- Inflation begins; definite abandonment of the gold standard the first step. Business Week p3-4; Editorial comment. 32 Ap 26 '33
- Inflation: blessing or menace? F. J. Travers. Credit & Fin Management 35:32 N '33
- Inflation captures the speculative imagination. Econostat 1:3-4 Ap 22 '33
- Inflation; editorial. Business Week p32 F 1 '33
- Inflation hedging for investors. J. S. Lawrence. Econostat 1:8-10+ O 14 '33
- Inflation, in a nutshell. T. F. Woodlock. Barron's 13:11 Mr 13 '33
- Inflation; issuing new currency. Business Week p7-8 My 10 '33
- Inflation, its meaning and past. J. S. Lawrence. Bradstreet's 61:319-21+ F 11 '33
- Inflation memories. G. Marples. Comm & Fin 22:168 F 15 '33
- Inflation no royal road to reflation. L. P. Ayres. Automotive Ind 68:194-6+ F 18 '33
- Inflation or default? the latter a lesser evil. T. F. Woodlock. Barron's 12:19 D 26 '32
- Inflation or reflation? Comm & Fin 22:329-30 Ap 12 '33
- Inflation or reflation? a problem in government finance. J. B. Hubbard. Barron's 13:3+ Ja 2 '33
- Inflation; Roosevelt will get the powers he asks. Business Week p5-7 My 3 '33

**INFLATION (finance)—Continued**

- Inflation: salvation or suicide? B. C. Forbes. Forbes 31:14 My 1 '33
- Inflation 60 years ago; excerpts from Robinson Crusoe's money, by David A. Wells, published in 1876. Nation's Business 21:64+ N '33
- Inflation—stabilization; it's naive to ask whether we are going to have inflation when we are having it. Business Week p18-19+ O 21 '33
- Inflation, values, and prices; what happened in France—possibilities in the U.S.A. J. H. Wood. Barron's 13:3, 6-7 S 25 '33
- Inflation vs. devaluation; the effects of each on distribution of income. E. C. Harwood. Annalist 42:435-6 O 6 '33
- Inflation; what it may mean to the public utilities—and to their security owners. S. Crowther. il Pub Util 12:363-72 S 28 '33
- Inflation—what then? L. P. Ayres. Barron's 13:8 My 22 '33
- Inflationary movements in the past. Guaranty Survey 13:7-10 Je '33
- Inflationism. il Am Bankers Assn J 25:32-4+ Mr '33
- Inflationist movement in Canada. Economist 116:62-4 Ja 14 '33
- Inflation's shadow; an immediate and direct relationship between credit changes and price changes is erroneous. H. P. Willis. Credit & Fin Management 35:8-9+ My '33
- Insurance regards inflation. E. W. Sheehan. Spectator 130:13+ Ap 27 '33
- Investment policies and inflation. D. Langmuir. Trust Companies 57:127-9 Ag '33
- Is inflation in the offing? G. L. Lacher. Iron Age 131:479 Mr 23 '33
- John Law and the Mississippi bubble. L. F. Loree. Manuf Rec 102:14-16 S '33
- Legal tender—what is a dollar's worth? arguments against inflation. W. E. Spahr. il Am Bankers Assn J 26:22-5+ Jl '33
- Life men oppose inflation plans. Nat Underw (Life ed) 37:3+ F 10 '33
- Lifting ourselves by our bootstraps. Nation's Business 21:16+ Ap '33
- Major problem one of restoring industrial balance and normal credits; dangers to be apprehended from various inflationary proposals. C. S. McCain. Trust Companies 56:170-2 F '33
- Meals or meal tickets; effects of more money, cheaper money. D. A. Weir. Credit & Fin Management 35:18-19+ F '33
- Need for assurance of a sound money policy. Guaranty Survey 13:1-7 O '33
- New administration. M. Sullivan. Am Bankers Assn J 25:14-16 Mr '33
- Perils of inflation. O. L. Mills. Bankers M 126:246+ Mr '33
- Possibilities of inflation. E. C. Harwood. Barron's 13:9 Jl 31 '33
- Practical lessons from inflations abroad; fate of Europe's investors during currency inflation in France and Germany. M. Winkler. il Mag of Wall St 52:618-20+ O 14 '33
- Preserving the gold standard and perils of inflation. C. F. Childs. Trust Companies 56:431-2 Ap '33
- President's price goal. T. M. Knappen. il Mag of Wall St 52:466-8+ S 2 '33
- Price recovery or debt adjustment? L. Stern. Mag of Wall St 51:319-21+ Ja 7 '33
- Primer of inflation. E. Sparling. 133p Day '33
- Probable effects of inflation. F. H. Sisson. Bankers M 127:23-4 Jl '33
- Problem of purchasing power. R. E. Flanders. il Mech Eng 55:595-602 O '33
- Profits key to price recovery. J. S. Lawrence. Econostat 1:8-10+ Mr 25 '33
- Progress of inflation. S. M. Foster. Barron's 13:3+ O 23 '33
- Proposals for inflation. Nat City Bank p21-31 F '33
- Psychic inflation; however the inflation campaign must proceed. Business Week p16+ Jl 1 '33
- Questionnaire survey by the Economic credit council. Credit & Fin Management 35:11 Jl '33
- Race is on between inflation and deflation. H. H. Allen. Factory & Ind Management 84:72 F '33
- Recovery: the next effort. Business Week p1-3 Ap 19 '33
- Ruinous effects of deliberate inflation and debasement of currency. D. Farnham. Trust Companies 56:637-40+ Je '33
- Shall we inflate? symposium. Comm & Fin 22:167 F 15 '33
- Some fallacies underlying the demand for inflation. B. M. Anderson, Jr. Chase Econ Bul 13:3-20 My 9 '33; Excerpt. Bankers M 126:577 Je '33
- Sound money versus inflation as essential to business recovery. F. I. Kent. Trust Companies 56:665-9 Je '33
- Stop! look! listen! G. Marples. Comm & Fin 22:290 Mr 29 '33
- Story of assignats and greenbacks. Nat City Bank p174-9 N '33
- Strong Congressional sentiment for inflation. Barron's 13:16 Ja 30 '33
- Terms of inflation law. Guaranty Survey 13:4 My '33
- Theory of inflation. J. S. Lawrence. Dun & Bradstreet 41:16-17 Mr 4 '33
- Thousand if's in inflation. M. Edwards. Nation's Business 21:32+ Je '33
- Uselessness of inflation as a means of moving the mountain of debt. E. C. Harwood. Annalist 42:467+ O 13 '33
- War and inflation. C. Geller. Comm & Fin 22:538-9 Je 21 '33
- What inflation did to German life insurance. H. Ullrich. East Underw 34:3-4+ O 13 '33
- What inflation means to business men. D. L. Wilson. il Management Methods 62:207-8+ My '33
- What inflation will do to insurance companies. J. F. Wohlgemuth. Nat Underw 37:3+ Ap 27; 3+ My 4; 5 My 11 '33
- What kind of inflation impends? G. L. Lacher. Iron Age 131:671-2 Ap 27 '33
- "When, as and if" we inflate. J. C. Cresswill. Mag of Wall St 52:564-5+ S 30 '33
- When inflation fails to inflate. J. S. Lawrence. Bradstreet's 61:389-91+ F 25 '33
- When inflation is not inflation. I. Fisher. Ptr Ink 165:59-62, 64+ O 5 '33
- Will decline of the £ cause inflation here? T. H. Price. Comm & Fin 21:1412 D 7 '32
- Will devaluation work? automatic rise in prices and other hoped-for benefits questioned. O. Ely. Barron's 13:3, 9 Ap 17 '33
- Will federal bond issues bring on or prevent inflation? J. D. C. Weldon. Mag of Wall St 51:668-9+ Ap 15 '33
- World economics; effect of inflation in foreign countries and its probable influence on domestic business. F. B. Mead. Spectator 131:13+ O 26 '33
- Word inflation; seven definitions. Am Bankers Assn J 25:36-7 Ap '33
- Write down the debts of inflation. R. C. Rowe. Can Min J 54:142-4 Ap '33

**See also**

- |                     |               |
|---------------------|---------------|
| Business cycles     | Gold as money |
| Deflation (finance) | Money         |

**INFORMATION service**

- Character and accessibility of International labor office research materials. A. S. Cheyney. Ann Am Acad 166:114-18 Mr '33
- Establishment and operation of an information service. A. F. Ridley and B. Fullman, eds. Assn of Sp Lib & Inf Bur Proc 1932:41-50; Discussion. 50-3
- Information bulletins and house journal of the Mond nickel company, limited. E. W. Parker. Assn of Sp Lib & Inf Bur Proc 1933:62-6
- Information bulletins and technical progress. Engineering 136:368 S 29 '33
- Members' and staff bulletins of the British cast iron research association. M. Pears. Assn of Sp Lib & Inf Bur Proc 1933:67-70
- Organising a research bureau; Sir W. G. Armstrong Whitworth and co. (engineers). J. C. S. Stuart. plans Assn of Sp Lib & Inf Bur Proc 1933:17-32; Same. Engineering 136:341-3 S 22 '33
- Organising an information service. E. N. Simons. Engineer 156:130-1 Ag 11 '33



**INFORMATION service—Continued**

Technical news bulletin and the house journal of the Metropolitan-Vickers electrical company. B. M. Dent. Assn of Sp Lib & Inf Bur Proc 1933:56-8  
 Wider utilisation of Empire products; activities of the Imperial institute during 1932. Chem Age (Lond) 28:549-50 Je 17 '33

*See also*

**Business information** Motor bus lines—  
**Libraries, Special** Information service  
**Library service**

**INFRA-RED rays**

Advantages of Mazda CX lamps versus carbon-filament lamps for infra-red units. L. C. Porter and J. P. Ditchman. Illum Eng Soc Trans 28:465-6 Je '33  
 Application of infra-red photography to textiles. P. W. Cunliffe. pl table Soc Dyers & Col J 49:73-6 Mr '33  
 Charred documents. L. Bendikson. il Lib J 58:243-4 Mr 15 '33  
 Glass for protection from infra-red radiation. E. H. Hobbie. il Illum Eng Soc Trans 28:658-64 S '33; Discussion. 28:781-6 N '33  
 Infra-red photography. Soc Dyers & Col J 49:79-80 Mr '33  
 Infra-red radiation from an Otto cycle engine. S. Steele. bibliog il diags Ind & Eng Chem 25:388-93 Ap '33  
 Infrared radiations from small particles. A. H. Pfund. diag Opt Soc Am J 23:270-3 Ag '33  
 Penetration of clouds and fog by infra-red rays. Science 76:sup9 N 18 '32  
 La photographie en lumière infra-rouge. Génie Civil 103:19-20 Jl 1 '33  
 Recent developments in infra-red photography. O. F. Bloch. il Soc Chem Ind J (Chem & Ind) 52:829-37 O 20 '33; Abstract. J Fr Inst 216:812-15 D '33

*See also*

**Spectrum, Infra-red**

**Physiological effect**

Correct use of heat rays for producing comfort in living rooms; abstracts. L. Hill. Gas J (Lond) 200:555 N 23 '32; Science 77:sup9-10 Ja 27 '33; Discussion. Gas J (Lond) 200:555 N 23 '32  
 Croydon's home health week; display of home clinical gas lamps. il Gas J (Lond) 201:311-12 F 8 '33; Same. Am Gas Assn Mo 15:141+ Ap '33

**INFRA-RED spectrum.** See Spectrum, Infra-red  
**INGERSOLL, Howard L.**

Honored by Franklin institute for development of the locomotive booster. Ry Age 94:796+ Je 3 '33

**INGOTS**

Casting of ingots; Roth's method. diags Engineer 154:sup[Metallurgist] 165-7 N 25 '32  
 Non-ferrous foundry ingot shapes. P. Barker. Metal Ind 31:166-7, 204-5, 302-3 My-Je, S '33

*See also*

**Steel ingots**

**INHERITANCE and succession**

*See also*

Estates, Decedents'	Life tenants and re-
Executors and admin-	maindermen
istrators	Perpetuities
Inheritance tax	Trusts and trustees
Wills	

**INHERITANCE tax**

Annuity contracts subject to transfer tax; Minnesota decision. Trust Companies 55:509 N '32  
 Estate tax decision of international importance; Brooks vs. Commissioner of internal revenue. Trust Companies 55:510 N '32  
 Famous Dorrance case. Trust Companies 56:9 Ja '33  
 Federal estate tax administration; making returns. R. M. Estes. Trust Companies 57:265-8 S '33  
 Federal income and estate tax laws, correlated and annotated. W. E. Barton and C. W. Browning. 5th ed 591p J. Byrne & co, Washington, D.C. '33

Inheritance tax service, 1932-1934. 4v loose-leaf Commerce clearing house, inc, 120 Broadway, New York '32  
 New York new estate law and taxation of estates. 1932 ed 236p Central Hanover bank and trust co, New York '32  
 Supreme court rules on irrevocable trust tax. Trust Companies 56:7 Ja '33  
 Tax liability of alien decedent; Brooks vs. Commissioner of internal revenue. Trust Companies 56:408 Ap '33  
 Taxation of life insurance from the policyholder's viewpoint. I. Bendiner. East Underw 34:6+ O 6 '33

*See also*

**Trusts and trustees—**  
**Taxation**

**INHIBITORS**

Application of inhibitors to cracked gasoline is significant development in plant operation. G. Egloff and others. Oil & Gas J 31:64 Mr 30 '33  
 Comparison of organic inhibitors in chain reactions; photo-polymerization of vinyl acetate; the autoxidation of sodium sulfite; photolysis of hydrogen peroxide. K. Jau and H. N. Alyea. Am Chem Soc J 55:575-88 F '33  
 Fundamentals in the problem of resistance to deterioration. H. S. Taylor. Am Soc T M Proc 32 pt 2:9-42 '32  
 Inhibitors in cracked gasoline. G. Egloff and others. bibliog il diags Ind & Eng Chem 24:1375-82; 25:804-8 D '32, Jl '33  
 Mechanism of corrosion of iron in sodium chloride solution; effect upon the potential of the iron of adding organic substances to the brine. E. G. R. Ardagh, R. M. B. Roome and H. W. Owens. bibliog diags Ind & Eng Chem 25:1116-21 O '33  
 Modern methods of benzole refining; the use of inhibitors for preventing gum formation. W. H. Hoffert and G. Claxton. Soc Chem Ind J 52:25T-33T F 3 '33  
 Several tests necessary in determining value of gum inhibitors in improving gasolines. W. W. Scheumann. Oil & Gas J 31:22-3 Ap 6 '33; Same abr. Nat Pet N 25:29-30+ Ap 5 '33

*See also*

**Tetralin**

**INITIALS**

Photographic initials. il Adv Arts p32-3 N '33

**INK**

Blue dye as evidence of the age of writing. C. E. Waters. Ind & Eng Chem 25:1034-5 S '33  
 Chemisch-technische probleme im druckgewerbe. J. Bekk. Angew Chemie 46:125-9 F 25 '33  
 Encyclopedia of printing lithographic inks and accessories. H. G. Kriegel. 255p H. G. Kriegel, New York '32  
 Ink standardization, color harmony are combined; Behrens system of color charts. il Inland Ptr 91:50 Je '33  
 Ink troubles; their cause and remedy. Inland Ptr 91:46 Ap '33  
 Inks. U S Bur Stand Circ 400:1-38 [bibliog p37-8] '33  
 New glass-writing ink is perfected. Glass Ind 14:113 O '33  
 New ink; Ault & Wiborg co. il Ptr Ink 161:56 D 15 '32

*See also*

**Color printing**

**Manufacture**

Manufacture of modern printing inks and their application; abstract. G. F. Jones. Chem Age (Lond) 27:605 D 24 '32  
 Manufacture of printing and lithographic inks. H. J. Wolfe. 295p [bibliog p283] Mac-Nair-Dorland co, New York '33  
 Manufacture of printing ink. W. F. Harrison. il Ind & Eng Chem 25:378-81 Ap '33; Same abr. Chem Age (Lond) 28:459-60 My 20 '33  
**INK, Waterproof**  
 Colored waterproof drawing inks. E. W. Zimmerman. Ind & Eng Chem 25:1033-4 S '33; Same. Textile Col 55:758+ N '33

**INLAND daily press association**

Inland publishers arouse to press freedom menace. *Ptr Ink* 165:80+ O 26 '33

**INLAND marine syndicate**

New organization forms in Chicago. *Nat Underw* 37:4 S 28 '33

**INLAND marine underwriters' association**

Annual meeting. *Weekly Underw* 128:806 Ap 29 '33

**INLAND steel company**

Inland Steel goes into black. *Econostat* 1:13, 23 Ag 19 '33

Moderate risks for large profits. *Mag of Wall St* 51:338 Ja 7 '33

**INLAND waterways corporation**

Barges for sale; Inland Waterways lines cost Uncle Sam \$23 millions but appraised at about a quarter of that. *Business Week* p7-8 Ja 4 '33

Court-martial of Ashburn suggested by F. J. Lisman. *Ry Age* 93:922 D 17 '32

Federal barge line property valued at \$7,000,-000. *Ry Age* 93:973-4+ D 31 '32

Government should dispose of its barge line. *Ry Age* 93:852-3 D 3 '32

Our pirate water competitors. T. F. Woodlock. *Barron's* 13:6 Ja 23 '33

Shannon committee suggests abandonment of Federal barge service. *Ry Age* 94:218+ F 11 '33

With less traffic Inland waterways corp. makes a better showing in 1932. *Ry Age* 94:601 Ap 22 '33

**INOCULATION**

Injection of mosquito sporozoites in malaria therapy. B. Mayne. *Pub Health Rep* 48: 909-16 Ag 4 '33

*See also*

Immunity  
Vaccination

**INQUIRIES**

There's a balance-sheet difference in the kind of letters you dictate; learning to read the other fellow's letter. B. Bigelow. *il Management Methods* 62:254-5 Je '33

*See also*

Advertising—  
Inquiries  
Follow-up systems

**INSANE**

Surrogate rules governing committee of incompetent persons. *Trust Companies* 57: 183 Ag '33

**INSECT infestation. See Food—Insect infestation****INSECT traps**

Automatic trap for weevil larvae. G. N. Wolcott. *Science* 78:sup9 O 27 '33

Destruction of insects by light traps. M. Luckiesh. *il Elec W* 101:718 Je 3 '33; Abstract. *Illum Eng Soc Trans* 28:556-7 Jl '33

Insect pests; their destruction by electrical methods; ingenious lamp traps. R. B. Matthews. *il Electrician* 110:549-50 Ap 28 '33

**INSECTICIDE and disinfectant manufacturers' association. See National association of insecticide and disinfectant manufacturers****INSECTICIDES**

Flies raised to test death sprays. A. R. Boone. *il Sci Am* 148:317 Je '33

Insecticidal studies of Midcontinent distillates as bases for pyrethrum extracts. H. H. Richardson. *bibliog Ind & Eng Chem* 24: 1394-7 D '32

Insecticide, disinfectant industry drafts code; text. *Oil Paint & Drug Rep* 124:16+ Ag 28 '33

Insecticide-fungicide makers framing code. *Oil Paint & Drug Rep* 124:17-18 S 4 '33

Insecticide industry's recent trends. E. T. Trigg. *Oil Paint & Drug Rep* 123:34 Je 12 '33

Mrs. Consumer witnesses an execution; Purina fly spray. W. Sample. *il Ptr Ink* 164:32-3 Ag 17 '33

Rotenone. R. C. Roark. *bibliog Ind & Eng Chem* 25:639-42 Je '33; Same. *Chem Age (Lond)* 28:568-9 Je 24 '33

Rotenone found in common American weed. *Ind & Eng Chem News ed* 11:16 Ja 20 '33; Same. *Sci Am* 148:231-2 Ap '33

Selenium as an insecticide. E. M. Nelson, A. M. Hurd-Karrer and W. O. Robinson. *Science* 78:124 Ag 11 '33

Symposium on insecticides. R. H. Robinson and others. *Ind & Eng Chem* 25:616-44 Je '33

Synthesis and physiological action of alpha substituted N-methylpyrrolidines. L. C. Craig. *bibliog Am Chem Soc J* 55:2543-50 Je '33

*See also*

Fumigation	Radio waves as insecticide
Hydrocyanic acid	Rotenone
Insect traps	Spraying materials
Lead arsenate	Sulfur—Agricultural uses
Mothproofing preparations	
Pyrethrum (insecticide)	

**Advertising**

Battles sales resistance with big bug models; Nicotine pyrox. B. A. Grimes. *il Ptr Ink* 163:40-1 Je 8 '33

Sleeping sickness; Ralston Purina company urges use of spray. *Ptr Ink* 164:113 S 14 '33

**INSECTS**

How insects fly. R. E. Snodgrass. *il diags Roy Aeronautical Soc J* 37:113-44 [bibliog p143-4] F '33

Thomas Say foundation gets under way. J. G. Needham. *Science* 76:567-8 D 16 '32

Weight of an insect's skeleton. P. A. Buxton. *Science* 76:sup9 D 16 '32

*See also*

Termites

**Collection and preservation**

Specimen mount for insects and other objects of natural history, etc. H. Osborn. *Science* 77:587 Je 16 '33

**Nomenclature**

Nomenclature of the vegetable weevil. E. O. Essig. *bibliog Science* 77:605-6 Je 23 '33

**INSECTS, Fossil**

Age of the paleozoic insect-bearing deposits of the Kuznetzsk basin. A. B. Martynov. *bibliog Am J Sci* 5th ser 26:447-51 O '33

**INSECTS, Injurious and beneficial**

Fighting the insects; the story of an entomologist. L. O. Howard. 333p \$2.50 Macmillan '33

Insects, man's chief competitors. W. P. Flint and C. L. Metcalf. 133p Williams & Wilkins '32

President's address at Insecticide and disinfectant manufacturers assn. meeting. E. A. Stone. *Oil Paint & Drug Rep* 122:15 D 19 '32

*See also*

Black carpet beetle	Locusts
Borers (insects)	Red spiders
Food—Insect infestation	

**INSECTS as carriers of infection**

Medical entomology. R. Matheson. 489p C. C. Thomas, Springfield, Ill.; Baltimore, Md. '32

*See also*

Fleas as carriers of infection	Mosquitoes
	Ticks

**INSERTS. See Advertisements—Inserts****INSIGNIA**

*See also*

Airplanes—Insignia

**INSOLATION**

Insolation hypothesis of rock weathering. E. Blackwelder. *Am J Sci* 5th ser 26:97-113 [bibliog p112-13] Ag '33; Discussion. 26:523-4, 607-8 N-D '33

**INSOLES****Advertising**

Rube Goldberg harnesses science for a maker of insoles. *il Ptr Ink* 164:32-3 Jl 20 '33



**INSPECTION**

Helpful hints for efficient inspection of manufactured rubber goods. diags India Rubber W 89:35-6 O '33

Inspection processes in industry. S. Wyatt and J. N. Langdon. 60p Great Britain. Industrial health research board, London '32

Inspection; routine employed by the Bristol aeroplane co. il Automobile Eng 23:169-70 My '33

Packard uses special devices to check accuracy of parts. il Iron Age 131:233+ F 9 '33

Some recent developments in electromagnetic inspection and test equipments. E. M. Smith. il Gen Elec R 36:368-70 Ag '33

Special lighting applications for industrial processes; problems relating to inspection work. J. M. Ketch, W. Sturrock and K. Staley. il diags Illum Eng Soc Trans 28:57-79; Discussion. 80-1 Ja '33

Zeiss inspection equipment; measuring and testing instruments. il diags Automobile Eng 23:89-92 Mr '33

*See also*

Boiler inspection                      Waterworks—Inspection  
Car inspection                      spection  
Factory inspection

**INSPECTION trips.** *See* Chemical education—Inspection trips; Engineering education—Inspection trips

**INSTALLMENT plan**

Anticipated dollar; how installment buying has survived three years of gloomy prophecy. Fortune 7:68-9 Ja '33

Building industry is fast learning how to sell; Johns-Manville's advertising program to dealers and homeowners exploiting a million dollars to lend. K. R. Dyke. Ptr Ink 163:25-8 Ap 6 '33

Cost of installment buying. L. A. Froman. Harvard Business R 11:227-36 Ja '33

Department store financing of consumer purchases of electrical household appliances. K. Dameron. N E L A Bul 20:26-8 Ja '33

Financing building improvements; deferred payment merchandising plan. J. L. Wood. Manuf Rec 102:23 Mr '33

Hartford five-year purchase plan beats electric competition. H. C. Wilson. il Gas Age 72:115-16 Jl 29 '33

Hire purchase in America. C. E. Gorham. Electrician 110:651 My 19 '33

Installment selling meets the test. A. Fertig. Comm & Fin 22:668-9 Ag 2 '33

Johns-Manville's time payment remodeling plan—and how it works. J. L. Wood. Sales Management 32:255-6 Mr 15 '33

New ruling clears excise tax tangle. Automotive Ind 68:115 Ja 28 '33

Quick profits from time payments. J. L. Wood. Am Bld 54:62-3+ Mr '33

Supplementary credit facilities; modernization by the finance company route. K. C. Watson. Manuf Rec 102:22 Je '33

Virginia plan for installment financing. E. Whitehorne. Elec W 102:57-9 Jl 8 '33

*See also*

Finance companies  
Insurance—Installment premiums

**INSTITUTE for industrial reconstruction.** *See* Italy—Institute for industrial reconstruction

**INSTITUTE of aeronautical sciences**

Founder's meeting, New York, Jan. 26. Aviation Eng 8:24-5 F '33

**INSTITUTE of British foundrymen**

Annual conference, 30th, Cardiff, June 20-23. Engineer 155:658-9 Je 30 '33; Foundry 61:13+ Ag '33

**INSTITUTE of chemical distributors**

Chemical distributors organizing an Institute. Oil Paint & Drug Rep 124:16 S 4 '33

**INSTITUTE of dyers and finishers**

Dyers and finishers form institute. Chem & Met Eng 40:100 F '33

**INSTITUTE of international finance**

Report of I.B.A. foreign securities committee. Inv Banking 3:57-61 N 16 '32

**INSTITUTE of metals**

Annual general meeting, 25th, London. Engineering 135:284, 310-12, 326-7, 362-4 Mr 10-31 '33; Engineer 155:266-7, 293-5 Mr 17-24 '33; Chem Age (Lond) 28:218-19 Mr 11 '33; Metal Ind 31:125-7 Ap '33

Silver jubilee meeting, Birmingham, Sept. 18-21. Engineering 136:365-7, 391-3, 419-20 S 29-O 13 '33; Engineer 156:306-8 S 29 '33; Chem Age (Lond) 29:269-70 S 23 '33; Soc Chem Ind J (Chem & Ind) 52:763-5 S 22 '33; Metal Ind 31:335-7 O '33

**INSTITUTE of municipal and state affairs**

Proceedings of the fifth Institute of municipal and state affairs, held at Montpelier, Vermont, January 11-13, 1933. 58p Norwich univ. Bur. of municipal affairs, Northfield, Vermont '33

**INSTITUTE of public affairs**

Proceedings of the Institute of public affairs, seventh annual session, Athens, Georgia, May 8-16, 1933. 174p pa \$1.50 Institute of public affairs, University of Georgia, Athens '33

**INSTITUTE of public engineering**

Institute to study distribution cost founded. Pub Util 11:61-2 Ja 5 '33

**INSTITUTE of radio engineers**

Report of the secretary, 1932. Inst Radio Eng Proc 21:508-14 Ap '33

**INSTITUTE of scrap iron and steel**

Annual meeting, Chicago, July 5-6. Iron Age 132:25 Jl 13 '33; Steel 93:12 Jl 10 '33

**INSTITUTES of legal medicine (proposed)**

Possibilities and need for development of legal medicine in the United States, with a supplement on University departments in the field of criminology. O. T. Schultz. Nat Research Council Bul 87:1-135 [bibliog p132-5] '32 (\$1.50)

**INSTITUTION of chemical engineers**

Annual corporate meeting, 11th, London, Feb. 17. Soc Chem Ind J (Chem & Ind) 52:162-5 F 24 '33; Chem Age (Lond) 28:159-61 F 25 '33

**INSTITUTION of civil engineers**

Annual conversazione, London, June 14; exhibits. Engineering 135:685-7 Je 23 '33; Engineer 155:620 Je 23 '33

**INSTITUTION of electrical engineers**

Brief biographies of the new chairmen. pors Elec R (Lond) 113:545-7 O 20 '33  
Inaugural address. E. W. Marchant. Inst E E J 72:1-10 Ja '33  
I.E.E. council nominations. Elec R (Lond) 112:808 Je 9 '33

**INSTITUTION of electrical engineers. Journal**  
Index to vols. 60 to 69, 1922-1931. 263p Spon '33

**INSTITUTION of gas engineers**

Annual meeting, 70th, Liverpool. Gas J (Lond) 202:717-28, 733-42 Je 7 '33; Engineering 135:617-19 Je 9 '33; Gas Age 71:651-3 Je 24 '33

**INSTITUTION of mechanical engineers**

Annual general meeting, London, Feb. 17. Engineer 155:198 F 24 '33; Engineering 135:224, 255-7 F 24-Mr 3 '33

Annual report of the Council for the year 1932. Inst Mech Eng Proc 124:175-219 '33

Notices of works visited during the summer meeting in Canada and the United States. Inst Mech Eng Proc 123:65-133 '32

Summer meeting, Edinburgh, May 29-June 2. Engineering 135:627-9, 655-7 Je 9-16 '33; Engineer 155:604-5 Je 16 '33

**INSTITUTION of naval architects**

Spring meeting, London, April 5-7. Engineer 155:368-71, 394-7, 419-20, 444-6 Ap 14-My 5 '33; Engineering 135:414-16, 441-3, 467-70, 483-6 Ap 14-My 5 '33

**INSTITUTION of petroleum technologists**

Annual dinner, 14th, London, Oct. 7. Inst Pet Tech J 18:921-42 N '32

Annual dinner, London, Oct. 6. Chem Age (Lond) 29:355 O 14 '33

Annual general meeting, 20th, London, March 14. Inst Pet Tech J 19:285-300 Ap '33

**INSTITUTION of water engineers**

Summer meeting, 38th, Southend-on-Sea, May 10. Engineering 135:691-2, 711 Je 23-30 '33

**INSTITUTIONAL advertising.** See Advertising, Institutional

# **INSTITUTIONS, Public**

See also

Homes, Institutional  
Hospitals  
Prisons

# **INSTRUCTION in use of product**

Atkins' instruction books tap untried market; use of company's tools by amateurs. C. H. Holland. *Ptr Ink* 165:25-6+ N 2 '33  
Ten ways to teach buyers how to use products. *Ptr Ink* 164:31-2 J1 13 '33

# **INSTRUCTIONS**

How are you going to train your new operators? use of process charts. A. H. Mogensen. *il Factory Management* 91:351-3 S '33

Written instructions for every department; Hall bros. Kansas City. C. S. Stevenson. *Management Methods* 62:216-17+ My '33

See also

Employees' manuals  
Safety instructions

# **INSTRUMENTS**

Opportunities for using indicating and recording control instruments in the rock products industries. J. R. Withrow. *il Rock Prod* 36:32-5 F '33

Power show exhibits; new control instruments. *Chem & Met Eng* 39:680 D '32

See also

Aeronautic instruments	Nautical instruments
Balances	Optical instruments
Drawing instruments	Physical instruments
Electric apparatus and appliances	Recording instruments
Electric instruments	Scientific apparatus and instruments
Measuring instruments	Surveying instruments

**INSULATING bushings.** See Bushings, Insulating

# **INSULATING materials**

Adequate specifications for rubber insulation. H. P. Seelye and E. W. Spring. *il Elec W* 102:364-6 S 16 '33

Calit und Calan, zwei neue keramische isolierstoffe. J. Wallich. *il Zeit Ver Deutsch Ing* 77:483-4 My 6 '33

Ebonite; the nature and properties of an important electrical material. F. A. Middleton. *il Elec R (Lond)* 112:77-8 Ja 20 '33

Effect of accelerators and antioxidants on electrical characteristics and water absorption of vulcanized rubber insulation. J. H. Ingmanson, C. W. Scharf and R. L. Taylor. *il diag Ind & Eng Chem* 25:83-7 Ja '33

Electrical insulation of concrete; abstract. T. Ferrier. *Mech Eng* 55:576 S '33

Die entwicklung des elektrischen installationsmaterials. R. Zaudy. *il diags Zeit Ver Deutsch Ing* 77:643-6 Je 17 '33

Fused silica; numerous applications in the electrical industry. *Electrician* 111:175 Ag 11 '33

High voltage generators; why flexible insulation was adopted by British and American manufacturers of high speed alternators. *Electrician* 109:717 D 2 '32

Impregnation varnishes; evaporation of solvents and the oxidation of varnishes used for electrical windings, etc. D. Textier. *diags Electrician* 109:666-71 N 25 '32

Insulating materials. A. R. Dunton. *il Electrician* 110:33-4 Ja 13 '33

Insulating panels; materials for use in switchboards and mountings. A. R. Dunton. *il Electrician* 109:672-5 N 25 '32

Insulating varnish production. *il Elec R (Lond)* 112:732 Mr 17 '33

Insulation materials; basic substances and their characteristics. H. Warren. *Electrician* 110:434-6 Ap 14 '33

Insulation progress, 1932. A. R. Dunton. *Electrician* 110:111 Ja 27 '33

Insulations; enamels, paints, etc. H. Warren. *Electrician* 111:281-2 S 8 '33

Insulations; mechanical applications of rubber, cellulose products, synthetic resins, etc. H. Warren. *il Electrician* 111:442-4 O 13 '33

Insulations; varnished sheets, tapes, sleeveings, etc. H. Warren. *Electrician* 110:184-6 F 10 '33

Insulations—wire coverings. H. Warren. *Electrician* 110:736-7 Je 9 '33

Isolierstoffe der kabelindustrie unter besonderer berücksichtigung der celluloseester. P. Nowak. *Angew Chemie* 46:584-7 S 16 '33

Latham Brown and co. insulating varnishes. *Electrician* 111:69 J1 14 '33

Making high-speed Calrod. C. H. Hannon. *il Gen Elec R* 36:409-10 S '33

Micanite building economies. A. A. C. Dickson. *Elec R (Lond)* 112:564 Ap 21 '33

Performite, a new rubber insulation. *Rubber Age* 33:64 My '33

Plastics; their use in the electrical industry. K. G. Maxwell. *il Soc Chem Ind J (Chem & Ind)* 52:755-8 S 22 '33; Abstracts. *Electrician* 111:52-3 J1 14 '33; *Elec R (Lond)* 113:16 J1 7 '33

Properties of mycalex. W. W. Brown. *Inst Radio Eng Proc* 21:1339-42 S '33

Pyranol affords far smaller secondary network units. H. R. Turner and W. T. McLachlan. *il diag Elec W* 101:726-7 Je 3 '33

Rubber and gutta percha. F. A. Middleton. *Elec R (Lond)* 111:774-5 N 25 '32

Service requirements of insulating varnishes. R. H. Arnold and L. E. Frost. *il Ind & Eng Chem* 25:133-5 F '33; Same abr. *Power* 76:318 D '32; Excerpts. *Elec J* 29:535 N '32

Synthetic resins and other plastics from an electrical standpoint. W. H. Nuttall. *Soc Chem Ind J (Chem & Ind)* 52:124 F 10 '33; Same. *Chem Age (Lond)* 28:117 F 11 '33

See also

Cotton, Insulating	Porcelain, Insulating
Oil, Insulating	Rubber
Paper, Insulating	

# **Testing**

Alternating-current bridges for measurements of electrical insulating materials. W. A. Ford and S. I. Reynolds. *il diags Gen Elec R* 36:99-105 F '33

Application of low-temperature tar in the production of phenol-formaldehyde resins. G. T. Morgan, N. J. L. Megson and E. L. Holmes. *diag Soc Chem Ind J* 52:277T-80T S 8 '33

Deformation in laminated. E. E. Halls. *diags Plastic Prod* 9:15-17 Mr '33

Electrical breakdown of liquid dielectrics. F. M. Clark. *bibliog J Fr Inst* 216:429-53 O '33

Inflammable gases produced by thermal decomposition of plastic insulators in an electric arc. J. B. Littlefield and W. P. Yant. *diag pl U S Bur Mines Rep of Invest* 3194:1-7 '32

Methods of test for phenolic resin laminated materials. D. Harvey. *diags Elec J* 30:66-9+ F '33

New method of eliminating edge effect in electric breakdown. A. S. Norcross. *il diag R Sci Instr* 4:444-6 Ag '33; Abstract. *Elec W* 102:569 O 28 '33

**INSULATING oil.** See Oil, Insulating; Oil, Transformer

# **INSULATING tape**

Insulating tape production; rubber and rubberless types. F. A. Middleton. *Elec R (Lond)* 112:590-1 Ap 28 '33

# **Testing**

Application of control analysis to the quality of varnished cambric tape. M. F. Skinner. *Am Soc T M Proc* 32 pt 2:670-5 '32

Testing varnished cloth. D. Harvey. *diag Elec J* 30:303-5 J1 '33

# **INSULATION (electric)**

Asphalt emulsion reduces insulator radio troubles. F. O. McMillan. *il Elec W* 102:185-7 Ag 5 '33

Depositing oxide film on aluminum. A. Eyles. *Metal Ind* 31:17 Ja '33

Effect of busbar insulation on heat dissipation. R. J. Coe. *Elec W* 101:223-4 F 18 '33



**INSULATION (electric)—Continued**

- Eliminating radio interference from pin type insulators. G. W. Barrow. *diag Elec W* 100: 787 D 10 '32
- L'évolution de la technique des isolateurs. *diag Génie Civil* 102:427 My 6 '33
- Insulation co-ordination and impulse testing; abstracts of papers at A.I.E.E. meeting. *Elec W* 101:156-8 F 4 '33
- Insulator reliability in service. R. C. Andersen. *Electrician* 109:718; Discussion. 718 D 2 '32; Abstract. *Elec R (Lond)* 111:744-5 N 18 '32
- Insulator research; discussion at H.T. congress. *Electrician* 111:412 O 6 '33
- Oxide film insulation. G. Shapiro. *Elec R (Lond)* 111:739 N 18 '32
- Power system insulation co-ordination. A. E. Silver. *Elec W* 101:257-8 F 25 '33
- Pulp insulation for telephone cables. H. G. Walker and L. S. Ford. *il Bell System Tech J* 12:1-21 Ja '33; Abstract. *Elec Eng* 51:838-43 D '32
- Report of the committee on electrical insulation of the Division of engineering and industrial research of the National research council for the year 1932. 60p National research council '32
- Salient points from National research council insulation papers. *Elec Eng* 52:101-6 F '33
- Shock threshold fixes appliance insulation resistance. G. Thompson. *Elec W* 101:793-5 Je 17 '33
- Some line insulator criteria; abstract. R. C. Andersen. *Elec R (Lond)* 111:964; Discussion. 964 D 30 '32; *Electrician* 110:7 Ja 6 '33
- Summary of year's insulation research. J. B. Whitehead. *Elec Eng* 52:99-100 F '33

*See also*

- |                     |                       |
|---------------------|-----------------------|
| Dielectric losses   | Electric wiring       |
| Dielectrics         | Insulating materials  |
| Electric cables     | Oil, insulating       |
| Electric resistance | Porcelain, insulating |

**Testing**

- Care of large electrical apparatus. J. S. Murray. *il Blast F & Steel Pl* 21:114-15+ F '33
- Un générateur d'impulsions électriques fonctionnant à 3 millions de volts. A. d'Arsonval. *Génie Civil* 103:42-3 Jl 8 '33
- High voltage insulators; Doulton & co. insulator electrical and mechanical testing plant. *il Elec R (Lond)* 112:591 Ap 28 '33
- Impulse and dynamic flashover studies of 26-kv wood pole transmission construction. A. S. Brookes, R. N. Southgate and E. R. Whitehead. *diags Elec Eng* 52:89-95 F '33
- Impulse tests on wood line-materials. J. J. Torok and W. R. Ellis. *diags Elec J* 30: 347-52 Ag '33
- Low voltage network cable of a new type. H. O. Anderson and M. C. Cheney. *il plans Elec Eng* 52:682-7 O '33
- Meter insulation test with safety and speed. L. K. Yerger and E. A. LeFever. *diag Elec W* 102:79-80 Jl 15 '33
- Motor insulation resistance. Maintenance Eng 91:57-8 F '33
- New pin insulators free from radio interference. H. H. Brown. *diags Elec Eng* 52:608-13 S '33; Same cond. *Electrician* 111: 646-9 N 24 '33
- New tests disclose causes of cable deterioration; abstracts. K. S. Wyatt, E. W. Spring and C. H. Fellows. *il diag Elec W* 102:22-6 Jl 1 '33; *Elec Eng* 52:450-4 Jl '33
- Recommendations for impulse voltage testing. *il Elec Eng* 52:17-22 Ja '33
- Testing varnished cloth. D. Harvey. *diag Elec J* 30:303-5 Jl '33
- Transformer insulation tests. L. Wetherill. *bibliog Gen Elec R* 35:649-53 D '32

*See also*

- Oil, Transformer—  
Testing

**INSULATION (heat)**

- Aluminum foil for building insulation. *diag Heat & Ven* 30:47 N '33
- Check pipe insulation. Heating-Piping 5:41-2 Ja '33

- Cotton mats for curing concrete. *il diags Pub Roads* 14:73-80+ Jl '33; Excerpts. Concrete 41:9 S '33
- Demonstrating a hidden sales point; this plan helped get national distribution in ninety days; United States gypsum company. *il Ptr Ink Mo* 25:19 D '32
- Glass for protection from infra-red radiation. E. H. Hobbie. *il Illum Eng Soc Trans* 28: 658-64 S '33
- Heat insulation. A. L. Foster. Gas J (Lond) 201:566-8 Mr 1 '33; Abstract. Chem Age (Lond) 28:121 F 11 '33; Excerpt (Heat insulation for steam plants). Blast F & Steel Pl 21:427-9 Ag '33
- Heat loss from copper piping. R. H. Heilman. *il Heating-Piping* 5:458-62 S '33
- Improving open-hearth furnace design. W. C. Buell, Jr. *diags Steel* 91:29-31 O 24; 26+ N 21; 28-9 N 28; 22+ D 26 '32
- Insulating refractory for heating furnaces; no. 80 insulating firebrick. Iron Age 131: 433+ Mr 16 '33
- Insulating the open-hearth furnace. H. J. Williams. *il Iron Age* 132:36-7+ S 28 '33
- Insulation. *il Refrig Eng* 25:356+ Je '33
- Insulation for boiler rooms and piping systems. *il Power Pl Eng* 37:211-12 My '33
- Insulation for house construction. J. D. Hoffman. *diags Purdue Univ Eng Extension Dept Bul* 31:1-29 '33
- Insulation of new and old houses. G. D. Malory. 73p Dominion fuel board, Ottawa, Can. '32
- Insulation of open hearth furnaces. E. F. Entwisle. Blast F & Steel Pl 21:308-11 Je '33; Excerpts. Steel 92:27-9 My 29 '33; Iron Age 131:862-3 Je 1 '33; Brick & Clay Rec 83:17-18+ Jl '33
- Insulation on the farm. 49p U. S. National committee on wood utilization, Washington '33
- Insulation properties of aluminum foil. T. F. Rockwell. *bibliog Arch Rec* 74:237 S '33; Discussion. J. B. Barnitt and E. B. Svenson. 74:408 N '33
- Insulation statistical bureau committee to deal with manufacture and use of fibre insulating boards. Refrig W 68:25 Je '33
- It pays to insulate hot water tanks. R. S. Julsrud. *il Dom Eng* 142:44-6+ S '33
- M.D.T. refrigerator cars insulated with aluminum foil. *il Ry Age* 94:663-4 My 6 '33
- Modern heat insulation. R. Trauttschold. *il Power Pl Eng* 36:812-14 D '32
- Modern heat insulation. E. W. Wetherbee. *il India Rubber W* 89:25-6+ O; 33-4 N '33
- Physical and thermal properties of heat-insulating materials; tabulation. Chem & Met Eng 39:658 D '32
- Relation between radiant energy and paint. F. C. Atwood. Oil Paint & Drug Rep Extra ed 122:44-5 N 29 '32
- Report on high temperature heat insulation; a correlation of existing data. M. L. Nathan. *Inst Chem Eng Trans* 9:177-90 '31
- Rock wool for insulation. M. F. Goudge. Rock Prod 35:17 N 19 '32; Same. Can Eng 63:46 D 13 '32
- Seapak, a new insulating material. Business Week p12 Jl 29 '33
- Seapak; an easy to handle insulating material. Automotive Ind 68:588 My 13 '33
- Selection of building insulation. T. F. Rockwell. *bibliog diags Arch Rec* 74:65-71, 149-54 Jl-Ag '33
- Some pitfalls in supervision; insulation and acoustics. W. F. Bartels. Architecture 68:37 Jl '33
- Thermal insulation. E. Griffiths. Engineering 135:536-7 My 19 '33
- Thermal insulation with aluminum foil. R. B. Mason. *bibliog il Ind & Eng Chem* 25:245-55 Mr '33; Abstract. Sci Am 149:243-4 N '33; Summary. Refrig Eng 25:264 My '33
- Transmission of heat through fabrics; abstract. M. C. Marsh. Mech Eng 55:586 S '33
- Uses insulated covered ladles; General motors corp. D. O. Thomas. *il diag Foundry* 61:18-20+ Ja '33

**INSULATION (heat)—Continued**

Wärmeschutzstoffe aus gichtstaub und schlackenwolle. O. Krebs. Stahl & Eisen 53: 1109-10 O 26 '33

See also

Asbestos  
Cold storage

Refrigeration and re-  
frigerating machin-  
ery

**Testing**

Simplified apparatus for determining the thermal insulating value of fabrics. H. S. Schenker. il diags Melland 5:115-17 Je-Jl '33

**INSULIN**

Crystalline structure of insulin; abstract. G. L. Clark and K. E. Corrigan. Science 76: 545 D 9 '32

Insulin, fattener for thin people? Sci Am 148: 237 Ap '33

**INSULL companies**

Bankers reduce Middle West interest rate; other action. Elec W 101:306 Mr 11; 338 Mr 18 '33

Insull insurance program outlined. Ins Field (Fire ed) 62:8 Je 22 '33

Insull New England units go to Wyman; plans made for eastern group. Elec W 101:562 My 6 '33

Insull successor company fought. Elec W 101: 738 Je 10 '33

Insull utility empire; description of the complete set-up showing the interlocking ownership and control, with subsidiary companies listed. J. G. Hodgson. map Rand McNally Bankers Mo 50:215-22, 226+ Ap-My '33

Martin Insull rearrested and bailed. Elec W 101:146 F 4 '33

Middle West agreement sanctioned by court. Elec W 101:781 Je 17 '33

Middle West receivers report on first year. Elec W 101:810 Je 24 '33

Middle West utilities report for 1932. Refrig W 68:38-9 Jl '33

Plan reorganization of Insull units through eastern holding company. Elec W 101:434-5 Ap 8 '33

Protective committees act to guard Insull investors. Elec W 101:534 Ap 29 '33

Samuel Insull, jr. testifies; father too poor to return. Elec W 101:211 F 18 '33

Senate and Trade commission continue Insull company investigations. Elec W 101:242-3 F 25 '33

Senate hears Insull testimony. Barron's 13:4 F 20 '33

Several groups resume Insull fact finding. Elec W 101:178 F 11 '33

Status. Elec W 101:188-90 F 11 '33

Three Insulls and associates indicted for use of mails to defraud. Elec W 101:273-4 Mr 4 '33

What Middle West holders may get. Barron's 12:20 N 21 '32

**INSULL utility investments, Inc.**

Bankers deny they knew Insull status in accepting collateral to secure loans. Elec W 100:334-5 D 24 '32

Insull debenture holders plan battle. Barron's 12:18 D 12 '32

**INSURANCE**

Century of stock insurance in America. W. H. Bennett. Ins Field (Chicago Conv Daily ed) 62:7-8+ O 11 '33; Excerpts. East Underw Extra ed 34:10 O 14 '33

Consumer of insurance. L. H. Lippincott. East Underw 34:34 Je 30 '33

Depression problems reviewed. H. P. Dunham. East Underw 34:36-7 Ja 6 '33

Digest of insurance. B. Butzel. 334p Leonard pub. co, New York '32

Economic function of insurance; relation to national well-being emphasized by values protected. L. H. Lippincott. Weekly Underw 128:976-9 My 20 '33

14 questions on insurance for loan officers and borrowers. C. T. Hubbard. Rand McNally Bankers Mo 50:606-7+ N '33

Government flouts American insurance, underwriters state. Ins Field (Fire ed) 62: 7-8 Ag 24 '33

Home loan banks will not dictate placing insurance. Nat Underw 37:4 N 9 '33

H.O.L.C. won't disturb insurance renewals. Ins Field (Fire ed) 62:7 N 9 '33

Insurance as bolster of protection. D. C. Campbell. il Credit & Fin Management 35:28 S '33

Insurance digest. Published in monthly numbers of Credit and financial management

Insurance from a client's viewpoint; abstract. C. H. Crocker. Management R 22:141 My '33

Insurance guards credits. D. C. Campbell. Credit & Fin Management 35:17+ N '33

Insurance management series. Published by Am. management assn, 20 Vesey st, New York

Insurance men march; they are offering new policies to meet new hazards. Business Week 116-17 D 21 '32

Insurance security in a world of changes; abstracts. P. D. Betterley. East Underw 34: 35 My 19 '33; Nat Underw 37:3 My 18 '33; Spectator 130:34 Je 1 '33

New valuation idea applied to company, agent, policyholder and state. S. O. Smith. Ins Field (Fire ed) 62:7+ My 18 '33

This insurance business of ours. D. N. Handy. Special Lib 24:5-7 Ja '33

What are you doing about insurance? companies in 17 cities answered this and other questions. System 62:446, 510 O-N '33

See also

Banks and banking— Insurance require-  
ments  
Benefit societies  
Building and loan  
associations—In-  
surance require-  
ments  
Churches—Insurance  
requirements

Hotels—Insurance  
requirements  
Insurance agents  
Insurance companies  
Insurance law  
Insurance trusts  
Newspapers—In-  
surance service

**Accounting**

Records for insurance policies. B. L. Enloe. J Account 53:442-5 Je '32; Same. Credit & Fin Management 35:38+ Mr '33

See also

Insurance agents—  
Accounting

**Adjustment of claims**

Increasing claim-mindedness of public and its relation to premium cost. E. C. Stone. Weekly Underw 128:153+ Ja 21 '33

International claim association 24th annual convention, Atlantic City. East Underw 34: 37, 39+ S 15 '33; Spectator 131:28+ S 14 '33; Weekly Underw 129:436-7+ S 16 '33

Public relations are dependent on claims. C. G. Taylor. East Underw 34:34 S 22 '33

Standard claims manual urged as aid to holding fire and motor business. E. J. Scammell. Weekly Underw 128:857+ My 6 '33

State adjustment bureaus and commissions are a new menace to insurance companies. Weekly Underw 128:475 Mr 4 '33; Discussion. 128:639 Ap 1 '33

Suspicious attitude on claims incorrect. H. P. Dunham. Weekly Underw 129:826+ O 28 '33

Viewpoint of trial lawyer. R. M. Knepper. Nat Underw 37:25+ Ag 31 '33

See also

Subrogation

**Advertising**

Big producers express views on proposed advertising campaign outlined by Stanley F. Withe. East Underw 34:26 O 20 '33

Fee for advertising in Pennsylvania \$2. Weekly Underw 129:185 Jl 29 '33

How we test and check direct mail and newspaper advertising; Postal life & casualty company, Kansas City, Mo. M. B. Salisbury. Sales Management 33:405-6 O 20 '33

Other frogs, too; Glens Falls insurance company. il Ptr Ink 165:106 O 12 '33

Pennsylvania ad law bars unlicensed insurers. C. F. Armstrong. East Underw 34:22 Je 23 '33



**INSURANCE—Advertising—Continued**

Personalized foldettes sell insurance; Continental casualty company. C. B. Trost. II Ptd Salesmanship 60:230-2+ N '32

Promotional advertising along two lines. T. J. V. Cullen. Spectator 131:29 S 28 '33

Southern round-table of the Insurance advertising conference, Signal Mountain, Tenn, May 14-16. East Underw 34:7-8+ My 19 '33; Ins Field (Life ed) 62:5-6+ My 19 '33; Nat Underw (Life ed) 37:5+ My 19 '33

**See also**

Insurance, Fire—Advertising

Insurance agents—Advertising

Insurance, Life—Advertising

**Bibliography**

Insurance. Published in monthly numbers of Management review

**Cancellation**

Automatic cancellation lazy method; suggests better way. A. C. Root. Ins Field (Fire ed) 62:6 O 19 '33

Premium collection problem challenges the ingenuity of insurance. J. L. Case. East Underw 33:68 D 9 '32

**See also**

Insurance, Automobile—Cancellation

Insurance, Casualty—Cancellation  
Insurance, Fire—Cancellation

**Coverage**

Committee reports on church cover in Rochester diocese. Nat Underw 37:1+ F 2 '33

Insurance statement; form recommended by National association of credit men. Credit & Fin Management 35:40 Ap '33

Surveys of an assured's coverage, when carefully carried out, of definite advantage to agents. J. C. McIntosh. Weekly Underw 128:365+ F 18 '33

**Exhibits**

Stock interests ban exposition displays at World's fair. Ins Field (Fire ed) 62:7 F 2 '33

**Fraudulent claims**

Unethical practices cause claim trouble. T. F. Hickey. Weekly Underw 129:486+ S 16 '33

**See also**

Insurance, Automobile—Fraudulent claims

Insurance, Life—Fraudulent claims

Insurance, Casualty—Fraudulent claims

**History**

Early American policy forms. Spectator 131:15 O 19 '33

**Instalment premiums**

Charges reduced on premium financing; First bancredit corporation of Chicago. Ins Field (Fire ed) 62:20 Ag 24 '33

Company premium financing tabooed by Pacific board. Nat Underw 37:6 My 18 '33

Consideration is asked by premium finance concerns in emergency. Nat Underw 37:4+ Mr 16 '33

Finance companies ask conference with fire-casualty companies on premium financing. East Underw 34:1+ N 10 '33

First Bancredit in new financing plan. Ins Field (Fire ed) 62:9 F 2 '33

Full text of premium financing report to fire and casualty companies. East Underw 34:26+ Ag 25 '33; Abstract. Nat Underw 37:3+ Ag 17 '33

Refinements effected in finance plan; First bancredit corporation. Weekly Underw 128:32+ Ja 7 '33

Suggests each company finance own premiums. F. N. Belgrano, jr. Weekly Underw 128:434 Mr 4 '33

**See also**

Insurance, Fire—Instalment premiums

Insurance, Workmen's compensation—Instalment premiums

**International aspects**

Influence of insurance on international trade balances. H. J. Werder. East Underw 34:44 O 13 '33

**Municipal policies**

Denver men spike saving fallacy; sad experience of Colorado state fund cited as Board fights dropping of city's protection. Ins Field (Fire ed) 61:9 D 15 '32

How shall local agencies divide public insurance? W. A. Miller. Weekly Underw 129:197+ J1 29 '33

Westchester agents hold cities can't insure in assessment companies. East Underw 34:18+ F 10 '33

**See also**

Insurance, Municipal

**Periodicals**

Companies miss chances for publicity. W. S. Crawford. East Underw 34:23 S 29 '33

Features of magazine for policyholders. C. S. Davis. East Underw 34:12 S 29 '33

Insurance journalism, insurance writers and journalistic sideliners. East Underw 34:19 Mr 17 '33

Many raters and muck rakers now thriving on Chicago's soil. Nat Underw (Life ed) 37:2 Ag 18 '33

Our new competitor; the Insurance brokerage. Weekly Underw 128:169 Ja 21 '33

Special library and the trade journal. L. A. Mack. Special Lib 24:3-4 Ja '33

Value of trade press and advertising to insurance. R. W. Conde. Ins Field (Fire ed) 62:6+ My 18 '33; Same. Ins Field (Life ed) 62:4+ My 19 '33; Excerpts. Weekly Underw 128:959+ My 20 '33

**Policies**

Avoid misunderstandings by knowing peculiarities of various kinds of insurance policies. C. T. Hubbard. Weekly Underw 129:238+ Ag 5 '33

**Policy holders**

Two new groups to aid creditors of companies taken over by the New York insurance department. Ins Field (Fire ed) 62:11 My 18 '33

**Premiums, Payment of**

Additional Illinois rule on delinquent accounts. Nat Underw 37:6 O 5 '33

Are collections difficult? try this letter. Spectator 130:13 Mr 23; 10 Ap 6 '33

Art of collecting; short term credit system. H. E. Mitchell. East Underw 34:34 J1 7 '33

Automatic cancellation lazy method; suggests better way. A. C. Root. Ins Field (Fire ed) 62:6 O 19 '33

Balance rules now in all sections. Nat Underw 37:5+ Mr 9 '33

Balances of agents called trust funds. C. C. Greer. Ins Field (Fire ed) 61:7 N 10 '32; Same. East Underw 33:29 N 18 '32

Commissioners act on balance issue. Nat Underw 37:5+ Je 8 '33

Conservation committee's deliberations disclosed. Nat Underw 37:1+ J1 20 '33

Credit extension being curtailed. Nat Underw 37:3+ Ja 5 '33

Current balances O.K., old ones bad. Nat Underw 37:1+ J1 13 '33

Delinquent agents data for Illinois. Nat Underw 37:3+ N 9 '33

Delinquent rule. C. F. Thomas. Ins Field (Fire ed) 62:9+ Ja 12 '33; Abstract. Nat Underw 37:3+ Ja 12 '33

Deplores credit situation. H. W. Hanson. Spectator 129:28 N 24 '32; Same. Nat Underw 36:16 N 24 '32

Faults of monthly account current plan cited by critic. Nat Underw 37:15-16 My 25 '33

Favors two agency accounts. L. C. Quin. East Underw 33:22 D 2 '32

Free insurance evil; four remedies proposed. H. Brace. East Underw 34:26 S 15 '33

Investigating ability to pay before selling policy avoids future trouble. East Underw 34:28 Ag 25 '33

**INSURANCE—Premiums, Payment of—Cont.**

Local agents tell how they solve the collection problem. East Underw 34:28 Je 9 '33

Observations are made on premium collections. A. Kemp. Nat Underw 37:4 Jl 13 '33

Premium collection problem challenges the ingenuity of insurance. J. L. Case. East Underw 33:68 D 9 '32

Premium queries O. K., Kentucky court rules. Ins Field (Fire ed) 62:7 My 11 '33

Report of delinquents is required by 21 states. Nat Underw 37:11 O 5 '33

Shall insurance companies report to the state insurance commissioner all agents with balances over 90 days due? P. E. Smith. Ins Field (Fire ed) 62:6+ O 12 '33; Same.

S.E.U.A. mandatory delinquent agency balance rule; text. East Underw 34:24 Mr 10 '33

S.E.U.A. proposes new balance rule. Ins Field (Fire ed) 62:7+ F 16 '33

Stricter attention now paid to credit practice. Nat Underw 37:3 F 23 '33

Strong tendency toward definite credit methods. C. M. Cartwright. Nat Underw 36:35 N 24 '32

Trusteed premium plan impracticable. W. H. Bennett. Ins Field (Fire ed) 62:6+ F 23 '33; Same abr. Weekly Underw 128:392-3 F 25 '33

Trusteeship departure full of pitfalls and contrary to common law. W. H. Bennett. Ins Field (Fire ed) 62:6+ Ag 31 '33; Excerpts. East Underw 34:26-7 S 8 '33; Abstracts. Nat Underw 37:1+ Ag 31 '33; Spectator 131:21 Ag 31 '33

Uniform balance rule is adopted. Nat Underw 36:5+ D 8 '32

*See also*

Insurance—Installment premiums

**Preventive work**

Urges agents to join concerted drive for prevention work. S. T. Morrison. Ins Field (Chicago Conv Daily ed) 62:21 O 12 '33

*See also*

Insurance, Automobile Insurance, Fire—Preventive work  
Insurance, Casualty—Insurance, Life—Preventive work Health conservation service

**Purchasing**

Buyers looking upon insurance as contract; Insurance buyers association, San Francisco. A. P. Lange. Weekly Underw 128:246 F 4 '33

Buyers' viewpoints. P. D. Betterley. East Underw 34:38 S 29 '33

Insurance buyers surveyed. chart Nat Underw 37:27 Ag 17 '33

Large buyers probe many phases of the business; American management association. Nat Underw 37:3+ My 25 '33

Resolutions for 1933 insurance problems. P. D. Betterley. Management Methods 62:100-1 F '33

Upholds high standard of contract as sales argument for stock companies. C. W. Pierce. Ins Field (Fire ed) 62:6+ Je 15 '33

*See also*

Insurance, Life—Purchasing

**Rates**

Increasing claim-mindedness of public and its relation to premium cost. E. C. Stone. Weekly Underw 128:153+ Ja 21 '33

**Rating bureaus**

*See also*

Insurance, Fire—Rating bureaus

**Records**

Insurance records maintained by business organizations; abstract. Management R 22:14 Ja '33

Insurance records that really protect. P. D. Betterley. Management Methods 61:632+ N '32

Records for insurance policies. B. L. Enloe. J Account 53:442-5 Je '32; Same. Credit & Fin Management 35:38+ Mr '33

**Reinsurance**

British reinsurance offices' consolidated figures. Spectator 130:10 Mr 23 '33

Faith as an element in insurance. W. J. Langler. Nat Underw 36:10+ pt 2 D 29 '32

Reciprocity has a different meaning to reinsurers than to agents. Nat Underw 36:3-4 pt 2 D 29 '32

Reinsurance, like tariff, benefits by difference of opinion. T. B. Ross. Nat Underw 36:4 pt 2 D 29 '32

Reinsurance number. Nat Underw 36:3-14 pt 2 D 29 '32

Treaty reinsurance gains as certain fads become discredited. J. E. White. Nat Underw 36:6 pt 2 D 29 '32

*See also*

Insurance, Accident Insurance, Fire—Reinsurance  
Insurance, Casualty—Reinsurance

**Risks**

Aetna affiliated companies have new survey plan for commercial risks. East Underw 34:36 Je 23 '33

Chemical engineering and insurance. R. C. Stratton and J. B. Ficklen. Il Sci Am 149:26-7 Jl '33

Hazards of oil used for fuel present many opportunities to sell insurance. C. T. Hubbard. Weekly Underw 128:644+ Ap 1 '33

Insure?—why, sure! Why insurance underwriters seldom make the hole-in-one-club. C. T. Hubbard. Weekly Underw 127:296, 448, 650, 1064 Ag 13, S 3, O 1, D 3 '32

**Study and teaching**

Boon for insurance seen in formation of teachers' assn. East Underw 34:1+ Ja 13 '33

Canadian institute of insurance. Spectator 129:29 D 29 '32

German society for the science of insurance issues 32d annual report. East Underw 34:26 F 24 '33

*See also*

Insurance, Life—Study and teaching Insurance institute of America

**Taxation**

\$95,500,000 taxes paid by insurance companies in 1931. East Underw 34:1+ Ja 6 '33; Same. Nat Underw 37:4 Ja 5 '33; Same. Spectator 130:33 Ja 5 '33

*See also*

Insurance, Life—Taxation Insurance companies—Taxation

**Alabama**

Alabama State fund figures published. Ins Field (Fire ed) 62:8-9 F 16 '33

**Cuba**

Insurance in Cuba up to end of year 1920. F. H. Ureña. Weekly Underw 129:276 Ag 12 '33

**Far East**

Visit to the Far East. E. A. Brownell. East Underw 34:22 My 5 '33

**Great Britain**

Co-operative insurance. Economist 116:859 Ap 22 '33

*See also*

Insurance companies—Great Britain

**Illinois**

Governor of Illinois treats insurance problems. H. Horner. Nat Underw (Life ed) 37:6 Ja 13 '33

*See also*

Insurance companies—Illinois

**Russia**

*See also*

Insurance companies—Russia



**INSURANCE, Accident**

Accident insurance; an important segment in circle of protection. B. A. Page. East Underw 34:40 F 3 '33

Carrying limits on accident are cut. Nat Underw 37:31 F 23 '33

Disability underwriting lessons of depression prove virtues of old underwriting methods. J. W. Scherr. Weekly Underw 128:1181+ Je 24 '33

Does accident insurance pay? Why no casualty agent can overlook sale of this protection. L. H. Lippincott. Weekly Underw 129:788-9 O 21 '33

Group health and accident insurance. P. W. Watt. Nat Underw 37:31 Je 8 '33

Health and accident underwriters conference 32d annual convention, Chicago, June 5-8. Ins Field (Fire ed) (H & A sup) 62:1-7 Je 15 '33; Nat Underw 37:27-37 Je 8 '33; East Underw 34:35, 38-41 Je 9 '33; Weekly Underw 128:1091-4+ Je 10 '33

In keeping with N.R.A. program; Corn products refining company to give free group accident and sickness insurance. Spectator 131:31 Ag 10 '33

Need of a separate statutory classification for accident and health insurance; abstracts. H. R. Gordon. Weekly Underw 129:361 Ag 26 '33; Spectator 131:27+ Ag 31 '33; East Underw 34:32 S 1 '33

Present day trends in disability insurance; abstracts. H. R. Gordon. East Underw 34:41-2 O 27 '33; Nat Underw 37:25+ O 19 '33

Special inducement practices attacked; Van Schaick holds hearing on link between insurance offers to subscribers of periodicals. Ins Field (Fire ed) 62:8 Ja 5 '33

**See also**

Bureau of personal Insurance, Liability accident and health Insurance, Life-Dis- underwriters ability provisions Insurance, Automobile Insurance, Work- Insurance, Casualty men's compensation Insurance, Eyesight Insurance, Work- also National association of accident and health managers

**Adjustment of claims**

Claims from carbon monoxide—difficult to differentiate between accidental death and suicide. F. S. Rossiter. Weekly Underw 129:511-12+ S 16 '33

Fractures in relation to disability claims. A. H. Conley. Nat Underw 36:29 D 22 '32

Some causes of complaints to the Insurance department. R. M. Clark. Ins Field (Fire ed) 62:10+ S 14 '33

**Agents**

Accident and health salesman must have sales plans blue printed in mind. A. J. Mountrey. Weekly Underw 128:341+ F 18 '33; Excerpts. East Underw 34:34+ F 10 '33

Chicago A. & H. sales congress. East Underw 34:41 My 12 '33

Times ideal now for A. & H. sales; sales conference in Chicago. Nat Underw 36:31+ N 17 '32

**Finance**

Premiums are off about 15 percent. Nat Underw 37:27+ Ja 5 '33

Reduction of underwriting expense. J. M. Powell. Nat Underw 37:28+ Je 8 '33

**Policies**

A.A.E. insurance. Prof Eng 18:13 Ja '33

Convert many old A. & H. policies to newer forms. Nat Underw 36:23+ D 1 '32

Pacific Mutual has aggregate income form. Nat Underw 37:28 O 5 '33

**Rates**

Increase in rate on reimbursement cover announced. Nat Underw 37:25 Ja 12 '33

New rates for reimbursement. Nat Underw 37:30 Ap 6 '33

Travelers raise rates on renewal policies. Nat Underw 37:40 Je 8 '33

**Reinsurance**

Can the bordereau be eliminated in accident reinsurance? Nat Underw 36:7 pt 2 D 29 '32

Reinsurance woes in A. & H. line cited; abstracts. F. P. Proper. Ins Field (Fire ed) (H & A sup) 62:4-5 Je 15 '33; East Underw 34:38-9+ Je 9 '33; Nat Underw 37:28+ Je 8 '33; Weekly Underw 128:1093-4+ Je 10 '33

**Risks**

Careful selection of accident and health risks necessary if companies are to make any profit. W. B. Hill. Weekly Underw 128:562 Mr 18 '33

**Canada**

Accident and health insurance in Canada during 1932. Spectator 131:32 S 21 '33

**INSURANCE, Agricultural**

Method shown how to make research in rural insurance; report of Social science research council. East Underw 34:1+ F 3 '33

**See also**

Insurance, Fire—  
Farm policies

**Policies**

Policy covering the seed advance of canners sold. Nat Underw 37:5 S 21 '33

**INSURANCE, Aircraft damage**

Field for aircraft and automobile property damage cover and hints on selling it. C. T. Hubbard. il Weekly Underw 129:414, 660 S 2, O 7 '33

**INSURANCE, Assessment**

Fraternal orders, assessment life and accident associations; business of 1932 and condition December 31, 1932; tabulation. Weekly Underw 128:59 sec 2 My 13 '33

**INSURANCE, Automobile**

Agents in Iowa oppose plans of motor clubs. A. C. Root. Weekly Underw 128:1106 Je 10 '33

Aspects of property damage liability insurance; policy conditions, classifications, claim adjustments. G. Merrick. Weekly Underw 128:177-8 Ja 21 '33

Auto thefts in Chicago taken up. Nat Underw 37:5+ Ja 19 '33

Automobile insurance number. Nat Underw (Auto ins no) 37:3-28 Ap 14 '33

Casualty trends. F. N. Dull. East Underw 34:41 Ap 14 '33

Field for aircraft and automobile property damage cover and hints on selling it. C. T. Hubbard. il Weekly Underw 129:414, 660 S 2, O 7 '33

Fire and casualty agent at work; liability for paying guests. C. G. Hale. Spectator 130:13 Ja 12 '33

Guest liability protection in the light of recent laws and rulings. E. I. Taylor. Ins Field (Fire ed) 61:6 D 22 '32

Illinois department issues automobile questionnaire with reference to automobile fleets and unprofitable classes. Nat Underw 37:23 Ag 31 '33

National automobile club big aid to agents in West. H. E. Manners. East Underw 33:28 D 23 '32

Pennsylvania's security act requires cover on operator. H. R. Teitrick. Nat Underw 37:33 O 12 '33

Public responsibility for high cost of automobile liability cover. E. I. Taylor. Ins Field (Fire ed) 62:6+ Jl 27 '33

Safety-responsibility plan of automobile insurance. (In University debaters' annual, 1932-1933). E. M. Phelps, ed. p135-59 [bibliog p152-9] Wilson, H. W. '33

Underwriting automobile risks under current upset conditions. W. T. Barr. East Underw 34:34 F 24 '33

Would curb theft losses in Chicago. Nat Underw 37:4+ Ja 5 '33

**See also**

Insurance, Motor bus  
Insurance, Motor  
truck

**INSURANCE, Automobile—Continued****Adjustment of claims**

- Auto liability policy containing financial responsibility indorsement does not make liability absolute on company unless policy used to prove financial responsibility. Weekly Underw 128:85 Ja 7 '33
- Can owners of automobiles damaged in earthquake recover if covered by collision insurance? il Weekly Underw 128:555+ Mr 18 '33
- Extension of new Chicago plan is advocated. T. T. North. Nat Underw (Auto ins no) 37:14+ Ap 14 '33
- Insured's mistake no waiver of conditions. East Underw 34:32 Ap 21 '33
- Insurer issuing automobile liability policy may not be sued jointly with assured by injured third party; suit. Weekly Underw 128:842 Ap 29 '33
- Letter to C. R. Street on automobile loss adjustments. T. T. North. Nat Underw 37:6+ O 12 '33
- Non-suit agreement among English companies. W. A. Hurst. East Underw 34:37+ F 24 '33
- Plan nation-wide effort to get reduction of auto repair costs. East Underw 34:29 My 5 '33
- Right of person insured to sue insurance company; Ohio court of appeals decision. Nat Underw 37:26 Ag 17 '33
- Standard claims manual urged as aid to holding fire and motor business. E. J. Scammell. Weekly Underw 128:857+ My 6 '33

**Agents**

- Present automobile liability sales resistance. J. J. Hart. Weekly Underw 128:45-6 Ja 7 '33
- Replacement buyers of autos to furnish agents big opportunity. East Underw 34:31+ Ap 7 '33
- Sell related lines for complete protection. C. T. Hubbard. il Nat Underw (Auto ins no) 37:5+ Ap 14 '33
- Selling complete protection to clients is most profitable. W. H. Griffith. Nat Underw (Auto ins no) 37:19+ Ap 14 '33
- Using necessity appeal as basis of automobile public liability solicitation. East Underw 34:37 Jl 28 '33
- What every agent should know about auto liability underwriting. R. V. Ahern. East Underw 34:32 Ag 18 '33

**Cancellation**

- Automobile cancellation notice held effective in other states. C. E. Stevens; W. Meiss. East Underw 34:22+ S 8 '33
- Cancellation notice brings many inquiries. W. Meiss. Weekly Underw 128:395 F 25 '33
- Care in use of cancellation methods. Weekly Underw 129:234 Ag 5 '33
- New auto cancellation notice of London group. East Underw 34:29 F 17 '33; Nat Underw 37:23+ F 16 '33; Weekly Underw 128:351 F 18 '33
- Policy cancelation changes in Bay State. East Underw 34:31+ Ag 4 '33
- Queries on London assurance auto cancellation notice answered. W. Meiss and J. Greenhill. East Underw 34:20+ Ag 4 '33

**Compensation principle**

- Accident litigation and the automobile compensation plan. P. H. French. Ann Am Acad 167:201-20 My '33
- Automobile compensation plan. P. H. French. 262p [bibliog p249-56] \$3.50 Columbia univ. press '33
- Comments on Report by the Committee to study compensation for automobile accidents. P. T. Sherman. 46p Assn. of casualty and surety executives, New York '32

**Compulsory liability**

- Insuring drivers' responsibility. A. J. Lilly. il Nation's Business 21:35-6+ Ja '33

**Deferred payment protection**

- Auto certificates must state coverage; ruling of New York department. East Underw 34:30 Je 2 '33; Nat Underw 37:6 Je 1 '33

- Finance companies' association makes insurance recommendations. East Underw 33:58+ D 9 '32; Same. Weekly Underw 127:1125 D 10 '32
- Forms and ratings for financed automobiles. Weekly Underw 128:202 Ja 28 '33
- How auto finance companies can aid in lowering insurance losses. S. R. Featherstone. East Underw 33:22+ D 16 '32

**Finance**

- Automobile and marine premiums and losses, 1932. East Underw 34:20, 30 Mr 17 '33
- Automobile losses show large decline from 1932 figures. East Underw 34:1+ S 1 '33
- Mutual automobile premium volume holds up well in 1932; tabulation. Nat Underw (Auto ins no) 37:24, 26-7 Ap 14 '33
- Not enough collision to give proper spread; reasons for falling off in premiums. K. F. May. Weekly Underw 128:499 Mr 11 '33
- Sharp decline in fire premiums in 1932 reported by stock companies; tabulation. Nat Underw (Auto ins no) 37:16-17 Ap 14 '33
- Stock casualty automobile premium total 233 million in 1932; tabulation. Nat Underw (Auto ins no) 37:10, 12 Ap 14 '33
- Travelers and Royal lead in totals by fleets, 1932. Nat Underw (Auto ins no) 37:8 Ap 14 '33

**Financial responsibility laws**

- Auto liability policy containing financial responsibility indorsement does not make liability absolute on company unless policy used to prove financial responsibility. Weekly Underw 128:85 Ja 7 '33
- Getting prepared for Pennsylvania statute; two forms of policies required. Weekly Underw 129:14 Jl 1 '33
- Insuring drivers' responsibility. A. J. Lilly. il Nation's Business 21:35-6+ Ja '33
- Minnesota financial responsibility act. Weekly Underw 129:370 Ag 26 '33
- New Pennsylvania law costly to motorists. Weekly Underw 128:962 My 20 '33
- Pennsylvania responsibility law explained. R. C. Mead. East Underw 34:31 Jl 14 '33
- Responsibility laws in force now in 19 states. Nat Underw 36:27 D 29 '32

**Fraudulent claims**

- Claim-fraud gang on Pacific coast is broken up. East Underw 33:34 D 16 '32
- Claim ring smashed in thrilling capture. Ins Field (Fire ed) 62:10 S 7 '33

**Instalment premiums**

- Globe Indemnity has new installment plan. Weekly Underw 128:773 Ap 22 '33; Nat Underw 37:32 Ap 27 '33

**Policies**

- Auto underwriters seek to popularize collision coverage. East Underw 34:1+ O 6 '33
- Broader omnibus clause is ordered in Kansas. Nat Underw 37:25+ O 5 '33
- Concealment of facts in embezzlement cases; new form of policy follows practice on Pacific coast. Weekly Underw 128:250 F 4 '33
- Exclusions, restrictions to look for in liability policies. W. MacInnes. il Nat Underw (Auto ins no) 37:4+ Ap 14 '33
- Garage sabotage adds to insurance worries; one company offers comprehensive policy. Weekly Underw 128:304 F 11 '33
- Milwaukee Leader issues newspaper auto policy in arrangement with Workmen's Mutual. Nat Underw 36:21 D 1 '32; Ins Field (Fire ed) 61:12 D 1 '32
- Omnibus clause as used in automobile policies produces bad practices. R. P. Freese. Weekly Underw 128:489+ Mr 11 '33
- Proofs of need for standardization of automobile liability policies. H. J. Pohs. Weekly Underw 128:1137, 1163-5 Je 17 '33

**Preventive work**

- Agents' safety work big casualty feature; National bureau of casualty & surety underwriters. A. W. Whitney. Weekly Underw 128:78+ Ja 7 '33



**INSURANCE, Automobile**—Preventive work—  
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Auto safety plea. B. G. Wills. East Underw  
33:38 N 18 '32

#### Rates

Accident frequency during depression. Weekly Underw 128:111, 160+ Ja 14-21 '33  
Advanced motor rates obtained in Oklahoma. Weekly Underw 128:875 My 6 '33  
Auto fire and theft rates are continued. Ins Field (Fire ed) 62:10 Mr 30 '33  
Auto public liability rates are raised in Arkansas, Mississippi, Montana and South Dakota. East Underw 34:34+ Ap 7 '33; Nat Underw 37:25 Ap 6 '33; Spectator 130:36 Ap 6 '33  
Auto rate war in Ontario forces tariff companies to make drastic cuts. East Underw 34:38 Ap 21 '33  
Automotive safety devices may foster false sense of security from accident. W. C. Egbert. Weekly Underw 128:629+ Ap 1 '33  
Fire and theft rates for Chicago revised. Ins Field (Fire ed) 62:10 Ap 20 '33  
Jersey City auto rates increased. Nat Underw 37:27+ F 9 '33  
Layman's views on auto insurance rates. H. Tucker. Spectator 129:6-7 N 17 '32  
Little change in Bay State auto rates. East Underw 34:29 S 8 '33  
New York ruling will involve equity rates. Weekly Underw 128:586 Mr 25 '33; Spectator 130:31 Mr 23 '33  
No further auto rate increases at present. East Underw 34:42 Ap 14 '33  
Occupational automobile rating may be extended. Nat Underw 37:24 Ap 6 '33  
Rate making for automobile insurance. J. F. Matthai. Weekly Underw 127:1191 D 17 '32  
Ten years of rates and rating bureaus in Ontario applied to automobile insurance. J. Edwards. Weekly Underw 127:1060 D 3 '32  
West Virginia auto rate rise upheld. Ins Field (Fire ed) 61:10 D 1 '32; Weekly Underw 127:1078 D 3 '32

#### Fleet rates

Experience rating is now permitted; supplements to rate manuals. Nat Underw 37:4+ My 18 '33; Ins Field (Fire ed) 62:12+ My 18 '33

#### Risks

Factors to be checked in underwriting. A. Ryder. Nat Underw (Auto ins no) 37:6+ Ap 14 '33

#### Canada

Workings of Canadian uniform auto act. R. L. Foster. East Underw 34:31-2 S 8 '33

#### Great Britain

British auto rates to drop Dec. 1. East Underw 33:33 N 25 '32

#### Ireland

Road traffic act of Irish Free State. Weekly Underw 129:322 Ag 19 '33

#### INSURANCE, Aviation

Aspects of aviation casualty insurance which, it is believed, will develop into vast business. W. P. Comstock. Weekly Underw 129:340-1 Ag 19 '33

Aviation insurance passes another milestone. L. M. Stewart. Weekly Underw 128:49+ Ja 7 '33

Aviation premiums and losses are interpreted. Nat Underw 37:21 Je 1 '33

Underwriting air risks. Weekly Underw 129:734 O 14 '33

#### See also

Aero insurance underwriters  
Insurance, Aircraft damage

Insurance, Life—Aviation risks

#### Adjustment of claims

Aviation liability affected by decision; U. S. Circuit court of appeals holds passenger air lines are common carriers. Spectator 131:28 Ag 31 '33

#### Rates

Europeans call rates for high values sent by air inadequate. A. Krayer. East Underw 34:1+ Ag 4 '33

#### Italy

Development of aviation insurance in Italy. Spectator 129:34 D 8 '32

**INSURANCE, Betterment and improvement.**  
See Insurance, Fire—Improvement and betterment policies

#### INSURANCE, Boiler

Boiler insurance has been extended to cover variety of pressure vessels of various types. J. A. Ross. Weekly Underw 128:179 Ja 21 '33

New outage coverage developed by Bureau for boiler and machinery risks. East Underw 34:40 Ja 6 '33; Ins Field (Fire ed) 62:10 Ja 5 '33

Outage, a new form of insurance. Locomotive 39:151-3 Ja '33

Whistle, I hear you call; boiler and machinery insurance business. Spectator 130:10 F 9 '33

#### INSURANCE, Bridge

Big policy to cover Delaware River bridge. Spectator 131:24 Ag 24 '33

Multirisk bridge form offers opportunities. E. W. Geisler. Weekly Underw 129:233 Ag 5 '33

Multi-risk cover in New York harbor. Weekly Underw 128:631 Ap 1 '33

#### California

Awarding of bridge line rouses agents. Ins Field (Fire ed) 62:7+ Ap 20 '33

#### INSURANCE, Burglary

Big demand for burglary cover because of bank withdrawals. Nat Underw 37:23+ Mr 9 '33

Burglary, robbery, forgery clauses are sharply criticised. A. P. Lange. Nat Underw 36:33 N 17 '32

Coin exchanges proving bad risks for many companies. Nat Underw 36:24 D 1 '32

Must use time locks to safeguard money. East Underw 34:34 Jl 14 '33; Nat Underw 37:20 Jl 13 '33; Spectator 131:28 Jl 13 '33

New deal on robbery insurance. L. A. Sawyer. il Burroughs Clearing House 17:12-13+ S '33

New insurance regulation regarding loss of cash by burglary. Bankers M 127:85 Jl '33

New restrictions in robbery insurance. Am Bankers Assn J 26:42 Ag '33

What do you know about burglary and robbery cover; pertinent questions and answers. Weekly Underw 127:993-4+ N 19 '32

#### See also

Insurance, Fur  
Insurance, Jewelry

#### Agents

Plenty of good prospects today for profitable residence burglary line. M. J. Gimber. East Underw 34:39 O 20 '33

Plenty of prospects for burglary line. F. S. Garrison. East Underw 34:34+ F 10 '33

#### Rates

Bank hold-up menace; with table showing increase in bank hold-up basic insurance rates. Bankers M 126:611-13 Je '33

Bank robbery rates and rules changed. Ins Field (Fire ed) 61:10+ N 17 '32; Nat Underw 36:31+ N 17 '32; Spectator 129:36 N 24 '32; Weekly Underw 127:992 N 19 '32

Map showing new territorial classifications for robbery insurance, now in effect. Am Bankers Assn J 25:39 Ja '33

Rate advance on mercantile risks; changes in territories. Nat Underw 36:27+ D 22 '32; East Underw 33:32 D 23 '32; Ins Field (Fire ed) 61:10 D 22 '32; Weekly Underw 127:1222 D 24 '32

#### INSURANCE, Business

Business insurance in the light of present economic conditions. G. A. Adsit. Weekly Underw 128:21-2+ sec 2 My 13 '33

Business life insurance; will its importance grow with recovery? Am Bankers Assn J 26:73+ O '33

**INSURANCE, Business—Continued**

- Cash surrender value of life-insurance policies. J Account 55:393-4 My '33  
 How to offset slump; business insurance invaluable aid. L. G. Simon. Nat Underw (Life ed) 37:2 Ja 20 '33  
 Insure to ensure! F. L. Lane. Credit & Fin Management 34:14-15+ D '32  
 Insuring the life of a business. T. F. Cunneen. Nation's Business 21:26+ My '33  
 Is your brain insured? F. L. Lane. Credit & Fin Management 35:13+ N '33  
 Your will be done; business life insurance. G. S. Lyman. diag Credit & Fin Management 35:16-17+ F '33

**INSURANCE, Business Interruption.** See Insurance, Use and occupancy

**INSURANCE, Casualty**

- Calls for action to solve problems which take the cream from insurance. F. V. Bruns. Ins Field (Fire ed) 62:6 Mr 30 '33; Abstract. Nat Underw 37:3+ Mr 30 '33  
 Casualty business must forget its dreams and solve real problems. M. P. Cornelius. Ins Field (Fire ed) 62:10+ Mr 16 '33; Same. East Underw 34:34+ Mr 17 '33  
 Casualty companies and the depression; abstracts. M. L. Brown. Weekly Underw 129: 630 S 30 '33; East Underw 34:36 S 29 '33; Ins Field (Fire ed) 62:9+ O 5 '33; Nat Underw 37:31 S 28 '33  
 Casualty companies render fine service. J. H. Egloff. Weekly Underw 129:746 O 14 '33  
 Casualty trends. F. N. Dull. East Underw 34:41 Ap 14 '33  
 Companies working out big problems. Nat Underw 36:27+ D 15 '32  
 Company executives give their views on problems facing business in 1933. East Underw 34:31, 34 Ja 13 '33  
 Co-operation and stabilization needed in casualty lines; traffic outranks other community problems. B. G. Wills. Weekly Underw 129:339+ Ag 19 '33  
 Effect of a change in values on casualty insurance; abstracts. T. F. Tarbell. Spectator 129:33+ N 24 '32; Weekly Underw 127:1028+ N 26 '32  
 Eliminate claim fraud. H. P. Jackson. Weekly Underw 129:872+ N 4 '33  
 Fundamental concepts of casualty insurance. P. Dorweiler. East Underw 34:35 Je 2 '33  
 Groups strengthen casualty affiliates; North America and American of Newark add to financial set-ups. Ins Field (Fire ed) 62:9 Ap 20 '33  
 LMC, too, makes "black 1932" its peak dividend year. J. S. Kemper. Sales Management 32:610+ Je 15 '33  
 Major casualty problems; abstracts. M. P. Cornelius. East Underw 34:29+ S 1 '33; Weekly Underw 129:359+ Ag 26 '33  
 Men in field discriminating; bad experience with some representation, losses on mortgage guaranty and bank depository bonds subject companies to keen scrutiny by producers. D. R. Schilling. Nat Underw 37: 31-2 F 16 '33  
 Reflections on some fundamentals of casualty insurance—rate problem crux of actuarial work. P. Dorweiler. Weekly Underw 129: 119-22 Jl 15 '33  
 Subjects suggested for theses. Spectator 131: 30 Ag 3 '33  
 Unethical methods still big problem. Nat Underw 37:27+ N 2 '33  
 See also  
 Casualty actuarial society  
 Insurance, Accident  
 Insurance, Automobile  
 Insurance, Aviation  
 Insurance, Boiler  
 Insurance, Burglary  
 Insurance, Earthquake  
 Insurance, Liability  
 Insurance, Marine  
 Insurance, Motor truck  
 Insurance, Plate glass  
 Insurance, Surety and fidelity  
 Insurance, Tornado  
 Insurance, Workmen's compensation  
 National bureau of casualty and surety underwriters

**Adjustment of claims**

- Casualty company aspects of the southern California quake. R. W. Sheehan. Spectator 130:13+ Mr 16 '33

See also

Insurance, Casualty—  
 Fraudulent claims

**Advertising**

- Suggests \$1,000,000 fund for advertising. A. Dodge. Ins Field (Chicago Conv Daily ed) 62:8 O 12 '33; Same. East Underw Extra ed 34:22 O 14 '33

**Agents**

- Casualty agents' problems. T. E. Braniff. Spectator 129:14 sec 2 D 8 '32  
 Main Street prospects for the small town agent. J. Pabst. East Underw 34:30 N 10 '33  
 Producers must play strong hand in new deal. J. A. Beha. East Underw 34:36+ My 19 '33  
 Salesmen's manual for the guidance of salesmen representing the Hardware mutual casualty company. loose-leaf Hardware mutual casualty company, Stevens Point, Wis. '33

**Bibliography**

- Sixth annual index to current literature dealing with casualty insurance, suretyship and related subjects. 42p National bureau of casualty and surety underwriters '33

**Cancellation**

- Agents vote for automatic cancellation. J. L. Case. East Underw Extra ed 34:16 O 14 '33; Same. Ins Field (Chicago Conv Daily ed) 62:20 O 12 '33  
 Automatic cancellation of policies for non-payment of premium. D. F. Schmid. Ins Field (Fire ed) 62:6 O 12 '33; Excerpts. East Underw 34:41 O 13 '33  
 43 companies adopt cancellation rule. Ins Field (Fire ed) 62:10+ My 4 '33  
 Renew drive on free insurance. Nat Underw 36:3 D 29 '32

**Coverage**

- Casualty underwriters seek broader powers; bill before N. Y. assembly. East Underw 34: 41 F 24 '33

**Finance**

- Casualty and surety underwriting losses continue. L. S. Fischer. Spectator 131:10-11 N 2 '33  
 Casualty experience exhibit for 1932. Spectator 130:32 My 18 '33  
 Casualty insurance companies; business of 1932 and condition December 31, 1932; tabulation. Weekly Underw 128:835-9 Ap 29 '33  
 Casualty premiums decrease 16 percent for all classes in 1932. Nat Underw 37:21 Ap 20 '33  
 Casualty underwriting results in 1932: premiums and losses by classes; tabulation. Ins Field (Fire ed) 62:10+ My 4; 13-15 My 11 '33  
 Future outlook for the casualty-surety business. J. C. Heyer. East Underw 34:34-5 N 3 '33; Same. Nat Underw 37:27+ N 2 '33  
 New Jersey casualty-surety figures for 1932. East Underw 34:37-8+ Mr 10; 37-8 Mr 17; 34 Mr 24 '33  
 Premiums and losses in 1932 in Illinois on all casualty lines; tabulation. Nat Underw 37: 31-2+ Ap 13 '33  
 Premiums and losses in 1932 in Indiana on all casualty lines; tabulation. Nat Underw 37: 26-7 Ap 6 '33  
 Premiums and losses in 1932 in Iowa on all casualty lines; tabulation. Nat Underw 37: 33-4 Ap 27 '33  
 Premiums and losses in 1932 in Michigan on all casualty lines; tabulation. Nat Underw 37:28-9 Mr 30 '33  
 Premiums and losses in 1932 in Missouri on all casualty lines; tabulation. Nat Underw 37: 24+ My 4 '33  
 Premiums and losses in 1932 in New York on all casualty lines; tabulation. Nat Underw 37:39 Mr 30 '33  
 Premiums and losses in 1932 in Ohio on all casualty lines; tabulation. Nat Underw 37: 30-2 Mr 30 '33



**INSURANCE, Casualty—Finance—Continued**

Premiums and losses in 1932 in Pennsylvania on all casualty lines; tabulation. Nat Underw 37:24-5 Ap 13 '33  
 Premiums and losses in 1932 in Texas on all casualty lines; tabulation. Nat Underw 37:24-5 Ap 20 '33  
 Premiums and losses in 1932 in Wisconsin on all casualty lines; tabulation. Nat Underw 37:39-40 Ap 13 '33  
 Profits in the casualty business. J. C. Heyer. East Underw 34:37- F 3 '33; Same. Nat Underw 37:5+ Ja 26 '33  
 Summary of casualty miscellaneous insurance lines by states in 1932; tabulation. Spectator 131:10-11 Jl 13 '33  
 Underwriting and investment profits and losses of 100 leading casualty, surety and miscellaneous companies in a decade, 1922-1931. Spectator 129:10-11 D 29 '32  
 Underwriting and investment profits and losses of one hundred leading casualty, surety and miscellaneous insurance companies in 1932; tabulation. Spectator 130:12-13 Je 29 '33

**Fraudulent claims**

Ambulance chasers menace to casualty companies. J. A. Matthews. East Underw 33:32 D 23 '32  
 Central index bureau being opened in N.Y. East Underw 33:38 D 30 '32; Ins Field (Fire ed) 61:10 D 29 '32; Weekly Underw 127:1269 D 31 '32  
 Central index bureau to investigate fraudulent insurance claims. Safety Eng 65:48 F '33  
 Chasing the ambulance chaser. W. Cavanaugh. East Underw 34:32-3 Ag 11 '33  
 Levy of claim fakers runs into huge total. W. P. Cavanaugh. Weekly Underw 129:508+ S 16 '33; Same. Safety Eng 66:88 S '33  
 Major Cavanaugh on tour for index bureau; claim centers to be established in key cities. Spectator 130:36 Ja 19 '33  
 Northwestern index bureau to combat fraudulent claims. Spectator 130:32 Ap 27 '33  
 Tracking down claim fakers; human interest stories. R. H. Monaghan. East Underw 34:34 F 17 '33  
 Vigorous war being waged against vicious rings of claim fakers. W. P. Cavanaugh. Weekly Underw 129:93+ Jl 15 '33  
 War against fraudulent claims. W. P. Cavanaugh. East Underw 33:100 D 9 '32

**Premiums, Payment of**

Collection rules drawn up for New York city. East Underw 34:33+ Ap 28 '33; Same. Weekly Underw 128:830 Ap 29 '33

**Preventive work**

Agents' safety work big casualty feature; National bureau of casualty & surety underwriters. A. W. Whitney. Weekly Underw 128:78+ Ja 7 '33  
 Capitalizing depression. H. W. Heinrich. Spectator 130:6-7 Ja 26 '33  
 Economic value of accident prevention work. A. W. Whitney. Safety Eng 64:207-8 N '32

**Rates**

Cost of sustenance; necessity of curative action imperative. C. E. Heath. East Underw 34:33 Ja 13 '33  
 In role of rate-making critic. F. Richardson. East Underw 33:33+ N 25 '32  
 Ruinous competition vs. adequate rates. E. C. Stone. Spectator 131:6-7- N 2 '33  
 Urge greater recognition of casualty trend factor. Nat Underw 37:25 F 2 '33

**Reinsurance**

How casualty reinsurance differs from the direct business. W. W. Greene. Nat Underw 36:5 pt 2 D 29 '32  
 Van Schaick inquiries bring some casualty reinsurers together. Nat Underw 36:11+ pt 2 D 29 '32

**Risks**

Control and regulation of losses for casualty companies. J. Barnaby. East Underw 34:35+ Ap 7 '33  
 Surveying of accident risks. J. B. Welson and F. J. Woodroof. 170p \$2 Pitman '33

**Study and teaching**

Profitable education in the casualty and surety field; the training school of the Maryland casualty company. L. H. Lippincott. Spectator 129:6-7 D 15; 6-7+ D 29 '32

**Canada**

Canadian results for casualty lines in 1932. Spectator 130:35 Mr 30 '33  
 1932 casualty volume in Canada shows drop. East Underw 34:36 Je 2 '33

**Middle Western states**

Troubles two-time casualty business. T. R. Weddell. Ins Field (Fire ed) 62:10+ Ja 5 '33

**United States**

Casualty marches up hill then down in 1932. C. Blackmon. Ins Field (Fire ed) 62:10+ Ja 5 '33  
 Need for drastic action is shown in 1932 review. G. A. Watson. Nat Underw 37:27+ Ja 5 '33  
 New and retired casualty and miscellaneous companies in 1932. Spectator 130:13+ F 9 '33

**INSURANCE, Compulsory**

Operations of salaried employees' old-age insurance system in Germany. Monthly Labor R 37:293-4 Ag '33

**INSURANCE, Cotton**

American cotton fires at Shanghai stir underwriters; poor baling. East Underw 33:1+ D 30 '32  
 Insurance requirements are increased by process tax. Nat Underw 37:12 S 28 '33  
 Matter of extending facilities up again. East Underw 34:18-19 S 1 '33  
 U. S. plan may increase cotton premiums. Ins Field (Fire ed) 62:6 Je 29 '33  
 U.S. underwriters gain big cotton lines on large shipments to China. Weekly Underw 129:94 Jl 15 '33

**INSURANCE, Credit**

Bank deposit guaranties; the insurance aspects of the problem. C. L. Jamison. Bankers M 126:451-5 My '33  
 No pro rata return on credit insurance. East Underw 33:36 N 25 '32

**Adjustment of claims**

Interesting decisions in credit insurance field. Nat Underw 37:28 Jl 27 '33

**INSURANCE, Earthquake**

Between one and two percent of U. S. area in earthquake belt. W. O. Lincoln. Spectator 130:25 Mr 16 '33  
 Survey of insurance underwriting in California. T. J. V. Cullen. Spectator 130:12-13 Mr 16 '33  
 Talk that saved fire companies writing earthquake insurance many bags of gold. B. Willis. Il Weekly Underw 128:533+ Mr 18 '33  
 Underwriting principles in earthquake line set forth. A. B. Roome. Nat Underw 37:10 Mr 16 '33

**Adjustment of claims**

California earthquake losses will not be large, estimates indicate. East Underw 34:1+ Mr 17 '33; Ins Field (Fire ed) 62:7-8+ Mr 16 '33; Nat Underw 37:3+ 4+ Mr 16 '33; Weekly Underw 128:537+ Mr 18 '33

**Finance**

Earthquake insurance in 1932; tabulation. Spectator 130:32 Mr 16 '33

**INSURANCE, Employers' liability****Adjustment of claims**

Insurer refused to settle, must pay excess judgment; Tyger River pine company vs. Maryland casualty. Nat Underw 37:21 Ag 24 '33

**INSURANCE, Explosion**

Explosion conference broadens protection. East Underw 34:28 Je 23 '33; Weekly Underw 128:1144, 1145 Je 17 '33  
 General agent and coinsurance rules of explosion conference. East Underw 34:30 F 17 '33

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Riot, explosion sales increase. Nat Underw 37:3+ Mr 2 '33

See also

Insurance, Boiler

**Adjustment of claims**

Burden of proof is placed upon insurer. East Underw 34:28 Jl 14 '33

**INSURANCE, Eyesight**

Chicago agency organized to sell blindness coverage; Single premium policies, inc. Nat Underw 37:24 Ap 6 '33

Lloyds, N.Y. to write blindness indemnity for Blind insurance association of America. East Underw 34:33 Ja 20 '33; Nat Underw 37:28+ Ja 19 '33

Optical service company works out a pension plan whereby eye coverage can be covered in stock insurance companies. Nat Underw 37:26 F 2 '33

**INSURANCE, Fine arts**

Assureds protest fine arts order canceling long term policies. Nat Underw 37:3+ N 2 '33

Fine arts prospects improved. East Underw 33:82 D 9 '32

**INSURANCE, Fire**

Address at S.E.U.A. meeting. J. H. Hines. Ins Field (Fire ed) 62:6+ Je 22 '33

Background of fire insurance. W. S. Crawford. 159p National underwriter co, Chicago '32

Calls for action to solve problems which take the cream from insurance. F. V. Bruns. Ins Field (Fire ed) 62:6 Mr 30 '33; Abstract. Nat Underw 37:3+ Mr 30 '33

Companies feel bank crisis may produce turn for the better. East Underw 34:1+ Mr 24 '33

Competitive features must be eliminated. A. M. Brown. Nat Underw 37:4+ F 9 '33

Denver men spike saving fallacy; sad experience of Colorado state fund cited as Board fights dropping of city's protection. Ins Field (Fire ed) 61:9 D 15 '32

Fire companies are in a strong financial position; abstracts. P. L. Haid. East Underw 34:18+ My 5 '33; Ins Field (Fire ed) 62:6 My 11 '33; Spectator 130:25+ My 11 '33; Weekly Underw 128:862+ My 6 '33

Fire insurance; bank should keep informed. Am Bankers Assn J 26:74-5 Ag '33

Fire theses subjects suggested. Spectator 131:27 Ag 24 '33

Insurance requirements are increased by process tax. Nat Underw 37:12 S 28 '33

Insurance trends. L. Drake. Ins Field (Chicago Conv Daily ed) 62:19 O 11 '33

Lessons from the past two years from the agency viewpoint. P. H. Goodwin. East Underw 34:16+ F 10 '33

Looking forward; abstracts. P. L. Haid. East Underw 33:16+ D 16 '32; Nat Underw 36:5+ D 22 '32; Weekly Underw 127:1166+ D 17 '32

Many lines switched to larger companies. East Underw 34:22 F 3 '33

National board of fire underwriters 67th annual meeting, New York. Ins Field (Nat bd no) 62:3-14 My 26 '33

New and retired fire companies in 1932. Spectator 130:7 Ja 26 '33

Part which stock fire insurance companies and their agency forces are playing in the recovery program. H. C. Wilbur. Ins Field (Fire ed) 62:6+ O 26 '33

Perpetual fire insurance. W. M. Goodwin. Spectator 131:6-7 S 21 '33

Premium slump becoming serious. E. Milligan. Nat Underw 37:3+ My 11 '33

Presidential report, W.U.A.; abstracts. W. D. Williams. East Underw 34:23 Ap 14 '33; Ins Field (Fire ed) 62:8-9 Ap 13 '33; Nat Underw 37:3 Ap 13 '33; Weekly Underw 128:725+ Ap 15 '33

Problems now link companies, agents. E. T. Cairns. Ins Field (Fire ed) 62:8 Ag 17 '33

Reasons why fire insurance will continue mainstay of New York brokers. W. O. Lincoln. Weekly Underw 128:879 My 6 '33

Service of F.I.A. and stock fire insurance. H. P. Smith. Ins Field (Fire ed) 62:6+ O 5 '33

Stock insurance as stabilizing factor in business. H. C. Wilbur. Ins Field (Fire ed) 61:6+ D 1; 6+ D 8; 6+ D 15 '32

Tests of depression era met by stock insurance; abstracts. C. W. Bailey. Ins Field (Nat bd no) 62:3-4+ My 26 '33; East Underw 34:1, 31 My 26 '33; Spectator 130:25, 28 My 25 '33; Weekly Underw 128:993+ My 27 '33

Then and now address on insurance. C. R. Street. Ins Field (Fire ed) 61:6+ N 24 '32

Tribute to insurance. P. Tomlinson. Credit & Fin Management 35:34-5 N '33

Variety of minor claims show real necessity for insurance. East Underw 33:70 D 9 '32

See also

Arson  
Factory insurance association  
Insurance, Cotton  
Insurance, Forest  
Insurance, Inland marine  
Insurance, Marine

Insurance, Use and occupancy  
Interstate underwriters' board  
Loyalty group  
National board of fire underwriters  
Salvage (fires)

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Adjusters' work provides background of proof to decide Attalla arson case. Ins Field (Fire ed) 62:6+ Mr 2 '33

Arbitration clause upheld by U. S. Supreme court decision. Ins Field (Fire ed) 62:8 Ag 3 '33

Assured voids policy by hasty demolition. East Underw 33:34+ O 7 '32; Same. Credit & Fin Management 35:44 Ja '33

Breach of condition does not void policy. East Underw 34:36 My 12 '33; Credit & Fin Management 35:30 O '33

Bureau puts Texas loss at \$2,500,000. Ins Field (Fire ed) 62:9 S 28 '33

California earthquake losses will not be large, estimates indicate. East Underw 34:1+ Mr 17 '33; Ins Field (Fire ed) 62:7-8+ Mr 16 '33; Nat Underw 37:3+, 4+, Mr 16 '33; Weekly Underw 128:537+ Mr 18 '33

Checking the proofs of loss and paying the claim. T. McInerney, G. A. Traves and V. Volta. 35p Insurance society of New York, inc, New York '33

Cigarette claims are now rejected by big company. Nat Underw 37:3 F 16 '33

Cigarette damage proposals discussed. East Underw 34:31 Mr 17 '33

Electrical exemption clause is analyzed. Ins Field (Fire ed) 62:6 Ag 10 '33

Expect action on cigarette losses at spring meetings. Nat Underw 37:4 F 9 '33

Exploding gas held in Iowa to be a fire. East Underw 34:26 F 24 '33

Fire marshals hold 60 day loss clause reduces arson fires. East Underw 34:1+ My 5 '33

Five unique points settled in Alabama arson case ruling. Ins Field (Fire ed) 62:7-8 Ja 19 '33

Hessian Hills case won by companies. East Underw 34:22+ Je 9 '33

Illinois agents hit sixty day loss rule. East Underw 34:22 Ap 28 '33

Increase rates to pay small claims. J. S. Campbell. Weekly Underw 128:1045+ Je 3 '33

Innocent fires. P. J. Bierman. Weekly Underw 128:1057+ Je 3 '33

Insurable interest of contractor defined. East Underw 34:22 Jl 14 '33

Loss bureau makes substantial savings in adjustment costs; report. P. L. Haid. East Underw 34:1+ Je 2 '33

Loss payment plan becomes permanent. Ins Field (Fire ed) 62:7-8 Mr 23 '33; Spectator 130:25 Mr 23 '33; Credit & Fin Management 35:30 Ap '33

Mortensen ruling on valued policy form. East Underw 34:31 F 10 '33

Mortgage clause read into policy by Hessian Hills case decision. East Underw 33:17 D 2 '32

Most officials in favor of continuing loss rule. Nat Underw 37:1 S 7 '33

Mushroom case is decided by court. East Underw 34:24 N 10 '33



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Mutual men discuss loss payment method. Weekly Underw 128:771 Ap 22 '33

National board advises against paying cigarette scorch claims. East Underw 34:21 Ap 7 '33

N.Y. board reports on losses in 1932. East Underw 34:26 Ap 21 '33

N.Y. court decision on pro rata clause; held not to be applicable. East Underw 34:23 Jl 28 '33

New York court upholds policy reformation. East Underw 34:22 N 3 '33

New York decision on pro rata clause. East Underw 34:46 O 13 '33

Not liable for damage by soot; "friendly" fire. R.I. court holds. East Underw 34:27-8 Ap 28 '33; Excerpts. Ins Field (Fire ed) 62:6 Ap 6 '33

Presents potent argument to kill valued policy measures up in Georgia. A. C. Erwin. Ins Field (Fire ed) 62:6 Mr 9 '33

Problems of Adjustment bureau. K. W. Withers. East Underw 34:36 Mr 3 '33

Reform in small loss field urged. C. R. Street. Nat Underw 37:3+ Ap 20 '33

Relationship of small claims to grand total; statistical record of the Western adjustment & inspection co. for 1932. Weekly Underw 128:297 F 11 '33

Savarese and Hessian Hills cases analysed. A. G. Whitelaw. East Underw 34:30 My 12 '33

Settlement of losses without controversy. G. W. Lilly; M. B. Dalton; H. A. Wiley. East Underw 34:21 My 19 '33

Sixty-day loss payment rule. C. F. Shallcross. Nat Underw 37:9 Ag 31 '33

60 days provision will cut down on small loss items. East Underw 34:1+ Mr 10 '33; Ins Field (Fire ed) 62:7-8+ Mr 9 '33; Nat Underw 37:3+ Mr 9 '33

Subrogation question tried in Texas court. East Underw 33:26 D 30 '32

Subrogation rights upheld by U.S. court; question of cancellation. East Underw 34:24 O 20 '33

Those jointly insured held to be one person; Massachusetts department opinion. H. J. Taylor. East Underw 34:22 S 1 '33

Two important court decisions analyzed; use of gasoline and element of fraud. A. G. Whitelaw. East Underw 34:24 Jl 21 '33

Upholds settlement in valued policy suit in South Dakota. Ins Field (Fire ed) 62:9 Ag 24 '33

Valued policy law is upheld in Wisconsin Supreme court. Nat Underw 37:18 Ja 19 '33

*See also*

Fire companies' adjustment bureau, incorporated Insurance, Fire—Mortgagee interest

**Advertising**

National board ads in magazines will start in September. East Underw 34:1 Ag 25 '33

National board tax advertisement well received by public. East Underw 33:1+ D 23 '32

News angle adds strength to this advertising copy; National board of fire underwriters. Il Ptr Ink 164:26-7 S 28 '33

Suggests \$1,000,000 fund for advertising. A. Dodge. Ins Field (Chicago Conv Daily ed) 62:8 O 12 '33; Same. East Underw Extra ed 34:22 O 14 '33

**Agents**

Agency connections are steadily reduced. East Underw 34:20 Ja 20 '33

Agency inspection service will solve insurance problems. C. W. Ehlers. Ins Field (Fire ed) 62:6+ Ag 27 '33

Agents say companies sidestep qualification bill co-operation; report to N. A. I. A. P. H. Goodwin. East Underw 34:24+ Ap 21 '33; Abstract. Spectator 130:25+ Ap 20 '33

Conditions have changed. W. Slick. Spectator 130:16 Ap 13 '33

Farm property underwriting. R. W. Forshay. Weekly Underw 129:657+ O 7 '33

Loan office plants organized in South; new movement of eastern life companies arouses agents. Ins Field (Fire ed) 62:8 S 7 '33

Organized companies and their agents urged to share fortunes in competition. Ins Field (Fire ed) 62:6 S 28 '33

**Commissions**

Contingent guaranty is more popular. G. A. Watson. Nat Underw 36:13 pt 2 D 29 '32

Is a new deal necessary in fire insurance commissions? W. M. Goodwin. Spectator 131:6-7+ Jl 13 '33

**Cancellation**

Agents vote for automatic cancellation. J. L. Case. East Underw Extra ed 34:16 O 14 '33; Same. Ins Field (Chicago Conv Daily ed) 62:20 O 12 '33

Automatic cancellation is favored by many agents. Nat Underw 36:5 D 29 '32

Automatic cancellation of policies for non-payment of premium. D. F. Schmid. Ins Field (Fire ed) 62:6 O 12 '33; Excerpts. East Underw 34:41 O 13 '33

Cancellation rule is altered in New England. E. J. Cole. East Underw 34:19+ Je 16 '33

Massachusetts dept on cancellation clause. East Underw 33:30 N 18 '32

Objections to the cancellation clause. H. G. Casper. Nat Underw 36:4+ D 1 '32

Renew drive on free insurance. Nat Underw 36:3 D 29 '32

**Coinurance**

Coinurance and appraisals clash. Nat Underw 37:1+ Jl 13 '33

Coinurance tips. A. B. Smillie. Nat Underw 37:3+ F 2 '33

Cuthbert & Cuthbert discuss the coinurance clause. J. Ashmead. Spectator 130:6-7 Ap 20 '33

**Coverage**

Whisky gambling vexes insurance. Nat Underw 37:3+ Jl 27 '33

**Exhibits**

American fire marks. 133p Insurance company of North America, Philadelphia '33

Insurance co. of North America displays old fire relics in new N. Y. building. Il East Underw 34:28 Jl 28 '33; Same. Spectator 131:26 Jl 27 '33

**Farm policies**

Conquering farm fires; system of valuing property and inspecting risks. J. E. Kennedy. Weekly Underw 129:859-60 N 4 '33

Farm form revised by Mountain states inspection bureau. Ins Field (Fire ed) 62:9 O 26 '33; Nat Underw 37:4 O 26 '33

Farm installment business now pushed aggressively. Nat Underw 37:4 Jl 6 '33

Farm insurance association urged as means to improve underwriting; report. F. J. Marshall. East Underw 34:23+ My 26 '33

Farm property underwriting. R. W. Forshay. Weekly Underw 129:657+ O 7 '33

New definition given for farm insurance. Ins Field (Fire ed) 62:9 F 16 '33

Valued form of policy no solution to problems of farm underwriting. C. M. Brewster. East Underw 34:25-6 S 15 '33

Writing farm cover direct for mortgagee condemned. Nat Underw 37:7 Mr 9 '33

**Finance**

Classifications of premiums and losses of American and foreign stock fire companies for 1932; tabulation. Spectator 131:12 S 21 '33

Current situation in fire business. W. M. Corcoran. Nat Underw 37:4 Mr 2 '33

Current stock prices not true guide to companies' worth. T. J. V. Cullen. Spectator 129:29+ D 22 '32

Fire and marine premiums, 1932. Spectator 130:30 Ap 6 '33

Fire companies 1932 gains or losses; tabulation. Nat Underw 37:5-6 Mr 23; 10 Mr 30 '33

Fire insurance companies' aggregates for 1932. Spectator 131:31 N 2 '33

**INSURANCE, Fire—Finance—Continued**

Fire insurance companies; business of 1932 and condition December 31, 1932. Weekly Underw 128:864-73 My 6 '33

Fire insurance in the United States in 1932; tabulation. Spectator 130:12-15 My 18 '33

Fire-insurance premiums declined in 1932. Barron's 13:9 Ja 23 '33

Fire-insurance stocks behind the market. H. W. Abbot, jr. Barron's 13:6 Ag 28 '33

Fire premiums by lines in 1932; tabulation. Nat Underw 37:5-6 Mr 30 '33

Fire premiums in 1932 by lines; tabulation. Nat Underw 37:5, 25 F 16; 13, 29 F 23; 13 Mr 2 '33

Fire underwriting results in 1932; premiums and losses by classes; tabulation. Ins Field (Fire ed) 62:9+ F 23; 28 Mr 9; 22 Mr 23; 25 Mr 30; 22-3 Ap 6; 26-7 Ap 13; 28-9 Ap 27; 25-7 My 11 '33

Net fire premiums of groups are down 11% in 1932. Nat Underw 37:8 Mr 23 '33

Premiums and losses in W.U.A. field, 1931 and 1932; tabulation. Nat Underw 37:8 Ag 17 '33

Reports of fire insurance companies; tabulation. Spectator 130:10-11 Ap 20 '33

Underwriting and investment profits and losses in 1932; tabulation. Spectator 130:10-11 Je 15 '33

Underwriting results of fire companies in 1932; tabulation. Spectator 130:30 Mr 9 '33

What fire insurance stocks offer. H. W. Abbot, jr. and E. Sharp. Barron's 13:3, 9 Jl 3 '33

**Fraudulent claims**

Conspiracy, fraud and arson. Economist 117:401-2 Ag 26 '33

Criminal prosecution real cure for arson. A. G. Whitelaw. East Underw 34:28 My 5 '33

Foil fake loss attempt to finance Cuban revolution. East Underw 34:23+ Ap 21 '33

Four held in \$150,000 alleged fire fraud. East Underw 34:22 Je 23 '33

How British firebugs were run to cover. A. C. Blackall. East Underw 34:17+ S 8 '33

Sixteen defendants guilty in great arson trial in London. East Underw 34:19 S 1 '33

Three insurance suits won by Powers, Kaplan & Berger, law firm. East Underw 34:26 Je 16 '33

**General cover contract**

See Insurance, Fire—Multiple location policies

**History**

Dangaix collection, sent to Dunbar, reveals underwriting manners of the gay nineties. Ins Field (Fire ed) 62:6 F 16 '33

**Improvement and betterment policies**

Building improvement by assured tenant. H. H. Matteson. Weekly Underw 127:1063 D 3 '32

**Inspection**

Agency inspection service will solve insurance problems. C. W. Ehlers. Ins Field (Fire ed) 62:6+ Ap 27 '33

**Instalment premiums**

Premium finance pool still in air. Nat Underw 37:3+ Ja 5 '33

**Investments**

29 year yield of stocks of fire companies beat bonds' return; new book analyzes returns. D. C. Rose. East Underw 34:1+ O 20 '33

**Moral hazard**

Local agent's opportunity in arson control by foreseeing temptation. C. W. Ehlers. Ins Field (Fire ed) 62:6 Ja 5 '33

Passive moral hazard is reason depression boosts loss ratio. R. M. Bissell. Ins Field (Fire ed) 62:6+ Mr 16 '33

Underwriting the beer industry. E. M. Stiles. East Underw 34:30 O 6 '33

**Mortgagee interest**

Hessian Hills case won by companies. East Underw 34:22+ Je 9 '33

Issue raised between owner and mortgagee; Savarese versus Ohio farmers insurance co. case. Weekly Underw 127:1168 D 17 '32

Mortgagee clause read into policy by Hessian Hills case decision. East Underw 33:17 D 2 '32

Questions concerning mortgages answered. East Underw 34:49+ O 13 '33

Savarese and Hessian Hills cases analysed. A. G. Whitelaw. East Underw 34:30 My 12 '33

**Multiple location policies**

Insurance buyers seek broader coverage; want I.U.B. forms extended. T. G. Harrison. East Underw 34:22 My 19 '33

Perplexing questions on reporting covers answered. C. T. Hubbard. East Underw 33:76+ D 9 '32

**Policies**

Broker's analysis of the principal fire forms and clauses. M. B. Dutcher. East Underw 33:21-2+ N 25 '32

California amends standard fire policy. Weekly Underw 128:279 F 4 '33

Changed plan for new policy. H. A. Clark. Nat Underw 37:3+ My 18 '33

Companies to fight proposed changes in Wisconsin fire form. East Underw 34:1+ Ja 27 '33; Ins Field (Fire ed) 62:9 Ja 26 '33

Fluctuating contents value cover. J. S. Glidden. Ins Field (Chicago Conv Daily ed) 62:16-17 O 12 '33; Same. Weekly Underw 129:859, 860-1 N 4 '33

Interpretation of provisions of standard policy. G. Harrington. East Underw 33:21 N 18 '32

Limit of liability clauses are analyzed as to their effect. G. Harrington. East Underw 33:21 D 30 '32

Many changes in mid-west rules. Nat Underw 37:3+ Ag 10 '33

New value and depreciation insurance. H. J. Werder. East Underw 34:22+ F 24 '33

Proper uses of forms and clauses. G. Harrington. East Underw 33:78+ D 9 '32

Proposed changes in Wisconsin fire form. H. J. Mortensen. East Underw 34:34+ My 12 '33

Uniformity in fire forms debated with buyers' group. B. W. Levit. Nat Underw 37:2 Ag 31 '33

Vacancy and unoccupancy permit changed in Illinois. Nat Underw 37:1 F 2 '33

Wisconsin hearing on standard policy. East Underw 33:24 N 25 '32; Ins Field (Fire ed) 61:7 N 24 '32

**See also**

Insurance, Fire—Farm policies	Insurance, Fire—Multiple location policies
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**Premiums, Payment of**

Collection methods which have brought results for local agents. East Underw 34:26 Ja 20 '33

Fire insurance fieldman as premium collector. E. S. Inglis. Weekly Underw 128:34 Ja 7 '33

Objections to the cancellation clause. H. G. Casper. Nat Underw 36:4+ D 1 '32

Pacific National Fire head urges premium payment on date of policy. F. N. Belgrano, jr. East Underw 34:22 F 17 '33; Excerpts. Nat Underw 37:3+ F 9 '33

Premium item versus account current basis. Weekly Underw 128:682+ Ap 8 '33

Resolutions adopted by the Illinois local agents body. Nat Underw 37:8 Ap 27 '33

**Preventive work**

Agency inspection service will solve insurance problems. C. W. Ehlers. Ins Field (Fire ed) 62:6+ Ap 27 '33

Trend in fire insurance is seen toward service policy. Nat Underw 37:4+ Jl 27 '33

Urges agents to lower loss ratios. H. P. Dunham. East Underw 33:24 N 18 '32

**Rates**

Companies lose in Virginia rate case. Ins Field (Fire ed) 62:7+ Je 22 '33





**INSURANCE, Fire—Missouri—Continued**

Favorable report on Missouri case. Nat Underw 37:5+ S 28 '33; Ins Field (Fire ed) 62:7 S 28 '33  
 Markham sponsors Missouri rate bill. Ins Field (Fire ed) 62:7 F 23 '33; East Underw 34:24 F 24 '33  
 Missouri court to hear arguments on fire rates May 27. East Underw 34:1 Ap 28 '33  
 New refund fight begun in Missouri. Ins Field (Fire ed) 62:7 Je 1 '33

**New Jersey**

Reviews rating progress in New Jersey in last 20 years. L. A. Watson. East Underw 34:26 Mr 3 '33

**New York (city)**

Panoramic study of New York City underwriting. C. C. Dominge. Spectator 130:6-7 Mr 23 '33  
 Panoramic study of Queens. C. C. Dominge. il Spectator 131:12+ JI 13 '33

**Pacific coast**

Coast underwriting aided by ill wind. G. C. MacDonald. Ins Field (Fire ed) 62:9 Ja 5 '33

**Southern states**

Conditions in South offer drab picture. R. Daniel. Ins Field (Fire ed) 62:9+ Ja 5 '33

**Staten Island**

Panoramic study of Staten Island underwriting. C. C. Dominge. Spectator 130:6-7 Je 29 '33

**Sweden**

Perpetual fire insurance developed in Sweden for money lending institutions. H. Fugelli. Weekly Underw 129:401+ S 2 '33

**Texas**

Texas department detects evil fire rate practices. Nat Underw 37:4+ Mr 2 '33

**United States**

Conditions found in fire insurance at year end. W. E. Schram. Weekly Underw 128:30 Ja 7 '33  
 Prospect not discouraging. G. A. Watson. Nat Underw 37:3+ Ja 5 '33  
 Wholesome trends noted in 1932 ashes. C. Blackmon. Ins Field (Fire ed) 61:7-8+ D 29 '32

**INSURANCE, Forest**

Some factors underlying forest fire insurance in Massachusetts. C. C. Averill and L. M. Frost. (Harvard forest bul. 17) 80p [bibliog p77-80] pa 75c Harvard univ. press '33

**INSURANCE, Forgery**

Collecting bank can be sued; Michigan Supreme court upholds Metropolitan Casualty subrogation rights in forgery bond loss. Nat Underw 37:38 F 23 '33  
 Forgery bonds, commercial, bank, etc. J. C. Brodsky. Weekly Underw 129:563-5 S 23 '33  
 Forgery insurance for banks. E. C. Lunt. Weekly Underw 127:1033-5 N 26 '32  
 Much interest in deal of U.S. guarantee, Todd firm. Nat Underw 37:25 JI 27 '33  
 Todd co. appointment as general agents of U.S. Guarantee arouses much comment. N. H. Weed. Weekly Underw 129:114+ JI 15; 250 Ag 5 '33

**See also**

Bankers' blanket bond

**Adjustment of claims**

Raised check not covered by policy. Bankers M 127:171-2 Ag '33

**Advertising**

Five hundred readers helped name our new house organ; General indemnity corporation. G. W. Lee. il Ptd Salesmanship 61:180-2 My '33

**INSURANCE, Fraternal. See Benefit societies****INSURANCE, Fur**

I.M.U.A. revamps method of rating. Nat Underw 36:3-4 D 1 '32

National Bureau broadens jewelry and fur cover. East Underw 34:36+ F 3 '33; Ins Field (Fire ed) 62:10 F 2 '33; Nat Underw 37:25+ F 2 '33; Weekly Underw 128:276 F 4 '33  
 Sell fur insurance now. East Underw 34:30 N 3 '33

**INSURANCE, Group**

Central Hudson gas & electric corp. insurance-pension plan. Gas Age 71:152 F 11 '33; Same. Am Gas J 138:31 F '33  
 D'Annunzio scarf; story. M. C. Baker. Weekly Underw 127:1161 D 17 '32  
 Deplore rate cuts in group pensions. Nat Underw (Life ed) 37:3+ F 3 '33  
 Group health and accident insurance. P. W. Watt. Nat Underw 37:31 Je 8 '33  
 Group insurance has a fair year. Nat Underw (Life ed) 37:4 F 3 '33  
 Group life association annual meeting, New York city. Nat Underw (Life ed) 36:3+ N 18 '32  
 Group pension is going ahead fast. Nat Underw (Life ed) 36:3+ D 23 '32  
 In keeping with N.R.A. program; Corn products refining company to give free group accident and sickness insurance. Spectator 131:31 Ag 10 '33  
 Staff insurance and superannuation schemes. Mech Handling 20:260 Ag '33  
 What about group life insurance plans? Management Methods 62:225+ My '33

**See also**

Insurance, Life—  
 Multiple life policies

**Adjustment of claims**

Deduction from employee's salary by employer for group insurance held payment to insurer. Monthly Labor R 36:1072-3 My '33  
 Duty of insurer to notify insured employee of the failure of employer to renew group life policy. Weekly Underw 128:664 Ap 1 '33

**Agents**

Insuring a ten billion dollar payroll. V. S. Welch. East Underw 34:91 pt 2 S 22 '33

**Disability provisions**

Occupational risk proving expensive. Nat Underw 37:28+ Mr 23 '33

**Reinsurance**

Complete the transfer of British business of Metropolitan Life. East Underw 34:3 S 22 '33

**Germany**

Operations of salaried employees' old-age insurance system in Germany. Monthly Labor R 37:293-4 Ag '33

**INSURANCE, Hail****Canada**

Hail insurance in Canada for 1932; tabulation. Spectator 131:30 JI 6 '33

**INSURANCE, Health**

Alternatives to compulsory public health insurance. P. Williams. Ann Am Acad 170: 128-40 N '33  
 Brattleboro medical insurance plan which has been received with considerable public interest. Weekly Underw 127:995 N 19 '32  
 Compulsory health insurance urged here. East Underw 34:31 Mr 24 '33  
 Disability underwriting lessons of depression prove virtues of old underwriting methods. J. W. Scherr. Weekly Underw 128:1181+ Je 24 '33  
 Do we need compulsory public health insurance? No. R. G. Leland and A. M. Simons. Ann Am Acad 170:121-7 N '33  
 Do we need compulsory public health insurance? Yes. I. M. Rubinow. Ann Am Acad 170:112-20 N '33  
 Group health and accident insurance. P. W. Watt. Nat Underw 37:31 Je 8 '33  
 Health and accident underwriters conference 32d annual convention, Chicago, June 5-8. Ins Field (Fire ed) (H & A sup) 62:1-7 Je 15 '33; Nat Underw 37:27-37 Je 8 '33; East Underw 34:35, 38-41 Je 9 '33; Weekly Underw 128:1091-4+ Je 10 '33



**INSURANCE, Health—Continued**

In keeping with N.R.A. program; Corn products refining company to give free group accident and sickness insurance. *Spectator* 131:31 Ag 10 '33

Insurance principle in medicine. R. G. Leland. *Nat Underw* 37:33, 34 Je 8 '33

National health insurance. G. F. McCleary. 185p [bibliog p178-81] H. K. Lewis & co, ltd, London '32

Need of a separate statutory classification for accident and health insurance; abstracts. H. R. Gordon. *Weekly Underw* 129:361 Ag 26 '33; *Spectator* 131:27+ Ag 31 '33; *East Underw* 34:32 S 1 '33

Present day trends in disability insurance; abstracts. H. R. Gordon. *East Underw* 34:41-2 O 27 '33; *Nat Underw* 37:25+ O 19 '33

*See also*

Bureau of personal Insurance, Eyesight accident and health Medical service—underwriters Group plan  
also National association of accident and health managers

**Adjustment of claims**

Disablement benefit under the British health insurance system. *Int Labour R* 28:192-213 Ag '33

Some causes of complaints to the Insurance department. R. M. Clark. *Ins Field* (Fire ed) 62:10+ S 14 '33

**Agents**

Accident and health salesman must have sales plans blue printed in mind. A. J. Mountrey. *Weekly Underw* 128:341+ F 18 '33

Chicago A. & H. sales congress. *East Underw* 34:41 My 12 '33

Times ideal now for A. & H. sales; sales conference in Chicago. *Nat Underw* 36:31+ N 17 '32

**Finance**

Premiums are off about 15 percent. *Nat Underw* 37:27+ Ja 5 '33

Reduction of underwriting expense. J. M. Powell. *Nat Underw* 37:28+ Je 8 '33

**Medical examinations**

Greater morbidity may be expected; urged to require examinations after age 45. J. Altman. *Nat Underw* 37:25+ Mr 2 '33

**Policies**

A.A.E. insurance. *Prof Eng* 18:13 Ja '33

Pacific Mutual has aggregate income form. *Nat Underw* 37:28 O 5 '33

**Rates**

New rates for reimbursement. *Nat Underw* 37:30 Ap 6 '33

Travelers raise rates on renewal policies. *Nat Underw* 37:40 Je 8 '33

**Reinsurance**

Can the bordereau be eliminated in accident reinsurance? *Nat Underw* 36:7 pt 2 D 29 '32

**Risks**

Careful selection of accident and health risks necessary if companies are to make any profit. W. B. Hill. *Weekly Underw* 128:562 Mr 18 '33

**Canada**

Accident and health insurance in Canada during 1932. *Spectator* 131:32 S 21 '33

**Great Britain**

Disablement benefit under the British health insurance system. *Int Labour R* 28:192-213 Ag '33

**INSURANCE, Improvement and betterment.** See Insurance, Fire—Improvement and betterment policies

**INSURANCE, Industrial**

A.L.C. industrial section meeting, Chicago. *Ins Field* (Life ed) Conv no 62:21 O 13 '33; *Nat Underw* (Life ed) Conv no 37:16-17 O 14 '33

Do industrial policyholders have too much insurance, or don't they have enough? *Weekly Underw* 127:986 N 19 '32

Industrial life assurance. *Economist* 117:267-8 Ag 5 '33

Industrial underwriters now declare 1932 was their most crucial period. R. Daniel. *Ins Field* (Life ed) 62:4+ Ja 13 '33  
Social cost of industrial insurance. M. Taylor. 421p [bibliog p349-81] \$3.25 Knopf '33  
What's ahead in industrial field in 1933? L. Rock and others. *Weekly Underw* 128:71-2 Ja 7 '33

*See also*

Industrial insurers conference

**Agents.**

Better selection of agents needed. J. F. Maine. *Nat Underw* (Life ed) Conv no 37:16-17 O 14 '33

Building an industrial debit. Published in weekly numbers of *Weekly underwriter*  
New era for industrial agents. J. F. Maine. *Weekly Underw* 128:27+ sec 2 My 13 '33

Use of automobile on debit opposed. *Ins Field* (Life ed) 61:19-20 D 30 '32

**Great Britain**

Compare British ordinary and industrial insurance. *Spectator* 129:20 D 29 '32

**INSURANCE, Inland marine**

Facts are essential in inland underwriting. *Weekly Underw* 127:1052 D 3 '32

Historical background and definition of inland marine insurance. H. H. Reed. *Weekly Underw* 129:806+, 850-2 O 28-N 4 '33

I.M.U.A. will control garment floater risks. *East Underw* 34:20 Jl 21 '33; *Weekly Underw* 129:140 Jl 22 '33

List of prospects for inland marine. *Weekly Underw* 128:580 Mr 25 '33; Same. *East Underw* 34:33 Ap 7 '33

Uniform definition called good chance to regulate business. A. J. Smith. *Ins Field* (Chicago Conv Daily ed) 62:18-19 O 12 '33; Excerpts. *East Underw Extra* ed 34:6 O 14 '33

*See also*

Insurance, Fine arts Insurance, Motor  
Insurance, Fur truck contents  
Insurance, Jewelry Insurance, Personal effects

**Adjustment of claims**

Federal court holds truck of assured not a common carrier. *East Underw* 34:31 O 6 '33  
Federal court rules on floater liability. *Ins Field* (Fire ed) 62:8 Jl 20 '33

**Agents**

Easy to sell inland marine insurance; line-up of prospects and contracts. E. D. Lawson. *Weekly Underw* 128:24 Ja 7 '33

Legitimate inland marine risks are not yet fully developed. A. W. Barthelmes. *East Underw* 34:20 F 10; 35 F 24 '33; Abstract. *Weekly Underw* 128:296 F 11 '33

**Cancellation**

Cancellation for non-payment instituted by marine group. *Nat Underw* 37:3 My 11 '33

**Coverage**

Approved definition of marine insurance; text of changes. *Weekly Underw* 128:1042+ Je 3 '33

Casualty underwriters seek broader powers; bill before N. Y. assembly. *East Underw* 34:41 F 24 '33

Commissioners adopt nationwide marine powers definition. *East Underw* 34:22+ Je 9 '33; Same. *Ins Field* (Fire ed) 62:6+ Je 8 '33; Excerpts. *Nat Underw* 37:5+ Je 8 '33; *Weekly Underw* 128:1095 Je 10 '33

Marine views on overlapping. D. F. Cox. *East Underw* 34:30 F 24 '33

Nationwide inland marine agreement offered at Chicago. *East Underw* 34:18+ Je 2 '33

Special agreement on writing powers. *Weekly Underw* 129:442-4+ S 9 '33; Same abr. *Spectator* 131:29+ S 7 '33; Excerpts. *East Underw* 34:1+ S 8 '33

Special marine committee offers proposed ruling. *Weekly Underw* 127:1117-19+ D 10 '32; Same abr. *East Underw* 33:28+ D 16 '32

**INSURANCE, Inland marine—Coverage—Cont.**  
Would have marine legislation deferred. East Underw 34:20+ F 17 '33; Spectator 130:29 F 23 '33; Ins Field (Fire ed) 62:7-8 F 23 '33

#### Policies

Contractors' equipment form may be useful. Weekly Underw 129:651-2 O 7 '33  
Inland cover for armored car shipments. Weekly Underw 129:184 J1 29 '33  
Personal property policy provokes many questions. E. D. Lawson. Nat Underw 37:20+ S 7 '33

#### Rates

I.M.U.A. assumes more jurisdiction. Nat Underw 37:2+ Ag 10 '33; East Underw 34:24 Ag 18 '33

#### Study and teaching

Lecture course on inland marine themes announced by Insurance society of New York. Weekly Underw 129:272 Ag 12 '33

#### INSURANCE, Jewelry

National Bureau broadens jewelry and fur cover. East Underw 34:36+ F 3 '33; Ins Field (Fire ed) 62:10 F 2 '33; Nat Underw 37:25+ F 2 '33; Weekly Underw 128:276 F 4 '33

#### Rates

Rate revisions made on personal effects. Ins Field (Fire ed) 61:7 N 24 '32; Weekly Underw 127:1010 N 26 '32; East Underw 33:27 D 2 '32

#### INSURANCE, Leasehold

How leasehold insurance may be made attractive in present market. W. A. Riordan. Weekly Underw 128:1041+ Je 3 '33  
On their leasehold interest; with calculations and application of clauses. R. F. Tierney. Weekly Underw 129:645+ O 7 '33

#### See also

Insurance, Fire—Improvement and betterment policies

#### INSURANCE, Liability

Companies respond to plan to cut public liability costs. East Underw 34:33+ J1 7 '33  
Dry goods men to map new liability program. Weekly Underw 128:1161 Je 17 '33; Spectator 130:31 Je 22 '33  
Fire and casualty agent at work; the hazards of cycling. C. G. Hale. Spectator 131:11 Ag 10 '33  
Gas company insurance against third party liability claims. C. T. Hubbard. Gas Age 71:493+ My 13 '33  
Great exposure to liability under the new Federal securities act; company executives, however, view hazards as too great for insurance coverage. East Underw 34:31 Ag 25 '33  
Hotel keepers need cover against liability for baggage of guests. East Underw 34:26 Ag 18 '33  
Liability insurance brings freedom from worry, both to business men and to householders. J. C. Mullen. Ins Field (Fire ed) 62:6 J1 20 '33  
Liability insurance for fiduciaries; report of the committee on liability insurance of the Trust division, American bankers association. Trust Companies 56:245-6 F '33  
Liability manual greatly revised. Nat Underw 37:23+ Ag 31 '33  
Merchants in drive to cut down claims. Ins Field (Fire ed) 62:10 Je 1 '33  
Must deposit \$75,000 to write public liability in Florida. East Underw 33:31 D 30 '32  
New York rating bureau. Spectator 130:37 F 2 '33  
Owners' landlords' and tenants' public liability cover protection universally in demand. J. E. Payne. Weekly Underw 128:412 F 25 '33  
Owners of garages furnish many good prospects for the enterprising insurance salesman. C. E. Rickerd. Weekly Underw 128:1060 Je 3 '33  
Prudent and economical home owners will be interested in protection afforded by residence liability cover. Weekly Underw 127:1228 D 24 '32

Rating office knows N.Y. buildings; inspected 162,986 risks in 1932. East Underw 34:33 Mr 24 '33

Residence liability cover. Weekly Underw 128:367 F 18 '33

Residence liability insurance, a good cover at small premium, is an urgent need. F. W. Martin. Weekly Underw 129:342 Ag 19 '33

Store-liability code for San Francisco. Ins Field (Fire ed) 62:10 S 7 '33

What do you know about public liability cover? pertinent questions and answers. Weekly Underw 127:1189-91 D 17 '32

#### See also

Insurance, Automobile Insurance, Safe deposit box  
Insurance, Motor Insurance, Workmen's compensation

#### Advertising

Publicity value of large verdicts is questioned. T. N. Bartlett. East Underw 33:32 D 2 '32

#### Policies

Local agents find sports liability, a low cost protection, is popular with assureds. Weekly Underw 129:167 J1 22 '33

Provisions of a standard policy for complete fiduciary liability insurance; form used in Cleveland. H. Pirtle. Trust Companies 56:315-18 Mr '33

#### Rates

Rate revision made in manufacturers' and contractors' public liability. East Underw 34:34 S 1 '33; Ins Field (Fire ed) 62:10 Ag 31 '33; Weekly Underw 129:426 S 2 '33

#### INSURANCE, Life

Address before the Philadelphia life underwriters association. S. S. Huebner. Spectator 130:15+ Je 1 '33

Annual report reads easier in newspaper form; Connecticut mutual life insurance company. K. H. Mathus. II Ptr Ink 165:11-12 O 12 '33

Answering current inflation arguments. C. L. Benner. East Underw 34:6+ O 20 '33

Bible of life insurance. E. Wright. 382p American conservation co, Chicago '32

Broadening life values through security. T. A. Buckner. East Underw 33:8+ D 9 '32; Same. Spectator 129:13+ sec 2 D 8 '32; Same cond. Ins Field (Life ed) 61:7 D 9 '32

Can you support a widow? A. S. Hindle. Spectator 130:12+ F 16 '33

Changes in order, in view of experience during the depression; abstracts. D. McCahan. Ins Field (Life ed) 61:4+ D 30 '32; Nat Underw (Life ed) 36:3+ D 30 '32; East Underw 33:6 D 30 '32

Clean cut definitions of life insurance. P. Speicher. East Underw 34:107 pt 2 S 22 '33

Confidence unimpaired. L. J. Dougherty. Spectator 131:24 O 26 '33

Convention year book; life insurance. 12th ed 448p \$3.50 Convention year books co, 206 Broadway, New York '32

Critical article in "Nation" by James P. Sullivan is based on isolated cases. Nat Underw (Life ed) 37:9 S 22 '33

Definite and enormous buying power initiated by life insurance. G. F. Claypool. Ins Field (Life ed) 62:4+ O 13 '33

Discriminating buying era. C. M. Cartwright. Nat Underw (Life ed) 37:1+ Ja 20 '33

Drawing the line; man must choose early between passing luxury and future necessities. W. T. Nash. Spectator 130:11 F 16 '33

Financial independence editorials written by insurance people. East Underw 34:3 Mr 24 '33

Fundamentals of successful selling. S. D. Jones. Spectator 130:7+ Ja 19; 6-7 F 16; 6-7+ Mr 16; 6-7 Ap 27; 6-7+ My 25 '33

How depression has affected companies. D. McCahan. East Underw 34:1+ Mr 31 '33

How old time attitude regarding life insurance changed; emphasis put on regular banking features. Nat Underw (Life ed) 37:23-4 Ap 28 '33



**INSURANCE, Life—Continued**

- How safe is life insurance? L. S. Schnitman. 256p \$2 Vanguard press, New York '33
- Inaugurate combination of savings and life insurance; Investors finance & thrift corporation joins with United insurance co. in the contract. Nat Underw (Life ed) 37:6 Ja 13 '33
- Insurance-investment plan is held illegal in New York. East Underw 33:6 D 23 '32
- Insurance problems at the opening of 1933. Bradstreet's 61:244 Ja 28 '33
- Insurance sales reflect doubt. Econostat 1:5-6 Ap 22 '33
- Is need for classification. C. M. Cartwright. Nat Underw (Life ed) 37:3+ Mr 24 '33
- Just 30 years ago; a man was threatened with expulsion from his church because he bought life insurance. E. Doyle. Spectator 129:6+ N 24 '32
- Leading executives consider lessons of 1932. R. D. Lay and others. Weekly Underw 128: 53+ Ja 7 '33
- Legal aspects of insurance problems commonly met by agents. D. B. Maduro. East Underw 34:11 Ap 21 '33
- Life insurance and its contribution to the country during the depression years. Ins Field (Life ed) 62:4 O 6 '33
- Life insurance and national planning. J. A. Fulton. Ins Field (Life ed) 62:5+ O 27 '33; Same abr. Weekly Underw 129:911-13 N 11 '33; Same abr. Spectator 131:14-15+ N 2 '33; Abstract. Nat Underw (Life ed) 37:3+ O 27 '33; Excerpts. East Underw 34:1+ O 27 '33
- Life insurance and social trends. F. L. Jones. II East Underw 34:17+ pt 2 S 22 '33
- Life insurance and the new deal. H. A. Behrens. Ins Field (Chicago Conv Daily ed) 62:26-7 S 27 '33; Same. Nat Underw (Life ed) Daily ed 37:6+ S 27 '33; Excerpts. East Underw Extra ed 34:13+ S 30 '33
- Life insurance and the security of American institutions. J. A. Fulton. East Underw 33: 12+ D 9 '32; Same abr. Ins Field (Life ed) 61:8+ D 9 '32; Abstracts. Nat Underw (Life ed) 36:3+ D 9 '32; Weekly Underw 127:1095+ D 10 '32
- Life insurance business is now prepared to resume advance. D. Boone. Ins Field (Life ed) 62:6+ Jl 14 '33; Same. Spectator 131: 16, 22 Jl 13 '33
- Life insurance fraternity of nation rallying strongly behind efforts of federal government. Weekly Underw 128:577+ Mr 25 '33
- Life insurance from the inside—not a sales talk. C. F. Williams. Ins Field (Life ed) 62:4 Je 23 '33; Abstract. Nat Underw (Life ed) 37:1+ Je 23 '33
- Life insurance principles can aid country's ills. E. D. Duffield. East Underw 33:11-12+ N 25 '32
- Life insurance; the great companies consider increasing rates and charges. Business Week p13-14 N 23 '32
- Life insurance through the depression; executives of leading American companies review a brilliant record of progress. J. R. Hardin and others. Spectator 131:6-9+, 18-20+ sec2 O 26 '33
- Life insurance week announced for April. Weekly Underw 127:1174+ D 17 '32; Ins Field (Life ed) 61:5 D 16 '32; East Underw 33:6 D 16 '32
- Message of optimism. R. B. Hull. Ins Field (Chicago Conv Daily ed) 62:10+ S 29 '33
- Mountain labored and brought forth a mouse; criticism of Pingree C. Hughes' articles. J. J. Jasper. Ins Field (Life ed) 62:4 S 1 '33
- National asset in life insurance. M. A. Linton. Ins Field (Life ed) 62:5-6+ My 5 '33; Abstract. Nat Underw (Life ed) 37:3+ My 5 '33
- Need for life insurance has grown greater today. W. B. Bailey. Manuf Rec 102:25 Ap '33
- New car and why it was not purchased. H. P. Bickley. Spectator 129:10-11 D 22 '32
- Opportunities and obligations of life underwriters increase under current economic conditions. F. H. Davis. Weekly Underw 128:509-11 Mr 11 '33
- Presidents tell what controlled currency will mean to life insurance. G. W. Smith and others. East Underw 34:11-12, 109, 111, 113 pt 2 S 22 '33
- Privileged property. D. B. Maduro. East Underw 34:9+ Mr 24 '33
- Problems of life insurance companies from the standpoint of home office executives. A. F. Hall. Nat Underw (Life ed) 37:5+ My 26 '33
- Proceedings of the twenty-sixth annual convention of the Association of life insurance presidents, New York, Dec. 8-9. 280p The assn, New York '32
- Prospect's needs vs. his objections. C. W. Metzger. Ins Field (Life ed) 62:9-10 Jl 28 '33
- Raising standard of practices is demanded. D. Boone. Ins Field (Life ed) Conv no 62:7+ O 13 '33; Excerpts. East Underw 34:26+ O 13 '33
- Regulatory tendencies. J. S. Thompson. Spectator 130:15+ My 25 '33
- Remarkable financial standing of life companies despite depression; abstracts. J. R. Hardin. Weekly Underw 127:1135-7 D 10 '32; East Underw 33:8 D 16 '32; Nat Underw (Life ed) 36:4+ D 16 '32; Spectator 129:6-7+ D 22 '32
- Roster of new and retired life companies, 1932. Spectator 130:10-11 Ja 19 '33
- Savings banks and insurance; proposal for two kinds of life insurance. Nat Underw (Life ed) 37:13 My 5 '33
- Signs point to recovery. D. Boone. Ins Field (Life ed) 62:5+ Ja 13 '33; Excerpts. Nat Underw (Life ed) 37:1+ Ja 13 '33
- Skill in management of ever-increasing importance in life insurance field; abstracts. A. F. Hall. Weekly Underw 129:49+ Jl 8 '33; Ins Field (Life ed) 62:4 Jl 14 '33; East Underw 34:3+ Jl 14 '33; Nat Underw (Life ed) 37:3+ Jl 14 '33
- Speeding up of policy issuance a present trend, survey shows. East Underw 34:10 My 5 '33
- Stability after 90 years of achievement. J. S. Myrick. East Underw 34:8+ My 5 '33
- Stability of life insurance is founded on bed-rock principle of diversification. T. M. Riehle. Weekly Underw 129:269+ Ag 12 '33
- State governors pay tribute to work of life insurance. Nat Underw (Life ed) 37:3+ Ap 21 '33
- Talk to managers at annual convention of the Metropolitan Life. F. H. Ecker. East Underw 34:1+, 2 My 12 '33
- Tomorrow fair—a forecast. F. H. Davis. East Underw Extra ed 34:17+ S 30 '33; Excerpts. Ins Field (Chicago Conv Daily ed) 62:10 S 29 '33
- Truth about your life insurance. P. C. Hughes. 76p Association of policy holders, inc, Chicago '33
- 24,200 families owned no life insurance; a survey. Spectator 129:25 D 29 '32
- Warns against increase in twisting policies in 1933. I. Bendiner. Nat Underw (Life ed) 37:4 Ja 20 '33
- We encourage life insurance; a bank's co-operation with insurance salesmen. R. M. Skinner. II Rand McNally Bankers Mo 50: 548-9 O '33
- What is present trend of public mind toward life insurance? Earl G. Manning, Boston, sends questionnaire to prospects and policyholders. East Underw 34:3+ My 26 '33
- Why life insurance is best protection against changes in value of dollar. W. B. Bailey. Weekly Underw 129:889+ N 11 '33
- Why life insurance will continue to protect homes and firesides. W. L. Talbot. Weekly Underw 128:805+ Ap 29 '33
- Why women buy insurance. R. L. Sherwood. Weekly Underw 128:44-5 sec 2 My 13 '33

**See also**

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|---------------------|-----------------------|
| Annuities           | Insurance, Industrial |
| Benefit societies   | Insurance trusts      |
| Insurance, Business | Mortality             |
| Insurance, Group    |                       |

## INSURANCE, Life—Continued

## Actuaries

London celebrates centenary of William Morgan, actuary. East Underw 34:14+ My 19 '33

*See also*  
American institute of actuaries

## Adjustment of claims

Claims from carbon monoxide—difficult to differentiate between accidental death and suicide. F. S. Rossiter. Weekly Underw 129:511-12+ S 16 '33

Dividend held not to keep policy in force. Ins Field (Life ed) 62:24 O 27 '33

Double indemnity denied by court while contract operates under extended insurance. Spectator 130:19 Ja 19 '33

Important decisions on double indemnity. Ins Field (Life ed) 62:11 Ja 20 '33

Judgment reversed in incontestability case. East Underw 34:14 F 17 '33

Liability for death from illegal operation debated. P. E. Price, Nat Underw (Life ed) 37:6 O 20 '33

Metropolitan Life wins case on premium payment. Ins Field (Life ed) 62:10 Ag 4 '33

Mysterious disappearances; abstracts. F. E. Spain. Nat Underw (Life ed) 37:5+ O 13 '33; Spectator 131:12 O 12 '33; Weekly Underw 129:698 O 14 '33

Public policy defense no relief for company; suicide claims under review. East Underw 34:8 S 1 '33

Still deciding Russian cases. East Underw 34:9+ JI 14 '33

Stories of policyholders who lived to pay only one premium. Weekly Underw 128:7+ sec 2 My 13 '33

Suicide's large line offers legal problem. Spectator 131:24 O 19 '33

Where a beneficiary change is a fraud. East Underw 34:10 Ja 20 '33

## Advertising

As a life insurance company related its story in pictures. Ptd Salesmanship 60:292-3 D '32  
Broadcast is dressed up; Union central life insurance company, Cincinnati. Ptr Ink 164: 28 S 28 '33

Committee is named for insurance week. Ins Field (Life ed) 62:5 N 10 '33; East Underw 34:15 N 10 '33; Weekly Underw 129:903 N 11 '33

Don't judge your advertising by this month's results; Metropolitan marches on. J. E. D. Benedict. Il Ptr Ink 163:17-20 Ap 27 '33

Features of magazine for policyholders. C. S. Davis. East Underw 34:12 S 29 '33

Giving sales value to a trip through the plant; modern photographic art is used in a striking booklet by an insurance company. Il Ptr Ink 161:47-8 D 22 '32

Happiness theme dominates life insurance advertising. W. A. Law. Il Ptr Ink 164: 24-6 Ag 10 '33

How detachable copy helps meet changing conditions; Great-West life assurance company of Winnipeg, Manitoba builds new advertisements out of used materials. Il Ptr Ink 164:78-81 S 21 '33

Insurance advertising—and no sentiment. Il Ptr Ink 163:36 Je 22 '33

Insurance advertising awards. Ptr Ink 165:36 O 5 '33

I.A.C. majority sign pledge of loyalty. Ins Field (Life ed) 62:7 Ag 4 '33

Insurance advertising in national magazines now stresses direct appeal. East Underw 34:117 pt 2 S 22 '33

Life insurance dramatized in series of radio sketches. Nat Underw (Life ed) 37:9 Ap 14 '33

Life insurance week is actively observed. Ins Field (Life ed) 62:5-6+ Ap 21 '33; East Underw 34:3 Ap 21 '33; Nat Underw (Life ed) 37:1+ Ap 21 '33; Weekly Underw 128:774 Ap 22 '33

Making direct mail pay. H. Sonneborn, jr. East Underw 34:61 pt 2 S 22 '33

Making salesmen and direct mail lockstep; Guardian life insurance company. Il Ptr Ink Mo 26:36+ F '33

Many life companies are seceding from the I.A.C. Nat Underw 37:3+ JI 20 '33

Massachusetts Mutual launches unusual direct mail campaign. East Underw 34:8 Ap 14 '33

Milwaukee association of life underwriters wins F.I.W. exhibit award. East Underw 34:8 JI 14 '33

New advertising trail for insurance; Sun life insurance company of Canada. A. M. Corrigan. Il Ptd Salesmanship 61:226-7 Je '33

Objectives of financial independence week in which all life underwriters will assist. Weekly Underw 128:677+ Ap 8 '33

Outside advertisers help promote a sales contest; special number of "Life Aetna-izer." Il Ptr Ink Mo 26:27+ Je '33

Seventy-three co. ad men form new association; International life advertisers association. East Underw 34:1+ JI 14; 1+ JI 21 '33

Test develops proved copy themes. Adv & Sell 20:38-9 Mr 16 '33

Use of illustrations in modern life insurance advertising. T. H. Yull. Il Weekly Underw 128:36-41 sec 2 My 13 '33

Use of institutional advertising to educate public. J. S. Myrick. East Underw Extra ed 34:24 S 30 '33

Week of financial independence will be confidence boost. East Underw 34:1+ Ap 7 '33

*See also*

Life advertisers association

## Agents

Agency executive looks at himself. M. J. Cleary. Ins Field (Life ed) Conv no 62:19-20 O 13 '33; Excerpts. East Underw 34:31+ O 13 '33; Nat Underw (Life ed) Conv no 37: 3+ O 14 '33

Agency methods for building production in 1933. J. A. Stevenson. Spectator 130:24-5 Mr 9 '33

Agent as well as entire nation has chance to rebuild in new deal. C. W. Young. Ins Field (Life ed) 62:4 N 10 '33

Agents' side told to medical directors. A. E. Patterson. East Underw 34:16+ Je 9 '33

Analyzes 100 applications. A. G. Gabriel. Nat Underw (Life ed) 37:20 N 10 '33

Answering objections still necessary; examples given by practical underwriters. Ins Field (Life ed) 62:9-10 Ja 6 '33

App-a-day program a man-sized job. T. F. Treadway. Weekly Underw 128:25 sec 2 My 13 '33

Appeal to insurance agents; stop talking death insurance. W. Alexander. East Underw 33:34 D 9 '32

Are today's field problems so different? J. G. Sigmund. Ins Field (Life ed) 62:9-10 Mr 31 '33

Average people. C. W. Hamlin. East Underw Extra ed 34:16 S 30 '33; Same abr. Ins Field (Chicago Conv Daily ed) 62:17 S 28 '33; Excerpt. Nat Underw (Life ed) Daily ed 37:18-19 S 28 '33

Be sure you're right—then go ahead; Chester M. Frey. E. S. Banks. Spectator 131:11+ Ag 17 '33

Better methods of selling life insurance. L. L. Montgomery. East Underw 34:3+ F 24; 3-4+ Mr 3; 14-15 Mr 17; 14-15 Mr 31; 8+ Ap 21; 10+ Je 23 '33

A billion waiting to be written this year, says Clinton Davidson. East Underw 34:3+ S 8 '33

Broadcasts message to field. J. A. Fulton. Nat Underw (Life ed) 37:1+ S 8 '33

Buyer's and seller's viewpoints on life insurance. D. M. Phipps; L. L. Johnson. Nat Underw (Life ed) 37:27-8 F 24 '33

Canvassing the past keynote of prospecting system. H. H. Wilson. East Underw 34:20 Mr 3 '33

Capital value of a business life. H. S. Parsons. East Underw 34:105 pt 2 S 22 '33

Careful planning saves much foot work. H. L. Lawson. Ins Field (Life ed) 61:9-10 D 30 '32



**INSURANCE, Life—Agents—Continued**

- Castor oil, life insurance alike. V. B. Coffin. Nat Underw (Life ed) 37:2+ Ja 20 '33
- Chart rates success chances for prospective salesmen; Guardian Life tests a new plan. B. Crowell. Sales Management 33:212-13+ S 1 '33
- Closing success comes from being alert to reactions of prospect. G. C. Wuerth. East Underw 34:15-16 Ja 6 '33
- Combination of four primary principles necessary in life insurance selling. J. A. Fulton. Weekly Underw 129:441+ S 9 '33
- Confessions of a rookie. F. T. Bradley. Ins Field (Life ed) 62:9 Ap 14 '33
- Confident mental state is essential. Nat Underw (Life ed) 37:5+ Mr 17 '33
- Danger of client building. J. A. Fulton. East Underw 34:15 JI 21 '33
- Decalogue for closing the sale. F. M. See. Ins Field (Life ed) 62:9 Je 16 '33
- Department revokes license of Frank E. Mott, Walter C. Teagle's assistant; one man case. East Underw 33:10 D 16 '32
- Eckenrodes, a life insurance family for fifty-six years; connected with Penn mutual life. W. L. Hadley. East Underw 33:30+ D 9 '32
- Economic conditions demand new technique in selling life insurance during next six months. J. Clark. Weekly Underw 128:927-9 My 13 '33; Abstract. Ins Field (Life ed) 62:9 My 12 '33
- Education of agents in proper selection of life insurance risks becomes increasingly important. R. Huston. Weekly Underw 129:73 JI 8 '33
- Emphasis placed on fundamentals; abstracts. R. S. Moore. Nat Underw (Life ed) Daily ed 37:12+ S 23 '33; Ins Field (Chicago Conv Daily ed) 62:24-5 S 29 '33
- Essays for life agents. W. Cluff. Spectator 129:13 N 24; 22 D 8; 11 D 22 '32; 130:13 Ja 5; 12 F 2; 14 Mr 2; 15 Mr 16; 11 Ap 13; 19 My 4; 14 Je 1; 13:27 JI 6; 13 JI 20; 11+ Ag 3; 23 Ag 24; 19 S 7; 11 O 12 '33
- Faith in selling methods; public must be convinced that the indemnity is secure and the policy fits the case. C. M. Cartwright. Nat Underw (Life ed) 37:1 Ja 27 '33
- Federal Reserve Life of Kansas City adopts new sales and service plan. Ins Field (Life ed) 62:5-6+ Ap 28 '33
- A fellow called you. J. W. Babcock. 191p The modern woodman, Rock Island, Ill. '33
- Fortune builder; nine little stories which will help us to understand youth, sometimes called our best prospect. E. P. Hermann. Spectator 131:6-7+ S 14 '33
- Forty-eight applications for more than one million, with forty-seven checks—a one-day record for William C. Carroll. E. S. Banks. Spectator 129:22-3 D 29 '32
- Four chief objections of the day answered. A. S. Ingersoll and others. Ins Field (Life ed) 62:4+, 9-10 Je 2 '33; Same cond. East Underw 34:6 Je 2 '33; Same cond. Nat Underw (Life ed) 37:19-20 Je 2 '33
- Fundamentals of successful selling. S. D. Jones. Spectator 130:7+ Ja 19; 6-7 F 16; 6-7+ Mr 16; 6-7 Ap 27; 6-7+ My 25; 10-11+ Je 22; 131:6+ JI 20 '33
- Gear yourself to the times. G. L. Hill. East Underw 34:16+ Ja 6 '33
- Get grasp of principles of policy. A. E. N. Gray. East Underw 33:8 N 25 '32
- Getting back onto Main street—a plea for old-fashioned life insurance. R. B. Hull. Weekly Underw 128:700 Ap 8 '33
- Gold book of life insurance selling. East Underw 34:11-122 pt 2 S 22 '33
- Guardian sales congresses stress packaging of insurance. il East Underw 34:6 Ap 21 '33
- Headline prospecting. W. E. Cox. Spectator 130:6-7 F 2; 10-11 Mr 2; 6-7 My 11; 131:15, 23 JI 6; 6-7+ Ag 17; 10-11 O 12 '33
- Here and now is agent's opportunity. C. W. Baldwin. Ins Field (Chicago Conv Daily ed) 62:7+ S 27 '33; Same abr. Nat Underw (Life ed) Daily ed 37:13+ S 27 '33; Excerpts. Spectator 131:10+ S 28 '33
- Herman G. Fricke, country's leader in number of lives written. C. Axman. il East Underw 34:13+ pt 2 S 22 '33
- How agents of the Middle West are overcoming present obstacles. E. P. Hermann. Spectator 130:17+ Ap 13 '33
- How can we support the mental attitude of older agents? L. Patterson. Nat Underw (Life ed) Daily ed 37:6+ S 27 '33; Same. Ins Field (Chicago Conv Daily ed) 62:12 S 29 '33; Same abr. East Underw Extra ed 34:7 S 30 '33
- How do things look, ahead? R. B. Hull. Ins Field (Chicago Conv Daily ed) 62:20 S 27 '33
- How salesmen can be induced to analyze their work. E. C. Sparver. Ptr Ink Mo 27:57+ JI '33
- How to cultivate prospects. N. P. Parkinson. Ins Field (Life ed) 62:9-10 O 13 '33
- How visual selling sold \$40,000,000 worth of insurance. G. E. Mitchell. il Ptd Salesmanship 61:292-3 JI '33
- Husband, wife and two sons sell insurance. G. W. Lundgren; C. B. Lundgren. East Underw 34:116+ pt 2 S 22 '33
- Improve business in 1933 by doing something you did not do in 1932; get more references. J. C. McNamara. Spectator 130:15+ F 9 '33
- Inner convictions keynote to success in selling. L. L. Montgomery. East Underw 34:79 pt 2 S 22 '33
- Intimate clientele is essential to success. J. A. Fulton. Weekly Underw 128:56 Ja 7 '33
- Is there a new era in insurance salesmanship? S. N. Morrison. Spectator 131:10+ Ag 17 '33
- Is time control worth while? A. V. Youngman. East Underw 34:3 Ag 25 '33
- Keep moving is order of year in sales work. C. Connell. Spectator 130:17+ Ja 19 '33
- Keep protection idea foremost in selling insurance. R. B. Hull. Ins Field (Life ed) 61:4 N 18 '32
- Life insurance selling in 1933. H. C. Lawrence. Ins Field (Life ed) 62:9 JI 21 '33
- Life insurance survey an invaluable aid in selling policies in higher brackets. R. C. Ellis. Weekly Underw 128:1119 Je 10 '33
- Life underwriter as an engineer. J. M. Kessler. Ins Field (Chicago Conv Daily ed) 62:17+ S 29 '33; Excerpts. Nat Underw (Life ed) Daily ed 37:12 S 28 '33
- Life underwriters association of New York city sales congress. East Underw 34:3-4, 42 Mr 10 '33
- Life underwriters association of New York sales congress. Spectator 131:13+ N 9 '33
- Making salesmen and direct mail lockstep; Guardian life insurance company. il Ptr Ink Mo 26:36+ F '33
- Making the depression pay; Albert Hahn. E. S. Banks. Spectator 130:11-12 Je 8 '33
- Many thousands of new prospects for tax coverage. F. L. Morton. Weekly Underw 128:17 sec 2 My 13 '33
- Marauding cannibals in life insurance field demand unwavering front. R. B. Hull. Weekly Underw 128:97+ Ja 14 '33
- Militant keynote is struck in sales congress at Chicago. Nat Underw (Life ed) 36:23-4 N 25 '32
- Modern prospect work is outlined. O. S. Cummings. Ins Field (Chicago Conv Daily ed) 62:20-1 S 28 '33; Same. Nat Underw (Life ed) Daily ed 37:10+ S 27 '33; Excerpts. Weekly Underw 129:583+, 593+ S 30 '33
- Modern technique needed for sales; New York state life underwriters association's sales congress. Nat Underw (Life ed) 37:3+ My 19 '33
- Morale of agents must be regarded. M. Adam. Nat Underw (Life ed) 37:2+ Ap 28 '33
- Moratorium seen as no bar to live agent. J. A. Stevenson. Ins Field (Life ed) 62:5+ Ap 14 '33
- More responsibility on home office men for field production; sales seminar of the Life insurance sales research bureau. East Underw 34:1+ S 22 '33
- Multi-millionaire discusses strategy he uses in selling. L. E. Simon. Nat Underw (Life ed) 36:23 N 18 '32
- Mutual Life field conference in New York. East Underw 33:3+ N 25 '32

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- My philosophy of selling. A. Seff. *Ins Field* (Life ed) 62:9-10 F 17 '33
- Mysterious quality "X." E. P. Hermann. *Spectator* 131:6-7+ N 9 '33
- Need imagination, vision, sales talk. J. S. Maryman. *Nat Underw* (Life ed) Daily ed 37:15+ S 27 '33; Same abr. *Ins Field* (Chicago Conv Daily ed) 62:24-5 S 27 '33; Excerpts. *Spectator* 131:10+ S 28 '33
- Need of business ideals. L. P. Good. *Ins Field* (Chicago Conv Daily ed) 62:22-3 S 28 '33; Excerpts. *Nat Underw* (Life ed) Daily ed 37:19+ S 27 '33
- Newark sales congress. *East Underw* 34:12-13 Je 23 '33
- Northwestern Mutual home office meeting. *East Underw* 34:1, 3-4, 6-7 JI 28 '33
- Northwestern Mutual Life meeting, New York. *East Underw* 34:3, 9, 14-17, 20-1 Ja 6 '33
- NWNL guide to successful life underwriting. 193p Northwestern national life insurance company, Minneapolis, Minn. '33
- Observations in the life insurance field. E. J. Wohlgenuth. *Nat Underw* (Life ed) 37:4 Ja 13 '33
- Opinion concerning the influence of inflation upon the purchase of new life insurance as well as existing insurance. J. S. Myrick. *Nat Underw* (Life ed) 37:19 JI 28 '33; Same. *Ins Field* (Life ed) 62:9 Ag 4 '33; Same. *Weekly Underw* 246+ Ag 5 '33
- Organized sales presentations; practical plan for building them. L. B. Hendershot. *East Underw* 34:89-90 pt 2 S 22 '33
- Organized sales talks. M. Camps, jr. *East Underw* 34:13+ Je 23; 14+ Je 30 '33
- Outsider speaks on organizing sales effort. J. G. Harbord. *Ins Field* (Life ed) 62:9 My 26 '33
- Persistence begins with the sale. C. Chaddick. *Weekly Underw* 128:46 sec 2 My 13 '33
- Personal production of business by the manager or general agent. R. A. Trubey. *Ins Field* (Chicago Conv Daily ed) 62:23 S 29 '33
- Planning for profit. E. C. Sparver. *Ins Field* (Life ed) 62:5-6 F 10 '33
- Playlets and sales clinics being effectively used. *East Underw* 34:3+ Ag 4 '33
- Pointed comment on modern problems. L. P. Atkins. *Nat Underw* (Life ed) 36:19 D 23 '32
- Present conditions—a handicap or a help to the life underwriter? W. B. Bailey. *Ins Field* (Life ed) 62:4+ F 3 '33
- Production chiefs tell where to hunt for new business. G. W. Munsick and others. *East Underw* 34:37, 49 pt 2 S 22 '33
- Program selling best in long run. G. E. Lackey. *Nat Underw* (Life ed) Daily ed 37:4+ S 27 '33; Excerpts. *Ins Field* (Chicago Conv Daily ed) 62:30 S 28 '33
- Prospecting remains major problem. W. Cluff. *Ins Field* (Life ed) 61:9-10 D 23 '32
- Prospects—a separate and distinctive activity. H. E. North. *East Underw* 34:53+ pt 2 S 22 '33
- Pushes sale of policies to pay \$100 per month for year. J. L. Howard. *Nat Underw* (Life ed) 37:5 Ag 4 '33
- Qualification is policy of Continental Assurance. *Nat Underw* (Life ed) 37:3+ Ja 13 '33
- Readjusted selling to new economic conditions. J. M. England and others. *East Underw* 34:25, 27, 29, 67 pt 2 S 22 '33
- Reagent. W. M. Horner. *East Underw* 34:3+ S 1 '33
- Rehabilitation of older men stressed. W. W. Jaeger. *Nat Underw* (Life ed) 37:3+ O 27 '33
- Rhodes club of Berkshire Life holds meeting in Washington, D.C. *East Underw* 34:7-9+ O 13 '33
- Rich field of prospects and increased production assured to juvenile-insurance-minded agent. M. Herzberg. *Weekly Underw* 128:512+ Mr 11 '33
- Round table on time control develops some valuable tips. *Nat Underw* (Life ed) 37:19-20 Mr 3 '33
- Rural stability is recovery need. R. A. Trubey. *Ins Field* (Chicago Conv Daily ed) 62:13+ S 27 '33; Same. *Nat Underw* (Life ed) Daily ed 37:9+ S 27 '33; Excerpts. *Spectator* 131:11+ S 28 '33
- Sales congress of the Philadelphia association of life underwriters. *Spectator* 130:14-15+ Mr 23 '33
- Sees overstress in investment angle. H. E. North. *East Underw* 33:11 N 18 '32
- Selling is telling. J. R. Hastie. *Ins Field* (Chicago Conv Daily ed) 62:26 S 28 '33; Excerpts. *Nat Underw* (Life ed) Daily ed 37:6+ S 28 '33
- Selling protection for specific needs. W. J. Bradley. *Spectator* 130:10-11+ Ja 5 '33
- Sensible selling. V. B. Coffin and R. G. Engelsman. 164p Rough notes co, inc, Indianapolis, Ind. '33
- Small policies in favor this year. *Nat Underw* (Life ed) 37:3+ Ja 6 '33
- Some arguments used by agents in meeting sales resistance during these moratorium days. *Nat Underw* (Life ed) 37:23 Ap 7 '33
- Some of the outstanding factors that determine the success or failure of a life underwriter. H. C. Lawrence. *Weekly Underw* 129:914 N 11 '33
- Star salesmen the depression couldn't lick; Fred S. Goldstandt. *Sales Management* 33:130-1 Ag 1 '33
- Star salesmen the depression couldn't lick; T. M. Scott. *Sales Management* 33:45-6 JI 1 '33
- Stop me if I'm wrong; busy reader's quick-check method for analyzing some fallacious propositions. K. H. Mathus. *Spectator* 130:11 My 11 '33
- Stop selling policies; sell security. E. Miller, jr. *Spectator* 130:10 Mr 9 '33
- System urged in finding a market. H. Phillips, jr. *Nat Underw* (Life ed) Daily ed 37:14-15 S 28 '33
- Ten commandments on closing sale. F. M. See. *East Underw* 34:6+ Mr 17 '33
- Ten men who found themselves in life insurance and are glad they did. P. Hewes. *East Underw* 34:88-9 pt 2 S 22 '33
- 30 real interviews a week. S. M. Peer. *East Underw* 34:3 S 29 '33
- Time control a necessary bookkeeping system for the efficient life underwriter. J. L. Lawrence. *Weekly Underw* 129:289 Ag 12 '33
- Time control is the answer today. E. C. Sparver. *Nat Underw* (Life ed) 37:3+ Mr 3 '33
- Trend today in underwriting fosters contact with agents. H. O. Rasmussen. *East Underw* 34:3+ Ap 28 '33
- Tribute to agent. M. J. Cleary. *Ins Field* (Chicago Conv Daily ed) 62:22-3 S 27 '33; Same. *Nat Underw* (Life ed) Daily ed 37:5+ S 27 '33; Excerpts. *East Underw Extra* ed 34:12 S 30 '33
- Truth about the agent being his own boss. R. P. Thierbach. *Ins Field* (Life ed) 62:4 Ap 28 '33
- Type, size and kind of policies that are being sold; survey of 500 applications. *Spectator* 130:16 My 25 '33
- Use your time. C. R. Smith. *Ins Field* (Chicago Conv Daily ed) 62:16-17 S 29 '33; Excerpts. *Nat Underw* (Life ed) Daily ed 37:6+ S 28 '33
- Value of simplicity. W. S. Smith. *Ins Field* (Chicago Conv Daily ed) 62:22 S 29 '33; Same. *Nat Underw* (Life ed) Daily ed 37:14+ S 29 '33
- Veteran who has overcome depressions since 1893 gives some advice to agents. W. M. Horner. *Ins Field* (Life ed) 61:4 N 25 '32
- Walking and talking beats depression; Milburn P. McCormas. K. Force. *Ins Field* (Life ed) 62:9 Ja 20 '33
- What does the future hold for the insurance agent? W. B. Bailey. *Spectator* 130:6-7 Mr 2 '33
- What! no goat feathers? Guardian men write \$1,259,555 insurance in one-day drive. *Sales Management* 32:13+ Ja 1 '33
- What to do to train the new man. 43p Mutual life insurance co. of New York '33
- What would you say as to the moratorium edict? answers given to policyholders. *Nat Underw* (Life ed) 37:13, 23-4 Mr 24 '33
- Who are your prospects today? an analysis of 1,100 applications made in March. W. T. Plogstherth. *Ins Field* (Life ed) 62:9 Ap 28 '33



**INSURANCE, Life—Agents—Continued**

Why do they buy life insurance? H. B. Berwick. *Ins Field* (Life ed) 62:9-10 F 3 '33; Same. *Nat Underw* (Life ed) 37:19-20 F 17 '33; Same abr. *Weekly Underw* 128:127-+ Ja 14 '33

Wives turn "guinea pigs"; offer real prospecting aid. Mrs. W. W. Lundgren. *Nat Underw* (Life ed) 37:15-16 Ag 4 '33

Work-analysis plan cuts waste selling time. *Sales Management* 33:354-5 O 10 '33

*See also*

Insurance, Life— National association  
Lapses and sur- of life under-  
renders writers

*Agency management*

Agency officers look at each other and agree on what their work demands. H. H. Armstrong; A. J. McAndless. *Ins Field* (Life ed) Conv no 62:26 O 13 '33

Agents' room layout as production factor. R. G. Engelsman. *East Underw* 34:11 N 3 '33

American college of life underwriters program expanded to include course in management. *East Underw* 33:4 D 23 '32; *Nat Underw* (Life ed) 36:4 D 23 '32

American College program in life insurance agency management. D. McCahan. *Weekly Underw* 129:607-8 S 30 '33

Budgetary control seen as necessity. P. F. Clark. *Ins Field* (Chicago Conv Daily ed) 62:27 S 28 '33; Same. *Nat Underw* (Life ed) Daily ed 37:3+ S 27 '33

Control of time. C. D. Connell. *Ins Field* (Chicago Conv Daily ed) 62:34 S 28 '33; Same. *Nat Underw* (Life ed) Daily ed 37:12+ S 27 '33

Depression, the manager's best friend; the Old-Timer speaks on problems and opportunities. B. A. Hedges. *Ins Field* (Life ed) 62:9-10+ Mr 3; 9-10 Mr 10; 9-11 Mr 17; 9-10 Mr 24 '33

Factors entering into determination of value of business produced by a life insurance agency. W. A. Jenkins. *Weekly Underw* 129:738 O 14 '33; Excerpts. *East Underw* 34:4 O 6 '33

Financial supervision is commended to agency men. L. S. Morrison; G. F. Davies. *Nat Underw* (Life ed) 37:8 O 27 '33

Full time organization found safer investment. J. E. Hall. *Nat Underw* (Life ed) 37:16 J1 21 '33

Full time organization key to sound agency building. J. E. Hall. *East Underw* 34:3+ J1 21 '33

Life agency supervisors' association of Chicago. R. W. Budlong. *East Underw* 33:8 D 30 '32

Life insurance sales research bureau spring conference, Chicago, May 4-5. *Ins Field* (Life ed) 62:5-6+ My 12 '33; *Nat Underw* (Life ed) 37:1+ My 12 '33; *East Underw* 34:11+ My 12 '33

Life managers' conference in New York. *East Underw* 33:24+ D 9 '32; *Nat Underw* (Life ed) 36:31-2 D 9 '32

Managerial job is for man with gift for management. M. A. Linton. *Nat Underw* (Life ed) Daily ed 37:3+ S 27 '33; Same. *Ins Field* (Chicago Conv Daily ed) 62:14-16 S 27 '33; Excerpts. *East Underw Extra* ed 34:8 S 30 '33

Present day agency executive should furnish leadership. H. H. Armstrong. *East Underw* 34:28 O 13 '33

Questions in examination on agency management are given. *Nat Underw* (Life ed) 37:16 Je 23 '33

Unselfish attitude essential in managing general agency. R. E. Spaulding. *Nat Underw* (Life ed) 37:24 Ja 13 '33

Young company's plan for more intensive development of business by strengthening potency of its field force. H. W. Manning. *Weekly Underw* 129:913 N 11 '33

*Commissions*

New importance placed on renewals; analysis shows how income is increased. *Ins Field* (Life ed) 61:9 N 18 '32

Readjustment of commission criticised. J. C. Caperton. *Nat Underw* (Life ed) 37:24 Ja 20 '33

Right to renewal commission on waived premium upheld. *Nat Underw* (Life ed) 37:9 N 10 '33

*Selection*

Advertising methods for recruiting agents. E. N. Mills. *East Underw* 34:19+ S 29 '33

Elimination of unsuccessful agent considered necessary. *Nat Underw* (Life ed) 37:24 Ap 7 '33

How world's largest life agency hires and trains new men. C. Metzger. *Spectator* 130:15+ My 25 '33

Moderation in recruiting is anticipated this fall. *Nat Underw* (Life ed) 37:1 S 8 '33

Problems of rural selling analyzed. G. D. Curry. *Ins Field* (Chicago Conv Daily ed) 62:26 S 29 '33; Same. *Nat Underw* (Life ed) Daily ed 37:9+ S 27 '33

Some theories on sales management. R. J. Alfriend. *Spectator* 131:6-7 Ag 31 '33

Success depends on selection of agents and their training. S. M. Gamble. *Ins Field* (Life ed) 62:4+ Mr 3 '33

What a new man ought to have. R. G. Engelsman. *Ins Field* (Chicago Conv Daily ed) 62:21 S 29 '33; Same. *Nat Underw* (Life ed) Daily ed 37:12+ S 27 '33; Same. *East Underw Extra* ed 34:9 S 30 '33

*Training*

Developing skill in fundamentals. H. G. Kenagy. *Nat Underw* (Life ed) Daily ed 37:8 S 27 '33; Same. *East Underw Extra* ed 34:9-10 S 30 '33

How Chicago agencies train new men told at supervisors' meet. *East Underw* 34:19 Ja 6 '33

New training for old agents. C. E. Bell. *Nat Underw* (Life ed) Daily ed 36:9 Ag 17 '32; Same. *Ins Field* (Life ed) 61:9; Discussion. 9-10 N 25 '32

Questions raised on how far to go in educating agents. D. McCahan. *Ins Field* (Life ed) 62:4+ Ja 6 '33; Same cond. *Nat Underw* (Life ed) 37:19-20 Ja 6 '33

Step by step advice on how to install organized talks; abstracts. S. C. H. Taylor. *Nat Underw* (Life ed) Daily ed 37:8+ S 29 '33; *East Underw Extra* ed 34:25 S 30 '33

*Women agents*

Calls women best prospects for women. M. Divver. *East Underw* 34:57 pt 2 S 22 '33

Consecutive weekly production. P. L. Kittredge. *East Underw* 34:3 S 29 '33

Organizer of financial independence; Mildred Pointdexter Miller. V. Lindsay. *East Underw* 34:75+ pt 2 S 22 '33

Survey of women agents in New York city life field. D. B. Paul. *Nat Underw* (Life ed) 37:3+ S 15 '33

Women in Stevenson agency find insurance most satisfactory of careers. C. Frey. *East Underw* 34:21, 23 pt 2 S 22 '33

*Annuities**See Annuities**Aviation risks*

Aviation attitude is still cautious. *Nat Underw* (Life ed) 37:1 N 10 '33

Clause providing that death while participating in aviation is a risk not assumed held not conflicting with statutory incontestability clause. *Weekly Underw* 128:372 F 18 '33

Underwriting aviation pilots. *Nat Underw* (Life ed) 37:9 My 26 '33

Underwriting ratings of aviation pilots. J. E. Hoskins. *East Underw* 34:21 My 12 '33

*Bibliography*

Life insurance. (Business literature v 5, no 9) 2p Business branch, Public library, Newark, N.J. '33

*Children's policies*

Insuring the younger generation. J. T. Trefrey. *Weekly Underw* 128:19+ sec 2 My 13 '33

**INSURANCE, Life**—Children's policies—*Cont.*  
Rich field of prospects and increased production assured to juvenile-insurance-minded agent. M. Herzberg. *Weekly Underw* 128: 512+ Mr 11 '33

#### Conservation

*See Insurance, Life*—Lapses and surrenders

#### Disability provisions

Additional premium rates for disability income \$5 and \$10 per month per \$1000; tabulation. *Spectator* 130:10-11+ F 2 '33  
Can insured be required to take treatment to minimize claim? A. May. *East Underw* 33:18 D 9 '32  
Disability loss is seen as greater in 1932. *Nat Underw* (Life ed) 37:4+ Mr 31 '33  
Disability loss shows increase. R. B. Mitchell. *Nat Underw* (Life ed) 37:1, 2 Ap 7 '33  
Massachusetts Mutual to make policy form changes. *East Underw* 33:9 D 2 '32; *Nat Underw* (Life ed) 36:1 D 2 '32

*See also*

**Insurance, Group**—  
Disability provisions

#### Double indemnity provisions

Double indemnity denied by court while contract operates under extended insurance. *Spectator* 130:19 Ja 19 '33  
Important decisions on double indemnity. *Ins Field* (Life ed) 62:11 Ja 20 '33

#### Emergency measures

Action of commissioners at Chicago termed constructive and courageous step. H. A. Behrens. *Weekly Underw* 128:721+ Ap 15 '33; Same. *Ins Field* (Life ed) 62:5+ Ap 14 '33  
Commissioners conference in Chicago. *East Underw* 34:3+ Ap 14 '33  
Commissioners continue moratorium but recommend uniform regulations; text. *Ins Field* (Life ed) 62:4+ Ap 14 '33; Same. *Spectator* 130:27+ Ap 13 '33; Same. *East Underw* 34:6+ Ap 14 '33; Same. *Nat Underw* (Life ed) 37:4+ Ap 14 '33  
Commissioners' group to assist R.F.C. urged. M. A. Linton. *Nat Underw* (Life ed) 37:2+ Ap 7 '33  
Companies furnishing weekly data on finance; form. *East Underw* 34:17 Ap 23 '33  
Conclusions drawn from the moratorium period. *Nat Underw* (Life ed) 37:3+ My 19; 3+ My 26 '33  
Conference held over moratorium. *Nat Underw* (Life ed) 37:3+ Mr 31 '33  
Dividend declarations banned in New York and Illinois during emergency. *Weekly Underw* 128:546 Mr 18 '33  
Emergency rulings to govern life business; text of New York regulations. G. S. Van Schaick. *Weekly Underw* 128:500 Mr 11 '33; *East Underw* 34:8 Mr 17 '33  
Explains the strength of life insurance. G. S. Van Schaick. *Spectator* 130:15+ Ap 20 '33; Excerpts. *East Underw* 34:4 Ap 21 '33; *Ins Field* (Life ed) 62:6 Ap 21 '33  
How states line up on loan regulations. *East Underw* 34:4 Je 23 '33

Institution of life insurance in its relation to the present emergency. M. A. Linton. *Ins Field* (Life ed) 62:4 Mr 24 '33; Same. *Nat Underw* (Life ed) 37:1+ Mr 24 '33

Insurance curb; uniform code of restrictions on insurance loans recommended. *Business Week* p21 Ap 19 '33

Insurance faces moratorium issues. *Nat Underw* (Life ed) 37:3+ Mr 10; 3+ Mr 17; 1+ Mr 24; 2+ Ap 7 '33

Insurance holiday; states have stepped in to conserve the insurance companies' cash. *Business Week* p7-8 Mr 22 '33

Insurance relief; life insurance commissioners would ease loan curb to give the salesmen a break. *Business Week* p17 Je 10 '33

Legal views on emergency policy restrictions. C. P. Peterson. *Nat Underw* (Life ed) 37:4 O 13 '33

Legislative and insurance commissioners' regulations of loan and cash surrender values under life insurance policies. G. R. White. *Ins Field* (Life ed) 62:5-6 Je 23 '33; Same abr. *East Underw* 34:16 Je 23 '33

Life companies act for policyholders in meeting crisis. *Ins Field* (Life ed) 62:5-6 Mr 10 '33

Moratorium complex based on suppositions—not facts. C. D. Spencer. *Nat Underw* (Life ed) 37:5+ My 26 '33

Moratorium lift being discussed. *Nat Underw* (Life ed) 37:1+ S 1 '33

Moratorium lifted in New York, Connecticut, other states. *Nat Underw* (Life ed) 37:10 S 15 '33; *Ins Field* (Life ed) 62:11 S 15 '33

Moratorium on loans and payments. *Econostat* 1:7 Ap 15 '33

Moratorium rules offer cash surrender solution. *Nat Underw* (Life ed) 37:2+ Je 16 '33

Nation-wide action safeguards business in emergency period. *East Underw* 34:1+ Mr 24 '33

New York restricts dividends during moratorium. *Ins Field* (Life ed) 62:5-6 Mr 24 '33

Outsiders express varying opinions concerning insurance moratorium. *Ins Field* (Life ed) 62:4+ Ap 7 '33

Panoramic view of developments during moratorium on cash withdrawals. J. M. Laird. *Weekly Underw* 128:1089+ Je 10 '33

Policy loans; New York and Connecticut life insurance companies remove restrictions. *Business Week* p28 S 16 '33

Public's confidence is restored. *East Underw* 34:39+ pt 2 S 22 '33

Reaction to and effects of Commissioners' conference. *Nat Underw* (Life ed) 37:3+ Ap 14; 1+ Ap 21; 6 Ap 28 '33

Research bureau reports on moratorium practices. *Nat Underw* (Life ed) 37:2 Mr 24; 3+ Ap 7 '33

Rules on loans and surrenders modified; Commissioners' report. *Ins Field* (Life ed) 62: 5+ Je 9 '33; *East Underw* 34:1+ Je 9 '33

Several states like Illinois regulations. *Weekly Underw* 128:778+ Ap 22 '33

Some things agent should know in his contact with the public. M. A. Linton. *East Underw* 34:3-4+ Ap 21 '33

States act to halt drain on loan and surrender values. *Ins Field* (Life ed) 62:5-6 Mr 17 '33

Status of emergency life insurance control measures by states. *Ins Field* (Life ed) 62: 4+ Mr 31 '33; *Weekly Underw* 128:690 Ap 8 '33; *Nat Underw* (Life ed) 37:5, 12 Mr 31 '33; *Spectator* 130:14-15 Mr 30 '33

Temporary suspension of loans and surrenders. *Spectator* 130:17+ Mr 16 '33

Ultimate effect of current regulations expected to be beneficial. J. S. Thompson. *Weekly Underw* 128:905+ My 13 '33

Van Schaick lifts ban on dividends to policyholders. *Spectator* 130:17 Mr 30 '33

Wall Street Journal sees regulatory confusion. *East Underw* 34:3+ Ap 7 '33

What would you say as to the moratorium edict? answers given to policyholders. *Nat Underw* (Life ed) 37:13, 23-4 Mr 24 '33

#### Endowment policies

Endowment insurance safe from creditors. *Weekly Underw* 127:1127 D 10 '32

Penn Mutual issues endowment income policy. *Nat Underw* (Life ed) 36:14 D 23 '32

#### Exhibits

Insurance exhibits at World's fair in Chicago. *Il East Underw* 34:3 My 19; 3 JI 7 '33; *Weekly Underw* 129:63-4, 66 JI 8 '33

Interesting life insurance exhibit at Century of progress. *Il Nat Underw* (Life ed) 37:16 pt 2 JI 28 '33

#### Family income policies

Apply family income to endowment in Britain. *East Underw* 34:11 O 6 '33

Eureka-Maryland now writing family income as supplemental contract. *East Underw* 34: 11 JI 14 '33

Fidelity Mutual issues family income rider. *Nat Underw* (Life ed) 37:13 JI 28 '33



# INSURANCE, Life—Family income policies

—Continued

Home changes family income; adopts rider form for attachment to regular policies. Nat Underw (Life ed) 37:17 F 10 '33  
Huge family income settlements. Weekly Underw 128:9 sec 2 My 13 '33

## Farm problems

See Insurance, Life—Investments

## Finance

Annual statements show life companies in strong position. East Underw 34:1+ F 10 '33

Best's rating chart shows company assets up. East Underw 34:6 Je 23 '33

Builders—not bankers. A. F. Hall. Credit & Fin Management 35:19+ Je '33; Same cond. Bankers M 126:561-2 Je '33

Companies' ranking shown. Nat Underw (Life ed) 37:5 Ap 7 '33

Decrease of 18% in 1932 total life sales, ordinary down 20%. Nat Underw (Life ed) 37:6 Ja 27 '33; Weekly Underw 128:204-5 Ja 28 '33; East Underw 34:4 Ja 27 '33; Ins Field (Life ed) 62:6 Ja 27 '33; Spectator 130:13 Ja 26 '33; Business Week 116 F 1 '33

Disability figures explained. Nat Underw (Life ed) 37:9 Jl 28 '33

Disability loss shows increase; also double indemnity and annuities statistics. R. B. Mitchell. Nat Underw (Life ed) 37:1+ 2 Ap 7 '33

Divorcing life insurance from banking—life funds and permanent recovery. A. May. Weekly Underw 128:765+ Ap 22 '33

Early returns of life insurance companies. Spectator 130:22 Ja 26; 14 F 9 '33

Economy major issue this year. H. W. Dingman. Nat Underw (Life ed) 37:3+ Ja 20 '33

Effect of inflation on life companies. J. F. Wohlgemuth. Nat Underw (Life ed) 37:1+ Ap 28; 4+ My 5 '33

\$4,200 first-year death claims for total of \$55,800,000 were paid by life companies in 1932. Weekly Underw 128:5 sec 2 My 13 '33

Exhibit of the change in surplus of life insurance companies for the year ending December 31, 1932, ordinary business. Spectator 130:13 Je 8 '33

Factors entering into determination of value of business produced by a life insurance agency. W. A. Jenkins. Weekly Underw 129:733 O 14 '33; Excerpts. East Underw 34:4 O 6 '33

Gain and loss exhibit for past ten years; tabulation. Spectator 131:12-14 Ag 24 '33

Home office personnel and its salary. A. G. Magnell. Spectator 130:12-13 Ap 13 '33

Individual claim payments in 1932 listed by states and cities. Nat Underw (Life ed) 37:17-60 pt 2 Jl 28 '33

Insurance companies' cash up 100%. Barron's 13:14 Ja 9 '33

Life companies' 1932 disbursements set record in world of finance. A. F. Hall; F. B. Mead. Ins Field (Life ed) 62:4+ Ja 27 '33

Life insurance business in 1932; tabulation. Spectator 130:10-13 My 25 '33

Life insurance companies; business of 1932 and condition December 31, 1932; tabulation. Weekly Underw 128:55-9 sec 2 My 13 '33; Correction. 128:1012 My 27 '33

Life insurance; new business written, monthly, 1921-1932. Survey of Cur Business 13: 19-20 Jl '33

Life insurance; premium collections, monthly, 1921-1932. Survey of Cur Business 13:18 Je '33

Life insurance production, 1913-1932; tabulation. Spectator 130:18 F 9 '33

Life payments, 1932. Nat Underw (Life ed) 37:1-60 pt 2 Jl 28 '33

Many executives insisting on cutting off side show. Nat Underw (Life ed) 37:1+ Ap 21 '33

Method for rehabilitation. E. J. Wohlgemuth. Nat Underw (Life ed) 37:3+ My 5 '33

Much interest in company ratings by A.M. Best company. Nat Underw (Life ed) 37:4+ Ap 14 '33

Much interest shown in life companies' statement figures. Nat Underw (Life ed) 37:2+ Ja 27; 5+ F 3; 5+ F 10; 8 F 17; 5+ F 24 '33

New life insurance. Bradstreet's 60:1585 D 3 '32

Observations on life insurance; A. M. Best company ratings. E. J. Wohlgemuth. Nat Underw (Life ed) 37:7-8 Je 2 '33

Present position of life insurance companies. J. S. Thompson. Spectator 129:23-9 sec 2 D 8 '32

Production figures of N.Y. agencies in 1932 hold up well. East Underw 34:1+ Ja 6 '33

Rank of leading life insurance companies on January 1, 1933; tabulation. Weekly Underw 129:286-9 Ag 12 '33

R.F.C. loans are problem in field. Nat Underw (Life ed) 37:1+ Ja 27 '33

Relation of banking and insurance in nation's credit structure pointed out. Ins Field (Life ed) 62:4 Ap 21 '33

Remarkable financial standing of life companies despite depression; abstracts. J. R. Hardin. Weekly Underw 127:1135-7 D 10 '32

East Underw 33:8 D 16 '32; Nat Underw (Life ed) 36:4+ D 16 '32; Spectator 129:6-7+ D 22 '32

Reports on paid production for 1932. Ins Field (Life ed) 62:6 Ja 13; 6 Ja 20; 8 Ja 27; 6 F 3 '33

Require more liquidity on part of companies. Nat Underw (Life ed) 37:3 F 17; 3+ F 24 '33

Returns of life insurance companies for 1932; tabulation. Spectator 130:14 Ap 13 '33

Some life insurance trends. L. S. McCombs. Spectator 131:14-15 Jl 20 '33

Strong set-up of life companies. R. Riegel. East Underw 34:1+ Ap 21 '33

Supervision and management of life insurance companies. W. Breiby. Spectator 131: 10-11+ O 5 '33

Thirty years of life insurance. Spectator 131: 22 Jl 20 '33

Transactions of the ten largest life insurance companies in the United States in 1932; tabulation. Spectator 130:12-13 My 11 '33

U.S. bill to supervise life insurance companies introduced in House by McSwain. East Underw 34:5 Mr 31 '33

## Fraudulent claims

Ring trafficking in human lives is found in Chicago. Nat Underw (Life ed) 36:6 D 23 '32

## Health conservation service

Nation's mental health concerns medical chiefs. A. S. Knight. Weekly Underw 127: 1104-5 D 10 '32

## History

Bible of life insurance; being a complete photographic reprint of the original studies and official reports of Elizur Wright. 382p Recording & statistical corporation, Chicago '32

Origin of life insurance. L. G. Simon. Weekly Underw 128:931 My 13 '33

350th anniversary of life insurance. G. Malcolm-Smith. il Spectator 130:6-7+ Je 22 '33; Excerpt. East Underw 34:12 Je 16 '33

## Income policies

See Insurance, Life—Policies

## Investment value

Analyzes policy from investment standpoint. H. G. Guthmann. Nat Underw (Life ed) 36: 23 D 2 '32

Father's financial misbehavior a hazard to insure against. L. Patterson. East Underw 34:18 Je 9 '33

Investment aspect of life insurance today; abstracts. M. A. Linton. Ins Field (Life ed) 62:4 Je 30 '33; Nat Underw (Life ed) 37:3+ Je 30 '33; Weekly Underw 129:74 Jl 8 '33

Life insurance as investment. S. S. Huebner and D. McCahan. 291p \$2.50 Appleton-Century '33

Life insurance company as a banking concern. J. P. Sullivan. J of Business 5:346-61 O '32; Discussion. S. H. Nerlove. 6:83; Reply. 84-8 Ja '33

**INSURANCE, Life—Investment value—Cont.**

- Sales reactions to the business cycle; agent's opportunity is pointed out. W. H. Hazard. *Ins Field* (Life ed) 62:4 My 5 '33
- Security plus for the American family; abstracts. M. A. Linton. *Ins Field* (Life ed) 61:12 D 9 '32; *Weekly Underw* 127:1099+ D 10 '32; *East Underw* 33:13 D 16 '32
- Speculative possibilities of life insurance purchased during inflation. J. H. Philbin. *Trust Companies* 57:149-52 Ag '33
- Why do they buy life insurance? H. B. Berwick. *Ins Field* (Life ed) 62:9-10 F 3 '33; Same. *Nat Underw* (Life ed) 37:19-20 F 17 '33; Same abr. *Weekly Underw* 128:127+ Ja 14 '33
- Yes, Mr Prospect, building and loan shares are a good investment, but—, E. P. Hermann. *Spectator* 130:12 Ja 19 '33

**Investments**

- Canadian committee gives opportunity for investment discussion. *East Underw* 34:1+ F 3 '33
- Companies generally postpone Iowa farm foreclosures. *East Underw* 34:3+ F 3 '33; *Spectator* 130:16+ F 2 '33
- Companies' side to question of mortgage moratoria. W. E. Jones. *Ins Field* (Life ed) 62:4+ Mr 10 '33
- Company policy on mortgage loan foreclosures well defined. R. W. Sheehan. *Spectator* 130:20 F 9 '33
- De-frosting insurance assets. *Econostat* 1:6 Je 10 '33
- Depression brings another problem; companies taking property as mortgagee in possession. *Nat Underw* (Life ed) 36:3 D 16 '32
- Depression developments in policy loan and real estate mortgage field; abstracts. H. Moir. *Weekly Underw* 128:429+ Mr 4 '33; *Nat Underw* (Life ed) 37:1+ Mr 3 '33
- Diversified investments now held essential; abstracts. K. W. Huntington. *Ins Field* (Life ed) Conv no 62:10 O 13 '33; *East Underw* 34:26+ O 13 '33
- Effect of inflation program on life insurance and fiduciary investments. C. L. Benner. *Trust Companies* 56:529-32 My '33; Excerpts. *East Underw* 34:1+ Ap 28 '33; *Nat Underw* (Life ed) 37:1+ Ap 28 '33
- Farm mortgage as a life insurance investment; abstracts. G. S. Nollen. *East Underw* 34:30+ O 13 '33; *Ins Field* (Life ed) Conv no 62:18-19 O 13 '33; *Nat Underw* (Life ed) Conv no 37:6 O 14 '33
- Favoring U. S. and municipal bonds. *Nat Underw* (Life ed) 37:1+ N 3 '33
- Financial stability of life insurance. F. J. Travers. *Spectator* 129:11 D 8 '32
- Foreclosure moratorium announced by companies. *Nat Underw* (Life ed) 37:3+ F 3; 4+ F 10 '33
- Hartford view of home loan bonds; company executives do not see any virtue in exchanging mortgages. *Nat Underw* (Life ed) 37:3 Ag 11 '33
- How safe is life insurance? L. S. Schnitman. 256p \$2 Vanguard press, New York '33
- Illinois and New York laws compared on investments. *Nat Underw* (Life ed) 36:5 D 30 '32
- Illinois investment bill sets new limits. *East Underw* 34:8+ Ap 7 '33
- Illinois law now strictest in United States. H. A. Behrens. *Nat Underw* (Life ed) 37:2+ N 10 '33
- Insurance farm mortgage conference acquainting life company officials with the real problems in great agricultural areas. *Nat Underw* (Life ed) 36:7-8 D 16 '32
- Insurance justifies confidence of American people; abstracts. M. J. Cleary. *East Underw* 34:3+ Ja 6 '33; *Nat Underw* (Life ed) 37:2+ Ja 13 '33
- Investment experience of the life companies during depression. H. P. Dunham. *Spectator* 130:6-7+ Mr 30 '33; Abstract. *Nat Underw* (Life ed) 37:8-9 Ap 21 '33
- Investment policy is major question. M. B. Brainard. *Nat Underw* (Life ed) 37:3+ S 15 '33
- Investment principles and practice. W. Penman. *Economist* 116:915-16 Ap 29 '33
- Investments of American insurance companies. *Economist* 117:319 Ag 12 '33
- Iowa uprising is clearly explained; New York Life's proper attitude in foreclosure disturbance. *Nat Underw* (Life ed) 37:1+ Ja 13 '33
- Life companies give every consideration to farmers in handling mortgage situation. T. R. Porter. *Ins Field* (Life ed) 62:4 F 10 '33
- Life company's farm mortgage loans. H. S. Nollen. *East Underw* 34:15 pt 2 S 22 '33
- Life insurance; admitted assets, monthly, 1928-1932. *Survey of Cur Business* 13:18 Ji '33
- Life insurance; its present place and value. W. I. King. *East Underw* 34:4 Je 16 '33
- Life officers meet with Morgenthau on mortgage situation. *East Underw* 34:1+ My 19 '33
- Loan office plants organized in South; new movement of eastern life companies arouses agents. *Ins Field* (Fire ed) 62:8 S 7 '33
- Merits in applying life insurance standards to other fields. G. S. Van Schaick. *East Underw* 33:10 N 18 '32
- Policy loan drop is now reported. *Nat Underw* (Life ed) 37:1+ Je 30 '33
- Policyholders' portfolio; survey of changes in life insurance investments. *Business Week* p16 Ja 25 '33
- Proposes changes in law; recommends ten types of company investments and six safeguards in Illinois. W. H. Eckert. *Nat Underw* (Life ed) 37:5+ F 24 '33
- Prospect is better in city real estate; expect many properties taken over for management to work out well. *Nat Underw* (Life ed) 37:1+ N 3 '33
- Rate of interest earned on mean invested funds by one hundred life insurance companies from 1913 to 1932, inclusive; tabulation. *Spectator* 131:10-11+ Ag 31 '33
- Revised mortgage plan satisfactory; life companies handle business better than guarantee concerns did. *Nat Underw* (Life ed) 37:2+ Je 16 '33
- Six stability factors; abstracts. S. S. Huebner. *Nat Underw* (Life ed) 37:1+ Ja 20 '33; *East Underw* 34:13 Ja 20 '33
- Speculative possibilities of life insurance purchased during inflation. J. H. Philbin. *Trust Companies* 57:149-52 Ag '33
- Sue to force Missouri State to accept bonds of Home owners loan corporation. *Nat Underw* (Life ed) 37:7 Ag 25 '33
- Trend toward bond investments and away from mortgages; abstracts. O. J. Arnold. *East Underw* 34:36 O 13 '33; *Ins Field* (Life ed) Conv no 62:16-17 O 13 '33; *Nat Underw* (Life ed) Conv no 37:8+ O 14 '33
- Warns against moratorium dangers. F. H. Ecker. *Weekly Underw* 128:256 F 4 '33

**Lapses and surrenders**

- American institute of actuaries annual meeting. Chicago. *East Underw* 34:3 Je 9 '33
- Comments on charge for surrender values. A. Coburn. *Nat Underw* (Life ed) 37:8 My 26 '33
- Company must act on reinstatement. *East Underw* 33:47 D 9 '32
- Conservation methods in effective use to-day. *Weekly Underw* 128:62-4+ Ja 7 '33
- How companies writing life insurance in Canada have met new business, lapse and surrender problems. J. G. Parker. *Weekly Underw* 129:461-3+ S 9 '33; Abstract. *Nat Underw* (Life ed) 37:1+ S 8 '33
- Inequalities in rates and surrender charges to be adjusted by companies. *East Underw* 33:1+ N 18 '32
- Letup in lapses, surrenders noted. *Nat Underw* (Life ed) 36:3+ N 25 '32
- Life insurance company as a banking concern. J. P. Sullivan. *J of Business* 5:346-61 O '32; Discussion. S. H. Nerlove. 6:83; Reply. 84-8 Ja '33
- Massachusetts Mutual and National of Vermont boost surrender charge. *Nat Underw* (Life ed) 36:1+ D 2 '32



**INSURANCE, Life—Lapses and surrenders***—Continued*

- New surrender form makes insured know what he sacrifices; Manufacturers life of Canada. East Underw 34:1+ O 20 '33
- Per cent of terminations by surrender and lapse to mean policies in force of twenty-eight life insurance companies from 1913 to 1932, inclusive; tabulation. Spectator 131:10-11 S 14 '33
- Redating plan has proved effective; Pan-American life of New Orleans. Ins Field (Life ed) 62:4 F 24 '33
- Reinstatement is vital subject now. Nat Underw (Life ed) 37:3 Ja 6 '33
- Status of surrender, loan and other non-forfeiture values; report of the American institute of actuaries. East Underw 34:3 O 27 '33; Abstract. Nat Underw (Life ed) 37:1+ O 27 '33; Excerpts. Ins Field (Life ed) 62:4 O 27 '33
- Surrender charge of great interest. Nat Underw (Life ed) 36:3+ D 30 '32

*See also*

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|--|----------------------------------|
| Insurance, Life—<br>Emergency measures | Insurance, Life—<br>Policy loans |
|--|----------------------------------|

**Medical departments**

- Agents' side told to medical directors. A. E. Patterson. East Underw 34:16+ Je 9 '33

**Medical examinations**

- Chief and alternate plan of medical examiners has numerous advantages over multiple system. J. R. Biggs. Weekly Underw 129:739-40 O 14 '33
- Modern medical service as a conservation agency. I. McNeil. Spectator 130:7+ Mr 2 '33
- What has been achieved by periodic examination of policyholders through the Life extension institute. East Underw 34:3 Mr 17 '33

**Mortality statistics***See Mortality—Statistics***Multiple life policies**

- Blue Goose revises group life policy. Ins Field (Fire ed) 61:7-8 D 15 '32

**Policies**

- Aetna Life makes changes in non-par rates, forms. Nat Underw (Life ed) 37:6 Mr 31 '33; East Underw 34:17+ Mr 31 '33; Weekly Underw 128:645+ Ap 1 '33
- Bankers Life has premium return policy. Nat Underw (Life ed) 37:18 Mr 31 '33
- Equitable issues optional retirement policy. Nat Underw (Life ed) 37:18-19 Ap 21 '33; East Underw 34:1+ Ap 14 '33
- Equitable life assurance society to convert equity into an annuity. East Underw 33:1+ D 16 '32; Nat Underw (Life ed) 36:15 D 23 '32; Spectator 129:17+ D 22 '32
- Evolution of the life insurance policy. J. B. Reynolds. Ins Field (Life ed) Conv no 62:9+ O 13 '33; Excerpts. Nat Underw (Life ed) Conv no 37:9+ O 14 '33; Weekly Underw 129:696+ O 14 '33
- Fidelity fortifier, new policy, issued. East Underw 34:10 Ji 21 '33
- Illinois bankers' whole life policy. Nat Underw (Life ed) 37:16 My 12 '33
- Increasing popularity of the monthly income policy. C. M. Biscay. Weekly Underw 128:42-3 sec 2 My 13 '33
- Insurable interest in life insurance contract. G. L. Amrhein. East Underw 34:3 N 10 '33
- Is too much emphasis placed on the special policy? J. B. Maclean. East Underw 34:87-8+ pt 2 S 22 '33
- Liberalization of the life insurance contract. G. L. Amrhein. 369p George Lawrence Amrhein, Philadelphia '33
- Midland Life issues four new contracts. Ins Field (Life ed) 62:11 O 13 '33
- Mutual Benefit increasing premium policy. Nat Underw (Life ed) 37:15 Mr 17 '33; East Underw 34:1 Mr 17 '33; Spectator 130:24 Mr 30 '33

- New advertising trail for insurance; Sun life insurance company of Canada. A. M. Corrigan. Il Ptd Salesmanship 61:226-7 Je '33
- New insurance plans to fit your needs. O. Smith. Forbes 32:20-1 Ag 15 '33
- New policy forms drawn to meet needs of the times. H. O. Boone. East Underw 34:3 Ag 18 '33
- Occidental life insurance co. of Los Angeles issues new policy. Spectator 131:20-1 N 9 '33
- Opinion given in Massachusetts on pre-paid premiums. M. L. Brown. East Underw 34:14 Ja 20 '33
- Phoenix Mutual Life issues modified life policy. Spectator 129:18 N 24 '32
- Provident Mutual form; protector contract. Nat Underw 37:17-18 Ap 7 '33; Spectator 130:23 Ap 6 '33; Correction. 130:24 Ap 13 '33; East Underw 34:6 Mr 31 '33
- Sentinel Life family group form. Nat Underw (Life ed) 37:17-18 Ag 25 '33
- Silent salesman; monthly income provisions by the means of life insurance and life annuities. S. D. Jones. Spectator 130:6-7 Ap 27 '33
- Travelers announce April 1 changes. East Underw 34:5+ Mr 31 '33
- Union Central has increasing income form. Nat Underw (Life ed) 37:20 O 13 '33

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| Insurance, Life—Disability provisions       | Insurance, Life—Rates                      |
| Insurance, Life—Double indemnity provisions |  |
| Insurance, Life—Endowment policies          |  |

**Policy assignment**

- Life insurance as collateral. C. D. Heyer. Am Bankers Assn J 26:32-3+ N '33
- Life insurance as collateral. E. O. Stanley. Bankers M 127:237-45 S '33; Excerpt. Trust Companies 56:528 My '33; Abstract. East Underw 34:11 Ji 28 '33
- Life insurance collateral. R. T. Elston. Am Bankers Assn J 25:47-8 Ja: 59 Mr '33

**Policy conservation**

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**Policy dividends**

- Atlantic Life announces new dividend scale. Spectator 131:18-19 Ji 6 '33
- Canada Life announces new departure as to dividends. Nat Underw (Life ed) 37:11 Ja 13; 18 Ja 20 '33; East Underw 34:1+ Ja 13 '33
- Connecticut Mutual Life dividend scale for 1934; tabulation. Spectator 131:21 N 2 '33
- Connecticut Mutual reduces dividend and interest scales. Nat Underw (Life ed) 37:7 O 13 '33; Same. Ins Field (Life ed) 62:7 O 13 '33; Abstract. East Underw 34:19 O 13 '33
- Dividend announcements to date. Spectator 130:25 Ja 12 '33
- Dividend notes on five prominent life companies. Spectator 129:17+ N 24 '32
- Downward 1934 dividend scale revision expected. Nat Underw (Life ed) 37:3+ O 13 '33
- Equitable of New York in dividend reduction move. Nat Underw (Life ed) 36:3, 20 D 23 '32
- Fidelity Mutual's dividends. Nat Underw (Life ed) 37:25 Ja 27 '33
- Great-West Life raises its 1933 dividends. East Underw 33:8 N 18 '32
- John Hancock Life's dividend scale for 1933. Spectator 130:18 F 23 '33
- John Hancock Mutual's dividend scale unchanged. Ins Field (Life ed) 61:21 N 25 '32
- Metropolitan dividends. Nat Underw (Life ed) 37:19 Mr 24 '33
- Mutual Benefit Life dividend illustration. Spectator 129:21 D 15 '32; Nat Underw (Life ed) 36:14 D 23 '32

**INSURANCE, Life—Policy dividends—Cont.**

Mutual Life of New York announces dividend cut. Nat Underw (Life ed) 36:8 D 9 '32

Mutual Life's 1933 dividends; detailed figures. Nat Underw (Life ed) 37:18 Ja 13 '33

New York Life's dividends for 1933 are announced. Nat Underw (Life ed) 37:4+ Ja 6 '33

Northwestern Mutual cuts dividend scale 25 percent; tabulation. Nat Underw (Life ed) 37:10-11 O 27; 13 N 3 '33

Northwestern Mutual cuts dividends 25%. East Underw 34:5 O 27 '33; Ins Field (Life ed) 62:9 O 27 '33

Northwestern mutual life 1933 dividend basis. Spectator 130:19 My 25 '33

Northwestern National is withholding part of dividend. Nat Underw (Life ed) 37:4 Ap 7 '33; Ins Field (Life ed) 62:17 Ap 7 '33

Phoenix Mutuals' dividend scale is effective July 1. Nat Underw (Life ed) 37:18 Je 16 '33

Policies paid-up by dividend accumulation; tabulation. Spectator 130:13 Ap 6 '33

Provident Mutual dividend schedule. Spectator 131:32 Ag 31 '33; Nat Underw (Life ed) 37:6 S 1 '33; East Underw 34:5 S 1 '33

Prudential's 1933 dividends. Nat Underw (Life ed) 36:18 D 16 '32; Spectator 129:23 D 29 '32

Security Mutual Life, Binghamton, N. Y.; scale effective May 1. Spectator 131:21 N 2 '33

Single premium policy illustrations in five companies, 1933 scale. Spectator 130:23 Ja 19 '33

Status of dividends in various life companies is summarized. Nat Underw (Life ed) 36:8 N 18 '32; 37:8 F 3; 17 F 17 '33

Sun Life of Canada announces 1933 dividend scale. Spectator 130:10-11 Ap 13 '33; Excerpts. Nat Underw (Life ed) 37:19 Mr 31 '33

Twenty-year dividend exhibit summaries per \$1000 ordinary life at age 35—1933 basis; tabulation. Spectator 130:36 My 11 '33

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Insurance, Life—  
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**Policy holders**

American service bureau surveys market of life insurance buyers in United States. Ins Field (Life ed) 62:4 Ja 20 '33; Excerpts. Nat Underw (Life ed) 37:27-8 Ja 27 '33

As thousands cheer; stars of Broadway give their views on life insurance. E. S. Banks. pors Spectator 131:14-17 sec2 O 26 '33

Eighteen years from now; Virginia Curley, young stage star, puts half of her total earnings in life insurance. E. S. Banks. Spectator 130:7+ F 16 '33

List of prominent patrons in the United States who are owners of \$50,000 or more of life insurance. Spectator 131:23-91, 94 sec2 O 26 '33

Many raters and muck rakers now thriving on Chicago's soil. Nat Underw (Life ed) 37:2 Ag 18 '33

Millionaire policyholders; individuals who own policies aggregating \$1,000,000 or more. Spectator 131:21-2, 91 sec2 O 26 '33

New Jersey bars policyholders in relief program; holds policies with surrender values same as bank account. East Underw 34:5 Jl 14 '33

Rating concerns now active in the Chicago territory. Nat Underw (Life ed) 37:1+ Je 16 '33

Service bureau analysis reflects better business conditions in trade and industry. L. N. Parker. Ins Field (Life ed) 62:4+ Jl 21 '33

Type, size and kind of policies that are being sold; survey of 500 applications. Spectator 130:16 My 25 '33

Who are your prospects today? an analysis of 1,100 applications made in March. W. T. Plogsterth. Ins Field (Life ed) 62:9 Ap 28 '33

**Policy loans**

Analysis of methods used by life insurance companies in soliciting repayment of policy loans. L. R. Martin. Weekly Underw 129:737 O 14 '33

Companies review methods used in conserving loaned policies. Nat Underw (Life ed) 36:6-7+ D 2 '32

Depression developments in policy loan and real estate mortgage field. H. Moir. Weekly Underw 128:429+ Mr 4 '33

Effect of policy loans on lapses; policy loan survey. Weekly Underw 128:50-3 sec 2 My 13 '33

Expose policy loan fallacies. H. H. Buckman. Nat Underw (Life ed) 37:23 F 10 '33

General agent suggests cutting of loan interest. Nat Underw (Life ed) 36:5 N 18 '32

Life insurance company as a banking concern. J. P. Sullivan. J of Business 5:346-61 O '32; Discussion. S. H. Nerlove. 6:83; Reply. 84-8 Ja '33

Policy loan demand shows marked decline. Spectator 131:13+ N 9 '33

Policy loan drop is now reported. Nat Underw (Life ed) 37:1+ Je 30 '33

Wise prophecy made in 1913 as to what might happen in policy loan situation. East Underw 34:4+ My 12 '33

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Insurance, Life—  
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**Policy settlement**

Cash values now safe in 12 states. Nat Underw (Life ed) 37:1+ S 15 '33

Changes expected in income option. Nat Underw (Life ed) 37:1 N 10 '33

Decision broadens protection of proceeds from creditor claims; New York. East Underw 34:1+ Je 2 '33

Proceeds attachment under section 15, New York. East Underw 34:6 Je 16 '33

Proceeds protection under law weakened; N. Y. Supreme court on Sec. 55a. A. Hirst. East Underw 34:5+ S 29 '33; Same. Nat Underw (Life ed) 37:1 S 29 '33; Same. Spectator 131:17+ O 5 '33

Protecting proceeds against creditors of beneficiaries. A. Hirst. East Underw 34:3 Je 30 '33

**Premiums, Payment of**

Possible hazard of premium extension agreement debated. Nat Underw (Life ed) 37:1+ N 10 '33

Special deposit fund plan; Occidental Life. Nat Underw (Life ed) 36:18 D 16 '32

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Consumer surveys in insurance planned by Psychological corp. East Underw 34:1+ O 13 '33

**Rates**

Aetna Life alters non-participating rates. Spectator 130:27 Ap 6 '33

Connecticut General rates. Nat Underw (Life ed) 37:17 Ap 7 '33

Holds new non-par rates inadequate. L. K. File. East Underw 34:17 Ap 21 '33

Inequalities in rates and surrender charges to be adjusted by companies. East Underw 33:1+ N 18 '32

Jefferson Standard and Pilot Life issue new ordinary forms with increasing premiums. Nat Underw (Life ed) 37:12 Ag 18 '33

Pacific Mutual changes made. Nat Underw (Life ed) 37:20 O 13 '33

Pacific Mutual new rates. Nat Underw (Life ed) 37:16 S 29 '33

Prudential changes "modified 3" rates. Spectator 129:20 D 1 '32

Prudential endowment, annuity rates. Nat Underw (Life ed) 37:11 Ag 18 '33

Rates and surrender values more difficult to compute; abstracts. E. E. Cammack. Nat Underw (Life ed) Conv no 37:10 O 14 '33; East Underw 34:28+ O 13 '33; Discussion. W. M. Morris. Nat Underw (Life ed) Conv no 37:13 O 14 '33

Travelers, Aetna Life and Connecticut General Life revise rates upward for middle-age risks. Weekly Underw 128:588+ Mr 25 '33

Travelers new rate scale. Nat Underw (Life ed) 37:15 Mr 17 '33; Spectator 130:23 Mr 30 '33



## INSURANCE, Life—Continued

## Receiverships

Failures represent less than 1 percent of total; list. Nat Underw (Life ed) 37:8 Je 16 '33  
 Life insurance receivership problems unusually complex. Nat Underw (Life ed) 37:3+ Ja 13 '33  
 Task of receiver. A. S. Lytton. Nat Underw (Life ed) 37:5+ Ap 14 '33

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## Risks

American life convention, medical section meeting, Chicago; symposium. East Underw 34:8+ Je 9 '33; Ins Field (Life ed) 62:4 Je 9 '33; Nat Underw (Life ed) 37:2+ Je 9 '33; Weekly Underw 128:1109-10 Je 10 '33  
 Cooperative underwriting. H. W. Dingman. Ins Field (Life ed) 61:4+ D 16 '32; Same cond. Weekly Underw 127:1138 D 10 '32  
 Current selection problems call for closer cooperation, increased inquisitiveness and keener analyses. C. F. Barney. Weekly Underw 128:1116-17 Je 10 '33  
 Declined 325,000 applications in 1932; tabulation. Weekly Underw 128:63 sec 2 My 13 '33  
 Distinctive opportunities in underwriting of risks. M. Adam. East Underw 34:87 pt 2 S 22 '33  
 Expected upturn eases selection. Nat Underw (Life ed) 37:1+ Jl 7 '33  
 Financial underwriting becomes increasingly important problem; accurate fact-finding by agents great help. L. Cruess. Weekly Underw 128:125-6 Ja 14 '33  
 Growing insured mortality raises medical problems. H. W. Cook. Nat Underw (Life ed) 37:6 Je 16 '33  
 Higher mortality expected from legalization of beer. Nat Underw (Life ed) 37:12+ Ap 23 '33  
 Home office life underwriters association spring meeting, Boston, May 22-23. Nat Underw (Life ed) 37:4+ My 26 '33; East Underw 34:11+ My 26 '33  
 Improving human values through health; abstracts. A. S. Knight. East Underw 33:22 D 9 '32; Ins Field (Life ed) 61:10 D 9 '32  
 Inspecting jumbo risks. E. J. Hyde. Weekly Underw 128:23+ sec 2 My 13 '33  
 Medical director looks at underwriting. M. B. Bender. East Underw 34:80-1 pt 2 S 22 '33  
 Premeditated selection against the life insurance company; abstracts. J. B. Mabon. East Underw 34:13 Je 9 '33; Weekly Underw 128:1108; Discussion. 1108+ Je 10 '33  
 Risk selection. J. M. Laird. Ins Field (Chicago Conv Daily ed) 62:13-15 S 29 '33; Same. Nat Underw (Life ed) Daily ed 37:6+ S 29 '33; Excerpts. East Underw Extra ed 34:26 S 30 '33  
 Security and equity through sound selection. R. D. Murphy. East Underw 33:10+ D 9 '32; Excerpts. Ins Field (Life ed) 61:4+ D 9 '32; Abstract. Weekly Underw 127:1102 D 10 '32  
 Sources and use of life insurance underwriting information under current economic conditions. A. Coburn. Weekly Underw 129:71-3 Jl 8 '33; Excerpts. Spectator 130:20 Je 15 '33  
 Underwriting obligations of agent. H. W. Dingman. Nat Underw (Life ed) 37:4 F 17 '33  
 Watch motivation of applicants now. Nat Underw (Life ed) 37:1+ Je 16 '33

## See also

Home office life underwriters' association Insurance, Life—Medical examinations

## Statistics

Individual claim payments in 1932 listed by states and cities. Nat Underw (Life ed) 37:17-60 pt 2 Jl 28 '33  
 Life insurance; sales figures go down with the depression; death rates stay down in spite of it. Business Week p11 D 28 '32  
 Life payments, 1932. Nat Underw (Life ed) 37:1-60 pt 2 Jl 28 '33

Per cent of terminations by surrender and lapse to mean policies in force of twenty-eight life insurance companies from 1913 to 1932, inclusive; tabulation. Spectator 131:10-11 S 14 '33

## Study and teaching

Answers to C.L.U. degree examination. Nat Underw (Life ed) 37:19-20 Ag 11; 15-16 Ag 18; 19-20 Ag 25; 15-16 S 1; 15-16 S 8; 23-4 S 15; 19 S 22; 19 S 29; 15 O 6; 23 O 13; 19 O 20; 27 O 27 '33  
 Answers to 1933 C.L.U. questions. Ins Field (Life ed) 62:9-10 Ag 11; 9-10 Ag 13; 9-11 Ag 25; 9-10 S 1; 9-10 S 8; 9-10 S 15; 9-10 S 22; 9-10 S 29; 9-10 O 6; 9-10 O 20; 17-18 O 27; 9-11 N 3; 9-10 N 10; 9 N 17 '33  
 C.L.U. degree is granted 124 candidates in 1933. Nat Underw (Life ed) 37:2+ Ag 4 '33; Ins Field (Life ed) 62:5-6 Ag 4 '33  
 C.L.U. study groups enroll nearly 2,000. Ins Field (Life ed) 62:10 F 3 '33  
 Companies help agents prepare for C.L.U. Ins Field (Life ed) 62:9 My 5 '33  
 Meaning of C.L.U. J. A. Stevenson. Ins Field (Chicago Conv Daily ed) 62:16-17 S 28 '33; Excerpts. Nat Underw (Life ed) Daily ed 37:7+ S 28 '33  
 Questions in C.L.U. quiz. Nat Underw (Life ed) 37:15 Je 23; 19-20 Je 30; 15 Jl 7; 19 Jl 14; 15 Jl 21 '33  
 Questions raised on how far to go in educating agents. D. McCahan. Ins Field (Life ed) 62:4+ Ja 6 '33; Same cond. Nat Underw (Life ed) 37:19-20 Ja 6 '33  
 Representative answers to questions asked in part 1 of 1933 chartered life underwriters examinations. Weekly Underw 129:291-4+ Ag 12 '33  
 Training life underwriters to meet needs of a changing world. D. McCahan. Weekly Underw 128:31-3 sec 2 My 13 '33  
 What C.L.U. means to the business. S. S. Huebner. Ins Field (Chicago Conv Daily ed) 62:12-14 S 28 '33; Excerpts. Nat Underw (Life ed) Daily ed 37:7+ S 28 '33; East Underw Extra ed 34:22 S 30 '33

## See also

Insurance, Life— Agents—Training Life office management association institute

## Taxation

Caesar's ghost gets action! E. P. Huttinger. East Underw 33:6+ D 9 '32  
 Cash value reserve is held non-taxable. Ins Field (Life ed) 62:5+ Je 2 '33  
 How 1932 tax laws affect life insurance. D. B. Maduro. East Underw 34:14 Ja 27 '33; Same. Nat Underw (Life ed) 37:3 Ja 20 '33  
 Important decision on U.S. tax in Tennessee. F. W. Ganse. East Underw 34:3 F 24 '33  
 Interpretation given of federal tax ruling exempting proceeds. F. L. Morton. East Underw 34:1+ Mr 3 '33  
 Supreme court ruling; companies not entitled to deduct interest credited to policyholders as dividends during the tax year. Ins Field (Life ed) 62:10 F 10 '33  
 Taxation of life insurance from the policyholder's viewpoint. I. Bendiner. East Underw 34:6+ O 6 '33

## Trust company cooperation

Approved code of ethics governing relations between life underwriters and trust officers. Trust Companies 56:569-70 My '33  
 Selling more insurance through estate approach. G. L. Kappes. East Underw 34:85 pt 2 S 22 '33

## See also

Insurance trusts Trust companies— Life underwriters' cooperation

## Twisting

Agency executive and a common problem. E. B. Stevenson, jr. Nat Underw (Life ed) Conv no 37:3+ O 14 '33  
 Committee report on replacement; Life agency officers association. F. L. Jones. Spectator 129:6-7+ D 8 '32

**INSURANCE, Life—Twisting—Continued**

Court upholds Life underwriters assn. in business conduct committee activities. East Underw 34:1+ My 26 '33; Weekly Underw 128:106+ Je 3 '33  
 Replacement solution is dominant life problem; New York city life managers association. Nat Underw (Life ed) 36:4+ D 9 '32  
 Thwarting the twister. W. E. Barton. Weekly Underw 128:15+ sec 2 My 13 '33  
 Twisting becomes greater problem. Nat Underw (Life ed) 36:3+ D 23 '32  
 View commission for replacements. Nat Underw (Life ed) 37:3 Ag 11 '33  
 War against twisting widens battlefield. F. L. Jones. Weekly Underw 128:54+ Ja 7 '33

**War risks**

Repeal of veterans' term insurance hit; suit raises question of constitutionality of act of March 20, 1933. Ins Field (Life ed) 62:12 N 10 '33  
 Veterans' insurance dividends cut 53%. East Underw 34:17 S 29 '33

**Canada**

Canadian life report in outline summary. Spectator 129:17 D 15 '32  
 Canadian 1932 results. Weekly Underw 128:1112 Je 10 '33; Same. Spectator 130:23 Je 15 '33  
 How companies writing life insurance in Canada have met new business, lapse and surrender problems. J. G. Parker. Weekly Underw 129:461-3+ S 9 '33  
 Sun Life of Canada. Economist 115:1071-2 D 10 '32

**Germany**

German life insurance companies. A. Loneragan. East Underw 34:10 My 19 '33  
 What inflation did to German life insurance. H. Ullrich. East Underw 34:3-4+ O 13 '33

**Great Britain**

Compare British ordinary and industrial insurance. Spectator 129:20 D 29 '32  
 Husband-wife decision in England. East Underw 33:14 D 16 '32  
 National Mutual Life. Economist 116:405 F 25 '33  
 Provident mutual life assurance association annual general meeting, London. Economist 116:347, 376 F 18 '33  
 Refuge assurance company, limited, and other companies. Economist 116:545-51, 553-4 Mr 11 '33

**See also**

Gresham life assurance society, limited	National mutual life assurance society
	Prudential assurance company

**Illinois**

Illinois plans to classify carriers. Nat Underw (Life ed) 37:3+ My 12 '33  
 Monthly reports demanded of Illinois life companies. Nat Underw (Life ed) 37:6 F 17 '33

**Massachusetts**

Massachusetts rules about grace period. East Underw 34:16 Mr 17 '33

**New York (state)**

New York department issues report for 1932. Spectator 131:16+ O 19 '33; East Underw 34:8 O 20 '33  
 Van Schaick lauds companies' record in annual report. Ins Field (Life ed) 62:4+ F 17 '33

**United States**

Annual review. H. F. Tyrrell. Ins Field (Life ed) 61:5-6+ D 30 '32; Same. Nat Underw (Life ed) 36:3+ D 30 '32; Same. Weekly Underw 127:1251+ D 31 '32  
 Life business now ready for progress. T. R. Weddell. Ins Field (Life ed) 61:5+ D 30 '32  
 Life insurance business strengthened by severe test given it during 1932. C. Blackmon. Ins Field (Life ed) 62:8 Ja 6 '33

Performance of life insurance in depressions country has experienced. J. S. Thompson. Weekly Underw 129:761+ O 21 '33; Same. East Underw 34:3+ O 20 '33  
 Review of turbulent life insurance year; abstracts. B. K. Elliott. Ins Field (Life ed) Cony no 62:8+ O 13 '33; East Underw 34:32 O 13 '33

**INSURANCE, Machinery**

New outage coverage developed by Bureau for boiler and machinery risks. East Underw 34:40 Ja 6 '33; Ins Field (Fire ed) 62:10 Ja 5 '33  
 Outage, a new form of insurance. Locomotive 39:151-3 Ja '33  
 Whistle, I hear you call; boiler and machinery insurance business. Spectator 130:10 F 9 '33

**INSURANCE, Marine**

Achievements of the International union of marine insurance meeting. Weekly Underw 129:807 O 28 '33  
 American insurance interests neglected; government arrangement with Soviets fails to provide for cover in companies of this country. Weekly Underw 129:314 Ag 19 '33  
 Approval of code of American institute of marine underwriters. Weekly Underw 129:488-9 S 16 '33  
 Business gains will create difficulties. L. H. Walters. East Underw 34:33 Mr 17 '33  
 Cover terminates with usual course of transit. J. A. Bogardus. Weekly Underw 127:1163-4 D 17 '32  
 Currency changes attract speculators; comments on A. B. Stewart's address. D. King-Page. Weekly Underw 129:315-16 Ag 19 '33  
 Earthquakes covered in "on shore" risks. Weekly Underw 128:534 Mr 18 '33  
 Insuring whalers is proving profitable. Weekly Underw 129:51 Jl 8 '33  
 International union of marine insurance report discusses leading international problems. East Underw 34:28+ S 22; 33, S 29 '33  
 Is aid at sea a legal obligation? suit for \$200,000 damages. Weekly Underw 129:762 O 21 '33  
 Lake grain movement is now under way. Weekly Underw 128:1042 Je 3 '33  
 Marine experience in 1932. M. F. York. East Underw 33:28+ D 23 '32; Same. Ins Field (Fire ed) 61:6+ D 29 '32; Same. Weekly Underw 127:1205-6 D 24 '32  
 Marine insurance conditions abroad in 1932. S. D. McComb. Weekly Underw 128:23+ Ja 7 '33  
 Marine insurance problems in world-wide revival of trade. A. C. Blackall. East Underw 34:32 Jl 7 '33  
 Marine underwriters generally not liable for damage by rain. East Underw 34:32 Je 23 '33  
 Market too national; 1932 experience. B. Rush. East Underw 34:35 F 3 '33  
 Random facts every marine man must know. Weekly Underw 128:194-5, 242-4 Ja 28-F 4 '33  
 Resolutions adopted by the International union of marine insurance. East Underw 34:31 O 6 '33; Same. Weekly Underw 129:646 O 7 '33  
 Service of marine insurance brokers. C. L. Despard. Weekly Underw 128:19+ Ja 7 '33  
 Subjects suggested for marine theses. Spectator 131:22 S 14 '33  
 Subrogation rights are very important; American underwriters are not entitled to sue in their own country where nationalities differ. Weekly Underw 129:616 S 30 '33  
 Wines and liquors are ready for import; extensive insurance now being arranged. Weekly Underw 129:806 O 28 '33

**See also**

Average (maritime law)	Insurance, Inland marine
Insurance, Cotton	Insurance, Motor boat

**Adjustment of claims**

American market hit by L'Atlantique disaster. Weekly Underw 128:99+ Ja 14 '33  
 L'Atlantique claim rumor called false. East Underw 34:35 F 24 '33



**INSURANCE, Marine—Adjustment of claims**  
—*Continued*

L'Atlantique judgment analyzed by company. Fournier. East Underw 34:28 Ag 11 '33  
 L'Atlantique loss not yet determined. East Underw 34:39 Ap 14 '33  
 British demand return of money paid on loss; Georges Philippa claim. East Underw 34:29 Ag 4 '33  
 Cancelled policies precluded recovery; British court of appeal sustains defense of Commercial union assurance company against an American steamship company. Weekly Underw 129:270-1 Ag 12 '33; East Underw 34:29 Ag 25 '33  
 Cargo owners and average contribution; Panola case. Weekly Underw 129:363 Ag 26 '33  
 Caribbean hurricane entails heavy losses. Weekly Underw 127:966+ N 19 '32  
 Claim allowed in loading of molasses. Weekly Underw 129:50-1 Jl 8 '33  
 Collision arbitration form is standardized; Lloyd's frames agreement. East Underw 34:28 Ag 18 '33  
 Court discusses when a vessel is in port. Weekly Underw 128:387 F 25 '33  
 Decision increases subrogation chances. Weekly Underw 128:154 Ja 21 '33  
 Federal court decision on limit of liability. East Underw 34:32 Ja 20 '33; Weekly Underw 128:154 Ja 21 '33  
 General average and tender clauses. H. W. Lindley. Weekly Underw 128:1096 Je 10 '33  
 Insurance angle of President Madison. Il Weekly Underw 128:630-1 Ap 1 '33  
 Insurer can recover on a mutual mistake; oil was valued after loss. East Underw 34:27 Je 30 '33  
 London underwriters aroused by succession of liner fires. A. C. Blackall. East Underw 34:28+ Ja 20 '33  
 Marine adjustment principle applied; co-insurance where sound value exceeds agreed value. Weekly Underw 129:763 O 21 '33  
 Marine insurer held liable for injuries. East Underw 34:28 Je 16 '33  
 Protection and indemnity insurance issue; Rose Murphy case. F. E. Single. Weekly Underw 128:26+ Ja 7 '33  
 Total cargo losses are constructive or actual. G. Inselman. Weekly Underw 129:94-6, 138-40, 182-4, 226-8 Jl 15-Ag 5 '33  
 U.S. Supreme court decides important case; shipowners are not liable for any fire losses unless by own neglect. East Underw 33:1+ D 16 '32; Same abr. Weekly Underw 127:1205+ D 24 '32

**Agents**

Average agent in theft and pilferage. Weekly Underw 129:50+ Jl 8 '33

**Cancellation**

Cancellation in U.S. is upheld by British. East Underw 33:30 D 23 '32

**Coverage**

Approved definition of marine insurance; text of changes. Weekly Underw 128:1042+ Je 3 '33  
 Commissioners adopt nationwide marine powers definition. East Underw 34:22+ Je 9 '33; Same. Ins Field (Fire ed) 62:6+ Je 8 '33; Excerpts. Nat Underw 37:5+ Je 8 '33; Weekly Underw 128:1095 Je 10 '33  
 Marine views on overlapping. D. F. Cox. East Underw 34:30 F 24 '33  
 Nationwide inland marine agreement offered at Chicago. East Underw 34:18+ Je 2 '33  
 Special agreement on writing powers. Weekly Underw 129:442-4+ S 9 '33; Same abr. Spectator 131:29+ S 7 '33; Excerpts. East Underw 34:1+ S 8 '33  
 Special marine committee offers proposed ruling. Weekly Underw 127:1117-19+ D 10 '32; Same abr. East Underw 33:28+ D 16 '32  
 Would have marine legislation deferred. East Underw 34:20+ F 17 '33; Spectator 130:29 F 23 '33; Ins Field (Fire ed) 62:7-8 F 23 '33

**Finance**

American marine insurance results in 1932; tabulation. Weekly Underw 128:859-61 My 6 '33

Automobile and marine premiums and losses, 1932. East Underw 34:20, 30 Mr 17 '33

**Policies**

Revised institute warehouse to warehouse clause analyzed. East Underw 34:35 Mr 10 '33  
 Warehouse clause is amended in Britain. East Underw 34:29 Ja 27 '33; Weekly Underw 128:154 Ja 21 '33

**Rates**

Changes in building risk agreement made by Institute of London underwriters. East Underw 34:33 My 19 '33  
 Far East quotations are somewhat lower. Weekly Underw 128:906 My 13 '33  
 Freedom of marine rates from state regulation sought. A. G. Thacher. East Underw 34:1+ Mr 3 '33  
 Insurance a factor in Churchill crisis. Weekly Underw 129:890-1 N 11 '33  
 War risk rates to Chinese and Japanese ports raised. East Underw 34:20 F 24 '33; Weekly Underw 128:386 F 25 '33

**Reinsurance**

Marine reinsurance and present trend. V. Dover. Weekly Underw 129:6-8 Jl 1 '33

**Risks**

French liner coverage again being written. East Underw 34:32 F 17 '33  
 Gold reinsurance rates mount again. East Underw 34:32 Ja 20 '33  
 Gold shipments are worrying underwriters. Weekly Underw 129:364 Ag 26 '33  
 Overseas trade has land risks as well. Weekly Underw 129:403 S 2 '33  
 Problems of insuring specie shipments across Atlantic. G. A. T. Hardy. Spectator 129:32 D 22 '32  
 Underwriting sugar attracts attention. Weekly Underw 128:722-3 Ap 15 '33  
 Union convention hits big gold risks. East Underw 33:29 O 21; 28 D 2 '32

**Taxation**

State dept. asked to aid in fight on Argentine 7% tax. East Underw 34:33 Jl 28 '33; Spectator 131:24 Jl 27 '33; Weekly Underw 129:182 Jl 29 '33

**France**

French underwriting problems this year. R. Sibilat. East Underw 33:28 D 2 '32

**Great Britain**

Abandon agreement to respect the lead. Weekly Underw 128:342-3 F 18 '33  
 British gov't report on Cunard insurance. East Underw 34:33 Mr 17 '33  
 Exchange difficulties, fall of cargo rates and problems of hull insurance. P. H. Matthews. East Underw 34:52 O 13 '33  
 Hull agreement is to be revived abroad. Weekly Underw 129:362 Ag 26 '33  
 Hull lead agreement dropped in London. East Underw 34:35 F 3 '33

**Turkey**

Marine insurance in Turkey. East Underw 34:35 Ja 6 '33

**United States**

Drop of \$1,000,000 in premiums to the Shipping board. Weekly Underw 129:270 Ag 12 '33  
 Marine insurance had rough going in 1932. Weekly Underw 128:21-2+ Ja 7 '33  
**INSURANCE, Mortgage interest**  
*See also*  
 Insurance, Fire—  
 Mortgage interest  
**INSURANCE, Moth damage**  
 Moth cover being watched; maker of cedar chests offers free moth damage insurance. Nat Underw 37:21 Jl 6 '33  
**INSURANCE, Motor boat**  
 Dual valuation for yachts. Nat Underw 37:21 Jl 6 '33

**INSURANCE, Motor boat—Continued**

Liability of small craft. Nat Underw 37:13 JI 6 '33

This is the season for writing yachts. Weekly Underw 128:806+ Ap 29 '33

Yacht rates are increased owing to under-insurance. Nat Underw 37:4 Je 1 '33

**INSURANCE, Motor bus**

Don't overlook school bus liability insurance. Spectator 130:7 Je 29 '33

Rules on extending omnibus motor cover in New York. Weekly Underw 127:1018 N 26 '32

**INSURANCE, Motor truck**

Truck insurance chaos and ways to solution. A. G. Chapman. Ins Field (Fire ed) 62:6 F 9 '33

**INSURANCE, Motor truck contents**

Chicago commerce group's plan found not in violation. Nat Underw 37:7 N 2 '33

Chicago shippers' plan is defended. Nat Underw 37:3+ S 28 '33

Criticises I.M.U.A. truck cargo rule. Nat Underw 37:1+ Ag 3 '33; Discussion. 37:4 O 19 '33

Expect new rules to eradicate evils. Nat Underw 37:3+ Je 15; 3 Je 29 '33

Expect new truck rules to aid sales. Nat Underw 37:3+ My 25 '33

Find bad practices in truck coverage. Nat Underw 37:1 O 5 '33

I.M.U.A. seeks to halt evasions. Nat Underw 37:1+ JI 20 '33

Insurance extension on truckmen's policies. F. B. Cramer. Weekly Underw 128:994+ My 27 '33

Long distance hauls are not regarded with favor. Nat Underw 37:21 Ag 3 '33

New complications in truck coverage. Nat Underw 37:1+ Ag 10 '33

Novel surety bond devised for truck cargo insurance. Nat Underw 37:25 Ag 31 '33

**Adjustment of claims**

Close corporation succeeding partnership is held covered. East Underw 34:24 S 29 '33

**INSURANCE, Multiple location.** See Insurance, Fire—Multiple location policies**INSURANCE, Municipal**

Mayor of Baltimore seeks insurance fund. Ins Field (Fire ed) 61:9 D 29 '32

**See also**

Insurance—Municipal policies

**INSURANCE, Mutual**

Conquering farm fires; system of valuing property and inspecting risks. J. E. Kennedy. Weekly Underw 129:859-60 N 4 '33

Erie school board ruling boomerangs. Ins Field (Fire ed) 62:9+ Mr 16 '33

Factory insurers charge Factory association distorts dividend action. Nat Underw 36:3+ D 15 '32

Fire and casualty agent at work; respecting stock and mutual insurance. C. G. Hale. Spectator 130:11 Je 1 '33

Interesting mutual figures. Nat Underw 37:13 N 9 '33

Mutuals are still with us. W. M. Goodwin. Spectator 131:6+ Ag 24 '33

Westchester agents hold cities can't insure in assessment companies. East Underw 34:18+ F 10 '33

See also National association of mutual insurance companies

**INSURANCE, Obsolescence**

Building up sound credit by use of property life insurance. H. J. Werder. East Underw 34:21 Ap 28 '33

Insuring life of buildings. H. J. Werder. East Underw 33:17 D 23 '32

New value and depreciation insurance. H. J. Werder. East Underw 34:22+ F 24 '33

Property life insurance as an aid to economic security. H. J. Werder. East Underw 34:19-20 Ja 27 '33

**INSURANCE, Patent**

Good prospect for patent contracts is seen ahead. Nat Underw 37:6 My 18 '33

**INSURANCE, Paymaster robbery**

Field for paymaster robbery line broadened by government ruling. East Underw 34:38 N 3 '33

**INSURANCE, Personal effects**

Sell personal effects insurance now as summer vacation coverage. East Underw 34:28 JI 21 '33

**Rates**

Rate revisions made on personal effects. Ins Field (Fire ed) 61:7 N 24 '32; Weekly Underw 127:1010 N 26 '32; East Underw 33:27 D 2 '32

**INSURANCE, Plate glass**

Bad Cook County glass situation is remedied. Weekly Underw 127:1076+ D 3 '32

Fire and casualty agent at work; plate glass damage. C. G. Hale. Spectator 131:12 JI 27 '33

Glass rates go up for Chicago Dec. 1. Nat Underw 36:23+ D 1 '32

Golden opportunity for plate glass writers. J. W. Marden. Spectator 131:27+ JI 13 '33; Same. East Underw 34:32 Ag 4 '33

Plate glass coverage, conditions, classifications, inspections, underwriting and adjustments. J. W. Marden. Weekly Underw 128:745, 747-50 Ap 15 '33

Prospecting tips. East Underw 34:54 O 13 '33

Rules and rates on plate glass insurance revised. Spectator 131:28-9 JI 20 '33; Weekly Underw 129:161 JI 22 '33; Nat Underw 37:17 JI 20 '33

**INSURANCE, Power plant**

With reviving industrial activity power plant insurance will be in greater demand. J. A. Ross. Weekly Underw 129:791 O 21 '33

**INSURANCE, Property life.** See Insurance, Obsolescence**INSURANCE, Rain**

Are you neglecting rain insurance? Spectator 131:12 JI 27 '33

**INSURANCE, Reciprocal**

Important rule in assessment case; Indiana Supreme court holds third parties notified of limitation of liability. Nat Underw 37:37+ Mr 30 '33

Reciprocal failure being wound up; final report on Associated Employers receivership. Nat Underw 36:27 D 8 '32

Trend to reciprocals has been diminishing. Weekly Underw 128:434+ Mr 4 '33

**INSURANCE, Rent**

Rent and rental value insurance present many opportunities for business. C. D. Minor. Weekly Underw 129:225+ Ag 5 '33

**Policies**

Insurance plan for renters; North American Mutual will insure landlords against loss because of death or disability of tenants. Nat Underw (Life ed) 37:6 JI 14 '33

**INSURANCE, Riot and civil commotion**

Cuthbert & Cuthbert joins the Book of the month club. J. Ashmead. Spectator 130:6+ F 23 '33

Riot, explosion sales increase. Nat Underw 37:3+ Mr 2 '33

**INSURANCE, Robbery.** See Insurance, Burglary; Insurance, Paymaster robbery**INSURANCE, Safe deposit box**

Safety deposit liability policy is now promulgated. Nat Underw 37:25 JI 27 '33

**INSURANCE, Sickness.** See Insurance, Health**INSURANCE, Social**

Disability—old age insurance survey in various countries, 1889-1928. B. K. Sarkar. Spectator 130:24 Ap 6 '33

Insecurity, a challenge to America. A. Epstein. 680p H. Smith and R. Haas, New York '33

Invalidity, old-age and widows' and orphans' insurance. 533p World peace foundation '33

Real meaning of social insurance. H. H. Wolfenden. 227p Macmillan co. of Canada, Ltd, Toronto '32

Social insurance. C. A. Kulp, ed. Ann Am Acad 170:1-140 N '33



**INSURANCE, Social—Continued**

Wages, hours of work, and other factors in the remuneration of workers in certain towns in October 1932. *Int Labour R* 28: 104-21, 265-82 *Jl-Ag* '33

*See also*

Family allowances Insurance, Workmen's compensation  
Insurance, Health men's compensation  
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ment

**Investments**

Investment of social insurance funds. V. Klumpar. *Int Labour R* 27:51-65 *Ja* '33

**Records**

Mammoth filing machine of insurance department files 4 1-2 million vouchers a year in Prague. *il Management Methods* 61:609-10 *N* '32

**Bulgaria**

Working of social insurance schemes in Bulgaria. *Int Labour R* 28:397-404 *S* '33

**Denmark**

Social insurance in Denmark. E. Gjessing. *Monthly Labor R* 35:1293-8 *D* '32

**France**

French social insurance act. P. H. Douglas. *Ann Am Acad* 164:211-48 *N* '32

La pratique de la loi sur les assurances sociales et les simplifications qui pourraient y être apportées. *Génie Civil* 102:41-2 *Ja* 14 '33

**Germany**

Reduction of social-insurance contributions for domestic servants in Germany. *Monthly Labor R* 37:561-2 *S* '33

**Italy**

Social insurance in Italy. L. Richter. *East Underw* 34:31 *N* 10 '33

**Russia**

Transfer of functions of Labor department and of social insurance to trade unions in Soviet Union. *Monthly Labor R* 37:562-5 '33

Working of social insurance in the U.S.S.R. *Int Labour R* 28:539-48 *O* '33

**INSURANCE, Sports liability.** *See Insurance, Liability—Policies*

**INSURANCE, Sprinkler leakage**

**Adjustment of claims**

Watchman clause is upheld as warranty. *East Underw* 34:36 *O* 20 '33

**Fraudulent claims**

Two plead guilty to attempt to defraud. *East Underw* 34:26 *F* 17 '33

**INSURANCE, State**

Alabama State fund figures published. *Ins Field (Fire ed)* 62:8-9 *F* 16 '33

State insurance schemes in South Dakota hit by the Attorney General. *Nat Underw* 37:3 *Ja* 19 '33

*See also*

Insurance, Automobile Insurance, Social  
—Compulsory liability Insurance, Unemployment

**INSURANCE, Surety and fidelity**

Company executives give their views on problems facing business in 1933. *East Underw* 34:31, 34 *Ja* 13 '33

Completion bonds, finance paper, mortgage loans. J. R. Rooney. *Weekly Underw* 128: 607-10 *Mr* 25 '33

Dishonesty is great business hazard which threatens loss of profits. N. Mobley. *Weekly Underw* 129:313+ *Ag* 19 '33

Early boom for surety unlikely; fidelity offers hope. *Nat Underw* 37:25+ *Jl* 27 '33

Fidelity bonds appeal strongly to business firms under present conditions when loss is keenly felt. H. J. Buck. *Weekly Underw* 128: 611 *Mr* 25 '33

Fidelity bonds protect if their specific terms are fully met. L. Childs. *Rand McNally Bankers Mo* 50:601+ *N* '33

Fidelity is good depression line. *Nat Underw* 37:19+ *O* 26 '33

Future of corporate suretyship. R. H. Towner. *East Underw* 34:42+ *Mr* 3 '33

Honesty is best policy but many are satisfied with less than the best. B. J. McGinn. *Weekly Underw* 128:385+ *F* 25 '33

License and permit bonds. B. G. D. Blue. *Weekly Underw* 128:409+ *F* 25 '33

Lost securities bonds. M. Hubbert. *Weekly Underw* 128:1204-6 *Je* 24 '33

Men in field discriminating; bad experience with some representation, losses on mortgage guaranty and bank depository bonds subject companies to keen scrutiny by producers. D. R. Schilling. *Nat Underw* 37:31-2 *F* 16 '33

Much insurance from public work program; statement on government policy. C. McDonough. *Spectator* 131:28 *S* 21 '33

Novel surety bond devised for truck cargo insurance. *Nat Underw* 37:25 *Ag* 31 '33

Related lines of suretyship. G. A. Petersen. *Weekly Underw* 128:787-9 *Ap* 22 '33

Selling of B. & L. blanket bond urged by Indemnity co. of N.A. *East Underw* 33:40 *N* 18 '32

Today's surety problems. C. R. Miller. *East Underw* 34:28 *N* 10 '33

Two new forms of securities bonds adopted by Surety assn. of America. *East Underw* 34:38 *O* 20 '33

Underwriting of bonds under new financial conditions. M. Hubbert. *East Underw* 34:36 *My* 5 '33

U. S. Treasury lists qualified sureties and bonding limits. *Nat Underw* 37:23 *My* 4 '33; *Ins Field (Fire ed)* 62:10 *My* 4 '33; *East Underw* 34:45 *My* 12 '33

Would prohibit surety companies writing mortgage business in New York state. *Nat Underw* 37:30 *F* 16 '33

*See also*

Bankers' blanket bond National bureau of casualty and surety underwriters

**Adjustment of claims**

Clandestine transactions of American bankers with London Lloyds likely subject of inquiry by Senate committee. N. H. Weed. *Weekly Underw* 129:34-5 *Jl* 1 '33

Judicial and fiduciary bond claims. H. W. Nichols. *Weekly Underw* 128:221+ *Ja* 28 '33

What is expected by the general counsel and home office of the trial attorney and field adjuster; abstracts. G. W. Denmead. *Weekly Underw* 129:387 *Ag* 26 '33; *Nat Underw* 37:25 *Ag* 31 '33

**Agents**

Danger is seen in centralization; agents fear more business will be controlled at Washington, D.C. *Nat Underw* 37:23+ *Ag* 10 '33

F. & D. answers objections often raised by fidelity bond prospects. *East Underw* 34: 32+ *Jl* 14 '33

**Commissions**

Fidelity-surety report of the National association of insurance agents. T. C. Moffatt. *East Underw* 34:40+ *Ap* 14 '33

**Bail bonds**

Bail bond bureau closed in New Jersey. *Weekly Underw* 129:424 *S* 2 '33

Federal judge outlaws all but one bail bond company in New Jersey. *Nat Underw* 36:37 *N* 24 '32

**Cancellation**

43 companies adopt cancellation rule. *Ins Field (Fire ed)* 62:10+ *My* 4 '33

**Contract bonds**

Construction and supply bonds. H. F. O'Malley. *Weekly Underw* 128:409-11 *F* 25 '33

Contract and miscellaneous bond claims. N. E. Wheeler. *Weekly Underw* 129:831-3, 1006 *O* 28, *N* 25 '33

Features in underwriting of contract bonds with which agents should be familiar. J. R. McKinney. *Weekly Underw* 127:1227-8 *D* 24 '32

**INSURANCE, Surety and fidelity—Contract bonds—Continued**

Highway contractor's surety held not liable for premiums due on liability policy issued to contractor by another insurance company. Weekly Underw 128:1077 Je 3 '33

Important issues up in conference; commissions. Nat Underw 36:25+ D 8 '32

New contract bond requirements being brought about by NRA. East Underw 34:37+ S 15 '33

**Depository bonds**

Carriers' liability for deposits fixed; Michigan Supreme court decides bank case. Ins Field (Fire ed) 62:7+ Je 15 '33; East Underw 34:37 Je 23 '33

Companies afraid of deposit bonds. Nat Underw 37:31 F 23 '33

Depository issue engages attention. Nat Underw 37:23 Mr 23 '33

Effect of Georgia law is considered. Nat Underw 37:37 My 25 '33

Losses in Wisconsin swamp deposit fund. Ins Field (Fire ed) 62:10 Ja 19 '33; Nat Underw 37:27 Ja 19 '33

Michigan court holds state deposits not preferred. Spectorator 131:36 Jl 6 '33

Michigan court rule on deposit liability. Ins Field (Fire ed) 62:10 Jl 13 '33

Officials ponder surety problems. Nat Underw 37:23+ Mr 9 '33

Pennsylvania Supreme court in depository ruling; cancellation test case. Nat Underw 36:27 D 8 '32

Underwriting depository bonds. E. C. Lunt. Weekly Underw 129:164-6, 335, 383-6 Jl 22, Ag 19-26 '33

**Finance**

Casualty and surety underwriting losses continue. L. S. Fischer. Spectorator 131:10-11 N 2 '33

Future outlook for the casualty-surety business. J. C. Heyer. East Underw 34:34-5 N 3 '33; Same. Nat Underw 37:27+ N 2 '33

New Jersey casualty-surety figures for 1932. East Underw 34:37-8+ Mr 10; 37-8 Mr 17; 34 Mr 24 '33

Underwriting and investment profits and losses of 100 leading casualty, surety and miscellaneous companies in a decade, 1922-1931. Spectorator 129:10-11 D 29 '32

Underwriting and investment profits and losses of one hundred leading casualty, surety and miscellaneous insurance companies in 1932; tabulation. Spectorator 130:12-13 Je 29 '33

**Judicial bonds**

Fiduciary and judicial bonds. W. A. Thompson. Weekly Underw 127:1225-7 D 24 '32

Getting judicial bonds. J. V. Calhoun. East Underw 34:38 Ja 20 '33

How agents can build up volume of fiduciary and insolvency bonds. J. M. Boyd. East Underw 33:35 D 30 '32

Judicial and fiduciary bond claims. H. W. Nichols. Weekly Underw 128:221+ Ja 28 '33

Judicial bond business is obtained through cultivating friendship of leading attorneys. J. V. Calhoun. Weekly Underw 128:368 F 18 '33

Personal guarantees often prove unreliable, making corporate suretyship positive need. J. E. Kratz. Weekly Underw 129:834 O 28 '33

**Liquor bonds**

Rates on beer bonds approved in New York. Ins Field (Fire ed) 62:10 Je 29 '33

29 companies share in excise bond pool. Ins Field (Fire ed) 62:12 My 25 '33

Underwriting beer bonds. S. H. Whipple. East Underw 34:31 S 22 '33; Excerpts. Spectorator 131:30 Ag 10 '33

**Premiums, Payment of**

Collection rules drawn up for New York city. East Underw 34:33+ Ap 28 '33; Same. Weekly Underw 128:830 Ap 29 '33

**Public officials bonds**

Effect of Georgia law is considered. Nat Underw 37:37 My 25 '33

Public official bond business brings in collateral lines of cover—deputy contingent liability. W. T. Sinclair. Weekly Underw 128:226 Ja 28 '33

Writing public official bonds. J. M. Guilmette. Weekly Underw 128:1024-6 My 27 '33

**Rates**

Bank fidelity bond rates increased. Nat Underw 37:25 My 18 '33

Changes are made in surety manual. Nat Underw 37:17+ Jl 20 '33

Cost of sustenance; necessity of curative action imperative. C. E. Heath. East Underw 34:33 Ja 13 '33

**Study and teaching**

Profitable education in the casualty and surety field; the training school of the Maryland casualty company. L. H. Lippincott. Spectorator 129:6-7 D 15; 6-7+ D 29 '32

**United States**

Need for drastic action is shown in 1932 review. G. A. Watson. Nat Underw 37:27+ Ja 5 '33

Surety companies' 1932 performance remarkable. V. Cullen. Weekly Underw 128:83 Ja 7 '33

**INSURANCE, Title**

See also

Mortgage companies

**INSURANCE, Tornado**

Company officials approve S.E.U.A. action on tornado. Nat Underw 37:7 N 2 '33

Hail is now covered under wind policy in Tennessee. Nat Underw 37:3 Ag 17 '33

Proposal of H.O.L.C. head in Florida raises furor; wants blanket wind policy. Nat Underw 37:6+ O 26 '33

Recent hurricane loss should increase premiums. Spectorator 131:21+ S 14 '33

**Adjustment of claims**

Losses by tornado in Nashville \$1,000,000. Weekly Underw 128:684 Ap 8 '33

Nashville tornado loss is \$1,500,000. Ins Field (Fire ed) 62:9+ Mr 23 '33; Nat Underw 37:4+ Mr 23 '33

Texas storm losses may hit \$5,000,000. Ins Field (Fire ed) 62:7-8 S 14 '33

Windstorm losses in Cuba are fairly heavy. Weekly Underw 127:971 N 19 '32

**INSURANCE, Unemployment**

Aims of unemployment insurance with especial reference to the Wisconsin act: abstract. W. A. Morton. Management R 22:304-5 O '33

A. F. L. calls for an American dole. Bradstreet's 60:1551 N 26 '32

Chamber reports on unemployment plans. Ins Field (Fire ed) 62:10 Ap 13 '33

Cost of unemployment benefits for Pennsylvania and Ohio. C. A. Kulp. Weekly Underw 129:78 Jl 8 '33

Debate handbook on unemployment and unemployment insurance. W. R. Sutherland, comp. Kentucky Univ Extension Ser v 10, no 3:1-316 '31

Debate handbook on unemployment insurance. J. B. Lee and P. Munch, comps. 232p [biblog p7-23] Univ. of Oklahoma, Extension division, Norman '32

Do we need compulsory public unemployment insurance? No. N. Sargent. Ann Am Acad 170:30-9 N '33

Do we need compulsory public unemployment insurance? Yes. A. Epstein. Ann Am Acad 170:21-9 N '33

Facts about the coming flood of unemployment legislation. H. F. Merrill. plan Forbes 30:10-11 D 1 '32

Futility of unemployment insurance. N. B. Keyes, jr. Automotive Ind 69:38-41 Jl 8 '33

Gov. Ritchie and state unemployment law. Spectorator 129:33 D 1 '32

Industry faces compulsory unemployment insurance. S. A. Lewisohn. Am Gas J 138:32-3 F '33

Is the unemployment risk insurable? I. M. Rubinow. Ann Am Acad 170:40-52 N '33



**INSURANCE, Unemployment—Continued**

- Job insurance. J. B. Ewing. 263p [bibliog p255-8] Univ. of Oklahoma press, Norman '33
- Job insurance; Bay State commission says employers should be expected to carry the load. *Business Week* p13-14 D 21 '32
- Job insurance; Ohio and Massachusetts have bills ready to make it compulsory. *Business Week* p8 N 23 '32
- Labor insurance; A. F. of L. surrenders opposition. *Business Week* p6-7 N 30 '32
- Mr Chamberlain and unemployment insurance. *Economist* 117:757-8 O 21 '33
- New plan for unemployment reserves, based on Minnesota employment data. A. H. Hansen and M. G. Murray. 75p \$1; pa 50c Univ. of Minnesota press, Minneapolis '33
- Next labor offensive. *Fortune* 7:61, 92, 94 Ja '33
- Ohio idea: unemployment insurance. I. M. Rubinow. *Ann Am Acad* 170:76-87 N '33
- Old age security seen as vital need to social stability; New York state commission finds system of unemployment insurance inevitable. D. Holbrook. *East Underw* 34:3 Je 23 '33
- Operation of unemployment-insurance systems in the United States and in foreign countries, 1931 and 1932. *Monthly Labor R* 36:32-76 Ja '33
- Practicability important question in unemployment insurance problem. L. A. Lincoln. *Weekly Underw* 128:293+ F 11 '33
- Prospects for unemployment compensation laws. J. B. Andrews. *Ann Am Acad* 170:88-92 N '33
- Report of Ohio commission on unemployment insurance. *Monthly Labor R* 36:98-9 Ja '33
- Royal commission on unemployment insurance, December 1930—November 1932. 73p Fabian society, 11 Dartmouth st, Westminster, S.W.1 London '33
- Stabilization or insurance. L. Wolman. *Ann Acad Am* 165:20-3 Ja '33
- Standards of unemployment insurance. P. H. Douglas. 251p \$3 Univ. of Chicago press '33
- States join forces on jobless scheme. *Ins Field* (Fire ed) 61:12+ D 8 '32
- Unemployment and its problems, published under the direction and supervision of the Special committee on unemployment relief. 190p [bibliog p187-90] Manufacturers assn. of Connecticut, inc, Hartford '33
- Unemployment cover schemes expected in all legislatures. *East Underw* 34:1+ Ja 27 '33
- Unemployment insurance. 48p American federation of labor, Washington, D. C. '31
- Unemployment insurance. (In Intercollegiate debates. v 12, p3-69) [bibliog p64-9] E. R. Nichols, ed. Noble and Noble, New York '31
- Unemployment insurance. M. B. Gilson. 30p pa 25c Univ. of Chicago press '33
- Unemployment insurance and public assistance. J. L. Cohen. *Int Labour R* 26:777-96 D '32
- Unemployment insurance and various forms of relief for the unemployed. 299p [bibliog p279-93] World peace foundation '33
- Unemployment insurance handbook. 224p National assn. of manufacturers, New York '33
- Unemployment relief in U.S.A. *Economist* 116:799-800, 897-8 Ap 15, 29 '33
- Urge Maryland fund plan for unemployed. *Ins Field* (Fire ed) 62:10 Mr 2 '33
- Wisconsin firm extends sale of job insurance; Metropolitan employment assurance bureau of Racine. *Nat Underw* 36:26 D 8 '32

See also

Unemployment benefit plans

**Finance**

British experience with unemployment insurance. pt 5, Financial aspects. 47p Metropolitan life insurance co, New York '33

**Austria**

Unemployment insurance and relief in Austria during 1932. *Monthly Labor R* 37:36-7 Jl '33

**Germany**

- Development of unemployment relief in Germany. O. Weigert. *Int Labour R* 28:168-91, 352-63 Ag-S '33
- Germany's unemployment insurance system seen as complete failure. *East Underw* 33:12 D 30 '32
- Unemployment insurance and relief in Germany. 107p \$2 National industrial conference board, inc, New York '33

**Great Britain**

- British commission works out plan to make dole scheme pay. A. C. Blackall. *East Underw* 33:48+ D 9 '32
- British experience with unemployment insurance. pt 4-5 74p; 47p Metropolitan life insurance co, New York '33
- English regulations for determining transitional payments under unemployment insurance. *Monthly Labor R* 36:296 F '33
- English study of unemployment in seasonal trades. *Monthly Labor R* 36:81 Ja '33
- Final report of British commission on unemployment insurance. *Monthly Labor R* 36:99-104 Ja '33
- Means test. *Economist* 115:874-5 N 12 '32
- Unemployment insurance. *Economist* 116:1349 Je 24 '33
- Unemployment insurance report; summary. *Economist* 115:870-3; Editorial comment. 866-7 N 12 '32

**Wisconsin**

- Postponement of effective date of Wisconsin unemployment insurance act. *Monthly Labor R* 37:35-6 Jl '33
- Wisconsin unemployment compensation act. W. H. Burhop. *Spectator* 129:35 N 24 '32

**INSURANCE, Use and occupancy**

- Arguments that now is not inappropriate time to sell use and occupancy cover. J. V. Herd; C. H. Smith; D. T. Hubbard. *Weekly Underw* 128:254 F 4 '33
- Hartford Fire answers arguments for reporting form for U. & O. *East Underw* 34:20 N 10 '33
- Recommends books on U. & O. F. L. Erion. *Nat Underw* 37:15 S 28 '33
- Reporting form for use and occupancy coverage. H. Campbell. *Ins Field* (Chicago Conv Daily ed) 62:11 O 12 '33; Excerpt. *East Underw Extra* ed 34:17 O 14 '33; Abstract. *Nat Underw* 37:4+ O 12 '33

**INSURANCE, Windstorm. See Insurance, Tornado****INSURANCE, Workmen's compensation**

- Assured holds key to compensation solution. S. B. Mason, jr. *Weekly Underw* 127:1184+ D 17 '32
- Compensation insurance facts important to contractors. R. Talbot. *Eng N* 111:409-10 O 5 '33; Same. *East Underw* 34:38 O 27 '33
- Compensation insurance problem. C. L. Hightower. *Am Pet Inst Proc* 14M(1):19-24 My '33
- Compensation losses before commissioners. *Weekly Underw* 129:160-1 Jl 22 '33; *Ins Field* (Fire ed) 62:7-8 Jl 20 '33
- Compensation muddle. G. S. Van Schaick. *Weekly Underw* 129:627+ S 30 '33
- Compensation problems; abstracts. S. B. Black. *East Underw* 34:43 My 12 '33; *Nat Underw* 37:27 My 11 '33; *Spectator* 130:31-2 My 11 '33; *Weekly Underw* 128:934+ My 13 '33
- Compensation situation reviewed. W. F. Roerber. *Nat Underw* 37:25+ Mr 2 '33
- Contrasting conditions in industrial plants. *Spectator* 131:30-1 Ag 24 '33
- Curious decisions reveal one reason why compensation experience is bad. *Ins Field* (Fire ed) 62:6 F 2 '33
- Effects of the N.R.A. program on workmen's compensation insurance. C. W. Hobbs. *East Underw* 34:30 S 8 '33
- Hazard weights plan is studied for handling occupational disease coverage. *Nat Underw* 37:26 F 2 '33
- Insurance experience with occupational diseases. A. R. Lawrence. *Safety Eng* 65:221-4 Je '33

**INSURANCE, Workmen's compensation—Cont.**  
New occupational disease plan filed. *Ins Field* (Fire ed) 62:10+ F 16 '33; *Nat Underw* 37:29+ F 16 '33

Presented workman's compensation insurance. H. H. Bowen. *Safety Eng* 66:11-12, 51-2 J1-Ag '33

Proceedings of the nineteenth annual meeting of the International association of industrial accident boards and commissions held at Columbus, Ohio, September 26-29, 1932. U S Bur Labor Statistics Bul 577:1-242 '33

Report of the National council on compensation insurance; abstracts. W. F. Roeber. *East Underw* 33:93+ D 9 '32; *Spectator* 129:33 D 15 '32; *Ins Field* (Fire ed) 61:10-11 D 15 '32  
Send out rules on disease coverage. *Nat Underw* 36:29+ D 29 '32

Special committee report on medical cost inquiry. *Nat Underw* 37:25 J1 6 '33

Suggestions; pool plan. A. Dodge. *Nat Underw* 37:27+ My 11 '33

Suggests compensation plan. G. W. Carter. *Ins Field* (Chicago Conv Daily ed) 62:18 O 11 '33

Supplementing the payroll audit. J. C. B. Woods. *East Underw* 34:33 Je 16 '33

Test audit shows premium too low. *Nat Underw* 37:39+ My 25 '33

Time to go after uniform statutes. R. Miller. *Nat Underw* 37:33+ N 9 '33

Trend in compensation. J. G. Puterbaugh. *Nat Underw* 36:27+ D 22 '32

Trouble with compensation insurance. W. W. Greene. *Spectator* 130:14-15+ Je 15; 10-11 Je 29 '33; Abstract. *East Underw* 34:31+ Je 2 '33

Urges organization of medical offices by companies. *Ins Field* (Fire ed) 62:10 J1 13 '33  
Wide interest as to compensation; hope to save the line. *Nat Underw* 37:25+ Ja 12 '33

Workmen's compensation insurance. H. H. Bowen and others. 20p Am. management assn, 20 Vesey st, New York '33

Workmen's compensation insurance. F. R. Jones. *Manuf Rec* 102:26 F '33

Workmen's compensation insurance still in experimental stage; suggestions that might help situation. R. Spitz. *Weekly Underw* 128:559-62 Mr 18 '33

Workmen's compensation premiums a preferred claim. *Monthly Labor R* 36:1279-80 Je '33

*See also*

Workmen's compensation

#### Adjustment of claims

Claims stirred up in disease cases. H. H. Rolfe. *Nat Underw* 37:31+ Ap 27 '33

Injured employee becoming partner entitled to compensation although total income exceeded average weekly wages at time of injury. *Weekly Underw* 129:343 Ag 19 '33  
Insurance carrier allowed to sue third party for wrongful death of employee. *Monthly Labor R* 36:546-7 Mr '33

Merger does not change compensation policy. *East Underw* 34:31 Ja 27 '33

Seek to standardize claim forms. *East Underw* 34:39 Mr 10 '33; *Ins Field* (Fire ed) 62:10 Mr 9 '33

#### Agents

Plan for smaller risks. F. J. Ney. *Ins Field* (Chicago Conv Daily ed) 62:8 O 13 '33; Excerpts. *Weekly Underw* 129:723 O 14 '33

Program for service and selling. C. T. Smith. *Ins Field* (Chicago Conv Daily ed) 62:12+ O 13 '33; Excerpts. *East Underw Extra ed* 34:13 O 14 '33; Abstract. *Spectator* 131:34 O 19 '33

#### Commissions

Drastic commission proposals considered in relief plans for compensation lines. *Ins Field* (Fire ed) 62:9 Ja 26 '33

#### Finance

Adequate reserves. R. E. Wenzel. U S Bur Labor Statistics Bul 577:86-90; Discussion. 90-102 '33

Little chance for better experience. C. W. Hobbs. *Nat Underw* 37:21+ Je 1 '33

Nation-wide experiences of workmen's compensation insurance of companies licensed in New York state in 1932. *Spectator* 130:12-13+ My 4 '33

Workmen's compensation experience 1932; tabulation. *Weekly Underw* 128:784 Ap 22 '33

Workmen's compensation results for the year ending 1932; tabulation. *Spectator* 130:34 Mr 9 '33

#### Instalment premiums

Financing of compensation premiums is now proposed. *Nat Underw* 37:26 O 19 '33

#### Rates

Alabama rejects 10% load on occupational diseases. *Nat Underw* 36:27 D 15 '32; *Ins Field* (Fire ed) 61:7 D 15 '32

Argues for new rate basis. W. E. Harrington. *Ins Field* (Fire ed) 62:10+ Je 29 '33

Carriers rebuked; New Hampshire commissioner rejects rate increase. J. E. Sullivan. *Nat Underw* 36:25+ D 8 '32

Compensation deficit. C. W. Hobbs. *Ins Field* (Fire ed) 61:6, 14 N 24 '32

Compensation; insurance companies say rates must go up; states think costs can be cut. *Business Week* p31 Ja 4 '33

Compensation rate increase is rejected in Alabama. *Ins Field* (Fire ed) 61:10 D 22 '32; *Nat Underw* 36:29 D 22 '32

Compensation rate increases approved in Massachusetts, Virginia and Kansas. *Ins Field* (Fire ed) 62:10 Mr 2 '33

Compensation rate situation acute in 1932. J. M. Haines. *Weekly Underw* 128:76+ Ja 7 '33

Compensation rates raised in Missouri. *Ins Field* (Fire ed) 61:10+ D 29 '32; *East Underw* 33:31 D 30 '32

Expect companies to accept advance. *Nat Underw* 36:29+ D 29 '32

Experience on compensation rates in Kansas reviewed. *Nat Underw* 36:32 N 17 '32

Gradual change to work hour basis is possibility. *Nat Underw* 37:25 Ag 17 '33

Is schedule rating of workmen's compensation risks worth while? D. S. Beyer. *Weekly Underw* 129:485, 512-14 S 16 '33

Livingston approves 15 per cent increase in Michigan. *Ins Field* (Fire ed) 61:10+ D 22 '32; *East Underw* 33:34 D 23 '32; *Nat Underw* 36:29 D 22 '32; *Spectator* 130:35 Ja 5 '33

Necessity for increased rates. J. W. Richardson. *Spectator* 129:31+ N 17 '32

New compensation program projected. *Nat Underw* 37:21-2 Ap 20 '33

Occupational diseases become part of compensation rate structure. *East Underw* 33:30 D 2 '32; *Nat Underw* 36:23+ D 1 '32; *Spectator* 129:33+ D 1 '32

Payroll basis rating dropped by Builders and manufacturers' mutual casualty. *Weekly Underw* 129:117 J1 15 '33

Proposes bi-lateral plan to solve Georgia compensation problem. W. E. Harrington. *Ins Field* (Fire ed) 62:6+ Ja 26 '33

Report on National Council activity; 1933 rate revision; abstracts. C. W. Hobbs. *East Underw* 34:36-7 Je 9 '33; *Ins Field* (Fire ed) 62:10+ Je 8 '33

Safety work's effect on industrial accidents. G. V. Fuller. *East Underw* 34:42 O 27 '33

Suggestion for helping improve the workmen's compensation situation. E. C. Stone. *Weekly Underw* 129:137+ J1 22 '33

Technocracy and compensation rates. A. W. Whitney. *Spectator* 129:35 D 29 '32

To end schedule rating on compensation Dec. 1. *Nat Underw* 37:33 N 9 '33

Urges revamping of compensation rating. W. Fetzner. *Nat Underw* 37:23 Ap 6 '33

Van Schaick sets compensation rate increase in New York at 3.6%. *East Underw* 33:31 D 23; 36+ D 30 '32; *Ins Field* (Fire ed) 61:8+ D 22 '32; *Spectator* 129:33 D 29 '32

Wisconsin grants 9% compensation increase. *East Underw* 34:33+ O 6 '33; *Nat Underw* 37:23+ O 5 '33



## INSURANCE, Workmen's compensation—Cont.

## Risks

Occupational diseases are not generally understood. Nat Underw 36:28 D 15 '32

## Statistics

Remarriage of widows investigated by group of casualty actuaries. C. W. Hobbs. East Underw 34:28+ N 10 '33

## California

Rolph probes into compensation rates; gold mine industry. Ins Field (Fire ed) 61:9-10 D 8 '32

## Illinois

Conference on uninsured risks. Nat Underw 37:23+ Mr 23 '33

Confusion under the Illinois rules. Nat Underw 37:27 F 9 '33

Illinois rejected risk plan before carriers. East Underw 34:34+ Ap 21 '33; Abstract. Nat Underw 37:30 Ap 13 '33

## New Jersey

Compensation problems. A. R. Lawrence. East Underw 34:40 Mr 3 '33

Compensation reform urged for New Jersey. East Underw 34:46 Ap 14 '33; Weekly Underw 128:742 Ap 15 '33

Suggestions that may help legislative committee investigating New Jersey compensation situation. E. C. Graff. Weekly Underw 129:873 N 4 '33

## New York (state)

Compensation board gets report; abstracts. L. S. Senior. East Underw 34:30+ Ja 27 '33; Ins Field (Fire ed) 62:10+ F 2 '33

Compensation costs since 1914 analyzed. East Underw 34:35 Jl 28 '33; Spectator 131:29 Jl 27 '33; Weekly Underw 129:207 Jl 29 '33

Compensation reform urged. G. S. Van Schaick. East Underw 34:33 F 10 '33

Compensation report goes to New York Academy of medicine for study. East Underw 34:42 Ja 6 '33

Rackets add to compensation cost; medical abuses in New York clinics reviewed by Governor's committee. Nat Underw 36:27+ D 29 '32

## Pennsylvania

Lawyer's defense of compensation carriers. G. H. Detweiler. East Underw 34:31 Jl 14 '33; Same cond. Weekly Underw 129:116 Jl 15 '33

## Wisconsin

Milwaukee silicosis clinic opened by medical experts. Nat Underw 37:35 N 9 '33

Voluntary rejected risk plan withdrawn; pool plan effective. East Underw 34:41 O 20 '33; Nat Underw 37:27 O 19 '33

Wisconsin compensation pool plan being revised. Nat Underw 37:25 Ap 6 '33

INSURANCE, Yacht. See Insurance, Motor boat

## INSURANCE advertising conference

Annual conference, 11th, Briarcliff Manor, New York, Sept. 25-26. East Underw 34:1+, 14, 23 S 29 '33; Ins Field (Fire ed) 62:7-8+ S 28 '33; Ins Field (Life ed) 62:5-6+ S 29 '33; Nat Underw 37:4+ S 28 '33; Nat Underw (Life ed) 37:2+ S 29 '33; Spectator 131:6, 36 S 28 '33; Weekly Underw 129:621 S 30 '33

I.A.C. majority sign pledge of loyalty. Ins Field (Life ed) 62:7 Ag 4 '33

Many life companies are seceding from the I.A.C. Nat Underw 37:3+ Jl 20 '33

Seventy-three co. ad men form new association; International life advertisers association. East Underw 34:1+ Jl 14; 1+ Jl 21 '33

## INSURANCE agents

Agency balances and field problems. C. F. Shallcross. East Underw 34:17+ Ja 13 '33

Agency serviced contracts meet competition of non-agency mutuals. C. W. Pierce. East Underw 34:28 O 6 '33

Agency survey gives much important data.

J. W. Mason. East Underw 34:24 Ja 6 '33  
Agents urged not to guarantee protection; problem of producer paying for new policies when a company fails. East Underw 34:20 Ap 7 '33; Ins Field (Fire ed) 62:7-8 Ap 6 '33; Nat Underw 37:3 Ap 6 '33

Balance rules now in all sections. Nat Underw 37:5+ Mr 9 '33

Capitalizing depression. H. W. Heinrich. Spectator 130:6-7 Ja 26 '33

Changing conditions. W. H. Bennett. East Underw 34:19+ Je 16 '33

Common errors made by agents involve them and companies in many difficulties. C. H. Smith. Weekly Underw 129:862 N 4 '33

Conservation methods in effective use to-day. Weekly Underw 128:62-4+ Ja 7 '33

Cooperating with the assured. B. Butzel. Spectator 131:10+ Ag 10 '33

Credit extension being curtailed. Nat Underw 37:3+ Ja 5 '33

Cripple a fine special agent; Jim Fisher. E. S. Banks. East Underw 34:17 F 10 '33

Delinquent rule. C. F. Thomas. Ins Field (Fire ed) 62:9+ Ja 12 '33; Abstract. Nat Underw 37:3+ Ja 12 '33

Diversification is product of times. Nat Underw 37:29 Ap 13 '33

E. U. A. initiating balance reforms; new form of financial statement for delinquent agents. Nat Underw 36:3+ N 24 '32

Faults of monthly account current plan cited by critic. Nat Underw 37:15-16 My 25 '33

Fieldmen's duties to companies, agents and public; abstracts. R. B. Ives. East Underw 34:18+ Ja 13 '33; Ins Field (Fire ed) 62:6 Ja 12 '33; Discussion. Nat Underw 37:5+ Ja 19 '33

Fire and casualty agent at work. C. G. Hale. Spectator 129:13 D 29 '32; 130:13 Ja 12; 10 Ja 26; 11 F 9; 14 F 23; 11 Mr 9; 10 Mr 23; 10 Ap 6; 11 Ap 20; 10 My 4; 10 My 18; 11 Je 1; 13 Je 15; 15 Je 29; 131:13 Jl 13; 12 Jl 27; 11 Ag 10; 11 Ag 24; 11 S 7; 31 O 5; 7 N 2 '33

Fire side-lines offer local agents chance to enlarge their income. C. D. Minor. East Underw 34:21 F 10 '33

General-local agency division plan can be pushed too far. Ins Field (Fire ed) 62:30 Mr 9 '33

Half billion insurance for increased values. Spectator 130:15 Je 29 '33

Half way mark of year brings needs for business check-up. T. J. Quinlan. East Underw 34:31 Je 30 '33

Hard-boiled view of agency matters. W. M. Goodwin. Spectator 130:6-7+ F 9 '33

Holds legislation not needed to solve company-agency problems. W. M. Goodwin. East Underw 34:22+ Mr 10 '33

How I would read newspapers for insurance leads if an agent. E. L. Bernays. East Underw 34:3 S 1 '33

How "Pratt's policies pay" was made a successful slogan. E. S. Banks. Spectator 130:7+ F 23 '33

How the agent should share in the work of the National bureau of casualty & surety underwriters. J. A. Beha. Spectator 129:10-11 D 1 '32

How to improve your business for 1933. C. T. Hubbard. Weekly Underw 127:1209, 1248 D 24-31 '32; Same. Spectator 129:14+ D 29 '32

Illinois agents testify in suit on expirations' issue. Nat Underw 36:6 D 15 '32

Inconsistencies and cure. P. H. Goodwin. Weekly Underw 128:41-2 Ja 7 '33

Information about local conditions that will prove of vital assistance to producers. R. H. Thompson. Weekly Underw 128:953+ My 20 '33

Insurance as public service needs trained producers. W. A. Sullivan. Ins Field (Fire ed) 62:6+ Ag 17 '33

Interview with an agent, Frank M. Peirce. F. E. Kunkel. Spectator 130:11+ F 23 '33

Interview with Briggs A. Hoffmann. Spectator 130:10-11 Ja 12 '33

Lessons from the past two years from the agency viewpoint. P. H. Goodwin. East Underw 34:16+ F 10 '33

**INSURANCE agents—Continued**

Library needs of the insurance agent. W. H. Bennett. *Special Lib* 24:7-8 Ja '33

Local agent answers charges of brokers. W. F. Stanz. *East Underw* 34:28 Ap 21 '33

Local agent's future. W. H. Bennett. *East Underw* 34:22+ Ag 11 '33

Looking back at the agency business; fire and casualty experience during 1932. C. G. Hale. *Spectator* 130:6-7+ Ja 12 '33

Many agency combinations of the Travelers have been successfully conducted as family affairs for as many as three generations. C. Simkin. *pors East Underw* 33:94-5+ D 9 '32

Meeting current objections discussed in sales congress. *Nat Underw (Life ed)* 37:19-20 Mr 10 '33

Modernized selling needed. E. J. Schofield. *East Underw* 34:34+ F 10 '33

National association of insurance agents administration report. *East Underw* 34:20+ Mr 24 '33

New membership theory. J. D. Saint. *Ins Field (Fire ed)* 62:6+ Je 29 '33

New York state association of local agents annual convention. New York. *East Underw* 34:23-4, 26 My 26 '33

N.Y. suburban field agency changes for four years reported. *East Underw* 34:1+ F 24 '33

North Carolina plan as high road to better underwriting. J. D. Saint. *Ins Field (Fire ed)* 62:6+ Ap 20 '33

Problems and possibilities for local agent under federal NRA program. C. A. Nuetzel. *Ins Field (Fire ed)* 62:6 Ag 24 '33

Professional men of any community comprise class of risks that local agents should cultivate. T. J. Quinlan. *Weekly Underw* 128:1207 Je 24 '33

Raps companies for violation of principles. P. S. W. Ramsden. *Nat Underw* 36:3+ N 24 '32

Replacing policies of defunct companies. C. S. Gardner, jr. *Ins Field (Fire ed)* 62:26, 28 O 12 '33; *Excerpts. East Underw* 34:41 O 13 '33

Selective selling seen as best solution for present day sales problems. *Weekly Underw* 128:193+ Ja 28 '33

Selling complete protection to clients is most profitable. W. H. Griffith. *Nat Underw (Auto ins no)* 37:19+ Ap 14 '33

Small, big agents need each other. C. B. Smith. *Nat Underw (Extra ed)* 37:4+ Ag 25 '33; *Excerpts. Ins Field (Fire ed)* 62:9+ Ag 24 '33

Spiritual values of life and business. S. M. Buck. *Ins Field (Fire ed)* 61:6+ N 17 '32

Spring of business cycle coming to America. C. L. Gandy. *Ins Field (Fire ed)* 61:7-8+ N 17 '32

Stricter attention now paid to credit practice. *Nat Underw* 37:3 F 23 '33

Surveys of an assured's coverage, when carefully carried out, of definite advantage to agents. J. C. McIntosh. *Weekly Underw* 128:365+ F 18 '33

Tells spirit of Louisiana plan to South Carolina agents. J. D. Saint. *Ins Field (Fire ed)* 62:9-10+ My 18 '33

Text of mandatory delinquent agency balance rule of S.E.U.A. *East Underw* 34:24 Mr 10 '33

Tri-party arrangement for local and general agents and companies. C. L. Gandy. *Ins Field (Fire ed)* 62:7+ My 25 '33

Trustee methods much improved. *Nat Underw* 37:5+ Ja 26 '33

Trusted premium plan impracticable. W. H. Bennett. *Ins Field (Fire ed)* 62:6+ F 23 '33; *Same abr. Weekly Underw* 128:392-3 F 25 '33

Uniform balance rule is adopted. *Nat Underw* 36:5+ D 8 '32

Upholds high standard of contract as sales argument for stock companies. C. W. Pierce. *Ins Field (Fire ed)* 62:6+ Je 15 '33

Value of making analysis of prospect's needs is emphasized. *East Underw* 34:24 Mr 17 '33

Varied opinions on Kidd's action calling for lists of Indiana agents delinquent on premium balances. *Nat Underw* 36:3+ D 22 '32

Wanted—ideas to aid insurance sales under present conditions. W. H. Griffith. *East Underw* 34:29 Ja 13 '33

Woman who made good on a man's job in insurance; Mrs Robert B. Stevens. J. Ashmead. *Spectator* 129:11+ N 17 '32

Women's responsibilities increase and agency underwriters become producers. J. S. Pearce. *Weekly Underw* 129:5+ J 11 '33

Writing farm cover direct for mortgagee condemned. *Nat Underw* 37:7 Mr 9 '33

**See also**

Insurance brokers

Insurance companies

—Branch offices

also subdivision Agents under various forms of insurance, e.g. Insurance, Automobile—Agents

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**Accounting**

Graphic method of budgeting and controlling premiums, earnings of fire, casualty insurance agencies. T. L. Sogard. *Nat Underw* 36:12+ D 29 '32

Simple bookkeeping system of agency accounting involving use of visible binders. H. E. Briggs. *il Weekly Underw* 128:448+ Mr 4 '33

Simple way to watch balances due. *Ins Field (Fire ed)* 62:6; *Editorial comment. 5-6 S* 14 '33

**Advertising**

Blotters that really sell. B. H. Briscoe. *il Ptd Salesmanship* 60:207 N '32

Has novelty advertising any place in good insurance salesmanship? H. C. Pulver. *East Underw* 33:34+ N 25 '32

Insurance advertising expenditures in 1933. S. F. Withe. *Spectator* 129:27 sec 2 D 8 '32

Prepare the 1933 field by advertising. *Weekly Underw* 127:1257-60 D 31 '32

Systematic drives help sales curve. R. C. Dreher. *Ins Field (Chicago Conv Daily ed)* 62:16-17+ O 13 '33; *Excerpts. East Underw Extra ed* 34:14+ O 14 '33

**Codes**

Companies and agents hope to devise means for self-regulation. *East Underw* 34:21 N 3; 19 N 10 '33; *Ins Field (Fire ed)* 62:7-8+ N 2; 7-8+ N 9 '33; *Nat Underw* 37:3+ N 2; 3+ N 9 '33

Executive committee given wide power to draft code at spirited closed session. *Ins Field (Chicago Conv Daily ed)* 62:7+ O 12; 7 O 13 '33; *East Underw Extra ed* 34:5+ O 14 '33; *Nat Underw Conv no* 37:7+ O 13 '33

NRA directs insurance business to file code; all interests collaborate. *Ins Field (Fire ed)* 62:7-8 Ag 17 '33; *East Underw* 34:16 Ag 18 '33

North Carolina insurance code; text. *Ins Field (Fire ed)* 62:7+ Ag 10 '33

Possible results of inaction by insurance in adopting fair practice code. S. D. Macpeak. *Weekly Underw* 129:849+ N 4 '33

Revised section of code on unfair practices. *Nat Underw* 37:5 N 2 '33; *East Underw* 34:1+ O 27 '33; *Weekly Underw* 129:809+ O 28 '33

Tentative approval given agents' code. *Ins Field (Fire ed)* 62:7+ S 14 '33

Urges pact of companies, agents. A. I. Wolff. *Ins Field (Fire ed)* 62:9+ S 7 '33

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Agents study the Milwaukee fines. *Nat Underw* 36:5+ D 22 '32

Chaos in New Jersey is shown in E.U.A. report on excessive commissions. *Ins Field (Fire ed)* 62:7-8+ O 26; 6+ N 2 '33

Fines imposed for commission faults; W. U. A. penalizes members. *Nat Underw* 36:3 N 24; 3 D 8 '32



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Kansas order strikes at farm note methods; companies prohibited from paying commissions in cash until premium is received. Weekly Underw 129:9+ J1 1 '33  
 Milwaukee is only start in clean-up of excess commission payments. Ins Field (Fire ed) 62:7 Ja 5 '33  
 New interest in contingent plan. Nat Underw 37:3+ Ag 31 '33  
 Plan of contingent commissions urged. I. A. Watson. Ins Field (Fire ed) 62:7 S 21 '33  
 Start machinery to end excesses; I.E.A. is major factor. Nat Underw 36:3 N 17 '32  
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 Tax liability of companies on agents' commissions clarified in ruling; must file information returns on \$1,500 or more annually paid to producers. East Underw 33:1+ D 2 '32  
 Urges contingent commissions. C. B. Smith. East Underw 34:24 Ag 25 '33

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**Contracts**

Collector in fiduciary capacity in proposed agency agreement. Weekly Underw 128:39 Ja 7 '33  
 E.U.A. expected to adopt agency contract; text of W.U.A. form. East Underw 34:22 J1 28 '33  
 W.U.A. approves agency contract. Nat Underw 37:3+ My 4 '33

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Agency operating costs of 1929 and 1932 compared and analyzed. A. C. Stevens. East Underw 34:20 Je 30 '33

**Irregular agents**

Bank agency bill's defeat is laid to small bankers. Nat Underw 37:4 Je 22 '33  
 Bank agency danger again in forefront; abstracts. W. H. Bennett. Ins Field (Fire ed) 62:9+ Ag 17 '33; East Underw 34:18 Ag 18 '33  
 Companies opposed to ousting bank agencies. W. Lambeth; J. H. Doyle. East Underw 34:18 J1 14 '33  
 Consider future of bank agencies. Nat Underw 37:5 Mr 16 '33  
 Defends bank agency opposition. C. L. Gandy. East Underw 34:22 J1 7 '33; Same. Weekly Underw 129:55+ J1 8 '33; Excerpts. Spectator 131:28 J1 6 '33  
 New York disapproves promotional ventures. Weekly Underw 129:106 J1 15 '33; East Underw 34:30 J1 14 '33  
 Quotes congressional leaders on plan to divorce banking and insurance. W. H. Bennett. Ins Field (Fire ed) 62:6 My 25 '33  
 Special inducement practices attacked; Van Schaick holds hearing on link between insurance offers to subscribers of periodicals. Ins Field (Fire ed) 62:8 Ja 5 '33  
 Suggests bank limitations. W. H. Bennett. Nat Underw 37:21-2 Ap 20 '33  
 Todd co. appointment as general agents of U.S. Guarantee arouses much comment. N. H. Weed. Weekly Underw 129:114+ J1 15; 250 Ag 5 '33

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Agent's liability to assured upheld in California case. East Underw 34:1+ Ag 18 '33; Same cond. Credit & Fin Management 35:43 S '33  
 Agents liable under Securities act. G. L. Kappes. East Underw 34:1+ S 29 '33  
 Agents' licenses; qualification and license act sought in Illinois. Weekly Underw 128:841 Ap 29 '33; East Underw 34:35 My 12 '33  
 Agents say companies sidestep qualification bill co-operation; report to N.A.I.A. P. H. Goodwin. East Underw 34:24+ Ap 21 '33  
 Bank not liable in paying check on forged indorsement made by insurance agent; suit. Bankers M 126:381-3 Ap '33

Caution used in selling the delinquent agencies since decision in Illinois case. Nat Underw 37:8 My 11 '33

Gradually getting kinks ironed out of Texas local agents license law. R. J. McGehean. Nat Underw 36:5+ D 29 '32

Interest is seen in recent action on stand-ard agency qualification and license law. Nat Underw 36:3+ D 22 '32

Local agents liable to clients for error; Connecticut suit. Weekly Underw 129:30-1 J1 1 '33

Pennsylvania stops replacing of risks without a premium. East Underw 34:1+ J1 14 '33

Qualification tests for agents defended. H. R. Teitrick. East Underw 34:28 O 27 '33

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Relicensing of bankrupt agents is problem today. Nat Underw 36:10 D 15 '32

Sharp issue up in Ohio on federal union action. Nat Underw 37:4+ S 23 '33

Stiff qualification laws for agents in Pennsylvania urged. East Underw 34:1+ Ja 20 '33

Trusteeship departure full of pitfalls and contrary to common law. W. H. Bennett. Ins Field (Fire ed) 62:6+ Ag 31 '33; Excerpts. East Underw 34:26-7 S 8 '33; Abstracts. Nat Underw 37:1+ Ag 31 '33; Spectator 131:21 Ag 31 '33

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Record system for dailies used by Buffalo agency wipes out mistakes. R. K. Doran. East Underw 34:32 Ag 25 '33

**Training**

Profitable education in the casualty and surety field; the training school of the Maryland casualty company. L. H. Lippincott. Spectator 129:6-7 D 15; 6-7+ D 29 '32

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**INSURANCE associations**

Picture of the Federation ideal; Insurance federation of Pennsylvania. W. M. Goodwin. Spectator 131:6-7+ J1 27 '33  
 Proposes nation-wide program of insurance education and uniform laws. C. V. Anderson. Ins Field (Life ed) 62:4 S 22 '33  
 Underwriters organizations, with the respective secretaries, revised to November 30. Spectator 129:35-42 sec 2 D 8 '32

**INSURANCE brokers**

Assured not obligated to read his policy; his right to rely on broker. East Underw 34:41 Ja 6 '33; Same. Credit & Fin Management 35:30 Ap '33  
 Broker charged with neglect pays loss. Weekly Underw 129:58 J1 8 '33  
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 Brokers' part in meeting public demands. A. E. Bain. East Underw 34:23 F 3 '33  
 Local agent answers charges of brokers. W. F. Stanz. East Underw 34:28 Ap 21 '33  
 Plan for national brokers body yet in embryonic stage. Nat Underw 36:3 D 22 '32  
 Plan immediately to form National brokers federation. Nat Underw 37:4+ N 2 '33  
 Reasons why fire insurance will continue mainstay of New York brokers. W. O. Lincoln. Weekly Underw 128:879 My 6 '33  
 Service of marine insurance brokers. C. L. Despard. Weekly Underw 128:19+ Ja 7 '33

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Brief review of events occurring in 1932; official changes, new companies, etc. Weekly Underw 128:5-6+ Ja 7 '33

Commissioner Clark's entanglements to put spotlight on mergers. East Underw 34:1+ Ag 4 '33

Company executives face notable problems today. Nat Underw 36:5+ D 8 '32

Discriminate in buying indemnity. Nat Underw 37:3+ Ja 19 '33

Inconsistencies and cure. P. H. Goodwin. Weekly Underw 128:41-2 Ja 7 '33

Insurance studies U.S. recovery act. G. A. Watson. Nat Underw 37:3+ Je 22 '33

Need for change in methods of liquidating companies. G. S. Van Schaick. Spectator 131:6-7+ S 7 '33; Excerpts. Ins Field (Fire ed) 62:8+ Ag 31 '33; East Underw 34:20 S 1 '33; Abstract. Nat Underw 37:1+ Ag 31 '33

Need for national uniformity in liquidation of companies. G. S. Van Schaick. East Underw 34:23+ Je 9 '33; Excerpts. Ins Field (Fire ed) 62:9+ Je 8 '33; Nat Underw 37:3+ Je 8 '33; Weekly Underw 128:1046+, 1047 Je 3 '33

New and retired fire companies in 1932. Spectator 130:7 Ja 26 '33

New and retired life companies, 1932. Spectator 130:10-11 Ja 19 '33

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Publicity effect on assured seen. Nat Underw 37:5 Ja 5 '33

Too many companies, too many agents seen as fostering evil conditions. H. P. Dunham. Ins Field (Fire ed) 62:6 Mr 23 '33; Same. East Underw 34:25 Mr 24 '33

Unadmitted, non-tax-paying insurers should not be encouraged by American insurance buyers. Weekly Underw 129:425 S 2 '33

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Two operations combined; National union fire insurance company. System and Management Methods 62:356 Ag '33

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**Branch offices**

Production branch office report issued by local agents' ass'n. P. H. Goodwin. East Underw 34:30 Mr 31 '33; Abstract. Ins Field (Fire ed) 62:9+ Mr 30 '33

Proposes NRA code as cure of branch offices. P. H. Goodwin. Ins Field (Chicago Conv Daily ed) 62:10-11 O 11 '33; Excerpt. Weekly Underw 129:716+ O 14 '33

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Approval of code of American Institute of marine underwriters. Weekly Underw 129:488-9 S 16 '33

Blue Eagles appear as codes are signed; with text of the National board code. East Underw 34:16, 34 S 8 '33; Ins Field (Fire ed) 62:6, 7+ S 7 '33; Weekly Underw 129:405, 407+ S 2 '33; Spectator 131:21+ S 7 '33

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NRA directs insurance business to file code; all interests collaborate. Ins Field (Fire ed) 62:7-8 Ag 17 '33; East Underw 34:16 Ag 18 '33

Possibility of federal insurance code revived. Nat Underw 37:1 Jl 13 '33

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Bank holiday's effect on insurance. Weekly Underw 128:490, 493+, 500+, 515 Mr 11 '33

Insurance faces moratorium issues. Nat Underw 37:3+ Mr 9; 3+ Mr 16; 3 Mr 23 '33

Power of dictator for insurance commissioners being given by state legislatures. Weekly Underw 128:519 Mr 11 '33

Status of emergency life insurance control measures by states. Ins Field (Life ed) 62:4+ Mr 31 '33; Spectator 130:14-15 Mr 30 '33

Summary of emergency insurance legislation enacted during March and April. Weekly Underw 128:964 My 20 '33

Van Schaick is now New York insurance dictator by legislative act. East Underw 34:1+ Mr 10 '33; Ins Field (Fire ed) 62:7 Mr 9 '33

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Bank crisis met by insurance interests. Ins Field (Fire ed) 62:7-8 Mr 2 '33

Bank moratoriums cause new insurance problems. Nat Underw 37:3+ Mr 2 '33

Bank restrictions raise new points. Ins Field (Life ed) 62:5 Mr 3 '33

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Commissioners' discussion on ratings is revealed. Nat Underw 37:3 Jl 20 '33; Same. Nat Underw (Life ed) 37:1+ Jl 21 '33

Commissioners hear Barnes and Bassett on interlocking. East Underw 33:1+ D 9 '32

Congress has bill to extend more aid to insurance companies; Fletcher bill. East Underw 34:1+ Ap 7 '33

Currency fluctuations and insurance. H. J. Werder. East Underw 34:17-18 Ag 25 '33

Early loans of R.F.C. to insurance companies. Nat Underw 37:3+ F 2 '33

Few companies given top rating by Best. Weekly Underw 129:53, 143 Jl 8, 22 '33

Financial statements to be checked in detail; Kentucky. Spectator 130:31 Mr 23 '33

Foreign companies' United States branch office transactions with home offices. Weekly Underw 128:704 Ap 8 '33

Insurance casualty; what has happened to business in general has happened to the fire and casualty insurance companies.

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Insurance regards inflation. R. W. Sheehan. Spectator 130:13+ Ap 27 '33

Michigan holiday affects insurance. Nat Underw 37:3+ F 16; 5+ F 23 '33

R.F.C. aid measure passes House with a salary limit. Nat Underw 37:4 Je 1 '33

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Remittances to and from home offices last year; tabulation. Nat Underw 37:4 Mr 2 '33

Ruinous competition vs. adequate rates. E. C. Stone. Spectator 131:6-7+ N 2 '33

Senate passes measure for aid by R.F.C. to insurance. Nat Underw 37:4 My 11 '33

What inflation will do to insurance companies. J. F. Wohlgemuth. Nat Underw 37:3+ Ap 27; 3+ My 4; 5 My 11 '33

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Classification of investments of the Boston and Old Colony. East Underw 34:19 Ag 11 '33

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Connecticut security division established in insurance department nearly year ago. C. Foster. East Underw 34:25 Ap 14 '33



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A.M. Best & co. drops convention values. East Underw 34:24+ Ap 14 '33  
British practice in valuation of securities. East Underw 33:18 D 9 '32  
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Market rise relieves tension on insurance companies. Barron's 13:12 Jl 24 '33  
Market values demanded by New Hampshire commissioner. Spectator 130:25 Mr 23 '33  
Rooseveltian action sways insurance sentiment toward market valuations. Ins Field (Fire ed) 62:7 Mr 30 '33  
Safeguards for the insurance companies. Econostat 1:7 Ap 15 '33  
Wisconsin department's position as to valuations. Nat Underw 36:5 D 15 '32

**Management**

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Skill in management of ever-increasing importance in life insurance field; abstracts. A. F. Hall. Weekly Underw 129:49+ Jl 8 '33; Ins Field (Life ed) 62:4 Jl 14 '33; East Underw 34:3+ Jl 14 '33; Nat Underw (Life ed) 37:3+ Jl 14 '33  
Supervision and management of life insurance companies. W. Breiby. Spectator 131:10-11+ O 5 '33

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Brief review of events occurring in 1932; official changes, new companies, etc. Weekly Underw 128:5-6+ Ja 7 '33  
Home office personnel and its salary. A. E. Magnell. Spectator 130:12-13 Ap 13 '33  
Study of home office salaries. H. A. Hopf. Spectator 130:15-16+ Je 8; 12-13+ Je 22 '33

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Cooperating with the assured. B. Butzel. Spectator 131:10+ Ag 10 '33  
Program of public relations for insurance companies. E. L. Bernays. East Underw 34:1, 31 S 29 '33  
Public confidence—the great insurance reserve. G. W. Brown. Ins Field (Fire ed) (H & A sup) 62:1+ Je 15 '33  
What happens after the doorway is passed? A. E. Magnell. Spectator 130:10+ My 4 '33

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Interesting journey of daily report in fire company office. Ins Field (Fire ed) 62:6+ Jl 13 '33  
Time control speeds work; National life insurance co. Management Methods 62:124 Mr '33

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Forces of insurance business should stand together. W. A. Tarver. East Underw 33:8+ D 23 '32

Government in business; abstracts. W. H. Bennett. Ins Field (Fire ed) 62:6 Ag 3 '33; East Underw 34:24 Ag 4 '33  
Insurance supervision. M. L. Brown. Ins Field (Life ed) 62:5-6 Je 2 '33  
Insurance supervision in a nutshell. Ins Field (Fire ed) 62:7 Je 1 '33  
Is federal control nearer? C. M. Cartwright. Nat Underw 37:5+ Mr 16 '33; Same. Nat Underw (Life ed) 37:5+ Mr 17 '33  
Is need for classification. C. M. Cartwright. Nat Underw (Life ed) 37:3+ Mr 24 '33  
Moratorium proved the strength of supervision. G. S. Van Schaick. Nat Underw (Life ed) Daily ed 37:10-11+ S 28 '33; Same. Ins Field (Chicago Conv Daily ed) 62:24-5 S 28 '33; Excerpt. East Underw Extra ed 34:14 S 30 '33  
N. Y. legislature adopts plan for an Insurance board. East Underw 34:22+ Ap 14 '33; Weekly Underw 128:751 Ap 15 '33  
Seeks to bar unsound underwriting. W. H. Bennett. East Underw 33:20 N 18 '32  
Senator Robinson wants federal control; proposes an amendment to the Constitution. Nat Underw (Life ed) 37:5 My 19 '33  
Should we have national supervision? East Underw 34:19+ Mr 24; 10 Mr 31 '33; Discussion. 34:15 Ap 14 '33  
Some causes of complaints to the Insurance department. R. M. Clark. Ins Field (Fire ed) 62:10+ S 14 '33  
State vs. federal supervision analyzed. U. S. Brandt. Ins Field (Life ed) Conv no 62:11-12 O 13 '33  
Supervision in these times. W. A. Tarver. Spectator 129:17+ sec 2 D 8 '32; Abstract. Weekly Underw 127:1099+ D 10 '32  
U.S. bill to supervise life insurance companies introduced in House by McSwain. East Underw 34:5 Mr 31 '33  
Views on state comity. J. I. Reece. Nat Underw 36:5+ N 17 '32  
Warns insurance that government interference lurks in NRA control plan. W. D. Williams. Ins Field (Fire ed) 62:6 N 9 '33; Same. Nat Underw 37:18+ N 9 '33; Excerpts. Spectator 131:29+ N 9 '33

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Casualty-surety position strengthened. East Underw 34:29 Je 30 '33  
Current stock prices not true guide to companies' worth. T. J. V. Cullen. Spectator 129:29+ D 22 '32  
Fire company stocks as investment field. East Underw 34:20 Je 30 '33  
Fire-insurance stocks behind the market. H. W. Abbot, jr. Barron's 13:6 Ag 28 '33  
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Insurance stocks viewed as high-grade investment field. J. K. Rice, jr. and co. East Underw 34:27 Je 2 '33  
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Companies fight Nebraska double taxation proposal. Nat Underw 36:25 D 1 '32  
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Consolidated income tax return refused. East Underw 34:22 F 10 '33  
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Provisions of New York City's proposal taxing companies. East Underw 34:8 S 22 '33

Sections of National recovery act that affect fire insurance. J. H. Doyle. East Underw 34:30 Jl 7 '33; Same. Ins Field (Fire ed) 62:9 Jl 6 '33

Silber files appeal in Chicago tax case. Ins Field (Fire ed) 62:6 Ap 6 '33  
South Carolina tax increase is upheld. Ins Field (Fire ed) 61:9 D 1 '32

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31 companies now being promoted in California. Weekly Underw 129:196 Jl 29 '33

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**Czechoslovakia**

1932 Czechoslovakian results unfavorable. East Underw 34:22 Jl 14 '33

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Closing debacle of Mutzenbecher suits. Weekly Underw 128:1188+ Je 24 '33

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Accident premiums outstripping fire in Great Britain. Spectator 131:31 S 21 '33  
British companies had good results for 1932. East Underw 34:39 My 12 '33  
British insurance business in U.S.A. Economist 117:226 Jl 29 '33  
British reinsurance offices' consolidated figures. Spectator 130:10 Mr 23 '33  
Insurance notes. Economist 116:520-2, 634-6, 686-8, 746, 748, 859-60, 905-7, 960-3, 1017-20, 1071-2 Mr 11, 25-Apr 8, 22-May 20 '33

London and Lancashire insurance company 71st ordinary general meeting, London. Economist 116:983-4 My 6 '33

London assurance, Yorkshire insurance company, and other company reports. Economist 116:1040-3 My 13 '33

Results of 23 British groups are summarized. East Underw 34:24 Jl 7 '33

Royal exchange assurance, Law union and rock insurance company, limited, and other company reports. Economist 116:926-9 Ap 29 '33

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Ruling on right of life companies to issue preferred stocks. East Underw 34:1+ N 3 '33

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Insurance salvage; National Surety reorganization. Business Week p17 My 10 '33

National Surety reorganization plan. East Underw 34:43-5 My 26 '33

Report offers fine review of insurance trends. G. S. Van Schaick. Spectator 130:27+ F 9 '33

Report presents legislative proposals of department. G. S. Van Schaick. East Underw 34:1+ 33+ F 10 '33

Supt. Van Schaick issues warning against unauthorized insurance. Spectator 131:23 S 21 '33

Van Schaick report lists vast figures. Ins Field (Fire ed) 62:9 S 14 '33

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British make report on Norske Lloyd co. East Underw 34:29 Jl 21 '33

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Russian liquidation a colorful chapter in New York dept. history. East Underw 34:26+ Ja 6 '33

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Aetna life insurance company, Hartford, Conn. il Spectator 129:15 D 22 '32

Air conditioning and ventilating a 31-story office building; Metropolitan life insurance company, New York. E. C. Parker. il diags Heat & Ven 30:14-19 Ag '33

Alliance insurance company, Philadelphia. il Spectator 131:13 Ag 10 '33

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Equitable life of the U.S.A. il Spectator 130:16 Mr 30 '33

Fidelity & deposit company, Baltimore. il Spectator 131:15 Jl 13 '33

Fire association of Philadelphia. il Spectator 130:11 Mr 23 '33

Fireman's fund group, San Francisco. Spectator 130:12 Ja 12 '33

General Accident, Philadelphia. il Spectator 130:11 Ja 26 '33

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- Jefferson standard life insurance company, Greensboro, N.C. il Spectator 131:12 Ag 3 '33
- John Hancock mutual life insurance company, Boston. il Spectator 129:10 D 8 '32
- Kansas City life insurance company, Kansas City, Mo. il Spectator 130:14 Je 8 '33
- Life insurance home office buildings. 156p [bibliog p83] Life office management assn, Fort Wayne, Ind. '33
- Maryland casualty company, Baltimore. il Spectator 130:13 Mr 9 '33
- Metropolitan life insurance company new home office building in New York. il plans Arch Rec 74:175-94 S '33
- Metropolitan Life, New York. il Spectator 130:15+ F 2 '33
- Mutual benefit life insurance company, Newark. il Spectator 131:12 Ag 31 '33
- Mutual life insurance company of Baltimore. il Spectator 131:11 O 26 '33
- Mutual life insurance company of New York. il Spectator 131:12+ Ag 17 '33
- National board of fire underwriters, New York. il Spectator 131:13+ Jl 27 '33
- National life and accident insurance company, Nashville, Tenn. il Spectator 131:13 N 2 '33
- National union fire insurance company, Pittsburgh. il Spectator 130:14 Je 29 '33
- New Hampshire fire insurance company, Manchester, N.H. il Spectator 130:13 F 23 '33
- N. Y. life insurance building, St Paul, Minn. remodeled. il plans Arch Forum 58:54-5 Ja '33
- North America group in new home. il East Underw 34:19-20 My 5 '33
- North American life insurance co., Chicago. il Spectator 131:18 N 9 '33
- Northwestern mutual life insurance company, Milwaukee, Wis. il Spectator 131:7 Jl 20 '33
- Northwestern national insurance company, Milwaukee. il Spectator 131:10+ S 7 '33
- Northwestern National Life, Minneapolis. il Spectator 130:15 Ja 19 '33
- Ocean accident & guarantee corporation, New York. il Spectator 130:13 Ap 20 '33
- Phoenix insurance company, Hartford, Conn. il Spectator 130:11 My 4 '33
- Phoenix mutual life insurance co. Hartford, Conn. il Spectator 130:14+ Je 22 '33
- Pilot life insurance company, Greensboro, N.C. il Spectator 131:12 S 14 '33
- Provident mutual life insurance co, Philadelphia. il Spectator 131:14 Jl 6 '33
- Prudential insurance company of America, Newark, N.J. il Spectator 129:15 N 24 '32
- Reserve loan life insurance company, Indianapolis. il Spectator 131:15 S 23 '33
- Royal-Liverpool group, New York. il Spectator 130:12 F 9 '33
- Security mutual life, Binghamton, N.Y. il Spectator 130:10 My 11 '33
- Union Central Life, Cincinnati. il Spectator 130:15+ Ja 5 '33
- United States fidelity and guaranty company, Baltimore. il Spectator 130:11 My 18 '33

**INSURANCE company of North America**

French spoliation claims of the Insurance co. of North America, C. Axman. il East Underw 33:62+ D 9 '32

North America group in new home. il East Underw 34:19-20 My 5 '33

**INSURANCE departments**

Decapitation in official ranks. Nat Underw 36:3+ N 17 '32

Effect of election on commissioners. Ins Field (Fire ed) 61:7+ N 17 '32

Heads of state insurance departments; list as of April 21, 1933. Spectator 130:26 Ap 27 '33

**See also**

Connecticut—Insurance department  
Illinois—Insurance department  
Insurance companies  
—Regulation

Iowa—Insurance department  
New York (state)—Insurance department  
Pennsylvania—Insurance department

**INSURANCE ethics**

Unethical methods still big problem. Nat Underw 37:27+ N 2 '33

**See also**

Insurance, Life—Twisting

**INSURANCE federation of America**

Annual meeting, New York, Dec. 5. Weekly Underw 127:1142 D 10 '32

**INSURANCE institute of America**

Annual conference, 25th, New York. East Underw 34:22-3 O 27 '33

Institute graduates record class in 1933. Ins Field (Fire ed) 62:8 Ag 24 '33

Teaching the young idea to shoot. J. V. Barry. Spectator 129:30 sec 2 D 8 '32

**INSURANCE law**

Asks cooperation on legislation. H. J. Drake. Nat Underw 37:26 Ag 31 '33

Conditions where waiver or estoppel applies. W. H. Sims. Nat Underw 37:33 Ja 26 '33

Cyclopedia of insurance law and its background. G. J. Couch. East Underw 34:3+ Ja 27 '33

Digest of new legislation reveals fire companies escaped undue interference; National board report. F. C. White. Ins Field (Nat bd no) 62:5-6 My 26 '33

Insurance court decisions F. S. Knight, ed. Published in weekly numbers of Weekly underwriter

International association of insurance counsel session at Chicago. Weekly Underw 129:359-61, 387 Ag 26 '33

Laws enacted by 1933 legislatures. Weekly Underw 128:892, 939, 980, 1028, 1076 My 6-Je 3 '33

Paul vs. Virginia: summary of the case. Ins Field (Fire ed) 62:5 Ag 24 '33

**See also**

Association of life insurance counsel  
Insurance, Automobile  
—Financial responsibility laws  
Insurance, Life—Emergency measures

Insurance agents—Law  
Insurance companies—Emergency measures

**Argentina**

State dept. asked to aid in fight on Argentine 7% tax. East Underw 34:33 Jl 23 '33; Spectator 131:24 Jl 27 '33; Weekly Underw 129:182 Jl 29 '33

**California**

California bills to reform code. Ins Field (Fire ed) 62:7-8 F 2 '33

**Canada**

Section on insurance law is recommended to Canadian bar association. R. L. Foster. Weekly Underw 129:410 S 2 '33

**Great Britain**

Law of life assurance. D. Houseman. 175p 10s 6d Butterworth & Co, London; Toronto '32

**Illinois**

Illinois investment bill sets new limits. East Underw 34:8+ Ap 7 '33

Illinois qualification bill is defeated in legislature; major bills passed. Nat Underw 37:4 Je 29 '33

Legislative clearing house organized by Illinois men. Nat Underw (Life ed) 36:8 D 30 '32

## INSURANCE law—Continued

## Maryland

Laws of Maryland relating to insurance. 63p  
Maryland state insurance dept, Baltimore '33

## New York (state)

Casualty underwriters seek broader powers; bill before N. Y. assembly. East Underw 34: 41 F 24 '33  
Must bring civil action on fines. Nat Underw 37:29 Ja 19 '33  
New law penalizes spreaders of gossip. Ins Field (Fire ed) 62:7 Ap 27 '33  
New York insurance law. 1933 ed. W. E. Baldwin, ed. 508p Banks-Baldwin law pub. co, New York '33  
N. Y. legislature adopts plan for an Insurance board. East Underw 34:22+ Ap 14 '33; Weekly Underw 128:751 Ap 15 '33  
1933 New York legislature and insurance. D. Holbrook. East Underw 34:3-4+ Je 2 '33  
37 bills introduced by New York dep't. East Underw 34:24+ F 17 '33; Weekly Underw 128:370 F 18 '33

## North Carolina

Security deposit law a hardship. Nat Underw 37:37+ Mr 30 '33

## Pennsylvania

Compilation of the insurance laws, 1931. 274p Pennsylvania. Insurance dept, Harrisburg '32  
Legislation in 1933. F. D. Moses. East Underw 34:21 Je 23 '33  
Pennsylvania laws need clarification. J. A. Dalzell. East Underw 34:1+ F 17 '33  
Pennsylvania stops replacing of risks without a premium. East Underw 34:1+ Jl 14 '33

## Texas

Insurance laws, state of Texas. Digest of 1932. 331p Firm foundation pub. house, Austin, Tex. '32

## United States

Congress has bill to extend more aid to insurance companies; Fletcher bill. East Underw 34:1+ Ap 7 '33  
Need for change in methods of liquidating companies. G. S. Van Schaick. Spectator 131:6-7+ S 7 '33; Excerpts. Ins Field (Fire ed) 62:8+ Ag 31 '33; East Underw 34:20 S 1 '33; Abstract. Nat Underw 37:1+ Ag 31 '33  
R.F.C. aid measure passes House with a salary limit. Nat Underw 37:4 Je 1 '33  
Richards on the law of insurance in all its branches. G. Richards. 4th ed 1346p Baker, Voorhis & co, New York '32  
Senate passes measure for aid by R.F.C. to insurance. Nat Underw 37:4 My 11 '33  
U.S. bill to supervise life insurance companies introduced in House by McSwain. East Underw 34:5 Mr 31 '33

## Wisconsin

Arguments presented by Security and Wisconsin to Supreme court. East Underw 34: 32 Ap 7 '33  
Security insurance company of New Haven wins U. S. high court victory. Nat Underw 37:3+ Mr 30 '33; Ins Field (Fire ed) 62:7 Mr 30 '33  
Valued policy law is upheld in Wisconsin Supreme court. Nat Underw 37:18 Ja 19 '33

## INSURANCE law journal (periodical)

Law journal aid to perplexed legal men. F. S. Knight. Weekly Underw 129:784 O 21 '33

## INSURANCE libraries

Insurance library exhibit. L. Woodward. Special Lib 23:412 N '32

Library needs of the insurance agent. W. H. Bennett. Special Lib 24:7-8 Ja '33

Special library and the trade journal. L. A. Mack. Special Lib 24:3-4 Ja '33

INSURANCE of bank deposits. See Banks and banking—Guaranty of deposits

## INSURANCE research

Method shown how to make research in rural insurance; report of Social science research council. East Underw 34:1+ F 3 '33

## INSURANCE society of New York

Education in metropolis centers in Insurance society; annual report. E. R. Hardy. Weekly Underw 129:75-6 Jl 8 '33

## INSURANCE trusts

Important decision upholds immunity of life insurance trusts from claims of creditors. A. P. Reed. Trust Companies 56:568 My '33  
Important decision upholds life insurance trusts. Trust Companies 56:7-8 Ja '33  
Important decisions by U.S. Supreme court on taxability of trust income for payment of insurance premiums. F. C. McKinney. Trust Companies 56:677-9 Je '33  
Income tax status of funded life insurance trust. G. L. Kappes. East Underw 34:3 Je 16 '33; Same. Trust Companies 57:525-7 N '33

Legal factors to be considered and pitfalls to be avoided in creation of life insurance trusts. G. B. Horton. Weekly Underw 128: 123-4 Ja 14 '33

Life insurance trusts. G. B. Horton. 67p [bibliog p64-7] Wyndham press, Montpelier, Vt. '33

Life insurance trusts; legal problems in their preparation and administration. S. Davis. East Underw 33:3+ D 30 '32

New avenues open to trust institutions in serving public welfare; opportunities for recreating impaired estates. J. A. Stevenson. Trust Companies 56:341-4 Mr '33

Next step in life insurance trust development; education of lawyers in drafting sound trust agreements. G. B. Horton. Trust Companies 56:458 Ap '33

Results from experience in administration of life insurance trusts. E. I. Phillips. Trust Companies 56:581-5 My '33

Revocable trust is held safe from creditors' claims. Ins Field (Life ed) 62:5-6+ Ja 6 '33; Spectator 130:17+ Ja 5 '33

Two schools of thought with respect to policy titles in life insurance trust field; specific precedents scarce. B. R. C. Low. Weekly Underw 128:511 Mr 11 '33

Why trust men should be well grounded in principles of life insurance. G. B. Horton. Trust Companies 56:230 F '33

Your will be done; business life insurance. G. S. Lyman. diag Credit & Fin Management 35:16-17+ F '33

## INTAKES

Construction of a long inlet pipe line, Lausanne water supply. il diags Engineer 154:632-3, 642 D 23 '32

Construction of intake pipe and junction shaft for city of Toronto duplicate water supply. F. W. Douglas. il diag Can Eng 64:78-83 Mr 28 '33; Same, without il. Am Water Works Assn J 25:1221-9 S '33; Discussion. Can Eng 64:83-4 Mr 28 '33

Cost of intake racks at Fifteen-Mile Falls station. Elec W 101:99 Ja 21 '33

Progress in intake design revealed by Chicago crib. M. B. Reynolds. il Eng N 110: 737-9 Je 8 '33

Syracuse water works. M. B. Palmer. Am Water Works Assn J 25:266-8 F '33

Water works intake at Kincardine, Ont. R. O. Wynne-Roberts. il Can Eng 64:23-4 Ja 3 '33

## INTEGRATORS

Bailey escapement type integrator. diags Concrete (mill sec) 41:47 F '33; il Power Pl Eng 37:151 Mr '33; Heat & Ven 30:57-8 F '33

Méthode géométrique d'intégration et appareil pour mesurer les aires des surfaces courbes. F. E. Myard. diags Génie Civil 103:228-32 S 2 '33

## INTELLECTUAL property

See also

Patents

Trade marks



**INTERNATIONAL foundrymen's congress**  
International foundry congress; abstracts of papers. *Engineer* 154:sup[Metallurgist] 181-2 D 30 '32

**INTERNATIONAL gas conference**  
Convention, Chicago, Sept. 25-28. *Gas Age* 72:305-7+, 325-37 S 30-O 7 '33  
International gas parley promotes gas progress. *F. Escher. Am Gas Assn Mo* 15:410+ O '33

**INTERNATIONAL geological congress, 15th**  
Aftermath of the fifteenth International geological congress; an appreciation from South Africa. *A. L. du Toit. Econ Geol* 28:389-92 Je '33

**INTERNATIONAL geological congress, 16th**  
Meeting, Washington, D.C. July 22-29. *Science* 78:247-54 S 22 '33  
Sixteenth session to be held July 22-29, 1933. *Science* 77:252-4 Mr 10 '33

**INTERNATIONAL harvester company**  
Higher farm prices aid I. H. C. *Econostat* 1:12+ Je 3 '33  
International Harvester. *il Fortune* 8:21-33, 112-21+ Ag '33  
Report for 1932. *Barron's* 13:6 Mr 6 '33  
Speculative audit; favorable and unfavorable factors affecting common-stock values. *Barron's* 13:14 Ag 28 '33

**INTERNATIONAL institute of documentation**  
Conference, 12th, Brussels, July 18-20. *Engineering* 136:173 Ag 18 '33  
La onzième conférence. *P. Bourgeois. Chimie & Ind* 28:1477-85 D '32

**INTERNATIONAL labor conference, Sixteenth**  
International labour conference. Sixteenth session, Geneva, 1932. Record of proceedings. 1003p World peace foundation '32  
World economic reconstruction; a criticism of the economic resolution adopted by the International labour conference. *G. Cassel. Int Labour R* 26:644-8 N '32

**INTERNATIONAL labor conference, Seventeenth**  
Seventeenth session, Geneva, June 8-30, 1933. *Int Labour R* 28:317-51 S '33; Summary. *Monthly Labor R* 37:554-5 S '33

**INTERNATIONAL labor office**  
International civil service. *R. Meeker. Ann Am Acad* 166:102-6 Mr '33

**INTERNATIONAL labor organization**  
International labor organization. *A. S. Cheyney, ed. Ann Am Acad* 166:1-207 Mr '33  
International labour organisation. *F. G. Wilson. 63p Carnegie endowment for international peace, Division of intercourse and education, Worcester, Mass. '32*

#### United States relations

American relations with the International labor office. *J. Myers and others. Ann Am Acad* 166:135-89 [bibliog p 145] Mr '33

**INTERNATIONAL law**  
Codification of international law. *A. Piip. Ann Am Acad* 168:220-5 Jl '33  
Force in peace. *A. E. Hindmarsh. 249p [bibliog p231-42] \$2.50 Harvard univ. press '33*  
Framework of international society. *S. H. Bailey. 92p [bibliog p89-92] Longmans '32*  
Function of law in the international community. *H. Lauterpacht. 469p \$7.50 Oxford '33*

General index to International law situations, topics, discussions, documents, and decisions. v 1-30, 1901-1930. 332p U.S. naval war college, Newport '33

Interpretation of treaties by judicial tribunals. *Yi-Ting Chang. 196p [bibliog p186-91] \$2.75 Columbia univ. press '33*

Protection of nationals. *F. S. Dunn. 228p Johns Hopkins press, Baltimore '32*

Servitudes of international law. *F. A. Váli. 254p [bibliog p247-8] 12s 6d P. S. King & son, Ltd, London '33*

#### See also

Aeronautics—Laws  
Arbitration, International  
International relations  
Labor laws and regulations  
Isolation, International  
League of nations  
Maritime law

#### Bibliography

American institute of international law and the codification of international law. *M. A. Matthews, comp. 17p Carnegie endowment for international peace, 700 Jackson place, Washington, D.C. '33 (typew)*

**INTERNATIONAL law, Private**  
Digest of the law of England with reference to the conflict of laws. *A. V. Dicey. 5th ed 1144p Stevens & sons, Ltd, London '32*

**INTERNATIONAL match corporation**  
Kreuger claims obscure International Match gain. *Barron's* 13:19 Ja 30 '33

**INTERNATIONAL nickel company of Canada**  
Annual report. *Can Chem & Met* 17:58 Mr '33; *Barron's* 13:21 Mr 27 '33; *Economist* 116:594-5 Mr 18 '33

Nickel maintains its price. *Econostat* 1:12, 23 Jl 15 '33

Prospects brighter for world's leading nickel producer. *W. W. Hay. Mag of Wall St* 52:526-7 S 16 '33

What is the investment outlook for these companies? *Mag of Wall St* 51:161+ N 26 '32

**INTERNATIONAL paper and power company**  
Paper causes I. P. & P. loss. *Econostat* 1:14-15+ My 6 '33

Report, second quarter, 1933. *Paper Tr J* 97:27 S 21 '33

Reports loss in 1932. *Paper Tr J* 96:11 Ap 20 '33

**INTERNATIONAL railway congress**  
Meeting, 12th, Cairo. *Engineer* 155:63-4, 85-7, 109-10 Ja 20-F 3 '33

**INTERNATIONAL reinsurance corporation of Delaware**

Goes into receivership. *East Underw* 34:34-5 Ap 21; 33+ Ap 28 '33; *Ins Field (Fire ed)* 62:7-8+ Ap 27 '33; *Weekly Underw* 128:782 Ap 22 '33

International Re end no surprise. *Nat Underw* 37:31+ Ap 27 '33

Statement for 1932. *Spectator* 130:40 F 23 '33; Same. *Weekly Underw* 128:406 F 25 '33

#### INTERNATIONAL relations

Call to action! *N. M. Butler. Comm & Fin* 22:87 Ja 18 '33

Contemporary problems of international relations. *A. G. Coons, ed. Ann Am Acad* 168:170-243 Jl '33

Democracy, debts and disarmament. *W. Newbold. 343p \$3 Dutton '33*

If treaties fail; League action against Japan linked with developments in Europe. *Business Week* p22-3 Mr 8 '33

Interdependent world and its problems. *R. Muir. 204p \$1.75 Houghton '33*

International politics. *F. L. Schuman. 922p \$4 McGraw-Hill '33*

International problems to be faced. *J. Aird. Bankers M* 126:183-4 F '33

International studies in Great Britain. *S. H. Bailey. 124p \$1.75 Oxford '33*

Plea for international deliberation; Japan versus China, et al; with Japanese translation. *Comm & Fin* 22:228 Mr 8 '33

Problems of peace, seventh series. *G. P. Gooch and others. 295p \$2.50 Oxford '33*

Proceedings of the Institute of public affairs, seventh annual session, Athens, Georgia, May 8-16, 1933. 174p pa \$1.50 Institute of public affairs, University of Georgia, Athens '33

#### See also

Disarmament  
Economic planning,  
International  
International cooperation  
International law  
Internationalism  
League of nations  
Peace  
War

also subdivision Foreign relations under names of countries, e. g. Great Britain—Foreign relations; Russia—Foreign relations

#### Bibliography

Foreign affairs bibliography; a selected and annotated list of books on international relations, 1919-1932. *W. L. Langer and H. F. Armstrong. 551p \$5 Harper '33*

**INTERNATIONAL shoe company**  
Southern accent. *il Fortune* 7:71-4+, 84, 86 Mr '33  
Steady decline; report for the year ended Nov. 30. *Barron's* 13:13 Ja 9 '33

**INTERNATIONAL silver company**  
World's largest silver-plater. *il Fortune* 7:70-5+ Ap '33

**INTERNATIONAL society for the exploration of the Arctic regions by means of aircraft**  
Dissolution of the American section of the Aeroarctic. I. Tolmachoff. *Science* 78:277 S 29 '33

**INTERNATIONAL society of leather trades chemists**  
Biannual conference, Amsterdam. *Soc Chem Ind J (Chem & Ind)* 52:820-1 O 13 '33; *Chem Age (Lond)* 29:351-2 O 14 '33  
Meeting of the British section, March 11. *Soc Chem Ind J (Chem & Ind)* 52:306-7 Ap 7 '33

**INTERNATIONAL society of sugar cane technologists**  
Fourth congress. *Science* 78:30 Jl 14 '33

**INTERNATIONAL telephone and telegraph corporation**  
Companies benefiting from the gold embargo. C. L. Carberry. *Mag of Wall St* 52:126+ My 27 '33

I.T. & T. revalues its assets. *Econostat* 1:12+ Ap 1 '33

Low price stocks that can be purchased now for later appreciation. *Mag of Wall St* 51:217 D 10 '32

Three leaders in communication. F. C. Fullerton. *Mag of Wall St* 51:384-5+ Ja 21 '33

**INTERNATIONAL trade composition association**  
Convention, Toronto, June 16-17. *Inland Ptr* 91:63 Jl '33

**INTERNATIONAL typographical union**  
Benefits paid by International typographical union. *Monthly Labor R* 35:1083-5 N '32

**INTERNATIONALISM**  
Can nations be neighbors? D. L. Crawford. 120p \$1.50 Stratford co, Boston '32

National ideals and internationalist idols. W. B. Donham. *Harvard Business R* 11:389-408 pt 2 Ap '33

Study of opinions on some international problems as related to certain experience and background factors. A. Kolstad. 95p [bibliog p94-5] \$1.50 Teachers college '33

*See also*  
International cooperation

**INTER-SOCIETY color council**  
Activities. *J Fr Inst* 214:708 D '32

**INTER-SOUTHERN life insurance company**  
Kentucky Home issues cleared; status of Inter-Southern policyholders. *Nat Underw (Life ed)* 36:13-14 D 2 '32

*See also*  
Kentucky home life insurance company

**INTERSTATE commerce**  
Commodities and localities in the decisions of the Interstate commerce commission. H. C. Lust, ed. 499p H. C. Lust pub. co, Chicago '33

New York retail sales tax law; regulations covering sales in interstate commerce. *System and Management Methods* 62:309-10 Jl '33

Recharging of batteries used in railroad signaling held part of interstate commerce. *Monthly Labor R* 36:119-20 Ja '33

U.S. may halt interstate shipments of illegally produced oil. V. B. Guthrie. *Nat Pet N* 25:3-5 Mr 29 '33

*See also*  
Carriers  
Railroad law  
Railroads and state—United States  
Restraint of trade  
Transportation act, 1920

**INTERSTATE commerce commission**  
Any old port; in *Galveston vs. New Orleans*, court denies I.C.C.'s right to favor one port against another. *Business Week* p12 Je 7 '33

Appropriation cuts will curtail I.C.C. activity. *Ry Age* 94:675+ My 6 '33

Bill passed authorizing I.C.C. to delegate work. *Ry Age* 94:344 Mr 4 '33

Committee approves I.C.C. bill for delegation of portions of its work to individual commissioners or boards of employees. *Ry Age* 94:108-9 Ja 28 '33

Gets \$7,137,639 for the fiscal year 1934. *Ry Age* 94:343 Mr 4 '33

I.C.C. annual report for year ended Oct. 31. *Ry Age* 93:917-19, 945-7 D 17-24 '32

I.C.C. cannot order line into new territory. *Ry Age* 94:44-5 Ja 14 '33

I.C.C. theories rejected in *Galveston port preference case*. *Ry Age* 94:836 Je 10 '33

Lake cargo coal rate controversy. H. C. Mansfield. 273p \$4.25 Columbia univ. press, New York '32

Plans to make valuation records current. E. I. Lewis. *Ry Age* 93:740-1 N 26 '32

Rearrangement of I.C.C. organization is effected. *Ry Age* 95:641 O 28 '33

Reparations a racket? T. F. Woodlock. *Ry Age* 95:255 Ag 12 '33

Sharp reduction proposed in I.C.C. appropriations. *Ry Age* 94:638 Ap 29 '33

What railroad men want to know about federal regulation; nine questions by rail executives, and answers by Joseph B. Eastman. H. Corey. *Pub Util* 11:218-24 F 16 '33

Whitney champions I.C.C., denounces consolidation. *Ry Age* 94:457 Mr 25 '33

#### Bureau of locomotive inspection

Annual report, 21st; abstracts. A. G. Pack. *il Ry Mech Eng* 107:1-3 Ja '33; *Ry Age* 93:943-4 D 24 '32

#### Bureau of safety

Annual report for fiscal year ended June 30, 1932. *Ry Age* 93:983-4 D 31 '32

**INTERSTATE legislative reference bureau**  
Services of Interstate legislative reference bureau. Hearings before the Committee on the Library, House of representatives. 32p U. S. Govt. ptg. office, Washington '32

**INTERSTATE underwriters board**  
Extends operations. J. R. Dumont. *Weekly Underw* 128:40 Ja 7 '33

I.U.B. does not plan to insure buildings. *East Underw* 34:18+ Je 30 '33

#### INTERURBAN railroads

*See also*  
Electric railroads  
Street railroads

**INTERVENTION**  
Open door policy as intervention. T. Dennett. *Ann Am Acad* 168:78-83 Jl '33

**INTERVIEWING**  
*See also*  
Employment systems  
—Interviews

**INULIN**  
Determination of inulin and lævulosin applied to the analysis of coffee substitutes and to the question of caramelisation; abstract. C. I. Kruisheer. *Soc Chem Ind J* 52:sup326 Ap 21 '33

Methylation and constitution of inulin. J. C. Irvine and T. N. Montgomery. *Am Chem Soc J* 55:1988-94 My '33

Solubility of inulin. E. Yanovsky and R. M. Kingsbury. *Am Chem Soc J* 55:3658-63 S '33

**INVENTIONS**  
Confidential disclosure of an invention. *Paper Tr J* 96:31 Mr 16 '33

Did science get us in? Can science get us out? C. F. Kettering. *il Forbes* 31:6-8+ F 1 '33

\$s in inventions. C. Hoskins. Published in semi-monthly numbers of *Forbes*

Elihu Thomson; some of his mechanical inventions. K. T. Compton. *il Mech Eng* 55:225-8 Ap '33



**INVENTIONS—Continued**

- Exhibition of inventions. *Engineering* 136:451 O 20 '33
- Famous first facts. J. N. Kane. 757p \$3.50 Wilson, H.W. '33
- Great inventions. C. G. Abbot. 383p Smithsonian institution series, inc, New York '32
- Invention—a coming profession. H. Olken. *Il Sci Am* 148:28-30 Ja '33
- Inventor and his world. H. S. Hatfield. 269p [bibliog p255-62] \$2.40 Dutton '33
- New things; business builders for 1933. *Il Management Methods* 62:59-61+ F '33
- Preserving proof of invention. *Sci Am* 148:219 Ap '33
- Technical museums; abstracts. H. W. Dickinson. *Engineer* 156:381-2 O 20 '33; *Engineering* 136:472 O 27 '33
- Thousand needed inventions. R. F. Yates. 174p Bur. of inventive science, Rochester, N.Y. '33
- Valuable hints to inventors. A. F. Gillet. 94p \$1 Inventors pub. co, Washington, D.C. '33
- What constitutes invention? Paper Tr J 96:35 Ap 13 '33
- What's wanted; a list of 895 needed inventions. 3d ed 65p Institute of patentees, London '33
- See also*  
Inventors  
Patents

**INVENTIONS, Employees'. See Patent laws and legislation—Employees' inventions****INVENTORIES**

- Buyer-seller cooperation promotes inventory turnover. R. M. Bowman. *Iron Age* 131:630 Ap 20 '33
- Cost finding to assure profits. C. H. Hatch. *Am Mach* 77:656-9 O 11 '33
- Cost of carrying inventory. F. Parrish. table *Iron Age* 131:973 Je 15 '33
- How low inventory? J. Haydock. *Il Am Mach* 77:293-5 My 10 '33
- Inventories of shop supplies get attention. *Am Mach* 77:530-2 Ag 16 '33
- Inventory methods for yard stocks. C. J. Alke. *Am Water Works Assn J* 24:1869-73; Discussion. 1873-5 D '32
- Inventory, production, and shipping record; Warren foundry and pipe company. *Management Methods* 61:666-7 D '32
- Modern production costs. F. Wild. *Elec R (Lond)* 111:969 D 30 '32
- No more inventory errors; Tay-Holbrook, inc. *Il System* 62:453 O '33
- Not a battery missing! perpetual check on inventory. F. W. Koerber. *Pet Age* 27:32-3+ Mr '33
- Production control. T. M. Landy. *Factory Management* 91:263-4 Jl '33
- Purchases and stores division, A.R.A. report on inventories and material marking. *Ry Age* 95:63-4 Jl 1 '33
- Speeding up inventory turnover; meeting the market price. R. M. Bowman and others. 52p Am. management assn, 20 Vesey st, New York '33
- Taking inventory of materials and supplies on a large railroad system; abstract. J. L. Bradley. *Management R* 22:112 Ap '33
- Treatment of inventories in inter-company accounts. *J Account* 55:233-4 Mr '33

*See also*  
Purchasing  
Stores systems**INVENTORS**

- George H. Corliss. J. A. Hall and G. W. Richardson. *Il diag Mech Eng* 55:403-9 Jl '33
- Looking backward to George H. Corliss. *Il Power* 77:197 Ap '33
- Marquis of Worcester, and Vauxhall. W. H. Thorpe. *Engineer* 156:141 Ag 11 '33; Abstract. *Engineering* 135:292 Mr 10 '33

*See also*  
Edison, Thomas Alva  
Gragossian, Garabed  
Thomson, Elihu  
Trevithick, Richard  
T. K.**INVERESK paper company**

- Reorganisation. *Economist* 116:870, 931 Ap 22-29 '33

**INVERT sugar. See Sugar, Invert****INVERTASE**

- Enzymes from the standpoint of the chemistry of invertase. J. M. Nelson. *Chem R* 12:1-42 [bibliog p40-2] F '33
- Inversion of sucrose by invertase at low temperatures. M. A. Joslyn and M. Sherrill. *Ind & Eng Chem* 25:416-17 Ap '33
- Invertase action as a heterogeneous reaction. T. A. White. *Am Chem Soc J* 55:556-68 F '33

**INVERTEBRATES, Fossil**

- Development of invertebrate paleontology in America. R. S. Bassler. bibliog *Geol Soc Bul* 44:265-86 Ap '33

**INVERTERS, Electric. See Electric Inverters****INVESTMENT bankers' association of America**  
National committees and group committees for 1932-1933. *Inv Banking* 3:157-72 D 28 '32

- Report of constitution and by-laws committee. *Inv Banking* 3:107-10 N 25 '32

**INVESTMENT banking**

- Action to avoid another 1929; suggested committee of public safety. A. A. Berle, jr. *Am Bankers Assn J* 26:16-18; Discussion. B. O. Moody. 18+ Jl '33
- Control of the security-investment system. G. W. Edwards. *Harvard Business R* 12:1-11 O '33
- Duties and uses of private bankers. J. P. Morgan. *Bankers M* 127:57-62 Jl '33
- Engineer's view of investment banking reforms. G. M. Dexter. *Mech Eng* 55:275-8, 352-4 My-Je '33
- Hand of the money trust on the utilities. R. L. Dewey. *Pub Util* 11:356-8 Mr 16 '33
- Investment banker and the new deal. R. E. Christie, jr. *Inv Banking* 4:9-11 O 7 '33
- Investment bankers to be prohibited from receiving deposits. *Bankers M* 126:580-1 Je '33
- Investment restrictions in Glass bill. F. H. Sisson. *Bankers M* 126:253-5 Mr '33
- Morgan & co. *Business Week* p5-6; Editorial comment. p32 Je 7 '33
- Next, Morgan & co.; Senate investigation. *Business Week* p12+ Ap 12 '33
- Observations on investment principles. F. M. Gordon. *Inv Banking* 3:116 D 2 '32
- On the way out; banketeer—stocketeer—racketeer. R. H. Hemphill. *Mag of Wall St* 52:266-7+ Jl 8 '33
- South American loans feature Senate hearings. *Barron's* 13:9 Mr 6 '33

*See also*  
Banks and banking—  
Investment subsidiaries**INVESTMENT companies**

- See also*  
Investment banking  
Investment trusts  
*also* names of Investment companies, e.g. Johannesburg consolidated investment company

**INVESTMENT trust corporation**

- Annual general meeting, 45th, London. *Economist* 116:1266-7 Je 10 '33

**INVESTMENT trusts**

- Best type of investment trust; survey. *Bankers M* 126:476-8 My '33
- Charterhouse investment trust, limited; position and outlook. A. Marshall. *Economist* 115:1049 D 3 '32
- Financial conditions force further revisions in investment trust methods. H. E. Hansen. *Annalist* 41:559-62+ Ap 21 '33
- Floyd B. Odum; he made the depression work for him. G. H. Allen. *Forbes* 32:12-14+ Jl 15 '33
- Investment trust as market factor in 1932; principal portfolio changes, tabulated. *Barron's* 13:9 Ja 30 '33
- Investment trust collector; Floyd B. Odum of the Atlas corp. *Business Week* p20 My 10 '33

**INVESTMENT trusts—Continued**

- Investment trust funds; how funds of management companies were invested on December 31, 1932. W. N. Durst. Burroughs Clearing House 17:18-19 Je '33
- Investment trust portfolios; June-September comparison. Barron's 13:18 N 6 '33
- Investment trust prospects. Economist 117:590 S 23 '33
- Investment trusts, 1931-1932. Economist 116:414-15 F 25 '33
- Investment trusts tested. G. C. Layton. Barron's 13:9 My 15 '33
- London Trust. Economist 116:918-19 Ap 29 '33
- Management investment trusts and their financial record from 1929 to 1932. H. E. Hansen. Annalist 41:759-62+ Je 2 '33
- Post-war investment trusts. Economist 116:644-5 Mr 25 '33
- Present status of the investment trust movement and its future. D. Langmuir. Trust Companies 56:101-4 Ja '33
- Recent investment trust reports. Economist 117:28 Jl 1 '33
- Reports of the British investment trust companies. Economist 116:250-1 F 4 '33
- Trust shares weather well. W. N. Durst. bibliog Rand McNally Bankers Mo 50:223-4+ Ap-May '33
- Two mutual investment trusts being organized by Frank A. Vanderlip. Annalist 41:531 Ap 14 '33
- Types of investment trusts. E. Sharp. Bankers M 126:456-62 My '33
- See also*  
Lehman corporation

**Fixed trusts**

- First British fixed trust. Economist 116:1143 My 27 '33
- Gold mining fixed trust. Economist 116:537-8 Mr 11 '33

**Securities**

- Have the trusts met the test? how eight leading investment companies have weathered the depression. A. A. Winston and E. Sharp. Barron's 13:22 F 27 '33
- Insurance-investment plan is held illegal in New York. East Underw 33:6 D 23 '32
- Investments for safety and speculation; investment-company common stock plus preferred stock or bond couples two investment factors. E. Sharp and A. A. Winston. Barron's 12:3, 8 D 12 '32
- Leverage trust benefits are expected in a rising market. C. Donaldson. Bankers Mo 50:73-5 F '33
- Outlook for investment trusts. A. A. Winston and E. Sharp. Bankers M 126:362-7 Ap '33
- Speculative possibilities among investment trusts. W. Gates. Mag of Wall St 51:156-8+ N 26 '32
- Status of investment trusts. W. N. Durst. Barron's 13:9 S 18 '33

**INVESTMENTS**

- Ask Econostat; authoritative digests of important business information. Econostat 1:22-3 Ap 8 '33 [cont weekly]
- Common sense of money and investments. M. S. Rukeyser. 333p [bibliog p317-19] Industries pub. co, New York '33
- Conserving savings by investment in public works. W. Chevalier. Eng N 110:631-2 My 18 '33
- Growing complexity of fiduciary investing; some broader aspects of the trust function and the problems of safeguarding trustee funds under changing conditions. I. W. Baker. Trust Companies 56:11-15+ Ja '33
- Handled with care; second credit protection fund. K. W. Fraser. Credit & Fin Management 35:18+ Mr '33
- How to protect your investments against inflation. R. S. Wallace. Forbes 31:31 My 15 '33
- Inflation hedging for investors. J. S. Lawrence. Econostat 1:8-10+ O 14 '33
- Investment counsel—a rising profession. Comm & Fin 22:497-8 Je 7 '33

- Investment fundamentals. R. W. Babson. rev ed 333p \$3 Harper '33
- Investment in stocks and shares. E. D. Kisan and L. D. Williams. 214p \$2.50 Pitman '33
- Investment policy for every pocketbook. R. W. Schabacker. Forbes 31:30-1 Ap 1 '33
- Investment queries. Published in weekly numbers of Barron's
- Jordan on investments. D. F. Jordan. 2d rev ed 425p \$4 Prentice-Hall '33
- Lessons in investment; recouping a loss. W. H. Russell. Comm & Fin 22:185 F 22 '33
- Money master's monitor. C. R. Hamby. 78p Monitor pub. co, Los Angeles '31
- Popular financial delusions. R. L. Smitley. 333p \$3 Roland Swain co, Philadelphia '33
- Principles of investment. J. E. Kirshman. 2d ed 776p \$5 McGraw-Hill '33
- Understanding investment. A. Cragg. 346p \$2 Dodd '33
- Why investment counsel? D. C. Rose. Comm & Fin 22:749-50 Ag 30 '33

*See also*

- |                                 |                                 |
|---------------------------------|---------------------------------|
| Banks and banking—              | Mortgages                       |
| Investments                     | Municipal bonds                 |
| Bonds                           | Public utilities—               |
| Brokers' loans                  | Securities                      |
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| Investment banking              | Stock exchange                  |
| Investment trusts               | Stocks                          |
|                                 | Trusts and trustees—Investments |

**Advertising**

- Three letters brought returns of 59 per cent; National educators finance company, Oklahoma City. J. E. Wolf. il Ptd Salesmanship 60:214-15+ N '32

*See also*

- Securities—Advertising

**INVESTMENTS, Foreign**

- Dollar protection in foreign bonds. M. Winkler. Mag of Wall St 52:19+ Ap 29 '33
- Economic expansion in the Pacific. Index 12:256-9 D '32
- Financial foreign policy of the United States. J. W. Angell. 146p [bibliog p137-41] Council on foreign relations, New York '33
- Foreign dollar bond problem; market and default record comparable to that of domestic bonds. R. S. Byfield and E. Sharp. Barron's 13:18-19 S 25 '33
- Foreign investments in China. C. F. Remer. 708p \$5 Macmillan '33
- Foreign policy from the investor's angle. M. Winkler. Mag of Wall St 51:423-5 F 4 '33
- Foreign trade and foreign capital issues. Bradstreet's 61:160-1 Ja 28 '33
- German dollar bonds; Reichsbank to pay 50% in cash on interest due latter half-year. G. W. Bolton. Barron's 13:17 S 18 '33
- German transfer moratorium; foreign bondholders obtain eleventh-hour concessions. A. Comstock. Barron's 13:3+ Jl 17 '33
- Let us protect your bonds; bondholders' protective committees protested; plan to create central authority. Business Week p22-3 Ja 25 '33
- Main cause of unemployment. P. C. Loftus. 2d ed rev & enl 87p Pitman '32
- Sop to foreign bondholders? some aspects of the Corporation of foreign bondholders. J. U. Grissinger. Barron's 13:18 O 16 '33
- U. S. ownership of Canadian paper industry. Paper Tr J 96:9 Mr 9 '33
- What to do with European bonds. M. Winkler. Mag of Wall St 51:270-2+ D 24 '32
- See also*  
Loans, Foreign

**Canada**

- Canada's foreign investments. Economist 116:404 F 25 '33



**INVENTIONS—Continued**

- Exhibition of inventions. *Engineering* 136:451 O 20 '33  
 Famous first facts. J. N. Kane. 757p \$3.50 Wilson, H.W. '33  
 Great inventions. C. G. Abbot. 383p Smithsonian institution series, inc, New York '32  
 Invention—a coming profession. H. Olken. *Il Sci Am* 148:28-30 Ja '33  
 Inventor and his world. H. S. Hatfield. 269p [bibliog p255-62] \$2.40 Dutton '33  
 New things; business builders for 1933. *Il Management Methods* 62:59-61+ F '33  
 Preserving proof of invention. *Sci Am* 148: 219 Ap '33  
 Technical museums; abstracts. H. W. Dickinson. *Engineer* 156:381-2 O 20 '33; *Engineering* 136:472 O 27 '33  
 Thousand needed inventions. R. F. Yates. 174p Bur. of inventive science, Rochester, N.Y. '33  
 Valuable hints to inventors. A. F. Gillet. 94p \$1 Inventors pub. co, Washington, D.C. '33  
 What constitutes invention? Paper Tr J 96:35 Ap 13 '33  
 What's wanted; a list of 895 needed inventions. 3d ed 65p Institute of patentees, London '33

*See also*

Inventors  
 Patents

**INVENTIONS, Employees'.** *See* Patent laws and legislation—Employees' inventions

**INVENTORIES**

- Buyer-seller cooperation promotes inventory turnover. R. M. Bowman. *Iron Age* 131:630 Ap 20 '33  
 Cost finding to assure profits. C. H. Hatch. *Am Mach* 77:656-9 O 11 '33  
 Cost of carrying inventory. F. Parrish. table *Iron Age* 131:973 Je 15 '33  
 How low inventory? J. Haydock. *Il Am Mach* 77:293-5 My 10 '33  
 Inventories of shop supplies get attention. *Am Mach* 77:530-2 Ag 16 '33  
 Inventory methods for yard stocks. C. J. Alfke. *Am Water Works Assn J* 24:1869-73; Discussion. 1873-5 D '32  
 Inventory, production, and shipping record; Warren foundry and pipe company. *Management Methods* 61:666-7 D '32  
 Modern production costs. F. Wild. *Elec R (Lond)* 111:969 D 30 '32  
 No more inventory errors; Tay-Holbrook, inc. *Il System* 62:453 O '33  
 Not a battery missing! perpetual check on inventory. F. W. Koerber. *Pet Age* 27:32-3+ Mr '33  
 Production control. T. M. Landy. *Factory Management* 91:263-4 Jl '33  
 Purchases and stores division, A.R.A. report on inventories and material marking. *Ry Age* 95:63-4 Jl 1 '33  
 Speeding up inventory turnover; meeting the market price. R. M. Bowman and others. 52p Am. management assn, 20 Vesey st, New York '33  
 Taking inventory of materials and supplies on a large railroad system; abstract. J. L. Bradley. *Management R* 22:112 Ap '33  
 Treatment of inventories in inter-company accounts. *J Account* 55:233-4 Mr '33

*See also*

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**INVENTORS**

- George H. Corliss. J. A. Hall and G. W. Richardson. *Il diag Mech Eng* 55:403-9 Jl '33  
 Looking backward to George H. Corliss. *Il Power* 77:197 Ap '33  
 Marquis of Worcester, and Vauxhall, W. H. Thorpe. *Engineer* 156:141 Ag 11 '33; Abstract. *Engineering* 135:292 Mr 10 '33

*See also*

Edison, Thomas Alva Thomson, Elihu  
 Giragossian, Garabed Trevithick, Richard  
 T. K.

**INVERESK paper company**

- Reorganisation. *Economist* 116:870, 931 Ap 22-29 '33

**INVERT sugar.** *See* Sugar, Invert

**INVERTASE**

- Enzymes from the standpoint of the chemistry of invertase. J. M. Nelson. *Chem R* 12: 1-42 [bibliog p40-2] F '33  
 Inversion of sucrose by invertase at low temperatures. M. A. Joslyn and M. Sherrill. *Ind & Eng Chem* 25:416-17 Ap '33  
 Invertase action as a heterogeneous reaction. T. A. White. *Am Chem Soc J* 55:556-68 F '33

**INVERTEBRATES, Fossil**

- Development of invertebrate paleontology in America. R. S. Bassler. *bibliog Geol Soc Bul* 44:265-86 Ap '33

**INVERTERS, Electric.** *See* Electric inverters

**INVESTMENT bankers' association of America**  
 National committees and group committees for 1932-1933. *Inv Banking* 3:157-72 D 28 '32

- Report of constitution and by-laws committee. *Inv Banking* 3:107-10 N 25 '32

**INVESTMENT banking**

- Action to avoid another 1929; suggested committee of public safety. A. A. Berle, jr. *Am Bankers Assn J* 26:16-18; Discussion. B. O. Moody. 18+ Jl '33  
 Control of the security-investment system. G. W. Edwards. *Harvard Business R* 12:1-11 O '33  
 Duties and uses of private bankers. J. P. Morgan. *Bankers M* 127:57-62 Jl '33  
 Engineer's view of investment banking reforms. G. M. Dexter. *Mech Eng* 55:275-8, 352-4 My-Je '33  
 Hand of the money trust on the utilities. R. L. Dewey. *Pub Util* 11:356-8 Mr 16 '33  
 Investment banker and the new deal. R. E. Christie, jr. *Inv Banking* 4:9-11 O 7 '33  
 Investment bankers to be prohibited from receiving deposits. *Bankers M* 126:580-1 Je '33  
 Investment restrictions in Glass bill. F. H. Sisson. *Bankers M* 126:253-5 Mr '33  
 Morgan & co. *Business Week* p5-6; Editorial comment. p32 Je 7 '33  
 Next, Morgan & co.; Senate investigation. *Business Week* p12+ Ap 12 '33  
 Observations on investment principles. F. M. Gordon. *Inv Banking* 3:116 D 2 '32  
 On the way out; banketeer—stocketeer—racketeer. R. H. Hemphill. *Mag of Wall St* 52:266-7+ Jl 8 '33  
 South American loans feature Senate hearings. *Barron's* 13:9 Mr 6 '33

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**INVESTMENT companies***See also*

Investment banking  
 Investment trusts  
*also* names of Investment companies, e.g. Johannesburg consolidated investment company

**INVESTMENT trust corporation**

- Annual general meeting, 45th, London. *Economist* 116:1266-7 Je 10 '33

**INVESTMENT trusts**

- Best type of investment trust; survey. *Bankers M* 126:476-8 My '33  
 Charterhouse investment trust, limited; position and outlook. A. Marshall. *Economist* 116:1049 D 3 '32  
 Financial conditions force further revisions in investment trust methods. H. E. Hansen. *Analyst* 41:559-62+ Ap 21 '33  
 Floyd B. Odlum; he made the depression work for him. G. H. Allen. *Forbes* 32:12-14+ Jl 15 '33  
 Investment trust as market factor in 1932; principal portfolio changes, tabulated. *Barron's* 13:9 Ja 30 '33  
 Investment trust collector; Floyd B. Odlum of the Atlas corp. *Business Week* p20 My 10 '33

**INVESTMENT trusts—Continued**

Investment trust funds; how funds of management companies were invested on December 31, 1932. W. N. Durst. Burroughs Clearing House 17:18-19 Je '33

Investment trust portfolios; June-September comparison. Barron's 13:18 N 6 '33  
Investment trust prospects. Economist 117:590 S 23 '33

Investment trusts, 1931-1932. Economist 116:414-15 F 25 '33

Investment trusts tested. G. C. Layton. Barron's 13:9 My 15 '33

London Trust. Economist 116:918-19 Ap 29 '33

Management investment trusts and their financial record from 1929 to 1932. H. E. Hansen. Annalist 41:759-62+ Je 2 '33

Post-war investment trusts. Economist 116:644-5 Mr 25 '33

Present status of the investment trust movement and its future. D. Langmuir. Trust Companies 56:101-4 Ja '33

Recent investment trust reports. Economist 117:28 Jl 1 '33

Reports of the British investment trust companies. Economist 116:250-1 F 4 '33

Trust shares weather well. W. N. Durst. bibliog Rand McNally Bankers Mo 50:223-4+ Ap-May '33

Two mutual investment trusts being organized by Frank A. Vanderlip. Annalist 41:531 Ap 14 '33

Types of investment trusts. E. Sharp. Bankers M 126:456-62 My '33

*See also*

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**Fixed trusts**

First British fixed trust. Economist 116:1143 My 27 '33

Gold mining fixed trust. Economist 116:537-8 Mr 11 '33

**Securities**

Have the trusts met the test? how eight leading investment companies have weathered the depression. A. A. Winston and E. Sharp. Barron's 13:22 F 27 '33

Insurance-investment plan is held illegal in New York. East Underw 33:6 D 23 '32

Investments for safety and speculation; investment-company common stock plus preferred stock or bond couples two investment factors. E. Sharp and A. A. Winston. Barron's 12:3, 8 D 12 '32

Leverage trust benefits are expected in a rising market. C. Donaldson. Bankers Mo 50:73-5 F '33

Outlook for investment trusts. A. A. Winston and E. Sharp. Bankers M 126:362-7 Ap '33

Speculative possibilities among investment trusts. W. Gates. Mag of Wall St 51:156-8+ N 26 '32

Status of investment trusts. W. N. Durst. Barron's 13:9 S 18 '33

**INVESTMENTS**

Ask Econostat; authoritative digests of important business information. Econostat 1:22-3 Ap 8 '33 [cont weekly]

Common sense of money and investments. M. S. Rukeyser. 333p [bibliog p317-19] Industries pub. co, New York '33

Conserving savings by investment in public works. W. Chevallier. Eng N 110:631-2 My 18 '33

Growing complexity of fiduciary investing; some broader aspects of the trust function and the problems of safeguarding trustee funds under changing conditions. I. W. Baker. Trust Companies 56:11-15+ Ja '33

Handled with care; second credit protection fund. K. W. Fraser. Credit & Fin Management 35:18+ Mr '33

How to protect your investments against inflation. R. S. Wallace. Forbes 31:31 My 15 '33

Inflation hedging for investors. J. S. Lawrence. Econostat 1:8-10+ O 14 '33

Investment counsel—a rising profession. Comm & Fin 22:497-8 Je 7 '33

Investment fundamentals. R. W. Babson. rev ed 333p \$3 Harper '33

Investment in stocks and shares. E. D. Kissan and L. D. Williams. 214p \$2.50 Pitman '33

Investment policy for every pocketbook. R. W. Schabacker. Forbes 31:30-1 Ap 1 '33

Investment queries. Published in weekly numbers of Barron's

Jordan on investments. D. F. Jordan. 2d rev ed 425p \$4 Prentice-Hall '33

Lessons in investment; recouping a loss. W. H. Russell. Comm & Fin 22:185 F 22 '33

Money master's monitor. C. R. Hambly. 78p Monitor pub. co, Los Angeles '31

Popular financial delusions. R. L. Smitley. 338p \$3 Roland Swain co, Philadelphia '33

Principles of investment. J. E. Kirshman. 2d ed 776p \$5 McGraw-Hill '33

Understanding investment. A. Cragg. 346p \$2 Dodd '33

Why investment counsel? D. C. Rose. Comm & Fin 22:749-50 Ag 30 '33

*See also*

Banks and banking—	Mortgages
Investments	Municipal bonds
Bonds	Public utilities—
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Building and loan associations	Railroads—Securities
Insurance, Life—Investments	Saving
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**Advertising**

Three letters brought returns of 59 per cent; National educators finance company, Oklahoma City. J. E. Wolf. il Ptd Salesmanship 60:214-15+ N '32

*See also*

Securities—Advertising

**INVESTMENTS, Foreign**

Dollar protection in foreign bonds. M. Winkler. Mag of Wall St 52:19+ Ap 29 '33

Economic expansion in the Pacific. Index 12:256-9 D '32

Financial foreign policy of the United States. J. W. Angell. 146p [bibliog p137-41] Council on foreign relations, New York '33

Foreign dollar bond problem; market and default record comparable to that of domestic bonds. R. S. Byfield and E. Sharp. Barron's 13:18-19 S 25 '33

Foreign investments in China. C. F. Remer. 708p \$5 Macmillan '33

Foreign policy from the investor's angle. M. Winkler. Mag of Wall St 51:423-5 F 4 '33

Foreign trade and foreign capital issues. Bradstreet's 61:160-1 Ja 28 '33

German dollar bonds; Reichsbank to pay 50% in cash on interest due latter half-year. G. W. Bolton. Barron's 13:17 S 18 '33

German transfer moratorium; foreign bondholders obtain eleventh-hour concessions. A. Comstock. Barron's 13:3+ Jl 17 '33

Let us protect your bonds; bondholders' protective committees protested; plan to create central authority. Business Week p22-3 Ja 25 '33

Main cause of unemployment. P. C. Loftus. 2d ed rev & enl 87p Pitman '32

Sop to foreign bondholders? some aspects of the Corporation of foreign bondholders. J. U. Grissinger. Barron's 13:18 O 16 '33

U. S. ownership of Canadian paper industry. Paper Tr J 96:9 Mr 9 '33

What to do with European bonds. M. Winkler. Mag of Wall St 51:270-2+ D 24 '32

*See also*

Loans, Foreign

**Canada**

Canada's foreign investments. Economist 116:404 F 25 '33



## INVESTMENTS, Foreign—Continued

## Great Britain

- British overseas investments. *Economist* 116: 1239, 1345-6 Je 10, 24 '33  
 London buying; England's United States investments. *il Fortune* 8:32-3, 124-7+ S '33

INVISIBLE trade. See Balance of payments

## INVOICES

- Invoice handling costs lowered; Abbott laboratories. *Management Methods* 62:219-20 My '33  
 Invoicing work speeded; Columbus metal products, inc. *il System* 62:455 O '33  
 Labels, invoices combined. G. E. Russell. *il System* 62:505-6 N '33  
 Recap insures accuracy; Jewel tea company, inc. *System* 62:453-4 O '33

See also

Billheads

## IODIDES

- Effect of an iodide fertilizer on iodine content of a food plant. A. B. Beaumont and G. M. Karns. *Science* 76:567 D 16 '32  
 Kinetics of the reduction, in acid solution, of hydrogen peroxide by iodide ion. H. A. Liebhafsky and A. Mohammad. *bibliog Am Chem Soc J* 55:3977-86 O '33  
 Simultaneous reduction of vanadic acid and oxygen by iodide; induced catalysis of oxygen reactions. W. C. Bray and J. B. Ramsey. *bibliog Am Chem Soc J* 55:2279-88 Je '33  
 Solid polyiodide of ammonium. H. W. Foote and W. M. Bradley. *J Phys Chem* 37:29-31 Ja '33  
 Solid polyiodides of cesium. H. W. Foote, W. M. Bradley and M. Fleischer. *J Phys Chem* 37:21-7 Ja '33  
 Solid polyiodides of the alkali metals. N. S. Grace. *bibliog J Phys Chem* 37:347-60 Mr '33  
 Studies on acid iodides. E. L. Gustus and P. G. Stevens. *Am Chem Soc J* 55:374-86 Ja '33

See also

- |                      |                  |
|----------------------|------------------|
| Alkali metal iodides | Potassium iodide |
| Cadmium iodide       | Sodium iodide    |

## IODINATION

- Direct iodination of monosubstituted acet-  
 ylenes. T. H. Vaughn and J. A. Nieuwland. *bibliog Am Chem Soc J* 55:2150-3 My '33  
 Iodination of phenol under anhydrous conditions. W. H. Hunter and T. T. Budrow. *Am Chem Soc J* 55:2122-5 My '33

## IODINE

- Anomalous electrolytes; the electrical conductivity of solutions of iodine and cyanogen iodide in pyridine. L. F. Audrieth and E. J. Birr. *Am Chem Soc J* 55:668-73 F '33  
 Attempts to observe an electron affinity spectrum. O. Oldenberg. *bibliog Phys R* 43: 534-9 Ap 1 '33  
 La chimie économique, son origine, sa nécessité. L. M. Bernard. *Chimie & Ind* 29:974-7 Ap '33  
 Coloration des dérivés celluloseux par les solutions aqueuses d'iode. L. Clément, C. Rivière and A. Beck. *Chimie & Ind* 29: 1283-6 Je '33  
 Detection of adsorbed gas films on heated filaments. G. Van Praagh. *Chem Soc J* p798-800 Jl '33  
 Effect of solvent on the reaction between iodine and hydrogen sulphide. M. R. A. Rao and B. S. Rao. *diag Chem Soc J* p836-9 Jl '33  
 Germicidal effectiveness of chlorine, bromine and iodine. T. D. Beckwith and J. R. Moser. *Am Water Works Assn J* 25:367-74 Mr '33  
 Homogeneous catalysis of gaseous reactions; the influence of iodine on the decomposition of acids, esters, ketones, and halides. S. Bairstow and C. N. Hinshelwood. *Chem Soc J* p1147-55 S '33  
 Homogeneous catalysis of gaseous reactions; the influence of iodine on the decomposition of simple aliphatic amines and of hexane. S. Bairstow and C. N. Hinshelwood. *Chem Soc J* p1155-60 S '33

Iodine as a bactericide. *J Fr Inst* 215:115-16 Ja '33

Iodine extracted from well water. *Sci Am* 148: 113+ F '33

Iodine in the diet; abstract. T. von Fellenberg. *Food Ind* 5:275 Jl '33; Same. *Sci Am* 149:181 O '33

Iodine in the water supply of Lexington, Kentucky. J. S. McHargue and D. W. Young. *Am Water Works Assn J* 25:380-2 Mr '33

Kinetics of the addition of iodine to  $\beta$ -phenylpropionic acid. E. A. Moelwyn-Hughes and A. R. Legard. *Chem Soc J* p424-9 Ap '33

Liberation of iodine from alkali iodides by means of oxygen of the air through the intervention of nitrous gases. R. L. Datta. *Soc Chem Ind J* 52:350T O 20 '33

Studies on acid iodides; the preparation of halogen substituted aliphatic acid iodides with a note on the atomic refractivity of iodine. E. L. Gustus and P. G. Stevens. *Am Chem Soc J* 55:374-7 Ja '33

See also

Plants—Iodine content

## Analysis

Simplified Karns technic for the micro-estimation of iodine. H. von Kolnitz and R. E. Remington. *bibliog diag Ind & Eng Chem Anal ed* 5:33-9 Ja 15 '33

Simplified method for microdetermination of iodine in eggs. H. J. Almquist and J. W. Givens. *Ind & Eng Chem Anal ed* 5:254 Jl 15 '33

Technical refinements for the micro colorimetric method of iodine in blood. R. G. Turner and M. Z. Weeks. *Am Chem Soc J* 55:254-8 Ja '33

## Manufacture

American iodine. *Sci Am* 148:173-4 Mr '33

## IODINE bromides

Equilibria, complex ions and electrometric titrations; iodine, bromine and hydrobromic acid; iodine tribromide. G. S. Forbes and J. H. Faull, jr. *bibliog Am Chem Soc J* 55: 1820-30 My '33

Free energy of formation of iodine monobromide in carbon tetrachloride solution. D. M. Yost, T. F. Anderson and F. Skoog. *Am Chem Soc J* 55:552-5 F '33

Thermodynamic constants of iodine monochloride, iodine monobromide and bromine monochloride in carbon tetrachloride solutions. C. M. Blair, jr. and D. M. Yost. *Am Chem Soc J* 55:4489-96 N '33

## IODINE chlorides

Equilibria, complex ions and electrometric titrations; iodine or bromine in hydrochloric acid. J. H. Faull, jr. and G. S. Forbes. *bibliog diag Am Chem Soc J* 55:1809-20 My '33

Reaction of iodine monochloride with certain organic mercury compounds. F. C. Whitmore and M. A. Thorpe. *Am Chem Soc J* 55:782-6 F '33

Thermodynamic constants of iodine monochloride, iodine monobromide and bromine monochloride in carbon tetrachloride solutions. C. M. Blair, jr. and D. M. Yost. *Am Chem Soc J* 55:4489-96 N '33

## IODINE cyanide

Complex ions formed by iodine cyanide with cyanide and iodide ions; the vapor pressure, free energy and dissociation of iodine cyanide. D. M. Yost and W. E. Stone. *bibliog Am Chem Soc J* 55:1889-95 My '33

## IODINE number

Factors giving rise to the abnormal iodine absorption number of cholesterol. J. O. Ralls. *bibliog Am Chem Soc J* 55:2083-94 My '33

Study of the high-precision determination of iodine values by the Wijs method. L. J. P. Keffler and A. M. Maiden. *Soc Chem Ind J* 52:242T-5T Ag 11 '33

## IODINE pentoxide

Revision of the atomic weight of arsenic; the comparison of arsenic trichloride with iodine pentoxide. G. P. Baxter and W. E. Shafer. *diag Am Chem Soc J* 55:1957-63 My '33

**IDOACETYLENE**

New reaction of 1-iodoacetylenes and some new mercury acetylides. T. H. Vaughn. Am Chem Soc J 55:3453-8 Ag '33

**IDOBENZOIC acid**

Crystal structure of ortho-iodobenzoic acid. H. P. Klug. Am Chem Soc J 55:1430-6 Ap '33

Reactivity of *peri*-substituted naphthalenes; the replacement of halogen in 8-halogeno-1-naphthoic acids and in *o*-halogenobenzoic acids. H. G. Rule and A. J. G. Barnett. Chem Soc J p2728-32 N '32

**IDOFURAN**

Mechanism of the Wurtz-Fittig reaction; the direct preparation of an organosodium (potassium) compound from an RX compound. H. Gilman and G. F. Wright. Am Chem Soc J 55:2893-6 JI '33

**IDODIHYDRINS**

C<sub>4</sub>-saccharinic acids; further attempts to prepare 2,2'-dihydroxyisobutyric acid; 2,3-dihydroxybutyric acid lactone from glycidol; the preparation of the two idodihydrins of glycerol. J. W. E. Glatfield and R. Klaas. Am Chem Soc J 55:1114-19 Mr '33

**IDOMETHANE.** See Methyl iodide**IDOMETRY**

Shorter method for determining copper iodometrically. T. H. Whitehead and H. S. Miller. bibliog Ind & Eng Chem Anal ed 5: 15-16 Ja 15 '33; Correction. 5:92 Mr 15 '33

Use of glycerol in iodometry. A. T. Bawden and S. K. Dyche. Ind & Eng Chem Anal ed 5:347 S 15 '33

**IDOPHENOL**

Chlorination of iodophenols; *m*-iodophenol. S. Buchan and H. McCombie. Chem Soc J p2857-60 D '32

Decomposition of certain iodophenols. G. H. Woollett and others. Am Chem Soc J 55: 2909-11 JI '33

**IDOPROPYL chloride**

Use of gamma-iodopropyl chloride as a synthetic reagent; the synthesis of certain alpha-phenyl dibasic acids. F. H. Case. Am Chem Soc J 55:2927-32 JI '33

**IDOVINYLACETYLENE**

Synthesis and properties of 2-iodo-1-vinylacetylene. T. H. Vaughn and J. A. Nieuwland. Chem Soc J p741-3 JI '33

**IONENE**

Catalytic dehydration of ionene and the constitution of ionene. M. T. Bogert and V. G. Fourman. Am Chem Soc J 55:4670-80 N '33

Mechanism of the ionene synthesis. M. T. Bogert. Science 77:197-8 F 17 '33

Structure of vitamin A and the synthesis of ionenes. M. T. Bogert. Science 76:475-6 N 18 '32

**IONIZATION, Electrolytic**

Activity ratio of zwitterions and uncharged molecules in ampholyte solutions; the dissociation constants of amino acid esters. J. T. Edsall and M. H. Blanchard. bibliog Am Chem Soc J 55:2337-53 Je '33

Bisulphate-ion catalysis in the hydrolysis of esters. H. M. Dawson, E. R. Pycock and E. Spivey. Chem Soc J p291-6 Mr '33

Determination of dissociation constants of monobasic acids. D. J. G. Ives. Chem Soc J p731-7 Je '33

Dissociation constant of acetic acid from 0 to 60° centigrade. H. S. Harned and R. W. Ehlers. Am Chem Soc J 55:652-6 F '33

Dissociation constant of hypochlorous acid; glass-electrode potential determinations. J. W. Ingham and J. Morrison. diag Chem Soc J p1200-5 S '33

Dissociation constant of propionic acid from 0 to 60°. H. S. Harned and R. W. Ehlers. Am Chem Soc J 55:2379-83 Je '33

Dissociation constants of acids. Soc Chem Ind J (Chem & Ind) 52:273, 330 Mr 24, Ap 14 '33

Dissociation constants of organic acids; acetic acid. G. H. Jeffery and A. I. Vogel. Chem Soc J p2829-38 D '32

Dissociation of water in lithium bromide solutions at 25°. J. E. Vance. Am Chem Soc J 55:4518-21 N '33

Dissociation of water in lithium chloride solutions. H. S. Harned and H. R. Copson. Am Chem Soc J 55:2206-15 Je '33

Dissociation of water in strontium chloride solutions at 25°. J. E. Vance. Am Chem Soc J 55:2723-33 JI '33

Investigations of the olefinic acids; dissociation constants. D. J. G. Ives, R. P. Linstead and H. L. Riley. Chem Soc J p561-8 Je '33

Ionization constant of monochloroacetic acid, at 25°, from conductance measurements. B. Saxton and T. W. Langer. diag Am Chem Soc J 55:3638-45 S '33

Ionization constant of water and the dissociation of water in potassium chloride solutions from electromotive forces of cells without liquid junction. H. S. Harned and W. J. Hamer. bibliog Am Chem Soc J 55: 2194-206 Je '33

Ionization constants of a number of methylated quinolines and of certain saturated bases isolated from petroleum distillates. W. A. Felsing and B. S. Biggs. Am Chem Soc J 55:3624-5 S '33

Observations on the rare earths; the transference numbers of the chlorides of neodymium, samarium and gadolinium. G. Hughes and others. Am Chem Soc J 55:3236-42 Ag '33

Properties of electrolytic solutions; the conductance minimum and the formation of triple ions due to the action of Coulomb forces. R. M. Fuoss and C. A. Kraus. bibliog Am Chem Soc J 55:237-99 Je '33

Properties of electrolytic solutions; the dissociation constant. R. M. Fuoss and C. A. Kraus. Am Chem Soc J 55:1019-28 Mr '33

Properties of electrolytic solutions; the evaluations of  $\Lambda_0$  and of  $K$  for incompletely dissociated electrolytes. R. M. Fuoss and C. A. Kraus. Am Chem Soc J 55:476-88 F '33

Researches on chloramines; a study of the reactions of certain ald-chloramines with bases. C. R. Hauser and E. Moore. Am Chem Soc J 55:4526-30 N '33

Second dissociation constant of phosphoric acid from 20 to 50°. L. F. Nims. Am Chem Soc J 55:1946-51 My '33

Some properties of electrolytes in the solvent sulfuric acid. L. P. Hammett and A. J. Deyrup. bibliog Am Chem Soc J 55:1900-9 My '33

Study of acetic acid-acetate buffers in potassium chloride and sodium chloride solutions using the quinhydrone electrode. E. F. Chase. Am Chem Soc J 55:3072-5 Ag '33

Thermodynamic ionization constants of carbonic acid. D. A. MacInnes and D. Belcher. diags Am Chem Soc J 55:2630-46 JI '33

Thermodynamics of ionized water in potassium and sodium bromide solutions. H. S. Harned and W. J. Hamer. Am Chem Soc J 55:4496-507 N '33

Transport numbers in mixed aqueous solutions of alkali chlorides. P. Van Rysselberghe and L. Nutting. Am Chem Soc J 55: 990-1001 Mr '33

**IONIZATION, Gaseous**

Cosmic-ray positive and negative electrons. C. D. Anderson. II diag Phys R 44:406-16 S 1 '33

Effect of ammonia on the positive ion emissivity of iron, nickel and platinum. A. K. Brewer. Am Chem Soc J 54:4588-97 D '32

Elimination of background noise in sensitive pulse amplifiers. L. F. Curtiss. diag pl U S Bur Stand J Research 10:151-4 F '33

Fluctuations of cosmic-ray ionization. J. W. Broxon, G. T. Merideth and L. Strait. bibliog Phys R 43:687-94 My 1 '33

High-frequency phenomena in gases. K. K. Darrow. bibliog diags Bell System Tech J 11:576-607; 12:91-118 O '32-Ja '33

Influence of atmospheric ionization upon the human organism. A. D. Brandt. bibliog J Ind Hygiene 15:354-61 S '33

Ionization and scattering accompanying positive ion impact in gases. C. A. Frische. diags Phys R 43:160-8 F 1 '33



**IONIZATION, Gaseous—Continued**

- Ionisation in cable dielectrics. P. Dunsheath. *Inst E E J* 73:321-49 [bibliog p348-9] O '33; Abstracts. *Electrician* 110:325-7 Mr 10 '33; Elec R (Lond) 112:344 Mr 10 '33; Discussion. *Inst E E J* 73:349-68 O '33; Elec R (Lond) 112:376-7 Mr 17 '33
- Ionization of argon, neon and helium by A. Ne and He atoms. C. J. Brasefeld. *diag Phys R* 43:785-7 My 15 '33
- Ionization of gases by neutrons. T. W. Bonner. *diag Phys R* 43:871-4 Je 1 '33
- Ionization of sulphur dioxide by electron impact. H. D. Smyth and D. W. Mueller. *Phys R* 43:121-2 Ja 15 '33
- Ionization of the noble gases by positive alkali ions; a correction. J. C. Mouzon. *Phys R* 44:688 O 15 '33
- Ionization of water vapor by electron impact. H. D. Smyth and D. W. Mueller. *Phys R* 43:116-20 Ja 15 '33
- Ionizing effect of meteors in relation to radio propagation. A. M. Skellett. *Inst Radio Eng Proc* 20:1933-40 D '32
- Ionosphere. E. V. Appleton. *Electrician* 110: 857 Je 30 '33
- Light excitation in neon by lithium ions. A. J. Dempster and R. E. Holzer. *Phys R* 43: 365-6 Mr 1 '33
- Neutralization and ionization of high-velocity ions of neon, argon and krypton by collision with similar atoms. H. F. Batho. *bibliog diag Phys R* 42:753-65 D 15 '32
- Photoelectric and metastable atom emission of electrons from surfaces in the rare gases. C. Kenty. *diag Phys R* 43:181-93 F 1 '33
- Physiologic changes during exposure to ionized air. C. P. Yaglou, A. D. Brandt and L. C. Benjamin. *bibliog Heating-Piping* 5: 423-30 Ag '33; Same cond. *J Ind Hygiene* 15:341-53 S '33
- Probabilities of K-electron ionization of silver by cathode rays. D. L. Webster, W. W. Hansen and F. E. Duveneck. *diags Phys R* 43:839-58 Je 1 '33
- Quantum mechanical cross section for ionization of helium by electron impact. W. W. Wetzel. *Phys R* 44:25-30 Jl 1 '33
- Radioactive contamination of ionization chamber materials. J. A. Bearden. *diags R Sci Instr* 4:271-5 My '33
- Relations among fluctuations of the cosmic-ray ionization, of the terrestrial magnetic field, of the atmospheric potential gradient, and of the absolute humidity. J. W. Broxon, G. T. Merideth and L. Strait. *Phys R* 44:253-7 Ag 15 '33
- Resistance-coupled amplifier for measuring ionization currents. L. F. Curtiss. *diags U S Bur Stand J Research* 10:583-9 My '33
- Secondary effects in ionization by hard gamma-rays. E. J. Workman. *diags Phys R* 43: 859-70 Je 1 '33
- Some factors affecting action cross section for collisions of the second kind between atoms and ions. O. S. Duffendack and K. Thomson. *Phys R* 43:106-11 Ja 15 '33
- Use of argon in the ionization method of measuring cosmic rays and gamma-rays. J. J. Hopfield. *bibliog Phys R* 43:675-86 My 1 '33
- Variations in the small-ion content of the atmosphere and their causes. G. R. Wait. *J Fr Inst* 216:147-55 Ag '33
- See also*  
Electrons  
Kennelly-Heavyside layer
- IONONE**  
Catalytic dehydration of ionone and the constitution of ionone. M. T. Bogert and V. G. Fourman. *Am Chem Soc J* 55:4670-80 N '33
- IONOSPHERE.** *See* Atmosphere, Upper
- IONS**  
Cathodic disintegration of platinum by mercury ions. J. E. Henderson and E. Gideon. *diag Phys R* 43:601-4 Ap 15 '33
- Combination of silk and wool with positive and negative ions. M. Harris. *U S Bur Stand J Research* 10:475-8 Ap '33; Same. *Am Dyestuff Rep* 22:273-4+ Ap 24 '33
- Complex ions formed by iodine cyanide with cyanide and iodide ions; the vapor pressure, free energy and dissociation of iodine cyanide. D. M. Yost and W. E. Stone. *bibliog Am Chem Soc J* 55:1889-95 My '33
- Detection and production of swift particles. E. R. Rutherford. *Engineering* 135:283, 309, 376-7 Mr 10-17, Ap 7 '33
- Diamagnetic susceptibilities and polarizabilities of ions. G. W. Brindley. *Phys R* 43: 1030-1 Je 15 '33
- Electronics and electron tubes. E. D. McArthur. *diags Gen Elec R* 36:371-6 Ag '33
- Emission of positive ions from heated metals. L. L. Barnes. *Phys R* 42:487-91 N 15 '32
- Equilibria, complex ions and electrometric titrations; iodine, bromine and hydrobromic acid; iodine tribromide. G. S. Forbes and J. H. Faull, jr. *bibliog Am Chem Soc J* 55: 1820-30 My '33
- Equilibria, complex ions and electrometric titrations; iodine or bromine in hydrochloric acid. J. H. Faull, jr. and G. S. Forbes. *bibliog diag Am Chem Soc J* 55:1809-20 My '33
- Evaporation of atoms, ions and electrons from caesium films on tungsten. J. B. Taylor and I. Langmuir. *Phys R* 44:423-58 S 15 '33
- Influence of crystalline fields on the susceptibilities of salts of paramagnetic ions; the iron group, especially Ni, Cr and Co. R. Schlapp and W. G. Penney. *Phys R* 42:666-86 D 1 '32
- Influence of respiration and transpiration on ionic content of air of occupied rooms. C. P. Yaglou, L. C. Benjamin and A. Brandt. *bibliog diag J Ind Hygiene* 15:8-17 Ja '33
- Interferences of metal ions in the detection of acids. L. J. Curtman and S. M. Edmonds. *J Chem Educ* 10:567-70 S '33
- Interpretation of phenomena due to accommodation coefficient of ions at cathode surfaces; abstract. K. T. Compton. *Science* 76: 518-19 D 2 '32
- Ionic interchange in sulphur sols; the influence of acids. T. R. Bolam and J. J. Muir. *Chem Soc J* p1022-8 Ag '33
- Ionic interchange in sulphur sols; the lyotropic series and the mechanism of coagulation. T. R. Bolam and G. Bowden. *diags Chem Soc J* p2684-94 N '32
- Limitation in currents of positive alkali ions of homogeneous velocities. P. Keck and L. B. Loeb. *diags R Sci Instr* 4:486-90 S '33
- Momentum transfer to cathode surfaces by impinging positive ions in a helium arc. E. S. Lamar. *diag Phys R* 43:169-76 F 1 '33
- Nature of gas ions. O. Luhr. *diag Phys R* 44:459-62 S 15 '33
- Polarizabilities of ions from spectra. J. E. Mayer and M. G. Mayer. *Phys R* 43:605-11 Ap 15 '33
- Positive ion current at the cathode in the glow discharge. A. K. Brewer and R. R. Miller. *diag Phys R* 42:786-94 D 15 '32
- Removal of positive ions by electroösmose apparatus. E. Bartow and M. A. Fry. *Ind & Eng Chem* 25:336-8 Mr '33
- Scattering of electrons by ions and the mobility of electrons in a caesium discharge. C. Boeckner and F. L. Mohler. *U S Bur Stand J Research* 10:357-63 Mr '33
- Temperature variation of the positive ion emission from molybdenum. L. L. Barnes. *diags Phys R* 42:492-7 N 15 '32
- Test of the classical momentum transfer theory of accommodation coefficients of ions at cathodes. K. T. Compton and E. S. Lamar. *Phys R* 44:338-44 S 1 '33
- Types of chemical reactions. W. A. Noyes. *Am Chem Soc J* 55:656-61 F '33
- Use of micro-coulometers in the determination of transport numbers by the moving boundary method. W. O. Reevely and A. R. Gordon. *diag Electrochem Soc Trans* 63 (preprint 26):261-5 My '33

IONS—*Continued*

Utilization of adsorbed ions by plants. H. Jenny and E. W. Cowan. *Science* 77:394-6 Ap 21 '33

*See also*

Electrolysis	Ionization, Electro-
Electrons	lytic
Hydrogen ion concen-	Ionization, Gaseous
tration	

## Collisions

Ionization and scattering accompanying positive ion impact in gases. C. A. Frische. *diags Phys R* 43:160-8 F 1 '33

Some factors affecting action cross section for collisions of the second kind between atoms and ions. O. S. Duffendack and K. Thomson. *Phys R* 43:106-11 Ja 15 '33

## Mobility

Mobilities of gaseous ions in  $\text{CH}_3\text{NO}_2\text{-H}_2$  and  $\text{CH}_3\text{CN-H}_2$  mixtures. E. A. Higley and C. C. Thorsen. *J Fr Inst* 215:69-80 Ja '33

Mobilities of recognizable ions. K. K. Darrow. *R Sci Instr* 4:6-8 Ja '33

Mobility of ions in  $\text{H}_2\text{O}$ . G. N. Lewis and T. C. Doody. *Am Chem Soc J* 55:3504-6 Ag '33

Non-existence of ion mobility spectrum in air. R. N. Varney. *diag Phys R* 42:547-55 N 15 '32

Velocities of ions and electrons in pure gases. C. M. Focken. *Phys R* 42:577-8 N 15 '32

## Velocity

Neutralization and ionization of high-velocity ions of neon, argon and krypton by collision with similar atoms. H. F. Batho. *bibliog diag Phys R* 42:753-65 D 15 '32

## IOWA

I found no revolution in Iowa. P. McCrea. *il Nation's Business* 21:13-16+ Ap '33

Iowa conservation plan; its bearing upon general land planning. J. L. Crane, jr. *J Land & Pub Util Econ* 9:247-51 Ag '33

## Insurance department

Clark's appointment void, officer holds. *Weekly Underw* 129:326 Ag 19 '33; *East Underw* 34:6 Ag 13 '33

Governor of Iowa announces results of his investigation of Modern brotherhood of America. *Nat Underw (Life ed)* 37:4 Jl 21 '33

Iowa commissioner cited before executive council. *Nat Underw (Life ed)* 37:4 Jl 28; 3+ Ag 3 '33; *Ins Field (Life ed)* 62:6 Jl 28; 5 Ag 4 '33; *Weekly Underw* 129:193 Jl 29 '33; *East Underw* 34:1+ Ag 4 '33

## IOWA academy of science

Annual meeting, 47th, Cedar Rapids, April 21-22. *Science* 77:563-4 Je 9 '33

## IOWA association of insurance agents

Annual convention, Fort Madison. *Nat Underw* 37:30-3 S 7 '33

## IRAQ

*See also*

Labor and laboring classes—Iraq

## IRELAND

*See also*

Banks and banking—Street lighting—Ireland

## Economic conditions

Irish Free State in 1932. *Economist* 116:sup29-30 F 18 '33

## Harvard anthropological survey

Harvard anthropological survey of the Irish Free State. *Science* 76:482-3 N 25 '32

## Politics and government

Irish alarm. *Economist* 117:398-9 Ag 26 '33

## IRIDEAE laminarioides

Isolation of a sodium sulfuric acid ester of galactan from irideae laminarioides (rhodophyceae). W. Z. Hassid. *bibliog Am Chem Soc J* 55:4163-7 O '33

## IRIDIUM

Freezing point of iridium. F. Henning and H. T. Wensel. *U S Bur Stand J Research* 10:809-21 Je '33

Relative intensities of the  $L_{\alpha_1}$ ,  $\beta_1$ ,  $\beta_2$ , and  $\gamma_1$  lines in tantalum, tungsten, iridium, and platinum. V. J. Andrew. *Phys R* 42:591-608 D 1 '32

Study of the catalytic properties of bright platinum and iridium deposits in the activation of hydrogen. L. P. Hammett and A. E. Lorch. *diag Am Chem Soc J* 55:70-80 Ja '33

Treatment of platinum-iridium scrap; abstracts. C. Campbell. *Chem Age (Lond)* 29:sup9-10 Ag 5 '33; *Can Chem & Met* 17:214 O '33

## IRON

Action of carbon monoxide on iron and cobalt complexes of cysteine. M. P. Schubert. *Am Chem Soc J* 55:4563-70 N '33

Adsorption of nitrogen by iron synthetic ammonia catalysts. P. H. Emmett and S. Brunauer. *Am Chem Soc J* 55:1738-9 Ap '33

Corrosion-time relationship of iron. R. F. Passano. *bibliog Ind & Eng Chem* 25:1247-50 N '33

Demonstration of the periodic passivity of iron. R. Dubois and W. A. Kaye. *bibliog diag J Chem Educ* 10:108 F '33

Effect of ammonia on the positive ion emissivity of iron, nickel and platinum. A. K. Brewer. *Am Chem Soc J* 54:4588-97 D '32

Electrochemical behavior of iron in corrosion cells. H. L. Lochte and R. E. Paul. *diags Electrochem Soc Trans* 64 (preprints 3-5):23-55 S '33

Entropy, heat content, and free energy of iron. J. B. Austin. *il Ind & Eng Chem* 24:1388-91 D '32

Greater purity gives iron new uses; Svea metal. *Chem & Met Eng* 40:413 Ag '33

Internal friction in iron and iron alloys. R. H. Canfield. *il diags Am Soc Steel Tr Trans* 20:549-74; *Discussion*. 574-6 D '32

Iron and steel; a pocket encyclopedia. H. P. Tiemann. 3d ed 590p \$4 McGraw-Hill '33

Iron and steel; condensed from the 1932 progress report of the A.S.M.E. iron and steel division. *il Mech Eng* 54:850-1 D '32

Magnetization of ferromagnetic crystals. F. Bitter. *il Phys R* 43:655-60 Ap 15 '33

Mechanism of corrosion of iron in sodium chloride solution; effect upon the potential of the iron of adding organic substances to the brine. E. G. R. Ardagh, R. M. B. Roome and H. W. Owens. *bibliog diags Ind & Eng Chem* 25:1116-21 O '33

New knowledge on iron and steel; selected papers at the autumn meeting of the Iron and steel institute. *Chem Age (Lond)* 29:251-2 S 16 '33

Permeability of iron at ultra-radio frequencies. J. B. Hoag and H. Jones. *diag Phys R* 42:571-6 N 15 '32

Pure iron. N. A. Ziegler. *Metal Prog* 24:26-9+ O '33

Purer irons finds new uses; Svea metal. *il Sci Am* 149:34 Jl '33

Some properties of homogeneously distorted cubic ferromagnetic lattices. F. Bitter. *Phys R* 42:697-708 D 1 '32

Spectra of the calcium I-like ions: manganese VI, iron VII, cobalt VIII and nickel IX. W. M. Cady. *Phys R* 43:322-8 Mr 1 '33

Theory of the ferromagnetic anisotropy of single crystals. R. M. Bozorth. *Phys R* 42:882-92 D 15 '32

Thermal conductivity of iron; abstract. J. W. Donaldson. *Chem Age (Lond)* 29:251-2 S 16 '33

Wave-lengths of the silver, molybdenum, copper, iron and chromium  $K_{\alpha}$  lines. J. A. Bearden. *Phys R* 43:92-7 Ja 15 '33

*See also*

Blast furnaces

Cast iron

Corrosion and anti-

corrosives

Foundry practice

Galvanizing

Iron works

Ironwork, Architec-

tural

Magnetism

Meteorites

Pickling (metals)

Pig iron

Steel

Wrought iron



## IRON—Continued

## Bibliography

- Notes on the progress of the home and foreign iron and steel industries. *Iron & Steel Inst J* 125:445-722 no 1; 126:433-688 no 2 '32; 127:477-741 no 1 '33
- Review of iron and steel literature for 1932. E. H. McClelland. *Blast F & Steel Pl* 21: 40-2, 110-13 Ja-F '33; Reprinted by Carnegie library of Pittsburgh
- Zeitschriften- und bücherschau nr. 1. Stahl & Eisen 53:96-108 Ja 26 '33 [cont monthly]

## Desulfurization

See Iron—Sulfur content

## Gas content

- Progress report on the study of gases in enameling iron. R. W. Baker and J. C. Joubanc. *Am Cer Soc J* 16:437-41 S '33

## Metallography

- Allotropy in iron and steel. R. H. Harrington and W. P. Wood. *bibliog Am Soc Steel Tr Trans* 20:529-45; Discussion. 545-8 D '32
- Alloys of iron, manganese and carbon. V. N. Krivobok, C. Wells and others. *il Am Soc Steel Tr Trans* 21:807-64 S '33
- Alloys of iron research; the constitution of the alloys of iron and manganese; abstract. M. L. V. Gayler. *Engineer* 156:306 S 29 '33; Same. *Engineering* 136:352-3 S 29 '33; Discussion. *Engineer* 156:306 S 29 '33; *Engineering* 136:353 S 29 '33
- Development and application of macroetching. H. G. Keshian. *il Am Soc Steel Tr Trans* 21:289-98 [bibliog p298]; Discussion. 299-309 Ap '33
- Einfluss von wasserstoff auf die As- und A<sub>1</sub>-umwandlung des eisens. H. Esser and H. Cornelius. *diag Stahl & Eisen* 53:885-6 Ag 24 '33
- Gefügeuntersuchung bei temperaturen bis 1100°. H. Esser and H. Cornelius. *il diag Stahl & Eisen* 53:532-5 My 18 '33
- Growth of gray cast irons. T. J. Wood. *il Iron Age* 132:12-13 Jl 13; 12-14 Jl 27 '33
- Influence of hydrogen on the transformations in iron. H. Esser and H. Cornelius. *diags Am Soc Steel Tr Trans* 21:733-40 Ag '33; Discussion. R. H. Harrington. 21:896-8 O '33
- Iron-carbon alloys containing much sulphur. K. Honda. *diag Metal Prog* 23:44-5 Mr '33
- Metallography of iron and steel. C. H. Plant. 211p [bibliog p207-8] \$3.75 Pitman '33
- New method of polishing gray and malleable irons for metallographic examinations. R. Schneidewind. *il Am Gas Assn Mo* 15:13-14 Ja '33; Abstracts. *Am Gas J* 138:16 F '33; *Foundry* 61:56 Je '33
- Phosphorus in cast iron. J. W. Bolton. *il Foundry* 61:16-18+ S '33
- Some notes on mechanism of deformations in gray iron. J. W. Bolton. *il Am Soc T M Proc* 32 pt 2:477-87; Discussion. 488-91 '32
- Some observations on the effects of inclusions on the tensile and dynamic properties of certain-ferrous materials; abstract. F. R. Hensel and T. F. Hengstenberg. *Iron Age* 131:397 Mr 9 '33
- Sub-structures in ferrite. W. D. Jones. *il Engineer* 155:sup[Metallurgist] 8-11 F 24 '33
- Oxygen content
- Le dosage de l'oxygène et des oxydes dans le fer et l'acier. *diag Génie Civil* 102:402-3 Ap 29 '33
- Equilibrium in the oxidation of liquid iron by steam and the free energy of ferrous oxide in liquid steel. J. Chipman. *diag Am Chem Soc J* 55:3131-9 Ag '33
- Oxygen in iron. Reschka, Scheil and Schulz. *Engineer* 155:sup[Metallurgist] 6-8 F 24 '33

## Phosphorus content

- Blast furnace smelting practice. A. J. MacDonald. *Blast F & Steel Pl* 21:215+, 258-9 Ap-May '33

Effect of sulphur and phosphorus on the corrosion of iron. L. Tronstad and J. Sejersted. *Iron & Steel Inst J* 127:425-36, pl 31-32 no 1 '33; Abstract. *Engineering* 135:590-1 Je 2 '33; Discussion. *Iron and Steel Inst J* 127: 437-43 no 1 '33

Influence of phosphorus on the properties of hardened and tempered cast iron. J. E. Hurst. *Iron & Steel Inst J* 127:229-51 no 1 '33; Excerpts. *Iron Age* 132:20-1 S 7 '33; Abstracts. *Engineering* 135:590 Je 2 '33; *Engineer* 155:497 My 19 '33; Discussion. *Iron & Steel Inst J* 127:252-8 no 1 '33; *Engineering* 135:590 Je 2 '33; *Engineer* 155: 497 My 19 '33

Phosphorus in cast iron. J. W. Bolton. *Foundry* 61:16-18+ Ag; 16-18, 52+ S '33

Untersuchung über die entphosphorung von eisen durch oxydation. E. Diepschlag and H. Schürmann. *Angew Chemie* 46:61-2 Ja 21 '33

## Physiological effect

Wisconsin alumni research foundation; basic patent on inorganic compounds of iron and copper for the prevention and treatment of anemia. *Science* 77:44 Ja 13 '33

## Prices

Bar iron, 1907-1932, market history; tabulation. *Steel* 92:118 Ja 2 '33

European iron and steel domestic prices in 1932. *Steel* 92:154 Ja 2 '33

European iron and steel export prices in 1932. *Steel* 92:156 Ja 2 '33

Prices tell market history; tabulation. *Steel* 92:105-6 Ja 2 '33

Statistical record of iron and steel; monthly average prices 1916 to 1932. *Iron Age* 131: 81-91 Ja 5 '33

## Protection

Protection of iron in aerated salt solutions by cathodic deposits. E. Herzog. *diags Electrochem Soc Trans* 64 (preprint 28):325-36 S '33

## Scaling

Rates of scale formation on iron and a few of its alloys. K. Heindhofer and B. M. Larsen. *il Am Soc Steel Tr Trans* 21:865-95 O '33

## Specifications

Iron and steel standards proposed at testing materials meeting. *Iron Age* 131:436+ Mr 16 '33

## Standards

Standards and specifications for metals and metal products; nationally recognized standards and specifications for ores, metals, and manufactures except machinery, vehicles, and electrical supplies. U S Bur Stand Misc Pub 120:1-1359 '33 [buck \$3 Supt. of doc.]

## Sulfur content

Desulphurisation and refinement of cast iron. N. L. Evans. *Engineering* 135:59-60 Ja 13 '33; Abstract and discussion. *Chem Age (Lond)* 27:548 D 10 '32

Effect of sulphur and phosphorus on the corrosion of iron. L. Tronstad and J. Sejersted. *Iron & Steel Inst J* 127:425-36, pl 31-32 no 1 '33; Abstract. *Engineering* 135: 590-1 Je 2 '33; Discussion. *Iron and Steel Inst J* 127:437-43 no 1 '33

## Testing

Röntgenprüfung von eisen und stahl. F. Weyer. *il diags Stahl & Eisen* 53:497-505 My 11 '33

Time-potential curves on iron and steel and their significance. T. P. Hoar and U. R. Evans. *bibliog Iron & Steel Inst J* 126:379-90; Discussion. 391-5 no 2 '32

See also

Cast iron—Testing

## IRON, Molten

Equilibrium in the oxidation of liquid iron by steam and the free energy of ferrous oxide in liquid steel. J. Chipman. *diag Am Chem Soc J* 55:3131-9 Ag '33

**IRON, Powdered**

Crack sleuth; magnetic powder inspects turbine blading. F. C. Jacobs. *il Power* 77:238-9 My '33

Ferrocarts; losses in radio frequency magnet cores. A. Schneider. *diags Electrician* 110: 849+ Je 30 '33

Iron-content cores for high-frequency coils; use of Ferrocarts. A. Schneider. *diags Wireless Eng* 10:183-5 Ap '33; Discussion. 10:293-5, 313-15, 491-2 Je, S '33

Iron powder compound cores for coils; Ferrocarts. *Wireless Eng* 10:1-3 Ja '33

**IRON, Sponge**

Die eisenschwamm-frage. R. Durrer. *diags Stahl & Eisen* 52:1244-6 D 15 '32

**IRON alloys**

Add alloys in form of briquets. R. Tull. *il Foundry* 60:46-7 N '32

Alloy iron ring carriers reduce cylinder wear and give aluminum pistons longer life. E. Mahle. *il diags Automotive Ind* 68:578-82 My 13 '33

Alloys feature castings progress. *il Iron Age* 131:42-5 Ja 5 '33

American progress in the use of alloys in cast iron; abstract. F. B. Coyle. *Engineer* 155: 658-9 Je 30 '33

Cast iron, an old metal with new possibilities. *il Mach* 40:93-5 O '33

Cast iron suitable for nitrogen hardening; nitricastiron. J. E. Hurst. *il Iron Age* 131: 776-9 My 18 '33

Chemical and physical properties of alloy cast irons; data sheet. G. Phillips. *Metal Prog* 24:41 S '33

Dauermagnetwerkstoffe auf der Grundlage der ausscheidungshärtung. W. Köster. *il Stahl & Eisen* 53:849-56 Ag 17 '33

Development and use of the alloy irons and steels. Min & Met 14:339 Ag '33

Develops low-cost alloy for high-speed cutting. *Steel* 92:19-20 Ja 23 '33

Effect of alloys in cast iron. R. C. Good. *il Foundry* 61:24-5+ F '33

Electrodeposition of iron-copper-nickel alloys; deposition from sulfate-boro-citrate baths. L. E. Stout and C. L. Faust. *Electrochem Soc Trans* 64 (preprint 10):111-22 S '33

Essex slashes camshaft costs with electric furnace alloy; Proferall. J. Geschelin. *il Automotive Ind* 67:620-2 N 12 '32; Abstract. *Mach* 39:309 Ja '33

High strength iron control of alloying elements. H. Bornstein. *il Metal Prog* 23:37-41+ Je '33

L'installation et l'organisation d'un laboratoire sidérurgique moderne. P. Chevenard. *il diags plan Soc Ing Civils Bul* 85:1109-58 S '32

I. B. F. features alloys in iron. *Foundry* 61:45-6 Ag '33

Internal friction in iron and iron alloys. R. H. Canfield. *il diags Am Soc Steel Tr Trans* 20:549-74; Discussion. 574-6 D '32

Melting methods for alloy irons. G. Phillips. *il Metal Prog* 24:35-40 S '33

New alloy castings appear. *Iron Age* 131:936-7 Je 15 '33

Nickel-chromium-silicon cast irons. A. L. Norbury and E. Morgan. *diags table Iron & Steel Inst J* 126:301-14, pl 32 no 2 '32; Same, without table. *Engineering* 134:345-6 S 16 '32; Excerpt. *Engineer* 154:309-10 S 23 '32; Discussion. *Iron & Steel Inst J* 126:315-21 no 2 '32

Progress made in alloy iron; abstract. M. E. Greenhow. *S A E J* 32:sup50 F '33

Rates of scale formation on iron and a few of its alloys. K. Heindlhofer and B. M. Larsen. *il Am Soc Steel Tr Trans* 21:865-95 O '33

Review of world research on alloys of iron reported 70 per cent complete. *Steel* 93:30 J1 3 '33

Silal and microsilal heat-resisting cast irons; abstract. A. L. Norbury and E. Morgan. *Iron Age* 131:993 Je 22 '33

Sources of ores of the ferroalloy metals. E. F. Burchard. *bibliog il J Chem Educ* 10:359-68 Je '33

Titanium in gray cast iron. G. F. Comstock. *il Iron Age* 131:857-9+, 897-900 Je 1-8 '33

Wandstärkenempfindlichkeit und treffsicherheit bei unlegiertem und legiertem Gusseisen. E. Piwowsky and E. Söhnchen. *bibliog Zeit Ver Deutsch Ing* 77:463-8 My 6 '33

**See also**

Ferrochromium	Steel
Ferromanganese	Steel alloys
Ferrovandium	

**Carbon alloys**

Iron-carbon alloys containing much sulphur. K. Honda. *diag Metal Prog* 23:44-5 Mr '33

Transformation in the carbide phase during graphitization. H. A. Schwartz, K. R. Van Horn and C. H. Junge. *bibliog Am Soc Steel Tr Trans* 21:463-77; Discussion. 477-80 My '33

**Chromium alloys**

Adding chromium to cast iron and its effects. F. W. Meyer. *il Iron Age* 131:392-5 Mr 9 '33

Corrosion resistance of iron-chromium alloys in various media; the salt spray test. W. B. Arnese and J. N. Ostrofsky. *il diag Am Soc Steel Tr Trans* 20:429-58 N '32; Abstract. *Iron Age* 130:837+ D 1 '32; Discussion. *Am Soc Steel Tr Trans* 20:458-63 N '32

Effect of chromium on cast iron. C. O. Burgess. *Foundry* 61:43+ Je '33

High alloy castings; their foundry problems. R. D. Alger and G. C. McCormick. *il Metal Prog* 24:15-19 J1 '33

High chromium cast iron for smoke resistance. R. Tull. *Iron Age* 131:952 Je 15 '33

Influence of phosphorus on the properties of hardened and tempered cast iron. J. E. Hurst. *Iron & Steel Inst J* 127:229-51 no 1 '33; Excerpts. *Iron Age* 132:20-1 S 7 '33; Abstracts. *Engineering* 135:590 Je 2 '33; *Engineer* 155:497 My 19 '33; Discussion. *Iron & Steel Inst J* 127:252-8 no 1 '33; *Engineering* 135:590 Je 2 '33; *Engineer* 155:497 My 19 '33

Non-rusting and heat-resisting cast iron. E. Houdremont and R. Wasmuth. *il Engineer* 156:sup[Metallurgist] 72-3 O 27 '33

Results of an X-ray study of the diffusion of chromium into iron; abstract. L. C. Hicks. *Steel* 93:30 O 16 '33

Thermal expansion of heat-resisting iron alloys; iron-chromium and iron-chromium-nickel. J. B. Austin and R. H. H. Pierce, jr. *Ind & Eng Chem* 25:776-9 J1 '33

**See also**

Chromium steel

**Chromium nickel alloys**

Chromium-nickel-iron castings for sulphite pulp processing equipment. *Paper Tr J* 97: 38 Ag 3 '33

Chromium-nickel-iron castings from sulphite service. G. L. Cox and F. L. LaQue. *bibliog il Paper Tr J* 96:30-6 My 4 '33

Cooling coil efficiency tests; admiralty brass, glass, and chrome nickel iron as tube materials tested. B. L. Peables and D. K. Taylor. *Gas Age* 70:658-4 D 17 '32

Creep and structural stability of nickel-chromium-iron-alloys at 1,600° F. W. A. Tucker and S. E. Sinclair. *diag pls U S Bur Stand J Research* 10:851-62 Je '33

Diesel engine cylinders; alloyed cast irons and their preparation and use. *Automobile Eng* 23:346 S '33

Further studies on chromium-nickel-iron and related alloys. V. N. Krivobok and others. *il Am Soc Steel Tr Trans* 21:22-60; Discussion. 60-72 Ja '33

High alloy castings; their foundry problems. R. D. Alger and G. C. McCormick. *il Metal Prog* 24:15-19 J1 '33

Improved nickel-chromium hardened chilled cast iron; abstracts. J. S. Vanick. *Iron Age* 131:359 Mr 2 '33; *Engineering* 135:665 Je 16 '33

Investigation of methods of decarburizing iron-nickel-chromium alloys. R. W. Dayton. (*Engineering and science ser no. 41*) 28p [bibliog p28] Rensselaer polytechnic institute, Troy, N.Y. '33

Making drawing and forging dies from gray cast iron. F. B. Coyle. *il Steel* 92:26-7 Je 19 '33



**IRON alloys**—Chromium nickel alloys—*Cont.*  
Nickel cast iron. *il* Engineer 156:241-2 S 8 '33

Thermal expansion of heat-resisting iron alloys; iron-chromium and iron-chromium-nickel. J. B. Austin and R. H. H. Pierce, *jr.* *Ind & Eng Chem* 25:776-9 J1 '33

*See also*

Chromium nickel steel

#### Cobalt tungsten alloys

Alloy 548; a new metal cutting alloy. Z. Jeffries; W. P. Sykes. *il* Metal Prog 23:29-35 F '33

Alloy 548 to be available soon. Steel 92:14 F 20 '33; Mach 39:477 Mr '33

Cutting tools of Fe-Co-W. W. Köster. *il* Metal Prog 24:42-4 Ag '33

#### Copper alloys

Copper as an alloy in steel and iron. E. F. Cone. *Am Mach* 77:681-3 O 25 '33

#### Manganese alloys

Alloys of iron, manganese and carbon. V. N. Krivobok, C. Wells and others. *il* Am Soc Steel Tr Trans 21:807-64 S '33

Alloys of iron research; the constitution of the alloys of iron and manganese; abstract. M. L. V. Gayler. *Engineer* 156:306 S 29 '33; *Same*. *Engineering* 136:352-3 S 29 '33; *Discussion*. *Engineer* 156:306 S 29 '33; *Engineering* 136:353 S 29 '33

*See also*

Manganese steel

#### Molybdenum alloys

Alloys of iron and molybdenum. J. L. Gregg. 507p \$6 McGraw-Hill '32

Molybdenum additions broaden cast iron's sphere of automotive usefulness. *il* Automotive Ind 68:618-20 My 20 '33

Molybdenum aids iron uniformity. Steel 92:27 Je 26 '33

#### Nickel alloys

Austenitisches gusseisen; entwicklung und bedeutung als werkstoff; Niresist. R. Müller and R. Hanel. *Chemische Fabrik* 5:493-7, 504-5 D 21-28 '32

Creep and structural stability of nickel-chromium-iron-alloys at 1,600° F. W. A. Tucker and S. E. Sinclair. *diag pls* U S Bur Stand J Research 10:851-62 Je '33

Diesel engine cylinders; alloyed cast irons and their preparation and use. *Automobile Eng* 23:346 S '33

Dilatational properties of nickel iron alloys. C. J. Smithells. *Chem Age (Lond)* 28:sup22 Ap 1 '33

Growth of gray cast irons. T. J. Wood. *il* Iron Age 132:12-13 J1 13; 12-14 J1 27; 30-2 [bibliog p32] Ag 3 '33

Heat and corrosion resistant cast irons having a wide range of expansion properties. T. H. Wickenden. *Automotive Ind* 69:428-9 O 7 '33

Nickel cast iron. *il* Engineer 156:241-2 S 8 '33

*See also*

Iron alloys—Chromium nickel steel  
manganese nickel alloys

#### Silicon alloys

Alloys of iron and silicon. E. S. Greiner, J. S. Marsh and B. Stoughton. 457p \$5 McGraw-Hill '33

Critical study of some iron-rich iron-silicon alloys. Chu-Phay Yap. *bibliog diag* J Phys Chem 37:951-67 O '33

Iron-silicon alloys play important role. *Iron Age* 132:66 Ag 3 '33

#### Testing

Resistance to wear of nitrogen-hardened cast iron. J. E. Hurst. *Engineer* 156:337-8 O 6 '33

Wear resistance of malleable iron. R. Hall. *il* Foundry 61:28-9+ J1 '33; *Abstract*. *Iron Age* 131:992 Je 22 '33

#### Tin alloys

X-ray analysis of iron-tin alloys. W. F. Ehret and A. F. Westgren. *il* Am Chem Soc J 55:1339-51 Ap '33

#### Titanium alloys

Alloy cast iron with titanium. G. F. Comstock. *il* Foundry 61:32-3+ J1 '33

#### IRON and steel institute

Annual autumn meeting, Sheffield, Sept. 12-15. *Engineering* 136:338-9, 351-3 S 22-29 '33; *Engineer* 156:287-91, 305-6 S 22-29 '33

Annual general meeting, 64th, London, May 4-5. *Engineering* 135:524-6, 541-2, 587, 589-91, 615-16 My 12-19, Je 2-9 '33; *Engineer* 155:470-3, 495-8 My 12-19 '33; *Chem Age (Lond)* 28:sup27-8 My 6 '33; *Steel* 92:28 My 22 '33

#### IRON arsenate

Conductivity measurements of thorium and other jelly-forming systems. S. Prakash. *bibliog J Phys Chem* 37:907-16 O '33

#### IRON carbides

Transformation in the carbide phase during graphitization. H. A. Schwartz, K. R. Van Horn and C. H. Junge. *bibliog Am Soc Steel Tr Trans* 21:463-77; *Discussion*. 477-80 My '33

#### IRON carbonates

Periodic precipitation of ferrous carbonate. R. J. Hartman, E. W. Kanning and F. J. Gallion. *il* J Phys Chem 37:229-32 F '33

#### IRON chlorides

Clarification of sewage with ferric chloride; developments at Palo Alto, Calif. R. A. Stevenson. *il* Water Works & Sewerage 80:89-91 Mr '33

Colorimetric determination of fluoride in water using ferric chloride. M. D. Foster. *Ind & Eng Chem Anal ed* 5:234-6 J1 15 '33

Controlling bulking of activated sludge. R. N. Clark. *il* Pub Works 64:37-8 Mr '33

Ferric chloride coagulation of sewage. E. F. Eldridge. *Water Works & Sewerage* 80:335-6 S '33

Formation of floc by ferric coagulants. E. Bartow, A. P. Black and W. E. Sansbury. *bibliog il* Ind & Eng Chem 25:898-903 Ag '33; *Abstract*. *Civil Eng* 3:171 Mr '33

New inorganic heat carrier for super-temperature heating; NS fluid. T. Kayser. *Chem & Met Eng* 40:353-4 J1 '33; *Same*. *Chem Age (Lond)* 29:229-30 S 9 '33; *Abstract*. *Sci Am* 149:242-3 N '33

Study of ferric chloride treatment of sewage at Grand Rapids, Mich. E. F. Eldridge and N. G. Damoose. *il* Water Works & Sewerage 80:207-10 Je '33

Water coagulation with ferric chloride. R. N. Clark. *Pub Works* 64:22 J1 '33

#### IRON compounds

Formation of floc by ferric coagulants. E. Bartow, A. P. Black and W. E. Sansbury. *bibliog il* Ind & Eng Chem 25:898-903 Ag '33

#### IRON founding

Add alloys in form of briquets. R. Tull. *il* Foundry 60:46-7 N '32

Adding chromium to cast iron and its effects. F. W. Meyer. *il* Iron Age 131:392-5 Mr 9 '33

Desulphurisation and refinement of cast iron. N. L. Evans. *Engineering* 135:59-60 Ja 13 '33; *Abstract and discussion*. *Chem Age (Lond)* 27:548 D 10 '32

Duplexing high test gray iron. W. R. Bean. *il* Foundry 61:23+ My '33

Figuring melting cost of iron. J. J. Rowbottom. *Foundry* 61:36 Mr '33

Gray iron cast to engineering specifications; Eaton-Erb foundry co. F. Erb and E. Bremer. *il* Foundry 61:10-12+ Ap '33

How casting conditions affect cast iron. *Automotive Ind* 69:187 Ag 12 '33

Malleable foundry practice; abstracts of papers at A.F.A. convention. *Foundry* 61:54 J1 '33

Melting high test non-shrinking pearlitic iron. H. H. Judson. *il* Metal Prog 23:20-4 Ap '33

Melting methods for alloy irons. G. Phillips. *il* Metal Prog 24:35-40 S '33

Modern metallurgy—a factor in the jobbing iron foundry. A. C. Denison. *Iron Age* 132:15+ J1 6 '33

Permanent molds in manufacturing cream separator parts; DeLaval separator company, Poughkeepsie, N.Y. H. R. Simonds. *il* Iron Age 131:940-3 Je 15 '33

**IRON founding—Continued**

Preheating the cupola blast. F. K. Vial. *diag Foundry* 61:14-15+ My '33

Produces castings in metal molds; Eaton-Erb foundry co. F. Erb and E. Bremer. *il Foundry* 61:38-9+ Je '33

Small cupola handles rush jobs. E. S. Ensign. *il Foundry* 61:22+ Ag '33

Tipton malleable foundry. *il Engineer* 155:371-2 Ap 14 '33

Wandstärkenempfindlichkeit und treffsicherheit bei unlegiertem und legiertem Gusseisen. E. Piwowarsky and E. Söhnchen. *bibliog Zeit Ver Deutsch Ing* 77:463-8 My 6 '33

**See also**

Cast iron  
Cupola furnaces  
Foundry practice  
Furnaces, Iron  
founding

Molding machines  
Molds (for casting)  
Pattern making  
Pig iron

**IRON founding, Electric**

Electric cast iron practice; abstract. H. H. Walther. *Automotive Ind* 69:15 JI 1 '33

Electric-furnace cast-iron; application to motor-vehicles. A. E. Hageboeck. *S A E J* 32:67-8 F '33

Electric-furnace cast-iron; automotive-founding classification. W. R. Jennings. *S A E J* 32:68-70 F '33

Electric-furnace cast-iron; designer's viewpoint. H. T. Woolson. *S A E J* 32:65-7 F '33

Electric furnace cast iron in the Detroit territory. H. J. Hall. *il Elec W* 101:796-7 Je 17 '33

Electric furnace cast iron in the jobbing foundry; Atlas foundry co, Detroit. W. B. Crawford and R. B. Crawford. *il Iron Age* 131:700-2+ My 4 '33; Discussion. C. L. Frear. 131:950 Je 15 '33

Electric furnace casts all types of ferrous metals; Belle City malleable iron co, Racine, Wis. F. G. Steinebach. *il Foundry* 61:10-12+ S '33

Electric furnace iron used for piston rings and valve tappets; Eaton-Erb company. F. Erb and E. Bremer. *il Foundry* 61:25-6+ JI '33

Electric melting gives superior iron; summary of survey. D. T. Waby. *il Elec W* 101:100-3 Ja 21 '33

Gray iron production in the direct-acid lined electric furnace. C. L. Frear. *Iron Age* 131:1041 Je 29; 132:18 Ag 17 '33; Excerpt. *Elec W* 102:87 JI 15 '33

Uses insulated covered ladles; General motors corp. D. O. Thomas. *il diag Foundry* 61:18-20+ Ja '33

**IRON hydroxides**

Dependence of the ultrafiltrate from a sol of ferric hydroxide upon rate of ultrafiltration; Donnan equilibrium and pH of sols. J. W. McBain and W. L. McClatchie. *Am Chem Soc J* 55:1315-23 Ap '33

**IRON in the body****See also**

Iron—Physiological effect

**IRON industry and trade**

Der heutige stand der eisenindustrien der welt. O. Petersen. *il maps Stahl & Eisen* 53:717-33 JI 13 '33

**See also**

Cast iron  
Pig iron

Steel industry and trade

**Coal properties**

Mines, or owners, captive? steel's problems in coal. R. H. Sweetser. *Steel* 92:13-14+ Mr 20 '33

**History**

British regulation of the colonial iron industry. A. C. Bining. 163p [bibliog p135-53] \$2 Univ. of Pennsylvania press '33

Century of progress—in iron and steel industry. *Steel* 93:11-12 JI 3 '33

**Securities**

Iron and steel shares. *Economist* 115:1245-6 D 21 '32

**Statistics**

Die eisenerzförderung der welt und der verbrauch an eisen der wichtigsten länder in den jahren 1930 und 1931. *Stahl & Eisen* 53:542-3 My 18 '33

Imports and exports of United States iron and steel products during 1932. *Min Cong J* 19:7 Ap '33

Imports of iron and steel products into the United States, 1931, 1932. *Iron Age* 130:1004 D 29 '32

Iron and steel, 1932. *Economist* 116:sup51-2 F 18 '33

Iron and steel statistics. Published in monthly numbers of Survey of current business  
Iron ore statistics for 1932. *Iron Age* 131:sup14 My 11 '33

Iron output is 36-year low. *Steel* 92:9 Ja 9 '33

Iron, steel exports decline faster than imports in 1932. *Steel* 92:12 Ja 30 '33

Markets plumb new lows in 1932, but fall rally heartens. E. C. Barringer. *Steel* 92:101-3 Ja 2 '33

Monthly averages of fourteen iron and steel products, 1921-1928; weekly and monthly averages, 1929-1932. *Steel* 92:124 Ja 2 '33

1932 establishes new low records in all branches of production. C. E. Wright. *Iron Age* 131:2-8+ Ja 5 '33

1932 production of the iron ore industry. *Min Cong J* 19:7 Ap '33

Production of iron and steel and of commodities made from them. *Iron Age* 131:93-6 Ja 5 '33

Die roheisen- und rohstahlgewinnung der welt im jahre 1932. *Stahl & Eisen* 53:661-3 Je 22 '33

La situation de l'industrie sidérurgique, dans les principaux pays, en 1932. *Génie Civil* 102:570-2 Je 17 '33

Die weltgewinnung an rohstahl und roheisen in den jahren 1927 bis 1932. *Stahl & Eisen* 52:1306 D 29 '32

What is the outlook for iron and steel. E. E. Thum. *Chem & Met Eng* 40:10-14 Ja '33

World production of iron and steel declined less than American. E. F. Cone. *Iron Age* 131:106 Ja 12 '33

**Australia**

Die entwicklung der eisenindustrie in Australien. *il map Stahl & Eisen* 53:452-4 My 4 '33

**Belgium**

Belgian works experience worst year in history. *Steel* 92:164-5 Ja 2 '33

**Europe**

European market developments in 1932 reviewed. *Steel* 92:154-68 Ja 2 '33

Europe's steel trade hopeful; quarterly review. V. Delport. *Steel* 92:10 Ja 23 '33

**France**

Frankreichs roheisen-, flussstahl- und walzwerkserzeugung im jahre 1932. *Stahl & Eisen* 53:1094-5 O 19 '33

French comptoirs maintain prices under difficulties. J. M. Leon. *Steel* 92:161-2 Ja 2 '33

**Germany**

Die austauschstelle beim Langnamverein. M. Schlenker. *Stahl & Eisen* 53:191-3 F 23 '33  
Eisenindustrie und beschaffungswirtschaft der Reichsbahn. M. Schlenker. *Stahl & Eisen* 53:251-4 Mr 9 '33

Germany's output goes back several decades. E. H. Regensburger. *Steel* 92:159-60 Ja 2 '33

Die koks- und briquettherstellung sowie eisen- und stahlerzeugung des Deutschen Reiches im jahre 1931. *Stahl & Eisen* 53:153-5 F 9 '33

Streiflichter auf die welt-eisenwirtschaft unter besonderer berücksichtigung der deutschen grosseisenindustrie. W. Steinberg. *Stahl & Eisen* 53:218-22 Mr 2 '33

**Great Britain**

Das britische weltreich auf dem wege zur selbstversorgung mit eisen und stahl. J. W. Reichert. *Stahl & Eisen* 52:1085-94 N 10 '32



**IRON industry and trade—Great Britain—Cont.**

Centralized control is aim of British steel re-organization plan. *Iron Age* 131:631 Ap 20 '33

Dorman Long and South Durham. *Economist* 116:696-8 Ap 1 '33

Eisenindustrie und eisenzölle in England. *Stahl & Eisen* 52:1280-2 D 22 '32

Great Britain puts her house in order. *J. A. Horton. Steel* 92:157-8 Ja 2 '33

Iron and steel industry; Import duties advisory committee report. *Engineer* 155:374 Ap 14 '33

Iron and steel reorganisation. *Economist* 116:678-9 Ap 1 '33

Iron and steel shares. *Economist* 115:1245-6 D 31 '32

**India**

Iron and steel industry and trade of India. *G. C. Howard. U S Bur For & Dom Com Trade Information Bul* 816:1-23 '33

**Italy**

Italy endeavors to organize her industry. *G. Vanzetti. Steel* 92:163+ Ja 2 '33

**Japan**

Die japanische eisen- und stahlindustrie im jahre 1932. *Stahl & Eisen* 53:565-6 My 25 '33

**Luxemburg**

Luxemburgs bergbau und eisenindustrie im Jahre 1932. *Stahl & Eisen* 53:769 Jl 20 '33

**Minnesota**

Taxes grind iron ore industry; Minnesota refuses relief. *A. J. Hain. Steel* 92:75-7 Ja 2 '33

**Russia**

Ferromanganese and spiegel from electric furnaces. *B. M. Suslov. Metal Prog* 24:556 O '33

Russian output up to 5,500,000 tons. *Steel* 92:167-8 Ja 2 '33

**Saar valley**

Saareisenindustrie und internationale eisenwirtschaft. *E. Tgahrt. Stahl & Eisen* 53:447-51 My 4 '33

Die saarländische eisenindustrie im sturm der nachkriegszeit. *H. Röchling. Stahl & Eisen* 52:1129-30 N 17 '32

**Sweden**

Schwedens bergwerks- und eisenindustrie im Jahre 1932. *Stahl & Eisen* 53:636 Je 15 '33

**United States**

American iron and steel institute issues instructions for submitting statistics under code. *Iron Age* 132:51A S 28 '33

Code basing points for iron and steel industry; chart. *Iron Age* 132:26DD-26EE S 21 '33

Iron and cement output. *E. C. Eckel. Manuf Rec* 102:15+ Mr '33

Das neue wettbewerbsgesetz der amerikanischen eisen- und stahlindustrie. *J. W. Reichert. Stahl & Eisen* 53:1031-7 O 5 '33

Upturn in steel industry interrupted. *R. Brennan. Dun's R* 40:2-4 D 10 '32

What is the outlook for iron and steel. *E. E. Thum. Chem & Met Eng* 40:10-14 Ja '33

**IRON metallurgy**

Die bei der reduktion der eisenoxyde mit kohlenstoff entstehenden gase. *W. Baukloh and G. Zimmermann. Stahl & Eisen* 53:172-3 F 16 '33

Beitrag zur bewertung von eisenerzen für den hochofen. *E. Diepschlag, M. Zillgen and H. Poetter. il diags Stahl & Eisen* 52:1154-62 N 24 '32

Blast furnace smelting practice. *A. J. MacDonald. Blast F & Steel Pl* 20:883-6; 21:103-6, 157-8, 215+, 258-9+ D '32. F-My '33

Brosius slag granulating machine recovers the iron. *il Iron Age* 130:993 D 29 '32; *Steel* 92:24 F 20 '33; *Blast F & Steel Pl* 20:902 D '32

Composition and deoxidation of iron oxide sinters. *T. L. Joseph, E. P. Barrett and C. E. Wood. bibliog Blast F & Steel Pl* 21:147-50, 207-10, 260-3, 321-3+ Mr-Je '33

Effect of sodium carbonate on low-temperature reduction of iron ores. *G. C. Williams and R. A. Ragatz. Ind & Eng Chem* 24:1397-1400 D '32

Entfernung des arsens aus eisenerzen. *W. Ruff and E. Scheil. Stahl & Eisen* 52:1193-5 D 1 '32

Evolution of magnetic milling at Scrub Oak. *H. M. Roche and R. E. Crockett. il Eng & Min J* 134:241-4, 273-7 Je-Jl '33

Die kohlenstoffabscheidung bei der reduktion von eisenerzen mit kohlenoxyd. *E. Woeckel and W. Baukloh. Stahl & Eisen* 53:147-8 F 9 '33

Modern metallurgy—a factor in the jobbing iron foundry. *A. C. Denison. Iron Age* 132:15+ Jl 6 '33

Möllerung nach physikalischen grundsätzen. *A. Wagner, A. Holschuh and W. Barth. il diags Stahl & Eisen* 52:1109-16; Discussion. 1116-18 N 17 '32

Reduktionsversuche mit eisenerzen und sinter unmittelbar am hochofen. *W. Feldmann, J. Stoecker and W. Eilender. diags Stahl & Eisen* 53:289-96; Discussion. 296-300 Mr 23 '33

Sintering of iron ores; latest scientific principles at the new Ford motor works. *il Chem Age (Lond)* 29:sup16-17 S 2 '33

Technical progress in iron, steel outrun depression; report submitted by Iron and steel division of the A.S.M.E. *Steel* 91:26+ D 12 '32

Tests with new wet belt magnetic separator show interesting results. *il Eng & Min J* 134:123-4 Mr '33

Ueber die reaktionen zwischen technischen roheisensorten und ihren schlacken. *W. Dinkler. Stahl & Eisen* 53:1089-90 O 19 '33

Ueber die reduktion des trikalziumphosphats. *W. Jansen and W. Baukloh. Stahl & Eisen* 53:451 My 4 '33

Untersuchung über die entphosphorung von eisen durch oxydation. *E. Diepschlag and H. Schürmann. Angew Chemie* 46:61-2 Ja 21 '33

Variations in coke ash found to affect analysis of pig iron. *H. W. Johnson. Iron Age* 131:664-5 Ap 27 '33

**See also**

Blast furnaces	Iron mines and
Case hardening	mining
Cast iron	Iron works
Foundry practice	Pig iron
Galvanizing	Sintering
Iron, Sponge	Slag
Iron alloys	Steel metallurgy
Iron founding	Wrought iron

**Bibliography**

Iron and steel metallurgy; a review of the literature. *C. E. Williams, V. N. Krivobok and C. M. Herty, jr. Min & Met* 14:17-21 Ja '33

**IRON mines and mining****See also**

Iron ores

**Alabama**

Red Ore mines of the Woodward iron company. *T. C. DeSollar. Min Cong J* 19:29 Mr '33

**Eastern states**

Eastern iron-ore mining inactive. *L. Lawrence. Min & Met* 14:11 Ja '33

**Germany**

Die versorgung der deutschen hochofenwerke mit einheimischen eisenerzen. *W. Luyken. map Stahl & Eisen* 53:1-13; Discussion. 13-15 Ja 5 '33

**Lake Superior region**

Code of fair competition for the iron ore mining industry of the Lake Superior region. *Min Cong J* 19:12-13 N '33

Future of iron mining in the Lake Superior district. *F. G. Pardee. Min & Met* 14:95-6 F '33

IRON mines and mining—*Continued*

## Michigan

Safety at West Vulcan mine. A. H. Trestrail.  
Min Cong J 18:19+ D '32

## Minnesota

Iron mining industry in Minnesota. W. P. Chinn. Min Cong J 19:21-2 My '33

Taxes grind iron ore industry; Minnesota refuses relief. A. J. Hain. Steel 92:75-7 Ja 2 '33

## New Jersey

Iron-ore mining and milling at Scrub Oak. H. M. Roche and R. E. Crockett. flowsheets il diags Eng & Min J 134:161-4, 197-200, 241-4, 273-7 Ap-Jl '33

Mining methods and costs at the Mt. Hope mine of the Warren foundry and pipe corporation, Mt. Hope, N.J. J. R. Sweet. diags plan U S Bur Mines Information Circ 6601: 1-31 '32

Mining methods and costs at the Washington mine of the Alan Wood mining company. C. H. Loux. Min Cong J 19:38-9 My '33

## United States

Eastern iron-ore mining inactive. L. Lawrence. Min & Met 14:11 Ja '33

See also

Iron ores—United States

## IRON nitrides

Reduction by hydrogen and the thermal decomposition of nitrides made by the reaction of ammonia with various promoted and unpromoted iron synthetic ammonia catalysts. P. H. Emmett and K. S. Love. Am Chem Soc J 55:4043-50 O '33

## IRON ores

Microscopical determination of ore-treatment methods. A. S. Hecht. Eng & Min J 134:14-16 Ja '33

Needless transportation in steel industry; ore and coal treatment urged to reduce transportation costs. R. H. Sweetser. Iron Age 131:506+ Mr 30 '33

Prices tell market history; tabulation. Steel 92:105 Ja 2 '33

See also

Chromite  
Hematite  
Ilmenite

Magnetite  
Marcasite  
Pyrite

Iron mines and mining

## Alabama

Iron ore in the Red Mountain formation in Greasy Cove, Alabama. E. F. Burchard. il map U S Geol S Circ 1:1-49 '33

## France

L'avenir des pyrites de fer en France. map Génie Civil 102:211-12 Mr 4 '33

Le bassin minier lorrain et son avenir prochain. L. Crussard. Soc Ing Civils Bul 85: 1250-2 N '32

## Germany

Der deutsche bergbau im jahre 1931. Stahl & Eisen 52:1278-9 D 22 '32

Verhüttungswert der erze aus dem Lahn- und Dill-gebiet. P. Reichardt. Stahl & Eisen 53: 193-6 F 23 '33

Die versorgung der deutschen hochofenwerke mit einheimischen eisenerzen. W. Luyken. map Stahl & Eisen 53:1-13; Discussion. 13-15 Ja 5 '33

## Lake Superior region

Lake Superior iron ore shipments in 1931 and 1932. Steel 92:51 Ja 30 '33

Lake Superior ore shipments in 1932 were 3,588,608 tons. Iron Age 131:243 F 9 '33

Larger iron content in 1932 ore movement. Iron Age 132:40 Jl 6 '33

## Michigan

Formation of martite and other iron oxides in sideritic ore of the Marquette district. F. Wienert. il Econ Geol 28:68-74 Ja '33

## Minnesota

Iron ore for centuries in Mesabi range; fair tax key to development. E. W. Davis. Steel 92:13-14+ My 8 '33

## New Jersey

Iron-ore mining and milling at Scrub Oak. H. M. Roche and R. E. Crockett. flowsheets il diags Eng & Min J 134:161-4, 197-200, 241-4, 273-7 Ap-Jl '33

## Ontario

Moose mountain—a Canadian iron resource. Eng & Min J 134:234 Je '33

## Pennsylvania

Iron ore deposits at Cornwall, Pennsylvania. W. O. Hickok. il maps Econ Geol 28:193-255 My '33

## Sierra Leone

Hematite iron ores of Sierra Leone, West Africa. K. Fowler-Lunn. maps Econ Geol 28:59-67 Ja '33

## United States

Sources of our iron ores. E. F. Burchard. il maps J Chem Educ 10:195-204, 288-96 Ap-MY '33

## IRON oxides

Active iron. O. Baudisch. Science 77:317-19 Mr 31 '33

Amorphous iron oxide is well suited for conditioning rotary drilling muds. L. G. E. Bignell. Oil & Gas J 32:42 Jl 13 '33

Composition and deoxidation of iron oxide slinters. T. L. Joseph, E. P. Barrett and C. E. Wood. bibliog Blast F & Steel Pl 21:147-50, 207-10, 260-3, 321-3+ Mr-Je '33

Design of purifiers for the removal of hydrogen sulphide from town gas by iron oxide. Gas J (Lond) 202:922-4; 203:51-2 Je 28-Jl 5 '33

Equilibrium in the oxidation of liquid iron by steam and the free energy of ferrous oxide in liquid steel. J. Chipman. diag Am Chem Soc J 55:3131-9 Ag '33

Extra specific heat in cuprous sulfide; specific heat of ferrous oxide. W. P. White. Am Chem Soc J 55:1047-53 Mr '33

Formation of martite and other iron oxides in sideritic ore of the Marquette district, Michigan. F. Wienert. il Econ Geol 28:68-74 Ja '33

Free energy of iron oxides. J. Chipman and D. W. Murphy. bibliog il Ind & Eng Chem 25:319-27 Mr '33

Gaseous thermal diffusion—the principal cause of discrepancies among equilibrium measurements on the systems  $\text{Fe}_3\text{O}_4\text{-H}_2\text{-Fe-H}_2\text{O}$ ,  $\text{Fe}_3\text{O}_4\text{-H}_2\text{-FeO-H}_2\text{O}$  and  $\text{FeO-H}_2\text{-Fe-H}_2\text{O}$ . P. H. Emmett and J. F. Shultz. diag Am Chem Soc J 55:1376-89 Ap '33

Das gleichgewicht  $\text{FeO} + \text{Ni} = \text{NiO} + \text{Fe}$  im schmelzfluss. H. Senf. Stahl & Eisen 53: 451-2 My 4 '33

Iron oxide pigments case gets hearing. Oil Paint & Drug Rep 123:17 My 15 '33

Oxides of iron and their use in molded plastics. J. W. Ayers. Plastic Prod 9:230 Ag '33

Oxygen in iron. Reschka, Scheil and Schulz. Engineer 155:sup[Metalurgist] 6-8 F 24 '33

Physical chemistry of steelmaking; abstract. C. H. Herty, jr. Steel 93:30; Discussion. 30-1 O 30 '33

Recovery of sulphur from spent oxide. Gas J (Lond) 202:219-20 Ap 26 '33

Role of the corrosion product in the atmospheric corrosion of iron. W. H. J. Vernon. Electrochem Soc Trans 64 (preprint 26):309-18 S '33; Excerpts. Iron Age 132:12+ S 21 '33

System,  $\text{CaO-FeO-SiO}_2$ . N. L. Bowen, J. F. Schairer and E. Posnjak. il diags Am J Sci 5th ser 26:193-284 S '33

Use of unfluxed ores for dry purification. C. O. Schobel. diag Gas Age 71:539-40 My 27 '33; Same. Am Gas J 138:31-2 Je '33

Value of carbon catalysis in gas purification. H. L. Olin, V. Scarth and W. L. Starkweather. diag Gas Age 70:561-4 N 26 '32



**IRON oxides—Continued**

Verfahren zur mittelbaren schnellbestimmung des im flüssigen Siemens-Martinstahl gelösten eisenoxyduls. H. Schenck. Stahl & Eisen 53:1049-51 O 12 '33; Discussion. 53:1051-2, 1333 O 12, D 21 '33

See also

Hematite  
Magnetite  
Ocher

**IRON perchlorate**

Determination of the heat of reaction of  $2\text{Fe}(\text{ClO}_4)_3 + 2\text{Hg} = 2\text{Fe}(\text{ClO}_4)_2 + \text{Hg}_2(\text{ClO}_4)_2$  from equilibrium data. V. B. Fleharty. Am Chem Soc J 55:2646-9 JI '33

**IRON phosphates**

Catalysis of air oxidations by iron salts, phosphates and pyrophosphates. E. J. Theriault, C. T. Butterfield and P. D. McNamee. bibliog Am Chem Soc J 55:2012-24 My '33

Interrelation of electrokinetic behavior and cation exchange of iron phosphate. J. B. Hester. Am Chem Soc J 55:1442-5 Ap '33

**IRON pyrophosphates**

Catalysis of air oxidations by iron salts, phosphates and pyrophosphates. E. J. Theriault, C. T. Butterfield and P. D. McNamee. bibliog Am Chem Soc J 55:2012-24 My '33

**IRON research**

Alloys of iron research; the constitution of the alloys of iron and manganese; abstract. M. L. V. Gayler. Engineer 156:306 S 29 '33; Same. Engineering 136:352-3 S 29 '33; Discussion. Engineer 156:306 S 29 '33; Engineering 136:353 S 29 '33

Phosphorus in cast iron. J. W. Bolton. Foundry 61:16-18+ Ag; 16-18, 52+ S '33  
Review of world research on alloys of iron reported 70 per cent complete. Steel 93:30 JI 3 '33

**IRON silicates**

Equilibrium of certain non-metallic systems; the equilibrium of the systems  $\text{MnSiO}_3$ - $\text{Fe}_2\text{SiO}_4$  and  $\text{FeS}$ - $\text{Fe}_2\text{SiO}_4$ . J. H. Andrew and W. R. Maddocks. Iron & Steel Inst J 126:351-60, pl 35; Discussion. 361-3 no 2 '32  
System,  $\text{Ca}_2\text{SiO}_4$ - $\text{Fe}_2\text{SiO}_4$ . N. L. Bowen, J. F. Schairer and E. Posnjak. il Am J Sci 5th ser 25:273-97 Ap '33

**IRON sulfates**

Advances in the use of iron compounds as coagulants; abstract and discussion. E. L. Bean. Water Works & Sewerage 80:359-60 O '33

Formation of floc by ferric coagulants. E. Bartow, A. P. Black and W. E. Sansbury. bibliog il Ind & Eng Chem 25:398-903 Ag '33; Abstract. Civil Eng 3:171 Mr '33

Influence of acid concentration on the oxidation-reduction potential of mixtures of ferric and ferrous sulphates in sulphuric acid solution. T. J. Glover. Chem Soc J p10-15 Ja '33

Phenanthroline-ferrous ion; a reversible oxidation-reduction indicator of high potential and its use in oxidimetric titrations. G. H. Walden, Jr., L. P. Hammett and R. P. Chapman. Am Chem Soc J 55:2649-54 JI '33

Sewage treatment with ferrous sulphate and aeration. P. B. Streander. Pub Works 64:29 Mr '33

System ferrous sulfate-manganous sulfate-water at 0 and 25°. A. M. White. diags Am Chem Soc J 55:3182-5 Ag '33

Volumetric determination of cobalt by means of ferrous sulfate and potassium dichromate. L. A. Sarver. Ind & Eng Chem Anal ed 5:275-6 JI 15 '33

Volumetric determination of nitrates with ferrous sulfate as reducing agent. I. M. Koltzoff, E. B. Sandell and B. Moskovitz. Am Chem Soc J 55:1454-7 Ap '33

**IRON sulfides**

Alteration of pyrite to pyrrhotite by alkali sulphide solutions. R. E. Stevens. Econ Geol 28:1-19 Ja '33

L'avenir des pyrites de fer en France. map Génie Civil 102:211-12 Mr 4 '33

Equilibrium of certain non-metallic systems; the equilibrium of the systems  $\text{MnSiO}_3$ - $\text{Fe}_2\text{SiO}_4$  and  $\text{FeS}$ - $\text{Fe}_2\text{SiO}_4$ . J. H. Andrew and W. R. Maddocks. Iron & Steel Inst J 126:351-60, pl 35; Discussion. 361-3 no 2 '32  
Iron-carbon alloys containing much sulphur. K. Honda. diag Metal Prog 23:44-5 Mr '33

See also

Marcasite  
Pyrite

**IRON workers**

Earnings and hours of labor in principal occupations in the iron and steel industry, 1931 and 1933; blast furnaces, steel works, and puddling, blooming and plate mills. Monthly Labor R 37:927-32 O '33

Hours and earnings in the iron and steel industry, 1933. Monthly Labor R 37:651-9 S '33

Pneumonia problem in the steel industry. D. K. Brundage and J. J. Bloomfield. tables J Ind Hygiene 14:345-63 D '32

Revision in benefit system of structural-iron workers. Monthly Labor R 36:97-8 Ja '33

See also

Steel workers

**India**

Wages in the heavy iron and steel trades of India. Monthly Labor R 37:708 S '33

**IRON works**

See also

Blast furnaces  
Foundries  
Iron workers

Steel works

Verein deutscher eisenhüttenleute

**Accidents**

Accident experience in the iron and steel industry to the end of 1931. Monthly Labor R 36:520-34 Mr '33; Correction. 36:1071 My '33

Accident experience in the iron and steel industry to the end of 1932. Monthly Labor R 37:566-81 S '33

Iron and steel accidents less than one-fourth number 25 years ago. Steel 92:14 My 22 '33

**Costs**

Blast furnace smelting practice. A. J. MacDonald. Blast F & Steel Pl 20:883-6 D '32

**Equipment**

Hadfields high-speed roll crusher for iron ore. il Engineering 136:436-7 O 20 '33

Der heutige stand des gaserzeugerbaues und -betriebes auf hüttenwerken. F. Lüth. diags Stahl & Eisen 52:1213-21 D 8 '32

Kleinverbraucher von koksofengas in der eisenindustrie. A. Herberholz. diags Stahl & Eisen 53:417-22 Ap 27 '33

Manufacture of sand-spun pipes; Staveley coal and iron company. Gas J (Lond) 201:677-8 Mr 15 '33

12-ton rack for sponge ball press repaired by thermit welding. il Steel 93:31 O 30 '33

**Fuel**

Fuel problems of the Swedish iron and steel industry; abstract. A. Johansson. Engineering 136:478-9 O 27 '33

**Power**

Butterley ironworks sub-station. il Electrician 111:238 Ag 25 '33

Eigenerzeugung, werkskupplung, fremdbezug und abgabe von strom innerhalb der energieverorgung rheinisch-westfälischer hüttenwerke. W. Martini. Stahl & Eisen 53:701-5 JI 6 '33

Scandinavian sectional meeting of World power conference. Engineering 136:478 O 27 '33

**Germany**

Vereinigte stahlwerke A.-G., Düsseldorf [and others]. il Stahl & Eisen 52:sup119-32 N 24 '32; 53:sup115-30 My 11 '33

Die versorgung der deutschen hochofenwerke mit einheimischen eisenenerzen. W. Luyken. map Stahl & Eisen 53:1-13; Discussion. 13-15 Ja 5 '33

**IRONING machines**

Hitching a related product to a faster seller; Westinghouse is tying its electric ironer to its washer. N. L. Myers. *il* *Ptr Ink* 163:44-6 *Je* 8 '33

**IRONITE**

Longer life for concrete floors; obtaining dustproof, waterproof and fireproof qualities with Ironite. *il* *Chem Age (Lond)* 27:435 *N* 5 '32

**IRONWORK****Specifications**

Standards and specifications for metals and metal products; nationally recognized standards and specifications for ores, metals, and manufactures except machinery, vehicles, and electrical supplies. U S Bur Stand Misc Pub 120:1-1359 '33 [buck \$3 Supt. of doc.]

**IRONWORK, Architectural**

Ornamental iron gains favor in California. *il* *Iron Age* 132:26A *Jl* 20 '33  
Some pitfalls in supervision; ornamental iron and bronze. W. F. Bartels. *Architecture* 66:341-2; 67:37 *D* '32-Ja '33  
Today's craftsmanship in hand-wrought hardware. G. K. Geerlings. *il* *Architecture* 67:15-20 *Ja* '33

*See also*

Grilles

**IRONWORK, Artistic**

Cast-iron art; J. W. Fiske iron works, Brooklyn. *Fortune* 8:10 *Ag* '33

**IRREVERSIBLE processes**

Second law and entropy; irreversible processes. R. C. Cantelo. *J Chem Educ* 10:45-6 *Ja* '33

**IRRIGATION**

Evaporation from water surfaces; a symposium. *il* *Am Soc C E Proc* 59:223-68 *F* '33; Discussion. 59:901-5, 1036-45, 1441-3, 1633-6 *My, Ag, N-D* '33

Irrigation practice and engineering. B. A. Etcheverry and S. T. Harding. 2d ed v 1 256p \$2.50 McGraw-Hill '33

*See also*

Dams

Drainage

Irrigation canals

Reclamation of land

Water storage

**Finance**

Western irrigation district successfully re-financed. W. Durbrow. *Eng N* 110:312-14 *Mr* 9 '33

**Power**

Floating irrigation plant for Egypt. *il* *diags Engineer* 156:118-19 *Ag* 4 '33

**Arizona**

Improved transition adds to flume capacity; Agua Fria river flume of Roosevelt irrigation district. J. A. Fraps. *il* *diags Eng N* 111:110-12 *Jl* 27 '33

**California**

Western irrigation district successfully re-financed. W. Durbrow. *Eng N* 110:312-14 *Mr* 9 '33

**Egypt**

Egypt and the Sudan; abstracts. M. MacDonald. *Engineer* 154:460-1 *N* 4 '32; *Engineering* 134:562-3 *N* 11 '32

Egyptian irrigation scheme. *il* *Electrician* 109:690 *N* 25 '32; *Elec R (Lond)* 111:921 *D* 23 '32  
Floating irrigation plant for Egypt. *il* *diags Engineer* 156:118-19 *Ag* 4 '33

Sudd region of the Nile. H. E. Hurst. *Engineer* 155:586 *Je* 9 '33

*See also*

Aswan dam

**India**

Cauvery Mettur dam. map *Engineer* 155:558 *Je* 2 '33

**Indo-China**

La station de pompage et les canaux d'irrigation de Sontay (Tonkin). J. Gauthier. *diags plan map Génie Civil* 102:421-3 *My* 6 '33

**Mexico**

Unusual features of the Rodriguez Dam construction; Ambursen type. C. P. Williams. *Am Water Works Assn J* 25:355-66 *Mr* '33

**Oregon**

Owyhee tunnels; eastern Oregon. P. R. Hines. *il* *diags maps Explosives Eng* 10:363-70; 11:20-5 *D* '32-Ja '33

**Persia**

Irrigation in Persia by kanáts. M. A. Butler. *il* *diags maps Civil Eng* 3:69-73 *F* '33

**Sudan**

Les travaux d'irrigation dans la région du Macina, au Soudan, au moyen des eaux au Niger. *il* *maps Génie Civil* 101:602-5 *D* 17 '32

**United States**

What the federal irrigation scheme augurs for the utilities. H. Corey. *Pub Util* 11:636-45 *My* 25 '33

**Washington (state)**

Cle Elum dam completes storage for Yakima project. E. J. Newell. *il* *diag plan Eng N* 111:397-400 *O* 5 '33

Concrete siphons and canal linings feature irrigation system; Otis Orchards irrigation district, Washington. G. W. Hitchcock. *il* *Concrete* 41:13 *Ag* '33

**Western states**

Irrigation work in the Indian bureau. *il* *Eng N* 110:712-14 *Je* 1 '33

**Wyoming**

Power and irrigation work financed by PWA. *diags map Eng N* 111:251-3 *Ag* 31 '33

**IRRIGATION canals**

Concrete siphons and canal linings feature irrigation system; Otis Orchards irrigation district, Washington. G. W. Hitchcock. *il* *Concrete* 41:13 *Ag* '33

Improved transition adds to flume capacity; Agua Fria river flume of Roosevelt irrigation district. J. A. Fraps. *il* *diags Eng N* 111:110-12 *Jl* 27 '33

**Cleaning**

Motorizing a ditch dredger; gas-electric dredger lowers operating costs and reduces canal maintenance. R. E. Bear. *il* *Elec West* 70:117-19 *Ap* '33

**IRRIGATION research**

Flow of water in sand. E. M. Taylor and H. L. Uppal. *il* *Engineer* 156:107-8 *Ag* 4 '33

**IRRIGATION water**

Sewage treatment for obtaining park irrigating water. F. McQueen. *il* *Pub Works* 64:16-17 *O* '33

*See also*

Hydroelectric plants—  
Irrigation water use

**Costs**

Value of water in southern California; a historical résumé of the cost of its development for irrigation and domestic use. F. Thomas. *il* *map Civil Eng* 3:555-9 *O* '33

**ISATIN**

Condensation of acetophenone with isatin by the Knoevenagel method. H. G. Lindwall and J. S. MacLennan. *Am Chem Soc J* 54:4739-44 *D* '32

Condensations of isatin with acetone by the Knoevenagel method. F. Braude and H. G. Lindwall. *Am Chem Soc J* 55:325-7 *Ja* '33

**ISOBENZPYRYLIUM ferrichloride**

*iso*Benzpyrpylium ferrichloride. B. K. Blount and E. Robinson. *Chem Soc J* p555-6 *My* '33

**ISOBORNEOL**

Depression of the melting point of *r*-isoborneol, *l*-borneol, and *d*-camphoroxime by various substances. T. S. Patterson, J. H. Blackwood and J. M. Stewart. *Chem Soc J* p93-5 *Ja* '33



**ISOBUTANE**

Equilibrium dehydrogenation of ethane, propane, and the butanes. F. E. Frey and W. F. Huppke, bibliog diag Ind & Eng Chem 25:51-9 Ja '33

Thermal decomposition of isobutane into primary products. L. F. Marek and M. Neuhaus. Ind & Eng Chem 25:516-19 My '33

**ISOBUTENE-**

Preparation of pure 1-butene and isobutene. H. Pines. Am Chem Soc J 55:3892-3 S '33

**ISOCOLESTEROL**

*iso*Cholesterol; lanosterol and a new method for its preparation. C. Dorée and D. C. Garratt. Soc Chem Ind J 52:141T-3T My 26 '33

**ISOELECTRIC point**

Application of the results of the study of the isoelectric point of wool to some practical problems. M. Harris. Am Dyestuff Rep 22: 81-3; Discussion. 83-5 Ja 30 '33

Combination of silk and wool with positive and negative ions. M. Harris. U S Bur Stand J Research 10:475-8 Ap '33; Same. Am Dyestuff Rep 22:273-4+ Ap 24 '33

Determination of the isoelectric point. L. V. Andrews and D. J. Brown, bibliog diag J Phys Chem 37:417-24 Ap '33

Isoelectric point of orange seed globulin. D. C. Carpenter and F. E. Lovelace. II Am Chem Soc J 55:3738-40 S '33

Isoelectric point of silk. M. Harris. Textile Col 55:47-8 Ja '33

Iso-electric point of wool. A. H. Pettinger. Textile Col 54:840-1 D '32

**ISOFLAVONE**

Synthetic experiments in the *isoflavone* group; synthesis of daidzein. W. Baker, R. Robinson and N. M. Simpson. Chem Soc J p274-5 Mr '33

**ISOMENTHOL**

Researches in the menthone series; diagnosis and characterisation of the stereoisomeric menthols. J. Read, W. J. Grubb and D. Malcolm. Chem Soc J p170-3 F '33

**ISOMERISM**

Diastereoisomers of 2,5-diphenylsulfinylhydroquinone diacetate. M. E. Maclean and R. Adams. bibliog Am Chem Soc J 55:4681-3 N '33

Fehling's solution and isomerism of tartaric acids. H. Sobotka. Am Chem Soc J 55: 2164 My '33

Freezing point-solubility relations of geometrical isomers; the dynamic isomerism of the anisaldoximes. E. L. Skau and B. Saxton. J Phys Chem 37:197-207 F '33

Isomeric (-)-menthyl  $\alpha$ -naphthylglycollates. A. McKenzie and E. R. L. Gow. Chem Soc J p32-7 Ja '33

Isomerism of the oximes; the constitution of the acetyl derivatives of  $\alpha$ - and  $\beta$ -aldoximes. O. L. Brady and H. J. Grayson. Chem Soc J p1037-8 Ag '33

Number of structurally isomeric hydrocarbons of the ethylene series. H. R. Henze and C. M. Blair. Am Chem Soc J 55:680-6 F '33

Occurrence of a new case of isomerism in the fluorenone carboxylic acid series; isomeric products from the action of sulfuric acid upon 3,3'-dichlorodiphenic acid. E. H. Huntriss, I. S. Cliff and E. R. Atkinson. bibliog Am Chem Soc J 55:4262-71 O '33

Photostationary states of some geometrically isomeric acids. A. R. Olson and F. L. Hudson. diag Am Chem Soc J 55:1410-24 Ap '33

Solubility relationships among optically isomeric salts; the camphorates of alpha-paratolylethylamine. A. W. Ingersoll and F. B. Burns. Am Chem Soc J 54:4712-15 D '32

Stereochemistry of diphenyls; preparation and properties of 2,2',4,4',5,5',6,6'-octamethyldiphenyl-3,3'-disulfonic acid and diphenyl-3,3'-disulfonic acid. A. E. Knauf and R. Adams. Am Chem Soc J 55:4704-9 N '33

Stereoisomeric 2,3:5,6-tetramethylpiperazines. F. B. Kipping. Chem Soc J p143-4 F '33

Studies on alkylated complex cyanides; the isomerism of the alkylated ferrocyanides; hexaethylated ferrocyanides. E. G. J. Hartley and H. M. Powell. Chem Soc J p101-5 Ja '33

See also

Molecular rearrangements

Optical rotation

Tautomerism

**ISOMERIZATION**

Influence of the migrating group in the Fries isomerization. R. Baltzly and A. Bass. Am Chem Soc J 55:4292-4 O '33

Supposed enolizing power of organic magnesium compounds. E. P. Kohler and D. Thompson. Am Chem Soc J 55:3822-3 S '33

Velocity of bromination of acetoacetic ethyl ester. K. J. Pedersen. J Phys Chem 37:751-64 Je '33

**ISOMORPHISM**

Isomorphism and alternation in the melting points of the normal alcohols, acetates, bromides, acids and ethyl esters from C<sub>10</sub> to C<sub>18</sub>. J. D. Meyer and E. E. Reid. Am Chem Soc J 55:1574-84 Ap '33

**ISOMYRISTIC acid**

Branched chain aliphatic acids; isomyristic, isopalmitic and isostearic acids. C. R. Forde and J. R. Johnson. Am Chem Soc J 55:3368-72 Ag '33

**ISONITROSO compounds**

Co-ordination compounds of oximes; compounds of 4-isonitroso-1-phenyl-3-methyl-5-pyrazolone with the alkali metals, nickel, and thallium. O. L. Brady and M. D. Porter. Chem Soc J p840-2 Jl '33

**ISOCTANE**

La discrimination des combustibles liquides et l'appréciation de leur valeur indétonante par l'indice d'isooctane ou par l'indice de cétène. Génie Civil 102:207-8 Mr 4 '33

**ISOPALMITIC acid**

Branched chain aliphatic acids; isomyristic, isopalmitic and isostearic acids. C. R. Forde and J. R. Johnson. Am Chem Soc J 55:3368-72 Ag '33

**ISOPENTANE**

Rate of solution of methane in quiescent liquid hydrocarbons. R. D. Pomeroy and others. bibliog diag Ind & Eng Chem 25: 1014-19 S '33

**ISOPRENE**

Homogeneous thermal polymerization of isoprene. W. E. Vaughan. Am Chem Soc J 55:4109-16 O '33

Polymerization of diolefins with olefins; function of pentene-2 in the polymerization of isoprene. C. A. Thomas and W. H. Carmody. Am Chem Soc J 55:3854-6 S '33

**ISOPROPENYL phenols**

Rearrangement of alkenyl phenyl and cresyl ethers and the syntheses of isopropenyl phenols and their reduction products. J. B. Niederl and E. A. Storch. bibliog Am Chem Soc J 55:284-94 Ja '33

**ISOPROPYL alcohol**

Isopropyl alcohol properties, uses. B. T. Brooks. Chem Ind 33:331 O '33

Preparation of isopropyl bromide from isopropyl alcohol. E. A. Werner. Soc Chem Ind J 52:285T-6T S 8 '33

**ISOPROPYL bromide**

Preparation of isopropyl bromide from isopropyl alcohol. E. A. Werner. Soc Chem Ind J 52:285T-6T S 8 '33

**ISOPROPYLPHENOL ethers**

Organic reactions with boron fluoride; the rearrangement of isopropylphenol, *o*-, *m*- and *p*-cresyl ethers. F. J. Sowa, H. D. Hinton and J. A. Nieuwland. Am Chem Soc J 55:3402-7 Ag '33

**ISOQUINOLINE**

Dipole moments of quinoline and *iso*-quinoline. R. J. W. Le Fèvre and J. W. Smith. Chem Soc J p2810-11 N '32

Isoquinoline derivatives. H. J. Harwood and T. B. Johnson. Am Chem Soc J 55:2555-9, 4178-80 Je, O '33

**ISOSEQUIN**

Crystalline coloring compounds in redwood extract. E. C. Sherrard and E. F. Kurth. *Am Chem Soc J* 55:1728-32 Ap '33

**ISOSTEARIC acid**

Branched chain aliphatic acids; isomeric, isopalmitic and isostearic acids. C. R. Forgy and J. R. Johnson. *Am Chem Soc J* 55:3368-72 Ag '33

**ISOTHERMS**

Derivation of Langmuir's adsorption isotherm. P. G. Bird. *J Chem Educ* 10:237 Ap '33

Discontinuities in the sorption process. L. J. Burrage. *J Phys Chem* 37:41-5 Ja '33

Improved method for the determination of isotherms by the retentivity technique. L. J. Burrage. *J Phys Chem* 37:33-9 Ja '33

Influence of combined oxygen on the adsorption of vapors by porous solids. L. J. Burrage. *bibliog J Phys Chem* 37:505-10, 735-44 Ap, Je '33

Sorption of water vapor by glass. E. P. Barrett and A. W. Gauger. *diag J Phys Chem* 37:47-51 Ja '33

**ISOTHIOCYANATES**

Researches on pyrimidines; the molecular rearrangement of ethyl 2-ethylmercapto-6-thiocyanopyrimidine-5-acetate. Yuoh-Fong Chi and Chi Ming Ma. *Am Chem Soc J* 55:4655-7 N '33

Studies in dielectric polarisation; benzene solutions of methyl and ethyl thiocyanates and methyl, ethyl, and allyl isothiocyanates. E. C. E. Hunter and J. R. Partington. *Chem Soc J* p2825-9 D '32

**ISOTOPES**

Arrangement of atomic nuclei and the prediction of isotopes. S. B. L. Mathur. *Am Chem Soc J* 55:3053-6 Jl '33

Attempt to separate isotopes by reversible fractional distillation. H. J. Henriques and R. E. Cornish. *J Phys Chem* 37:397-8 Mr '33

Bismuth isotopes. F. Allison and E. R. Bishop. *Phys R* 43:47 Ja 1 '33

Chemical properties of the hydrogen isotopes. H. C. Urey. *R Sci Instr* 4:423-5 Ag '33

Fractionation of isotopes by electrolysis. J. Kendall. *Am Chem Soc J* 55:2612-13 Je '33

Heavy water. G. N. Lewis. *Science* 78:sup8 S 1 '33

Isotopes of uranium, thorium and lead, and J. J. Gibbons, jr. *Phys R* 44:538-43 O 1 '33

Isotope shift of Tl. G. Breit. *Phys R* 44:418-19 S 1 '33

Isotopes of chlorine. E. R. Bishop and F. Allison. *Phys R* 44:419-20 S 1 '33

Isotopes of sodium and cesium. C. B. Dollins and E. R. Bishop. *Am Chem Soc J* 55:4372-4 N '33

Isotopes of uranium, thorium and lead, and their geophysical significance. C. S. Piggot. *Phys R* 43:51-9 Ja 1 '33

Isotopes of uranium, thorium and thallium. R. Goslin and F. Allison. *Phys R* 43:49-50 Ja 1 '33

Isotopic fractionation of water; abstract. E. W. Washburn, E. R. Smith and M. Frandsen. *Science* 77:458 My 12 '33

Lead isotopes. E. R. Bishop, M. Lawrenz and C. B. Dollins. *Phys R* 43:43-6 Ja 1 '33

Manganese isotopes. I. G. Otto and E. R. Bishop. *Am Chem Soc J* 55:4371-2 N '33

Mass ratio of the boron isotopes from the spectrum of BO. F. A. Jenkins and A. McKellar. *il Phys R* 42:464-86 N 15 '32

Mass ratio of the lithium isotopes from the spectrum of Li<sub>2</sub>. A. McKellar. *Phys R* 44:155-64 Ag 1 '33

Radioactive families. E. R. Bishop. *bibliog Phys R* 43:38-42 Ja 1 '33

Radium isotopes. E. R. Bishop and C. B. Dollins. *Phys R* 43:48 Ja 1 '33

Relative abundance of hydrogen isotopes. W. Bleakney and A. J. Gould. *bibliog diag Phys R* 44:265-8 Ag 15 '33

Separation of the isotopic forms of water by fractional distillation. G. N. Lewis and R. E. Cornish. *Am Chem Soc J* 55:2616-17 Je '33

Simple type of isotopic reaction. G. N. Lewis. *Am Chem Soc J* 55:3502-3 Ag '33

Spectroscopic search for H<sup>3</sup> in concentrated H<sub>2</sub>. G. N. Lewis and F. H. Spedding. *il Phys R* 43:964-6 Je 15 '33

Story of isotopes. F. W. Aston. *Science* 78:5-6 Jl 7 '33

Study of the isotopes of cobalt by the magneto-optic method. T. R. Ball and S. S. Cooper. *Am Chem Soc J* 55:3207-10 Ag '33

Theory of vibrational isotope effects in polyatomic molecules. E. O. Salant and J. E. Rosenthal. *Phys R* 42:812-22; 43:581-2 D 15 '32, Ap 1 '33

**ITALIA shipping company**

Italia shipping company. *Economist* 115:1139 D 17 '32

**ITALIANS in New York city**

Sales opportunities widen in Italian-American market. L. M. Hughes. *il Sales Management* 32:58-60+ Ja 15 '33

**ITALY**

Italy subsidizes land reclamation. *Eng N* 110:466 Ap 13 '33

See also

Aeronautics, Military Fascism  
—Italy  
Chemical industries  
—Italy

**Economic conditions**

Italy in 1932. *Economist* 116:sup15-16 F 18 '33  
Italy's ledger a decade after. A. R. Pinci. *Barron's* 13:5 F 27 '33

**Economic policy**

Mussolini plan; Italy has a long-term reconstruction program. *Business Week* p21 F 15 '33

**Foreign relations**

Italy and her neighbours. *Economist* 116:58-9 Ja 14 '33

**Industries and resources**

Industry and imports of Italy; editorial. *Engineering* 135:192-3 F 17 '33

**Institute for industrial reconstruction**

New Institute for industrial reconstruction. *Economist* 116:239-40 F 4 '33

**ITTLESON, Henry**

Portrait. *Fortune* 7:73 Ja '33

**IVORY Coast**

Les installations maritimes de Port-Bouet et le pont-rails flottant sur la lagune d'Abidjan (Côte d'Ivoire). C. Dantin. *il diags maps Génie Civil* 102:173-9, pl 1 F 25 '33

**J****JACKLING, Daniel Cowan**

Mr Jackling receives the John Fritz medal. *Min & Met* 14:261-5 Je '33

**JACKS**

Portable jack for handling car wheels. P. G. Stultz. *il Ry Mech Eng* 106:504-5 D '32

**JACKSONVILLE, Florida****Rapid transit**

Jacksonville goes bus. *il Elec Traction* 29:112-13 Ap '33

**JACOBSEN reaction**

Jacobsen reaction; the monobromo derivatives of the three tetramethylbenzenes. L. I. Smith and C. L. Moyle. *Am Chem Soc J* 55:1676-82 Ap '33

**JACUTINGA**

Genesis of the deposits of auriferous jacutinga. E. P. de Oliveira. *bibliog Econ Geol* 27:744-9 D '32

**JAILS. See Prisons****JAMESONITE**

Oxidation of jamesonite, sphalerite, and tetrahedrite. A. L. Anderson. *il Econ Geol* 27:687-703 D '32



**JAPAN**

American foreign policy and the peasant and soldier in Japan. E. C. Carter. *Ann Am Acad* 168:1-8 J1 '33

*See also*

Chemical industries—Japan  
Fertilizer industry—Japan  
Finance—Japan  
Labor laws and legislation—Japan

Paleoclimatology—Japan  
Printing trade—Japan  
Silk manufacture and trade—Japan  
Trade unions—Japan  
Wages—Japan

**Commerce**

Japan; an eastern adaptation of western ideas. *Index* 13:145-51 S '33  
Japanese export competition. *Economist* 116:1177-8 Je 3 '33

**Commercial policy**

Japan in economic war against British India. *Barron's* 13:12 Ag 7 '33

**Economic conditions**

Japan in 1932. *Economist* 116:sup35 F 18 '33  
Japanese version of new deal. *Econostat* 1:5 Je 17 '33  
Prerequisites of Japanese security. J. E. Orchard. *Ann Am Acad* 168:23-34 J1 '33  
Review of industrial and financial conditions in Japan. *New York Journal of commerce*, Feb. 15, 1933, second section. 80p

**Foreign relations**

*See also*  
Manchuria

**United States**

American-Japanese relations. T. S. Miyakawa. *Sci Am* 149:73+ Ag '33  
Our third-rate navy could not fight Japan. F. D. McHugh. *il map Sci Am* 148:268-71+ My '33  
United States and Japan; commercial background of the Nine power treaty. R. Gilbert. *il Am Bankers Assn J* 25:36-7+ My '33

**History**

Reign of Meiji. *il map Fortune* 8:30-47, 87-90+ J1 '33

**Politics and government**

Reign of Meiji. *il map Fortune* 8:30-47, 87-90+ J1 '33

**Population**

Occupational distribution of the population of Japan, 1930. *Monthly Labor R* 36:1247 Je '33

**JAPANING**

Cent's worth of fuel does 100 lb. of work in the japanning department of the Midland steel products co. at Detroit. J. B. Nealey. *il Automotive Ind* 68:163-4 F 11 '33

Example of long-time service of baked enamel coating on water pipe. A. H. Sabin. *Am Soc T M Proc* 32 pt 2:666-9 '32

Plymouth uses induction type ovens to bake enamel on steel parts. E. L. Bailey. *il Iron Age* 132:23+ S 14 '33

*See also*

Varnish and varnishing

**JAVA**

*See also*

Labor and laboring classes—Java

**JAZZ music**

Introducing Duke Ellington; the true jazz. *il Fortune* 8:47-9+ Ag '33

**JEFFERSON standard life insurance company**

Annual statement, 1932. *Spectator* 130:28 Mr 30 '33

**JELLY**

Cranberry jelly; how it is made. R. E. Cox. *bibliog il Food Ind* 5:348-9 S '33

Pectin studies; citrus pectin. A. G. Olsen. *bibliog Ind & Eng Chem* 25:699-703 Je '33

*See also*

Colloids  
Gelatin

**JELLYFISH**

More fresh-water medusae. W. C. Kraatz. *Science* 77:87-8, 308 Ja 20, Mr 24 '33  
Water content of medusae. R. A. Gortner. *Science* 77:282-3 Mr 17 '33; Discussion. J. B. Bateman. *JJ* 451 My 12 '33

**JERUSALEM artichoke**

Analytical methods for the determination of levulose in crude products. R. F. Jackson, J. A. Mathews and W. D. Chase. *U S Bur Stand J Research* 9:597-613 N '32  
Extraction of levulose from Jerusalem artichokes. *J Fr Inst* 216:244-6 Ag '33  
Levulose, the sugar of the future. J. H. McGlumphy and J. W. Eichinger, jr. *il J Chem Educ* 10:453-63 [bibliog p463] Ag '33  
Production of a palatable artichoke sirup. F. A. Dykins and others. *bibliog Ind & Eng Chem* 25:937-40, 1165-8 Ag, O '33

**JET propulsion**

Jet-propulsion. *J Fr Inst* 215:198-200 F '33  
Superaviation. *diags Sci Am* 148:232-3 Ap '33

**JETS**

Atomization of liquid jets. H. B. Holroyd. *J Fr Inst* 215:93-7 Ja '33; Abstract. *Mech Eng* 55:310 My '33  
Experimental investigation of the principles of the air injector. A. Bailey and S. A. Wood. *Engineering* 136:177 Ag 18 '33  
Experiments with capillary jets; abstract. E. Tyler and F. Watkins. *Mech Eng* 55:46-7 Ja '33  
Water-jet conductivity. *il Elec R (Lond)* 113:48 J1 14 '33

**JETTIES**

Concrete caissons sunk by air-lift pumping; landing jetty at Le Verdon, France. *diags map Eng N* 111:249-50 Ag 31 '33  
Ocean port of Le Verdon. *il diags plan Engineer* 156:203-5, 210 S 1 '33  
Rockaway Point jetty stops sand drift in New York harbor. *il maps Eng N* 110:547 My 4 '33  
Steel sheetpile jetty at Pensacola. E. K. Foster and D. E. Young. *il diags map Eng N* 111:489-91 O 26 '33

*See also*

Breakwaters  
Piers

**JETTING**

Jetting solidifies large embankment; method employed on the Cincinnati Union Terminal project. *il Ry Age* 94:41-3 Ja 14 '33

**JEWEL bearings. See Bearings, Jewel****JEWEL tea company**

Can't go wrong; visual control boards. *il Factory Management* 91:461 N '33  
Good earnings maintained and prospects still favorable after more than three years of depression. *Mag of Wall St* 51:533+ Mr 4 '33  
When everyone's on the flying squadron, it costs less to package. F. C. Fleming. *il Factory Management* 91:393 O '33  
Why Jewel Tea earned a million last year. M. H. Karker. *il Management Methods* 62:209-11+ My '33

**JEWELRY**

Jewelry making, 1932 fashions. C. M. Hoke. *Metal Ind* 31:12 Ja '33

*See also*

Watches

**Manufacture**

Quality enamel for the jeweler's art. J. E. Bullard. *il Brass W* 28:227-8 N '32

**JEWELRY trade****Advertising**

National copy for jewelry chain. *il Ptr Ink* 161:82 D 15 '32

**United States**

Better business trend helping jewelry trade. *Dun & Bradstreet* 41:13-15 My '33  
Holiday demand helping jewelry trade recovery. R. Brennan. *Dun's R* 40:2-4 N 19 '32

**JEWISH telegraphic agency**

Address on the University in Jerusalem and the Jewish telegraphic agency. A. Einstein. *Science* 77:274-5 Mr 17 '33

**JEWS**

Wondering Jew. *Economist* 116:1235-6 Je 10 '33

**JEWS in Germany**

British academic assistance council. *Science* 77:620-1 Je 30 '33

Committee of Dutch professors on behalf of German Jewish students and graduates. *Science* 78:7-8 Jl 7 '33

German Jew. A. Myerson and I. Goldberg. 161p \$1.25 Knopf '33

Is a boycott the only weapon against Nazi Germany? M. Sykes. *Comm & Fin* 22:655 Jl 26 '33

Nazis mistook their mandate. S. Bell. *Comm & Fin* 22:309-10 Ap 5 '33

Situation of Jewish scientific men and physicians in Germany. *Science* 77:492-4 My 19 '33

Strange interlude—German. *Business Week* p5 Ap 12 '33

*See also* Emergency committee in aid of displaced German scholars

**JEWS in Palestine**

Palestine; a decade of development. H. Viteles and K. Totah, eds. *Ann Am Acad* 164:1-208 N '32

**JIG-saw puzzles. See Puzzles****JIGS**

Adjustable jig with parallel connection. F. Server. *diag Am Mach* 76:830-1 Jl 6 '32; Discussion. E. F. Teigh. 77:24 Ja 4 '33

Core assembly handled as unit. *il diag Foundry* 61:10-12+ Ag '33

Drill jig used in balancing rotors. J. E. Fenno. *diag Mach* 39:335 Ja '33

Jig facilitates cold riveting. *il Transit J* 77:155 My '33

Jig with quick-acting clamp for drilling oil-holes in bearing stud. F. Server. *diags Mach* 39:717 Jl '33

Quick-acting jig clamp. J. G. Jergens. *diags Am Mach* 77:637 S 27 '33

Usefulness of jigs in welding high nickel alloys. *il diags Sheet Metal Worker* 24:260-1 Ag '33

**JIMSON weed**

Methods of synthesizing pure-breeding types with predicted characters in the jimson weed; abstract. A. F. Blakeslee and A. D. Bergner. *Science* 76:571-2 D 16 '32

Primary and secondary 1n + 1 types, a new unbalance in the jimson weed; abstract. A. F. Blakeslee and others. *Science* 77:518 My 26 '33

**JOB analysis**

Classification of positions and wages; personnel administration methods of the Philadelphia gas works company. C. H. Frazier, Jr. *Gas Age* 72:79-81+ Jl 22 '33

Job-load analysis and planning of executive work in national-forest administration. E. W. Loveridge. 236p U. S. Dept. of agriculture, Forest service, Washington '32

Job standardization; its aims and installation; Westinghouse electric & mfg. co. G. J. Stegemerten. *Iron Age* 131:228-9+ F 9 '33

What is the job worth? knowing the value of employees and of their jobs. T. E. Kelly. *Factory & Ind Management* 83:477-8 D '32

*See also*

Motion study

**JOB hunting. See Applications for position****JOB sharing. See Unemployment—Relief measures—Work spreading****JOB work**

Order forms used by a jobbing machine shop; Boyar-Schultz corpn, Chicago. R. A. Fiske. *il Iron Age* 130:838-9+ D 1 '32

Production economies secured from the reduction of set-up time. A. J. Brandt and others. 32p Am. management assn, 20 Vesey st, New York '33

Synthetic time setting in a jobbing foundry; Link-Belt co, Chicago. R. A. Fiske. *Iron Age* 131:655-9 Ap 27 '33

**JOBBER helps**

School on wheels stimulates jobber interest; Multibestos company. M. T. Rogers. *il Ptr Ink* 162:51-3 Ja 5 '33

Sixteen ways to help jobbers' salesmen sell. *Ptr Ink* 162:52-4 Ja 12 '33

This sales plan's key man is the distributor; Raybestos concentrates on the middleman. *il Ptr Ink* 164:61-4 S 21 '33

**JOBBER relations**

Sales slump stops as advertised brand is pushed; Curtis shoe company. J. A. Curtis. *il Ptr Ink* 162:16-18 F 23 '33

**JOBBER selection**

Accurate sales costs as determining factor in merchandising policy. J. A. Austin. *il Textile World* 83:393-4 F 28 '33

**JOBBERS**

About this new bird: is it an eagle or a hawk? S. Norvell. *Sales Management* 33:162, 164+ Ag 15 '33

Board issues supplementary regulations on schedule E. Steel 93:15-16+ S 11 '33; Excerpt (Form of agreement). *Iron Age* 132:26FF S 21 '33

Bootleg wholesalers—frenzied selling's new threat. J. O. Nilan. *Ptr Ink Mo* 26:39-40+ Ja '33

Business needs the courage to refuse to sell. C. B. Larrabee. *il Ptr Ink* 161:3-4+; Discussion. 6 N 24 '32

Code for wholesalers to be heard Nov. 13. *Oil Paint & Drug Rep* 124:15 N 6 '33

Credit and the wholesale grocer. A. D. Whiteside. *Dun's R* 41:7-11+ F 25 '33

Do manufacturers render a service by carrying spot stocks? Many think "yes." J. H. Frederick. *Food Ind* 5:14-15 Ja '33

From exclusive dealership to jobber-dealer set-up. *Ptr Ink* 163:57-8 My 11 '33

Grocery manufacturers attack deals, rebates, allowances. *Ptr Ink* 161:69-70 D 15 '32

Grocery wholesalers demand new deal on national brands. *Sales Management* 31:436 N 15 '32

How competition distorts normal wholesale trading areas. N. H. Engle. *map Sales Management* 33:22-4 Jl 1 '33

Increase purchasing efficiency by using distributor cooperation; General cable corporation; abstract. L. A. Jones. *Management R* 22:186 Je '33

Jobber markets tires from central storage with quick delivery system. E. L. Barringer. *il Nat Pet N* 24:38+ D 14 '32

Jobber's star rises; high costs, heavy credit losses urge manufacturers to curtail direct selling. H. A. Haring. *il Adv & Sell* 21:13-15+ Jl 6 '33

Manufacturer drops direct-to-dealer distribution; National battery company, St Paul. *Forbes* 30:11 D 15 '32

New product, new plan jump sales of entire line; jobber co-operation gets results for Hoffman specialty company. G. Hutchinson. *il Ptr Ink* 162:40-3 Ja 19 '33

Position of the wholesaler in the book trade. C. T. Wheeler. *Harvard Business R* 11:237-43 Ja '33

Profit sharing with salesmen doubled this jobber's sales in five years; the House of Krasne. L. M. Hughes. *Sales Management* 31:466-7+ D 1 '32

Revised jobber code covers wholesaling by car makers and their distributors. *Automotive Ind* 69:497 O 21 '33

Sound selling policy is often a forgotten asset as advertising theme. D. W. Northup. *Ptr Ink* 163:41-2 My 4 '33

Taylor finds consumer slant for scientific line; sales jump. R. S. McFadden. *il Sales Management* 33:150-1+ Ag 15 '33

What is a jobber? the official definition. *Iron Age* 132:44G S 7 '33

What's ahead for wholesaling? C. A. Schuster. *il Credit & Fin Management* 35:10-12+ O '33; Same cond. *Ptr Ink* 165:86+ O 12 '33

Wholesale dry goods institute, 40 Worth st, New York, publishes various bulletins and surveys on dry goods wholesaling

Wholesale grocery credit survey; summary. *Dun's R* 41:12-13+ F 25 '33



**JOBBERs—Continued**

- Wholesaler now producer's most powerful ally. D. Gridley. *Ptr Ink* 164:51-4 Ag 31 '33
- Wholesalers face bitter competition. G. James. *Adv & Sell* 20:23+ D 8 '32
- Wholesalers must pay emergency sales tax in Pennsylvania. M. F. Burger. *Dom Eng* 140: 109-11 D '32
- Wholesaler's place in the sun; drawing up a code. *Business Week* p12 N 11 '33
- Wholesaling for profits. L. W. W. Morrow. *Elec W* 101:798-801 Je 17 '33

*See also*

- |               |                    |
|---------------|--------------------|
| Importing     | Salesmen, Jobbers' |
| Marketing     | Voluntary chain    |
| Merchandizing | movement           |

**Accounting**

- Marketing costs; a method of allocating to individual commodities. F. M. Surface. *Taylor Soc Bul* 18:2-5 F '33

**Costs**

- Selling costs due for drop. L. D. H. Weld. *Ptr Ink* 164:17-19 S 7 '33

**Statistics**

- Second helping; mercantile credit survey summary. W. C. Plummer. *Credit & Fin Management* 35:20+ F '33

**JOBBERs, Wagon**

- New step in food wholesaling. R. W. McFadden. *il Nation's Business* 21:48+ Ja '33

**JOBBERs' catalogs.** See Catalogs, Jobbers'**JOBBERs' salesmen.** See Salesmen, Jobbers'**JOHANNESBURG consolidated investment company**

- Annual meetings. *Economist* 115:998-9 N 26 '32
- Annual meeting of shareholders, Oct. 24. *Economist* 117:832-3 O 28 '33

**JOHN DAY formation.** See Paleontology—Oregon**JOHN FRITZ medal**

- John Fritz gold medal is awarded posthumously to John R. Freeman. *Oil Paint & Drug Rep* 124:22 O 30 '33; *Science* 78:401-2 N 3 '33

- Mr Jackling receives the John Fritz medal. *Min & Met* 14:261-5 Je '33

**JOHN HANCOCK mutual life insurance company**

- Shows gain in assets of \$18,000,000 in 1932. W. L. Crocker. *East Underw* 34:1+ F 17 '33; *Abstract*. *Weekly Underw* 128:452 Mr 4 '33

**JOHNS HOPKINS university**

- National fellowships at the Johns Hopkins university. *Science* 77:109 Ja 27 '33

**JOHNS-MANVILLE corporation**

- Companies which should show large gains in earnings. *Mag of Wall St* 52:281 J1 8 '33
- Johns-Manville's earnings positive. *Econostat* 1:14-15 O 28 '33

- Johns-Manville's time payment remodeling plan—and how it works. J. L. Wood. *Sales Management* 32:255-6 Mr 15 '33

- Speculative audit; favorable and unfavorable factors affecting common-stock values. *Baron's* 13:12 Ag 14 '33

**JOHNSON, Hugh S.**

- About important people. *por Forbes* 31:20 Je 1 '33

- General of industry. *por Business Week* p3, 6-7 My 31 '33

- Portrait. *Eng & Min J* 134:272 J1 '33

- Portrait. *Sales Management* 32:556 Je 1 '33

**JOHNSON, Philip G.**

- United aircraft's new head. *por Barron's* 13:4 J1 31 '33

**JOHNSON and sons**

- Johnson & sons, manufacturing chemists, Ltd. *il Soc Chem Ind J (Chem & Ind)* 52:55-6 Ja 20 '33

**JOHNSON bill.** See Public utilities—Law**JOINT stock land banks.** See Land banks**JOINTS**

- Die bedeutung der arbeitsleisten in teilfugen für die steifigkeit der konstruktion. K. Schönfelder. *diags Zeit Ver Deutsch Ing* 77:1070-3 S 30 '33

- Bolting of busbar joints. E. B. Shand and C. E. Valentine. *il diags Elec J* 30:377-80 S '33

- Building cost reductions seen in radically novel wood assembly methods. *Paper Tr J* 96:16-17 Mr 30 '33

- Dauerfestigkeit von schweißverbindungen bei verschiedener formgebung. A. Thum and W. Schick. *il diags Zeit Ver Deutsch Ing* 77:493-6 My 13 '33

- Distribution of shear in welded connections. H. W. Troelsch. *diags Am Soc C E Proc* 53:1499-1506 N '32; *Discussion*. 59:394-404, 521-2, 640-5, 1333-5 F-Ap, O '33

- Fabricated structural timber. A. H. Oxholm. *il Manuf Rec* 102:18-19 Je '33

- Helical joints in welded cylindrical pressure vessels; abstract. G. W. Bird. *Mech Eng* 55:448-9 J1 '33

- Increasing the capacity of framed timber joints; special metal connectors. F. O. Du-four. *il diags Eng N* 110:408-10 Mr 30 '33

- Machine for grinding ammonia-tight joints. C. C. Tomney. *il diags Am Mach* 76:1204h D 7 '32

- Modern connectors for timber construction. *il Arch Rec* 73:302-3 Ap '33

- Modern connectors for timber construction. *il diags* 147p [bibliog p146-7] National com. on wood utilization; pa 15c Supt. of doc. '33

- New style connectors for timbers. N. S. Perkins. *il Am Bld* 55:26-7 My '33

- Principles and practice in welded joint design. G. D. Fish. *diags Eng N* 109:773-7 D 29 '32

- Ring-connector joints used on timber bridge trusses for logging railroad in Washington. W. J. Ryan and W. D. Smith. *il diags Eng N* 111:95-7 J1 27 '33

*See also*

- |             |                    |
|-------------|--------------------|
| Brazing     | Riveted joints     |
| Cements     | Screws             |
| Couplings   | Solder and solder- |
| Packing     | ing                |
| Pipe joints | Welding            |
| Rail joints |                    |

**JOINTS, Universal**

- Axles and universal joints. *diag Automotive Ind* 67:815-16 D 24 '32

- Lubricating the universal joint. *il Pet Age* 27: 36-7 Ja '33

- Plymouth six has new type of needle bearing universal joint. *diag Automotive Ind* 67:625 N 12 '32; *Automobile Eng* 23:68 F '33

- Théorie générale des joints de transmission de rotation à couples d'emboîtement. F. E. Myard. *diags Génie Civil* 102:345-9 Ap 15 '33

- Les transmissions de rotation à couples d'emboîtement; application aux automobiles. F. E. Myard. *diags Génie Civil* 102:539-41 Je 10 '33

**JOISTS**

- Open-truss bar joists simplify wall construction; rebuilding a dock for the Huron milling co. at Harbor Beach, Mich. J. I. Bennett. *diags Eng N* 110:221 F 16 '33

**JOISTS, Concrete**

- Precast concrete joists called key to firesafe homes. E. W. Dienhart. *il diag Concrete* 41: 15-16 Mr '33

- Precast concrete joists have large market. *il diags Rock Prod* 36:48-9 Ap '33

- Progress with precast concrete joist floors for residences. R. E. Copeland. *il Rock Prod* 36:50-1 O '33

**JOISTS, Steel**

- Reinforced concrete combined with light steel joists; composite floor construction well adapted to light occupancy. R. C. Johnson. *il diag Concrete* 41:3-4 N '33

- Steel joist construction and the modern building code. R. C. Manning. *il Can Eng* 63:7-12 D 20 '32

**JONES, Carrie Maude**

- Some of our members and what they do. *Special Lib* 24:129 J1 '33

**JONES, J. Claude, 1877-1932**

- Memorial. G. D. Loderback. *por bibliog Geol Soc Bul* 44:374-77 Ap '33

- JORDAN, Virgil Dustin**  
Portrait. Business Week p9 Ja 4 '33  
President, National industrial conference board. por Steel 92:148 Ja 2 '33
- JORDAN motors, incorporated**  
Organization. Automotive Ind 67:661 N 19 '32
- JOULE effect (in rubber)**  
Wiegand's rubber heat engine installed in German museum of natural sciences. il Rubber Age 33:16 Ap '33; Can Chem & Met 17:74 Ap '33
- JOULE-THOMSON effect**  
Joule-Thomson effect in helium. J. R. Roebuck and H. Osterberg. diags Phys R 43:60-9 Ja 1 '33  
Solid carbon dioxide from flue gas by application of Joule-Thomson effect. F. E. E. Germann. bibliog Ind & Eng Chem 25:150-2 F '33
- JOURNAL of chemical education (periodical)**  
Journal of chemical education and the Chemistry leaflet. Science 77:110 Ja 27 '33
- JOURNALISM**  
Breaking into print. F. F. Bond. 221p \$2 McGraw-Hill '33  
History of journalism in the Philippine Islands. J. Z. Valenzuela. 217p [bibliog p201-5] Jesús Z. Valenzuela, Manila, P. I. '33  
Newspaper desk work. R. M. Neal. 405p \$3 Appleton '33  
Professional writing; opportunities for the blind in journalism and allied fields. G. Lathrop. 41p pa 50c American foundation for the blind, inc, 125 E. 46th st, New York '33  
What the consumer wants he should have. O. L. Wiese. Ptr Ink Mo 27:52+ J1 '33  
*See also*  
Newspapers  
Periodicals  
Technical writing  
Trade journals
- JOURNALISTS**  
Watching the world go by. W. J. Abbot. 358p \$3 Little '33  
*See also*  
Scripps, Edward Wyl-lis
- JOWETT, James Henry, 1874-1933**  
Sketch. por Comp Air M 38:4087 Mr '33
- JUDGES**  
Judicial personnel. R. L. Mott, S. D. Albright and H. R. Semmerling. Ann Am Acad 167: 143-55 My '33
- JUDICIAL statistics**  
Judicial statistics in the United States. L. C. Marshall. Ann Am Acad 167:135-42 My '33
- JUDICIARY.** See Courts
- JUNIOR colleges**  
Function of the junior college in engineering education. R. E. Davis. J Eng Educ 23:427-37 F '33  
Junior college movement on the West coast. B. M. Woods. J Eng Educ 23:415-26 F '33  
Junior colleges. W. B. Jones. J Eng Educ 23: 393-4 F '33  
Some implications of the junior college movement. G. F. Zook. J Eng Educ 24:162-9 O '33  
Success of University of Pittsburgh branch junior college students after transfer. F. W. Shockley. J Eng Educ 23:438-41 F '33
- JURA, Mount, California**  
Mount Jura investigation. C. H. Crickmay. Geol Soc Bul 44:895-926, pl 23-34 O '33
- JUSTICE, Administration of**  
Administration of justice. R. Moley and S. C. Wallace, eds. Ann Am Acad 167:1-220 My '33  
Expenditures of public money for the administration of justice in Ohio, 1930. R. Reticker. 333p \$3; pa \$2.50 Johns Hopkins press, Baltimore '33  
Trial by prejudice. A. G. Hays. 369p \$2.50 Covici, Friede, New York '33  
*See also*  
Legal aid societies
- JUTE**  
Flax, hemp and jute, 1932. Economist 116:sup 44-6, 62 F 18 '33  
Jute cargo fires. Weekly Underw 129:648 O 7 '33  
Road surfacing experiments with jute. Textile Inst J 24:P112 Je '33  
Wages and hours in the jute industry of Bengal, 1931. Monthly Labor R 35:1415-16 D '32
- JUTLAND peninsula**  
Little Belt bridge, Jutland. A. C. Davids and A. Mortensen. il diags map plan Civil Eng 3:361-5 J1 '33
- JUVENILE courts**  
Juvenile-court statistics, 1931. U S Children's Bur Pub 222:1-62 '33
- JUVENILE delinquency**  
Facts about juvenile delinquency; its prevention and treatment. U S Children's Bur Pub 215:1-44 '32  
Juvenile delinquency. W. C. Reckless and M. Smith. 412p \$3.50 McGraw-Hill '32

## K

## KAMPOMETER

Kampometer, a new instrument of extreme sensitiveness for measuring radiation. C. G. Abbot. Smithsonian Miscellaneous Collections v89, no3:1-5 '33

## KANAWHA river

Roller-gate dams for Kanawha river. il diags Eng N 111:337-42 S 21 '33

## KANSAS

*See also*  
Petroleum industry  
and trade—Kansas

## Social conditions

Hand book of Kansas social resources. 302p Kansas conference of social work, Topeka '32

## KANSAS academy of science

Annual meeting, 65th, Manhattan, Kan., April 13-15. Science 77:564-5 Je 9 '33

## KANSAS association of insurance agents

Annual meeting, Hutchinson, Kansas. Nat Underw 37:26-9 O 26 '33

## KANSAS CITY, Kansas

## Bridges

New Seventh Street trafficway in Kansas City, Kansas. L. Grover. il diags map Eng N 111:459-63 O 19 '33

## Streets

New Seventh Street trafficway in Kansas City, Kansas. L. Grover. il diags map Eng N 111:459-63 O 19 '33

## Water supply

Advantages of combined operation of water and light plants. J. D. Donovan. Am Water Works Assn J 25:465-77 Ap '33

## KANSAS CITY, Missouri

Kansas City's ten-year public-works plan goes ahead with hand labor. Eng N 111:75 J1 20 '33

## Streets

Kansas City's assessment plan. G. G. McCaustland. Civil Eng 3:228-9 Ap '33

**KANSAS CITY life insurance company**  
Statement for 1932. Spectator 130:20 Ja 19 '33; Weekly Underw 128:206 Ja 28 '33

**KANSAS university, Lawrence, Kansas**  
Beginning of liquid ammonia research in the United States. R. Taft. il J Chem Educ 10: 34-9 Ja '33

## KAOLAKH, Senegal

Le port à arachides de Kaolack (Sénégal). E. Jacquier. il diags map Génie Civil 102:1-6 Ja 7 '33

## KAOLIN

Anna "Kaolin" as a new decolorizing agent for edible oils. R. J. Piersol, J. E. Lamar and W. H. Voskuil. Ill State Geol S Rep of Invest 27:1-42 '33



**KAOLIN—Continued**

- Canadian kaolin silica products limited. W. M. Goodwin. *il Can Min J* 54:377-80 O '33
- Effect of mechanical pressure on the imbibitional and drying properties of some ceramic clays. A. E. R. Westman. *diags Am Cer Soc J* 15:552-63; 16:256-64 O '32, Je '33
- English china clay. A. L. Curtis. *il Can Chem & Met* 17:121-2 Je '33
- Fusion study of the high feldspar area in the feldspar-kaolin-quartz system. M. H. Waldschmidt. *diags Am Cer Soc J* 16:199-203 Ap '33
- Nouveaux gisements français de matières premières pour l'industrie céramique. V. Charin. *il diags maps Génie Civil* 102:6-9 Ja 7 '33
- Progress in kaolin refining. J. K. Towers. *flow sheet Rock Prod* 35:14-17 N 19 '32
- Refining of Pacific northwest kaolins by air flotation. H. Wilson and J. A. Cunliffe. *il Am Cer Soc J* 16:154-62 Mr '33
- La région kaolinique de Montebrias (Creuse). *Génie Civil* 103:310-11 S 23 '33
- Resistance to sudden temperature change of some bodies of the system talc-clay-mullite. R. M. King and C. L. Evans. *Am Cer Soc J* 16:360-2 Ag '33
- Some effects of grain size of china clays. H. F. Vieweg. *il Am Cer Soc J* 16:77-81 F '33
- Some properties of English china clays. T. A. Klinefelter, W. W. Meyer and E. J. Vac-huska. *Am Cer Soc J* 16:269-76 Je '33

See also

**Clay****Transportation**

- China clay carried on the Exeter City contributed to her total loss. *Weekly Underw* 128:194 Ja 28 '33
- KASHMIR**
- Textile industries of Kashmir. A. F. Barker. *il Textile Col* 55:240-5+ Ap '33
- KATZ, Joseph**
- Paradox. *Adv & Sell* 20:21+ F 2 '33
- KAURI**
- Standardization of kauri butanol test for paint and lacquer thinners. L. C. Beard, V. L. Shipp and W. E. Spelshouse. *bibliog Ind & Eng Chem Anal* ed 5:307-9 S 15 '33
- KECK, Lucile L.**
- Some of our members and what they do. *Special Lib* 24:129-30 Jl '33
- KEGS**
- What beer means to our metals business. G. S. Herrick. *il Iron Age* 131:461-3+ Mr 23 '33
- KELLER, Louise**
- Who's who. *Special Lib* 24:49 Mr '33
- KELP**
- Born of the depression; Kelp laboratories, San Diego, Calif. M. J. Walsh. *il Food Ind* 5:299 Ag '33
- KEMP**
- Inheritance of kemp in blackface sheep. D. M. Bryant. *bibliog Textile Inst J* 24:T309-16 Ag '33
- KENFIELD, Hiram J.**
- Retires as president of Kenfield-Davis publishing company. *por Elec Traction* 29:66-7 Mr '33
- KENNECOTT copper corporation**
- Kennecott reports heavy loss. *Econostat* 1:12+ Ap 29 '33
- KENNELLY-HEAVISIDE layer**
- Continuous Kennelly-Heaviside layer records of a solar eclipse. H. R. Mimno and P. H. Wang. *il diags Inst Radio Eng Proc* 21:529-45 Ap '33
- Continuous measurements of the virtual heights of the ionosphere. T. R. Gilliland. *pls diag U S Bur Stand J Research* 11:141-6 Jl '33; Same. *Inst Radio Eng Proc* 21:1463-75 O '33
- Cyclones, anticyclones and the Kennelly-Heaviside layer. R. C. Colwell. *diags Inst Radio Eng Proc* 21:721-5 Mr '33
- Double-refraction effects in the Kennelly-Heaviside layers. H. R. Mimno and P. H. Wang. *Phys R* 43:769-70 My 1 '33

- Ionizing effect of meteors in relation to radio propagation. A. M. Skellett. *Inst Radio Eng Proc* 20:1933-40 D '32
- Limiting polarization of downcoming radio waves traveling obliquely to the earth's magnetic field. W. G. Baker and A. L. Green. *diags Inst Radio Eng Proc* 21:1103-31 Ag '33
- Observations of Kennelly-Heaviside layer heights during the Leonid meteor shower of November, 1931. J. P. Schafer and W. M. Goodall. *Inst Radio Eng Proc* 20:1941-5 D '32
- Observations of the effective height of the Kennelly-Heaviside layer and field intensity during the solar eclipse of August 31, 1932. G. W. Kenrick and G. W. Pickard. *il Inst Radio Eng Proc* 21:546-66 Ap '33
- Wireless apparatus for the study of the ionosphere. G. Builder. *bibliog diags Inst E E J* 73:419-36, pl 1-2 O '33

KENT plan. See Subsidies

**KENTUCKY****Commerce**

- Aid for analyzing markets in Indiana and Kentucky. maps 24p U. S. Bur. of foreign and domestic commerce, Washington '33
- KENTUCKY home life insurance company**
- Barnes, Cohen now in full control. *Nat Underw (Life ed)* 36:4 D 9 '32
- Issues cleared; status of Inter-Southern policyholders. *Nat Underw (Life ed)* 36:13-14 D 2 '32
- Kentucky Home is taken over by bank. *Ins Field (Life ed)* 62:5+ S 15 '33
- Missouri State Life control trustee as Greenfield retires. *Ins Field (Life ed)* 61:5+ D 9 '32
- Put in temporary receivership. *Nat Underw (Life ed)* 37:3+ Ja 20; 16 Ja 27 '33
- Receivers pro tem named by court. *Ins Field (Life ed)* 62:5-6 Ja 20; 5 Ja 27 '33
- Talbot demands Missouri State interlocking loan plan be rescinded at once. *Ins Field (Life ed)* 61:5-6+ D 23; 5+ D 30 '32

**KENTUCKY university**

- Museums of archeology and geology at the University of Kentucky. *Science* 77:277 Mr 17 '33

**KENYA colony****See also**

- Gold mines and mining—Kenya colony      Public health—Kenya colony
- Labor and laboring classes—Kenya colony

**KERATIN**

- Constitution of the keratin molecule; abstract. J. B. Speakman and M. C. Hirst. *Textile Inst J* 24:A129-30 Mr '33

**KEROSENE**

- Insecticidal studies of Midcontinent distillates as bases for pyrethrum extracts. H. H. Richardson. *bibliog Ind & Eng Chem* 24:1394-7 D '32
- Progress of naphthology, 1932; kerosine and white spirit. S. T. Minchin. *bibliog Inst Pet Tech J* 19:574-7 Jl '33
- Smoke point of kerosine. *diags Inst Pet Tech J* 19:812-14 S '33
- Volatility improvement and antiknock rating widens kerosene demand. R. Stansfield and A. R. Starks. *Oil & Gas J* 32:23+ Ag 3 '33

**Manufacture**

- Caustic soda still indispensable in petroleum refining. J. F. Middleton. *Nat Pet N* 25:29-30+ Ja 18 '33
- Several angles to problem of securing quality kerosenes from crude oils in California. G. H. Van Senden. *Oil & Gas J* 32:14+ Ag 3 '33
- KERR effect**
- Calculation of statistical averages for perturbed systems. R. Serber. *Phys R* 43:1011-21 Je 15 '33
- Dispersion of the Kerr electro-optic effect in the short infrared spectrum. L. R. Ingersoll and W. R. Winch. *diags Phys R* 44:399-405 S 1 '33

**KERR effect—Continued**

- Electro-optical Kerr effect in gases. C. W. Bruce. *diags Phys R* 44:682-6 O 15 '33  
 Kerr's law at high field strengths. J. A. Hootman. *diags Phys R* 43:749-55 My 1 '33  
 Theory of depolarization, optical anisotropy, and the Kerr effect. R. Serber. *Phys R* 43:1003-10 Je 15 '33

**KETALS**

- Formation of cyclic acetals from aldehydes or ketones and alkylene oxides. M. T. Bogert and R. O. Roblin, jr. *bibliog Am Chem Soc J* 55:3741-5 S '33

**KETENE**

- Interaction of ketene with aromatic aldehydes and its bearing on the Perkin reaction. C. D. Hurd and C. L. Thomas. *bibliog Am Chem Soc J* 55:275-83 Ja '33  
 Liquid ketene and ketene polymers. C. D. Hurd, A. D. Sweet and C. L. Thomas. *Am Chem Soc J* 55:335-7 Ja '33

**KETENE acetals**

- Acetoacetic ester condensation; the reaction product of certain aliphatic esters and sodium ethoxide. J. M. Snell and S. M. McElvain. *Am Chem Soc J* 55:416-21; Discussion. 425-6, 427-8 Ja '33

**KETOLS**

- Condensation of aldehydes with ketones and some of the products derived from the ketols. L. P. Kyrides. *Am Chem Soc J* 55:3431-5 Ag '33

**KETONES**

- Action of bleaching powder on ketones and on ethyl acetoacetate. C. D. Hurd and C. L. Thomas. *Am Chem Soc J* 55:1646-9 Ap '33  
 Asymmetric syntheses; the action of optically active nitrates on cyclic ketones. R. L. Shriner and E. A. Parker. *Am Chem Soc J* 55:766-70 F '33  
 Asymmetric syntheses; the action of optically active nitrites on cyclic ketones. M. Pezold and R. L. Shriner. *bibliog Am Chem Soc J* 54:4707-11 D '32  
 Benzoin reduction; the mechanism of ketone formation; the case of *m*-chlorobenzoin. S. S. Jenkins and E. M. Richardson. *Am Chem Soc J* 55:3874-9 S '33  
 Condensation of aldehydes with ketones and some of the products derived from the ketols. L. P. Kyrides. *Am Chem Soc J* 55:3431-5 Ag '33  
 Constitution of eremophilone and of two related hydroxy-ketones from the wood oil of eremophila. Mitchell, A. E. Bradfield, A. R. Penfold and J. L. Simonsen. *Chem Soc J* p2744-59 N '32  
 Electrolytic reduction of ketones in glacial acetic acid. S. Swann, jr. *Electrochem Soc Trans* 64 (preprint 21):245-52 S '33  
 Formaldehyde condensations with aliphatic ketones. G. T. Morgan and E. L. Holmes. *Chem Soc J* p2667-73 N '32  
 Grignard reaction in the synthesis of ketones; a new method of preparing desoxybenzoins. S. S. Jenkins and E. M. Richardson. *Am Chem Soc J* 55:703-6, 1618-21 F, Ap '33  
 Halochromism of ketones in acids. L. C. Anderson. *Am Chem Soc J* 55:2094-8 My '33  
 Heterocyclic ketones;  $\beta$ -amino-ketones and related pyrazolines derived from benzylidene- and furfurylidene-acetone. H. B. Nisbet and C. G. Gray. *Chem Soc J* p839-40 Jl '33  
 Mechanism of reduction by sodium amalgam and alcohol; the reduction of aromatic ketones to hydrois. W. E. Bachmann. *Am Chem Soc J* 55:770-4 F '33  
 Photochemical reduction of ketones to hydrois. W. E. Bachmann. *Am Chem Soc J* 55:391-5 Ja '33  
 Preparation of aldehydes and ketones by dehydrogenation of alcohols over copper-chromium oxide. H. Adkins and others. *diag Am Chem Soc J* 55:2992-4 Jl '33  
 Preparation of amines by catalytic hydrogenation of derivatives of aldehydes and ketones. C. F. Winans and H. Adkins. *bibliog Am Chem Soc J* 55:2051-8 My '33

- Preparation of ketones by the carbonation of organolithium compounds. H. Gilman and P. R. Van Ess. *Am Chem Soc J* 55:1258-61 Mr '33

- Production of higher alcohols, aldehydes, and ketones. G. T. Morgan and D. V. N. Hardy. *Soc Chem Ind J (Chem & Ind)* 52:518-19 Je 23 '33

- Reaction between alpha, beta-unsaturated ketones and organic magnesium compounds; the structure of the addition products. E. P. Kohler and W. E. Mydans. *Am Chem Soc J* 54:4667-78 D '32

- Reaction between alpha, beta-unsaturated ketones and organic magnesium compounds; unsaturated mesitylenic ketones. E. P. Kohler and C. E. Barnes. *Am Chem Soc J* 55:690-5 F '33

- Reaction between aromatic ketones and sodium; reactions of sodium pinacولات. W. E. Bachmann. *Am Chem Soc J* 55:2827-30 Jl '33

- Reaction between unsaturated ketones and organic magnesium compounds; the secondary products. E. P. Kohler and W. D. Peterson. *Am Chem Soc J* 55:1073-82 Mr '33

- Reaction of aromatic ketones with sodium; the structure of the so-called metal ketyls. W. E. Bachmann. *Am Chem Soc J* 55:1179-88 Mr '33

- Reactions of halogenated ketones; the action of potassium cyanide on desyl chloride. E. P. Kohler and F. W. Brown. *Am Chem Soc J* 55:4299-304 O '33

- Studies in dielectric polarisation; benzene solutions of pyrones, thiopyrones, and thioketones; dioxan solutions of ureas and thioureas. E. C. E. Hunter and J. R. Partington. *Chem Soc J* p87-90 Ja '33

- Studies in the phenanthrene series; hydroxy aldehydes and hydroxy ketones. E. Mosettig and A. Burger. *Am Chem Soc J* 55:2981-9 Jl '33

*See also*

Acetone  
 Diketones

**KETTERING, Charles Franklin**  
 Portrait. *S A E J* 33:sup13 N '33

**KETTLES**

*See also*

Tea kettles

**KETYLS, Metallic**

- Reaction of aromatic ketones with sodium; the structure of the so-called metal ketyls. W. E. Bachmann. *Am Chem Soc J* 55:1179-88 Mr '33

- To what extent are the so-called ketyls free radicals? abstract. W. E. Bachmann. *Science* 76:521 D 2 '32

**KEYS and keyways (machinery)**

- Craven internal splineway grinding machine. *il diags Engineering* 136:23-4 Jl 7 '33

- Cutting keyways at an angle at opposite ends of a shaft. H. Coy. *diags Am Mach* 77:217 Mr 29 '33

- Estimating time for cutting internal keyways; reference book sheet. C. W. Willits. *Am Mach* 76:1229 D 21 '32

- Fatigue of shafts having keyways. R. E. Peterson. *il diags Am Soc T M Proc* 32 pt 2: 413-19; Discussion. 420 '32

- Grinding fixtures for special work. C. F. Henry. *il Am Mach* 76:1166 N 23 '32

- Honing internal splines. *il diags Automobile Eng* 23:127-8 Ap '33

- Keying solid pulleys. J. A. Dixmund. *diag Maintenance Eng* 91:52-3 F '33

- Milling Woodruff keyseats in the lathe. H. Coy. *diags Am Mach* 77:253 Ap 12 '33

- Precision grinding machines; spline shaft grinding. *il diags Engineer* 154:613-14 D 16 '32

- Richards vertical slot-drilling and keyway-cutting machine. *il Engineering* 134:640 N 25 '32

- Shaper set-up for forming a key integral with the bore. F. W. Curtis. *il Mach* 39: 696 Jl '33

**Standards**

- Dimensions for four- and six-spline shaft fittings. S.A.E. standards; data sheet. *Mach* 40:8A S '33



**KEYSTONE holding company**

Nine are indicted in Keystone case. *Ins Field* (Life ed) 62:12 Ap 28 '33

**KHOTINSKY, Achilles de, 1850-1933**

Sketch. P. E. Klopsteg. *Science* 77:382-3 Ap 21 '33

**KIAER, Johan, 1869-1931**

Memorial tribute. P. E. Raymond. *Geol Soc Bul* 44:415-19 [bibliog p416-19] Ap '33

**KIDNAPING**

Kidnapping racket; compounding a felony. *Econostat* 1:23 Ag 19 '33  
Many inquiries received as to kidnapping coverage. *Nat Underw* 37:18 Jl 20 '33  
To write or not to write cover against kidnapping one of the intriguing questions of the hour. *Weekly Underw* 129:357+ Ag 26 '33

**KIERS**

Modern bleaching of cotton fabrics. W. H. Adams. *diags Melland* 4:663-5, 718-20 F-Mr '33

**KIESELGUHR. See Diatomaceous earth****KILCUP, Ernest I. 1891-**

President of the National association of credit men. *por Credit & Fin Management* 35:13+ Jl '33

**KILNS**

Design of kilns for the seasoning of timber. E. A. Steel. *Engineer* 155:175 F 17 '33  
Dry kiln practice. H. L. Henderson. 196p New York state college of forestry, Syracuse, N.Y. '32  
Gas aids the potter. J. B. Nealey. *il Sci Am* 148:161 Mr '33  
Industrial furnaces for gas; kilns for heavy clay products. L. E. Biemiller. *il diags Am Gas J* 138:16-18 Ja '33  
Muffle kiln of high efficiency. F. H. Norton and J. V. Duplin, jr. *diags Am Cer Soc J* 16:152-3 Mr '33  
Opportunities for using indicating and recording control instruments in the rock products industries. J. R. Withrow. *il Rock Prod* 35:20-3 N 5 '32; 36:32-5 F '33  
Rotary kiln; its use as a roasting furnace. *Chem Age (Lond)* 28:364 Ap 22 '33  
Stresses in domes and crowns of circular kilns. J. N. Goodier. *Am Cer Soc J* 16:220-8 My '33  
Two short rotary kilns comprise new burning system. E. J. Wechter. *diag Concrete (mill sec)* 41:30-1 Ag '33

*See also*

Brickmaking                      Drying apparatus  
Cement kilns                      Furnaces

**Electric heating**

Furnaces and kilns; progress in 1932. E. P. Barfield. *Electrician* 110:103 Ja 27 '33

**Firing**

Conversion of periodic kilns from coal firing to natural gas for firing glazed clay products. R. F. Grady, jr. *il Am Cer Soc J* 16:141-51 Mr '33; Discussion. C. F. Geiger. 16:203-4 Ap '33  
Determination of the effect on wall tile glazes of direct-firing with gas. A. P. Watts. *il Am Gas Assn Mo* 15:131-3+ Ap '33  
Developments in automatic stoking for brick kilns; abstract. M. Steenbrugge. *Engineering* 136:408 O 13 '33  
Effect of various gaseous atmospheres on the vitrification of ceramic bodies. A. E. Badger. *diag Am Cer Soc J* 16:107-17 F '33  
Firing a continuous kiln with natural gas. M. A. Taylor. *Brick & Clay Rec* 82:135-6 Ap '33  
Gas heat application; general forum on industrial uses of gas. *Am Gas Assn Proc* 1932:613-17  
Terra cotta makers find gas best fuel to meet demand for color. J. B. Nealey. *Am Gas Assn Mo* 15:53-5+ F '33

**KIMBALL, Dexter Simpson, 1865-**

Awarded the sixth Lamme medal; biographical sketch. *por J Eng Educ* 24:6-9 S '33

**KIMBALL, Ingalls, 1874-1933**

Sketch. *East Underw* 34:4 O 20 '33; *Spectator* 131:17+ O 19 '33

Sketch. E. E. Calkins. *por Adv & Sell* 21:30 O 26 '33

**KINDERGARTENS**

Kindergarten; geometrical drawings. *Arch Forum* 57:517 D '32  
Kindergarten in Zurich-Wiedikon, Switzerland; views and plans. *Arch Rec* 74:195-9 S '33  
Vienna kindergarten. *il Arch Forum* 57:503-7 D '32

**KINEMATICS***See also*

Mechanical movements  
Mechanics

**KING, I.**

Star salesmen the depression couldn't lick. *por Sales Management* 33:320, 331 O 1 '33

**KINGS river, California**

Report of Kings river water master for the period 1918-1930. 426p California. Dept. of public works, Sacramento '32

**KINGSPOORT, Tennessee**

Building an integrated industry in times of depression; Tennessee Eastman at Kingsport. S. D. Kirkpatrick. *il Chem & Met Eng* 40:236-40 My '33

Kingsport moves forward. H. Long. *il Manuf Rec* 102:20-1 Jl '33

**KINGSTON, Ontario****Sewerage**

Sanitary situation at Kingston. E. W. Johnston. *Can Eng* 64:24 F 28 '33

**KIOSKS. See Electric substations, Outdoor****KITCHEN utensils**

Another dark corner product earns its bit of limelight; Robeson Rochester corporation. C. W. Silcox. *il Sales Management* 32:164 F 15 '33

Revere resurrects copperware for kitchen—sales boom. H. Kerkow. *il Sales Management* 31:514+ D 15 '32

*See also*

Tea kettles

**KITCHENER, Ontario****Water supply**

Kitchener water works pumping plant. *il Can Eng* 64:29-30 F 28 '33

**KITCHENS**

Church kitchens. *il Am Gas Assn Mo* 15:335 Ag '33

Consider the housewife first! A. L. Marlatt. *il Am Bld* 54:16-17+ Mr '33

Country house kitchen. *il plans Arch Forum* 58:245-8 Mr '33

Home service can promote modern gas kitchens. R. Kleinmaier. *Gas Age* 72:67-9 Jl 15 '33; Same. *Am Gas J* 139:20-2 Jl '33

Household kitchen planning; with reference advertisement of the General electric company. *il plans Am Arch* 143:91-114 Jl '33

How plumbing makes for efficiency in institutional kitchen. R. M. Starbuck. *il plan Dom Eng* 141:50-1 Ja '33

Kitchens at the Fair; illustrations. *Am Bld* 55:18-19 Ag '33

Model kitchen has startling features; Westinghouse electric and manufacturing company. *Forbes* 32:16 N 1 '33

Planning the modern kitchen. *plans Am Bld* 54:18-20 Mr '33

Ventilating a kitchen and bath room. *plan Sheet Metal Worker* 24:251-2 Ag '33

Why kitchen planning? D. Kahl. *il Gas Age* 72:229+ S 9 '33

*See also*

Ships—Kitchens

**Equipment**

Gas in the catering trade; fine installation in Sheffield. *il Gas J (Lond)* 201:741-2 Mr 22 '33

Household kitchen planning; with reference advertisement of the General electric company. *il plans Am Arch* 143:91-114 Jl '33

Kitchen modernization; A. G. A. Home service subcommittee report. *Am Gas J* 139:41-3 O '33

**KITCHENS—Equipment—Continued**

Modernizing the kitchen; symposium. *Am Gas J* 139:35-7 O '33

New step in effective gas merchandising; model all gas kitchen. *J. J. Haight. il Gas Age* 72:57-8 JI 15 '33

Philadelphia kitchen planning headquarters aid gas load. *R. A. Malony. il Gas Age* 72:394-6 O 21 '33

Unit kitchen; five manufacturers, urged by one gas company, produced the new kitchen compact. *il Business Week* p12-13 Je 10 '33; *Gas Age* 71:612 Je 10 '33; *Arch Forum* 59:sup42 JI '33

What metal has done—metal can do; illustrations. *Iron Age* 131:821 My 25 '33

**KITES**

Campaign to reduce kite flying hazards. *il Elec West* 70:10-11 Ja '33

**KITSON—STILL engine. See Still engine****KJELDAHL method. See Nitrogen—Analysis****KLEIN, Arthur L.**

Delicate instruments tame wild airplanes; work of Dr A. L. Klein at the California institute of technology. *A. R. Boone. por Sci Am* 148:12-13 Ja '33

**KLEIN, Samuel**

Buying graft; S. Klein prosecutes buyer thereby helping to discourage bribery. *Business Week* p6 Ja 18 '33

**KLONDIKE gold fields**

Quest for polar treasures. *J. Welzl. 352p Macmillan* '33

Sourdoough gold. *M. L. Davis. 351p W. A. Wilde co, Boston* '33

**KNEADING machines**

Science of mixing and kneading; modern machinery at the bakers' exhibition. *il Chem Age (Lond)* 29:233-5 S 9 '33

Universal mixing and kneading machinery. *il Chem Age (Lond)* 29:277 S 23 '33

**KNIT goods**

Children's knitwear. *il Textile World* 83:732 Ap '33

Chlorinating treatment of woollen goods. *il Chem Age (Lond)* 28:355 Ap 22 '33

Dyeing and processing of knit goods. *W. F. Christman. Am Dyestuff Rep* 22:210-11 Mr 27 '33

Impregnation of knitted goods to make them water-repellent. *R. Lasse. Textile Col* 55:665-6+ O '33

Knitting ingenuity evidenced by new products of 1932. *Textile World* 83:418-20 F 28 '33

New phases in knitted underwear. *W. Davis. il Melland* 4:671-3 F '33

Scouring of knitted woollen goods containing mineral oil. *S. R. Trotman and H. Horner. Soc Dyers & Col J* 48:325-8 D '32; Same cond. *Textile Col* 55:246-7+ Ap '33; Excerpts. *Textile World* 83:1303 JI '33

Some general sources of faults in textile materials. *L. L. Lloyd. Textile Inst J* 24:P161-5 Ag '33; Same cond. *Am Dyestuff Rep* 22:679-81 N 6 '33; Discussion. *Textile Inst J* 24:P165 Ag '33

Underwear styles for 1933 center on novelty fabric effects. *il Textile World* 83:66 Ja '33

Use of aqueous solutions of chlorine and bromine for the production of the unshrinkable finish on knitted woollen goods. *S. R. Trotman. Soc Chem Ind J* 52:159T-63T Je 2 '33; Discussion. *52:164T, 544 Je 2, 30 '33*

Warmth without weight; study of bulkiness in knit goods. *W. Davis. Textile World* 83:1625-6 S '33

What's new in knit underwear? *J. Caplin. il Melland* 4:660-2 F '33

See also

Bathing suits  
Hosiery

Silk, Artificial—  
Knit goods  
Underwear

**Manufacture**

Butterworth tube-tex machine. *il Am Dyestuff Rep* 22:682 N 6 '33

Cost-finding system at Minneapolis knitting works. *V. J. Gregory. il Textile World* 83:60-1 Ja '33

Development of warp loom knitted fabrics. *W. Davis. il Melland* 4:550-3 D '32

Developments in knitting machines and processes. *W. Davis. Textile Inst J* 24:P47-8 Mr '33

Finding thread costs of knitted undergarments. *S. M. Peterson. Textile World* 83:1254 JI '33

Finishing knit goods. *W. E. Herrick. Textile World* 82:970 N '32

Fulling rayon-worsted knit goods. *W. E. Herrick. Textile World* 83:1254 JI '33

Mill test shows yarn costs in circular knitting; infants' wrappers. *S. M. Peterson. Textile World* 82:972 N '32

Warp-knitting machine for the manufacture of non-run frame warp fabrics. *W. Hildebrandt. il sample Melland* 5:18-21 Ap '33

**Testing**

Analysis of warp-knitted fabric. *H. Cook. Textile Inst J* 24:P91-2 My '33

Estimation of damage on chlorinated knitted wool fabrics. *C. H. Edwards. Textile Inst J* 24:T1-9 Ja '33

**KNIT goods industry**

Knit goods digest. Published in monthly numbers of Textile world

**KNITTING**

Cut-presser figures; procedure for spring-needle design. *J. F. Cahill. il Textile World* 83:214-16, 735 F 14, Ap '33

Full-fashioned defects avoided with only temporary burden on supervisors. *A. E. Parker. il Textile World* 82:1154-6 D '32

Knitting cellophane; producing imitation-straw fabrics on circular latch-needle machines. *J. H. Lepperhoff. il diags Textile World* 83:1084-5 Je '33

Non-run stockings. *W. Hildebrandt. il Melland* 4:481-5, 565-9 N-D '32

Yarn robbing; a problem unsolved in circular-hosiery knitting. *W. A. Simond. diags Textile World* 82:962-3 N '32

**KNITTING arts exhibition**

Annual exhibition, 29th. Philadelphia, April 24-28. *Am Dyestuff Rep* 22:261-2 Ap 10 '33; *Melland* 5:33-4+ Ap '33; *Textile World* 83:727-9, 781, 941-4, 963 Ap-My '33

**KNITTING machines**

Mechanisation of knitting. *J. Chamberlain. diags Engineering* 136:272-5 S 8 '33; Abstract. *Engineer* 156:254 S 15 '33

Outerwear; several new machines shown at successful exhibition. *Textile World* 83:570 Mr '33

Tompkins circular jersey machine. *il Textile World* 83:1107 Je '33

Warp-knitting machine for the manufacture of non-run frame warp fabrics. *W. Hildebrandt. il sample Melland* 5:18-21 Ap '33

See also

Hosiery machines

**Exhibitions**

Knitting arts 29th annual exhibition, Philadelphia, April 24-28. *Melland* 5:33-4+ Ap '33; *Textile World* 83:727-9, 781, 941-4, 963 Ap-My '33

**Lubrication**

Petroleum products in wool oiling and machinery lubrication. *Textile World* 82:982 N '32

**KNITTING mills**

See also

Hosiery mills

**Accounting**

Cost-finding system at Minneapolis knitting works. *V. J. Gregory. il Textile World* 83:60-1 Ja '33

**Employees**

Hours and earnings of men and women in the knit goods industry. 61p Pennsylvania. Bureau of women and children, Harrisburg '31

**Equipment**

Requirements for small knitting plant. *Textile World* 83:596-7 Mr '33

See also

Knitting machines



**KNITTING mills—Continued****Management**

Individual efficiency increased by well-rounded management policy at Jantzen knitting mills. L. H. Delano. *il Textile World* 83: 1818-19 O '33

**Tables, calculations, etc.**

Mill test shows yarn costs in circular knitting; infants' wrappers. S. M. Peterson. *Textile World* 82:972 N '32

**KNIVES**

Machetes; Collins co. of Collinsville, Connecticut. *Fortune* 7:12+ Mr '33

**KNOEVENAGEL reaction**

Condensation of acetophenone with isatin by the Knoevenagel method. H. G. Lindwall and J. S. MacLennan. *Am Chem Soc J* 54: 4739-44 D '32

Condensations of isatin with acetone by the Knoevenagel method. F. Braude and H. G. Lindwall. *Am Chem Soc J* 55:325-7 Ja '33

**KNOTS and splices**

Splicing aircraft cable in accordance with air commerce regulations. *il Air Commerce Bul* 4:309-15 Ja 3 '33

Wire line ties for bottom hole instruments are studied by U. S. Bureau of mines engineers. B. E. Lindsly, L. D. Jones and R. C. Lisk. *diags Oil & Gas J* 32:9-11 Ag 17 '33

**KNOWLES, Morris, 1869-1932**

Sketch. M. G. Mansfield. *N E Water Works Assn J* 46:433-5 D '32

**KNOX, Frank**

Sketch. *por Special Lib* 24:165 S '33

**KNOX, William Franklin, 1874-**

Bonny rough rider. B. McCanna. *por Adv & Sell* 22:20-1+ N 9 '33

**KOHN, Robert D.**

Portrait. *Arch Rec* 74:7 Jl '33

**KOPPERS, Heinrich, 1872-**

Sixtieth birthday. *por Gas J (Lond)* 200:484 N 16 '32; Same. *Am Gas Assn Mo* 14:499 D '32

Zum 60. geburtstag. Fitz. *por Chemische Fabrik* 5:437 N 16 '32

**KOSTANECKI reaction**

Styrylpyrylium salts; a correction and note on the production of  $\alpha$ -benzopyrones by the Kostanecki reaction. I. M. Heilbron, R. N. Heslop and G. F. Howard. *Chem Soc J* p 1263-4 S '33

**KOWALEWSKI, Sonya**

Kowalewski's top in quantum mechanics. O. Laporte. *Phys R* 43:548-51 Ap 1 '33

**KRASNE, Abraham**

Profit sharing with salesmen doubled this jobber's sales in five years. L. M. Hughes. *por Sales Management* 31:466-7+ D 1 '32

**KRAUS, Charles A.**

Beginning of liquid ammonia research in the United States. R. Taft. *por J Chem Educ* 10: 34-9 Ja '33

**KRAUT juice**

Effect of light on bottled juices; apple and kraut juices. D. C. Carpenter. *bibliog il Ind & Eng Chem* 25:932-4 Ag '33

**KREUGER, Ivar**

Death and career of Ivar Kreuger. *por Fortune* 7:50-7+ My; 59:63+ Je; 8:68-72+ Jl '33

**KREUGER and Toll company**

Kreuger claims obscure International Match gain. *Barron's* 13:19 Ja 30 '33

Kreuger's defalcations shown to be \$115,800.-000. *Barron's* 13:22 Ja 16 '33

Status. *Barron's* 13:19 F 27 '33

**KROGER grocery and baking company**

Food foundation builds consumer acceptance for chain. *Ptr Ink* 162:96-9 Ja 19 '33

Good results, 1932. *Barron's* 13:16 F 27 '33

Housewives' committee is organized by Kroger to improve products. *Sales Management* 32: 122 F 1 '33

Kroger consults some 750 housewives on its new products. *Business Week* p11 F 1 '33

Kroger's remarkable record. *Econostat* 1:11, 23 Jl 29 '33

Selected stocks to buy for future profit and protection. *Mag of Wall St* 52:28 Ap 29 '33

**KRYPTON**

Infra-red spectra of neon, argon, and krypton. W. F. Meggers and C. J. Humphreys. *U S Bur Stand J Research* 10:427-48 Ap '33

Neutralization and ionization of high-velocity ions of neon, argon and krypton by collision with similar atoms. H. F. Batho. *bibliog diag Phys R* 42:753-65 D 15 '32

Second spectrum of krypton. T. L. deBruin, C. J. Humphreys and W. F. Meggers. *U S Bur Stand J Research* 11:409-40 S '33

**KUHN, Richard**

Work of Richard Kuhn on the polyenes. C. M. Langkammerer. *bibliog J Chem Educ* 10: 343-7 Je '33

**KUHN, Loeb and company**

Kuhn, Loeb's operations reviewed. *Barron's* 13:4 Jl 3 '33

**KUKULOGRAPH**

Kukulograph. M. J. Hoferer. *il Sci Am* 148:31 Ja '33

**KUNZ, George Frederick, 1856-1932**

Memorial. H. P. Whitlock. *por Geol Soc Bul* 44:377-94 [bibliog p381-94] Ap '33

**KURFESS, W. F.**

Assistant vice president, Joseph T. Ryerson & son, inc. *por Steel* 93:21+ Ag 7 '33

**KYANITE. See Cyanite****L****L.O.X. See Oxygen, Liquid****LABELING**

High-speed labeling aids return of beer. *il Food Ind* 5:448-9 N '33

**LABELS**

Beer labels. *il Ptr Ink Mo* 27:16-17 N '33

Label is part of the container. *il Ptr Ink* 165:65 O 26 '33

Labels, invoices combined. G. E. Russell. *il System* 62:505-6 N '33

Laundry-tested label. *Business Week* p 12 N 4 '33

Veteran label passes; after three-year test in England. Libby, McNeill & Libby pack corned beef in modern package. *il Ptr Ink* 164:10-11 Jl 20 '33

**See also**

Cigar box labels

Misbranding

Tags

Trade marks

**Advertising**

So busy filling NRA orders that he couldn't adopt NRA code; Ever Ready label corporation. L. H. Lewis. *il Ptd Salesmanship* 62: 58-9 S '33

**LABOR, Casual**

Status of charity workers under workmen's compensation laws. *Monthly Labor R* 36: 316-18 F '33

**LABOR, Compulsory**

Compulsory labor service in Germany. C. W. Gray. *Monthly Labor R* 37:286-7 Ag '33

Decree regarding forced labor in Indo-China. *Monthly Labor R* 35:1309-16 D '32

Forced labor. J. P. Chamberlain. *Ann Am Acad* 166:80-5 Mr '33

Forced labor in the United States. W. Willson. 192p \$1.50 International publishers, New York '33

Serfdom and forced labor in Hyderabad, India. *Monthly Labor R* 35:1308-9 D '32

Servile conditions in Bechuanaland. *Int Labour R* 28:549-53 O '33

**See also**

Convict labor

**LABOR and capital****See also**

Arbitration, Industrial  
Capitalism  
Company unions  
Cooperation

Industrial relations  
Strikes and lockouts  
Trade agreements  
Trade unions

**LABOR and laboring classes**

Bull market in skilled workers. K. Coolbaugh. *il Nation's Business* 21:42-4 N '33  
 Labor economics and labor problems. D. Yoder. 630p \$3.50 McGraw-Hill '33  
 Labor problems. F. T. Carlton. 458p \$2.60 Heath '33  
 Usury on labor. R. Matthews. *Elec Eng* 51:866 D '32

*See also*

Accidents, Industrial  
 Apprentices  
 Arbitration, Industrial  
 Automobile factories—Employees  
 Bonus system  
 Building trades—Labor conditions  
 Chemical workers  
 Child labor  
 Church and labor  
 Clothing trade—Labor conditions  
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 Street railroads—Employees  
 Strikes and lockouts  
 Sugar workers  
 Sweating system  
 Textile workers  
 Time study  
 Tobacco workers  
 Trade agreements  
 Trade unions  
 Unemployment  
 Wages  
 Welfare work in industry  
 Woman—Employment  
 Workmen's compensation

**Bibliography**

Book notes. Published in monthly numbers of International labour review  
 Publications relating to labor. Published in Monthly labor review

**International aspects**

International reduction of hours of work. F. Sitzer. *Int Labour R* 26:765-76 D '32  
 What is the international labor problem? L. L. Lorwin. *Ann Am Acad* 170:143-5 N '33

*See also*

International labor conference, Sixteenth  
 International labor organization  
 Labor laws and legislation, International

**Statistics**

Age distribution of gainful workers in the United States, 1920 and 1930. *Monthly Labor R* 36:1057-8 My '33  
 Occupational grouping of gainful workers, 1910 to 1930. *Monthly Labor R* 35:1303-4 D '32

Summary of wage surveys made by the Bureau of labor statistics, 1928 to 1932, by industries and states. *Monthly Labor R* 37:140-3, 358-69 J1-Ag '33

**Bibliography**

Industrial disputes; sources and notes. *Int Labour R* 28:92-9 J1 '33

**Africa**

African labourer. G. St. J. Orde-Browne. 240p \$5 Oxford '33

**Alaska**

Wages and labor conditions in Alaska, 1931-32. *Monthly Labor R* 36:620 Mr '33

**Bechuanaland**

Servile conditions in Bechuanaland. *Int Labour R* 28:549-53 O '33

**Burma**

Wages and conditions in Burmese factories in 1932. *Monthly Labor R* 37:949-50 O '33

**Canada**

*See also*  
 Canadian trades and labor congress

**Ceylon**

Indian labour in Ceylon; the effects of the economic crisis. *Int Labour R* 28:62-73 J1 '33

**Chicago**

Factory employment, monthly, 1923-1932, and pay rolls, monthly, 1925-1932. *Survey of Cur Business* 13:20 Je '33

**China**

Labour conditions in China. *Int Labour R* 27:664-77 My '33

*See also*  
 Labor laws and legislation—China  
 Wages—China

**Cuba**

*See also*  
 Wages—Cuba

**Cyprus**

Wage-earning employment in Cyprus. *Int Labour R* 27:686-8 My '33

**Czechoslovakia**

Work of the committees for the protection of young workers in Czechoslovakia. *Int Labour R* 28:79-81 J1 '33

**Denmark**

*See also*  
 Wages—Denmark

**Finland**

*See also*  
 Wages—Finland

**France**

Appointment of French governmental committee on family allowances. *Monthly Labor R* 36:508-9 Mr '33  
 Beginnings of Marxian socialism in France. S. Bernstein. 229p [biblog p215-27] Social science studies, New York '33

*See also*  
 Immigration and emigration—France  
 Wages—France

**Germany**

Changes in public labor policy in Germany. *Monthly Labor R* 37:287-90 Ag '33  
 Germany's voluntary labor plan. *Pub Serv M* 54:115 Ap '33  
 Work of the conciliation and arbitration authorities in Germany in 1931. *Int Labour R* 27:236-42 F '33

*See also*  
 Trade unions—Germany

Unemployment—Germany  
 Wages—Germany



LABOR and laboring classes—*Continued*

## Great Britain

Condition of the working class in Britain. A. Hutt. 272p \$2 International publishers, New York '33

Distribution of employment. Economist 115: 972-3 N 26 '32

Hungry England. A. F. Brockway. 224p V. Gollancz, Ltd, London '32

Industrial relations in Great Britain. J. H. Richardson. 272p [bibliog p236-8] World peace foundation '33

Labour conditions. Economist 116:sup12 F 18 '33

Life and labour in the nineteenth century. C. R. Fay. 2d ed 308p Cambridge univ. press; Macmillan '33

*See also*

Child labor—Great Britain	Unemployment—Great Britain
Coal miners—Great Britain	Wages—Great Britain

## Hungary

Landless agricultural workers in Hungary. M. Móricz. Int Labour R 28:518-30 O '33

## India

Impressions of a visit to India, Iraq, Persia, and Turkey. C. W. H. Weaver. Int Labour R 28:466-82 O '33

*See also*

Employers' associations—India

## Indo-China

Labour conditions in Indo-China. Int Labour R 28:74-8 J1 '33

## Iraq

Impressions of a visit to India, Iraq, Persia, and Turkey. C. W. H. Weaver. Int Labour R 28:482-8 O '33

## Japan

Industrial labour in Japan. (Studies and reports, series A, industrial relations, no 37) 413p World peace foundation '33

*See also*

Trade unions—Japan  
Wages—Japan

## Java

Labor conditions in the tobacco industry of the Javanese native states. Monthly Labor R 35:1077-9 N '32

## Kenya colony

Kenya labour in 1931. Int Labour R 27:246-50 F '33

## Malay Peninsula

Labour in British Malaya in 1931. Int Labour R 27:397-402 Mr '33

## Massachusetts

Massachusetts employment and wages, monthly, 1931-1932. Survey of Cur Business 13:19 Ag '33

Work of Massachusetts minimum wage commission. Monthly Labor R 35:1311-12 D '32

*See also*

Labor laws and legislation—Massachusetts

## Mexico

*See also*  
Wages—Mexico

## New York (city)

Factory pay rolls, monthly, 1914-1932. Survey of Cur Business 13:20 Je '33

Occupational trends in New York city; changes in the distribution of gainful workers, 1900-1930. (Adjustment service. Publications no. 1) 15p Personnel research federation, New York '33

## New York (state)

Average weekly earnings in New York state factories, June, 1914, to January, 1933. Monthly Labor R 36:870 Ap '33

Occupational distribution of old-age pensioners in New York. Monthly Labor R 36:247-55 F '33

Older worker in industry: a study of New York state manufacturing industries. S. Barkin. 467p New York (state). Commission on old age security, Albany, N.Y. '33

*See also*

Child labor—New York (state)	Wages—New York (state)
------------------------------	------------------------

## New Zealand

Agricultural labour in New Zealand. H. Belshaw. Int Labour R 28:26-45 J1 '33

## Norway

*See also*

Wages—Norway

## Ohio

Decrease in pay roll in Ohio industries. Monthly Labor R 35:1306-8 D '32

## Pennsylvania

Industrial home work in Pennsylvania in 1931. Monthly Labor R 36:503-5 Mr '33

## Persia

Impressions of a visit to India, Iraq, Persia, and Turkey. C. W. H. Weaver. Int Labour R 28:488-94 O '33

## Poland

Conditions of agricultural workers in Poland in 1930 and 1931. J. Gnoinski. Int Labour R 27:66-73 Ja '33

Enquiry into the life of unemployed workers in Poland. J. Rosner. Int Labour R 27:378-92 Mr '33

*See also*

Wages—Poland

## Rhodesia

Native labour in Northern Rhodesia in 1931. Int Labour R 27:251-3 F '33

## Russia

Employment of women in Soviet industry. Int Labour R 26:704-7 N '32

German workers in a Moscow factory. F. Pose, E. Matté and E. Wittenberg. 84p pa 10c Co-operative pub. society of foreign workers in the U.S.S.R., Moscow '33

Protection of labour in the U.S.S.R. Z. Mokhov. 48p pa 10c Co-operative pub. society of foreign workers in the U.S.S.R., Moscow '33

*See also*

Trade unions—Russia

## Scandinavia

Scandinavian employers and collective labour agreements. E. Erichsen. Int Labour R 26: 676-92, 826-40 N-D '32

## Sweden

Labour questions in Swedish agriculture. Int Labour R 27:789-801 Je '33

*See also*

Wages—Sweden

## Tunis

Labour problems in Tunis. Int Labour R 27: 677-86 My '33

## Turkey

Impressions of a visit to India, Iraq, Persia, and Turkey. C. W. H. Weaver. Int Labour R 28:494-8 O '33

## United States

American labor and the nation. S. Miller, jr., ed. pa \$1 Univ. of Chicago press '33

Analysis of the N.I.R.A. labor section; questions and answers. J. C. Gall. Brick & Clay Rec 83:118-19 O '33

Employer looks at labor's growing power. R. L. Lund. il Mag of Wall St 52:626-7+ O 14 '33

Employment conditions and wages, monthly, 1926-1931. Survey of Cur Business 12:18-19 D '32

Labor and NIRA. Business Week p4 J1 22 '33

**LABOR and laboring classes—United States***—Continued*

- Labor problems in American industry. C. R. Daugherty. 959p Houghton '33
- Labor provisions of the Recovery act. H. I. Harriman. *Nation's Business* 21:15+ O '33
- Labor reaches for the sun; the workers profit by new forces and revived theories. J. S. Lawrence. *Econostat* 1:8-10 JI 22 '33
- Labor starts a new chapter. *Business Week* p5-6 Ag 26 '33
- Labor surveys its new utopia. C. M. Wright. *Mag of Wall St* 52:469-70+ S 2 '33
- Labor turns left. C. Wright. *Mag of Wall St* 51:324-5+ Ja 7 '33
- Labor's support of industrial safety and industrial standards. M. Woll. *Safety Eng* 65: 211-12 Je '33
- NRA labor policy and recovery; overzealous unemployment efforts may stall progress. J. S. Lawrence. *Econostat* 1:5-10+ Ag 26 '33
- Next labor offensive. *Fortune* 7:58-61+ Ja '33
- Nonmanufacturing employment and pay rolls, monthly, 1931-1932. *Survey of Cur Business* 13:19 Je '33
- Occupational grouping of gainful workers, 1910 to 1930. *Monthly Labor R* 35:1303-4 D '32
- Roosevelt kills the merit clause with such art that industry is happy. *Business Week* p9 O 28 '33
- Striking at recovery. *Business Week* p3-6; Editorial comment. p32 O 7 '33
- Summary of permanent codes adopted. *Monthly Labor R* 37:518-50, 812-33 S-O '33
- Toward a united front. L. Samson. 276p \$2.50 Farrar & Rinehart, inc, New York '33
- What union labor seeks. W. Green. *Nation's Business* 21:13-15, 62-3+ O '33

*See also*

- |  |                                      |
|--|--------------------------------------|
| American federation of labor             | Miners—United States                 |
| Coal miners—United States                | Strikes and lockouts —United States  |
| Housing—United States                    | Trade unions—United States           |
| Labor laws and legislation—United States | Unemployment—United States           |
| Mexicans in the United States            | Wages—United States                  |
|  | Workmen's compensation—United States |

**LABOR banks.** See Banks and banking, Trade union

**LABOR board, National.** See National labor board

**LABOR bureaus**

Statistical procedure of public employment offices. A. M. Stewart and B. M. Stewart. 327p \$2.50 Russell Sage foundation, New York '33

**LABOR camps**

California's state camps for jobless men. *Monthly Labor R* 35:1066-70 N '32

Work camps for America. O. Nichols and C. Glaser. 31p pa 25c Day '33

*See also*

- |                    |                               |
|--------------------|-------------------------------|
| Construction camps | Unemployment—Relief measures— |
| Lumber camps       | Camps                         |

**LABOR contracts**

Yellow dog contract. J. I. Seidman. (Studies in historical and political science, ser L, no 4) 96p Johns Hopkins press, Baltimore '32

*See also*

Trade agreements

**LABOR cost**

Labor's share in manufactured products. *Barron's* 13:11 S 18 '33

Now you must control your labor costs. C. H. Hatch. *Factory Management* 91:305-6 Ag '33

Wage costs in the mineral industries. P. M. Tyler. *Min & Met* 14:447-51 N '33

Wages, hours of work, and other factors in the remuneration of workers in certain towns in October 1932. *Int Labour R* 28:265-82 Ag '33

What is the job worth? knowing the value of employees and of their jobs. T. E. Kelly. *Factory & Ind Management* 83:477-8 D '32

*See also*

Payrolls

**Accounting**

Cost finding to assure profits. C. H. Hatch. *Am Mach* 77:625-8 S 27 '33

Jewel Tea saves using standard labor costs. A. V. Levering. *Factory & Ind Management* 84:68 F '33

**LABOR departments**

Work of state labor offices in behalf of wage claimants. *Monthly Labor R* 37:776-90 O '33

**LABOR displacement**

Digest of material on technological changes, productivity of labor, and labor displacement. *Monthly Labor R* 35:1031-57 N '32;

Abstract. *Int Labour R* 27:519-23 Ap '33

Displacement of men by machines. E. F. Baker. 284p [biblog p269-71] \$3.50 Columbia univ. press '33

Displacement of workers through increases in efficiency and their absorption by industry, 1920-1931. D. Weintraub. *Am Statis Assn J* 27:383-400 D '32

Future of capitalism in a mechanised world. A. Salter. *Fortune* 7:60-3 Ap '33

Labor productivity and displacement in the slaughtering and meat-packing industry. *Monthly Labor R* 35:1048-25 N '32

Labor productivity and employment in the tire industry. *Monthly Labor R* 35:1252-68 D '32; Excerpts. *Rubber Age* 32:285-8 Ja 25 '33

Labor's profit from power machinery. *Am Bankers Assn J* 25:18+ F '33

Relative volume of technological unemployment. W. I. King. *Am Statis Assn J* 28: sup33-9; Discussion. F. B. Garver. 39-41 Mr '33

Technological displacement of labor and technological unemployment. B. Stern. *Am Statis Assn J* 28:sup42-7 Mr '33

Wage earner's share of his production; reprint from September 1930 American bankers association journal. F. Hobbs. *Am Bankers Assn J* 25:19-20+ F '33

*See also*

- |                      |                       |
|----------------------|-----------------------|
| Employment—Stability | Machinery in industry |
| Labor saving devices | Unemployment          |

**LABOR disputes***See also*

- |                         |                      |
|-------------------------|----------------------|
| Arbitration, Industrial | Strikes and lockouts |
|-------------------------|----------------------|

**LABOR laws and legislation**

Adjusted length of work-week as cure for unemployment; S. Odenheimer, New Orleans manufacturer would make plan compulsory. T. E. Dabney. *Concrete (mill sec)* 41:44-5 Ja '33

Installation and maintenance of toilet facilities in places of employment, charts U S Women's Bur Bul 99:1-86 '33

Problems of conciliation and arbitration; a study in comparative law. E. Kuttig. *Int Labour R* 26:649-75 N '32

Service of the International labor office to legislative projects. S. M. Lindsay. *Ann Am Acad* 166:119-23 Mr '33

*See also*

- |                                   |   |
|-----------------------------------|---|
| Arbitration, Industrial           | Patent laws and legislation—Employees' inventions |
| Child labor laws                  | Pensions, Industrial                              |
| Employers' liability              | Rest days   |
| Family allowances                 | Strikes and lockouts                              |
| Holidays                          | Wages—Law   |
| Hours of labor                    | Woman—Employment                                  |
| Insurance, Workmen's compensation | Workmen's compensation                            |
| Labor contracts                   |   |
| Minimum wage                      |   |
| Mining law                        |   |

**Bibliography**

Recent labour legislation. Published in monthly numbers of International labour review



## LABOR laws and legislation—Continued

## Argentina

Saturday half holiday established by law in Argentina. Monthly Labor R 36:180-1 Ja '33

## Borneo

Labour protection in North Borneo in 1932. Int Labour R 28:553-4 O '33

## Canada

Labor legislation in Canada, 1931. Monthly Labor R 35:1093-4 N '32

## China

Amendments to Chinese labor legislation. Monthly Labor R 35:1353-4 D '32

## Connecticut

Connecticut sweatshops; needle-trades employers escape New York's unions and labor laws by moving to metropolitan suburbs. Business Week p20+ Ja 11 '33

Minimum wage law; text. Monthly Labor R 37:57-60 Jl '33

## Denmark

Passage of act forbidding strikes and lock-outs in Denmark. Monthly Labor R 36:1312-13 Je '33

## Germany

Compulsory labor service in Germany. C. W. Gray. Monthly Labor R 37:286-7 Ag '33

## Great Britain

Factories and workshops; annual report of the Chief Inspector of factories and workshops, 1932. Engineering 136:223-4 S 1 '33  
Protective legislation for shop & office employees. J. Hallsworth. 210p George G. Harrap & co, ltd, London '32

## Illinois

Illinois minimum-wage law; text. Monthly Labor R 37:306-10 Ag '33

## Italy

Italian eight-hour day law. Monthly Labor R 37:590-2 S '33

## Japan

Restriction on employment of women and children in Japanese mines. Monthly Labor R 37:848-9 O '33

## Massachusetts

Massachusetts prevailing wage rate law declared unconstitutional. Monthly Labor R 36:541-2 Mr '33

Recommendation for system of compulsory unemployment reserves in Massachusetts. Monthly Labor R 36:280-2 F '33

## Mexico

Labor legislation of Mexico. U S Bur Labor Statistics Bul 569:1-87 '32

Mexican federal labor code. M. P. Troncoso. Int Labour R 27:631-63 My '33

## Mississippi

Court refuses to render opinion regarding barbers not complying with statute. Monthly Labor R 36:792-3 Ap '33

## Netherlands

Establishment of industrial councils in the Netherlands. C. L. Hoover. Monthly Labor R 36:309 F '33

## New Jersey

Labor laws of the state of New Jersey and their enforcement. J. Roach. 11 Safety Eng 66:19-20, 56, 58 Jl-Ag '33

## New South Wales

Hour and wage legislation in New South Wales. Monthly Labor R 36:793-4 Ap '33

## New York (state)

Effectiveness of new cannery code in New York state. Monthly Labor R 37:284-6 Ag '33

## Ohio

Minimum wage law; text. Monthly Labor R 37:61-5 Jl '33

## Philippine Islands

Private employment agency law of the Philippine Islands; text. Monthly Labor R 37:93-6 Jl '33

## Russia

Five-year plan and the regulation of the labour market in the U.S.S.R. Int Labour R 27:349-77 Mr '33

## Texas

Texas law providing for licensing of barbers held constitutional. Monthly Labor R 35:1092-3 N '32

## United States

Applying the labor requirements of the Recovery act to the automotive industry. J. Geschelin. Automotive Ind 68:735-7 Je 17 '33  
Comparison of convention provisions with labor legislation in the United States. A. S. Cheyney. Ann Am Acad 166:176-89 Mr '33  
Federal courts and organized labor. J. F. Christ. J of Business 3:205-49, 341-75, 445-71; 4:194-210, 268-82; 5:47-75, 103-29, 283-300, 380-99; 6:62-82, 157-70, 247-61 Ap-O '30, Ap-Jl '31, Ja '32-Jl '33

Interstate compacts affecting labor and industries. Monthly Labor R 37:844-5 O '33

Interstate conference on labor laws. Monthly Labor R 36:537-41 Mr '33

Invitation from Miss Perkins; control program. Business Week p9 My 3 '33

Labor laws and court decisions. Published in Monthly labor review

Labor legislation of 1932. Monthly Labor R 35:1347-52 D '32

Labor provisions in recovery bill attacked at hearing. L. W. Moffett. Iron Age 131:917A-917C Je 8 '33

Laws relating to employment agencies in the United States as of January 1, 1933. C. F. Sharkey and G. D. Patterson, jr. U S Bur Labor Statistics Bul 581:1-164 '33

Laws relating to prison labor in the United States as of July 1, 1933. C. F. Sharkey and G. D. Patterson, jr. comps. U S Bur Labor Statistics Bul 596:1-146 '33

Legal restrictions on hours of labor of men in the United States, as of January 1, 1933. Monthly Labor R 36:1-10 Ja '33

Nira, versus the Constitution. P. R. Van Dune. Iron Age 132:35-6 Jl 13 '33

30-hour bill held sure to pass as part of larger plan for controlled economy. L. W. Moffett. Automotive Ind 68:531+ Ap 29 '33

## Wisconsin

Industrial commission of Wisconsin. A. J. Altmeyer. Wis U Studies in the Social Sciences and History no 17:1-324 '32 (\$1.50)

## LABOR laws and legislation, International

Countries that have so far ratified the various conventions of International labor office; chart. Ann Am Acad 166:206-7 Mr '33

Draft convention fixing the minimum age for admission of children to industrial employment. Ann Am Acad 166:202-4 Mr '33

Enforcement of international labor standards. F. G. Wilson. Ann Am Acad 166:95-101 Mr '33

International labour conference, Sixteenth session, Geneva, 1932. Record of proceedings. 1003p World peace foundation '32

International labour conventions as a means of assuring identity of treatment for national and foreign workers on a basis of reciprocity. J. Secrétan. Int Labour R 27:743-64 Je '33

International labor organization as an alternative to violent revolution. J. T. Shotwell. Ann Am Acad 166:18-25 Mr '33

Legislation in a changing economic world. J. P. Chamberlain. Ann Am Acad 166:30-45 Mr '33

Principles of international labor legislation. E. Mahaim. Ann Am Acad 166:10-17 Mr '33

See also

International labor conference

**LABOR officials**

Labor offices in the United States and in Canada. Monthly Labor R 37:472-90 Ag '33

**LABOR party (Great Britain)**

Decline and fall of the Labour party. J. Scanlon. 251p P. Davies, London '32  
Labour and the nation. Economist 117:568-9 S 23 '33

**LABOR productivity**

Comparative study of the output of men and women; abstracts. D. Vampa and P. Guidi. Int Management Inst Bul 7:107 Jl '33; Monthly Labor R 37:850 O '33; Génie Civil 103:358-9 O 7 '33

Digest of material on technological changes, productivity of labor, and labor displacement. Monthly Labor R 35:1031-57 N '32; Abstract. Int Labour R 27:519-23 Ap '33

Employment in relation to mechanization in the bituminous-coal industry. Monthly Labor R 36:256-78 F '33; Excerpts. Min Cong J 19:15-17 Ap '33

Labor productivity and displacement in the slaughtering and meat-packing industry. Monthly Labor R 35:1018-25 N '32

Labor productivity in anthracite mining, 1931. Monthly Labor R 35:1029-30 N '32

Labor productivity in the automobile tire industry. B. Stern. pls U S Bur Labor Statistics Bul 585:1-74 '33; Excerpts. Monthly Labor R 35:1252-68 D '32; Rubber Age 32:285-8 Ja 25 '33

Labor productivity in the bituminous-coal industry, 1931. F. G. Tryon and L. Mann. Monthly Labor R 36:510-11 Mr '33

Man-hour productivity in the petroleum-refining industry in 1929. Monthly Labor R 35:1283-92 D '32

Measuring operating performance by the kilo man-hour. L. P. Alford and J. E. Hannum. Mech Eng 54:821-4+ D '32

Output and earnings per shift in the mining industry in Great Britain. Monthly Labor R 37:851 O '33

Productivity of labor in the building of concrete roads in Illinois. Monthly Labor R 35:1026-9 N '32

Technological changes and employment in the electric-lamp industry. Monthly Labor R 36:1213-28 Je '33

Technological changes and employment in the United States postal service. W. Bowden. U S Bur Labor Statistics Bul 574:1-69 '32

*See also*

Efficiency, Industrial  
Labor cost  
Wage payment plans

**LABOR research**

Labor research association, 80 E. 11th st, New York, publishes a monthly typewritten bulletin

**LABOR saving devices**

Economic effects of labor-saving machinery on labor. H. B. Hastings. Management R 22:291-8 O '33

Labor-saving machines. Il Fortune 6:27-34 D '32

*See also*

Calculating machines Machinery in industry  
Counting machines Mechanical handling  
Machinery, Automatic Office appliances

**LABOR statistics.** See Labor and laboring classes—Statistics

**LABOR supply**

Arriving at a labor recruiting policy through the statistical interpretation of routine employment data. H. Van Droege. Harvard Business R 12:47-58 O '33

Five-year plan and the regulation of the labour market in the U.S.S.R. Int Labour R 27:349-77 Mr '33

*See also*

Employment systems Labor turnover  
Immigration and emigration—United States Unemployment

**LABOR turnover***See also*

Employment management  
Employment systems

**Statistics**

Labor turnover in American factories, 1932.

Monthly Labor R 36:565-7 Mr '33

Labor turnover in manufacturing establishments; quarterly rates. Monthly Labor R 36:1092-4; 37:332-3 My, Ag '33

Labor turnover in the automobile industry, 1931 and 1932. Monthly Labor R 36:1316-20 Je '33

Labor turn-over in the boot and shoe industry, 1931 and 1932. Monthly Labor R 37:893-5 O '33

**LABORATORIES**

Centers of science in Washington. Il Ind & Eng Chem News ed 11:17-18, 46-50 Ja 20, F 20 '33

Chemistry in merchandising; Montgomery Ward & co. E. H. Harvey. Il Am Dyestuff Rep 22:594-8 O 9 '33

Commercial value of the lime plant laboratory. S. P. Armsby. Rock Prod 36:20-2 Ap '33

Efficient layout of the plant laboratory. W. H. Ibbotson. Chem Markets 32:414-16 My '33  
Forest products laboratory, Madison, Wis.; views and plans. Arch Forum 59:95-102 Ag '33

Industrial research laboratories; survey of depression effect. C. J. West and C. Hull. Science 77:420 My 5 '33

Les nouveaux ateliers et laboratoires de l'École centrale des arts et manufactures. L. Guillet. Il Génie Civil 103:269-73 S 16 '33

Oil research station, Anglo-Persian oil company. Il Automobile Eng 22:571-4 D '32

Post office research station at Dollis Hill. Il plan Engineer 156:404-5, 408 O 27 '33; Engineering 136:471-2 O 27 '33; Electrician 111:497-8, 554 O 27-N 3 '33; Elec R (Lond) 113:581-2 O 27 '33

*See also*

American gas association—Appliance testing laboratory

Biological laboratories

Chemical laboratories

Dye laboratories

Electric laboratories

Engineering laboratories

Gas laboratories

Great Britain—National physical laboratory, Teddington

Hydraulic laboratories

Industrial research

Metallurgical laboratories

National research council of Canada, Ottawa—Laboratories

Petroleum refineries

—Laboratories

Physiological laboratories

Public health laboratories

Refrigeration laboratories

Testing laboratories

**Directories**

Industrial research laboratories of the United States including consulting research laboratories. C. J. West and C. Hull, comps. 5th ed Nat Research Council Bul 91:1-223 '33 (pa \$2)

**Electric equipment**

Commercial laboratory equipment. Il Elec R (Lond) 112:899-900 Je 23 '33

**Equipment**

Notable German research centre; the Metallgesellschaft physico-chemical and metal laboratories. H. von Habban. Il Chem Age (Lond) 28:407-9 My 6 '33

Savings in laboratory expenditures without loss of efficiency. J. S. Nicholas. Science 78:38-9 Jl 14 '33

University of Illinois and the tariff on laboratory equipment. Science 76:587 D 23 '32

*See also*

Cocks  
Gas burners, Laboratory

**Lighting**

Low-cost laboratory unit for lighting and appliances. S. E. Pond and O. Meier, jr. diag Science 77:585-6 Je 16 '33

Microscope lamp for biological laboratories. R. M. Holman. diag Science 77:610-11 Je 23 '33



## LABORATORIES—Continued

## Records

Symposium on laboratory notebooks, records, and reports in industry. R. E. Rose. *J Chem Educ* 10:411-12 JI '33

Symposium on laboratory notebooks, records, and reports in the research laboratory. R. A. Baker. *J Chem Educ* 10:408-11 JI '33

## LABORATORIES, Traveling

Traveling laboratory, Department of health, Bureau of laboratories, Pennsylvania. *Am Gas J* 137:20 D '32

## LABORATORY work

Graduate course in laboratory technic. H. B. Hass and F. D. Martin. *J Chem Educ* 10:29-31 Ja '33

Plan for prevention of crowding in special apparatus rooms. H. B. Wylie. *il J Chem Educ* 9:2090-3 D '32

Symposium on laboratory notebooks, records, and reports. W. Segerblom and others. *J Chem Educ* 10:403-14 JI '33

LAC. See Shellac

## LACCOL

Recherches sur la constitution du laccol. G. Bertrand and G. Brooks. *diags Chimie & Ind* 30:759-66 [bibliog p766] O '33

## LACE fabrics

Finishing of cotton lace fabrics. G. Rice. *diag Textile Col* 55:631+ S '33

## LACQUER and lacquering

Anstrichtechnik; zusammenarbeit von wissenschaft, handwerk und betrieb. W. Adrian. *il diags Zeit Ver Deutsch Ing* 77:998-1000 S 16 '33

Anstrichtechnische bedeutung von natur- und kunstharzen. W. Krumhaar. *Angew Chemie* 46:347-9 Je 17 '33

Arbeiten und erfolge der Deutschen reichsbahn auf dem gebiete des korrosionsschutzes durch anstriche. O. Lindermayer. *il map Zeit Ver Deutsch Ing* 77:385-92 Ap 15 '33

Bripal synthetic finish. *Automobile Eng* 23:154 Ap '33

Cadillac now lacquers rustproofed sheet metal parts in matched sets. *il Automotive Ind* 69:433 O 7 '33

Cellulose finishing: its applications in the electrical manufacturing industry. W. A. Wood. *plan Elec R (Lond)* 112:8 Ja 6 '33

Driers for plastic finishes. C. A. Klebsattel. *Plastic Prod* 9:360 N '33

Drying enamels, lacquers and varnishes; improvements in gas fired conveyor ovens. *il Chem Age (Lond)* 28:222-3 Mr 11 '33

Furan compounds; use in coating formulas. N. F. Peters. *bibliog il Plastic Prod* 9:92-6 My '33

Highly specialized petroleum naphthas replace coal tar products in paint and lacquer. R. C. Conine. *Oil & Gas J* 31:66-7 Mr 30 '33

Historical survey of coatings. B. S. Covell. *il Plastic Prod* 9:56-8, 137-8 Ap, Je '33

Insulations; enamels, paints, etc. H. Warren. *Electrician* 111:281-2 S 8 '33

Lacquer and its uses. E. M. Hayden. *Am Dye-stuff Rep* 22:365-8 Je 5 '33; Same *abr. Plastic Prod* 9:191-2 JI '33

Lacquer and N.R.A. *Plastic Prod* 9:246, 248 Ag '33

Lacquer finishes on straw, felt and fibre hats. G. Rice. *il Plastic Prod* 9:275-6 S '33

Lacquer for rubber goods. *India Rubber W* 87:32 Mr '33

Lacquer manufacturers are organizing group. *Oil Paint & Drug Rep* 123:15 My 29 '33

Lacquer oxidation claims. *Oil Paint & Drug Rep* 123:14 My 29 '33

Linseed oil for lacquers. S. R. Grovenstein and G. F. Beal. *Oil Paint & Drug Rep* 123:32 My 1 '33

Mexican lacquers. R. Le Lievre. *il Plastic Prod* 9:100 My '33

Modern lacquers; improved synthetic resins and plasticisers. *Chem Age (Lond)* 28:484 My 27 '33

New lacquer to save food made by Truslowe and Fulle, Brooklyn, N. Y. *Chemicals* 37:5 O 17 '32

New lacquers resist alcohol. *Sci Am* 147:370 D '32

New lacquers resist perspiration. *Business Week* p16 N 30 '32

Nitro cellulose lacquer manufacture. R. G. Daniels. 121p 10s Leonard Hill, Ltd, London '33

Oberflächenbehandlung. H. Faber. *il Zeit Ver Deutsch Ing* 77:256 Mr 4 '33

Personal message to the lacquer manufacturers. F. G. Breyer. *Plastic Prod* 9:132-3 Je '33

Plastics—cellulose esters and ethers and their uses. W. J. Jenkins. *Soc Chem Ind J (Chem & Ind)* 52:705-8 S 1 '33; *Abstract. Chem Age (Lond)* 28:567 Je 24 '33

Quick-drying and enduring finishes. H. Chase. *Am Mach* 77:241 Ap 12 '33

Recent developments in metal lacquers. K. R. Longnecker. *Metal Ind* 30:475-6 D '32

Varnishes and lacquers for rubber footwear. D. D. Wright. *Ind & Eng Chem* 25:140-1 F '33; Same. *Rubber Age* 32:325-6 F '33

Les vernis et peintures nitrocellulosiques et leurs dérivés. A. Antoni. *il Génie Civil* 103:133-7, 144-55 Ag 5-12 '33

Zur quantitativen ermittlung der haftfestigkeit von anstrichen. E. K. O. Schmidt. *bibliog il diags Angew Chemie* 46:525-9 Ag 12 '33

## See also

Japanning

Shellac

Varnish and varnishing

## Patents

Duco; basic patents through which duPont sought to bring all lacquer manufacturers under license declared invalid. *Business Week* p11-12 D 21 '32

Duco—round 2. *Business Week* p14 JI 29; 15 Ag 19 '33

DuPont low-viscosity lacquer patent is declared invalid in Glidden action. *Oil Paint & Drug Rep* 122:17+ D 12 '32

DuPont secures reversal lacquer court verdict. *Chemicals* 38:1-2 JI 24 '33; *Oil Paint & Drug Rep* 124:16 JI 17 '33; *Automotive Ind* 69:112 JI 22 '33

## Statistics

Quarterly lacquer statistics, 1931-1933. *Plastic Prod* 9:198 JI '33

## Testing

Accelerated weathering of paints and varnishes. V. G. Jolly. *il Soc Chem Ind J* 52:329T-36T O 13 '33

Protective coatings for cable leads; the merits of nitrocellulose lacquer. J. S. Gourlay. *Elec R (Lond)* 112:734-5 My 26 '33

## LACQUER manufacturers' association

Lacquer manufacturers form own association. *Oil Paint & Drug Rep* 124:16 Ag 21; 17 Ag 28 '33; *Chemicals* 38:1+ S 4 '33

Proposed constitution and by-laws. *Chemicals* 38:1-2 Ag 21 '33

## LACQUERED fabric. See Fabrikoid

## LACTIC acid

Action of the parenteral administration of sugars on the hydrogen-ion concentration of normal and malignant tissues in living animals. C. Voegtlin, H. Kahler and R. H. Fitch. *Science* 77:567-8 Je 9 '33

Über die milchsäurebildung in der muskulatur. G. Embden. *Angew Chemie* 46:220; *Discussion*. 220 Ap 15 '33

## LACTIC acid bacteria

Lactobacilli in frozen pack peas. J. A. Berry. *Science* 77:350-1 Ap 7 '33

## LACTOBACILLI. See Lactic acid bacteria

## LACTONES

Carbon syntheses with malonic and related acids. A. Michael and J. Ross. *Am Chem Soc J* 55:3684-95 S '33

Hydroxyl derivatives of alpha,gamma-diphenylbutyric acid. E. P. Kohler and R. H. Kimball. *Am Chem Soc J* 55:4632-9 N '33

Investigations of the olefinic acids; the formation of lactones from  $\Delta\alpha$ - and  $\Delta\beta$ -butenoic and -pentoic acids. E. J. Boorman and R. P. Linstead. *Chem Soc J* p577-80 Je '33

**LACTONES—Continued**

Investigations of the olefinic acids; the formation of lactones from some  $\Delta\gamma$ -unsaturated acids, and an example of ring-chain (lactonoic) tautomerism. R. P. Linstead and H. N. Rydon. *Chem Soc J* p580-6 Je '33

New method for the preparation of the free acids and the abnormal lactones of the monobasic sugar acids. J. M. Brackenbury and F. W. Upson. *Am Chem Soc J* 55:2512-14 Je '33

**LACTOSE**

As beta lactose milk sugar becomes a food. F. M. Greenleaf. *bibliog il Food Ind* 5:304-6 Ag '33

Freezing points and osmotic pressures of lactose solutions. E. O. Whittier. *J Phys Chem* 37:847-9 O '33

**LADDERS**

Ladder safety code. H. D. Bender. *il Nat Safety N* 27:23-4 Ap '33

**LADLES, Foundry.** See Foundry ladles

**LAGOMORPHA, Fossil**

Eocene lagomorpha. J. J. Burke. *Science* 77:191 F 17 '33

**LA JOLLA bay**

Red water in La Jolla bay in 1933. W. E. Allen. *Science* 78:12-13 J1 7 '33

**LAKE carriers' association**

Annual meeting, Cleveland, April 20. *Marine R* 63:15-16 My '33

**LAKE colors**

Alumina lakes. W. D. Bancroft and E. C. Farnham. *J Phys Chem* 36:3127-37 D '32

**LAKE Shore mines**

Producer of the most-coveted metal. *Mag of Wall St* 53:28+ O 23 '33

**LAKES**

Light intensity at different depths in lake water. H. A. Erikson. *il diag Opt Soc Am J* 23:170-7 [bibliog p177] My '33

Studies on the bottom fauna of fresh-water lakes. F. C. Baker. *Science* 78:190-1 S 1 '33

See also

Atitlan, Lake  
Michigan, Lake

**LAKES, Extinct**

Extinct Lake San Augustin, New Mexico. W. E. Powers. *Science* 77:51-2 Ja 13 '33

**LAMB, Charles, 1775-1834**

Charles Lamb as accountant and man of letters. C. J. Hasson. *J Account* 56:283-90 O '33

**LAMBS.** See Sheep**LAMELLA roofs.** See Roofs**LA MERS studio**

2,000 garments were salvaged by repairers; art of invisible weaving. *il Weekly Underw* 128:493-4 Mr 11 '33

**LAMINATED glass.** See Glass, Laminated**LAMINATED metal work.** See Metal work, Laminated**LAMINATED plastics.** See Plastic materials, Laminated**LAMMERT, Olive M. 1894-1932**

Sketch. M. L. Sague. *Science* 77:275-6 Mr 17 '33

**LAMONT, Robert P.**

Resigns as American iron and steel institute head. *por Iron Age* 132:27 S 21 '33

**LAMPBLACK**

Blacks output in 1931. *Oil Paint & Drug Rep* 123:36 Ja 9 '33

See also

Carbon black

**LAMPS**

Lamps of many years ago; collection of Dr. Edward A. Rushford. *Illum Eng Soc Trans* 28:98-9 F '33

See also

Electric lamps  
Gas lamps

**LANAHAN, Frank J.**

President, American foundrymen's association. *por Steel* 92:19 Je 26 '33

**LANCASTER, Ohio****Water supply**

Iron removal and zeolite softening plant at Lancaster, Ohio. C. P. Hoover. *il plan Pub Works* 64:9-11+ Je '33

**LANCASTER, Pennsylvania****Sewerage**

Sewage collection and treatment at Lancaster; abstract. J. F. Laboon and J. N. Chester. *Water Works & Sewerage* 80:371-2 O '33

**LAND**

Regulation and control of land use in non-urban areas. R. B. Goodman. *J Land & Pub Util Econ* 9:266-71 Ag '33

School of land economics, New York. *Arch Forum* 59:sup36 S '33

See also

Agriculture  
Clearing of land  
Drainage  
Eminent domain  
Farms  
Irrigation  
Land banks  
Land values

National parks and reserves  
Oil lands  
Public lands  
Real estate business  
Real property  
Reclamation of land  
Rent

**Subdivision**

Development and taxation of private recreational land; studies of northern Wisconsin counties. G. S. Wehrwein and R. F. Spilman. *J Land & Pub Util Econ* 9:340-51 N '33

Population and subdividing activity in the region of Chicago: 1871-1930. H. C. Monchow. *map J Land & Pub Util Econ* 9:192-206 My '33

**Taxation**

Development and taxation of private recreational land; studies of northern Wisconsin counties. G. S. Wehrwein and R. F. Spilman. *J Land & Pub Util Econ* 9:340-51 N '33

Property tax as an obstacle to the private development of idle forest lands. W. De Vries. *J Land & Pub Util Econ* 9:228-32 Ag '33

**North Dakota**

Method for the classification of rural lands for assessment in western North Dakota. C. E. Kellogg. *J Land & Pub Util Econ* 9:10-15 F '33

**Wisconsin**

County zoning for agriculture, forestry, and recreation in Wisconsin. W. A. Rowlands. *maps J Land & Pub Util Econ* 9:272-82 Ag '33

Development and taxation of private recreational land; studies of northern Wisconsin counties. G. S. Wehrwein and R. F. Spilman. *J Land & Pub Util Econ* 9:340-51 N '33

**LAND banks**

Land bank reorganization will place the government in the farm-mortgage business. G. E. Anderson. *Barron's* 12:17 D 12 '32

Land banks; talk of \$200 millions more to bolster land bank bonds is in key with farm mortgage relief policies. *Business Week* p12-13 Ja 25 '33

Report of I.B.A. government and Farm loan bonds committee. *Inv Banking* 3:49-56 N 16 '32

**LAND grant colleges.** See Colleges and universities, Land grant**LAND grants, Railroad.** See Railroad land grants**LAND tenure**

See also

Agricultural colonization  
Farm tenancy

Land titles  
Leases  
Oil lands

**Small holdings**

Small land holdings for unemployed in New Zealand. *Monthly Labor R* 37:840-1 O '33



**LAND tenure—Continued****Canada**

Forests, unemployment and settlement. E. Wilson. Pulp & Pa of Can 34:441-2+; Editorial comment. 437 J1 '33

**Ireland**

Land settlement in the Irish Free State. Monthly Labor R 37:54-6 J1 '33

**New Zealand**

Small land holdings for unemployed in New Zealand. Monthly Labor R 37:840-1 O '33

**United States**

State land-settlement problems and policies in the United States. W. A. Hartman. U S Agric Tech Bul 357:1-87 '33

**LAND titles**

Indiana law of title to real property. R. C. Street. 989p Thomas law book co, St Louis '33

Phantom real estate fortunes still lure the too trustful. W. H. Williams. Bankers M 126:16 Ja '33

**LAND utilization**

County zoning for agriculture, forestry, and recreation in Wisconsin. W. A. Rowlands. maps J Land & Pub Util Econ 9:272-82 Ag '33

**LAND values**

Advertising helps stabilize farm land values; Midwest farm committee. il Ptr Ink 161:55-6 N 17 '32

Decline in land values not an economic loss. M. Sykes. Comm & Fin 22:484 My 31 '33

Landlady of Malibu. E. W. Bell. Comm & Fin 22:937 O 25 '33

Method for the classification of rural lands for assessment in western North Dakota. C. E. Kellogg. J Land & Pub Util Econ 9:10-15 F '33

Public improvements and land values. L. Purdy. Eng N 110:639-40 My 18 '33

Regarding housing. E. H. Klaber. Arch Forum 53:sup17 Ja '33

**LANDACRE, Francis Leroy, 1867-1933**

Sketch. Science 78:399-400 N 3 '33

**LANDLORD and tenant**

Handy manual on landlord and tenant. A. L. Lavine. 144p Standard text press, Brooklyn, N.Y. '32

Law of landlord and tenant in New Jersey with statutes and procedure thoroughly annotated. I. Le Wine. 862p Soney & Sage co, Newark '32

2,500 evictions threatened by Cleveland landlords. Business Week p25 S 16 '33

*See also*

Apartment houses	Real estate business
Leases	Rent

**LANDSCAPE gardening**

Beautification of sewage treatment works sites. L. E. Burnside. il Pub Works 63:9-10+ D '32

Cleveland museum of art; views and plans. Architecture 68:261-4 N '33

Colonial gardens; the landscape architecture of George Washington's time. Am. soc. of landscape architects. 72p U.S. George Washington bicentennial commission, Washington, D.C. '32

Garden making by example. G. C. Taylor. 130p Scribner '32

House of Alfred Hopkins, architect, Princeton, N.J.; views. Architecture 68:273-9 N '33

Informal gardens. H. S. Orloff. 115p \$1.60 Macmillan '33

Introduction to the study of landscape design. H. V. Hubbard and T. Kimball. rev ed 419p, 36pl \$6 Macmillan '31

*See also*

Gardens—Lighting	Parkways
Gasoline service stations—Grounds	Rock gardens
Parks	Tree planting

**LANDSLIDES**

Andean mud slide destroys lives and property at Charat, Peru. C. W. Sutton. Eng N 110:562-3 My 4 '33

*See also*

Mine subsidences

**LANE, Arthur Sherman, 1864-**

Sketch. por Explosives Eng 11:4-5 Ja '33

**LANGMUIR, Irving, 1881-**

Irving Langmuir. K. B. Blodgett. pors J Chem Educ 10:396-9 J1 '33

Irving Langmuir, Nobel prize winner. A. C. Langmuir. Ind & Eng Chem News ed 10:305-6 D 20 '32

Nobel prize award in chemistry. W. D. Coolidge. Science 76:sup8 N 18 '32

Nobel prize in chemistry for 1932 awarded to Irving Langmuir. por Ind & Eng Chem News ed 10:277 N 20 '32; Steel 91:16 D 19 '32; Chemicals 37:12 N 28 '32

Portrait. Gen Elec R 35:600 D '32; Sci Am 148:69 F '33

**LANGUAGE**

Illiteracy of the literate. H. R. Huse. 272p [bibliog p263-7] \$2 Appleton-Century '33

Spirit of language in civilization. K. Vossler. 247p \$3 Harcourt '32

*See also*

Printing, Practical—	Speech
Style manuals	Technical writing
Proofreading	Words

**LANGUAGE, Universal***See also*

Esperanto

**LANGUAGES, Modern***See also*

English language  
German language

**LANOLIN.** *See* Wool fat**LANOSTEROL**

isoCholesterol; lanosterol and a new method for its preparation. C. Dorée and D. C. Garratt. Soc Chem Ind J 52:141T-3T My 26 '33

**LANOVA engine**

Lanova air-cell Diesel engine; abstract. E. P. A. Heinzl. Mech Eng 55:697 N '33

**LANTERN projection**

Experiment in visual education. J. O. Frank. J Chem Educ 10:90-1 F '33

Projection of quiz questions. F. B. Dutton. il diag J Chem Educ 10:376 Je '33

Standard Brands trains route men through film program. il Sales Management 33:422-3 O 20 '33

This story to dealers is told with still film; Devoe & Reynolds co. il Ptr Ink 163:32-4 Je 15 '33

Visualette carries picture of gas service into home. il Gas Age 72:450 N 4 '33

**LANTERN slides**

Cellophane roll films and the fixing of carbon paper typing on cellophane. R. Bonar, F. Bonar and E. C. H. Davies. Science 77:217 F 24 '33

Cellophane roll films for slide lanterns. R. Bonar, F. Bonar, and E. C. H. Davies. diag J Chem Educ 10:92-4 F '33

Engineering and scientific charts for lantern slides, approved by American standards. assn. Am. Soc. M.E. 29 W. 39th st, New York '32

New use for cellophane. K. L. Warren. Science 76:573 D 16 '32

Scientific charts for lantern slides. India Rubber W 87:25-7 F '33

**LANTHANUM**

Analysis of lanthanum spectra (La I, La II, La III). H. N. Russell and W. F. Meggers. U S Bur Stand J Research 9:625-68 N '32

Radioactivity of lanthanum, neodymium and samarium. W. F. Libby and W. M. Latimer. Am Chem Soc J 55:433 Ja '33

**LAPIDARIES**

Thirteenth century book on stones; El lapidario de Alfonso el Sabio. M. L. Foster. il J Chem Educ 10:369-72 Je '33

**LAPLACE'S equation**

Geometry of the Laplace equation; abstract.  
E. Kasner. *Science* 77:454 My 12 '33

**LAPPING**

Gear finishing; Werner lapping process. *il* *diags Automobile Eng* 23:343-5 S '33  
Gear lapping after heat treatment. R. S. Drummond. *il diags Iron Age* 132:18-21 J1 6 '33; Same. *Am Mach* 77:331-3 My 24 '33;  
Same cond. *Automotive Ind* 69:46-8 J1 8 '33  
Gear lapping as a production job. S. Trim-bath. *il diags Am Mach* 77:590-4 S 13 '33  
Gear tooth finishing. F. H. Colvin. *il Am Mach* 77:407-8 Je 21 '33  
Lapping all teeth of gears simultaneously. C. O. Herb. *il Mach* 39:689-92 J1 '33  
Spedia lapping wheels and hand laps. *il Mach* 40:180 N '33

See also

Polishing

**LAPPING machines**

Gear finishing; the possibilities of lapping and a new type of machine. *il Automobile Eng* 23:55-6 F '33  
Michigan gear-lapping machine. *il Am Mach* 77:164 Mr 1 '33; *Mach* 39:486-7 Mr '33  
National broach & machine co. lapping machine corrects inaccuracies of spur and helical gears. *il Iron Age* 131:202-3 F 2 '33; *Am Mach* 77:28 Ja 4 '33  
Porter-Cable disc lapper for cemented carbides. *il Automotive Ind* 69:86 J1 15 '33; *Iron Age* 132:28 J1 27 '33  
Precision grinding machines. *il diag Engi-neer* 154:585-7 D 9 '32  
Werner gear lapping machine. *il diag Am Mach* 77:675 O 11 '33

**LARCH**

Chemistry of wood; water-soluble polysaccharide of eastern larch. L. E. Wise, P. L. Hamer and F. C. Peterson. *bibliog Ind & Eng Chem* 25:184-7 F '33

**LARD**

Catalytic effect of caustic alkali on the alcoholysis and hydrolysis of fats. G. K. Rowe. *Soc Chem Ind J* 52:49T-52T F 24 '33  
Shortening value of plastic fats. J. D. Fisher. *Ind & Eng Chem* 25:1171-3 O '33

**LARNITE**

System,  $\text{Ca}_2\text{SiO}_4\text{-Fe}_2\text{SiO}_4$ . N. L. Bowen, J. F. Schairer and E. Posnjak. *il Am J Sci* 5th ser 25:273-97 Ap '33

**LARVAE**

Experiences with well water in an uncovered reservoir. K. W. Brown. *il Am Water Works Assn J* 25:337-40 Mr '33

**LASALLE fire insurance company**

Inter-Ocean cites LaSalle liability. *Ins Field* (Fire ed) 62:7 Ja 19 '33; *Spectator* 130:28 Ja 19 '33; *Weekly Underw* 128:158 Ja 21 '33

**LASSEN volcanic national park**

Geology of the Lassen volcanic national park, California. H. Williams. *il maps Univ of Calif Pub Geological Sciences* v 21, no 8: 195-385 '32

**LATENT heat.** See Fusion, Heat of; Vaporization, Heat of

**LATENT image.** See Photography—Latent image

**LATERITE**

La pédologie ou science des sols. E. Lemaire. *diags map Génie Civil* 101:474-7, 495-7 N 12-19 '32

La possibilité d'origine latéritique des bauxites françaises. V. Charrin. *Génie Civil* 102:283-4 Mr 25 '33

**LATEX.** See Rubber latex

**LATHES**

Broaching in the lathe. F. Server. *diag Am Mach* 77:410-11 Je 21 '33  
Bullard flex-au-mobility with 80 speeds. *il Automotive Ind* 69:524 O 28 '33  
Bullard high-speed vertical turret lathe. *il Am Mach* 76:1210 D 7 '32; *Iron Age* 130:848 D 1 '32; *Steel* 91:38 N 28 '32; *Automotive Ind* 68:92 Ja 21 '33; *Ry Mech Eng* 107:103 Mr '33

Bullard single-spindle automatic vertical lathe. *il Am Mach* 77:448 J1 5 '33; *Iron Age* 132:23 J1 13 '33; *Mach* 39:737-8 J1 '33; *Automotive Ind* 69:104 J1 22 '33

Craven brothers 72-in. centres high-speed roughing lathe. *il Engineer* 154:544-5 N 25 '32

Craven brothers 60-in. centre high-speed roughing lathe. *il Engineering* 134:591 N 18 '32

Craven brothers 26-in. centre square-ingot turning-lathe. *il Engineering* 135:108, 109 Ja 27 '33

Craven 36in. centre high-speed roughing lathe. *il diags Engineer* 155:530-1 My 26 '33

Electrically-operated heavy lathe constructed by Maschinenfabrik Froriep, G.m.b.H. *Engineering* 135:39-40, pl 2 Ja 13 '33

Factors influencing the production of wheel lathes. A. T. Kuehner. *diags Mach* 39:666-7 Je '33

Fay 8-in. automatic lathe. *il Am Mach* 77:669 O 11 '33; *Iron Age* 132:29 O 5 '33

Hardened ways for machine tools. C. Golosman. *il Mach* 39:760 Ag '33

Herbert 15½-in. swing combination turret lathe. *il Engineering* 134:736-7, pl 27 D 23 '32

Herbert heavy-duty automatic lathe. *il Engineering* 136:414, 420-1 O 13 '33; *Engineer* 156:366 O 13 '33

Herbert small capstan lathe. *il Engineer* 155:230 Mr 3 '33

Improved lathes for utilizing new cemented carbide cutting tools. *il Automobile Eng* 23:177-9 My '33

Kärger fine-turning lathe. *il diag Engineering* 135:293-4 Mr 17 '33

LeBlond elliptical turning lathe suitable for long parts. *il Iron Age* 131:319 F 23 '33

LeBlond high-speed lathe permits full use of new cutting tools. *il Iron Age* 131:438 Mr 16 '33; *Am Mach* 77:220 Mr 29 '33

LeBlond oil country and carbide tool lathes. *il Mach* 39:544-5 Ap '33

Monarch lathes with automatic force-fed lubrication. *il Am Mach* 76:1046 S 28 '32; *Iron Age* 130:767 N 17 '32

Noble and Lund 14-inch and 20-inch centres lathes. *il Engineer* 154:572-3 D 2 '32

Riesen-doppel-spitzendrehbank. A. Velten. *il diags Zeit Ver Deutsch Ing* 77:946-8 S 2 '33

Springfield 12-in. centre tool-room lathe. *il Engineering* 136:181 Ag 18 '33

Tavannes vertical automatic lathe. *il diags Engineer* 155:582-3 Je 9 '33; *Engineering* 135:619-21 Je 9 '33

Ward and company combination turret lathe with covered bed. *il Engineering* 136:393-4 O 6 '33; *Engineer* 156:341-2 O 6 '33

Ward and co. hexagon turret lathe for bar work. *il Engineer* 155:408 Ap 21 '33

Ward & co. new capstan lathes. *il Automobile Eng* 22:581-2 D '32

Ward and co. new turret lathe. *il Automobile Eng* 23:211-12 Je '33

Ward combination and bar turret lathes. *il Engineering* 135:551-2 My 19 '33; *Engineer* 155:408, 506 Ap 21, My 19 '33

See also

Machine shop practice    Screw machines  
Machine tools                Turning

**LATHS**

Insulating lath with locked joint. *diag Am Bld* 55:47 My '33

**LATIN AMERICA**

See also

Cuba                                South America  
Dye industry—Latin  
America

**Bibliography**

Selected list of recent books (in English) on Latin America. (Bibliographic ser. no. 4) 3d ed rev & enl 27 1 Pan American Union, Washington, D.C. '33 (typew)

Theses on Pan American topics. (Bibliographic ser. no. 5) 2d ed rev & enl 13p pa 75c Pan American Union, Washington, D.C. '33 (typew)



**LATIN America—Continued****Commerce**

Pan-American trade alliance and the South.  
R. C. Jones. *Manuf Rec* 102:23 Ag '33

**Commercial policy**

Markets in Latin America. *Business Week*  
p27 Jl 22 '33

**Economic conditions**

Colombia and other Latin American states in  
1932. *Economist* 116:sup33-4 F 18 '33

Current survey of credit conditions and col-  
lections in Latin-America. W. S. Swingle.  
*Credit & Fin Management* 35:22-3 Ja; 20-1  
My; 16-17 Ag; 18-19+ N '33

**History**

Colonial Hispanic America: a history. C. E.  
Chapman. 405p \$3 Macmillan '33

**Bibliography**

Histories of Hispanic America. A. C. Wilgus.  
115 numb 1 Pan American union, Washing-  
ton, D. C. '32 [mimeographed]

**LAUDANOSOLINE**

Preliminary synthetic experiments in the mor-  
phine group; completion of the synthesis of  
a laudanoline dimethyl ether related to  
sinomenine. R. Robinson and S. Sugawara.  
*Chem Soc J* p280-1 Mr '33

**LAUE patterns.** See Crystallography—X ray  
studies

**LAUNCHING**

La cale de lancement de 310 mètres des  
Chantier et Ateliers de Saint-Nazaire-Pen-  
hoët. P. Fastier. *il diags Génie Civil* 102:  
293-6 Ap 1 '33

**See also****Slipways****LAUNDRIES**

Dy-Dee Wash; diaper laundry. *Fortune* 8:4+  
N '33

Home washers vs. laundries. *Business Week* p9  
D 7 '32

Housing a laundry in a modern building;  
Cashman laundry corp. *il diags plan Eng N*  
109:682-4 D 8 '32

Knickerbocker laundry company plant, Long  
Island City, New York. I. M. Fenichel. *il*  
*plan Arch Rec* 72:381-7 D '32

Laundry industry establishes seal of fabric  
quality. *il Ptr Ink* 165:72-3 N 2 '33

Laundry-tested label. *Business Week* p12 N  
4 '33

**Accidents**

Stays of unusual shape prove weak. *il diags*  
*Locomotive* 39:141-2 Ja '33

**Advertising**

Household washer boom causes laundry men  
to start campaign. *Sales Management* 33:441  
N 1 '33

Making the advertising character do some-  
thing; Union laundry makes Ann Prescott  
handle all claims. *il Ptr Ink* 161:68+ D 22 '32

Two letters that appeal to women. D. H.  
Colcord. *il Ptd Salesmanship* 60:454+ F '33

Your laundryman will gladly assure you of a  
clean profit on this smart folder. *il Inland*  
*Ptr* 90:30-2 D '32

**Records**

Cards tell facts; Model laundry company.  
*System and Management Methods* 62:357 Ag  
'33

**LAUNDRY**

Detergency of alkaline salt solutions; de-  
floculating and emulsifying power. F. D.  
Snell. *Ind & Eng Chem* 25:162-5 F '33

Detergency of alkaline salt solutions; labora-  
tory comparison in simulation of laundry  
practice. F. D. Snell. *bibliog il Ind & Eng*  
*Chem* 25:1240-6 N '33

Evaluation of washing agents containing oxy-  
gen. K. Brauer. *Melland* 5:111-14, 160-1,  
246-7 Je-Jl—Ag-S, N '33

Getting the most from soap. W. W. Bray. *Am*  
*Dyestuff Rep* 22:175-9; Discussion. 179-84 Mr  
13 '33

Relationship between the textile and laundry  
industries; abstract. R. E. V. Hampson.  
*Textile Inst J* 24:P62-3 Ap '33

Shrinkage of cotton and linen woven  
materials. G. H. Johnson. *Am Dyestuff*  
*Rep* 22:561-4+, 591-2, 619-21 S 25-O 9 '33

**See also****Laundries****Soap****Washing machines****LAUNDRY equipment**

Conveyors in modern laundries. *Mech Han-*  
*dling* 20:225 Jl '33

**See also****Drying apparatus—****Clothes****Washing machines****LAURIC acid**

Phase rule equilibria of acid soaps; anhydrous  
acid potassium laurate. J. W. McBain and  
M. C. Field. *bibliog diag J Phys Chem* 37:  
675-84 Je '33

**LAUSANNE, Switzerland****Water supply**

Construction of a long inlet pipe line, Lau-  
sanne water supply. *il diags Engineer* 154:  
632-3, 642 D 23 '32

**LAVA**

Date of recent volcanism in Colorado. R. E.  
Landon. *il maps Am J Sci* 5th ser 25:20-4  
Ja '33

Volcanic history of Glass mountain, northern  
California. C. A. Anderson. *bibliog il maps*  
*Am J Sci* 5th ser 26:485-506 N '33

**See also****Volcanoes****LAVATORIES**

How to vent lavatories in center of room.  
R. M. Starbuck. *il Dom Eng* 141:39-40 F  
'33; Discussion. 141:36-7 Mr '33

**See also****Bathroom fixtures****Toilet rooms****LAW**

Law, the guardian of security. G. B. Young.  
*Weekly Underw* 127:1095+ D 10 '32

**See also****Accident law****Advertising—Laws****and regulations****Aeronautics—Laws****and regulations****Automobile laws and****regulations****Banking law****Building laws and****regulations****Commercial law****Contracts****Copyright****Corporation law****Costs (law)****Damages****Debtor and creditor****Eminent domain****Fraud****Government regula-****tion of industry****Highway law****Insurance law****Labor laws and legis-****lation****Lawyers****Library laws and****legislation****Maritime law****Mechanics' liens****Medical jurisprudence****Mining law****Mortgages****Motor bus lines—****Laws and regula-****tions****Motor vehicles—Law****National industrial****recovery act, 1933****Nuisances****Patent laws and legis-****lation****Patents****Petroleum laws and****regulations****Probate law****Public utilities—Law****Railroad law****Real property****Sales****Securities—Law****Trade marks—Law****Trust companies—****Legal service****Trusts, Industrial—****Law****Trusts and trustees****Water laws and legis-****lation****Wills****Bibliography**

Catalogue of the Law department of the Kan-  
sas state library, 1932. 530p Kansas state  
library, Law dept, Topeka '32

Materials and methods of legal research, with  
bibliographical manual. F. C. Hicks. 2d ed  
rev & enl 651p Lawyers co-operative pub.  
co, Rochester, N.Y. '33

## LAW—Continued

## Dictionaries

- Black's law dictionary. H. C. Black. 3d ed 1944p \$6.50 West '33  
 Handbook of Spanish-English and English-Spanish legal words and phrases. M. E. Bean, comp. 257p \$2.50 Appleton '33

## Philosophy

- Introduction to the philosophy of law. R. Pound. 318p [bibliog p285-307] \$2.50 Yale univ. press '33  
 Law and the social order. M. R. Cohen. 403p \$3.75 Harcourt '33

## LAW enforcement

- Politics and law enforcement. B. Smith. Ann Am Acad 169:67-74 S '33

## LAW schools

- Educational and scientific objectives of the Yale school of law. C. E. Clark. Ann Am Acad 167:165-72 My '33

## LAWN mowers

- Lawn mower grinder. il Engineer 155:50 Ja 13 '33

## LAWRENCE, Kansas

## Water supply

- Operation of the Lawrence purification plant. C. T. Hough. Am Water Works Assn J 25:260-3 F '33

## LAWSON, T. R.

- President, American society for testing materials. por Steel 93:19 JI 3 '33

## LAWTON, Carl S.

- Bicycle pedaled Lawton to early success. D. F. Barrett. por East Underw 34:23 F 3 '33

## LAWYERS

- Bar specializes—with what results? K. N. Llewellyn. Ann Am Acad 167:177-92 My '33  
 Lawyer and the public. pa \$1 Univ. of Chicago press '33  
 Lawyers must eat. A. L. Schlosser. 248p \$2 Vanguard press, New York '33  
 What every present-day lawyer should know. S. Untermyer. Ann Am Acad 167:173-6 My '33

See also

Legal ethics

## Directories

- Merchants bank directory, and List of guaranteed attorneys, January, 1933. 320p;143p pa Central guarantee co, 200 Fifth av, N.Y. '33 [published January and July each year]  
 Standard legal directory. v13 440p, 81p, 111p  
 Standard legal directory co, 261 Broadway, New York '32

## LEA, R. W.

- Who is this man Lea? por Automotive Ind 69:183 Ag 12 '33

## LEAD

- Atomic weight of lead from Bedford cyrtolite. G. P. Baxter and C. M. Alter. Am Chem Soc J 55:1445-8 Ap '33; Abstract. Science 76: 524-5 D 2 '32  
 Atomic weight of lead from Katanga pitchblende. G. P. Baxter and C. M. Alter. Am Chem Soc J 55:2785-92 JI '33; Abstract. Science 77:431-2 My 5 '33; Discussion. A. v. Grosse. Am Chem Soc J 55:3893 S '33  
 Corner metals of electrical distribution: copper, aluminium, and lead. F. J. Brislee. Soc Chem Ind J (Chem & Ind) 52:447-51 My 26 '33  
 Effect of lead at elevated temperatures; abstract. J. N. Kenyon. Iron Age 132:22 JI 13 '33  
 L'emploi du plomb pour la protection contre les rayons X. J. Mahul. diags Génie Civil 102:416-19 My 6 '33  
 From ore to finished product; chart. A. Bregman. Metal Ind 31:2 Ja '33  
 Isotopes of uranium, thorium and lead, and their geophysical significance. C. S. Pigot. Phys R 43:51-9 Ja 1 '33  
 Lead isotopes. E. R. Bishop. M. Lawrenz and C. B. Dollins. Phys R 43:43-6 Ja 1 '33  
 Lead welding. A. J. T. Eyles. il Elec R (Lond) 112:628 My 5 '33

- Luminescence of alkaline earth tungstates containing lead. F. E. Swindells. Opt Soc Am J 23:129-32 Ap '33  
 Magnetic susceptibilities of lead, silver and their alloys. C. G. Montgomery and W. H. Ross. Phys R 43:358-60 Mr 1 '33  
 Method of preparation of lead and lead alloy cable sheath for microscopic examination. W. H. Bassett, Jr. and C. J. Snyder. bibliog il Am Soc T M Proc 32 pt 2:558-68; Discussion. 569-75 '32  
 Nonferrous physical metallurgy; review of literature shows wide variety of work. G. O. Hiers. Min & Met 14:37 Ja '33  
 Normal absorption and excretion of lead. R. A. Kehoe, F. Thamann and J. Cholak. bibliog J Ind Hygiene 15:257-305 S '33  
 Occurrence and origin of lead in canned sardines; abstract. L. H. Lampitt and H. S. Rooke. Soc Chem Ind J (Chem & Ind) 52:819 O 13 '33; Same. Chem Age (Lond) 29:353 O 14 '33  
 Preparation of lead and lead alloys for microscopic examination. B. Jones. il Engineering 136:449 O 20 '33  
 Presence of lead dust and fumes in the air of streets, automobile repair shops, and industrial establishments of large cities. J. J. Bloomfield and H. S. Isbell. bibliog J Ind Hygiene 15:144-9 My '33  
 Preservation of chemical works plant; lead as a corrosion-resisting material for iron and steel. il Chem Age (Lond) 28:242 Mr 18 '33  
 Some effects of the addition of tellurium to lead. W. Singleton and B. Jones. il Soc Chem Ind J (Chem & Ind) 52:211-13, pl 1-2 Mr 10 '33; Same abr. Engineering 135:317-18 Mr 17 '33; Abstracts. Engineer 155:266 Mr 17 '33; Metal Ind 31:125 Ap '33; Discussion. Engineering 135:310-11 Mr 17 '33; Engineer 155:266 Mr 17 '33  
 Thermal expansion of lead. P. Hidnert and W. T. Sweeney. U S Bur Stand J Research 9:703-9 N '32; Abstract. Mech Eng 55:182-3 Mr '33  
 Zeeman effect of lead II, III and IV. J. B. Green and R. A. Loring. il diag Phys R 43:459-66 Mr 15 '33  
 See also  
 Blue lead

## Analysis

- Colorimetrische bleibestimmung, besonders im wasser. O. Liebknecht and L. Gerb. Angew Chemie 45:744-5 N 26 '32  
 Determination of lead in grease and oil containing lead soap. A. D. Bauer and C. S. Ford. Nat Pet N 25:37 S 13 '33  
 Modified method for cation group 1. R. W. Gelbach. J Chem Educ 10:621 O '33

## Prices

- Thirty-five years of prices of copper and lead at New York refinery, (Lake copper to 1920 and electrolytic copper since then) 1898-1932; graph. Iron Age 131:63-4 Ja 5 '33

## LEAD acetate

- Lead-mercurous acetate voltaic cell with acetic acid as the solvent. G. Tarbutton and W. C. Vosburgh. Am Chem Soc J 55: 618-24 F '33  
 System lead acetate-acetic acid. A. W. Davidson and W. Chappell. Am Chem Soc J 55:4524-5 N '33  
 System lead acetate, acetic acid, water. G. Tarbutton and W. C. Vosburgh. Am Chem Soc J 54:4537-44 D '32

## LEAD alloys

- Determination of calcium in lead-calcium alloys of low calcium content. B. L. Clarke and L. A. Wooten. Ind & Eng Chem Anal ed 5:313-15 S 15 '33  
 Interpretation of the tensile test (with reference to lead alloys). E. P. Haigh and B. Jones. il Engineering 135:314-16 Mr 17 '33; Abstract. Engineer 155:266 Mr 17 '33; Discussion. Engineering 135:311 Mr 17 '33; Engineer 155:266 Mr 17 '33  
 Lead alloys for building applications. Engineering 136:127-8 Ag 4 '33



**LEAD alloys—Continued**

- Leaded bronze developed by Standards bureau. L. J. Briggs. *Iron Age* 131:828 My 25 '33
- Leaded bronze is affected by alloys. H. J. Roast. *Foundry* 61:20-1+ O '33
- Magnetic susceptibilities of lead, silver and their alloys. C. G. Montgomery and W. H. Ross. *Phys R* 43:358-60 Mr 1 '33
- Method of preparation of lead and lead alloy cable sheath for microscopic examination. W. H. Bassett, jr. and C. J. Snyder. *bibliog il Am Soc T M Proc* 32 pt 2:558-68; Discussion. 569-75 '32
- New alloy developed to supplant lead for pipe. *Iron Age* 132:42 S 14 '33
- Preparation of lead and lead alloys for microscopic examination. B. Jones. *il Engineering* 136:449 O 20 '33
- Sodium-lead alloys; the structure of the compound known as Na<sub>2</sub>Pb. C. W. Stillwell and W. K. Robinson. *Am Chem Soc J* 55: 127-9 Ja '33
- Some effects of the addition of tellurium to lead. W. Singleton and B. Jones. *il Soc Chem Ind J (Chem & Ind)* 52:211-13, pl 1-2 Mr 10 '33; Same *abr. Engineering* 135:317-18 Mr 17 '33; Abstracts. *Engineer* 155:266 Mr 17 '33; *Metal Ind* 31:125 Ap '33; *Gas J (Lond)* 202:270 My 3 '33; Discussion. *Engineering* 135:310-11 Mr 17 '33; *Engineer* 155: 266 Mr 17 '33
- Ternary alloys of lead. *Chem Age (Lond)* 28: sup29 My 6 '33
- Tin-*fr* A leaded bearing bronze. H. K. Herschman and J. L. Basil. *pls U S Bur Stand J Research* 10:591-608 My '33
- White-metal bearing alloys; mechanical properties at different temperatures and service tests. H. K. Herschman and J. L. Basil. *U S Bur Stand J Research* 10:1-5 Ja '33
- LEAD arsenate**
- Effect of lead arsenate insecticides on orange trees in Florida. R. L. Miller, I. P. Bassett and W. W. Yothers. *diags U S Agric Tech Bul* 350:1-20 '33
- LEAD bromide**
- Free energy of reactions involving the fused chlorides and bromides of lead, zinc and silver. E. J. Salstrom. *Am Chem Soc J* 55:2426-8 Je '33
- Thermodynamic properties of fused salt solutions; zinc bromide in lead bromide. E. J. Salstrom. *Am Chem Soc J* 55:1029-36 Mr '33
- Validity of Raoult's law in molten solutions of lead chloride and lead bromide. J. Shrawder, jr. *Am Chem Soc J* 55:1975-6 My '33
- LEAD carbonates**
- See also*  
Cerussite  
White lead
- LEAD chloride**
- Debye-Hückel ion size parameter in terms of individual ionic radii; the activity coefficient of lead chloride in solutions of cadmium nitrate. H. D. Crockford and H. C. Thomas. *Am Chem Soc J* 55:568-74 F '33
- Free energy of reactions involving the fused chlorides and bromides of lead, zinc and silver. E. J. Salstrom. *Am Chem Soc J* 55:2426-8 Je '33
- Validity of Raoult's law in molten solutions of lead chloride and lead bromide. J. Shrawder, jr. *Am Chem Soc J* 55:1975-6 My '33
- LEAD compounds**
- Labilities or electronegativities of some unsaturated alkyl radicals as determined by hydrogen chloride scission of organolead compounds. H. Gilman, E. B. Towne and H. L. Jones. *Am Chem Soc J* 55:4689-93 N '33
- Lead and zinc pigments and salts industry drop in 1932. *Chemicals* 38:9 Je 26 '33; Same. *Oil Paint & Drug Rep* 123:32 Je 12 '33
- Lead pigments. W. J. Murphy. *il Chem Markets* 33:33-6 Jl '33
- Studies of organic lead compounds; asymmetric derivatives. P. R. Austin. *Am Chem Soc J* 55:2948-53 Jl '33
- See also*  
Tetraethyl lead

**LEAD dioxynitrate**

Further studies on the formation of oxynitrates of lead in molten salts. D. Freeman, K. Laybourn and W. M. Margin. *Chem Soc J* p648-50 Je '33

**LEAD dithionate**

Electrodeposition of lead from dithionate baths. R. L. Bateman and F. C. Mathers. *il Electrochem Soc Trans* 64 (preprint 25): 301-8 S '33

**LEAD in the body**

Lead absorption and excretion in certain lead trades. R. A. Kehoe, F. Thamann and J. Cholak. *bibliog J Ind Hygiene* 15:306-19 S '33

Normal absorption and excretion of lead. R. A. Kehoe, F. Thamann and J. Cholak. *bibliog J Ind Hygiene* 15:257-305 S '33

**LEAD industry and trade**

Lead, 1932. F. E. Wormser. *Metal Ind* 31: 6-7 Ja '33

Scrap and the lead market. S. Tzach. *Eng & Min J* 134:371-3 S '33

**Statistics**

Lead and zinc in 1932. *Oil Paint & Drug Rep* 123:26 Ja 30 '33

Lead and zinc, 1932. *Min Cong J* 19:13-14 Mr '33

Lead, 1932. *Economist* 116:sup53-4 F 18 '33

**United States**

Code for the lead industry. *Eng & Min J* 134: 363 S '33

Industrial snapshots. J. Backman and A. L. Jackson. *Barron's* 13:5 S 25 '33

**LEAD iodide**

Binary system lead iodide-potassium iodide. H. S. van Klooster and E. I. Stearns. *diag Am Chem Soc J* 55:4121-3 O '33

**LEAD lining**

Lead-lined plant and chemical stoneware. *Soc Chem Ind J (Chem & Ind)* 52:759-61 S 22 '33; Same *cond. Chem Age (Lond)* 29:249 S 16 '33; Discussion. M. Barrett. *Soc Chem Ind J (Chem & Ind)* 52:782 S 29 '33; Same. *Chem Age (Lond)* 29:323 O 7 '33

**LEAD metallurgy**

Continuous lead refinery at the works of the Broken Hill associated smelters proprietary, Ltd., Port Pirie, S. Australia; abstracts. G. K. Williams. *Soc Chem Ind J* 52:sup391 My 12 '33; *Chem Age (Lond)* 28:sup5-6 Ja 7 '33

Continuous lead refining; Broken Hill associated smelters proprietary, Ltd. Port Pirie, South Australia. G. K. Williams. *Eng & Min J* 134:285-6 Jl '33

Electrodeposition of lead from dithionate baths. R. L. Bateman and F. C. Mathers. *il Electrochem Soc Trans* 64 (preprint 25): 301-8 S '33

How gas fuel has been applied at the Tooele smelter. J. B. Nealey. *il Min & Met* 14: 375-6 S '33

Identification of cerussite and anglesite, and flotation with galena. F. D. DeVaney and R. E. Evans. *il U S Bur Mines Rep of Invest* 3214:1-9 '33

Lead metallurgists work for economies. G. E. Johnson. *Min & Met* 14:56 Ja '33

Metallurgical practice at Broken Hill, New South Wales. flow sheets *il Eng & Min J* 134:61-4 F '33

Milling methods and costs at the San Guillermo concentrator of the Compania industrial El Potosi, S. A., San Guillermo, Chihuahua, Mexico. C. A. Mehring, F. G. Bacon and O. Wiser. flow sheet *U S Bur Mines Information Circ* 6706:1-22 '33

New lead refinery of U.S. Smelting in operation at Midvale, Utah. *il Eng & Min J* 134: 431 O '33

Progress in concentrating Tintic Standard silver-lead ore; flotation and gravity concentration. C. A. Schempp. *Min & Met* 14: 291-2 Jl '33

Silver-lead smelting progress in Chihuahua, Mexico. H. R. MacMichael. *Min & Met* 14: 33-4 F '33

**LEAD metallurgy—Continued**

Smelting and refining technique at Port Pirie, Australia. O. H. Woodward. flow sheets Eng & Min J 134:140-4 Ap '33

**LEAD mines and mining**

Sound safety practices win for Balmat mine of St Joseph lead company. R. J. Mechin and R. F. Mitchell. il map Explosives Eng 11:306-9 O '33

**Idaho**

Mining geology in the Coeur d'Alene district, Idaho. O. H. Hershey. Min & Met 14:85-8 F '33

**Kansas-Oklahoma-Missouri district**

Miami-Picher zinc-lead district. W. A. Tarr. Econ Geol 28:463-79 Ag '33

Silicosis and tuberculosis among miners of the Tri-state district of Oklahoma, Kansas, and Missouri. R. R. Sayers and others. map plan pls U S Bur Mines Tech Pa 545:1-30; 552:1-28 '33; Abstract (pt. 1). Can Min J 54:187-9 My '33

**Missouri**

Desloge mine plant modernized—operating costs reduced. H. A. Neustaeter. il diags Eng & Min J 134:238-40 Je '33

**Serbia**

Three lead-zinc properties in Serbia to be developed soon. Eng & Min J 134:392 S '33

**LEAD nitrate**

Further studies on the formation of oxynitrates of lead in molten salts. D. Freeman, K. Laybourn and W. M. Madgin. Chem Soc J p648-50 Je '33

Liquidus and solidus studies; the ternary system  $\text{KNO}_3\text{-NH}_4\text{NO}_3\text{-Pb(NO}_3)_2$ . H. M. Glass, K. Laybourn and W. M. Madgin. Chem Soc J p199-202 F '33

Two-component salt mixtures of lead nitrate with thallium or silver nitrate. H. M. Glass, K. Laybourn and W. M. Madgin. Chem Soc J p2713-15 N '32

**LEAD nitride**

Action du choc des électrons sur l'azoture de plomb et sur l'acétylure d'argent; remarques théoriques sur la décomposition thermique des explosifs. H. Muraour. Chimie & Ind 30:39-40 Jl '33

**LEAD ores**

See also

Galena

**LEAD oxides**

Comments on lead pigments. J. A. Schaeffer. Oil Paint & Drug Rep 123:14 Mr 20 '33

Determination of the isoelectric point. L. V. Andrews and D. J. Brown. bibliog diag J Phys Chem 37:417-24 Ap '33

Free energies of formation of various forms of lead monoxide. H. M. Spencer and J. H. Mote. Am Chem Soc J 54:4618-24 D '32

Further studies on the formation of oxynitrates of lead in molten salts. D. Freeman, K. Laybourn and W. M. Madgin. Chem Soc J p648-50 Je '33

Ein halbmikro-apparat zur bestimmung des kohlenstoffes und wasserstoffes nach der methode von Orthner und Reichel. G. Komppa and W. Rohrmann. il diags Chemische Fabrik 6:201-2 My 10 '33; Discussion. L. Lindner. 6:277 Je 21 '33

Melting point of lead oxide. J Fr Inst 215: 102-3 Ja '33

Protective action of lead pigments against rust. M. Ragg. Electrochem Soc Trans 64 (preprint 24):293-300 S '33

Reaction with paint destroys metal coating on Waldorf-Astoria tower. il Iron Age 132: 24 S 14 '33

Les substituts du minium et les peintures industrielles. A. Vila. il Chimie & Ind 29:527-40 Mr '33

Versuche über die carbonatbildung bei bleiglätte-glycerin-kitt. Typke. Angew Chemie 46:20-1 Ja 7 '33

**Analysis**

Study of Bunsen's method; a new apparatus. K. Braddock-Rogers and K. A. Krieger. bibliog diag Ind & Eng Chem Anal ed 5: 342-4 S 15 '33

**LEAD phenolate**

Metallic driers. bibliog Oil Paint & Drug Rep Extra ed 122:47-9 N 29 '32

**LEAD poisoning**

Abdominal complications of lead poisoning; abstract. Sparchez, Cotutiu and Secarea. J Ind Hygiene 15:sup27 My '33

Action to recover damages for injuries from lead poisoning held barred by statute of limitations. Pub Health Rep 48:1238 O 6 '33

Apples of discord; strict new rules as to lead residue from sprays hold up \$1 million of western apples. Business Week p14 My 24 '33

Arsenic, mercury and lead poisoning. A. Hamilton. Safety Eng 65:227-9 Je '33

Damage action for lead poisoning. Pub Health Rep 48:325 Mr 31 '33

Early diagnosis of lead poisoning; abstract. V. Dhers. J Ind Hygiene 15:sup28 My '33

Effect of viosterol on the excretion of lead. F. B. Flinn and A. R. Smith. bibliog J Ind Hygiene 15:156-9 My '33

Employment of women in vitreous enameling. E. L. Best. pls U S Women's Bur Bul 101: 1-61 '32

How efficient are respirators? R. C. Stratton. il Nat Safety N 27:21-2 F '33

Lead absorption and excretion in certain lead trades. R. A. Kehoe, F. Thamann and J. Cholak. bibliog J Ind Hygiene 15:306-19 S '33

Lead absorption and excretion in relation to the diagnosis of lead poisoning. R. A. Kehoe, F. Thamann and J. Cholak. bibliog J Ind Hygiene 15:320-40 S '33

Lead poisoning in a storage battery plant. A. E. Russell and others. U S Public Health Service Bul 205:1-55 '33; Abstracts. Pub Health Rep 48:1043-5 Ag 25 '33; Safety Eng 66:215 D '33

Lead-poisoning legislation and statistics. F. L. Hoffman. 40p Prudential insurance company of America, Newark, N.J. '33

Occurrence of lead, copper, zinc, and arsenic compounds in atmospheric dusts, and the sources of these impurities. J. T. Dunn and H. C. L. Bloxam. Soc Chem Ind J 52:189T-92T Je 30 '33

Poisonous spray residues on vegetables. W. B. White. bibliog Ind & Eng Chem 25:621-3 Je '33

Report of the governing body of the International labour office upon the working of the convention concerning the use of white lead in painting. 26p World peace foundation '33

Significance and danger of spray residue. C. N. Myers and others. bibliog Ind & Eng Chem 25:624-8 Je '33

**LEAD sulfate**

Adsorbent properties and the specific surface of lead sulfate. I. M. Kolthoff and C. Rosenblum. Am Chem Soc J 55:2656-64 Jl '33

Adsorption of Ponceau 4R (new cocine) and methylene blue by lead sulfate and the influence of adsorbed Ponceau on the speed of kinetic exchange. I. M. Kolthoff and C. Rosenblum. Am Chem Soc J 55:2664-72 Jl '33

Composition of grids for positive plates of storage batteries as a factor influencing the sulphation of negative plates. G. W. Vinal, D. N. Craig and C. L. Snyder. pl U S Bur Stand J Research 10:795-808 Je '33

Solubilities of sparingly soluble salts using large volumes of solvents; the solubility of lead sulfate. R. B. Purdum and H. A. Rutherford, jr. Am Chem Soc J 55:3221-3 Ag '33

Specific surface and the adsorbent properties of lead sulfate. I. M. Kolthoff and C. Rosenblum. Am Chem Soc J 55:851 F '33

X-ray studies on lead-acid storage batteries. C. S. Barrett. il Ind & Eng Chem 25:297-300 Mr '33

See also

Anglesite



**LEAD sulfide**

Studies in the precipitation of the copper and tin groups using hydrogen sulfide. L. Lehrman. *J Chem Educ* 10:50-3 Ja '33

*See also*

Galena

**LEAD work, Architectural**

Lead work on prize winning house. *il Sheet Metal Worker* 24:293 S '33

**LEADERS (merchandizing)**

Loss leader brings no permanent good. E. A. Filene. *Ptr Ink* 161:40-2 D 22 '32

**LEADERSHIP**

Bankers in the new era; can they assume leadership? E. H. Hull. *Bankers M* 126:351-4 Ap '33

Call for leadership. H. S. Person. *Taylor Soc Bul* 18:41-3; Discussion. I. M. Tarbell. 43-4 Ap '33

Captains of industry need to supply collective leadership. L. D. Edie. *Iron Age* 131:137-8 Ja 19 '33

Failure of business leadership and the responsibility of the universities. W. B. Donham. *Harvard Business R* 11:418-35 Jl '33

A leader must lead. R. C. Glenn. *Adv & Sell* 20:37 Mr 16 '33

**LEAFY spurge**

Distribution of leafy spurge (*euphorbia virgata*) in the United States. H. C. Hanson. *map Science* 78:35 Jl 14 '33

**LEAGUE of nations**

International economic organization. F. Morley. *Ann Am Acad* 166:26-9 Mr '33

International labor office relations with the League of nations. C. W. Pipkin. *Ann Am Acad* 166:124-34 Mr '33

League and Manchuria. *Economist* 115:968-9 N 26 '32

League of nations in theory and practice. C. K. Webster. 320p \$2.75 Houghton '33

League on trial. M. Beer. 415p \$4 Houghton '33

Unfinished task. F. Whyte. 52p \$1.50 Houghton '33

World prosperity as sought through the economic work of the League of nations. W. McClure. 613p \$4 Macmillan '33

**Loans**

Bulgarian League loans. *Economist* 117:416-17 Ag 26 '33

League loans. *Economist* 115:938-9 N 19 '32

League loans. *Economist* 117:61-3 Jl 8 '33

League loans committee report. *Economist* 116:1083 My 20 '33

Will League loans secure preference? J. U. Grissinger. *Barron's* 13:16 F 20 '33

**LEARNING, Psychology of**

Nature of learning in its relation to the living system. G. Humphrey. 296p [bibliog p279-92] \$3.75 Harcourt '33

Proof of the law of effect. E. L. Thorndike. *Science* 77:173-5 F 10 '33; Discussion. 77:240, 307, 368 Mr 3, 24, Ap 14 '33

Studies in the psychology of learning. G. M. Norem and M. F. Wiederaenders. *Iowa Univ Studies in Education* v 8, no 6:1-75 '33

What does the configurationist say? gestalt theory. E. B. Taylor. bibliog *J Eng Educ* 23:365-76 Ja '33

**LEARNING and scholarship**

New learning; a contribution to a general view of the world. F. J. E. Raby, ed. 333p I. Nicholson & Watson, Ltd, London '33

**LEASES**

Lease rentals and well drilling of natural-gas companies. W. A. Clader. *J Account* 55:30-5 Ja '33

*See also*

Gasoline service stations—Leasing  
Insurance, Leasehold

**LEAST squares**

Least-squares curve-fitting machine, using springs. W. L. Gaines and J. R. Palfrey. *diag Science* 76:472-4 N 18 '32

**LEATHER**

Effects of atmospheric moisture on the physical properties of vegetable and chrome tanned calf leathers. W. D. Evans and C. L. Critchfield. *diags U S Bur Stand J Research* 11:147-62 Jl '33

International society of leather trades chemists biannual conference. *Soc Chem Ind J (Chem & Ind)* 52:820-1 O 13 '33; *Chem Age (Lond)* 29:351-2 O 14 '33

International society of leather trades' chemists (British section) conference. *Soc Chem Ind J (Chem & Ind)* 51:1040-1 D 16 '32; *Chem Age (Lond)* 27:605 D 24 '32; *Soc Dyers & Col J* 49:77 Mr '33

International society of leather trades' chemists; meeting of the British section March 11. *Soc Chem Ind J (Chem & Ind)* 52:306-7 Ap 7 '33

Odd things in leather. A. Rogers. *Am Dye-stuff Rep* 22:386-92; Discussion. 392-3 Je 19 '33

*See also*

Belting	Hides and skins
Dyes and dyeing—	Tanning
Leather	Tanning materials

**Analysis**

Determination of buffer salts and acidity in water extracts of vegetable-tanned leathers; abstract. C. W. Davies and R. F. Innes. *Soc Chem Ind J* 52:sup160 F 24 '33

**Manufacture**

Application of pigment finishes to light leather. W. D. Brown. *Chem Age (Lond)* 27:502-3 N 26 '32

Critical study of pickling. E. R. Theis and A. W. Goetz. bibliog *Lehigh Univ Inst of Research Circ* 91:109-206 '33

Leather power-belts regain favor. J. R. Hopkins. *il Sci Am* 148:32-3 Ja '33

New leather announced by Mellon institute of industrial research. *Chem Markets* 32:336 Ap '33; Same. *J Fr Inst* 215:444 Ap '33

**Testing**

Influence of pH on the deterioration of vegetable-tanned leather by sulphuric acid. R. C. Bowker and E. L. Wallace. *U S Bur Stand J Research* 10:559-65 Ap '33

**LEATHER industry and trade**

*See also*

Shoe industry and trade

**Securities**

Leather and shoe companies, 1930-1932. *Mag of Wall St Manual* p60-1+ Mr 6 '33

**Statistics**

Hides and leather, 1932. *Economist* 116:sup 46-7 F 18 '33

Leather production, monthly, 1925-1932. *Survey of Cur Business* 13:19 Je '33

Production of leather and leather products: revised index numbers, monthly 1923-1933. *Fed Res Bul* 19:585-7 S '33

**Europe**

Leather trade of the United Kingdom; with notes on the general European leather situation. W. B. Hertz. *U S Bur For & Dom Com Trade Information Bul* 811:1-19 '33

**Great Britain**

Leather in the British Empire; production, trade, and raw materials. J. G. Schnitzer. *U S Bur For & Dom Com Trade Promotion Ser* 140:1-102 '32

Leather trade of the United Kingdom. W. B. Hertz. *U S Bur For & Dom Com Trade Information Bul* 811:1-19 '33

**United States**

Leather companies stand to benefit. *Barron's* 13:10 Mr 27 '33

**LEATHER waste**

Leather waste as chicken feed. *Sci Am* 148:120 F '33

Leatherboard may absorb all leather scrap. C. D. Ingersoll. *il Chem & Met Eng* 39:614-15 N '32

**LEATHERBOARD****Manufacture**

Leatherboard may absorb all leather scrap.  
C. D. Ingersoll. *il Chem & Met Eng* 39:614-15 N '32

**LEAVES**

Apparatus for determining the absorption of carbon dioxide by leaves under natural conditions. A. J. Heinicke and M. B. Hoffman. *diag Science* 77:55-8 Ja 13 '33

**LEBANON, New Hampshire****Water supply**

Reconstruction of the Lebanon water works; hydraulic turbine-driven pump, utilizing water from the river for power. R. S. Holmgren. *il plan N E Water Works Assn J* 47:52-60 Mr '33

**LEBANON, Tennessee****Water supply**

Better water at less cost; saving due to soft water supply. H. F. Wiedeman. *il Pub Works* 63:13-15 D '32

**LECITHIN**

Industrial lecithin; its application in confectionery. *Chem Age (Lond)* 29:37 Jl 8 '33

Soy-bean industry in the United States. A. A. Horvath. *J Chem Educ* 10:9-10 Ja '33

**LEE, Elisha, 1870-1933**

Sketch. *por Ry Age* 95:249-50 Ag 12 '33

**LEE rubber and tire corporation**

Net profit of \$150,000 during last fiscal year—bank debt paid. *Rubber Age* 32:281 Ja 25 '33

**LEFT and right handedness**

Study of the nature, measurement, and determination of hand preference. H. L. Koch and others. (Genetic psychology monographs) 221p Clark university press, Worcester, Mass. '33

**LEGACIES**

Penrose bequest and the G.S.A. *Eng & Min J* 134:381 S '33

**LEGAL aid societies**

Report on support of legal-aid organizations, 1932. *Monthly Labor R* 37:845-8 O '33

**LEGAL education**

Parallels in the development of legal and medical education. H. Oliphant. *Ann Am Acad* 167:156-64 My '33

*See also***Law schools****LEGAL ethics**

Ambulance chasers menace to casualty companies. J. A. Matthews. *East Underw* 33:32 D 23 '32

Cases and other materials on the American bar and its ethics. H. W. Arant. 687p Callaghan '33

Ethical systems and legal ideals. F. S. Cohen. 303p Falcon press, New York '33

Legal ethics in theory and in practice. I. M. Wormser. *Ann Am Acad* 167:193-200 My '33

Organization and ethics of the bench and bar, cases and other materials. F. C. Hicks. 606p [bibliog p584-8] Lawyers cooperative pub. co, Rochester, N.Y. '32

**LEGAL medicine. See Medical jurisprudence****LEGAL service***See also*

Trust companies—  
Legal service

**LEGAL tender**

Cotton as a legal tender. T. H. Price. *il Comm & Fin* 22:526 Je 14 '33

*See also***Money**

Paper money  
Scrip

**LEGGE, Alexander**

Five who may rule industry with Roosevelt. *por Sales Management* 32:622 Je 15 '33

**LEGISLATION**

Business' cards in the new deal. M. Edwards. *il Nation's Business* 21:13-15 My '33

Congress gets ready-mades; scores of men have worked on the industry control bill. *Business Week* p3-4 My 24 '33

Congress; problems that the new Congress faces. *Business Week* p9-10 Mr 8 '33

Lame duck Congress. *Business Week* p5 N 23; 3-6 D 14 '32

Legislative landmarks in 1932. *Bradstreet's* 61:146-+ Ja 28 '33

Legislative product of 1933. T. H. Reed. *Comm & Fin* 22:559 Je 28 '33

Legislative regulation. E. Freund. 458p \$4.50 Commonwealth fund, New York '32; Review by F. N. Balch. *Pub Util* 12:217-19 Ag 17 '33

Majorities, minorities, and legislation. P. H. Odegard. *Ann Am Acad* 169:29-46 S '33

Pending legislation and the president-elect. A. Crawford. *Burroughs Clearing House* 17:8-10+ Ja '33

Synopsis of new deal legislation; an outline of the controls and organizations set up since March. H. E. Dougall. *Barron's* 13:3+ N 13 '33

What Congress did; recovery legislation. *Business Week* p10-11 Je 17 '33

What's ahead in Washington. W. M. Kiplinger. *Nation's Business* 20:21-4 D '32; 21:17-20 Ja; 17-19 F; 17-19 Mr; 17-19 Ap; 17-19 My; 19-21 Je '33

*See also***Law****Lobbying****LEGISLATIVE bodies**

Legislatures and legislative problems. T. H. Reed, ed. pa \$1 Univ. of Chicago press '33

**LEGROS, Lucien Alphonse, 1865-1933**

Sketch. *Engineer* 155:629-30 Je 23 '33; *por Engineering* 135:684-5 Je 23 '33

**LEHMAN corporation**

Asset value rises at year-end. *Barron's* 13:21 Ja 9 '33

Lehman corp's shiftings. *Barron's* 13:7 Jl 17 '33

Speculative possibilities among investment trusts. W. Gates. *Mag of Wall St* 51:156-7 N 26 '32

**LEHN and Fink products company**

Report for 1932. *Oil Paint & Drug Rep* 123:36 Mr 20 '33

**LEIPZIG fair**

Domestic apparatus at Leipzig. V. Ripley. *il Elec R (Lond)* 112:378 Mr 17 '33

Leipzig fair; a selection of the machine tool exhibits for automobile work. *il Automobile Eng* 23:105-6, 135-40 Mr-Apr '33

Leipzig technical fair. *il diags Engineer* 155:295-7, 328-9 Mr 24-31 '33; *Engineering* 135:293-5, 323-6, 400-3, 451-3, 464, 481-3, 492, pl 20-1 Mr 17-24, Ap 14, 28-May 5 '33

Machine tool trends at the Leipzig fair. *Am Mach* 77:212e-212f Mr 29 '33

New German appliances; some exhibits at the Leipzig fair. E. O. Taylor. *il diags Electrician* 110:415 Mr 31 '33

Vorschau für den chemiker auf die Leipziger Frühjahrsmesse. H. Siebeneicher. *Chemische Fabrik* 6:101-4 Mr 1 '33

**LEISURE**

Idle time—what shall we do with it? A. Rheinstein; W. S. Brown. *Am Mach* 77:265-7 Ap 26 '33; Discussion. R. S. Alexander. 77:521 Ag 16 '33

Labor and the challenge of the new leisure. S. Miller, jr. *Harvard Business R* 11:462-7 Jl '33

Leisure—a fine art. E. A. Holbrook. *il Elec J* 30:284-7 Jl '33

Leisure and the museum library. T. Cowles. *Special Lib* 24:88-9 My '33

Modern economics and unemployment; pooling unemployment and leisure; abstracts. H. M. Melchett. *Chem Age (Lond)* 28:405-6 My 6 '33; *Soc Chem Ind J (Chem & Ind)* 52:401-2 My 5 '33; *Gas J (Lond)* 202:326 My 10 '33; *Engineer* 155:458-9 My 5 '33; Discussion. *Chem Age (Lond)* 28:406 My 6 '33; *Soc Chem Ind J (Chem & Ind)* 52:402-3 My 5 '33

New leisure, its significance and use. *Lib J* 58:444-5 My 15 '33



**LEISURE—Continued**

- Pattern of leisure. E. H. Wilkins. Lib J 58: 717-19 S 15 '33  
 Popular arts and workers' spare time. J. Destrée. Int Labour R 27:184-206 F '33  
 Time to live, adventures in the use of leisure. G. Hambridge. 144p \$1.50 McGraw-Hill '33  
 Uses of leisure. E. R. Embree. Lib J 58:680-1 S 1 '33

**Bibliography**

- New leisure, its significance and use. G. P. Thornton, comp. 4p Russell Sage foundation, 130 E. 22d st, New York '33

**LEMAITRE, Georges**

- Professor Einstein and Abbe Lemaitre; discussion of the cosmical constant. R. M. Langer. Science 77:sup8 Ja 27 '33

**LEMBERG reaction**

- Proposed manufacture of monopotassium phosphate at Green River, Wyo.; Lemberg reaction. R. D. Pike. bibliog il diag Ind & Eng Chem 25:256-61 Mr '33

**LEMONS**

- Composition of lemon albedo pectin. C. M. Bridgham and C. G. King. Am Chem Soc J 55:3319-22 Ag '33

See also

Citrus fruit

**LENGTH.** See Standards of length**LENO weaving.** See Weaving**LENSES**

- Method of projecting star images having coma and astigmatism. R. Kingslake and A. B. Simmons. il diags Opt Soc Am J 23:282-8 Ag '33

- New optical experiment and the use of a single lens for high magnification; observation of entoptic and diffraction phenomena. J. G. Winans. diags Opt Soc Am J 23:289-92 Ag '33

- Single reading glass used to produce stereoscopic effect in photos. T. A. Hayden. Eng N 111:253 Ag '31 '33

See also

- Goggles Spectacles  
 Optical instruments Telescope

**LENSES, Photographic**

- Method of measuring axial chromatic aberration in an objective lens. W. Herriott. il Opt Soc Am J 23:123-8 Ap '33  
 Testing photographic lenses. H. W. Lee. il diags Glass Ind 14:57-60 My '33

**Manufacture**

- Mechanical engineering applied to the making of lenses. W. Taylor. il diags Inst Mech Eng Proc 123:147-79 '32; Same abr. Engineer 154:450-2 N 4 '32; Same cond. Engineering 134:532-3 N 4 '32

**LEONARD, Arthur Gray, 1865-1932**

- Memorial. T. T. Quirke. por Geol Soc Bul 44: 395-401 [bibliog p398-401] Ap '33

**LEPIDINE**

- 2-Anilinolepidine derivatives. O. G. Backeberg. Chem Soc J p1031-2 Ag '33

**LEPIDOCYCLINA**

- Lepidocyclina in California. N. L. Tallafiero and H. G. Schenck. bibliog il map Am J Sci 5th ser 25:74-80 Ja '33

**LEPIDOLITE**

- New lepidolite deposit in Colorado. E. B. Eckel. il map Am Cer Soc J 16:239-45 My '33

**LEPROSY**

- Leonard Wood memorial for the eradication of leprosy. Science 77:562-3 Je 9 '33  
 Leprosy conditions in Hawaii. Science 76:sup 9-10 D 23 '32

- Prevalence of leprosy. O. E. Denny. Science 77:sup8 Ap 28 '33

- Trypan blue as leprosy curer. Chemicals 38:3 N 13 '33

**LETTERHEADS**

- Advantages in having distinctive stationery. il Sheet Metal Worker 24:247-9 Ag '33  
 Best sources of information about letterheads. Ptd Salesmanship 60:473-4+ F '33

- Eight letterheads designed by Ross Craufurd. Adv Arts p34-5 S '33

- Five essentials of good letterhead design. W. Graham. il Ptd Salesmanship 62:124-7 O '33  
 47 letterhead designs granted points by judges in popular competition. il Inland Ptr 90:42-4 F; 91:42, 57-60 Ap '33

- Four formulas for designing a letterhead. E. Currier. il Adv & Sell 20:sup[Adv Arts] 15-19 Ja '33

- New letterheads; Ray Corson-Elkins company. Management Methods 62:262 Je '33  
 Watermarks and trademarks. Am Bankers Assn J 26:83 N '33

- What were the outstanding letterhead developments of 1932? A. D. Luse. il Ptd Salesmanship 60:430-2 F '33

**LETTERING**

- Portfolio of exterior lettering. il Architecture 68:47-62 Jl '33

- P's and Q's; a book on the art of letter arrangement. S. B. Tannahill. rev ed 109p \$4 Doubleday '32

- Writing & illuminating, & lettering. E. Johnston. 500p Pitman '32

**LETTERS**

- Holographs of famous architects; Burnham library of the Art institute of Chicago. T. E. Tallmadge. il Am Arch 143:8-12 Mr '33

**LETTERS, Business.** See Commercial correspondence; Sales letters**LEUCITE**

- Leucite as a source of alumina, potash and silica. G. A. Blanc. il diags Inst Chem Eng Trans 9:49-62 '31

**LEUCOCYTES**

- Lamellibranch leucocytes as living material for classroom demonstration. C. M. Breder, jr. and R. F. Nigrelli. Science 78: 128 Ag 11 '33

**LEVEES**

- Aluminum booms and buckets on Mississippi levees. D. E. Hobbs. il Eng N 110:192-4 F 9 '33

**Cost**

- Unit prices—eleven levee sections, Mississippi. tables Eng N 110:793-4 Je 15 '33

**LEVELING**

- First-order leveling in Michigan. H. S. Rappeye. 69p U.S. Coast and geodetic survey, Washington '32

- Leveling in Oregon. H. S. Rappeye. 247p U.S. Coast and geodetic survey, Washington '32

- Recent areal subsidence found in releveling; changes in elevation since 1920 over a large area centering on San Jose, Calif. H. S. Rappeye. map Eng N 110:845 Je 29 '33

- Two instruments in a single leveling party. H. S. Rappeye. Civil Eng 3:92-3 F '33

See also

Surveying

**LEVER brothers**

See also

Unilever companies

**LEVERAGE.** See Stocks—Leverage**LEVERS**

- Drilling a two-piece lever designed for quick replacement. S. A. McDonald. il diags Mach 39:463-4 Mr '33

**LEVULINIC acid**

- Benzyl levulinate. P. P. T. Sah, Hsing Han Lei and Hsi Meng Fang. Am Chem Soc J 55:4727 N '33

- Industrial uses for cane sugar; properties of alkyl esters of levulinic acid. G. J. Cox and M. L. Dodds. Ind & Eng Chem 25: 967-8 S '33

- Levulinic acid; the 2,4-dinitrophenylhydrazones of certain of its alkyl esters. M. A. Cowley and H. A. Schuette. Am Chem Soc J 55:3463-6 Ag '33

- Levulinic acid; the vapor pressures of its normal-alkyl esters (C<sub>7</sub>—C<sub>10</sub>). M. A. Cowley and H. A. Schuette. Am Chem Soc J 55:387-91 Ja '33

- Some alkyl esters of levulinic acid. G. J. Cox and M. L. Dodds. Am Chem Soc J 55:3391-4 Ag '33

**LEVULINIC acid—Continued**

Some salts of levulinic acid. A. Proskouria-koff. *bibliog* Am Chem Soc J 55:2132-4 My '33

**LEVULOSE.** See Fructose**LEWIS, J. E.**

President, American refractories institute. *por* Steel 92:12 Ja 23 '33

**LEWIS production company**

Skelly oil co. and Lewis production co. buy favored oil leases in Osage. Oil & Gas J 32:32 N 2 '33

**LEXINGTON, Kentucky**

City reduces expenses. P. Morton. *il* Manuf Rec 102:23 Ap '33

**Water supply**

Iodine in the water supply of Lexington. J. S. McHargue and D. W. Young. *Am Water Works Assn J* 25:380-2 Mr '33

**LEXINGTON surety and indemnity company**

Order of liquidation. *Ins Field* (Fire ed) 62:10 Ja 12 '33

**LIABILITY**

Is aid at sea a legal obligation? suit for \$200,000 damages. *Weekly Underw* 129:762 O 21 '33

Public liability and chemical education. P. L. Turrill. *J Chem Educ* 10:552-5 S '33

Teacher liability in the school shop. R. D. Fleming. *Spectator* 131:11+ J1 27 '33

**See also**

Accident law Insurance, Liability  
Damages Municipal liability  
Employers' liability

**LIBBEY-OWENS-FORD glass company**

Stocks which should see better prices this fall. *Mag of Wall St* 52:482 S 2 '33

**LIBEL and slander**

Court upholds Life underwriters assn. in business conduct committee activities. *East Underw* 34:1+ My 26 '33; *Weekly Underw* 128:1064 Je 3 '33

Law of libel and slander in the state of New York. E. P. Seelman. 742p J. B. Lyon co., Albany '33

Liability of broadcasting company. *Bradstreet's* 60:1493 N 12 '32

Libel law. *Economist* 116:170-1 Ja 23 '33  
Vindication of Sun Life and Macaulay in Harpell conviction. *East Underw* 33:1+ D 30 '32

**LIBERTY, New York****Water supply**

Depression water works engineering at Liberty. *Pub Works* 64:11 Ap '33

**LIBOCEDRUS bidwillii**

Essential oil of libocedrus bidwillii. K. S. Birrell. *Soc Chem Ind J* 51:397T-8T D 9 '32

**LIBRARIANS**

Concerning future librarians. K. Brown. *Lib J* 58:512-14 Je 1 '33

Contributions of A.L.I. fellows, 1932. H. O. Severance. *Lib J* 58:596-8 J1 '33

Courtesy and good-humor. V. Turrell. *Lib J* 58:531-3 Je 15 '33

Human interests make human librarians. *Lib J* 58:642-7, 742-5 Ag-S 15 '33

Metropolitan Life secures American Library contract. *Nat Underw* (Life ed) 37:5 Ja 6 '33

These retiring librarians. K. Etz. *Special Lib* 24:18 Ja '33

**Directories**

Who's who in library service. C. C. Williamson and A. L. Jewett, eds. 457p Wilson, H. W. '33

**Salaries**

American library association bulletin; salaries number. *Am Lib Assn Bul* 27:241-76 Je '33

**LIBRARIANS, Special**

Across the secretary's desk; employment and training of special librarians. R. R. Rankin. *Special Lib* 24:113 Je '33

**Training**

See Library schools and training

**LIBRARIES**

Adult education in relation to libraries. H. A. Miers. *Lib J* 58:333-41 Ap 15 '33

Does the library need deflation? W. L. Bailey. *Lib J* 58:101-4 F 1 '33

Lending library methods. L. M. Harrod. 202p 12s 6d Grafton & co, London '33

Libraries and the new deal. C. H. Milam. *Lib J* 58:765-7 O 1 '33

Librarians meet the challenge of leisure. *Lib J* 58:592-5 J1 '33

Library's place in a changing world. A. E. Bostwick. *Lib J* 58:5-8 Ja 1 '33

Popular libraries of the world. A. E. Bostwick, ed. 316p \$3.75 American library assn, Chicago '33

**See also**

Art libraries	Library buildings
Books—Conservation and restoration	Library science
College libraries	Library service
Library architecture	Newspaper libraries
also names of libraries; also subdivision	Prison libraries
Libraries under names of cities, e.g.	School libraries
Enoch Pratt free library	Los Angeles—Public library

**Branches**

West New Brighton branch library of the New York public library. R. R. Finster. *il* *Lib J* 58:346-7 Ap 15 '33

**Directories**

Directory of libraries in the Chicago area. 175p 60c J. K. Wilcox, John Crerar library, Chicago

**See also**

Libraries, Special—  
Directories

**Fines**

Fines findings. C. P. Baber. *Lib J* 58:485-90 Je 1 '33

**Instruction in use****Bibliography**

References on teaching the use of books and libraries. A. McCague, comp. *Wilson Bul* 8:96-101 O '33

**Moving**

See Moving of libraries

**Order departments**

Correlated order forms. N. W. McCombs. *Lib J* 58:285-9 Ap 1 '33

**Phonograph records**

Phonograph records in the library. R. E. Ellsworth. *Lib J* 58:529-31 Je 15 '33

**Photographic film collections**

Films versus books. E. A. Henry. *Lib J* 58:237-40 Mr 15 '33

**Statistics**

Public library statistics in cities over 200,000, 1932; tabulation. *Lib J* 58:551 Je 15 '33

**Canada**

Libraries in Canada; a study of library conditions and needs, by the Commission of enquiry. 153p American library assn, Chicago '33

Survey of libraries in Canada, 1931. 55p Canada. Dominion bureau of statistics, Ottawa '33 (typew)

**LIBRARIES, County**

County library progress. J. W. Merrill. *map* *Lib J* 58:833-6 O 15 '33

County library—what is it? C. Bement. *Lib J* 57:979-81 D 1 '32

Problems of county libraries—solved and unsolved. H. B. Warren. *Lib J* 57:981-4 D 1 '32

**LIBRARIES, Dental.** See Dental libraries**LIBRARIES, Package.** See Package libraries**LIBRARIES, Special**

Ambassadors to business—to industry—to factseekers everywhere. M. Reynolds. *Lib J* 58:826-9 O 15 '33

Baltimore Consolidated gets results from its library. F. E. Kunkel. *Gas Age* 72:128 Ag 5 '33



**LIBRARIES, Special—Continued**

- Information bulletins and technical progress.  
 Engineering 136:368 S 29 '33  
 Libraries of social work. B. F. Hulseman.  
 Lib J 58:549-50 Je 15 '33  
 Methods clinic. M. Burnett. Special Lib 24:  
 159-61 S '33  
 Organising a research bureau; Sir W. G.  
 Armstrong Whitworth and co. (engineers).  
 J. C. S. Stuart. plans Assn of Sp Lib &  
 Inf Bur Proc 1933:17-32; Same. Engineer-  
 ing 136:341-3 S 22 '33  
 Organising an information service. E. N.  
 Simons. Engineer 156:130-1 Ag 11 '33  
 Technical library; how a good system of clas-  
 sification saves time. F. C. Duffield. Elec  
 R (Lond) 112:336 Mr 10 '33

*See also*

- |                    |                     |
|--------------------|---------------------|
| Art libraries      | Insurance libraries |
| Bank libraries     | Museum libraries    |
| Business libraries | Newspaper libraries |

**Directories**

- Directory of special libraries in Montreal.  
 43p Montreal special libraries assn, Mon-  
 treal '33

**LIBRARIES, Traveling**

- Library on wheels; New York public library.  
 Il Arch Rec 73:127 F '33; Sci Am 148:172  
 Mr '33

**LIBRARY administration**

- Library economies and the library patron. J.  
 M. Drake. Lib J 58:673-6 S 1 '33  
 Staff manuals. M. Hutchins. Lib J 57:1039-42  
 D 15 '32

*See also*

- Library finance

**LIBRARY advertising***See also*

- Library exhibits

**LIBRARY architecture**

- Atlanta university library at Atlanta, Georgia;  
 views and plans. Arch Rec 73:323-8 My '33  
 Baltimore's new public library building. P. M.  
 McCauley and J. L. Wheeler. il plans Lib J  
 58:386-93 My 1 '33.  
 Brewster public library, Brewster, New  
 York; views and plans. Am Arch 143:61-2  
 Ja '33  
 Charles Deering library at Northwestern uni-  
 versity. T. W. Koch. il Lib J 58:189-96 Mr  
 1 '33  
 Children's library; the Mary Richardson Haw-  
 ley memorial library, New Britain, Conn.;  
 views and plan. Architecture 68:45-6 Jl '33  
 Complete development of the open plan in the  
 Enoch Pratt library at Baltimore. A. M.  
 Githens. plans Lib J 58:381-5 My 1 '33  
 Influence of climate on library architecture.  
 C. E. Sherman. Am Lib Assn Bul 27:293-300  
 Jl '33  
 Library and its home. G. G. Drury. 588p \$2.75  
 Wilson, H. W. '33  
 Mary Reed library of the University of Den-  
 ver. L. M. Clatworthy. il plans Lib J 58:  
 197-200 Mr 1 '33  
 Smith Hill branch library. C. E. Sherman. il  
 Lib J 58:201-2 Mr 1 '33

**LIBRARY buildings***See also*

- Library architecture

**Heating and ventilation**

- Furnace equipment for burning fine anthra-  
 cite coal. F. A. Bestow. Lib J 58:300-1 Ap 1  
 '33

**Lighting**

- Artificial lighting of libraries; abstract. H.  
 Lingard. Illum Engr 26:9 Ja '33  
 E. L. Doheny, Jr. memorial library, campus  
 of University of Southern California. il  
 Illum Eng Soc Trans 28:572-3 Jl '33  
 Use of ultraviolet sources for the general  
 illumination of interiors; library reference  
 rooms. A. B. Oday and L. C. Porter. Illum  
 Eng Soc Trans 28:141 F '33

**LIBRARY employees**

- Faithful library employee. E. D. Clark. Lib J  
 58:264-6 Mr 15 '33

- Library credit union. G. E. Fielstra. Lib J  
 58:583-4 Jl '33

*See also***Librarians**

- LIBRARY equipment.** See Library fittings and  
 supplies

**LIBRARY exhibits**

- Pasadena holds municipal exhibit. H. S.  
 Stevenson. il Lib J 58:28-9 Ja 1 '33

**LIBRARY finance**

- Budget presentation. G. Countryman. Lib J  
 57:995-7 D 1 '32  
 Conservation with retrenchment. J. Ideson.  
 Lib J 58:268-9 Mr 15 '33  
 Current problems in public library finance.  
 C. P. P. Vitz, ed. 128p [bibliog p114-123]  
 American library assn, Chicago '33  
 Major operations on the budget. R. Munn.  
 Lib J 58:9-10 Ja 1 '33  
 Meeting the library crisis; National emergency  
 library council. Lib J 57:1008-10 D 1 '32  
 Summary of budget questionnaire. Lib J 58:  
 21-4 Ja 1 '33

**LIBRARY fittings and supplies**

- Library and its home. G. G. Drury. 588p \$2.75  
 Wilson, H. W. '33  
 Recent developments in equipment for special  
 libraries. B. M. Headicar. Assn of Sp Lib &  
 Inf Bur Proc 1933:100-1

**LIBRARY furniture**

- Designing Baltimore's library furniture. B.  
 Kaessman. il Lib J 58:290-2 Ap 1 '33  
 Library chairs and reading tables. T. W.  
 Koch. il Lib J 58:293-300 Ap 1 '33

**LIBRARY laws and legislation**

- Summary of public library law. A. R. Hewitt.  
 78p Association of assistant librarians, Lon-  
 don '32

**LIBRARY of Congress**

- Library problem with respect to social science  
 source materials. J. Mayer. Lib J 58:348-52  
 Ap 15 '33

**LIBRARY research**

- Development of research in relation to library  
 schools. L. R. Wilson. Lib J 58:817-21 O 15  
 '33

**LIBRARY schools and training**

- Development of research in relation to li-  
 brary schools. L. R. Wilson. Lib J 58:817-  
 21 O 15 '33  
 Experiment in independent study for library  
 school students. B. Eldridge. Lib J 58:774-7  
 O 1 '33  
 Library as a vocation; reprints of papers and  
 addresses. H. P. Sawyer, comp. 484p \$2.75  
 Wilson, H. W. '33  
 Library school and the special librarian. H.  
 E. Howe. Special Lib 24:107-11 Je '33  
 Merits and weaknesses of library school  
 training. H. T. Ziegler, L. C. Bailey and  
 M. C. Clapp. Lib J 58:585-9 Jl '33  
 S.L.A. and training of special librarians. M.  
 L. Alexander. Special Lib 24:112 Je '33

**LIBRARY science**

- How to organize a library. Z. K. Killer. 8th  
 rev ed 48p Remington Rand inc, Library  
 bur. division, Boston '33  
 Introduction to library science. P. Butler.  
 118p \$1.50 Univ. of Chicago press '33  
 Manual of library routine. W. E. Doubleday.  
 348p \$3 Scribner '33  
 Newspaper reference methods. R. W. Des-  
 mond. 229p [bibliog p209-21] \$2.50 Univ.  
 of Minnesota press, Minneapolis '33  
 Practical use of books and libraries. G. O.  
 Ward. 5th ed rev & enl 195p F. W. Faxon  
 co, Boston '33

*See also*

- Bibliograph-  
 Cataloging  
 Classification

**Bibliography**

- Classics of American librarianship; cumulated  
 index to volumes I-X. I. L. Towner, comp.  
 151p \$1.25 Wilson, H. W. '33  
 Current library literature. Lib J 58:128-31 F  
 1 '33 [cont monthly]

LIBRARY science—*Continued*

## Reference work

Building a large reference collection in a public library. M. W. Freeman. Lib J 56: 992-5 D 1 '31

## LIBRARY service

Home study courses as a part of the library's vocational guidance program. R. L. Newing. Lib J 58:723-4 S 15 '33

Library service plus; Missoula, Montana, public library. E. P. Powell. il Lib J 58:34-5 Ja 1 '33

Morale and library service. J. A. Lowe. Lib J 58:11-13 Ja 1 '33

Public library as an aid to industry and research. J. P. Lamb. Assn of Sp Lib & Inf Bur Proc 1932:62-6

## LICENSES

*See also*

Engineers—Licenses

## LICHENS

Lichen acids; a synthesis of methyl O-tetra-methylgryphorate. F. W. Canter, A. Robertson and R. B. Waters. Chem Soc J p493-5 My '33

Lichen acids; atranorin. F. H. Curd, A. Robertson and R. J. Stephenson. Chem Soc J p130-3 F '33

## LIEBERMANN reaction

Resin studies; a study and extension of the Liebermann color reaction for abietic acid. W. A. La Lande, jr. Am Chem Soc J 55: 1536-40 Ap '33

## LIEBIG'S extract of meat company, limited

Annual general meeting, 68th, London. Economist 116:149 Ja 21 '33

## LIENS

*See also*

Mechanics' liens

Mortgages

## LIESEGANG rings

Liesegang rings and other periodic structures. E. S. Hedges. 122p [bibliog p99-115] Chapman & Hall Ltd, London '32

## LIFE (biology)

Great enigma. H. H. Schauinsland. 93p [bibliog p91-3] \$1.25 Dutton '33

Life a cosmic adventure. Comm & Fin 22:970 N 8 '33

Some chemical aspects of life. F. G. Hopkins. Soc Chem Ind J (Chem & Ind) 52:719-29 S 8 '33; Same. Science 78:219-31 S 15 '33; Abstract. Chem Age (Lond) 29:225-6 S 9 '33

Universe and life. H. S. Jennings. 94p \$1.50 Yale univ. press '33

*See also*

Biological chemistry

Biological physics

Old age

## LIFE advertisers association

Meeting, 1st, Chicago, Sept. 25. Nat Underw (Life ed) 37:2+ S 29 '33; Ins Field (Life ed) 62:5+ S 29 '33; Spectator 131:7, 20 S 28 '33; Weekly Underw 129:597-8 S 30 '33

## LIFE and casualty insurance company

Two Chicago companies are merged in Life & Casualty. Nat Underw (Life ed) 37:14 F 3 '33

LIFE boats. *See* Lifeboats

## LIFE in other worlds

Life in other worlds. R. V. Chamberlin. Utah Univ Biological Ser v 1, no 6:1-52 '32

LIFE insurance. *See* Insurance, Life

## LIFE insurance sales research bureau

Joint meeting with Association of life agency officers, Chicago, Oct. 23-25. East Underw 34:19+ O 27 '33; Ins Field (Life ed) 62:5-6+ O 27 '33; Nat Underw (Life ed) 37:1+ O 27 '33; Spectator 131:16-17+ O 26; 16+ N 2 '33; Weekly Underw 129:805+ O 28 '33

## LIFE office management association

Annual meeting, 10th, Chicago, Oct. 2-4. Ins Field (Life ed) 62:5-6 O 6 '33; East Underw 34:1, 4 O 6 '33; Nat Underw (Life ed) 37:1+, 3+ O 6 '33; Weekly Underw 129: 661-2 O 7 '33

Eastern conference, New York, April 24-25. East Underw 34:3-4+ Ap 28 '33

**LIFE office management association institute**  
Office work degrees offered. Management Methods 61:667-8 D '32

## LIFE saving

New York employees recognized for heroic deeds. Am Gas Assn Mo 15:246+ Je '33  
When the ice breaks. il Nat Safety N 26:25-7 D '32

*See also*

First aid in illness

and injury

Lifeboats

Lighthouses

Mine rescue work

Respiratory apparatus

Safety devices and

measures

Safety movement

## LIFE saving stations

Le station de sauvetage de Conquet, près de Brest. P. Bigot. diag map Génie Civil 102: 398-401 Ap 29 '33

## LIFE tenants and remaindermen

Apportionment of losses on mortgage foreclosures; mortgage loans as trust investments. G. Newhall. Trust Companies 56: 353-5 Mr '33

Distribution of proceeds on sale of properties under foreclosed mortgages; apportionment between life tenant and remainderman by trustee. A. I. Farb. Trust Companies 57: 245-50 S '33

Right of life tenants to income during administration; suit. Trust Companies 56:9 Ja '33

Rights of life tenant and remaindermen in foreclosed mortgages. W. L. Nossaman. Trust Companies 55:545-8+ N '32

## LIFE underwriters association of New York city

Court upholds association in business conduct committee activities. East Underw 34:1+ My 26 '33

## LIFEBOATS

La station de sauvetage de Conquet, près de Brest. P. Bigot. il diag map Génie Civil 102:398-401 Ap 29 '33

Welded lifeboats for army transport. il Marine Eng 38:47 F '33

LIFT bridges. *See* Bridges, Lift

## LIGGETT, Louis K., company

Drug chain bankruptcy case. Business Week p7-8 Ap 12 '33

Liggett lease problem. Barron's 12:14 D 12 '32  
Personalities in business. Barron's 13:4 Ap 17 '33

What the Liggett bankruptcy means to Drug. C. L. Harper. Mag of Wall St 52:26-7 Ap 29 '33

## LIGGETT and Myers tobacco company

Report for 1932. Barron's 13:20 Ja 30 '33

## LIGHT

Atoms as a source of light. S. Dushman. Elec Eng 52:173-5 Mr '33

Effect of the spectral transmission of the atmosphere upon visibility by artificial light. M. G. Bennett. Illum Engr 26:75-80 Mr '33

Interaction of electrons and light waves. E. L. Hill. R Sci Instr 4:426-7 Ag '33

Light intensity at different depths in lake water. H. A. Erikson. il diag Opt Soc Am J 23:170-7 [bibliog p 177] My '33

Light penetration in the waters of southern Alaska. C. L. Utterback. Opt Soc Am J 23:339-41 O '33

Light penetration in the waters of the San Juan Archipelago. C. L. Utterback and J. W. Boyle. diag map Opt Soc Am J 23:333-8 O '33

Material vision; light and optics as they relate to interior design. C. B. Ryder. bibliog il Architecture 67:93-8 F '33

New methods to modulate light. G. Wataghin and R. Deaglio. Inst Radio Eng Proc 21: 1495-6 O '33

Standing light waves; repetition of an experiment by Wiener, using a photoelectric probe surface. H. E. Ives and T. C. Fry. diag Opt Soc Am J 23:73-83 Mr '33

Theory of light; being volume IV of Introduction to theoretical physics. M. K. E. L. Planck. 216p 12s Macmillan '32



**LIGHT—Continued**

Universe of light. W. Bragg. 283p \$3.50 Macmillan '33  
 Variations in visible solar light during submarine measurements. C. L. Utterback. Science 77:118-19 Ja 27 '33

*See also*

Absorption of rays	Photoelectric cells
Color	Photography
Daylight	Photometry
Depolarization (light)	Plants, Effect of light on
Dyes, Fastness of	Polarization of rays
Eye	Radiation
Fluorescence	Radioactivity
Infra-red rays	Reflection (optics)
Light projection	Refractive index
Light telephone	Spectrum
Lighthouses	Stroboscopic instruments
Lighting	Sunlight
Luminescence	Ultra-violet rays
Optics	X rays
Photochemistry	
Photoelasticity	

**Physiological effect**

Life-giving light. C. Sheard. 174p \$1 Appleton-Century '33  
 Light responses in the brine flagellate *Dunaliella salina* with respect to wave length. H. F. Blum and D. L. Fox. bibliog Univ of Calif Pub in Physiology v 8, no 3:21-30 '33  
 Physiological effects of radiant energy. H. Laurens. 610p [bibliog p577-93] Chemical catalog co. '33

**Standards**

International photometric units and standards. diags Illum Eng Soc Trans 27:738-51 N '32

**LIGHT, Colored**

Artificial light as an aid to the landscape architect. D. W. Atwater and A. Paulus. il diags Illum Eng Soc Trans 28:223-38; Discussion. 257-62 Mr '33  
 Century of progress; lighting of building exteriors; photographs. Elec W 101:689-96 My 27 '33  
 Color lighting for the stage. A. L. Powell. Elec W 101:648-9 My 20 '33  
 Electric discharge lamps and their application to public lighting. G. H. Wilson. il Illum Engr 26:231-2 O '33; Abstract. Elec R (Lond) 113:314 S 8 '33  
 Examples of lighting for decoration and festivity. G. R. LaWall and C. M. Cutler. il diag Illum Eng Soc Trans 28:239-56; Discussion. 257-62 Mr '33  
 Exposition lighting. C. J. Stahl. il Elec J 30:229-33 Je '33  
 Floodlighting soap bubbles. L. C. Porter and J. P. Ditchman. il diags Gen Elec R 36:458-60 O '33; Excerpt. Sci Am 150:38 Ja '34  
 Floodlighting and electric fountains for water works. W. T. Blackwell and C. Gallo. il diags plan Illum Eng Soc Trans 28:407-17 My '33  
 Fountain lighting. H. E. Lippman. il Elec J 30:138-41, 197-200 Ap-May '33  
 Lighting an exposition; World's fair. W. d'A. Ryan. il Elec W 101:687-8, 697-8 My 27 '33  
 Mobile color lighting for decoration; electrical building at the Century of progress. C. J. Stahl. il Elec J 30:244 Je '33  
 Southend illuminations; interesting effects of coloured floodlighting in rock gardens. il Electrician 111:243 Ag 25 '33  
 Stage flexibility applied to windows. il Elec West 69:236 D '32

**LIGHT, Polarized**

Method for the precise measurement of optical path-difference, especially in stressed glass. R. W. Goranson and L. H. Adams. il diags J Fr Inst 216:475-504 O '33  
 Microscopic study of steel with polarized light. Yap, Chu-Phay. bibliog il Am Soc Steel Tr Trans 21:663-72 Jl '33

**LIGHT, Scattering of**

Diffusing glasses for illumination; recent developments in light-diffusing glasses of the spontaneous and controlled types. H. H. Blau. bibliog il diags Ind & Eng Chem 25:848-53 Ag '33

Low temperatures and low-temperature phenomena. J. C. McLennan. Engineering 135:193-4 F 17 '33  
 Theory and specification of opal diffusing glasses. J. W. Ryde, B. S. Cooper and W. A. R. Stoye. bibliog il Illum Engr 26:33-48; Discussion. 52-3 F '33

*See also***Raman effect****LIGHT filters**

Color filters for altering color temperature; pyrometer absorption and daylight glasses. H. P. Gage. bibliog Opt Soc Am J 23:46-54 F '33

**LIGHT projection**

Artificial light as an aid to the landscape architect. D. W. Atwater and A. Paulus. il diags Illum Eng Soc Trans 28:223-38; Discussion. 257-62 Mr '33  
 Barton sub-station; good example of floodlighting at premier link in N.W. England scheme. il Electrician 110:137 Ja 27 '33  
 Bright lights for parked subway cars. R. W. Cost. il plan Elec J 30:121 Mr '33  
 Central Illinois light company, Peoria, sells floodlighting by demonstration. il Elec W 101:66 Ja 14 '33  
 Design of theatre down lights. E. B. Kirk. diag Illum Eng Soc Trans 28:280-3 Mr '33  
 Discours de M. Jean Rey; phares. Soc Ing Civils Bul 86:10-28, pls 212-13 Ja '33; Abstract. Génie Civil 102:88-9 Ja 28 '33  
 Exposition lighting. C. J. Stahl. il Elec J 30:229-33 Je '33  
 Fighting fires with light. Water Works & Sewerage 80:176 My '33  
 Floodlighted soap bubbles. L. C. Porter and J. P. Ditchman. il diags Gen Elec R 36:458-60 O '33; Excerpt. Sci Am 150:38 Ja '34  
 Floodlighting and electric fountains for water works. W. T. Blackwell and C. Gallo. il diags plan Illum Eng Soc Trans 28:407-17 My '33  
 Floodlighting by gas of an open-air swimming-bath at Enfield. il Illum Engr 26:219 S '33  
 Floodlighting during the Wakefield pageant. il Illum Engr 26:204 Ag '33  
 Floodlighting of building estates. R. S. Ross. il Gas J (Lond) 201:804-5 Mr 29 '33  
 Floodlighting pays; Wrigley building. Illum Eng Soc Trans 28:640 S '33  
 Floodlighting public buildings. F. D. Crowther. il diags Gen Elec R 35:639-43 D '32  
 Football by artificial light. Illum Engr 26:1-2 Ja '33  
 Football by floodlight; White City stadium. il Electrician 109:821 D 23 '32  
 Fountain lighting. H. E. Lippman. il Elec J 30:138-41, 197-200 Ap-May '33  
 Garden floodlighting. il Elec R (Lond) 113:457 O 6 '33  
 Gas floodlighting of parish church, Rothwell. il Gas J (Lond) 200:563 N 23 '32  
 Lighting a large area; how night supervision at a London sewage works is facilitated. il plan Elec R (Lond) 112:595 Ap 23 '33  
 Lighting an exposition; World's fair. W. D. Ryan. il Elec W 101:687-8, 697-8 My 27 '33  
 Lighting of seaside and health resorts. W. N. C. Clinch. Gas J (Lond) 203:574; Discussion. 574-5 S 13 '33  
 Lighting the exposition. W. D. Ryan. il diags Arch Forum 59:47-50 Jl '33  
 Mercera lamp; new form of mercury vapour floodlighting at Bournemouth. il Electrician 110:806 Je 16 '33  
 Movable floodlight for the plant yard. il Rock Prod 36:40 F '33  
 New field for gas floodlighting; open-air baths. il Gas J (Lond) 203:348-9 Ag 16 '33  
 Night sky writing; the Savage projector. il Electrician 109:609 N 11 '32  
 Novel floodlighting system. il Electrician 111:213 Ag 18 '33  
 Outdoor illumination in Rome. il Illum Engr 26:108 Ap '33  
 Outdoor lighting noteworthy in 1932. il Elec J 30:30-2 Ja '33  
 Portable floodlight for aerodromes. il diag Engineering 135:661 Je 16 '33  
 Scheme to floodlight London. G. B. J. Athoe. il Elec R (Lond) 113:413 S 29 '33

**LIGHT projection—Continued**

- Selling outdoor lighting by demonstration. G. K. Hardacre. *il Elec W* 102:628-30 N 11 '33  
 Southend illuminations; interesting effects of coloured floodlighting in rock gardens. *il Electrician* 111:243 Ag 25 '33  
 Testing specifications for lighting equipment; testing procedure for narrow beam inclosed projectors. *Ilum Eng Soc Trans* 28:494-511 Je '33

*See also*

- Athletic fields—Lighting  
 Buildings—Exterior lighting  
 Lantern projection  
 Moving picture machines  
 Searchlights  
**LIGHT signals**  
 Alton replaces crossing flagmen with signals. *il diag Ry Age* 94:771 My 27 '33  
 Burlington replaces crossing gates with flashing-light signals. W. F. Zane. *il plan Ry Age* 94:334-5 Mr 4 '33  
 Electric signalling; progress in 1932. M. G. Tweedie. *Electrician* 110:116 Ja 27 '33  
 Illuminated road-traffic signals. W. J. Liberty. *Ilum Engr* 26:191-2 Ag '33  
 Luminous signal board shows blast furnace charging. Demag, Duisburg, Germany. *il diag Steel* 93:28+ S 11 '33  
 Re-signalling of Brighton station. *il Engineer* 155:34-5, 44 Ja 13 '33  
 Shooting down airplanes. *il Sci Am* 148:334-5 Je '33

**LIGHT telephone**

- Voice transmission on a beam of light. R. R. Ramsey. *diags Science* 78:105 Ag 4 '33

**LIGHT wells.** See Daylight**LIGHTERAGE**

- Lighterage decision affects status; I.C.C. examiner sustains New Jersey. *Barron's* 13:5 F 6 '33  
 Over the water; if I.C.C. approves lighterage charge, traffic may leave Manhattan for the west bank. *Business Week* p13 F 8 '33

**LIGHTHOUSE tenders**

- Arbutus, lighthouse tender, twin screw, steam drive. *il diag Marine R* 63:14 Ag '33  
 Dahlia, new lighthouse tender, launched. *il Marine R* 63:32 O '33  
 Hickory, *il diag Marine R* 63:24 Ap '33; *Marine Eng* 38:216 Je '33  
 Lilac, new lighthouse tender, twin screw, steam drive. *il diag Marine R* 63:25 S '33  
 Wistaria, lighthouse tender, Diesel-electric drive. *il diag Marine R* 63:15 Jl '33

**LIGHTHOUSES**

- Automatic control of electric supply, using acetylene gas as standby. J. O. Hinds. *diag Electrician* 110:704-5 Je 2 '33  
 Building and operating the nation's light-houses. *il diags Eng N* 110:517-20 Ap 27 '33  
 Lighthouses and lightships of the United States. G. R. Putnam. new and rev ed 324p \$3.50 Houghton '33  
 Les verres colorés pour phares maritimes. A. Blondel. *Génie Civil* 103:262 S 9 '33

*See also***Beacons****LIGHTING**

- Glass in the service of illumination; abstract. W. E. S. Turner. *Ilum Engr* 25:334 D '32  
 How much light? *Elec Eng* 52:716-19 O '33  
 Human seeing-machine. M. Luckiesh and F. K. Moss. *bibliog il Ilum Eng Soc Trans* 27:699-722; Discussion. 722-4 N '32  
 Illuminating engineering and the optician; abstracts. F. Goodenough. *Engineering* 134:611 N 18 '32; *Gas J (Lond)* 200:142 O 12 '32  
 Light reflecting properties of paint. Foundry 61:38 Ap '33  
 Lighting for effective seeing. L. V. James. *diags Elec Eng* 52:543-6 Ag '33  
 Proceedings of the International illumination congress, 1931, Great Britain. W. S. Stiles, ed. 2v International illumination congress, London '31-'32  
 Progress in illuminating engineering abroad. N. A. Halbertsma. *Ilum Engr* 26:92-6; Discussion. 96-7 Ap '33

- Transition from daylight to artificial light. C. E. Ferree and G. Rand. *Nat Safety N* 27:62 Mr '33; Same. *Ilum Eng Soc Trans* 28:376-7 Ap '33  
 Year's progress in illumination. W. C. Brown. *Ilum Eng Soc Trans* 27:725-37 N '32

*See also*

- Airplanes—Lighting  
 Airports—Lighting  
 Airways—Lighting  
 Automobiles—Lighting  
 Church lighting  
 Daylight  
 Electric lamps  
 Electric lighting  
 Factories—Lighting  
 Gardens—Lighting  
 Gas lighting  
 Glare  
 House lighting  
 House plants—Lighting  
 Library buildings—Lighting  
 Light projection  
 Lighthouses  
 Mine lighting  
 Office lighting  
 Photometry  
 Printing offices—Lighting  
 Public buildings—Lighting  
 School buildings—Lighting  
 Show windows—Lighting  
 Stadiums—Lighting  
 Stage lighting  
 Store buildings—Lighting  
 Street lighting  
 Tennis courts, Indoor—Lighting  
 Theaters—Lighting  
 Tunnel lighting  
 Windows  
 also subdivision Lighting under names of cities, e.g. Chicago—Lighting; Paris—Lighting

**Bibliography**

- Current articles on home lighting. *Ilum Eng Soc Trans* 28:85-6, 184-6, 284-5, 373-4, 450-1, 545, 619-20, 692-3 Ja-S '33  
 Literature on lighting. Published in monthly numbers of Illuminating engineer

**Standards**

- Report of work of the Illumination section of the British standards institution during the year 1932. *Ilum Engr* 26:99 Ap '33  
 Standards of school lighting with suggested requirements for a school lighting code. *il Ilum Eng Soc Trans* 28:21-56 Ja '33

**Study and teaching**

- Lighting design; 27th E.L.M.A. course. *Electrician* 110:679 My 26 '33  
 New approach opens new profession; popularity of classes in new method of selling lighting. F. B. Rae, jr. *Elec W* 102:638 N 11 '33

**Tables, calculations, etc.**

- Étude de l'éclairage par la méthode de l'ombre lumineuse. R. Busquet. *Génie Civil* 103:249-54 S 9 '33  
 Iso-candles for amateurs. J. W. T. Walsh. *diags Ilum Engr* 26:169-73 Jl '33  
 Iso-candles made easy. J. W. T. Walsh. *Gas J (Lond)* 203:506-9 S 6 '33  
 Polar intensity curves can give total flux. E. S. Oberndorf. *Elec W* 101:132-3 Ja 28 '33

**Terminology**

- Illuminating engineering nomenclature and photometric standards. *Ilum Eng Soc Trans* 28:265-79 Mr '33

**Testing**

- Effect of intensity of illumination on the near point of vision and a comparison of the effect for presbyopic and non-presbyopic eyes. C. E. Ferree and G. Rand. *Ilum Eng Soc Trans* 28:590-611 Jl '33

**LIGHTING, Architectural**

- Concerning the lighting in the main banking room, Pittsburgh branch, Federal reserve bank of Cleveland. E. J. Truthan. *il diag Architecture* 67:sup8-9 Mr '33; Same, without diag. *Arch Forum* 58:sup 12 Ap '33  
 Electric lighting of buildings. A. B. Read and J. W. T. Walsh. *Inst EEJ* 72:93-103 F '33; Discussion. 72:103-12; 73:82-7 F, Jl '33  
 Illuminating engineering society prize, Beaux-Arts institute of design. A. L. Powell. *il Ilum Eng Soc Trans* 28:204-12 Mr '33  
 Light and architecture. *il Ilum Eng Soc Trans* 28:11-20, 111-20, 213-22, 305-14, 397-406, 469-78, 565-74, 645-50 Ja-S '33



**LIGHTING, Architectural—Continued**

- Lighting heads the list of special facilities; World's fair, Chicago. J. L. McConnell. *il* diags Eng N 110:283-5 Mr 2 '33
- Lighting of the Masonic peace memorial. *il* Illum Engr 26:214-16 S '33; Same cond. Elec R (Lond) 113:111, 122-3, 128 Jl 28 '33
- New conceptions in lighting; abstract. W. J. Jones. *il* Elec R (Lond) 111:817 D 2 '32

**LIGHTING, Decorative**

- Lighting of seaside and health resorts. W. N. C. Clinch. *Illum Engr* 26:229-30; Discussion. 235 O '33

*See also*

- Electric lighting, Fountains—Lighting  
Decorative Light, Colored

**LIGHTING, Indirect**

- Indirect portable increases home revenue. D. W. Atwater. *Elec W* 102:500 O 14 '33
- Influence of the reflecting characteristics of wall paints upon the intensity and distribution of artificial and natural illumination. D. L. Gamble. *bibliog il* diags *Illum Eng Soc Trans* 28:326-45 Ap '33; Excerpt. *Elec W* 102:93 Jl 15 '33; Discussion. *Illum Eng Soc Trans* 28:345-6 Ap '33
- Light reflecting properties of paint. Foundry 61:38 Ap '33

*See also*

- Lighting, Architectural

**LIGHTING, Industrial**

- Beleuchtungstechnische fragen in der chemischen industrie. W. Kircher. *il* Chemische Fabrik 6:191-4 My 3 '33
- Cost of neglected maintenance. S. G. Hibben. *Elec W* 101:332-4 Mr 11 '33
- Do you get your money's worth in electricity used? F. B. Rae, jr. *il* System and Management Methods 62:388-9+ S '33
- Industrial lighting equipment. *Chem Age* (Lond) 27:579-80 D 17 '32
- Methods used to select commercial lighting fixtures. K. Staley. *Elec W* 102:494-6 O 14 '33
- Special lighting applications for industrial processes; problems relating to inspection work. J. M. Ketch, W. Sturrock and K. Staley. *il* diags *Illum Eng Soc Trans* 28:57-79; Discussion. 80-1 Ja '33
- Tool called light. J. M. Ketch. *il* diags *Factory Management* 91:310-12 Ag '33

*See also*

- Factories—Lighting  
Mine lighting

**LIGHTING, Natural. See Daylight****LIGHTING, Subaqueous**

- King Neptune on the spot; flooding the bottom of the ocean with light from powerful electric lamps. E. W. Beggs. *Illum Eng Soc Trans* 28:338-9 My '33

**LIGHTING fixtures**

- Conservatory lighting fixture. *il* Am Arch 143:36-7 My '33
- Plastics as glass; a summary of illumination characteristics. A. Paulus and C. S. Woodside. *Plastic Prod* 9:268-70 S '33; Excerpts. *Chem & Met Eng* 40:469 S '33
- Theory and specification of opal diffusing glasses. J. W. Ryde, B. S. Cooper and W. A. R. Stoyke. *bibliog il* *Illum Engr* 26:33-48; Discussion. 52-3 F '33

*See also*

- Electric lamps Gas lamps  
Electric light fixtures Street lighting fixtures

**Exhibitions**

- Exhibits illustrating progress in illumination; illuminating engineering society. *il* *Illum Engr* 25:322-7 D '32

**LIGHTING research**

- Influence of the reflecting characteristics of wall paints upon the intensity and distribution of artificial and natural illumination. D. L. Gamble. *bibliog il* diags *Illum Eng Soc Trans* 28:326-45; Discussion. 345-6 Ap '33

- National physical laboratory. diags *Engineering* 134:616-17 N 25 '32
- Opal glass: a résumé of the work of the B.S.I. sub-committee (ELG/3/2) on light-diffusing glass. S. English. *Illum Engr* 26:4-8 Ja '33; Abstract. *Soc Chem Ind J* (Chem & Ind) 52:38-9 Ja 13 '33

**LIGHTNING**

- Australian storms; fatalities and interruptions due to lightning and bush fires. *Electrician* 110:487-8 Ap 14 '33
- Automatic oscilloscope supplies the proof; almost simultaneous lightning strokes on two sides of paired circuit. G. W. Gerell. diags *Elec W* 102:594 N 4 '33
- Ball lightning phenomena. J. C. Jensen. *Science* 78:sup9 O 27 '33
- Developments in the electrical industry during 1932; lightning investigation. J. Liston. *il* *Gen Elec R* 36:40-1 Ja '33
- Earth explosion from lightning. A. Schultz. *il* *Elec W* 102:59 Jl 8 '33
- Factors affecting surge potentials. J. J. Torok and W. R. Ellis. diags *Elec J* 30:381-7 S '33
- Impulse tests on wood line-materials. J. J. Torok and W. R. Ellis. diags *Elec J* 30:347-52 Ag '33
- Lightning and forest fires. H. T. Gisborne. *bibliog il* *Pulp & Pa* of Can 34:327-9 My '33
- Lightning currents; intensity of 25 000 A recorded by new magnetic instrument. *Electrician* 111:148 Ag 4 '33
- Lightning effects; the studies of Dr Dietrich Müller-Hillebrand. *il* *Electrician* 110:551 Ap 28 '33
- Lightning; its formation and behavior. J. J. Torok and W. R. Ellis. *il* *Elec J* 30:253-7 Je '33
- Lightning puts a transmission line out of commission. D. P. Hartson. *il* *Gas Age* 71:487-8+ My 13 '33
- Lightning shatters concrete pole base. J. E. Housley. *il* *Elec W* 101:137 Ja 28 '33
- Romance of lightning research. E. S. Lee. *il* *Power Pl Eng* 37:391-2 S '33
- Surge-crest ammeter. C. M. Foust and H. P. Kuehni. *il* diags *Gen Elec R* 35:644-8 D '32; Abstract. *Elec W* 100:809 D 17 '32
- Surge investigations on lines and substations. J. J. Torok and W. R. Ellis. *il* diags *Elec J* 30:290-2+ Jl '33

*See also*

- Atmospheric electricity

**LIGHTNING, Artificial**

- Recommendations for impulse voltage testing. *il* *Elec Eng* 52:17-22 Ja '33
- Three-million-volt testing laboratory; Compagnie générale d'électro-céramique, Ivry, Paris. *il* *Elec R* (Lond) 113:594 O 27 '33

**LIGHTNING arresters**

- Developments in the electrical industry during 1932; distribution lightning arresters. J. Liston. *il* *Gen Elec R* 36:50-1 Ja '33
- Hairpin loop makes arrester more effective. W. J. Rudge, jr. *Elec W* 100:750-1 D 3 '32
- Lightning experience with new transformer connection. T. H. Haines and C. A. Corney. *il* diags *Elec Eng* 52:229-32 Ap '33; Abstract. *Elec W* 100:841 D 24 '33
- Locate arresters close to protected apparatus. W. J. Rudge, jr. *Elec W* 101:170-1 F 4 '33
- Present practice in installation and performance of high voltage lightning arresters. *Elec Eng* 52:394-400 Je '33; Discussion. 52:725-6 O '33

**LIGHTNING protection**

- All steel skyscrapers are not lightning proof; installation of a modern lightning rod system on the General Electric building, New York. *Steel* 93:27 N 6 '33
- Bird's eye view of lightning protection. E. Beck. *bibliog il* *Elec J* 30:369-70 S '33
- Code for protection against lightning. U S Bur Stand Handbook no 17:1-93 [bibliog p84-93] '33
- Ground interconnection saves service. F. E. Hill. diags *Elec W* 102:595 N 4 '33
- Lightning as it affects transportation; abstract and discussion. D. R. MacLeod. *Ry Age* 94:700-1 My 13 '33

**LIGHTNING protection—Continued**

- Lightning defenses strengthened. *il Elec J* 30: 8-9 Ja '33
- Lightning; experiences obtained on transmission systems. M. Neustätter. *Electrician* 111:412 O 6 '33
- Lightning outages reduced—wood construction surveyed at A.I.E.E. meeting. *Elec W* 101:158-9 F 4 '33
- Lightning protection of distribution systems and transformers (2300-4000 to 115/230 volts). C. S. Sprague and C. F. Harding. *il diags Purdue Univ Eng Exp Sta Research Bul* 42:1-87 '32
- Lightning protection of distribution transformers. J. M. Flanigen. *il diags Elec W* 101:290-4 Mr 4 '33
- Lightning protection; Pennsylvania railroad electrified system. *il Ry Age* 94:293 F 25 '33
- Modernizing installations for lightning protection. E. Beck. *bibliog il Elec J* 29:570-2 D '32
- Operating experience with wood utilized as lightning insulation. H. L. Melvin. *il Elec Eng* 52:36-41 Ja '33
- Rehabilitated transmission line defies lightning; installation of Deion flashover protectors. F. S. Douglass. *il diags Elec W* 101: 820-2 Je 24 '33
- Romance of lightning research. E. S. Lee. *Elec Eng* 52:448-9 J1 '33
- Series dissipators for lightning protection. W. R. Spittal. *il diags Elec W* 102:76-9 J1 15 '33
- Surge voltage in secondary circuits; abstract and discussion. W. G. Young. *Textile World* 82:1183 D '32

*See also*

- Electric transient phenomena  
Lightning arresters

**LIGNIN**

- Chemistry of lignin; distillation of alkali lignin in reduced atmosphere of carbon dioxide. M. Phillips and M. J. Goss. *il diag Ind & Eng Chem* 24:1436-41 D '32
- Chemistry of lignin; the oxidation of alkali lignin. M. Phillips and M. J. Goss. *Am Chem Soc J* 55:3466-70 Ag '33
- Comments on the Noll method for the determination of lignin in pulps. H. F. Lewis, W. E. Koonce and G. H. Young. *Paper Tr J* 96: 32-5 Je 29 '33
- Comparison of four methods for the determination of lignin. P. S. Billington, F. A. Simmonds and P. K. Baird. *diag Paper Tr J* 96:30-3 Ja 26 '33
- Effect of alkali treatment on the yield of lignin. E. E. Harris. *bibliog Ind & Eng Chem Anal ed* 5:105-6 Mr 15 '33
- New raw material for the plastics industry; research on the utilisation of lignin derived from coal. F. Fischer, O. Horn and H. Küster. *Chem Age (Lond)* 28:196 Mr 4 '33
- Research by F. Fischer on plastics from lignin. R. D. Hall. *Coal Age* 38:308-9 S '33
- Structure of lignin. F. Brauns and H. Hibbert. *Pulp & Pa of Can* 34:187-8 F '33
- Studies on lignin; the identity and structure of spruce lignins prepared by different methods. F. Brauns and H. Hibbert. *bibliog Am Chem Soc J* 55:4720-7 N '33

**LIGNITE**

- Contribution à l'étude de l'action des bases pyridiques sur les charbons. L. Malanowicz. *bibliog Chimie & Ind* 28:1277-82 D '32
- Development of Dakota lignite; effect of inorganic materials on low-temperature carbonization. A. W. Koth and I. Lavine. *bibliog il diag Ind & Eng Chem* 25:328-33, 570-4 Mr, My '33
- Development of North Dakota lignite; oil-steam atmosphere for dehydrating Dakota lignite. A. M. Cooley, Jr. and I. Lavine. *Ind & Eng Chem* 25:221-4 F '33
- Impregnation with lignite wax. B. Garten. *Melliand* 5:98 Je-J1 '33
- Mechanical handling at lignite mines. T. Rich. *il diags Mech Handling* 20:19-22 Ja '33
- New stoker technic developed for lignite. G. W. Welch. *il diag Power Pl Eng* 37:205-7 My '33
- Ontario lignite. *Can Chem & Met* 17:102 My '33

- Research by F. Fischer on plastics from lignin. R. D. Hall. *Coal Age* 38:308-9 S '33
- Saskatchewan lignite. J. P. De Wet. *il Can Min J* 54:356-9 S '33
- Technical investigation of northern Ontario lignite; abstract. C. Tasker. *Min Cong J* 19:16 Ag '33

*See also***Coal****LILLY, Eli, and company, Indianapolis**

- Air-conditioning in the drug-manufacturing industry. W. A. Hanley. *il Ind & Eng Chem* 25:9-12 Ja '33

**LIME**

- Band spectra of MgO, CaO and SrO. P. C. Mahanti. *il Phys R* 42:609-21 D 1 '32
- Chemistry in the service of Egyptology. L. C. Newell. *il J Chem Educ* 10:259-60 My '33
- Control over lime recovery operations. M. B. Mount. *Paper Tr J* 97:31-3 O 5 '33
- Free lime in cement clinker; abstract. D. Steiner and B. Bartos. *Rock Prod* 35:40 D 10 '32
- Free lime in Portland cement. G. E. Bessey. *Soc Chem Ind J* 52:219T-22T J1 21 '33
- Paper-making raw materials, 1932; lime and limestone. O. L. Cook. *Paper Tr J* 96:35 Je 22 '33
- Die quellung von kalken und ihre bedeutung für die baupraxis. W. Dawihl. *il Angew Chemie* 46:461-4 J1 8 '33
- Reduction of corrosion in water pipe. E. S. Hopkins. *il Ind & Eng Chem* 25:1050 S '33
- Some new cements; their manufacture and their special uses. A. J. Blank. *il diag plan Rock Prod* 36:54-7 Ag '33
- System: CaO-B<sub>2</sub>O<sub>3</sub>. E. T. Carlson. *U S Bur Stand J Research* 9:825-32 D '32; Excerpts. *Concrete (mill sec)* 41:41-2 Mr '33
- System, CaO-FeO-SiO<sub>2</sub>. N. L. Bowen, J. F. Schairer and E. Posnjak. *il diags Am J Sci* 5th ser 26:193-284 S '33
- System magnesium chloride-lime-water. C. R. Bury and E. R. H. Davies. *Chem Soc J* p701-5 Je '33
- Use of lime in rotary mud. L. G. E. Bignell. *Oil & Gas J* 31:33 Mr 16 '33

*See also***Cement****Analysis**

- Quantitative bestimmung von CaO, 3CaO.SiO<sub>2</sub>, 2CaO.SiO<sub>2</sub>, 3CaO.2SiO<sub>2</sub>, CaO.SiO<sub>2</sub> und SiO<sub>2</sub> nebeneinander. W. Jander and E. Hoffmann. *Angew Chemie* 46:76-80 Ja 28 '33

**Manufacture**

- Chemical lime from oilite. E. P. Poste. *il Ind & Eng Chem* 25:502-4 My '33
- Commercial value of the lime plant laboratory. S. P. Armsby. *Rock Prod* 36:20-2 Ap '33
- Gas fuel improves the lime kiln efficiency. J. B. Nealey. *il Chem & Met Eng* 40:356-7 J1 '33
- New type of kiln produces pure CO<sub>2</sub> and pure lime. E. C. Harsh. *il Rock Prod* 36: 41-2 Ag '33
- Two short rotary kilns comprise new burning system. E. J. Wechter. *diag Concrete (mill sec)* 41:30-1 Ag '33
- Wisconsin magnesium lime mortars. G. J. Barker. *il Wisconsin U Eng Exp Sta Ser* 75: 1-39 '33

**By-products**

- Possibility of utilizing carbon dioxide from lime kilns for ice. W. D. Mount; C. L. Jones. *Rock Prod* 35:18-19 N 19 '32

**Testing**

- L'essai rapide des chaux et ciments sur les chantiers. E. Marcotte. *Génie Civil* 103:430-2 O 28 '33

**LIME industry****Statistics**

- Lime in 1932. *Rock Prod* 36:43 My '33
- Lime industry in 1931. *Rock Prod* 36:59 F '33; Excerpt. *Oil Paint & Drug Rep* 122:25 D 5 '32
- Methanol and acetate of lime; monthly data. Published in *Oil, paint and drug reporter*



**LIME industry—Continued****United States**

Lime industry a unit on code. Rock Prod 36: 26-7 J1 '33

Lime industry code is now law. Rock Prod 36:42-4 O '33

Lime industry drafts recovery act code. Oil Paint & Drug Rep 124:17+ J1 10 '33

Lime industry has code hearing at Washington. Rock Prod 36:45+ Ag '33

**LIME kilns**

Lime plant progress—what directions? V. J. Azbe. il diags Rock Prod 36:42-5 Ag '33

New type of kiln produces pure CO<sub>2</sub> and pure lime. E. C. Harsh. il Rock Prod 36:41-2 Ag '33

**Firing**

Gas fuel improves the lime kiln efficiency. J. B. Nealey. il Chem & Met Eng 40:356-7 J1 '33

**LIME plants**

Keeping going with the ordinary stone and lime plant; M. J. Grove lime company, Stephens City, Va. il Rock Prod 36:17-20 O '33

**LIMESTONE**

Age of the Permian limestones of Sicily. A. K. Miller. Am J Sci 5th ser 26:409-27 [bibliog p426-7] O '33

Canadian limestone for building purposes. M. F. Goudge. 196p Canada Dept. of mines, Ottawa '33

Chemical lime from oölite. E. P. Poste. il Ind & Eng Chem 25:502-4 My '33

Fluxed asphaltic limestone as seal coat for mixed-in-place surfaces. J. H. Conzelman. il Pub Works 64:31-2 Mr '33

Limestone. O. Bowles and D. M. Banks. U S Bur Mines Information Circ 6723:1-21 '33

Method and cost of quarrying limestone at the plant of the Calaveras cement co, San Andreas, Calif. R. H. Townsend. flow sheet diags U S Bur Mines Information Circ 6610: 1-11 '33

Methods and costs of quarrying, crushing and grinding limestone at the plant of the Southwestern Portland cement co, El Paso, Texas. R. T. Mann. flow sheet diag maps U S Bur Mines Information Circ 6608:1-13 '33

Nonmetallic industries in 1932. J. B. Newsom. Min & Met 14:53-4 Ja '33

Occurrence, nature and origin of asphaltites in limestone and oil shale deposits in Estonia. P. N. Kogerman. pls Inst Pet Tech J 19:215-22 Mr '33

Origin of limestone caverns. A. C. Swinnerton. Geol Soc Bul 43:663-93 S '32

Paper-making raw materials, 1932; lime and limestone. O. L. Cook. Paper Tr J 96:35 Je 22 '33

Parallel striations on etched limestone surfaces. P. H. Dunn. il Am J Sci 5th ser 26:442-6 O '33

Quarrying and fabricating limestone; photographs. Architecture 68:73-6 Ag '33

Safety methods at the Michigan limestone & chemical company, Calcite. J. A. Valentin. il map Explosives Eng 11:310-13 O '33

Tully limestone of central New York. D. W. Trainer, jr. il fold maps N Y State Museum Bul 291:1-43 [bibliog p30-1] O '32

Working an underground mine six years without lost-time accidents. C. A. Herbert. U S Bur Mines Information Circ 6677:1-5 '33; Same. Explosives Eng 11:268-70 S '33

**See also**

Dolomite  
Marble

**Analysis**

Effect of the presence of perchloric acid in the proximate analysis of limestone. F. H. Fish and F. M. Taylor. J Chem Educ 10: 246-7 Ad '33

**LIMITER, Electric current.** See Electric current limiter

**LINCOLN, Abraham**

Cowards never started; Lincoln suggests thoughts for the future. A. Bradbury. Ptr Ink 162:24-6 F 16 '33

**LINCOLN, Nebraska****Water supply**

Bond issue campaign for new water works improvements at Lincoln. D. L. Erickson. Am Water Works Assn J 25:248-53 F '33

Long cast-iron main taps new well field. il diags Eng N 110:487-90 Ap 20 '33

**LINCOLN national life insurance company**

Everybody busy and happy. C. B. Petrie, jr. il Weekly Underw 127:1176 D 17 '32

Reinsures Old line insurance company and Northern states life insurance company. Spectator 130:17 Mr 30 '33

Union National now taken over by Lincoln National Life. Nat Underw (Life ed) 37:3+ Je 23 '33

**LINDBERG, Harrie Thomas, 1880-**

Work of H. T. Lindberg. front il plans Arch Rec 74:249-313 O '33

**LINEN**

Electricity and its application in textile works with special reference to the linen industry. R. H. Friend. il Textile Inst J 24:P265-70 O '33

Linen cellulose complex; the effects of alkaline hydrolysis. E. Butterworth and H. A. Elkin. bibliog Diag Textile Inst J 24:T10-29 Ja '33; Abstract. Textile Col 55:330-1 My '33

Linen trade, 1932. Economist 116:sup61-2 F 18 '33

Monopole soap in the finishing of blue-linen (indigo). Textile Col 55:600 S '33

Monopole soap in the finishing of linen. Textile Col 55:346 My '33

Performance of two new finishing machines on linen. E. Butterworth. il diags Textile Inst J 24:P209-16 S '33

Scouring of linen. E. Butterworth and H. A. Elkin. bibliog Textile Inst J 24:P217-25 S '33; Same. Textile Col 55:761-4+ N '33

**See also**

Flax

**LINEN fabrics**

Shrinkage of cotton and linen woven materials. G. H. Johnson. Am Dyestuff Rep 22: 561-4+, 591-2, 619-21 S 25-O 9 '33

**LINEN industry research association****Library**

Library of the Linen industry research association. M. K. E. Allen. Library Association Record 2:365-70 D '32

**LING. See Heather****LINIMENTS****Advertising**

Old-time fighters come back—to boost Omega oil. Ptr Ink 164:48 S 14 '33

**LINING fabrics**

Monopole soap in the finishing of cotton linings and ordinary cotton cloth generally. Textile Col 55:482 J1 '33

Wearing qualities of synthetic yarn lining fabrics and methods used in testing. C. L. Simon. il Melland 5:13-14, 58-9, 108-10 Ap-Je-J1 '33; Abstract. Textile World 83:576-7 Mr '33

**LINOLEUM**

How Armstrong shows retailers their faults. il Ptr Ink Mo 27:26+ Ag '33

\$1 museum; Armstrong's linoleum education exhibit. il Ptr Ink 161:82 D 1 '32

**LINOTYPE**

All-purpose linotype. il Inland Ptr 91:72 My '33

**LINSEED oil**

Chemistry of linseed oil; abstract. A. Schwartzman. Can Chem & Met 17:36 F '33

Determination of molecular weight of linseed oil and its polymerides. P. J. Gay. Soc Chem Ind J (Chem & Ind) 52:703-5 S 1 '33

**LINSEED oil—Continued**

- Further research on the production of carbon monoxide from paint in sealed compartments. S. F. Dudley, F. G. Edmed and R. C. Frederick. *J Ind Hygiene* 15:1-7 Ja '33
- Hydrogenation of linseed oil. N. E. Cochinaras. *Soc Chem Ind J* 51:403T-4T D 16 '32
- Linseed oil crushers fear German producers. *Chemicals* 33:1-2 Ja 23 '33
- Linseed oil duty is discussed at hearing. *Oil Paint & Drug Rep* 123:14 Ja 23 '33
- Linseed oil for lacquers. S. R. Grovenstein and G. F. Beal. *Oil Paint & Drug Rep* 123:32 My 1 '33
- Linseed oil stain imported at low duty. *Oil Paint & Drug Rep* 124:30B N 13 '33
- Modern chemical plant. J. A. Reavell. *il diag Soc Chem Ind J* 52:133T-4T My 19 '33
- Studies in the drying oils; influence of several factors on the mechanism of drying of oil films. J. S. Long, A. E. Rheineck and G. L. Ball, jr. *diag Ind & Eng Chem* 25:1086-91 O '33
- Studies on the nature of antioxygens present in natural fats; further observations on the removal of antioxygens from olive and linseed oils. A. Banks and T. P. Hilditch. *Soc Chem Ind J (Chem & Ind)* 51:411T-14T D 23 '32

**Statistics**

- Flaxseed, linseed oil, cake, and meal. Published in weekly numbers of Oil, paint and drug reporter
- Linseed and soybean industry in Canada. *Can Chem & Met* 17:216 O '33

**LINTELS**

- How to avoid cracks over doors and windows in masonry walls. C. C. Hurlbut. *diags Am Arch* 142:38-40+ D '32

**LIONEL corporation**

- Miniature trains; an important distinction between toys and models. *il Fortune* 6:41-2 D '32

**LIOUVILLE'S theorem**

- Application of Liouville's theorem to electron orbits in the earth's magnetic field. W. F. G. Swann. *Phys R* 44:224-7 Ag 1 '33; *Abstract. J Fr Inst* 216:249 Ag '33

**LIPASE**

- Lipases of wheat. B. Sullivan and M. A. Howe. *Am Chem Soc J* 55:320-4 Ja '33
- Protein nature of enzymes; an investigation of pancreatic lipase. D. Glick and C. G. King. *Am Chem Soc J* 55:2445-9 Je '33

**LIPIDES**

- Physiology and chemistry of the lipides; abstract. W. R. Bloor. *Can Chem & Met* 17:54 Mr '33

**LIPOIDS**

- Cellular reactions to lipoids from acid-fast organisms; abstract. F. R. Sabin and K. C. Smithburn. *Science* 77:496 My 19 '33
- Modification of the Backlin-Kirk combustion chamber for micro-determination of carbon and lipoids. W. L. Doyle. *diag Science* 77:173 F 10 '33

**LIPPINCOTT, James**

- Chairman, West Leechburg steel co. *por Steel* 92:23 My 1 '33

**LIQUEFIED petroleum gas**

- Bureau of explosives issues revision of shipping rules. *Oil & Gas J* 32:27 My 25 '33
- By-products obtained in manufacturing volatile gasolines basis for important new market. C. K. Francis. *Oil & Gas J* 31:18+ Ja 19 '33
- Complete list of liquid gas manufacturers in the U.S. *Oil & Gas J* 31:35 Ap 27 '33
- La distribution en France du butane liquéfié. *diag Génie Civil* 101:586-7 D 10 '32
- Economic outlets for natural gasoline and liquefied petroleum gases. G. G. Oberfell. *bibliog Am Pet Inst Proc* p4-15 sec 3 D '32; Same. *Oil & Gas J* 31:97-100+ N 17 '32; Discussion. *Am Pet Inst Proc* p16 sec 3 D '32
- Expanding market for liquefied gases through use of disinfecting torch. *il Oil & Gas J* 32:29 S 14 '33

- Explains Shell organization for selling liquefied gases. L. H. Spinner. *Oil & Gas J* 32:36 N 2 '33
- Gas-cracking and reforming processes. G. G. Oberfell and J. A. Guyer. *Am Pet Inst Proc (Refining div)* p32-5 Je '32

- Handbook of butane-propane gases. G. H. Finley, ed. 279p [bibliog p267-73] \$5 Western gas, 124 West Fourth st, Los Angeles '32

- Liquefied gas industry awaits new developments. T. W. Legatski. *Oil & Gas J* 31:54+ My 18 '33

- Market for liquefied petroleum gases continued to expand during 1932. *Oil & Gas J* 31:25 Mr 23 '33; *Oil Paint & Drug Rep* 123:53 Mr 27 '33

- Miscellaneous economic and technical problems of the liquefied-gas industry. A. Kremser. *Am Pet Inst Proc (Refining div)* p4-8 Je '32

- 1932 marketed production of liquefied petroleum gases. E. B. Swanson. *Gas Age* 71:302+ Mr 25 '33

- Progress of the liquefied petroleum gas industry. G. G. Oberfell. *Gas Age* 71:1-4 Ja 7 '33

- Underfiring a coke oven with liquefied petroleum gas. E. D. Maurer. *plans Gas Age* 71:579-82 Je 3 '33

**LIQUID air**

- Shrinking in valve seats with liquid air. L. E. Grant. *il Ry Mech Eng* 106:468-70 N '32

*See also*

- Oxygen, Liquid

**LIQUID chlorine.** *See Chlorine, Liquid***LIQUID fuel**

- Carbonization gases for fuels; a review of recent European developments. R. C. Bickmore. *Chem Markets* 33:126-8 Ag '33

- Classement des combustibles liquides pour moteurs à combustion interne, à injection mécanique. P. Dumanois. *Génie Civil* 102:379-80 Ap 22 '33

- Indice d'isooctane pour les carburants et indice de cétène pour les huiles combustibles. A. Grebel. *Soc Ing Civils Bul* 86:41-71 Ja '33; *Abstract. Génie Civil* 102:207-8 Mr 4 '33

- Liquid fuel production; prospects for gasworks and coke-oven plants. *Chem Age (Lond)* 29:215 S 2 '33

- Mischvorrichtung für brennstoffe. F. Neuroth. *il diag Zeit Ver Deutsch Ing* 76:1109-10 N 5 '32

- Über katalytische einflüsse bei selbstzündungsvorgängen. C. Zerbe, F. Eckert and H. Jentzsch. *Angew Chemie* 46:659-62 O 21 '33

- Utilization of the light fractions for the manufacture of high octane motor fuels by means of polymerization; abstract. A. R. Bowen and A. W. Nash. *Oil & Gas J* 32:29 O 5 '33

*See also*

- |                             |                      |
|-----------------------------|----------------------|
| Acetylene                   | Gasoline             |
| Airplane engines—           | Kerosene             |
| Fuel                        | Liquefied petroleum  |
| Alcohol as fuel             | gas                  |
| Automobile engines—         | Motor bus engines—   |
| Fuel                        | Fuel                 |
| Benzol (commercial benzene) | Motor truck engines— |
| Fuel, Colloidal             | Fuel                 |
| Gas and oil engines—        | Oil burners          |
| Fuel                        | Oil fuel             |

**Testing**

- Standardizing and testing volatile liquids and fuels. *Can Chem & Met* 17:53 Mr '33

**LIQUID metals.** *See Metals, Liquid***LIQUID meters**

- Efficient metering of liquids. *il Chem Age (Lond)* 28:77-8 Ja 28 '33

*See also*

- Flow meters  
Water meters

**LIQUID oxygen.** *See Oxygen, Liquid*



**LIQUIDS**

- Adhesion tension; pressure of displacement method. F. E. Bartell and H. J. Osterhof. bibliog il diag J Phys Chem 37:543-52 My '33
- Binary liquid systems and the mixture rule. W. MacFarlane and R. Wright. Chem Soc J p114-18 F '33
- Calorimetric method for determining the rates of interdiffusion of reacting liquids. F. Barry and A. K. Smith. bibliog diag Am Chem Soc J 55:2215-30 Je '33
- Heat transmission from metal surfaces to boiling liquids. D. S. Cryder and E. R. Gilliland. bibliog diags Ind & Eng Chem 24:1382-7 D '32; Same, without table. Refrig Eng 25: 78-83 F '33; Abstract. Mech Eng 55:192 Mr '33; Discussion. Refrig Eng 25:83-5+ F '33
- Method for a more complete examination of binary liquid mixtures. W. A. Wright. diag J Phys Chem 37:233-43 F '33
- Occurrence of two liquid phases and of a minimum density in the system carbon disulphide-ethylene dichloride. D. L. Hammick and J. Howard. Chem Soc J p2915-16 D '32
- Soluble anhydrite as a desiccating agent; drying of organic liquids. W. A. Hammond and J. R. Withrow. diag Ind & Eng Chem 25:1112-15 O '33
- Spreading of liquids on solid surfaces; the anomalous behavior of fatty oils and fatty acids with experiments leading to a tentative explanation. R. Bulkeley and G. H. S. Snyder. il Am Chem Soc J 55:194-208 Ja '33
- Thermal conductivity of liquids. O. K. Bates. bibliog il diags Ind & Eng Chem 25:431-7 Ap '33

*See also*

- |                    |                      |
|--------------------|----------------------|
| Boiling points     | Hydrodynamics        |
| Brownian movements | Inflammable liquids  |
| Emulsions          | Liquid fuel          |
| Evaporation        | Solution (chemistry) |
| Films              | Surface tension      |
| Fluids             | Viscosity            |
| Gases—Liquefaction | Water                |
| Hydraulics         |                      |

**LIQUOR bonds.** See Insurance, Surety and fidelity—Liquor bonds

**LIQUOR laws**

- What state laws say about liquor advertising. A. M. Howe. Ptr Ink 165:37, 40-1 O 26; 41, 44-5, 48 N 2 '33

*See also*

Prohibition

**LIQUOR problem**

- John Barleycorn; his life and letters. D. A. Poling. 245p \$1.50 John C. Winston co, Philadelphia '33
- Public service as an element in the life of the American scientist; duty of scientists in relation to the alcohol problem. Y. Henderson. Science 77:584-5 Je 16 '33
- Use and control of alcoholic drink. E. F. Angluin. 136p [bibliog p122-9] Catholic univ. of America, Washington, D.C. '33

**LIQUOR traffic**

- Base of reality behind liquor stock speculation. P. Dobbs. il Mag of Wall St 52:476-7+ S 2 '33
- Economic aspects of repeal; probable effect upon government revenues and business. Index 13:165-71 O '33
- John Barleycorn's return. il Business Week p20-1 S 30 '33
- Prohibition reform and the banker. J. S. Lawrence. Bankers M 126:119-23 F '33
- Prospective liquor imports. M. H. Tillitt. Barron's 13:5 Ja 23; 22 Ja 30 '33
- Wall Street cheers repeal. Business Week p20-1 Ji 22 '33
- What's up Uncle Sam's sleeve for liquor control? J. B. Coleman. il Adv & Sell 21:18+ S 14 '33
- When whisky comes back; new and complex problems of distribution. J. B. Coleman. il Adv & Sell 21:23+ Ag 31 '33
- Whiskey; companies which will run the newest U.S. business and the conditions under which it will be run. il Fortune 8:28-47+ N '33

Wines and liquors are ready for import; extensive insurance now being arranged. Weekly Underw 129:806 O 28 '33

*See also*

- |                    |                       |
|--------------------|-----------------------|
| Beer               | Distilling industries |
| Breweries          | Wine                  |
| Brewing industries |                       |

**Advertising**

- Advertising weighs the liquor question; publishers' liquor policies. il Adv & Sell 21: 18-19 O 26 '33
- Brandy for the medicine chest. il Ptr Ink 164:44 Ag 31 '33
- John D. Jr., expert in liquor advertising. F. Anderson. il Adv & Sell 22:26+ N 9 '33
- Liquor advertising hits some snags; with list of some newspapers refusing liquor advertisements. Adv & Sell 22:18+ N 9 '33
- Liquor advertising will be illegal in dry states. A. M. Howe. il Ptr Ink 165:17-20 O 19 '33
- Liquor can be advertised now. A. M. Howe. il Ptr Ink 165:17-20 O 12 '33
- Media executives, despite repeal, disagree on carrying liquor advertising. L. M. Hughes. Sales Management 33:402-3+ O 20 '33
- More beer news. Ptr Ink 162:52-3 F 2 '33
- Pattern for liquor advertising. Ptr Ink 165: 90 O 19 '33
- What state laws say about liquor advertising. A. M. Howe. Ptr Ink 165:37, 40-1 O 26; 41, 44-5, 48 N 2 '33
- Who will and won't accept liquor ads? list of magazines, farm papers and newspapers. Ptr Ink Mo 27:19, 34, 37 N '33

*See also*

Beer—Advertising

**Statistics**

- Statistics concerning intoxicating liquors, December, 1932. 149p Bureau of industrial alcohol, Washington '32

**Taxation**

- Address before N.W.D.A. J. M. Doran. Oil Paint & Drug Rep Extra ed 124:27 O 11 '33
- Beer makes good; for once, the Treasury underestimates returns from taxes. il Business Week p14+ S 2 '33
- Beer taxes as a revenue-producer. M. H. Tillitt. Barron's 13:5+ Ja 16 '33

**Great Britain**

- Beer, wines and spirits. Economist 116:sup42-3 F 18 '33

**LIQUORS**

- Daiquiri, Martini, planter's punch; from Cuba to Sweden agency hunters pursue the rare and exotic in drinks. il Fortune 8:46-7 N '33
- Facts relating to nonbeverage liquors. 53p U.S. Bureau of industrial alcohol, Washington '33

**LISTERINE**

- At last, a friend who told. il Ptr Ink 161:16 D 29 '32

**LISTMAN, Charles, 1850-**

- Patriarch of ice. por Refrig W 68:30 My '33

**LITHARGE.** See Lead oxides**LITHIUM**

- C state of Li<sub>2</sub>. W. H. Furry. Phys R 43:361-2 Mr 1 '33
- Disintegration of lithium by protons of high energy. M. C. Henderson. diag Phys R 43: 98-102 Ja 15 '33
- Fortschritte 1930-1932 auf dem gebiete der freien alkalimetalle. H. Alterthum and R. Rompe. Angew Chemie 46:304-6 Je 3 '33
- Isotopic constitution of lithium in the sun. E. McMillan. Phys R 44:240 Ag 1 '33
- Light excitation in neon by lithium ions. A. J. Dempster and R. E. Holzer. Phys R 43: 365-6 Mr 1 '33
- Lithium in sea water. B. D. Thomas and T. G. Thompson. diag Science 77:547-8 Je 2 '33
- Mass ratio of the lithium isotopes from the spectrum of Li<sub>2</sub>. A. McKellar. Phys R 44: 155-64 Ag 1 '33

**LITHIUM—Continued**

Masses of the lithium isotopes. K. T. Bainbridge. *J Fr Inst* 216:271-2 Ag '33; Same, with reproduction of spectra. *Phys R* 44:56-7 J1 1 '33

Nuclear spin of  $\text{Li}^7$  from hyperfine structure data. N. M. Gray. *Phys R* 44:570-4 O 1 '33

Solubility of metallic lithium in liquid ammonia at low temperatures. W. C. Johnson and M. M. Piskur. *J Phys Chem* 37:93-9 Ja '33

*See also*

Lepidolite

**LITHIUM bromide**

Dissociation of water in lithium bromide solutions at 25°. J. E. Vance. *Am Chem Soc J* 55:4518-21 N '33

**LITHIUM chloride**

Dissociation of water in lithium chloride solutions. H. S. Harned and H. R. Copson. *Am Chem Soc J* 55:2206-15 Je '33

Electrostriction produced by salts in some aliphatic alcohols. W. C. Vosburgh, L. C. Connell and J. A. V. Butler. *Chem Soc J* p933-42 Ag '33

Magnetic susceptibilities of hydrochloric acid and lithium chloride solutions. A. F. Scott and C. M. Blair, jr. *bibliog J Phys Chem* 37:475-82 Ap '33

**LITHIUM compounds**

Preparation of ketones by the carbonation of organolithium compounds. H. Gilman and P. R. Van Ess. *Am Chem Soc J* 55:1258-61 Mr '33

Relative reactivities of organolithium and organomagnesium compounds. H. Gilman and R. H. Kirby. *Am Chem Soc J* 55:1265-70 Mr '33

Yields of some organolithium compounds by the improved procedure. H. Gilman, E. A. Zoellner and W. M. Selby. *Am Chem Soc J* 55:1252-7 Mr '33

**LITHIUM hydroxide**

Heat capacity and related thermodynamic properties of aqueous solutions; lithium and sodium hydroxides at 25°. F. T. Gucker, jr. and K. H. Schminke. *Am Chem Soc J* 55:1013-19 Mr '33

**LITHIUM tartrate**

Systems (a) ammonium *d*-tartrate-lithium *d*-tartrate-water, and (b) ammonium lithium *d*-tartrate-ammonium lithium *l*-tartrate-water. A. N. Campbell and L. Slotin. *diag Am Chem Soc J* 55:3961-70 O '33

**LITHOGRAPHERS**

Wages in lithographing and photo-engraving trades in Netherlands, January, 1932. *Monthly Labor R* 35:1168 N '32

**LITHOGRAPHIC paper.** *See* Paper, Lithographic**LITHOGRAPHY**

Handbook of lithography. D. Cumming. 3d ed rev 368p \$4 Macmillan '32

Lithography as a fine art. A. S. Hartrick. 83p 16pl \$2.50 Oxford '32

Lithography; its history and practice. F. W. Mueller. *Adv & Sell* 21:sup [Adv Arts] 29-32 My '33

Planographic and intaglio. G. R. Mayer. Published in monthly numbers of *Inland printer*

*See also*

Printing, Offset

**LITHOPONE**

Cadmium, thallium, indium, and gallium as by-products of the lithopone industry. W. N. Hirschel. *Soc Chem Ind J (Chem & Ind)* 52:797-8 O 6 '33

Lithopone; a versatile pigment. H. H. Morris. *Chemicals* 37:3 D 12 '33

**LITHUANIA**

*See also*

Agriculture—Lithuania

**LITIGATION, Cost of.** *See* Costs (law)**LITTORINA irrorationa**

*Littorina irrorationa*, a post-pleistocene fossil in Connecticut. J. B. Knight. *bibliog Am J Sci* 5th ser 26:130-3 Ag '33

**LIVE stock**

*See also*

Poultry

Sheep

Swine

**Poisoning**

Occurrence of lead, copper, zinc, and arsenic compounds in atmospheric dusts, and the sources of these impurities. J. T. Dunn and H. C. L. Bloxam. *Soc Chem Ind J* 52:189T-92T Je 30 '33

**Statistics**

Livestock and meats. *Food Ind* 5:48-9 F '33

Livestock, 1932. *Economist* 116:sup37-8 F 11 '33

Live stock numbers, prices and values. *Bradstreet's* 61:407 F 25 '33

**Transportation**

Higher livestock rates unjustified, I.C.C. holds. *Ry Age* 94:218 F 11 '33

**LIVER extracts**

Laboratory method of testing the potency of liver extract; abstract. C. W. Edmunds. *Science* 76:544-5 D 9 '32

**LIVERSIDGE, H. P.**

Co-operation in merchandising brings H. P. Liversidge the McGraw award. *Elec W* 100:802 D 17 '32

**LIVINGSTON, Montana****Water supply**

Livingston municipal water works. J. R. Cortese. *Am Water Works Assn J* 25:579-83 Ap '33

**LLOYDS, London**

Clandestine transactions of American bankers with London Lloyds likely subject of inquiry by Senate committee. N. H. Weed. *Weekly Underw* 129:34-5 J1 1 '33

Illinois demands deposit by Lloyds. *Nat Underw* 37:25+ O 19; 37+ O 26 '33

Legal curb sought for London Lloyds. H. J. Drake. *Ins Field (Fire ed)* 62:7 Ag 31 '33

Lloyds of London is ordered to pay claim. *Weekly Underw* 128:1200 Je 24 '33

London Lloyds activity in bank field attacked. *Nat Underw* 37:19 J1 13 '33

London Lloyds is feeling the gaff. *Nat Underw* 37:25+ S 7 '33

Show-down on Illinois deposit delayed two months. *East Underw* 34:33 N 3 '33; *Nat Underw* 37:27 N 2 '33; *Spectator* 131:33 N 2 '33

**LLOYDS bank limited**

Ordinary general meeting, 75th, London. *Economist* 116:317-19 F 11 '33

**LLOYDS insurance company of America**

Chas. D. Livingston to head Lloyds insurance co. of America. *East Underw* 34:33 F 17 '33; *Ins Field (Fire ed)* 62:7 F 16 '33; *Nat Underw* 37:29 F 16 '33; *Spectator* 130:31+ F 16 '33

Put in rehabilitation. *East Underw* 34:30 Ag 11; 33 Ag 18 '33; *Ins Field (Fire ed)* 62:7+ Ag 10 '33; *Nat Underw* 37:23+ Ag 10 '33; *Spectator* 131:27+ Ag 10 '33; *Weekly Underw* 129:297+ Ag 12 '33

**LOAD (electric plants).** *See* Electric plants (central stations)—Load**LOAD (gas works).** *See* Gas works—Load**LOAD (mechanics)**

Dimensions, weights, and test and safe loads for wrought-iron crane chain; data sheet. *Mach* 39:632A Je '33

How to avoid cracks over doors and windows in masonry walls. C. C. Hurlbut. *diags Am Arch* 142:38-40+ D '32

Load capacities of radial ball bearings; data sheet. *Mach* 39:504A, 568A Ap-My '33

Load capacities of two-row radial ball bearings. *Mach* 39:632A Je '33

Über die festigkeit von rippen bei ruhender, wechselnder und stossartiger belastung. A. Thum and S. Berg. *Zeit Ver Deutsch Ing* 77:281-7 Mr 18 '33

**LOAD factor**

Put power lines on a diet—and keep little peaks from growing into big ones. H. C. Jenks. *il diag Factory Management* 91:88-90 Mr '33



**LOAD factor—Continued**

Residence load characteristics based on field studies. G. L. Jorgensen and R. L. Matteson. *il Elec W* 100:684-8 N 19 '32

*See also*

Electric plants (central stations)—Load

**LOAD line**

Load line convention proclaimed. *Marine Eng* 38:49-50 F '33

Regulations for the establishment of load lines for merchant vessels of 250 gross tons or over when engaged in a foreign voyage by sea (the Great lakes excepted) effective September 2, 1930. 58p U. S. Bur. of navigation, Washington '32

**LOADING and unloading**

Transporting and handling bulk chemicals. R. F. Bergmann. *il diags Chem & Met Eng* 40:474-7 S '33

*See also*

Coal loading machines

Freight handling

Mechanical handling

Conveying machinery

**Barges**

Buckeye River tippie has high loading rate over wide range of water levels. *il diags Coal Age* 38:226-7 J '33

Conveying systems simplify barge loading and unloading of coke. *il Chem & Met Eng* 40:136-7 Mr '33

Garbage loading plant at a Thames side wharf. *il Mech Handling* 20:258-9 Ag '33

New barge loader solves small plant problem. E. J. Tournier. *il plan Rock Prod* 36:26-7 Ap '33

Travelling skip at a Thames side wharf. *il Mech Handling* 20:223-4 J '33

**Cars**

80,000-ton granary at Bahia Blanca. *il Engineering* 135:150 F 10 '33

Gravity-unloading railway car transports bulk cement. *il Concrete (mill sec)* 41:26-7 O '33

Hais simple car unloading rig of quick portability. *diag Roads & Sts* 76:135 Mr '33

Handling and storing of grain, with special reference to Canadian methods. H. H. Broughton. *il diags Inst Mech Eng Proc* 124:69-125 [bibliog p120] '33; Same cond.

*Engineering* 135:141-5, 199-201 F 3, 17 '33; Same cond. *Engineer* 155:111-13, 115, 139-41, supp F 3-10 '33; Same cond. *Mech Handling* 20:214-17, 248-50, 283-4, 317-18, 338-9 JI-N '33; Discussion. *Inst Mech Eng Proc* 124:126-74 '33; *Engineering* 135:136-7 F 3 '33; *Engineer* 155:120-1 F 3 '33

Hoist for handling freight containers. *il Elec Traction* 29:182-3 Je '33

Modern river-rail coal transfer plant; new facility of Pittsburgh & Lake Erie. *il plan Ry Age* 93:909-10 D 17 '32

Tractors speed unloading of large machinery shipment. *il Steel* 92:24 Ap 17 '33

Transporting and handling bulk commodities. R. F. Bergmann. *il diags Rock Prod* 35:46-50 N 19 '32

**Motor trucks**

Le transport des marchandises avec séparation des éléments de roulement et de chargement. *il diags Génie Civil* 102:375-7 Ap 22 '33

**Ships**

Anti-coal breaker for loading ships. *il diag Engineering* 136:170, 178 Ag 18 '33

Ayr harbour coal shipping plant. C. W. Fox. *il diags Mech Handling* 20:13-18 Ja '33

Benne preneuse à coquilles, pour le déchargement des navires. *il diag Génie Civil* 102:139 F 11 '33

Billingsgate fish-box transporter. *il Engineer* 155:74 Ja 20 '33

Coal and coke loading and the prevention of breakage; Morison-Leonard antibreaker. *il diag Mech Handling* 20:327-30 O '33

Coal loading plant on the Tyne. *diags plan Mech Handling* 20:61-4 F '33

Coke handling, storage and treatment at Beckton gas works. C. G. Harmer. *diags Mech Handling* 20:297-301 S '33

Discharging grain; a modern automatic electrical system. R. N. Tweedy. *il plan Elec R (Lond)* 112:337-8 Mr 10 '33

Electric bulk unloader saves stevedoring costs. *il Elec West* 70:159 My '33

Exhauster system installed in large grain elevator. *Elec W* 100:873 D 31 '32

Handling and storing of grain, with special reference to Canadian methods. H. H. Broughton. *il diags Inst Mech Eng Proc* 124:69-125 [bibliog p120] '33; Same cond.

*Engineering* 135:141-5, 199-201 F 3, 17 '33; Same cond. *Engineer* 155:111-13, 115, 139-41, supp F 3-10 '33; Same cond. *Mech Handling* 20:214-17, 248-50, 283-4, 317-18, 338-9 JI-N '33; Discussion. *Inst Mech Eng Proc* 124:126-74 '33; *Engineering* 135:136-7 F 3 '33; *Engineer* 155:120-1 F 3 '33

Loading sugar at Kaanapauli with vessel offshore. *Marine R* 63:32 JI '33

Seatrail bridge crane. W. C. Raube. *il Marine Eng* 38:326-9+ S '33

Self unloader; conversion from lake bulk freighter. *il plan Marine R* 63:17-19 O '33

Ship discharging at Gothenburg harbour. *il Engineer* 156:68 JI 21 '33; Same. *Mech Handling* 20:255-6 Ag '33

*See also*

Cargo handling

**LOADING machines**

Barber-Greene power loader cuts labor requirements. *il Elec W* 100:725 N 26 '32

**LOAN companies**

Roster of personal finance companies in the United States. 109p pa \$1 Am. assn. of personal finance companies, 712 Tower bldg, Washington, D.C. '32

**LOANS**

Collections readily made; delinquent account record plan of the Franklin loan and savings company, Columbus, O. E. Salt. *Rand McNally Bankers Mo* 50:331-2 J '33

Consumer loans in Wisconsin. G. Townsend. 153p [bibliog p137-8] Genevieve Townsend, Madison, Wis. '32

*See also*

Borrowing

Building loans

Credit

Debt

Debts, Public

Insurance, Life—Policy loans

Interest

Investments

League of nations—Loans

Securities

**LOANS, Bank**

Adjusting loaning and investment policies under the banking act of 1933; abstract. C. F. Zimmerman. *Bankers M* 127:429-30 O '33

All banks in the United States—total loans and investments, deposits. Published in monthly numbers of Federal reserve bulletin

All loans can be profitable with compensating balances or charges. A. C. Kingston. *Rand McNally Bankers Mo* 50:150-1 Mr '33

All member banks—classification of loans and investments. Published in monthly numbers of Federal reserve bulletin

Appraising building loans for banks, a logical field of service for architects. R. W. Sexton. *Am Arch* 143:23 Ja '33

Bank loans and interest rates. *Comm & Fin* 21:1375 N 23 '32

Bankers and engineers can restore our former prosperity; promotion of new industries. M. Bjorndal. *Bankers M* 125:575-8 D '32

Banking and industry; with special reference to engineering. *Engineer* 155:250-1 Mr 10 '33

Banks urged to lend money. A. Pomerene. *Barron's* 12:8 N 28 '32

Cash discounts benefit both merchants and banks. J. Y. Beaty. *Rand McNally Bankers Mo* 50:617-18 N '33

Certifications on the customer's statement. *Am Bankers Assn J* 26:83 S '33

C.P.A. certification—what does it mean on the customer's statement? P. S. Suffern. *Bankers M* 127:147-52 Ag '33

Commercial banking during the depression. W. E. Spahr. *Am Statis Assn J* 28:sup59-66; Discussion. F. R. Fairchild. 66-7 Mr '33

**LOANS, Bank—Continued**

- Commercial borrowing under the Recovery act. J. Hanna. *Am Bankers Assn J* 26: 24-5+ S '33
- Dealers wait for loans to make new sales possible. J. V. Tuttle. *Rand McNally Bankers Mo* 50:405+ Ag '33
- Fallacies in money reasoning; criticism of remarks of Atlee Pomerene, R.F.C. head. T. F. Woodlock. *Barron's* 12:11 D 12 '32
- Five fund conversion policies based on the experience of 30 banks. E. D. McFarland. *Bankers Mo* 50:27-8+ Ja '33
- 14 questions on insurance for loan officers and borrowers. C. T. Hubbard. *Rand McNally Bankers Mo* 50:606-7+ N '33
- Guide for lending. *Am Bankers Assn J* 26: 75 S '33
- How loans can be classified to avoid excessive write-offs. J. Poole. *Rand McNally Bankers Mo* 50:329-30+ J1 '33
- How to judge a finance company as a credit risk. A. W. Newton. *Rand McNally Bankers Mo* 50:610 N '33
- How to rate sales capacity as a factor in commercial credits. C. D. Murphy. *il Rand McNally Bankers Mo* 50:136-8+ Mr '33
- I learned my lesson early; banks must buy short credits—not capital loans. C. M. Johnson. *Rand McNally Bankers Mo* 50: 408+ Ag '33
- Inspection-rating of farm mortgages. T. G. Best. *il Am Bankers Assn J* 25:39 Mr '33
- Late trends in personal loans. H. W. Haines. *Bankers M* 125:433-6, 585-8+; 126:23-7, 235-9, 345-8 N '32-Ja, Mr-Apr '33
- Liquidating slow or frozen assets. W. K. Payne. *Bankers M* 126:540-4 Je '33
- Loan committee action easy with this loan application form. K. R. McDonald. *Rand McNally Bankers Mo* 50:600 N '33
- Loans to friends made safe. W. C. Swengel. *Rand McNally Bankers Mo* 50:608-9+ N '33
- Losses in bank earning assets. F. Mueller, jr. *Bankers M* 127:367-87 O '33
- Opportunities increasing for sound loans. J. J. Anton. *Burroughs Clearing House* 17: 15+ J1 '33
- Placing all collateral and real estate loans on installment payment basis. J. C. Lipman. *Trust Companies* 56:691-3 Je '33
- Plan for converting funds, based on the experience of 249 banks. E. D. McFarland. *Bankers Mo* 49:725-8 D '32
- Problem of employing bank funds. *Nat City Bank* p182-4 D '32
- Real estate? pick and choose. H. W. Underhill. *il Am Bankers Assn J* 26:22-3, 60-2 Ag '33
- Receivables good security if—the records are protected from fire damage. D. Girard. *il Bankers Mo* 50:94-5+ F '33
- Safety devices for credit machinery. *Am Bankers Assn J* 26:74 S '33
- Self-proving loan record; Northampton national bank, Easton, Pa. W. H. Myers. *il Rand McNally Bankers Mo* 50:352-3+ J1 '33
- Small loans in a country bank. J. B. Surdam. *Burroughs Clearing House* 17:12+ Ja '33
- Small note problem. J. J. Driscoll, jr. *Bankers M* 126:12 Ja '33
- Some farm financial problems. E. D. Woodruff. *Bankers M* 127:259-63 S '33
- What the depression has taught us about real estate loans. R. L. Hoguet. *Bankers M* 126: 29-34 Ja '33
- When making a loan on inventories determine credit by markets. W. H. Johnson, jr. *il Bankers Mo* 49:717-18 D '32
- When the farmer and banker collaborated a doubtful note was paid. J. M. Dowell. *Bankers Mo* 49:722+ D '32

**See also**

- Advertising and Bankers' loans  
bankers Credit, Bank  
Agricultural credit

**Collateral**

- Bankruptcy losses prevented by warehousing inventories for loan protection. H. A. Harrington. *il Rand McNally Bankers Mo* 50:148-9+ Mr '33

- Bank's right to hold wrongfully pledged stock; suit. *Bankers M* 125:617-19 D '32
- Five safeguards for receipts of field warehouse companies. J. V. Tuttle. *il Bankers Mo* 50:17-18+ Ja '33
- Life insurance as collateral. C. D. Heyer. *Am Bankers Assn J* 26:32-3+ N '33
- Life insurance as collateral. E. O. Stanley. *Bankers M* 127:237-45 S '33; Excerpt. *Trust Companies* 56:528 My '33; Abstract. *East Underw* 34:11 J1 28 '33
- Life insurance collateral. R. T. Elston. *Am Bankers Assn J* 25:47-8 Ja; 59 Mr '33
- This system makes it simple to get collateral values at a glance. R. M. Buntin. *il Rand McNally Bankers Mo* 50:291+ Je '33
- What to watch when making commodity loans. G. C. Dreher. *il Burroughs Clearing House* 17:10-12 F '33

**LOANS, Employees'**

- Company loans best. C. C. Rice. *System* 62: 473-4 O '33
- Company loans to unemployed workers; abstract. *Management R* 22:179 Je '33
- What about loans to employees? *Management Methods* 62:77-8+ F '33

**LOANS, Foreign**

- Details of loan to Mexican government by three exporting oil companies. C. E. Kern. *Oil & Gas J* 31:32 Ja 5 '33
- Foreign policy from the investor's angle. M. Winkler. *Mag of Wall St* 51:423-5 F 4 '33
- New loan to salvage Austria. L. Pasvolsky. *Barron's* 13:18-19 F 20 '33
- Will League loans secure preference? J. U. Grissinger. *Barron's* 13:16 F 20 '33

**See also**

- Debts, Public  
Investments, Foreign

**LOANS, Small**

- Georgia small-loan law upheld. *Monthly Labor R* 36:1277 Je '33
- Late trends in personal loans. H. W. Haines. *Bankers M* 125:433-6, 585-8+; 126:23-7, 235-9, 345-8 N '32-Ja, Mr-Apr '33
- Morris plan banks explained for commercial bankers. J. R. Cudney. *Rand McNally Bankers Mo* 50:478-9 S '33
- My business asked for regulation. L. C. Harbison. *Nation's Business* 21:38+ F '33
- Personal finance business. M. R. Neifeld. 490p [bibliog p459-68] \$5 Harper '33
- Small loans in a country bank. J. B. Surdam. *Burroughs Clearing House* 17:12+ Ja '33
- Small note problem. J. J. Driscoll, jr. *Bankers M* 126:12 Ja '33
- Three experiments with small-loan interest rates. R. Nugent. *Harvard Business R* 12: 35-46 O '33

**See also**

- Credit unions  
Loans, Employees'

**LOBBYING**

- Lobby's reign of terror. R. C. Johnson. *il Nation's Business* 21:13-16 Mr '33
- Majorities, minorities, and legislation. P. H. Odegard. *Ann Am Acad* 169:29-46 S '33

**LOBNITZ, Sir Frederick, 1863-1932**

- Sketch. *Engineering* 134:705-6 D 16 '32

**LOBSTERS**

- Perhaps you've never been introduced to a lobster; Maine's industry. *il Fortune* 8:71-5+ N '33

**LOCAL anesthetics. See Anesthetics, Local****LOCAL government**

- Costs of township and county government in Illinois. M. H. Hunter. map *il U Bur of Business Research Bul* 45:1-31 '33
- Government in a depression. T. H. Reed, ed. 201p pa \$1 Univ. of Chicago press '33
- Local government in many lands. G. M. Harris. 2d ed 409p P. S. King & son ltd, London '33
- Local government in the United States. M. Seasongood. 145p \$1.50 Harvard univ. press '33
- Regulation and control of land use in non-urban areas. R. B. Goodman. *J Land & Pub Util Econ* 9:266-71 Ag '33



**LOCAL government—Continued**

Roosevelt on state, town and county taxes.  
 Ptr Ink 163:47-9 Ap 6 '33

*See also*

County government  
 Metropolitan districts  
 Municipal government

**LOCATING (machine work)**

Combined locating and clamping fixture. F.  
 W. Curtis. diag Mach 39:527-8 Ap '33  
 Formulas for operators of jig boring machines. W. W. Johnson. Am Mach 77:124 F 15 '33; Discussion. C. M. Conradson. 77:316 My 10 '33  
 Laying out accurately spaced holes. F. W. Curtis. il Mach 39:590 My '33  
 Laying out holes. C. F. Henry. diag Am Mach 77:637-8 S 27 '33  
 Matrix alloy reduces tool and die costs. J. R. Weaver. il diags Mach 40:129-32 N '33  
 Simple method of spacing holes on a circle. E. E. Keeler. diag Mach 39:466 Mr '33  
 Spacing holes in a circle. F. A. Gabriel. diag Am Mach 76:406 Mr 24 '32; Discussion. 76:837; 77:75 Jl 6 '32, F 1 '33

*See also*

Centering (machine work)	Centering machines Dividing (machine work)
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**LOCATION in business***See also*

Banks and banking—Location	Retail trade—Store location
Factories—Location	

**LOCKING devices**

Ingenious method locks inserted valves in place. H. Andrews. diags Automotive Ind 68:560 My 6 '33  
 S.O.V. windscreen locking device. diag Automobile Eng 23:73 F '33

**LOCKS (hydraulic engineering)**

Bringing the sea to Chicago. M. E. Broan. il map Comp Air M 38:4021-6 Ja '33  
 Dam and two locks, Allegheny river; unit prices. Eng N 109:700 D 8 '32  
 Engineering features of the Illinois waterway. W. M. Smith. diags plans Am Soc C E Proc 57:1189-1218 O '31; Discussion. 58:268-73, 453-63; 59:441-8 F-Mr '32, Mr '33  
 Lock construction at dam 3, Tennessee river. il Eng N 111:196-8 Ag 17 '33  
 Lock electrification in France; Suresnes installation on the Seine. il Elec R (Lond) 113:223 Ag 18 '33  
 Lock no. 1, Barren river, Kentucky; unit prices. Eng N 110:608 My 11 '33  
 1000-ton canal lift lock on Berlin-Stettin waterway. il Engineer 156:36, 44 Jl 14 '33  
 Roller-gate dams for Kanawha river. il diags Eng N 111:337-42 S 21 '33  
 Sliding caissons for 1,148-ft. lock at St Nazaire. il diags Engineering 136:165-6 Ag 18 '33

Waterway locks; rapid application of electric operation in France. il Electrician 110:673-4 My 26 '33

**Safety devices and measures**

Lock accidents and fender gears. il Engineering 134:727-8 D 23 '32

**LOCKS and keys**

Versatile recording lock. Sci Am 147:376 D '32

**LOCOMOTIVE boilers**

Foam-meter for locomotives. il Ry Mech Eng 106:457 N '32  
 Locomotive boiler. H. B. Oatley. Ry Age 95:25-6 Jl 1 '33  
 Ratios of modern locomotives. A. I. Lipetz. Ry Mech Eng 107:86-90, 119-21 Mr-Apr '33; Same cond. Ry Age 94:243-7 F 18 '33; Discussion. Ry Mech Eng 107:357-63 O '33  
 Relation between draft and evaporation. E. L. Schellens. Ry Mech Eng 107:53-4 F '33; Discussion. W. A. Pownall. 107:131-2 Ap '33

**Firing**

Standard locomotive stoker of small capacity. il Ry Mech Eng 107:16-17 Ja '33

**Repair**

Handy horse for the boiler shop. il diags Ry Mech Eng 106:471-2 N '32

**LOCOMOTIVE experiment stations**

Locomotive-testing station at Vitry-sur-Seine, Paris. il Engineering 136:118, 124-5 Ag 4 '33

**LOCOMOTIVE fireboxes**

Multi-pressure locomotive on the Canadian-Pacific. J. B. Ennis. il diags Ry Mech Eng 106:493-4 D '32

**LOCOMOTIVE grates**

Grate design and smoke prevention. J. W. Hulson. Ry Mech Eng 107:290-1 Ag '33  
 Wabash tests effect of front end and grate design. W. A. Pownall. diags Ry Age 95:84-6 Jl 8 '33

**LOCOMOTIVE headlights**

New locomotive headlight lamp insures against train delays. Illum Eng Soc Trans 28:303 Ap '33

**LOCOMOTIVE industry****Statistics**

Locomotives ordered in 1932. W. J. Taft. Ry Age 94:171-2 F 4 '33

**Great Britain**

Engineering outlook; the locomotive industry. Engineering 135:309-10 Mr 17 '33  
 Locomotive building in 1932. il diags Engineer 155:4-6, supp 8 Ja 6 '33

**LOCOMOTIVE shops**

Filling driving-wheel counterbalance spaces. diags Ry Mech Eng 107:176-7 My '33  
 Locomotive repairing is a big business. H. R. Simonds. il Iron Age 132:16-17 S 21 '33

*See also*

Locomotive terminals	Railroads—Shops
Locomotives—Repair	Roundhouses

**Equipment**

Device for pulling cylinder bushings. diags Ry Mech Eng 106:510-11 D '32  
 Driving-wheel moving device. il Ry Mech Eng 107:270 Jl '33  
 Handy horse for the boiler shop. il diags Ry Mech Eng 106:471-2 N '32  
 Locomotive wheel drops, L.M.S.R. il diags Engineer 155:320-1, 324 Mr 31 '33  
 Raised tracks facilitate truck repairs. il Mach 39:440 Mr '33

**Heating and ventilation**

Use of unit heaters in shops and engine-houses has advantages. il Ry Age 94:559-61 Ap 15 '33

**LOCOMOTIVE smoke boxes**

Davidson and co. vacuum smoke-box cleanser at Willesden. il diags Engineer 156:166-7 Ag 18 '33

**LOCOMOTIVE tenders**

Reclaiming worn tender-truck pedestal. H. W. Payne. il Ry Mech Eng 106:515 D '32

**LOCOMOTIVE terminals**

A.R.E.A. committee report on shops and locomotive terminals. Ry Age 94:413 Mr 13 '33  
 Graphical analyses of mechanical operations. L. Richardson. Ry Mech Eng 107:39-44 F '33; Same cond. Ry Age 93:643-6 N 5 '32

*See also*

Locomotive shops

**LOCOMOTIVE whistles**

Cab signals authorized on the Pennsylvania. Ry Age 93:982-3 D 31 '32

**LOCOMOTIVES**

A.R.A. Mechanical division report on locomotive construction. Ry Age 95:58 Jl 1 '33  
 Comparison of British and American fast passenger locomotives; tabulation. P. T. Warner. Engineer 155:554 Je 2 '33

L'exploitation des chemins de fer; comparaison entre la traction à vapeur et la traction électrique. H. Ponty. Génie Civil 102:108-10, 133-5, 155-9 F 4-18 '33

Fifteen-year-old locomotives replaced by modern power; Austrian federal railways. il Ry Mech Eng 107:317 S '33

**LOCOMOTIVES—Continued**

- Interesting locomotive conversion, Egyptian state railways. *il Engineer* 156:58 J1 21 '33
- Locomotive building in 1932. *il diags Engineer* 155:4-6, supp 8 Ja 6 '33
- L.M.S. 4-6-2 passenger locomotive. *il diag Engineer* 156:16 J1 7 '33; *Engineering* 136:21-2 J1 7 '33
- L.M.S. saddle tank locomotives. *il Engineer* 155:151 F 10 '33
- Motive power obsolescence high. *il Ry Age* 95:593-6 O 28 '33
- Potential rail-equipment market. *Barron's* 13:6 Mr 6 '33
- Reibungsbetrieb auf zahnradstrecken; 1E1-einheits-tenderlokomotiven der Deutschen reichsbahn. E. Wohllebe. *Zeit Ver Deutsch Ing* 77:904 Ag 19 '33
- 2-8-2 Mikado freight locomotive for China. *il diag Engineer* 155:200-1 F 24 '33

**See also**

- |                      |                       |
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| Electric locomotives | Motor cars (railroad) |
| Locomotive boilers   | Steam engines         |
| and other headings   | Stokers, Mechanical   |
| beginning Locomotive | Tractors              |

**Axles**

- Extensive study of axle failures. H. Diergarten. *Metal Prog* 23:48-9+ Ja '33

**Bearings**

- Adequate seals mean longer bearing life for mine locomotives. C. A. Atwell. *diags Coal Age* 38:339-41 O '33
- Anti-friction bearings in railway service. J. R. Jackson. *il Ry Age* 95:30-1 J1 1 '33
- Journal bearing performance improved by research; Railway service & supply co. *il diag Ry Mech Eng* 107:122-5 Ap '33
- Roller bearings applied to trailer trucks. *il Ry Mech Eng* 107:224-5 Je '33
- Roller bearings on driving journals show economies. H. E. Brunner and B. W. Taylor. *il diags Ry Mech Eng* 106:451-6 N '32; Same cond. *Ry Age* 93:421-5 S 24 '32

**Boosters**

- Howard L. Ingersoll honored by Franklin institute for development of the locomotive booster. *Ry Age* 94:796+ Je 3 '33

**Cleaning**

- Davidson and co. vacuum smoke-box cleanser at Willesden. *il diags Engineer* 156:166-7 Ag 18 '33

**Cost of operation**

- Controlling maintenance expenses by locomotive design. H. J. Titus. *Ry Mech Eng* 107:277-81+ Ag '33; Same. *Ry Age* 95:280-5 Ag 19 '33
- Controlling the cost of locomotive maintenance. O. E. Ward. *Ry Mech Eng* 107:285-6+ Ag '33

**Counterbalance**

- Filling driving-wheel counterbalance spaces. *diags Ry Mech Eng* 107:176-7 My '33
- Keeping lead in counterbalances. B. A. Howard. *Ry Mech Eng* 107:168-9 My '33

**Crossheads**

- Multiple bearing crossheads on C. & O. 2-10-4 locomotives. *il diags Ry Mech Eng* 107:139-41 Ap '33

**Design**

- Air resistance of locomotives; editorial. *Engineer* 155:453 My 5 '33
- A.R.A. mechanical division committee report on locomotive construction. *Ry Mech Eng* 107:246-7 J1 '33
- Articulated express locomotive for Algeria. *il diag Engineer* 154:480 N 11 '32
- Controlling maintenance expenses by locomotive design. H. J. Titus. *Ry Mech Eng* 107:277-81+ Ag '33; Same. *Ry Age* 95:280-5 Ag 19 '33
- Delaware & Hudson develops triple-expansion locomotive. *il diags Ry Mech Eng* 107:193-201 Je '33; Same cond. *Ry Age* 94:854-7 Je 17 '33

- Geometrical analysis of locomotive curving action. W. E. Burdick. *Ry Mech Eng* 107:315-17 S '33

- Henschel condensing locomotive on the Argentine state railways. *il Engineering* 135:516, 517-18 My 12 '33

- High-pressure condensing steam locomotive design. *diags Ry Age* 95:465-7 S 30 '33

- Locomotive à vapeur articulée, à grande puissance, système Franco. *il diag Génie Civil* 102:377-9 Ap 22 '33

- Locomotive running gear and counterbalancing. A. G. Trumbull. *Ry Age* 95:26-7 J1 1 '33

- L.M.S. compounds. F. W. Brewer. *il Engineer* 155:421-2 Ap 28 '33

- Mallet type locomotives. E. C. Poultney. *il Engineer* 154:504-6, 528-9 N 18-25 '32

- Modern European locomotive practice. B. Reed. *il diag Engineer* 156:176-9, 186, 200-3 Ag 25-S 1 '33

- Modern trends in motive power. W. C. Dickerman. *il diag Ry Age* 94:620-3 Ap 29 '33

- Multi-pressure locomotive on the Canadian-Pacific. J. B. Ennis. *il diags Ry Mech Eng* 106:491-6 D '32; Excerpts. *Ry Age* 93:328-30 S 3 '32

- Neue lokomotivbauarten der Türkischen staatsbahnen. *diag Zeit Ver Deutsch Ing* 77:624-5 Je 10 '33

- New French locomotive. *il diag Engineer* 155:507 My 19 '33; Abstract. *Mech Eng* 55:584 S '33

- La nouvelle locomotive, type Mountain, des chemins de fer de l'Etat français. H. Martin. *il diags Génie Civil* 102:197-200 Mr 4 '33

- Principles in the design of locomotive spring rigging. K. F. McCall. *diags Ry Mech Eng* 107:318-22+ S '33

- Railroad mechanical engineering; condensed from the 1932 progress report, of the A.S.M.E. railroad division. *il Mech Eng* 54:854-5 D '32

- Research related to locomotive development. W. E. Woodard. *il Ry Age* 95:24-5 J1 1 '33

- Roller bearings on driving journals show economies. H. E. Brunner and B. W. Taylor. *il diags Ry Mech Eng* 106:451-6 N '32; Same cond. *Ry Age* 93:421-5 S 24 '32

- Three cylinder compound locomotive; Great northern railway (Ireland). *il diags supp Engineer* 155:98-9 Ja 27 '33

- Wind tunnel tests of locomotive models; abstracts. J. J. Green. *il diags Engineer* 155:385-6 Ap 14 '33; *Ry Mech Eng* 107:149-54, 204-11 My-Je '33

**Draft**

- Draft appliance reclaims cinders. *il diags Ry Age* 94:901-2 Je 24 '33; Same. *Ry Mech Eng* 107:288-9 Ag '33

- Relation between draft and evaporation. E. L. Schellens. *Ry Mech Eng* 107:53-4 F '33; Discussion. W. A. Pownall. 107:131-2 Ap '33

**Driving wheels****See Locomotives—Wheels****Equipment**

- Cab signals in Europe. V. Vlaikoff. *Ry Age* 94:18-19 Ja 7 '33

- Controlling coal consumption; description of operation and service results of the Loco valve pilot. J. L. Bacon. *diag Ry Mech Eng* 106:485-7 D '32

- Locomotive accessories. C. H. Bilty. *Ry Age* 95:29-30 J1 1 '33

- Locomotive steam pipe casing. *diags Ry Mech Eng* 107:163-4 My '33; Same. *Ry Age* 94:770 My 27 '33

- Releasing driver brakes quickly. *diags Ry Mech Eng* 107:377 O '33

**Exhaust**

- Les progrès récents réalisés dans l'échappement des locomotives; l'échappement Kylchap. R. Godfernaux. *diag Génie Civil* 103:187-8 Ag 19 '33



## LOCOMOTIVES—Continued

## Failures

Bureau of locomotive inspection 21st annual report; abstracts. A. G. Pack. *il Ry Mech Eng* 107:1-3 Ja '33; *Ry Age* 93:943-4 D 24 '32

## Frames

Optical method of lining-up locomotive frames. *il diags Engineering* 136:139-41, pl 6 Ag 11 '33

Welding of locomotive frames. *il Iron Age* 132:24 S 14 '33

## Front ends

Draft appliance reclaims cinders. *il diags Ry Age* 94:901-2 Je 24 '33; Same. *Ry Mech Eng* 107:288-9 Ag '33

Grate design and smoke prevention. J. W. Hulson. *Ry Mech Eng* 107:290-1 Ag '33

Soo line tests Cyclone front end. *il diags Ry Age* 94:723-5 My 20 '33; Abstract. *Mech Eng* 55:584 S '33

Wabash tests effect of front end and grate design. W. A. Pownall. *diags Ry Age* 95:84-6 Jl 8 '33

## Fuel

Controlling coal consumption; description of operation and service results of the Loco valve pilot. J. L. Bacon. *diag Ry Mech Eng* 106:485-7 D '32

Cost of railway materials reduced in 1932. D. A. Steel. *il Ry Age* 94:165-70 F 4 '33

Les dépenses de charbon des Chemins de fer français, et les moyens de les réduire. Godfernaux. *Génie Civil* 101:532-3 N 26 '32

Les formes nouvelles d'emploi du charbon pulvérisé. C. Berthelot. *diag Génie Civil* 103:202-3 Ag 26 '33

Railway traction in relation to the oil industry. G. M. Barrett. *Inst Pet Tech J* 19:725-6 Ag '33

## Gearing

Freight locomotives use ground tooth gears. G. E. Katzenmeyer. *il Am Mach* 77:552-4 Ag 30 '33

## High pressure

C.P.R. multi-pressure locomotive; its operation and maintenance. H. B. Bowen. *Ry Age* 93:330-2+ S 3 '32; Same abr. *Ry Mech Eng* 106:495, 497-8 D '32

C.P.R. multi-pressure locomotive no. 8000. H. Holcroft. *Ry Mech Eng* 107:169 My '33

Delaware & Hudson develops triple-expansion locomotive. *il diags Ry Mech Eng* 107:193-201 Je '33; Same cond. *Ry Age* 94:854-7 Je 17 '33

4-6-2-type four-cylinder compound express locomotives for the German state railways. *il Engineering* 136:49-50 Jl 14 '33

High-pressure condensing steam locomotive design. *diags Ry Age* 95:465-7 S 30 '33

Multi-pressure locomotive on the Canadian-Pacific. J. B. Ennis. *il diags Ry Mech Eng* 106:491-6 D '32; Excerpts. *Ry Age* 93:323-30 S 3 '32

Three cylinder compound locomotive; Great northern railway (Ireland). *il diags supp Engineer* 155:98-9 Ja 27 '33

## History

Baldwin's first locomotive. S. M. Vauclair. *il Ry Age* 94:70 Ja 21 '33

Father of the steam locomotive. *Ry Mech Eng* 107:165-6 My '33

Locomotives, past, present and future; abstract. L. F. Loree. *J Fr Inst* 216:217-19 Jl '33

Trevithick memorial lecture. C. E. Inglis. *il diags Engineer* 155:418-19, 442-4 Ap 28-My 5 '33

Trevithick's London exhibition railway of 1808. C. R. King. *il plan Engineering* 135:693-5 Je 30 '33

## Inspection

## See also

Interstate commerce commission—  
Bureau of locomotive inspection

## Lubrication

A.R.A. mechanical division committee report on lubrication of cars and locomotives. *Ry Mech Eng* 107:247-8 Jl '33

Christy pneumatic lubricator for engine-truck journals. *il Ry Mech Eng* 107:13+ Ja '33

Vital importance of adequate valve lubrication. W. Smith. *Ry Mech Eng* 107:225-6 Je '33

## Manufacture

Research and development in car and locomotive materials. L. H. Fry. *Ry Age* 95:32+ Jl 1 '33

## Model testing

Wind tunnel tests of locomotive models; abstracts. J. J. Green. *il diags Engineer* 155:385-6 Ap 14 '33; *Ry Mech Eng* 107:149-54, 204-11 My-Je '33; *Mech Eng* 55:315-16 My '33; *Ry Age* 94:695-8 My 13 '33

## Operation

Important void in locomotive operation. *Ry Mech Eng* 107:166-7 My '33

Scientific cut-off control advocated. B. B. Milner. *Ry Mech Eng* 107:260 Jl '33

## Performance

C.P.R. multi-pressure locomotive; its operation and maintenance. H. B. Bowen. *Ry Age* 93:330-2+ S 3 '32; Same abr. *Ry Mech Eng* 106:495, 497-8 D '32

Ermittlung der fahrzeiten von eisenbahnzügen. W. Lubimoff. *Zeit Ver Deutsch Ing* 77:983-4 S 9 '33

French locomotive performance in 1932. R. A. H. C. Monkswell. *il diag Engineering* 135:31-4 Ja 13 '33

Kitson-Still locomotive. *il diags Engineer* 156:238-9 S 8 '33

Die mechanik der zugförderung, entwicklung und neue versuchsergebnisse. H. Nordmann. *Zeit Ver Deutsch Ing* 77:481-3 My 6 '33

Ratios of modern locomotives. A. I. Lipetz. *Ry Mech Eng* 107:86-90, 119-21 Mr-Apr '33; Same cond. *Ry Age* 94:243-7 F 13 '33; Discussion. *Ry Mech Eng* 107:357-63 O '33

Scientific cut-off control improves locomotive performance. J. L. Davidson. *Ry Age* 95:111-14 Jl 15 '33

## Repair

Controlling maintenance expenses by locomotive design. H. J. Titus. *Ry Mech Eng* 107:277-81+ Ag '33; Same. *Ry Age* 95:280-5 Ag 19 '33

Controlling the cost of locomotive maintenance. O. E. Ward. *Ry Mech Eng* 107:285-6+ Ag '33

Gages and burnishing tool for locomotive driving-box maintenance. H. H. Henson. *diags Mach* 39:649-50 Je '33

Grinding operations in locomotive repair. F. B. Jacobs. *il Am Mach* 77:233-5 Ap 12 '33

Locomotive-pipe clamping. *il Ry Mech Eng* 107:28-9 Ja '33

Locomotive wheel drops. L.M.S.R. *il diags Engineer* 155:320-1, 324 Mr 31 '33

Making and keeping crankpins square. F. H. Colvin. *il diag Am Mach* 75:819-20 N 26 '31; Discussion. 76:560-2, 827; 77:147 Ap 28, Jl 6 '32, Mr 1 '33

Measuring driving wheel laterals. F. B. Shafer. *diags Ry Mech Eng* 107:180 My '33

Method of measuring locomotive maintenance and its use in regulation. R. W. Harbeson. *J Land & Pub Util Econ* 9:352-7 N '33

Methods to be used to increase the mileage run by locomotives between two repairs, including lifting. H. Fowler; Student; R. Klatovsky. *Engineer* 155:85-6 Ja 27 '33

Optical method of lining-up locomotive frames. *il diags Engineering* 136:139-41, pl 6 Ag 11 '33

Optics in locomotive repair. F. Loewen. *il diag Am Mach* 77:453-6 Jl 19 '33

Piston rivets—in and out. F. C. Hudson. *il diag Am Mach* 77:561 Ag 30 '33

Portable pedestal miller. R. B. Loveland. *il Ry Mech Eng* 107:103-4 Mr '33

Rebabbitting driving box hub faces. F. M. A'Hearn. *diags Am Mach* 77:154 Mr 1 '33

**LOCOMOTIVES—Repair—Continued**

- Repairing stoker parts. *il Ry Mech Eng* 106:473 N '32  
 Running floating bushings successfully. G. Dempster. *diags Ry Mech Eng* 107:222-3 Je '33  
 Ten to one variations in railroad shop time. *Am Mach* 77:4-5 Ja 4 '33  
 Tightening spring bands—removing saddle bolts. F. L. Huggins. *diag Ry Mech Eng* 107:268-9 Jl '33  
 Two forging operations. *il Ry Mech Eng* 107:177-8 My '33  
 Welding of locomotive frames. *il Iron Age* 132:24 S 14 '33

**Runs**

- Long engine runs; abstract of report. *Ry Age* 94:890 Je 24 '33

**Smoke problem**

- Grate design and smoke prevention. J. W. Hulson. *Ry Mech Eng* 107:290-1 Ag '33

**Springs**

- Automobile type spring used on locomotives. *il Ry Mech Eng* 107:178 My '33  
 Extra-flexible spring hanger. *il diag Ry Mech Eng* 107:102-3 Mr '33  
 Interlocking spring rigging developed on the Texas & Pacific. *il diags Ry Mech Eng* 107:50-2 F '33; *Abstract. Ry Age* 94:361-2 Mr 11 '33  
 Principles in the design of locomotive spring rigging. K. F. McCall. *diags Ry Mech Eng* 107:318-22+ S '33

**Superheaters**

- Ratios of modern locomotives. A. I. Lipetz. *Ry Mech Eng* 107:86-90, 119-21 Mr-Apr '33; Same cond. *Ry Age* 94:243-7 F 18 '33; Discussion. *Ry Mech Eng* 107:357-63 O '33  
 2-6-0 engines for the Northern counties committee, Ireland. *il diags Engineer* 156:96 Jl 28 '33

**Testing**

- L'inauguration du banc d'essais de locomotives de Vitry (Seine). *il diag Génie Civil* 103:160-2 Ag 12 '33  
 Locomotive-testing station at Vitry-sur-Seine, Paris. *il Engineering* 136:118, 124-5 Ag 4 '33  
 Soc line tests Cyclone front end. *il diags Ry Age* 94:723-5 My 20 '33; *Abstract. Mech Eng* 55:584 S '33  
 Wabash tests effect of front end and grate design. W. A. Pownall. *diags Ry Age* 95:84-6 Jl 8 '33

**See also**

- Locomotives—Model testing

**Valves and valve gear**

- Automatic cut-over valve. *diag Ry Mech Eng* 107:164 My '33  
 Barco ball-check reverse-gear joint. *diag Ry Age* 94:903 Je 24 '33; Same. *Ry Mech Eng* 107:203 Je '33  
 Barco type M-1 power reverse gear has poppet exhaust valves. *diag Ry Mech Eng* 106:488 D '32  
 Calculation for setting Baker and Walschaert gears. H. Hopp. *Ry Mech Eng* 106:512-13 D '32; Discussion. L. Skellenger. 107:94 Mr '33  
 Locomotive valves and valve gears. G. S. Edmonds. *il Ry Age* 95:27-9 Jl 1 '33  
 Modern locomotive valves and valve gears analyzed. W. Smith. *diags Ry Mech Eng* 107:9-13, 45-9, 81-5 Ja-Mr '33  
 Power reverse gear required by I.C.C. *Ry Age* 94:83 Ja 21 '33; Excerpts. *Ry Mech Eng* 107:72-3 F '33  
 Scientific cut-off control improves locomotive performance. J. L. Davidson. *Ry Age* 95:111-14 Jl 15 '33  
 Vital importance of adequate valve lubrication. W. Smith. *Ry Mech Eng* 107:225-6 Je '33

**Weighing**

- 168-ton dial-indicator locomotive weigh-bridge. *il Engineering* 136:463 O 27 '33

**Wheels**

- Disk wheels for locomotives. *il Iron Age* 131:501 Mr 30 '33  
 Locomotive and car wheels. C. T. Ripley. *diags Ry Age* 95:19-20 Jl 1 '33  
 New heat treatment for carbon steel locomotive castings. A. W. Gregg. *il Iron Age* 131:192-3+ F 2 '33  
 Optimum diameter of driving wheels. W. E. Dalby. *Engineer* 155:135-6 F 10 '33  
 Railroad tries new type driving wheel. *il Foundry* 61:34 Ja '33  
 Scullin double-disc driving wheel. *il diag Ry Mech Eng* 107:7-8 Ja '33; Same, without table. *Ry Age* 93:902-3 D 17 '32

**LOCOMOTIVES, Compressed air**

- Cost of storage-battery, compressed-air, and gasoline-locomotive transportation. M. J. Elsing. *Eng & Min J* 134:193-5 My '33

**LOCOMOTIVES, Diesel**

- Les applications des moteurs Diesel à la traction sur voie ferrée. G. Delanghe. *il diag Génie Civil* 101:645-51 D 31 '32  
 Automotive engines and cars. L. G. Coleman. *Ry Age* 95:21-2 Jl 1 '33  
 Bituminous coal tar as fuel for Diesel locomotives underground; abstract. Maercks. *diag Mech Eng* 55:505-7 Ag '33  
 Combined water and oil cooler for Diesel locomotives. *il Engineering* 135:287 Mr 10 '33  
 Reliability and economy of the Diesel-engined locomotive and rail coach. A. C. Heap. *Engineering* 135:454-6 Ap 23 '33

**LOCOMOTIVES, Diesel-electric**

- Les applications des moteurs Diesel à la traction sur voie ferrée. G. Delanghe. *il diag Génie Civil* 101:645-51 D 31 '32  
 Armstrong-Whitworth Diesel-electric locomotives. *il Engineering* 134:666-7 D 2 '32  
 British Thomson-Houston 150-b.h.p. Diesel-electric locomotive for Ford motor company's Dagenham works. *il Engineering* 134:718-19 D 16 '32; Electrician 109:785 D 16 '32; *Elec R (Lond)* 111:892 D 16 '32  
 Compression-ignition engine and its applicability to British railway traction. L. F. R. Fell. *il diags Inst Mech Eng Proc* 124:3-33 '33; Same abr. *Engineering* 135:85-8 Ja 20 '33; Excerpts. *Engineer* 155:66-7 Ja 20 '33; *Electrician* 110:66-7 Ja 20 '33; Discussion. *Inst Mech Eng Proc* 124:34-61 '33; *Engineering* 135:79-81 Ja 20 '33; *Engineer* 155:72-3 Ja 20 '33  
 Diesel-electric loco; Alsthom unit for use on the Algiers-Oran railway. *il diag Electrician* 111:441 O 13 '33  
 Diesel-electric locomotive gain on foreign railroad lines; abstracts. *il Nat Pet N* 25:34 F 8 '33; *Comp Air M* 38:4026 Ja '33  
 Diesel-electric switching power for the Burlington. *il Ry Age* 95:663-4 N 4 '33  
 Diesel-electric traction; several types on view at Scotswood. *il Electrician* 109:663-4 N 25 '32; Excerpt. *Elec R (Lond)* 111:777 N 25 '32  
 Diesel-electric trains as a temporary measure; abstract and discussion. C. J. H. Trutch and C. M. Beckett. *Elec R (Lond)* 112:453-4 Mr 31 '33  
 Diesel-electrics. *Electrician* 111:53 Jl 14 '33  
 Dieselelektrische Lokomotive für Russland. E. Hagenbucher. *il diags Zeit Ver Deutsch Ing* 77:1001-4 S 16 '33; Abstract (Diesel-electric locomotives for Russia). *Mech Eng* 55:700-1 N '33  
 Harland and Wolff 270 b.h.p. oil-electric locomotive. *il Engineer* 155:533 My 26 '33  
 Harland and Wolff 270-h.p. heavy-oil locomotive. *il diags Engineering* 136:86-7 Jl 28 '33  
 Locomotive Diesel-électrique Sulzer de 450 ch, des chemins de fer du Siam. *il diags Génie Civil* 102:45-6 Ja 14 '33  
 Les locomotives Diesel-Sulzer de grande puissance pour trains rapides et trains de marchandises. *diags Génie Civil* 103:17-19 Jl 1 '33  
 Oil-electric locomotives and rail cars. *Engineer* 154:543 N 25 '32  
 Oil-electric locomotives; recent American designs of petrol and Diesel-electric types. R. Hedley. *il Electrician* 110:159 F 3 '33



**LOCOMOTIVES, Diesel-electric—Continued**

- Oil-electric units for the Buenos Ayres Great Southern railway. *il* diags Engineering 135: 328-9, 332 Mr 24 '33
- 1400 h.p. Diesel-electric narrow gauge locomotive in Siam. *il* Electrician 110:594 My 5 '33
- Operating results with Diesel locomotives and rail cars. H. D. Bush. Engineering 135:265 Mr 3 '33
- Recent progress of the oil locomotive. *il* diag Engineer 154:638-40 D 23 '32
- Reliability and economy of the Diesel-engined locomotive and rail coach. A. C. Heap. Engineering 135:454-6 Ap 28 '33
- Steam, electric and oil-electric traction. H. W. H. Richards. Engineer 155:282-3 Mr 17 '33; Excerpts. Engineering 135:226 F 24 '33
- 300-hp. Diesel-electric locomotive reduces operating expense; Jay Street connecting railroad. *il* Ry Age 93:975-6 D 31 '32
- Westinghouse builds Diesel locomotive for transfer service. T. H. Murphy. *il* Ry Age 95:531-3 O 14 '33
- Westinghouse Diesel locomotive operated by Northampton & Bath. T. H. Murphy. *il* Ry Age 95:179-81 J1 29 '33

**Control**

- Control features of 115-ton 800-hp. Diesel-electric locomotive on Erie railroad. C. A. Brancke. *il* Gen Elec R 36:364-7 Ag '33

**Testing**

- Performance tests of a 65-ton storage-battery oil-electric industrial switching locomotive. G. H. Shapter. *il* Gen Elec R 36:310-11 J1 '33

**LOCOMOTIVES, Gas and oil**

- Bermuda railway motor freight locomotive. *il* Engineer 155:151 F 10 '33
- Kitson-Still locomotive. *il* diags Engineer 156: 233-9 S 8 '33
- Locomotive building in 1932. *il* diags Engineer 155:4-6, supp 8 Ja 6 '33
- L.M.S. heavy oil shunting locomotive. *il* Engineer 154:570 D 2 '32
- Railway traction in relation to the oil industry. G. M. Barrett. *il* Inst Pet Tech J 19:725-32 Ag '33
- Recent progress of the oil locomotive. *il* diag Engineer 154:638-40 D 23 '32
- 300-h.p. petrol locomotives for the Bermuda railway. *il* diags Engineering 135:676-7, 680 Je 23 '33

**See also**

Locomotives, Diesel

**LOCOMOTIVES, Gasoline-electric**

- Gas-electric drive will displace steam; abstract. F. W. Sargent. Automotive Ind 69: 468 O 14 '33
- Oil-electric locomotives; recent American designs of petrol and Diesel-electric types. R. Hedley. *il* Electrician 110:159 F 3 '33

**LOCOMOTIVES, Industrial**

- British Thomson-Houston 150-b.h.p. Diesel-electric locomotive for Ford motor company's Dagenham works. *il* Engineering 134:718-19 D 16 '32; Electrician 109:785 D 16 '32; Elec R (Lond) 111:892 D 16 '32
- 300-hp. Diesel-electric locomotive reduces operating expense; Jay Street connecting railroad. *il* Ry Age 93:975-6 D 31 '32

**See also**

Electric locomotives,  
Industrial  
Locomotives, Mine

**Testing**

- Performance tests of a 65-ton storage-battery oil-electric industrial switching locomotive. G. H. Shapter. *il* Gen Elec R 36:310-11 J1 '33

**LOCOMOTIVES, Mine**

- Adequate seals mean longer bearing life for mine locomotives. C. A. Atwell. diags Coal Age 38:339-41 O '33
- Bituminous coal tar as fuel for Diesel locomotives underground; abstract. Maercks. *diag* Mech Eng 55:505-7 Ag '33
- Cost of storage-battery, compressed-air, and gasoline-locomotive transportation. M. J. Elsing. Eng & Min J 134:191-4 My '33

Revising locomotive parts saves wear. *diag* Coal Age 38:274 Ag '33

**See also**

Electric locomotives,  
Mine

**LOCOMOTIVES, Oil-electric**

- Oil-electric locomotives; a comparison of some recent examples. *il* Elec R (Lond) 113:114 J1 28 '33
- Operation of three-power locomotives; D.L. & W. finds motive power suitable for both switching and transfer service. F. H. Craton. *il* map Ry Age 94:363-6 Mr 11 '33
- Railway traction in relation to the oil industry. G. M. Barrett. *il* Inst Pet Tech J 19:725-32 Ag '33

**See also**

Locomotives, Diesel-  
electric

**LOCUSTS**

- Fighting locusts; Argentine fights with miles of metal barriers. Business Week p24 S 30 '33
- Grasshoppers in 1933. W. H. Larrimer. Science 78:sup9-10 O 13 '33

**LODGES**

- Gate Lodge, estate of Carroll L. Wainwright, Easthampton, Long Island; view and plans. Am Arch 142:73 N '32

**LOEW'S, incorporated**

- Loew's, inc. Fortune 6:114 D '32
- Nets \$2.33 on adjusted basis. Barron's 12:9 D 19 '32

**LOG cabins**

- Construction details for a low cost cabin. *il* plans Am Bld 55:24-5 My '33
- Good summer sales help—log cabins. J. Bagley. *il* diags Am Bld 55:58-9 My '33
- Local materials featured in two Wisconsin cabins; views. Am Bld 55:22-3 My '33
- Log cabins; how to build them right. C. B. Wilcox. *il* diags Am Bld 54:33+ F '33

**LOGARITHMIC protractors.** See Protractors, Logarithmic

**LOGARITHMS**

- Logarithms in commerce with sections on annuities and hire-purchase interest. W. Chanin. 70p Pitman '31

McGraw-Hill five-place logarithmic and trigonometric tables. R. D. Beetle, ed. 131p 80c McGraw-Hill '33

**LOGIC of mathematics.** See Mathematics—Philosophy

**LOGIC of physics.** See Physics—Philosophy

**LOGS (ships)**

- Measurement of speed at sea. *il* diags Engineer 156:182-4 Ag 25 '33

**LOGWOOD**

- Logwood and its application. H. R. Tisdale. Am Dyestuff Rep 22:134-6 F 13 '33

New process to determine the degree of oxidation of logwood extracts. P. Heermann. Melland 4:623-4, 666-7 Ja-F '33

**LOKOMBITSIKA**

- Lokombitsika; a natural resin unknown to us. L. W. Greene. Plastic Prod 9:14 Mr '33

**LOMB, Adolph, 1866-1932**

- Sketch. front(por) Opt Soc Am J 22:663-4 D '32

**LONDON, England**

- Planning London. Economist 116:1120-1 My 27 '33

**Architecture**

- London buildings. (English art ser. v 1) F. P. Brown. 100p \$2.50 Pitman '33

**Bridges**

- Proposed scheme for Waterloo bridge. *diag* Engineering 134:603 N 18 '32

**Economic conditions**

- Poverty in East London. Economist 115:1020-2 D 3 '32

**Hospitals**

- British post-graduate hospital and medical school. Science 78:258 S 22 '33

**LONDON, England—Hospitals—Continued**

King's hospital; St Bartholomew the Less, London [1598] rules and ordinances for governing. W. Mucklow. J Account 55:443-58 Je '33

**Railroads**

Paddington station improvements. il diags Engineering 136:403, 404-6, 457-9, 466, 592, 593 pl 14, 16 O 13, 27, D 1 '33

**Rapid transit**

London passenger transport stocks. Economist 116:755-6 Ap 8 '33

London transport bill. Economist 116:28-9 Ja 7 '33

Metropolitan railway's Stanmore extension. il Elec R (Lond) 111:856 D 9 '32

Metropolitan Stanmore extension. il map Electrician 109:783-4 D 16 '32

Stanmore branch of the Metropolitan railway. il Engineering 134:717-18 D 16 '32

Underground assets distribution. Economist 117:84 Jl 8 '33

Underground group; the burden of taxation. Economist 116:431 F 25 '33

**Subways**

Electric traction; the Prince of Wales inspects the London electric railway. Electrician 110:238 F 17 '33

Extension of the Piccadilly tube. Engineer 155:272 Mr 17 '33; Electrician 110:356 Mr 17 '33

**LONDON and Lancashire insurance company**  
Ordinary general meeting, 71st, London. Economist 116:983-4 My 6 '33; Excerpts. Ins Field (Fire ed) 62:8+ My 18 '33

**LONDON and suburban traction company, limited**  
Position under London transport bill. Economist 115:1203-4 D 24 '32

**LONDON maritime investment company**  
Annual ordinary general meeting, 35th. Economist 115:899 N 12 '32

**LONDON Midland and Scottish railway company**  
Annual general meeting, London. Economist 116:483-6 Mr 4 '33

**LONDON stock exchange**  
No stock exchange reform. Economist 116:29 Ja 7 '33

Stock exchange. Economist 116:sup11-12 F 18 '33

Stock exchange half-year. Economist 117:24-5 Jl 1 '33

Stock exchange reform. Economist 116:815-16 Ap 15 '33

Week in the markets. Published in weekly numbers of Economist

**LONDON university**  
New building for the Department of zoology at the University of London. Science 78:6 Jl 7 '33

**LONDONDERRY, Ireland**

**Bridges**

Craigavon bridge. il diag Engineer 156:72 Jl 21 '33

**LONG BEACH, California**

**Railroads**

Builds cutoff to take traffic from city streets; project of the Los Angeles & Salt Lake at Long Beach. il map Ry Age 94:506-8 Ap 8 '33

**Sanitary affairs**

Emergency sanitation following the California earthquake. Pub Works 64:41 Jl '33

**Water supply**

Steel reservoirs for Long Beach. B. Harmon. Am Water Works Assn J 25:1230-3 S '33

Treatment of water supply after Long Beach earthquake. R. F. Goudey. il Eng N 111:502-3 O 26 '33

**LONG ISLAND, New York**  
Super-roads to serve a pleasure-land. C. U. Powell. il maps Eng N 110:209-12 F 16 '33

**LONGEVITY**  
Decrease of tuberculosis. Science 78:sup8 Ag 18 '33

Is longevity compatible with optimum growth? C. M. McCay. Science 77:410-11 Ap 28 '33

Nutrition in relation to expectation of life; abstract. H. C. Sherman. Science 78:sup8 S 15 '33

**See also**

Hygiene

Old age

**LONGSHOREMEN**

Effect of fatigue on production rate in long-shore labor needs study. H. E. Stocker. Marine R 63:28-9 O '33

How safety and cost of cargo handling are under supervisory control. A. Banscher. il Marine R 63:32-3 Ag '33

Wage rates of port workers in the Netherlands. C. L. Hoover. Monthly Labor R 35:1417-18 D '32

**LOOMS**

Adapting the looms for weaving special colored goods patterns. H. D. Martin. Textile Col 55:607+ S '33

Advice to weave room for improving operation of cotton looms. M. Meek. il Textile World 83:914-15 My '33

Cotton textile machine industry—American loom builders. J. T. Lincoln. Harvard Business R 12:94-105 O '33

History of the Northrop loom. Textile Inst J 24:P71-2 Ap '33

Improvements in ribbon loom construction. F. Klages. il diags Melland 4:561-4 D '32

Kraftbedarf und ungleichförmigkeitsgrad beim webstuhl. F. Oertel. diags Zeit Ver Deutsch Ing 77:437-41 Ap 29 '33

Loom test; correcting causes of machine stoppage. R. White. Textile World 83:1622, 1992 S, N '33

Loom upkeep reduced by correct settings. M. Meek. Textile World 83:1090 Je '33

New light on the development of early American power loom. J. T. Lincoln. diags Textile World 83:46-7 Ja '33

Picker straps from scrap. G. Rice. il Textile World 83:73 Ja '33

Rechnerische und messtechnische untersuchung über den lauf des mechanischen webstuhls. E. Honegger. diags Zeit Ver Deutsch Ing 77:585-90 Je 3 '33

Rocker-shaft trouble satisfactorily remedied on silk and rayon looms. H. E. Wenrich. diags Textile World 83:69 Ja '33

Stop the loom! silk and rayon crepes require accurate brake adjustment. H. E. Wenrich. il Textile World 83:1082-3 Je '33

Timing lock knife and repairing wool-loom vibrators. B. F. Hayes. il Textile World 82:971 N '32

**See also**

Weaving

**LOOSE-WILES biscuit company**

Strong equities for income and profit. Mag of Wall St 52:584 S 30 '33

**LOREE, Leonor Fresnel**

Bear in the merger shop; Loree's acquisition of New York Central stock makes him the center of the rail consolidation problem. por Business Week p14, 16 F 8 '33

**LORIENT, Brittany****Harbor**

650-ton marine turntable slipway, port of Lorient-Kéroman. il diags Engineering 135:559-61, 572, 629-30 pl 33 My 26, Je 9 '33

Le slipway de 650 tonnes, à garages rayonnants, du port de pêche de Lorient. il diags Génie Civil 103:221-5 S 2 '33

**LOROL**

Aliphatic hydrocarbons in lorol. J. R. Ruhoff. Am Chem Soc J 55:3889-90 S '33

**LOS ANGELES, California****Bureau of power and light**

Los Angeles bureau of power and light; a critical summary. M. G. Glaeser. J Land & Pub Util Econ 9:217-27 Ag '33

**Harbor**

New marine terminal at Los Angeles. G. F. Nicholson and E. C. Earle. il diag Eng N 110:305-7 Mr 9 '33



## LOS ANGELES, California—Continued

## Public library

Dean Cornwell's murals for the Los Angeles library; illustrations. Architecture 67:327-30 Je '33

## Sanitary affairs

Refuse collection and disposal in Los Angeles. Pub Works 64:39-41 N '33

## Sewerage

Completing the longest continuous gravity sewer in the United States. S. S. Ball. il Pub Works 64:9-10+ F '33

## Water and power department

Financing public utilities. H. A. Van Norman. Am Water Works Assn J 25:315-20 Mr '33

## Water supply

Beautification of water works properties. W. W. Hurlbut. Am Water Works Assn J 25:847-50 Je '33

Building a new reservoir for Los Angeles. il Pub Works 64:42 Jl '33

Expansion of the Los Angeles distribution system. W. W. Hurlbut. maps Am Water Works Assn J 24:1684-96; Discussion. 1696-9 N '32

Increasing the capacity of the Los Angeles aqueduct. J. E. Phillips. Am Water Works Assn J 25:1047-52 Ag '33

Value of water in southern California; a historical résumé of the cost of its development for irrigation and domestic use. F. Thomas. il map Civil Eng 3:555-9 O '33

## LOS ANGELES county, California

Cycles in real estate activity. L. A. Maverick. J Land & Pub Util Econ 9:52-6 F '33

## LOSS leaders. See Price cutting

## LOST mines. See Mines and mineral resources —Lost mines

## LOTIONS

## See also

Mosquito lotions

## LOTTERIES

If the Sweeps come—advertising may harvest some rich and spectacular accounts. J. J. McCarthy. il Adv & Sell 22:23 N 9 '33

Lotería nacional para la beneficencia pública; the tale of a lottery which is sober, respectable and philanthropic. il Fortune 6: 80-4+ D '32

The odds. Economist 116:1290-1 Je 17 '33

## LOUD speaking apparatus

Demonstration equipment; Bell system. il System and Management Methods 62:351 Ag '33

Discussion on the Amplitude of driven loud speaker cones by M. J. O. Strutt. Inst Radio Eng Proc 21:312-14 F '33

Giant's voice; loud-speaker unit that employs a vibrating grating. I. J. Saxl. il Radio N 14:399-401+ Ja '33

Home Life uses novel broadcast to field; telephone amplifier used. East Underw 34: 5 S 8 '33; Nat Underw (Life ed) 37:1+ S 8 '33

How to build a rack and panel public address system. W. C. Dorf. il diags Radio N 14: 470-1+, 536-7+, 604-5+ F-Ap '33

Mixing circuits for public address systems. G. E. Fleming. il diags Radio N 15:271-2+, 341+ N-D '33

Mobile P. A. systems. Z. Bouck. il Radio N 14:748-9 Je '33

Perfect quality and auditory perspective in the transmission and reproduction of music. F. B. Jewett. diags Science 77:435-40 My 12 '33

Private broadcast system to get all employees behind every sales drive; Mills novelty company of Chicago. W. A. Kittredge. il Ptd Salesmanship 62:30-2 S '33

Radio and acoustics. I. J. Saxl. il Radio N 14:711-12 Je '33

Radio ears for the deaf. S. G. Taylor. il diags Radio N 15:328-31+ D '33

Reproduction of music by new methods. Science 77:sup6 Ap 21 '33

Talking picture and address system installed on the liner Manhattan. W. Whitmore. il Marine R 63:20-1 F '33

Universal a.c.-d.c. or battery operated portable P.A. system. L. Littman. il diag Radio N 15:156+ S '33

Voice from the sky. W. B. Nichols. il Safety Eng 64:213 N '32

## See also

Microphones

Radio loud speakers

## LOUISIANA

## See also

Gas, Natural—Louisiana and trade—Louisiana

LOUISIANA state capitol. See Capitols

LOUISVILLE, Kentucky

## Water supply

Elevated storage at Louisville. C. B. Burdick. Am Water Works Assn J 25:909-15 Jl '33

Elevated storage at Louisville cuts peak-hour pumpage. Eng N 110:681 My 25 '33

## LOUISVILLE &amp; Nashville railroad

Beginning of the L & N; the development of the Louisville and Nashville railroad and its Memphis branches from 1836 to 1860. T. D. Clark. 107p Standard ptg. co, inc, Louisville, Ky. '33

Louisville & Nashville R.R. and the Central South. il map Ry Age 93:sup187-90 D 3 '32

## LOW temperature. See Temperature, Low

## LOW temperature carbonisation, limited

Annual general meeting, 15th, London. Economist 115:1163-4 D 17 '32

## LOYALTY group

Annual statement, 1932. Spectator 130:29+ Mr 30 '33

## LUBRICATING greases

Flow of petroleum lubricating greases; abstract. M. H. Arveson. Oil & Gas J 32:34 S 14 '33

Grease industry has its grand old man, A. J. Stevens. Pet Age 27:19-22 O '33

Lubricants required on 1933 cars. Nat Pet N 25:31-2 Ja 25 '33

Lubricating properties of greases from petroleum oils. F. H. Rhodes and H. D. Allen. diags Ind & Eng Chem 25:1275-80 N '33

More grease sales. J. B. Rathbun. Pet Age 27:12+ Ag '33

Rubber greases. Rubber Age 32:135-6 N 25 '32

See also National lubricating grease manufacturers association, inc.

## Manufacture

It's up to the cook! J. B. Rathbun. Pet Age 27:28-9+ Jl '33

Rate of cooling large factor in manufacture of greases. F. J. Licata. bibliog il Nat Pet N 25:23-5 Je 7 '33

Recent progress in petroleum refining—lubricating oils and greases; abstract. G. Reid. Mech Eng 55:189-90 Mr '33

## Testing

Consistency control of soft and stringy greases. E. R. Lederer and E. W. Zublin. diag Nat Pet N 25:36 S 13 '33

Determination of the consistency of fluid and semi-fluid greases by the Gardner mobilometer. E. W. Nelson. Nat Pet N 25:25-6+ O 4 '33

## LUBRICATING oil industry

Advantages of handling motor oil in cans to refiners, compounders. R. B. Stafford. il Nat Pet N 25:33-4 S 20 '33

Bootleg-proof can gives oil firms 35 to 50 per cent more sales. il Sales Management 32: 616+ Je 15 '33

Canfield markets motor oil in cans like food. il Nat Pet N 24:24 O 26 '32; Pet Age 26:47 N '32

Canned oil. Business Week p9 F 1 '33

Canned oil builds confidence, Kendall dealers reported. Nat Pet N 25:57 Je 14 '33

Canned sales talk used to promote sale of packaged goods. J. Westsmith. il Nat Pet N 25:39-40+ Jl 12 '33

**LUBRICATING oil industry—Continued**

Competing with chain store oil with bulk oil at stations. F. C. Cole. Nat Pet N 25:36 Ap 12 '33

Energetic merchandising boosts Pennsylvania sales 70% in depression years. R. B. Stafford. il Nat Pet N 25:83-4+ Mr 15 '33

Fight oil bootleggers with packaged product; sealed cans. il Ptr Ink Mo 27:42+ J1 '33

Grocery chain distribution trebles Radbill oil sales. il Sales Management 32:208-9+ Mr 1 '33

How a small refiner handles consignments to dealers. A. A. Hines. Nat Pet N 25:51 J1 26 '33

How McColl boosted its lube sales. Pet Age 26:18-19 D '32

Jobbers add new outlets with canned oils. il Nat Pet N 25:60-2 S 20 '33

Many types of containers used in selling Pennsylvania oils. il Nat Pet N 25:116 Mr 15 '33

New markets for Pennsylvania grade oils and fuels. W. C. McCreary. Nat Pet N 25:24-5 J1 5 '33

New program of Pennsylvania grade crude oil association helps refiners and marketers. P. Truesdell. Nat Pet N 25:33-4+ Mr 15 '33

Oil marketed in glass. il Glass Ind 14:109+ O '33

Oil sales ratios increase with two-gallon can. Nat Pet N 25:21 My 3 '33

Our 500 million dollar lubrication market—is it slipping? G. P. Shillinger. Pet Age 27:16-17+ Ja '33

Over 1800 eastern dealers organized; movement reported spreading. R. B. Stafford. Nat Pet N 24:17-18 N 30 '32

Pennsylvania refiner to expand sale of oil in cans. Oil & Gas J 31:29 F 9 '33

Procedure to market lubricants through an agent for further manufacture. Oil & Gas J 32:26 J1 20 '33

Public responds to canned oil; station sales increase. E. L. Barringer. il Nat Pet N 25:52-3+ S 20 '33

Sinclair method of eliminating bootlegging with motor oils in sealed cans is successful. R. C. Conine. il Oil & Gas J 31:12-13 Mr 2 '33

Six companies package quality oil in sealed metal containers. E. L. Barringer. Nat Pet N 25:13 Ap 19 '33

Special crudes are selected for Mid-continent lubes. Nat Pet N 25:106-7 My 17 '33

S. O. Indiana cuts lube prices; introduces new Iso-Vis D. Nat Pet N 25:23 Ap 26 '33

Stations turn to 2-gallon cans to bring oil sales back. Nat Pet N 25:45+ Ap 26 '33

Tin can giants widen oil invasion; win Sinclair, Tide Water, Gulf. il Sales Management 33:256+ S 15 '33

Trade fights outsiders in motor oil. Pet Age 27:19 My '33

Trends in marketing practices; changes in policies of Standard oil company, Indiana. A. Jackson. Nat Pet N 25:9-11 My 24 '33; Same cond. Oil & Gas J 32:10+ My 25 '33

Try winning back oil sales with two-gallon packages. Nat Pet N 25:16 Mr 1 '33

Who is getting the motor oil business—and why? Pet Age 27:18-19+ Mr '33

**Advertising**

Advertising helps for dealers feature John Held drawings. il Nat Pet N 25:47 Ap 26 '33

Beating the chain stores at their own game: low-priced oil. il Pet Age 26:16-17 N '32

Introduce new product with games; Denver powerine company. Pet Age 27:41 Ja '33

Kendall fights bootleg oil with new refinery-sealed can. il Ptr Ink 163:28 Ap 27 '33

Mobil oil movies. il Ptr Ink 163:20+ My 25 '33

Oil jobber helps customers serve their trade. il Pet Age 26:20-1 N '32

Pennzoil fight on oil bootleggers doubles its sales outlets in year. Sales Management 32:330 Ap 1 '33

Radio, signs, and mail help dealers sell oil; Bartles-Shepard oil co. E. L. Barringer. Nat Pet N 25:92-3 Mr 15 '33

Sinclair dinosaur advertises drive on bootleggers. il Nat Pet N 25:39 F 8 '33

Why oil association will enlarge its advertising program; Pennsylvania grade crude oil association. T. O. Grisell. il Ptr Ink 162:32-3+ Mr 30 '33

**Service**

Saving money in buying and using motor truck fuels and lubricants; engineering service of gasoline and oil industries. il Food Ind 5:268-72 J1 '33

**Statistics**

Average motor oil consumption? Here are estimates and why. Nat Pet N 25:36 Ap 19 '33

**LUBRICATING oils**

Air conditioning—the lubrication factor. Heat & Ven 30:34-7 J1 '33

Barrel rack reduces oil storage floor space; machine shop of the Ingersoll milling machine co. il Iron Age 131:853 Je 1 '33

Carbon removal important requirement of top cylinder lubricants. D. H. Foster. Nat Pet N 25:66 Ap 12 '33; Same. Oil & Gas J 31:38+ Ap 6 '33

Diesel engine lubrication. A. N. Kenworthy. Power Pl Eng 37:397-8 S '33

Effect of paraffin on wax crystal structure. G. H. B. Davis. il Nat Pet N 24:32+ D 28 '32

Explain relation of lubricant and fuel to carbon formation with special reference to gum. P. W. Stroud. bibliog Oil & Gas J 31:12+ Ap 6 '33; Abstract. Mech Eng 55:508 Ag '33

Factors affecting oil consumption; abstract. J. P. Stewart and T. H. Risk. Oil & Gas J 32:33 S 7 '33

Gravity index for lubricating oils; relation between viscosity index and viscosity-gravity constant. W. B. McCluer and M. R. Fenske. Ind & Eng Chem 24:1371-4 D '32

Heavy residuals are main lubricating component of motor oils. P. M. Robinson. Nat Pet N 25:29-30+ J1 5 '33

How the automobile industry can help itself by helping the oil industry. A. L. Clayden. il Automotive Ind 69:586-9 N 11 '33; Same. Oil & Gas J 32:84-5+ O 26 '33

Lubricants and allied oils. E. A. Evans. 2d ed 175p 9s 6d Chapman & Hall, Ltd, London '33

Lubricants required on 1933 cars. Nat Pet N 25:31-2 Ja 25 '33

Lubricating oils evolved by the Anglo-American oil co. Automobile Eng 23:186 My '33

New turbine oils guaranteed to last life of engines. Oil & Gas J 31:27 Mr 2 '33

New winter oils—a step in right direction. J. B. Rathbun. Pet Age 27:32-3 O '33

Newer methods, to further enhance value of Pennsylvania products, open to refiners; annual meeting of Pennsylvania grade crude oil association. Nat Pet N 25:26-8 J1 5 '33

Oiliness in lubrication. H. N. Bassett. Automobile Eng 22:575-6 D '32

Oils for anti-friction bearings. L. R. Baker. Power Pl Eng 37:443-4 O '33

Pennsylvania oils figure in record flights and speed events. Nat Pet N 25:68 Mr 15 '33

Petroleum—from well to consumer; abstract. F. J. Slee. Engineering 136:408 O 13 '33

Petroleum motor oil wins at Indianapolis. J. B. Rathbun. Pet Age 27:23-4+ Je '33

Progress of naphthology, 1932; lubricants and lubrication. A. R. Bowen. bibliog Inst Pet Tech J 19:578-91 J1 '33

Refiners approve proposed new winter lubricating oils. Nat Pet N 25:28-9 N 8 '33

Refining used automobile lubrication oil. E. C. Pattee. bibliog Nat Pet N 25:29-31 J1 12 '33; Abstract. Mech Eng 55:638 O '33

Relationship between mole fractions and absolute viscosities of blended lubricating oils. E. R. Epperson and H. L. Dunlap. Ind & Eng Chem 24:1369-71 D '32

Relationship between mole fractions and absolute viscosities of blended lubricating oils. C. I. Kelly. Ind & Eng Chem 25:592-3 My '33

Rerefining of crankcase oil not a simple process. Oil & Gas J 31:22+ My 11 '33



**LUBRICATING oils—Continued**

- Schmieröle für hochwertige verbrennungsmotoren. W. Mangold. Zeit Ver Deutsch Ing 76:1333-4 N 12 '32
- Service dictates engine design changes. J. Geschelin. Automotive Ind 68:670-3 Je 3 '33
- Service needs foreshadow wider use of lighter engine oils; joint symposium of the S.A.E. and A.S.T.M. Automotive Ind 68:338-9+ Mr 18 '33; Nat Pet N 25:22 Mr 22 '33; S A E J 32:sup30-1 My '33
- Two new winter oils proposed to solve starting problem. Nat Pet N 25:25 O 18 '33; Same abr. Oil & Gas J 32:26 O 19 '33; Same abr. S A E J 33:38 N '33; Same cond. Automotive Ind 69:550 N 4 '33
- Viscosity blending and dilution charts for use in compounding lubricants. C. M. Larson. Oil & Gas J 31:37 N 24 '32
- What scientists are doing about motor oils; papers at joint meeting of the American society of testing engineers and the metropolitan section of the S.A.E. Pet Age 27:38-9+ S '33

**Analysis**

- Analysis of mineral lubricating oils by fractionation with acetone. M. Nottage. Inst Pet Tech J 18:943-52 N '32
- Determination of lead in grease and oil containing lead soap. A. D. Bauer and C. S. Ford. Nat Pet N 25:37 S 13 '33

**Color**

- Photoelectric colorimeter for measuring color intensities of liquid petroleum products. B. W. Story and V. A. Kalichevsky. diag Ind & Eng Chem Anal ed 5:214-17 My 15 '33
- Study of the refining of a Burmah crude oil with special regard to the colour reversion characteristics of the lubricating oil distillates. A. R. Bowen. bibliog Inst Pet Tech J 19:364-75 My '33

**Manufacture**

- Accounts of an oil company. H. G. Humphreys. J Account 56:271-6 O '33
- Application of solvent extraction methods for the improvement of lubricating oil quality. J. W. Poole and J. M. Wadsworth. flow sheet Oil & Gas J 32:49-50, 52 O 26 '33
- British fuel research board investigates production of lubricating oil from low-temperature tars. C. H. S. Tupholme. Ind & Eng Chem News ed 11:163 My 20 '33
- Centrifuge dewaxing with trichlorethylene. C. F. Pester. Am Pet Inst Proc 14M(3): 4-6 My '33; Same. Oil & Gas J 32:52+ My 25 '33
- Chemistry and engineering bring rapid developments in refining industry. A. L. Foster. il Nat Pet N 24:26-8 N 16 '32
- Commercial application of chlorex process in the manufacture of high grade motor oils. W. H. Bahlke, A. B. Brown and F. F. Diwokey. il diag Oil & Gas J 32:60+ O 26 '33
- Dewaxing oils in propane solution with self-refrigeration. W. H. Bahlke, R. N. Giles and C. E. Adams. flow diag il diag Am Pet Inst Proc 14M(3):16-23 My '33; Excerpt. Nat Pet N 25:37, 38-9 My 17 '33
- Duo-sol lube extraction process eliminates acid treating. M. B. Miller. il Nat Pet N 25:26-8 O 11 '33; Same. Oil & Gas J 32:11+ O 12 '33
- Filtering wax from petroleum oils with filter aid. W. P. Gee. plans Am Pet Inst Proc 14M(3):24-31 My '33
- Laboratory control of the quality of paraffin distillate. L. L. Davis and D. S. Campbell. bibliog il Am Pet Inst Proc 14M(3):32-9 My '33; Same. Oil & Gas J 32:49-50+ My 25 '33; Discussion. Am Pet Inst Proc 14M(3): 39-42 My '33
- Lube solvents absorb refiners attention at A.P.I. meet. Nat Pet N 25:26+ N 1 '33
- Lubricating oils in contact with clays; effect of time at elevated temperatures. V. A. Kalichevsky and J. W. Ramsay. diag Ind & Eng Chem 25:941-3 Ag '33
- Lummus announces new lube-asphalt process. Nat Pet N 25:25 Je 7 '33

- Many types of conveyors are available to meet lubricating oil canning requirement. E. F. Morgan. il Nat Pet N 25:47-8+ S 20 '33
- New distillation unit increases yield of lubricating oils. P. Truesdell. il Chem & Met Eng 40:517-19 O '33
- New process enables refiners to obtain large yields of lubricating stock and asphalt. C. O. Willson. il Oil & Gas J 32:94 My 25 '33
- New processes increase viscosity index, other properties of Pennsylvania oils. M. R. Fenske. tables Nat Pet N 25:33-6 Jl 5 '33
- New solvent methods of lube manufacture described at A.P.I. meeting. Nat Pet N 24: 22 N 23 '32
- New solvent process employs centrifuge to separate raffinate and extract. J. W. Poole. flow sheet diags Nat Pet N 25:28, 30-5 Ag 16 '33
- Nitrobenzene process for lubricating oils. S. W. Ferris and W. F. Houghton. flow chart diag Am Pet Inst Proc p82-93 sec 3 D '32; Same cond. Oil & Gas J 31:65+ N 17 '32; Excerpts. Nat Pet N 24:25-8+ N 30 '32; Abstract. Automotive Ind 68:79-80 Ja 21 '33
- Production of lubricating oils by extraction with dichloroethyl ether. J. M. Page, C. C. Buchler and S. H. Diggs. il diag Ind & Eng Chem 25:418-22 Ap '33; Same. Nat Pet N 25:35-6+ Ap 5 '33; Same. Oil & Gas J 31:14-15+ Ap 20 '33
- Rapid strides in refining research disclosed at A.P.I. meeting. diag Nat Pet N 25:21-2 My 24 '33
- Recent developments in the Edeleanu process. O. P. Cottrell. Am Pet Inst Proc p94-101 sec 3 D '32; Same cond. Oil & Gas J 31: 10+ D 1 '32; Discussion. Am Pet Inst Proc p101 D '32
- Recent progress in petroleum refining—lubricating oils and greases; abstract. G. Reid. Mech Eng 55:189-90 Mr '33
- Results obtained from use of propane during dewaxing and treating of lubricating oil. U. B. Bray, C. E. Swift and D. E. Carr. Oil & Gas J 32:14-16+ N 2 '33; Abstract. Nat Pet N 25:30-2 N 1 '33
- Self-refrigeration of lubricating oils through use of propane improves their quality. R. C. Conine. il diags Oil & Gas J 31:11+ My 4 '33
- Solvent dewaxing of oils with benzol and acetone. F. X. Govers and G. R. Bryant. flow diag il Am Pet Inst Proc 14M(3):7-15 My '33; Abstract. Nat Pet N 25:38 My 17 '33
- Solvent treatment of distillates is now applied with success to the heavier oil fractions. A. W. Nash. diags Oil & Gas J 31:52-4 Mr 30 '33
- Study of the refining of a Burmah crude oil with special regard to the color reversion characteristics of the lubricating oil distillates. A. R. Bowen. bibliog Inst Pet Tech J 19:364-75 My '33
- Type of equipment and methods used in canning lubricating oils. A. L. Foster. il plan Nat Pet N 25:36+ S 20 '33
- Use furfural as the extraction solvent to make motor oils having low viscosity index. R. E. Manley, B. Y. McCarty and H. H. Gross. flow diags bibliog plan Oil & Gas J 32:78-9, 81-2 O 26 '33; Same cond. Nat Pet N 25:26-8+ O 25 '33
- Use of phenol as a selective solvent in refining lubricating oils. R. K. Stratford, H. H. Moor and O. S. Pokorny. il plan Nat Pet N 25:17-20+ Mr 29 '33; Same. Oil & Gas J 31:8-9+ Mr 30 '33
- Use of solvents may revolutionize manufacture of lubricants. A. L. Foster. Nat Pet N 25: 29-31 Ag 9; 35-6 Ag 16; 34, 36 Ag 23; 21-2 Ag 30 '33

**Physiological effect**

- Lubricating oils and cancer. Soc Dyers & Col J 49:53 F '33

## LUBRICATING oils—Continued

## Standards

- Develops application of a practical viscosity temperature coefficient for oil products. T. G. Bell and L. H. Sharp. bibliog charts Oil & Gas J 32:13-15, 16 Ag 17 '33
- Viscosity-temperature zone-gravity classification of lubricating oils. C. M. Larson and W. C. Schwaderer. bibliog chart Nat Pet N 25:25-8 My 10 '33
- Why not define viscosity slope on fundamental basis? A. L. Clayden. Nat Pet N 25:27-30 O 18 '33

## Taxation

- 5040 regulations about ready; to follow existing rulings. Nat Pet N 25:19 Ag 16 '33
- Internal revenue department replies to questions regarding lub oil tax. C. E. Kern. Oil & Gas J 31:17 F 23 '33
- Law governing tax on lubricants sold by one refiner to another clarified. C. E. Kern. Oil & Gas J 31:21+ F 9 '33
- Make additional rulings to cover excise tax on lubricating and Diesel oils. C. E. Kern. Oil & Gas J 31:27 D 15 '32
- Regulations covering tax free sales issued by Treasury. Nat Pet N 25:19-20 N 1 '33
- Revenue act makes important changes in tax free sales of gasoline and oil. Oil & Gas J 32:17+ Je 22 '33
- Tax applies on all lubricating oils. Steel 91: 25 N 21 '32
- Tax free sales to cities and states allowed under new law. Nat Pet N 25:21 Je 14 '33
- Tax on lubricating oils burdensome to industries. F. E. Dow. Oil & Gas J 31:27 Ja 5 '33
- Tax problems in Washington. F. B. Dow. Am Pet Inst Proc (Marketing div) p26-30; Discussion. 30-2 Je '32
- Tentative understanding obtained on administration of 5040. Nat Pet N 25:16 Ji 12 '33
- Treasury decision on tax exemptions issued. Oil & Gas J 32:57 N 9 '33

## Testing

- Apparatus for precise viscosity measurement developed at Pennsylvania State college. R. C. Conine. diags Oil & Gas J 32:17+ O 19 '33
- Beneficial effect of oxidation on the lubricating properties of oil; abstracts. R. O. King. Automotive Ind 68:493-4 Ap 22 '33; Inst Pet Tech J 19:173A-4A My '33
- Chemical mechanism of lubrication; abstract. W. F. Parish and L. Cammen. Oil & Gas J 31:28+; Discussion. 30 D 15 '32
- Corrosion-accelerated wear; its effect in relation to cylinders and bearings. H. J. Young. Il Automobile Eng 23:295-7 Ag '33
- Develop simple type of friction machine for measuring oiliness of lubricating oils. J. S. Phelps. Il Oil & Gas J 32:10+ S 7 '33
- Distillation dans le vide appliquée aux huiles de graissage. J. Tilman. diags Chimie & Ind 30:518-24 S '33
- Effect of metallic (lead) dope on the carbonisation of oil in the combustion space of an engine. R. O. King. Il Engineering 136:183-6 Ag 25 '33; Abstract. Mech Eng 55:770-1 D '33
- Effect of sludge on engine oil performance. D. Barnard and others. Il Nat Pet N 25: 27-8, 30-2, 34 S 13 '33; Abstract. Automotive Ind 69:328 S 16 '33
- Friction testing of oils; Deeley friction machine. Il Chem Age (Lond) 28:464 My 20 '33
- Friction tests on lubricating oils; abstract and discussion. J. W. Donaldson and D. R. Hutchison. Soc Chem Ind J (Chem & Ind) 52:818-19 O 13 '33; Chem Age (Lond) 29:353 O 14 '33
- Heat effects in lubricating films. A. Kingsbury. diag Mech Eng 55:685-8 N '33
- Iron content in used oil as indicator of the lubricating value of the oil; abstract. T. Breithaupt. Mech Eng 55:448 Ji '33
- Lighter oil may mean cooler bearings. J. I. Clower. Power 73:70-1 F '33

- Lubricant tests without laboratory equipment. W. F. Schaphorst. Refrig W 68:45 Ap '33
- Lubricating oil tests and their significance. J. E. Southcombe. 87p [bibliog p68-9] Henry Wells oil co, Ltd, Salisbury house, Finsbury circus, London, E.C. 2 '32
- Miles or gallons? what do you get for your oil dollar? Bus Transportation 12:318-20 Ag '33
- New lubricant testing machine. J. S. Phelps. Il Automotive Ind 69:95 Ji 22 '33
- New machine for oil testing shows effects of load, speed and temperature; M-A-N oil-testing machine. Il diags Automotive Ind 69:483-4 O 21 '33
- New oil test correlating with service. D. P. Barnard. Nat Pet N 25:20 S 6 '33
- Progress of naphthology, 1932; analysis and testing. W. H. Thomas. bibliog Inst Pet Tech J 19:641-5 Ji '33
- Resistance to sludging, extreme long life of new synthetic oils. D. P. Barnard. Nat Pet N 24:62+ N 16 '32
- Vergleichprüfung von schmierölen in verbrennungsmotoren. Kelling. Zeit Ver Deutsch Ing 76:1099-1102 N 5 '32
- Why not an oiliness test? J. B. Rathbun. Il Pet Age 27:18-19 S '33

## Volatility

- Analytical steam distillation for measuring the volatility range of lubricating oils and other high-boiling petroleum fractions. R. N. J. Saal and C. G. Verver. Il diag Inst Pet Tech J 19:336-54 My '33; Abstract. Nat Pet N 25:29-30 S 6 '33; Discussion. Inst Pet Tech J 19:354-63 My '33

## LUBRICATION and lubricants

- Analysis of fuel, gas, water and lubricants. S. W. Parr. 4th ed 371p \$3 McGraw-Hill '32
- Antifriction bearings for hot and cold saws. F. Waldorf. diags Blast F & Steel Pl 21: 419-21+ Ag '33
- Characteristic curves for fluid film lubricated journal bearings. L. J. Bradford and C. C. Davenport. diag Refrig Eng 24:343-7 D '32
- Colloidal graphite combines with metal surfaces; Oilmag. Automotive Ind 68:99 Ja 28 '33
- Composition of automotive lubricants and their specific application. A. L. Foster. Nat Pet N 25:48+ Ja 25 '33
- Corrosion effects of lubricants upon bearing surfaces. C. H. Bierbaum. Il Iron Age 132:20-1+ Ag 31 '33
- Designing enclosed gear drives for successful lubrication. A. Kuhns. Il diags Mach 40: 33-6 S '33
- Effect of diamond boring and honing on bearing lubrication. F. C. Duston. Mach 39:637 Je '33
- How hot should a bearing run? C. G. Williams. Am Mach 77:527 Ag 16 '33
- How to make lubrication survey. L. D. Bryson. Factory Management 91:118 Mr '33
- Journal bearing performance improved by research; Railway service & supply co. Il diags Ry Mech Eng 107:122-5 Ap '33; Same. Ry Age 94:329-32 Mr 4 '33
- Lehrschau schmiertechnik. Chemische Fabrik 6:186-8 Ap 26 '33
- Logic of oiliness. M. D. Hersey. bibliog Mech Eng 55:561-6 S '33
- Lubricating a 48-in., 3-high, universal mill; centralized system. L. H. Hein. Il diags Blast F & Steel Pl 21:99-102 F '33
- Lubricating the path to net profit. G. A. Van Brunt. Maintenance Eng 90:452-3 D '32
- Lubrication as a means of cost reduction. R. Trautschold. Power Pl Eng 37:83-4 F '33
- Lubrication bills too high? Goodrich engineers cut theirs 67%. J. W. Shaver. Il Factory Management 91:82-4 Mr '33
- Lubrication of anti-friction bearings. K. A. Newman. Power Pl Eng 37:129 Mr '33; Abstract. Mach 39:413 F '33
- Lubrication of ball and roller bearings and the lubrication of gear reduction sets. J. W. Stack and A. Hutchinson. Paper Tr J 96: 34-8 Je 15 '33; Abstract. Pulp & Pa of Can 34:468+ Ji '33



**LUBRICATION and lubricants—Continued**

- Lubrication of spur, helical, herringbone and bevel gears. J. I. Clower. diags Iron Age 130:918-19; 131:132-3 D 15 '32, Ja 19 '33
- Lubriplate for gears has high pressure characteristics. Automotive Ind 69:45 JI 8 '33
- Mechanism of lubrication. W. L. Parish and L. Cammen. Soc Dyers & Col J 49:20 Ja '33
- Oil film pressure in a complete cylindrical bearing. Y. Yavitch. diags Sibley J 46:207-11+ D '32
- Oil-permeable metal alloy; olite; abstract. Mech Eng 55:576 S '33
- Oiliness in lubrication. H. N. Bassett. Automobile Eng 22:575-6 D '32
- Packing boxes require lubrication. R. Traut-schold. diags Power Pl Eng 37:127-8 Mr '33
- Polymerization increases film strength of oils; Sta-Put lubricants. Steel 93:27 O 9 '33; Blast F & Steel Pl 21:542 O '33
- Progress of naphthology, 1932; lubricants and lubrication. A. R. Bowen. bibliog Inst Pet Tech J 19:578-91 JI '33
- Ring and traveller designs and speeds. D. Eadie. diags Textile Inst J 23:P265-78; Discussion. P278-80 D '32
- Some aspects of boundary lubrication by soap solutions. R. C. Williams. diag J Phys Chem 36:3103-14 D '32; Abstract. Mech Eng 55:124-5 F '33
- Some experiments on oil films in complete cylindrical bearings. G. H. Marx and others. 110p Oxford '32
- Symposium on motor lubricants. 121p American society for testing materials, Philadelphia '33
- These lubricating devices decreased product cost. G. A. Van Brunt. Maintenance Eng 91:10-11 Ja '33
- Über schmiermittel und ihre verwendung im chemischen betrieb. K. O. Müller. Chemische Fabrik 6:179-85 Ap 26 '33
- Union Pacific adopts lubrication code to insure efficiency and cut waste. Coal Age 33:164 My '33
- Variation of viscosity with temperature. J. C. Geniesse and T. G. Delbridge. chart Am Pet Inst Proc (Refining div) p56-8 Je '32
- Viscosity classification for industrial lubricants; discussion at the A.S.M.E. lubrication meeting. Blast F & Steel Pl 21:423+ Ag '33
- What happens in a bearing? C. M. Larson. H. S. Konheim and W. J. Albersheim. diag Automotive Ind 68:694-8 Je 10 '33
- See also*
- |                                 |                            |
|---------------------------------|----------------------------|
| Automobile engines—Lubrication  | Lubricating greases        |
| Automobiles—Lubrication         | Lubricating oils           |
| Bearings                        | Oil reclamation            |
| Diesel engines—Lubrication      | Rolling mills—Lubrication  |
| Gas and oil engines—Lubrication | Steam turbines—Lubrication |
| Graphite                        | Turbines—Lubrication       |
| Locomotives—Lubrication         | Wire rope—Lubrication      |
- Patents**
- Patented lubricant; Keenol lubricant investigation of National physical laboratory. Automobile Eng 23:13 Ja '33
- Testing**
- Apparatus for finding load-carrying capacity of extreme pressure lubricants. S. A. McKee, F. G. Bitner and T. R. McKee. Nat Pet N 25:21-2+ S 6 '33
- Bearing lubrication analysis; handling of performance data by correlation with the hydrodynamic theory. E. M. Barber. diags chart Refrig Eng 25:202-7; Discussion. 207, 218 Ap '33
- Effect of viscosity on friction in the region of thin-film lubrication. O. C. Bridgeman. S. A. McKee and F. G. Bitner. il Am Pet Inst Proc p154-8 sec 3 D '32
- Evaluation of extreme pressure lubricants by use of Timken laboratory testing apparatus. A. P. Frame and A. K. Graham. Oil & Gas J 31:14+ Ja 5 '33
- Extreme pressure lubricants. il Nat Pet N 25:42+ Ja 25 '33
- Extreme pressure lubricants. O. L. Maag. il Nat Pet N 24:53-4+ N 16 '32
- Extreme-pressure lubricants. H. R. Wolf and H. C. Mougey. bibliog il diag Am Pet Inst Proc p118-30 sec 3 D '32; Same cond. Oil & Gas J 31:58+ N 17 '32; Excerpts. Automotive Ind 67:650-3 N 19 '32; Abstract. Nat Pet N 24:39-40 N 16 '32; Discussion. Am Pet Inst Proc p130-1 sec 3 D '32
- Four-ball testing apparatus for extreme pressure lubricants. G. D. Boerlage. il diags Engineering 136:46-7 JI 14 '33; Abstract. Automotive Ind 69:343 S 16 '33
- Friction of lubricants for laminated concrete; San Gabriel flood-control dams. E. C. Eaton. il Eng N 111:442-4 O 12 '33
- Friction-testing methods. G. L. Neely. bibliog il diags Am Pet Inst Proc (Refining div) p60-73; Discussion. 73-4 Je '32
- Gear oils; extreme-pressure lubricants. il Pet Age 27:14-15 Ap '33
- Load-carrying capacity of extreme-pressure lubricants. S. A. McKee, E. A. Harrington and T. R. McKee. S A E J 32:217-23 Je '33; Excerpt. Am Mach 77:244 Ap 12 '33
- Load carrying capacity of lubricants tested; machine developed by the Timken roller bearing co. Marine R 63:19 O '33; Marine Eng 38:386-7 O '33
- Lubricants research; Bureau of standards new lubricant tester. S A E J 32:sup27 Je '33
- Lubrication; current research projects. Power 77:260-1 My '33
- National physical laboratory, engineering department; abrasion and lubrication. Engineering 136:97 JI 28 '33
- New aspects of the free-wheeling lubricant problem. H. R. Wolf and H. C. Mougey. bibliog diag chart Am Pet Inst Proc (Refining div) p75-84; Discussion. 85-6 Je '32
- New extreme pressure lubricant tester. S A E J 32:sup25-6 F '33
- Problem of extreme-pressure lubricants. O. C. Bridgeman. Am Pet Inst Proc p114-17 sec 3 D '32; Same. Oil & Gas J 31:50+ N 17 '32; Same abr. Pet Age 26:21+ N '32; Discussion. Am Pet Inst Proc p130-1 sec 3 D '32
- Trolley wire lubrication improved. J. V. Lamson. il diags Elec Eng 52:771-6 N '33
- What quality extreme-pressure lubricants? variations of load-carrying capacity with temperature and rubbing speed tested. S A E J 32:sup17 Ja '33; Excerpt. Mech Eng 55:187 Mr '33
- LUBRICATION and lubricants (cutting and grinding)**
- Important factors in the selection of cutting lubricants. H. C. Deckard. Mach 39:409-10 F '33
- Morrow filter keeps cutting fluid clean. diag Automotive Ind 69:491 O 21 '33
- Oil dermatitis. W. J. McConnell. Nat Safety N 23:34+ N '33
- Preventing corrosion after machining. V. W. Wells. il Mach 39:475-6 Mr '33
- Quest for finer finishes turns spotlight on coolant cleaning. J. Geschelin. il diags Automotive Ind 68:364-7 Mr 25 '33
- Simple cutting tool for measuring pressures in the direction of cut. O. W. Boston and C. E. Kraus. il diag Am Soc Steel Tr Trans 21:623-43; Discussion. 643-51 JI '33
- Suitability only safe criterion in selecting cutting fluids. J. Geschelin. il Automotive Ind 68:638-40+ My 27 '33
- Wider use of water-mixed cutting oils would reduce production costs. V. W. Wells. il Automotive Ind 68:727+ Je 17 '33
- LUBRICATION and lubricants (sheet metal work)**
- Lubricants used in deep drawing of sheet steel. M. Reswick. Am Soc Steel Tr Trans 21:181-91; Discussion. 191-2 F '33
- Principles of lubrication in cold drawing sheet steel. H. A. Montgomery. Am Soc Steel Tr Trans 21:557-64 Je '33; Same cond. Am Mach 76:1056-8 O 12 '32; Abstracts. Iron Age 130:615+ O 20 '32; Mach 39:348-50 Ja '33; Discussion. Am Soc Steel Tr Trans 21:564-70 Je '33

**LUBRICATORS**

- Bewertung von druckschmier-geräten. E. W. Steinitz. *il diags Zeit Ver Deutsch Ing* 77: 785-8 J1 22 '33
- Bosch type AROB force-feed lubricators for air compressors. *il diag Ry Mech Eng* 106: 456-7 N '32
- Christy pneumatic lubricator for engine-truck journals. *il Ry Mech Eng* 107:13+ Ja '33
- Gordon grease pump. *il Blast F & Steel Pl* 21:596-7 N '33
- Hunt and Mitton lubricator. *diag Engineer* 155: 243 Mr 10 '33
- Improved Trabon lubricating system. *diag Am Mach* 76:1208 D 7 '32
- Kirkham lubricator for conveyor chains. *il Mech Handling* 20:247 Ag '33
- Monarch lathes with automatic force-feed lubrication. *il Am Mach* 76:1046 S 28 '32; *Iron Age* 130:767 N 17 '32
- New alemite fitting allows higher pressure. *il Automotive Ind* 69:132-3 J1 29 '33
- Oil supplied automatically to engine crankcase. O. Adams. *il Power* 76:310 D '32
- SpeedWay constant-level oiler. *diag Ry Mech Eng* 107:337 S '33

**LUCERNE, Switzerland****Rapid transit**

- Zone fares ground down fine. W. Jackson. *Aera* 23:1414-17 N '32

**LUCKENBACH, J. Lewis**

- President, American bureau of shipping. *por Marine R* 63:53 Ap '33

**LUDWIG-SORET effect**

- Concerning the existence of the so-called heats of transfer ( $Q^*$  values) in Peltier heats. E. Lange and T. Hesse. *Am Chem Soc J* 55: 853-5 F '33

**LUHNOW, Christian August, 1874-1933**

- Sketch. *por Trust Companies* 57:1-2 J1 '33

**LUMBER**

- American cypress and its uses. *il U S Bur For & Dom Com Trade Promotion Ser* 141:1-28 '32

- And now fabricated lumber; Long-Bell lumber sales corp. P. E. Kendall. *il Ptr Ink* 162:33-4 Ja 26 '33

- Industrial uses for small-dimension stock. Report of the Consumers' subcommittee on small-dimension stock of the National committee on wood utilization. 45p U. S. National committee on wood utilization, Washington '32

- Large panel units outstanding advance at the Fair; phenaloid compound lumber. *il Am Bld* 55:26-7 Ag '33

- Long-Bell to sell enterlocking lumber. *diag Am Bld* 54:42 D '32

- New wood tile is tried out for building purposes. H. D. Tiemann. *il Am Bld* 54:32-3 Ja '33

- Some economic and accounting phases of lumber manufacturing. M. F. Pixton. *J Account* 54:448-65 D '32

- Specific gravity and related properties of softwood lumber. E. C. Peck. *diags map U S Agric Tech Bul* 343:1-24 '33

- Tests of chemical treatments for control of sap stain and mold in southern lumber. R. M. Lindgren, T. C. Scheffer and A. D. Chapman. *Ind & Eng Chem* 25:72-5 Ja '33

- Timber and lumber progress reviewed at A.S.T.M. meeting. *Eng N* 109:633 N 24 '32

**See also**

- Concrete construction Pine  
—Forms Wood  
Mine timber

**Shrinkage**

- New shrink-proof framing to avoid sagging floors and plaster cracks. E. H. Karp. *il plans Am Bld* 54:36-8 F '33

**LUMBER camps**

- Food for logging camp would feed a village. W. G. Young. *il Pulp & Pa of Can* 34:547-9 S '33

- Good camp is essential to efficient operation. F. C. McCracken. *il Pulp & Pa of Can* 34: 593-4 O '33

**LUMBER mills**

- Some economic and accounting phases of lumber manufacturing. M. F. Pixton. *J Account* 54:448-65 D '32

**See also**

- Sawmills

**Accounting**

- Hardwood flooring industry. J. H. Worman.

- J Account 55:117-33 F '33

- Lumber accounting. R. W. Smith. *J Account* 56:200-21 S '33

**LUMBER trade**

- Are you getting anything but dust from tourists? B. L. Johnson. *il Am Bld* 55:62-4 My '33

- Challenge to lumber dealers; are you a good policeman? *Am Bld* 55:52 My '33

- Dealers can cash in locally on lumber at the Fair. L. R. Putman. *il Am Bld* 55:64-6 Ag '33

- 15c each for women boosters; Allen lumber company, Peoria. J. E. Mason. *il Am Bld* 55:54-7 My '33

- Fifty-five years of merchandising; Jno. H. Geis and company, Baltimore. *il Am Bld* 55:78-9 S '33

- Forestry and employment. W. N. Sparhawk. *J Land & Pub Util Econ* 9:145-9 My '33

- Lumber control; pooling lumber stocks and orders. *Business Week* p19-20 Mr 1 '33

- Lumbermen offer a shop-built house for local dealers and builders. W. F. Shaw. *il diags plans Am Bld* 54:14-17 F '33

- Make every item pay a profit. J. J. Davis. *Am Bld* 54:72 Mr '33

- Paint is a profitable side-line for the retail lumber dealer; Peter Kuntz co, Dayton, O. H. C. Diefenbach. *il Am Bld* 54:60-1 Ja '33

- Profits in sander rentals. R. Slayter. *il Am Bld* 55:67-8 Ag '33

- Publicity for dealers; what it is and how to get it. L. M. Forest. *il Am Bld* 55:76-7 S '33

- Retail distribution of treated lumber. R. Putman. *Am Bld* 55:112 Je '33

- Survey of 200 ways to profits. W. H. Bradford. *il Am Bld* 55:66+ Ap '33

- Teamwork wins; Smith-Nuppenau lumber co, Valparaiso, Ind. J. B. Mason. *il Am Bld* 54:58-9+ Ja '33

- This dealer gets the farmer's business; Briggs lumber company. E. L. Gilbert. *il Am Bld* 55:62-3 O '33

- This dealer prefers low pressure selling; Green & Pierson, inc, Madison, N. J. *il Am Bld* 55:53 My '33

- This sales drive won 800 new dealers; General timber service, inc. H. D. Bates. *il Ptr Ink* 163:36-7+ My 11 '33

- Treasure for merchandisers; Griffin lumber co, Hudson Falls, N.Y. O. T. Griffin. *il Am Bld* 54:64-7 Mr '33

- We discovered new profits in hardware and paint; interview with H. N. Crane, the Hart & Hiff companies, Newton, N.J. E. L. Gilbert. *il Am Bld* 54:64-5+ F '33

- You don't have to sell boards—you can sell home beauty; Olympia, Wash. through its Home improvement association proves it. C. M. Harmon. *Am Bld* 55:106-7+ Je '33

**See also**

- Pine

**Accounting**

- Lumber accounting. R. W. Smith. *J Account* 56:200-21 S '33

- Some economic and accounting phases of lumber manufacturing. M. F. Pixton. *J Account* 54:448-65 D '32

**See also**

- Lumbering—Accounting

**Advertising**

- Two letters that appeal to women. D. H. Colcord. *il Ptd Salesmanship* 60:454+ F '33

- Yes, I believe in signs. J. M. Clemensen. *il Am Bld* 55:70-1 S '33

**Costs**

- Haphazard estimates; need for establishing standards in lumber industry cost calculations. E. A. Talbot. *Manuf Rec* 102:48 N '33



**LUMBER trade—Continued****Statistics**

Timber, 1932. Economist 116:sup49-50 F 18 '33

**Great Britain**

Russian embargo and the timber trade. Economist 116:802 Ap 29 '33

**Southern states**

Lumber looks forward. C. C. Sheppard. il Manuf Rec 102:16-17 Ja '33

**United States**

Industrial snapshots. J. Backman and A. L. Jackson. Barron's 13:5 O 30 '33

Lumber, Bradstreet's 60:1591; 61:13+ D 3 '32, Ja 7 '33

Lumber and hard material dealers unite under one code; text. Am Bld 55:72-5 S '33

Lumber industry in 1933. C. L. Hamilton. Bradstreet's 61:193-4 Ja 28 '33

Lumber retailer codes would fix prices and outlaw new dealers. Am Bld 55:62-3 Ag '33

Lumber's omnibus; code signed by lumber industry has everything. Business Week p8 Ag 26 '33

Timber, the indispensable material of civilization. Index 13:179-84 O '33

What, a code costs; Southern pine association's code enforcement bill and set-up. Business Week p12 S 16 '33

**LUMBER workers**

Food for logging camp would feed a village. W. G. Young. il Pulp & Pa of Can 34:547-9 S '33

Good camp is essential to efficient operation. F. C. McCracken. il Pulp & Pa of Can 34:593-4 O '33

Jean Labrie and his logging jobs. W. Adams. Pulp & Pa of Can 33:430 N '32

Lumber- and timber-products industries; summary of code. Monthly Labor R 37:536-9 S '33

**LUMBERING**

Chaining and gravity inclines. A. Koroleff. diags Pulp & Pa of Can (Convention no) 34:139-41+ [F] '33

Economic significance of tree size in western Sierra lumbering. M. R. Brundage, M. E. Krueger, and D. Dunning. il diags map Calif Agric Exp Sta Bul 549:1-61 '33

Greenheart; lumbering practices. Engineering 136:431-2 O 20 '33

Huge cost of cutting Canada's pulpwood harvest. J. N. Stephenson. il Pulp & Pa of Can 34:543-5 S '33

Modernizing pulpwood operations. A. Koroleff. Paper Tr J 97:31 J1 20 '33

Piers and booms as used in connection with holding grounds. W. J. Williamson and F. R. Wilcox. il diags Pulp & Pa of Can (Convention no) 34:142-4+ [F] '33

Timber limits of the Ontario paper company. G. E. Boisvert. il map Pulp & Pa of Can 34:372-6 Je '33

Transportation of wood in chutes. A. M. Koroleff and R. C. Bryant. 139p [bibliog p137-8] pa \$1 Yale univ. press '32

Use of motor trucks in woods operations. L. R. Scheult. il Pulp & Pa of Can 33:379-82+, 437-40 O-N '32

Woods problems and the motor truck. il Pulp & Pa of Can 34:595-6 O '33

**Accounting**

Accounting in logging operations; control of tools and equipment. H. D. Ruthman. Pulp & Pa of Can 34:551-2 S '33

**Safety devices and measures**

Too many fatal accidents; careless handling of explosives. il Pulp & Pa of Can 34:499-500 Ag '33

**LUMBERMEN'S mutual casualty company**

LMC, too, makes "black 1932" its peak dividend year. J. S. Kemper. Sales Management 32:610+ Je 15 '33

**LUMINESCENCE**

Decay of luminescence and light absorption in phosphorescent materials. D. H. Kabakjian. Phys R 44:618-24 O 15 '33

Efficiency of the chemiluminescence accompanying oxidation of Grignard compounds. C. D. Thomas and R. T. Dufford. Opt Soc Am J 23:251-5 J1 '33

Luminescence and crystalline structure. B. E. Cohn. diags Am Chem Soc J 55:953-7 Mr '33

Luminescence of alkaline earth tungstates containing lead. F. E. Swindells. Opt Soc Am J 23:129-32 Ap '33

Phosphorescence of solid nitrogen and its relation to crystal structure. L. Vegard. Science 77:588-9 Je 16 '33

**See also**

Fluorescence

**LUMINOUS paint.** See Paint, Luminous

**LUNCH counters**

Quick lunch counter. il plan Arch Forum 57:512-13 D '32

Where drugs and cigars fell doughnuts are making money! Mayflower doughnut corporation, New York. L. M. Hughes. il Sales Management 32:469+ My 1 '33

**LUNCHROOMS and cafeterias**

Gas is important factor in the roadside diner. C. H. French. il Am Gas Assn Mo 15:433-4 O '33

Shanty shops are appearing in New York. il Arch Forum 58:523 Je '33

**See also**

Lunch counters

Tea rooms

**LUNGS****Diseases****See also**

Pneumonia

Tuberculosis

**Dust diseases**

Adsorption of dust by the respiratory tract; quantitative investigation of the adsorption of lead and copper dusts; abstract. O. Ehrismann. J Ind Hygiene 15:sup36 My '33

Consideration of dust hazard in industry; abstract. C. P. McCord. Foundry 60:57-8 D '32

Court of appeals reverses damages award. Foundry 60:47 N '32

Dust in industry. J. J. Bloomfield. il diags Mech Eng 55:229-33+ Ap '33; Excerpts. Nat Safety N 27:33-4+ My '33

Dust in industry; shop methods and equipment effective in controlling dust hazards. F. Willson. il Mech Eng 55:80-2 F '33

Dust in industry; the economic and hygienic aspects of silicosis. A. E. Russell. Mech Eng 55:163-6 Mr '33

Effects of certain silicate dusts on the lungs. W. C. Dreessen. il J Ind Hygiene 15:66-78 Mr '33

Effects of inhaled mineral dusts. L. U. Gardner. Nat Safety N 27:34+ Ja '33

Menace of silicosis on increase. il Concrete (mill sec) 41:28-9 O '33

Milwaukee silicosis clinic opened by medical experts. Nat Underw 37:35 N 9 '33

Minerals in silicotic lungs. W. R. Jones. il Can Min J 54:381-3 O '33

Miners' phthisis in South Africa. Monthly Labor R 35:1086-7 N '32

Pathogenesis of pulmonary silicosis; the method of formation of the silicotic nodule; abstract. A. Policard. J Ind Hygiene 15:sup75 J1 '33

Pneumoconiosis; abstract. R. R. Sayers. J Ind Hygiene 15:sup100-2 S '33

Preliminary surveys of the industrial environment. J. J. Bloomfield. Pub Health Rep 48:1343-51 N 3 '33

Pulmonary asbestosis; its clinical, radiological, and pathological features, and associated risk of tuberculous infection. P. Ellman. bibliog il J Ind Hygiene 15:165-83 J1 '33; Abstract. Monthly Labor R 37:1385-6 D '33

Roentgenological aspects of pneumoconiosis and its medico-legal importance. H. K. Pancoast and E. P. Pendergrass. il J Ind Hygiene 15:117-35 [bibliog p134-5] My '33

Silico-anthraxosis; abstract. W. E. Cooke. J Ind Hygiene 15:sup76-8 J1 '33

Silicosis. R. R. Sayers. Safety Eng 64:275-8 D '32

**LUNGS**—Dust diseases—*Continued*

Silicosis and the metabolism of silicic acid.

E. J. King. *Can Chem & Met* 17:146-7 J1 '33  
 Silicosis and tuberculosis among miners of the Tri-state district of Oklahoma, Kansas, and Missouri. R. R. Sayers and others. map plan pls U S Bur Mines Tech Pa 545:1-30; 552:1-28 '33; Abstract. *Monthly Labor R* 37:68-70 J1 '33; Abstract (pt. 1). *Can Min J* 54:187-9 My '33

Silicosis menace; racket developing in lawsuits against contractors, quarries, foundries. *Business Week* p19-20 S 2 '33

Silicosis trial against contractor ends in jury disagreement. *Eng N* 110:603 My 11 '33

Size frequency of industrial dusts. J. J. Bloomfield. *Pub Health Rep* 48:961-8 [bibliog p968] Ag 11 '33

Studies on the dusted lung; abstract. I. Lochtkemper and L. Teleky. *J Ind Hygiene* 15:sup39-41 My '33

Study of 78 workers exposed to inhalation of cryolite dust. S. V. Gudjonsson. *J Ind Hygiene* 15:27-33 Ja '33

Wisconsin foundries co-operate in solving silicosis problem. E. O. Jones. *Foundry* 61:16-17+ Ja '33

*Bibliography*

Pneumoconiosis, a list of references. 76p World peace foundation '32

Silicosis racket. *Am Cer Soc J (Bul)* 16:127-9 My '33

**LUNUVA** (Ceylon) tea and rubber estates, limited

Ordinary general meeting, 26th, London. *Economist* 116:1097-8 My 20 '33

**LUPANINE**

Lupin alkaloids; the structure of lupanine and sparteine. G. R. Clemo and R. Raper. *il Chem Soc J* p644-5 Je '33

**LUPINES**

Lupin alkaloids. G. R. Clemo, G. R. Ramage and R. Raper. *Chem Soc J* p2959-69 D '32

Lupin alkaloids; the structure of lupanine and sparteine. G. R. Clemo and R. Raper. *il Chem Soc J* p644-5 Je '33

*Analysis*

Modification of the Dumas technique for substances difficult to burn. J. F. Couch. *Am Chem Soc J* 55:852-3 F '33

**LUSTER**

Accurate gloss measurement by a practical means. *Oil Paint & Drug Rep Extra* ed 122:38-9 N 29 '32

**LYCOPODIUMOLEIC acid**

Lycopodiumoleic acid. J. L. Riebsomer and J. R. Johnson. *Am Chem Soc J* 55:3352-7 Ag '33

**LYELL, Sir Charles, 1797-1875**

Sir Charles Lyell; his place in geological science and his contributions to the geology of North America. F. D. Adams. *Science* 78:177-83 S 1 '33

**LYONS, J., and company**

Ordinary general meeting, 39th, London. *Economist* 116:1318-20 Je 17 '33

**LYOTROPIC series**

Ionic interchange in sulphur sols; the lyotropic series and the mechanism of coagulation. T. R. Bolam and G. Bowden. *diags Chem Soc J* p2684-94 N '32

**LYTTON report.** See *Manchuria***M**

**M RAYS.** See *Mitogenetic rays*

**MCANENY, George**

Appointed commissioner of sanitation of New York city. *Water Works & Sewerage* 80:240 J1 '33

**MACARONI**

Before a price fixing spree, what about our costs? a macaroni man protests. E. J. McLuckie. *Food Ind* 5:258 J1 '33

Food marketing agreement. *Food Ind* 5:413 O '33

How Viviano is preparing to make 1935 advertising pay. *il Sales Management* 33:266+ S 15 '33

**MCCALL corporation**

Opportunities for income and profit. *Mag of Wall St* 52:434 Ag 19 '33

**MCCANN, Harrison K.**

Study in balance. R. K. Leavitt. *por Adv & Sell* 21:22-3+ Ag 3 '33

**MCCLURE'S magazine**

Four magazines show the way; Collier's weekly, Saturday evening post, McClure's and Everybody's. R. Frothingham. *Adv & Sell* 20:26 N 24 '32

**MCCORMACK, Emmet J. 1880-**

President, Maritime exchange, New York. B. K. Price. *por Marine R* 63:37 J1 '33

**MCCORMICK, Edith Rockefeller**

Krenn and Dato resign as trustees of the Edith Rockefeller McCormick trust. *Arch Forum* 58:522-3 Je '33

**MCCORMICK, Robert Rutherford, 1880-**

President, the Tribune company, treasurer, the Ontario paper company. *por Pulp & Pa of Can* 34:359 Je '33

**MCCORMICK family**

International Harvester. *il Fortune* 8:21-33, 112-21+ Ag '33

**MACDONALD, James Ramsay**

Address to the Press club in Washington. *Comm & Fin* 22:372 Ap 26 '33

**MACDOWELL, Charles Henry, 1867-**

American contemporaries. F. S. Lodge. *por Ind & Eng Chem* 25:589-90 My '33

**MACE, Abram Wilbur**

Assistant to president, Ludlum steel co. *por Steel* 93:21 S 11 '33

**MCGARRAH, Gates W.**

Portrait. *Am Bankers Assn J* 25:23 Ja '33

**MCGRAW award**

Co-operation in merchandising brings H. P. Liversidge the McGraw award. *Elec W* 100:802 D 17 '32

**MACHETES.** See *Knives***MACHINABILITY.** See *Metal cutting***MACHINE guns***Manufacture*

Data on some special steels for machine gun barrels. V. V. deSveshnikoff. *Am Soc Steel Tr Trans* 21:652-62 J1 '33

**MACHINE parts**

Drawn and extruded shaped bars and wire. *il diags Mach* 40:88-91 O '33

Gegenwartsfragen im bau von maschinen-teilen. E. Heidebroek. *diags Zeit Ver Deutsch Ing* 77:1165-71 O 23 '33

Tool steel as a material for machine parts. *il Mach* 40:91-2 O '33

Tungsten carbide prolongs the life of machine parts. *il Mach* 40:106 O '33

Yardstick for buying welded machine parts. A. S. Austin. *Mach* 39:397-9 F '33

*See also*

**Machinery**—Replacement parts

**MACHINE shop management**

Business end of a small shop. F. H. Colvin. *Am Mach* 77:471 J1 19 '33

Can the small shop specialize? F. H. Colvin. *Am Mach* 77:503 Ag 2 '33

Changes in plant layout for varying production; White motor company. R. A. Fintz. *il Am Mach* 77:430-3 J1 5 '33

Eliminating red tape in controlling production; Michigan tool co. B. Finney. *il Iron Age* 131:424-5 Mr 16 '33

Flexibility, accuracy, economy in an engine block line; Lycoming manufacturing company. W. H. Swink. *il Am Mach* 77:261-4 Ap 26 '33

How not to run a plant. *Am Mach* 77:499-500 Ag 2 '33

How to buy machine tools. J. R. Weaver. *Am Mach* 77:69-72, 114-16, 138-9 F 1-Mr 1 '33



**MACHINE shop management—Continued**

- Inventories of shop supplies get attention. Am Mach 77:530-2 Ag 16 '33
- Lay-outs for mass production. H. R. M. Thorp. diag Engineer 155:530 My 26 '33
- Limitation of limits. E. C. Shanks. Am Mach 76:1220-1 D 21 '32
- Machine time and labor costs saved by meter. H. K. Nock. il Elec W 101:462 Ap 8 '33
- Motion study speeds a simple assembly. R. M. Barnes. il diags Am Mach 77:338-40 My 24 '33
- Motion-time analysis at the Link-Belt co. H. C. Robson. Iron Age 130:920-1 D 15 '32
- New incentive plan for foremen. E. E. Burke. Mach 39:727-8 Jl '33
- Order forms used by a jobbing machine shop; Boyar-Schultz corpn, Chicago. R. A. Flske. il Iron Age 130:838-9+ D 1 '32
- Product design and its influence on set-up time. T. Berna. Iron Age 131:617-19 Ap 20 '33
- Proper selection of machines and equipment in a job order plant. A. J. Brandt. Iron Age 131:629-30 Ap 20 '33
- Purchasing machine tools for the small shop. J. R. Weaver. Am Mach 77:536-7 Ag 16 '33
- Rehabilitation applied. E. C. Brandt. il Elec J 29:557-63 D '32
- Small shop scrap pile. F. H. Colvin. il Am Mach 77:567 Ag 30 '33
- Standards for production control. A. M. Lindsley. charts Am Mach 77:421-4, 462-5, 492-3 Jl 5-Ag 2 '33
- Why idle machine time? H. D. Hanson. il Factory Management 91:402 O '33
- See also**
- |                                |                           |
|--------------------------------|---------------------------|
| Assembling methods             | Machine shops—Employees   |
| Automobile engines—Manufacture | Machine shops—Records     |
| Electric railroads—Shops       | Machinery, Replacement of |
| Industrial management          | Mechanical handling       |
| Inspection                     | Routing systems           |
| Locomotive shops               | Steel works               |
| Machine shop practice          | Tool rooms                |
- MACHINE shop practice**
- Accuracy with calipers. E. C. Shanks. Am Mach 76:269-70 F 25 '32; Discussion. 76:1156-7 N 23 '32
- American machinist reference sheets. 162p American machinist, New York '33
- Automatic operations on a small shaft; machining a windshield wiper shaft. H. T. Smith. il diags Am Mach 77:146-7 Mr 1 '33
- Automatic operations on a tractor drive hub. J. H. Johnson. il diags Am Mach 77:174-7 Mr 15 '33
- Bearbeitbarkeit und werkstättenausnutzung. G. Schlesinger. il diags Zeit Ver Deutsch Ing 76:1281-93 D 31 '32
- Case for milling; a machine-tool engineer looks at the economics of milling versus planing. R. E. W. Harrison. Mech Eng 55: 682-4 N '33; Abstract. Iron Age 132:23 N 30 '33
- Chromium plating finds new applications in the machine shop. N. H. McKay and C. F. Bonnet. il Mach 39:576-9 My '33
- Economies in the manufacture of valve spring collars. G. Kerr. il Am Mach 77:80-1 F 1 '33
- Engineering shop practice. O. W. Boston. 539p \$5.50 Wiley '33
- Experiences in machining aluminum alloys. R. V. Hutchinson. diags Am Mach 77:645-7, 686-8 O 11-25 '33
- Factors influencing the production of wheel lathes. A. T. Kuehner. diags Mach 39:666-7 Je '33
- Ford makes starters and generators in model small plant. B. Finney. il Iron Age 132:10-14+ N 9 '33
- How long between grinds? R. C. Deale. diags Am Mach 77:517-21 Ag 16 '33
- How to select a helical spring. G. P. Pearce. Am Mach 77:588-9 S 13 '33
- Localized burring. J. Vincent. Am Mach 77: 333 My 24 '33
- Machine-shop practice; condensed from the 1932 progress report of the A.S.M.E. machine shop practice division. Mech Eng 54:851-2 D '32
- Machine shop science and mathematics. J. J. Eaton and A. V. Free. 2d ed rev 177p \$1.48 Manual arts press '33
- Machine tool work; fundamental principles. W. P. Turner. 424p \$3 McGraw-Hill '32
- Making and keeping crankpins square. F. H. Colvin. il diag Am Mach 75:819-20 N 26 '31; Discussion. 76:560-2, 827; 77:147 Ap 28, Jl 6 '32, Mr 1 '33
- Matrix alloy reduces tool and die costs. J. R. Weaver. il diags Mach 40:129-32 N '33
- Planing versus milling. A. C. Danekind. il Mech Eng 55:673-6 N '33
- Precision work on refrigerator parts. F. H. Colvin. il diags Am Mach 77:677-80, 712-15 O 25-N 8 '33
- Setting tools without gages. W. S. Rowell. diag Am Mach 77:571 Ag 30 '33
- Swedish semi-Diesel manufacture. A. E. Fristedt. il diags Am Mach 77:140-3 Mr 1 '33
- Wider use of water-mixed cutting oils would reduce production costs. V. W. Wells. il Automotive Ind 68:727+ Je 17 '33
- See also**
- |   |                          |
|---|--------------------------|
| Airplane engines—Manufacture              | Foundry practice         |
| Arbors and mandrels                       | Gages                    |
| Automobile engines—Manufacture            | Grinding                 |
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| Cylinders (engines)—Manufacture           | Milling                  |
| Dies                                      | Motor trucks—Manufacture |
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| Drilling and boring (metal working, etc.) | Railroads—Shops          |
| Electric driving                          | Riveting                 |
| Forging                                   | Rolling mills            |
|   | Sharpening               |
|   | Sheet metal work         |
|   | Valves—Manufacturing     |
|   | Welding                  |
- MACHINE shops**
- Economic justification of the small machine or tool shop. F. J. Schlegel. Iron Age 131: 587 Ap 13 '33
- See also**
- |                          |                         |
|--------------------------|-------------------------|
| Automobile factories     | Machine shop management |
| Electric driving         | Machine shop practice   |
| Electric railroads—Shops | Machine tools           |
| Locomotive shops         | Railroads—Shops         |
|                          | Tool rooms              |
- Costs**
- Cost analysis of zinc die castings vs. machined castings. L. H. Morin. diags Metal Ind 31: 168-9 My '33
- Electric equipment**
- How cut down cost of fuse outages? machine shop of the Railway & industrial engineering company. Elec W 102:631 N 11 '33
- See also**
- Machine tools—Electric driving
- Employees**
- Comparative study of the output of men and women; abstracts. D. Vampa and P. Guidi. Int Management Inst Bul 7:107 Jl '33; Monthly Labor R 37:850 O '33; Génie Civil 103:358-9 O 7 '33
- Earnings and hours in the machine-building industry in Germany in October, 1931. Monthly Labor R 36:185-6 Ja '33
- How about toolmakers? C. B. Cole. Am Mach 77:603 S 13 '33
- Objections to the contract system in tool-making. C. B. Cole. Mach 40:6-7 S '33

**MACHINE shops—Employees—Continued**

Wages and hours of labor in foundries and machine shops, 1931; with machine-shop terms with definitions, tables U S Bur Labor Statistics Bul 570:1-121, 132-48 '32

What is the job worth? knowing the value of employees and of their jobs. T. E. Kelly. Factory & Ind Management 83:477-8 D '32

**Equipment**

Cummins Diesel produced by automotive methods. J. Geschelin. il Automotive Ind 68:102-5 Ja 28 '33

Flexibility, accuracy, economy in an engine block line; Lycoming manufacturing company. W. H. Swink. il Am Mach 77:261-4 Ap 26 '33

How low inventory? J. Haydock. il Am Mach 77:293-5 My 10 '33

Inventories of shop supplies get attention. Am Mach 77:530-2 Ag 16 '33

Making propeller shafts; methods at the works of Hardy-Spicer and co. il diag Automobile Eng 23:119-23 Ap '33

Making the Wilson gear box. il Automobile Eng 23:375-82 O '33

Precision, flexibility and low cost all attained in Lycoming motor plant. J. Geschelin. il Automotive Ind 68:308-12 Mr 11 '33

Proper selection of machines and equipment in a job order plant. A. J. Brandt. Iron Age 131:629-30 Ap 20 '33

Purchasing machine tools for the small shop. J. R. Weaver. Am Mach 77:536-7 Ag 16 '33

Reducing tool costs by using alloy steels. R. P. White. Mach 39:661-3 Je '33

Rehabilitation applied. E. C. Brandt. il Elec J 29:557-63 D '32

Replacement policy and the depression. J. E. Gleason. Am Mach 76:1200-1 D 7 '32

Shop applications of simple handling units. E. J. Tournier. il Am Mach 77:104-5 F 15 '33

Shop equipment review; last six months of 1932. il diags Am Mach 77:33-68 Ja 18 '33

**See also**

Machine tools

**Heating and ventilation**

Suitable temperature for the machine shop. M. H. Ball. Am Mach 77:724 N 8 '33

**Layout**

Changes in plant layout for varying production; White motor company. R. A. Fintz. il Am Mach 77:430-3 Jl 5 '33

It cost \$30,000 to move, but—we'll save \$125,000! Foote brothers gear & machine company, Chicago. F. H. Fowler and W. A. Barr. il plan Factory Management 91:73-6 Mr '33

Lay-outs for mass production. H. R. M. Thorp. diag Engineer 155:530 My 26 '33

Laying out the small shop. F. H. Colvin. Am Mach 77:630 S 27 '33

**Records**

Eliminating red tape in controlling production; Michigan tool co. B. Finney. il Iron Age 131:424-5 Mr 16 '33

Equipment maintenance records. J. Geschelin. Automotive Ind 69:416-17 O 7 '33

Order forms used by a jobbing machine shop; Boyar-Schultz corpn, Chicago. R. A. Fiske. il Iron Age 130:838-9+ D 1 '32

Standardizing automatic screw machine cams. C. W. Hinman. Am Mach 77:264 Ap 26 '33

**MACHINE tool industry**

Are machine tool makers really "agin" low rate charge-off? J. Geschelin. Automotive Ind 68:269-70 Mr 4 '33

Factual selling in our metal-working markets. W. B. Remington. Iron Age 130:835+ D 1 '32

Good looking machine tools help in production, executives say. V. P. Rumely. il S A E J 32:sup9-13 My '33

Hidden costs in machine tool building. Am Mach 77:439 Jl 5 '33

How to make industrial sales now. H. P. Bailey. diags Iron Age 130:878-81+ D 8 '32

Machine tool industry—whither bound? R. E. W. Harrison. Iron Age 131:905 Je 8 '33

Marketing problems discussed by American management association at the Industrial marketing conference. Iron Age 130:924-5 D 15 '32

When a group does the buying, how shall I sell? J. A. Murphy. Iron Age 130:911+ D 15 '32

**Service**

Some factors that affect machine tool prices. J. Geschelin. Automotive Ind 68:603-5 My 20 '33

**Used machines**

Chicago plan modified to overcome objections. Am Mach 77:16c Ja 4 '33; Steel 92:7-8 Ja 9 '33

Machinery issue. Business Week p9 O 21 '33

Trade commission condemns Chicago appraisal plan. Iron Age 130:770 N 17 '32

**Germany**

Deutsche werkzeugmaschinenindustrie in gegenwart und zukunft. H. Schoening. Zeit Ver Deutsch Ing 77:209-10 Mr 4 '33

**Great Britain**

Engineering outlook; machine tools. Engineering 135:268-9 Mr 10 '33

Imports drop, exports rise in British machine tool market. Am Mach 77:116d-116e P 15 '33

**Russia**

Surpass America! A. M. Wasbauer. Am Mach 77:613-15 S 27 '33

**United States**

Machine tool builders file code. Iron Age 132:27G-27H Ag 31 '33; Excerpts. Am Mach 77:564c-564e Ag 30 '33; Mach 40:109 O '33

Machine tool dealers file code. Am Mach 77:596d-596e S 13 '33; Same. Iron Age 132:41-2 S 14 '33

60 per cent drop in small tools; 1929 and 1931 compared. Am Mach 76:1204c D 7 '32; Mach. 39:343 Ja '33

**MACHINE tools**

American automatic machinery aids Soviet reconstruction. R. E. Miller. il Iron Age 131:162-4+ Ja 26 '33

Les applications de la transmission hydraulique à la commande des machines-outils. diag Génie Civil 102:474-5 My 20 '33

Automatic operations on a small shaft; machining a windshield wiper shaft. H. T. Smith. il diags Am Mach 77:146-7 Mr 1 '33

Bearbeitbarkeit und werkstättenausnutzung. G. Schlesinger. il diags Zeit Ver Deutsch Ing 76:1281-93 D 31 '32

Bullard type "F" twin six-spindle multi-automatic. il Am Mach 77:127 F 15 '33; Iron Age 131:202 F 2 '33

Chromium plating finds new applications in the machine shop. N. H. McKay and C. F. Bonnet. il Mach 39:576-9 My '33

Description of machine tools. F. H. Thomas. C. J. Starr. C. E. Derrough. [photolithographed] 189p Univ. of Illinois, Machine laboratory, Urbana '32

Die entwicklung des deutschen werkzeugmaschinenbaues in den letzten vier jahren. A. Wallichs. il Zeit Ver Deutsch Ing 77:1081-6 O 7 '33

Experiences in machining aluminum alloys. R. V. Hutchinson. diags Am Mach 77:645-7, 686-8 O 11-25 '33

Hardened ways for machine tools. C. Golosman. il Mach 39:760 Ag '33

Highly developed production equipment made available in 1932. R. E. Miller. Iron Age 131:51-7 Ja 5 '33

How to buy machine tools. J. R. Weaver. Am Mach 77:69-72, 114-16, 138-9 F 1-Mr 1 '33

Machine tool handwheels and knobs made from synthetic plastic materials. il Mach 39:263 D '32

Manufacturing equipment required to meet the designer's needs. L. F. Maurer. S A E J 31:465; Discussion. 465-6 D '32



**MACHINE tools—Continued**

- Modern hydraulic operation of machine-tools. H. C. Town. *il* diags *Inst Mech Eng Proc* 123:211-303 '32; Same cond. *Engineer* 154: 533-5, 568-9, 587-8, 624-5 N 25-D 16 '32; Same cond. *Engineering* 134:632-4, 723-6, 778-80 N 25, D 16, 30 '32; Discussion. *Inst Mech Eng Proc* 123:304-23 '32; *Engineer* 154:540 N 25 '32; *Engineering* 134:629-30 N 25 '32
- Modern machines of standard design adapted to special work. *il* *Mach* 39:538-9 Ap '33
- Monarch centrode device and oval chuck. *il* *Am Mach* 77:162-3 Mr 1 '33; *Iron Age* 131: 439 Mr 16 '33; *Automotive Ind* 68:410 Ap 1 '33
- Morton horizontal boring, drilling, milling machine and draw-cut planer. *il* *Am Mach* 77: 27 Ja 4 '33; *Mach* 39:363 Ja '33; *Iron Age* 131: 171 Ja 26 '33
- Most modernizing doesn't make new machine tools out of old. J. Geschelin. *Automotive Ind* 69:504-5 O 28 '33
- Natco hydraulically fed machines for automobile plants. *il* *Mach* 39:289-90 D '32; *Iron Age* 130:886 D 8 '32
- New equipment. Published in weekly numbers of *Steel*
- New machine tools feature increased productivity. *il* *Steel* 92:94-5 Ja 2 '33
- New plant and tools; recent introductions for securing greater output and accuracy. *il* *Automobile Eng* 23:285-8 Ag '33
- 1933 production equipment show in print. *il* diags *Automotive Ind* 69:507-29 O 28 '33
- Purchasing machine tools for the small shop. J. R. Weaver. *Am Mach* 77:536-7 Ag 16 '33
- Richards horizontal surfacing and boring machine. *il* *Engineering* 135:60 Ja 13 '33
- Riesen-doppel-spitzendrehbank. A. Velten. *il* diags *Zeit Ver Deutsch Ing* 77:946-8 S 2 '33
- Shop equipment review; last six months of 1932. *il* diags *Am Mach* 77:33-68 Ja 18 '33

**See also**

- |                               |                       |
|-------------------------------|-----------------------|
| Arbors and mandrels           | Machine shop practice |
| Bending machines              | Machine tool industry |
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| Chucking machines             | Planing machines      |
| Chucks                        | Polishing machines    |
| Cutting machines              | Press tools           |
| Cutting tools                 | Punching machinery    |
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| Gear cutting machines         | Sharpening            |
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| Lapping machines              | Threading machines    |
| Lathes                        | Tool steel            |

**Bearings**

- Simplified method of mounting anti-friction bearings; Marlin-Rockwell G type bearing. T. Barish. *il* diags *Mach* 39:467-9 Mr '33

**Design**

- Contour calculations for forming tools. O. A. Johnson. *il* diags *Am Mach* 76:893-6, 930-2, 963-72, 1001-3, 1026-30, 1061-4, 1097-9, 1126-8, 1161-4, 1224-6; 77:12-13 Ag 3-N 23, D 21 '32-Ja 4 '33
- Electrical advances the trend in machine tool design. J. W. Harper. *il* diags *Elec W* 102:596-8 N 4 '33
- Flexibility in machine tool equipment. J. Geschelin. *Automotive Ind* 67:637-8-J N 19 '32
- Frame deflection in punch presses. A. Clements. diags *Am Mach* 77:101-3 F 15 '33
- Future developments in machine tool design. G. Hubbard. *Mach* 39:259-60 D '32
- Good looking machine tools help in production, executives say. V. P. Rumely. *il* S A E J 32:sup9-13 My '33; Discussion. J. E. Padgett. 33:sup22-3 Ag '33
- Künftiger bau von werkzeugmaschinen. C. Krug. *Zeit Ver Deutsch Ing* 77:301 Mr 18 '33
- 1932 stimulated ingenuity of machine tool designers, introduced new materials. J. Geschelin. *il* *Automotive Ind* 68:71-2-Ja 21 '33

Some principles of low-cost tooling. J. E. Padgett. *il* S A E J 32:59-64 F '33; Same. *Am Mach* 77:82-4 F 1 '33; Excerpts. *Automotive Ind* 68:127-8 F 4 '33; *Iron Age* 131:240 F 9 '33

**Electric driving**

- Antrieb von exzenter-werkzeugmaschinen. H. Grünbaum. *Zeit Ver Deutsch Ing* 76:1123-9 N 12 '32
- Electrical advances the trend in machine tool design. J. W. Harper. *il* diags *Elec W* 102:596-8 N 4 '33
- Electrically-operated heavy lathe. *Engineering* 135:39-40, pl 2 Ja 13 '33
- Kitchen and Wade motor-driven radial drilling machine. *il* *Engineer* 155:51 Ja 13 '33
- Motors and machine tools more intimate. *il* *Elec J* 30:23 Ja '33
- New machines for old; transforming obsolete planer into an up-to-date miller. O. G. Rute-miller. *il* *Am Mach* 77:425-7 Jl 5 '33
- Overheating is problem in motors for fast reversing service. O. G. Rute-miller. *il* *Steel* 93:25-7 N 6 '33

**Exhibitions**

- Leipzig fair; a selection of the machine tool exhibits for automobile work. *il* *Automobile Eng* 23:105-6, 135-40 Mr-Apr '33
- Machine tool trends at the Leipzig fair. *Am Mach* 77:212e-212f Mr 29 '33
- Machine tools at the Leipzig fair. *il* diags *Engineering* 135:293-5, 323-6, 400-3, 451-3, 464, 481-3, 492, pl 20-1 Mr 17-24, Ap 14, 28-May 5 '33
- Tendencies in German machine tools as noted at the Leipzig fair. *Mach* 39:571 My '33

**Fixtures**

- Fixture for fragile castings. F. Server. diags *Am Mach* 77:665-6 O 11 '33
- Four-position trunnion type fixture. C. C. Tomney. *il* diags *Mach* 39:456-7 Mr '33
- Geometric chaser grinder and universal fixture. *il* *Iron Age* 132:34 N 2 '33
- Matrix alloy reduces tool and die costs. J. R. Weaver. *il* diags *Mach* 40:129-32 N '33
- One- and two-handed fixtures. A. M. Wasbauer. diags *Am Mach* 77:695 O 25 '33

**Prices**

- Some factors that affect machine tool prices. J. Geschelin. *Automotive Ind* 68:603-5 My 20 '33

**Reconstruction**

- New machines for old; transforming obsolete planer into an up-to-date miller. O. G. Rute-miller. *il* *Am Mach* 77:425-7 Jl 5 '33

**Speed**

- Thick slitting saw of high speed steel in the milling machine. G. D. Taylor. diags *Am Mach* 77:427 Jl 5 '33; Discussion. A. L. De Leeuw. 77:602-3 S 13 '33

**Standards**

- Rotating air cylinders and adapters. 6p American standards assn, 29 W. 39th st, New York '32

**MACHINE work**

- Better times; Foster turret lathes and Foster-matics turning, boring, and facing; illustrations. *Iron Age* 130:884-5 D 8 '32
- Better times; Heald bore-matics precision boring; illustrations. *Iron Age* 130:762-3 N 17 '32
- Better times; illustrations of increased production in the manufacture of automobiles; Ford motor company. *Iron Age* 130:796-7 N 24 '32
- Doubling press production. R. H. Kasper. diags *Am Mach* 77:23 Ja 4 '33
- Fabrication of 18-8 (and 15-10 in England). J. A. McWilliam. *il* *Metal Prog* 23:33-6 Ja '33
- Fewer motions, more output. C. G. Johnson. *il* plans *Factory Management* 91:395-6 O '33
- Keeping two presses in step in making ferules used in the handles of can openers. W. Wells. diags *Am Mach* 77:375 Je 7 '33
- Machining non-metallic materials. *Am Mach* 77:629 S 27 '33

**MACHINE work—Continued**

Machining 32-ft. gate valves for Boulder dam. *il Am Mach* 77:684-5 O 25 '33

Machining with oxyacetylene. H. H. Moss. *il diags Am Mach* 76:1217-19; 77:14-16 D 21 '32-Ja 4 '33

Mechanical generation of form; editorial. *Engineer* 156:163-4 Ag 18 '33

Precision machining in surgical scissors production; Bard-Parker co. H. R. Simonds. *il diag Iron Age* 131:660-3 Ap 27 '33

Press work pressures. C. W. Lucas. *diags Am Mach* 77:181-3, 218-19, 248-9, 280-1, 312-13, 344-5, 376-7, 412-13, 440-1, 472-3, 506-7, 538-9, 568-9, 600-1, 632-3, 662-3, 696-7, 726-7 Mr 15-N 8 '33 (to be cont)

Über die bestimmung des temperaturfeldes beim spanablauf. F. Schwerd. *il diags Zeit Ver Deutsch Ing* 77:211-16 Mr 4 '33

Welding and cutting advance with better apparatus and supplies. R. E. Miller. *Iron Age* 131:56-7 Ja 5 '33

See also

Automobiles—Manufacture

Centering (machine work)

Grinding

Honing

Indexing (machine work)

Locating (machine work)

Machine shop practice

Metal cutting

Milling

Polishing

Trepanning

Turning

Tables, calculations, etc.

Charts for selecting machines of correct size for milling and turning operations. A. E. Gutzwiller. *Mach* 39:724-6 J1 '33

Turning time for shafts of various diameters and lengths. C. F. Scribner. *chart Mach* 39:284-5 D '32

See also

Grinding—Tables, calculations, etc.

**MACHINE works**

Bryce fuel-injection equipment; Kelvin works. Hackbridge. *il diags Engineering* 135:128-9 F 3 '33; *Engineer* 155:114, 115-16 F 3 '33

First 100 years; Brown & Sharpe celebrates its centennial. *il Am Mach* 77:270-2 Ap 26 '33; *Mach* 39:598-600 My '33

Visit to the English electric company's Stafford works. *il diags Engineer* 154:487-90 N 11 '32; *Electrician* 109:604-6 N 11 '32

Works of Messrs C. A. Parsons and company, limited. *il diags Engineering* 134:645-9, 654, 673, 674-6, 728-32, 740 D 2-9, 23 '32

Works of Messrs. Higgs motors. *il Engineering* 135:710-11 Je 30 '33; *Engineer* 155:657-8 Je 30 '33

See also

Machine tools—Manufacture

Machinery—Manufacture

**Equipment**

Swedish semi-Diesel manufacture. A. E. Fristedt. *il diags Am Mach* 77:140-3 Mr 1 '33

**MACHINERY**

Der stand des knickproblems stabförmiger körper unter besonderer berücksichtigung der bedürfnisse des maschinenbaus. J. Bach. *diags Zeit Ver Deutsch Ing* 77:610-14 Je 10 '33

See also

Agricultural machinery

Alinement of machinery

Assembling methods

Balancing machines

Balancing of machinery

Ball bearings

Bearings

Belting

Bolts and nuts

Bottle making machinery

Broaching machines

Bushings

Calculating machines

Clamps

Clutches

Coal mining machinery

Conveying machinery

Cotton machinery

Couplings

Cranes, derricks, etc.

Crankcases

Crankpins

Crankshafts

Crushing machinery

Cutting machines

Cylinders (engines, etc.)

Diesel engines

Dredges

Drilling and boring machinery

Dyeing machines

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Electric machinery

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Feed mechanism

Fits (machinery)

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Shoveling machines

Silk machinery

Spinning machinery

Springs (mechanism)

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Steam turbines

Testing machines

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Trenching machinery

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Turning

Typesetting machines

Valves

Vending machines

Wood working machinery

Woolen and worsted machinery

**Alinement**

See Alinement of machinery

**Control**

Machines stopped automatically by electronic time-delay relay. *il diag Elec W* 101:643 My 20 '33

**Design**

Arc welding introduces new methods in machine design. E. Chapman. *il Mach* 39:241-6 D '32

Die bedeutung der arbeitsleistung in teilfragen für die steifigkeit der konstruktion. K. Schönfelder. *diags Zeit Ver Deutsch Ing* 77:1070-3 S 30 '33

Elements of machine design. S. J. Berard and E. O. Waters. 2d ed 410p \$3.25 Van Nostrand '32

Equipping for the new needs of industry. *il Mach* 39:81-118, 182-201, 261-71, 323-34, 386-92 O '32-F '33

Gegenwartsfragen im bau von maschinen-tellen. E. Heidebroek. *diags Zeit Ver Deutsch Ing* 77:1165-71 O 28 '33

Product design and its influence on set-up time. T. Berna. *Iron Age* 131:617-19 Ap 20 '33

Required course in machine design for non-mechanical engineering students. R. H. G. Edmonds. *J Eng Educ* 23:531-6 Mr '33

Rigid versus flexible machine design. R. C. Pierce. *il Ry Mech Eng* 106:489-90 D '32

Salability and the shop. J. Haydock. *il Am Mach* 77:32b-d Ja 18 '33

Shoe manufacturing machinery and some special problems in its design; abstracts and discussion. J. Gouldbourn. *Engineering* 136:368 S 29 '33; *Engineer* 156:292 S 22 '33

Should maintenance be consulted in the design of special machines? *Factory Management* 91:104-5 Mr '33

Simplified method of plotting a gravity cam curve. A. S. Kingman. *Mach* 39:503-4 Ap '33

Things that are commonly wrong in text books on machine design. W. Trinks. *diags J Eng Educ* 23:523-30 Mr '33



**MACHINERY—Design—Continued**

- Tolerance system must recognize controlling influence of maximum fit. W. L. Hindman. *Automotive Ind* 68:706-8 *Je* 10 '33  
 Welding from the designer's point of view. C. O. Herb. *il Mach* 39:569-71 *My* '33  
 Welding in the steel industry—rational design as applied to mill housings. W. H. Warren. *il diags Iron Age* 131:464-5+ *Mr* 23 '33

*See also*

- Cams** Machine tools—Design  
**Gearing—Design** sign

**Drawing**

- How to sketch mechanisms. F. D. Jones. 94p *Industrial press*, New York '32  
 Machine drawing. C. L. Svensen. 2d ed 248p *Van Nostrand* '33  
 Problems in machine drawing. R. B. Felton. 186p \$1.90 *McGraw-Hill* '33  
 Simple method of drawing intricate parts in different angular positions. W. H. Haupt. *diags Mach* 39:441 *Mr* '33

**Exhibitions**

- British industries fair, Birmingham and London. *il diags Engineer* 155:166-8, *supp i-viii*, 187-8, *supp i-viii*, 213-16, 239-44 *F* 17-*Mr* 10 '33; *Engineering* 135:183-6, 208-16, 240-9, 269-75, *pl* 10-17 *F* 17-*Mr* 10 '33; *Electrician* 110:224-6, 257-68 *F* 17-24 '33; *Elec R (Lond)* 112:267-70 *F* 24 '33; *Mech Handling* 20:83-6 *Mr* '33  
 Cardiff engineering exhibition. *Elec R (Lond)* 111:788 *N* 25 '32  
 Leipzig technical fair. *il diags Engineer* 155:295-7, 328-9 *Mr* 24-31 '33  
 National exposition of power and mechanical engineering, 10th annual power show, New York. *Iron Age* 130:929 *D* 15 '32; *Power* 76:351-3 *Mid-D* '32; *Engineering* 135:37-9, 70-1, 74, 138-40, 194-6 *Ja* 13-20, *F* 3, 17 '33  
 Shipping and engineering exhibition; increasing applications of electricity in marine engineering. A. Regnaud. *il Elec R (Lond)* 113:347-8 *S* 15 '33  
 Shipping and engineering exhibition, Olympia, Sept. 7-23. *Elec R (Lond)* 113:284 *S* 1 '33  
 Shipping, engineering and machinery exhibition at Olympia. *il diags Engineer* 156:224-30, *supp i-xvi*, 248-53, 274-82, 300-4, 310, 324-30 *S* 8-O 6 '33; *Engineering* 136:249-64, 293-308, 328-33, 336, 362, 370-2 *S* 8-29 '33; *Electrician* 111:318-20 *S* 15 '33; *Gas J (Lond)* 203:575-7 *S* 13 '33; *Mech Handling* 20:294, 322 *S* 13 '33; *Soc Chem Ind J (Chem & Ind)* 52:746-7 *S* 15 '33; *Automobile Eng* 23:359-70 *O* '33

*See also*

- Foundry machinery—Machine tools—Exhibitions**

**Failures**

- Machinery failures; editorial on annual report by the British engine boiler and electrical insurance company, limited. *Engineering* 136:67-8 *Jl* 21 '33

*See also*

- Engines—Failures**

**Foundations**

- Design of concrete foundations. H. G. Smith. *diag Can Min J* 54:154-5 *Ap* '33  
 Development of a sound-isolating base for motors. E. H. Hull. *il diags Gen Elec R* 36:223-7 *My* '33  
 Disposition rationnelle pour les massifs de fondation des marteaux-pilons. I. Katel. *diags Génie Civil* 102:161-2 *F* 18 '33  
 Elastic properties of various materials and their effect on the transmission of vibrations. B. E. Eisenhower and F. G. Tytzer. *diags J Fr Inst* 214:691-707 *D* '32  
 How to construct steam hammer foundations. W. C. Betz. *diags Factory Management* 91:465-6 *N* '33  
 Misalignment of plant. E. L. Parry. *diag Elec R (Lond)* 111:921 *D* 23 '32  
 Vibration-absorbing materials. *il Mach* 40:99-100 *O* '33

*See also*

- Gas and oil engines,**  
**Marine—Foundations**

**Maintenance and repair**

- Anticipating maintenance expense by proper inspection. E. E. Berry. *Paper Tr J* 96:25-8 *Je* 22 '33  
 Can the stripping of idle machines be justified? *Factory Management* 91:105, 141 *Mr-Ap* '33  
 Dynamite in the machine shop; small charge in cannon loosens frozen pin. W. C. Betz. *il Explosives Eng* 11:26 *Ja* '33  
 Equipment maintenance records. J. Geschelin. *Automotive Ind* 69:416-17 *O* 7 '33  
 Power press maintenance. J. W. Bland. *il Nat Safety N* 27:19-22 *Ap* '33  
 Should maintenance be consulted in the design of special machines? *Factory Management* 91:104-5 *Mr* '33  
 Welded repairs. C. W. Brett. *il Elec R (Lond)* 113:182 *Ag* 11 '33

**Manufacture**

- Beitrag zur kenntnis der mechanischen eigenschaften grösser schmiedestücke. E. Maurer and H. Korschan. *il diags Stahl & Eisen* 53:209-15 *Mr* 2 '33  
 Cast iron, an old metal with new possibilities. *il Mach* 40:93-5 *O* '33  
 Development of cast iron for machine construction. O. Smalley and W. W. Kerlin. *il Iron Age* 132:24-7 *O* 19 '33  
 Electric welding has rapidly gained ground in industry. *il Mach* 39:324-5 *Ja* '33  
 Employing rolled steel in construction of machinery; abstracts. H. G. Marsh. *Steel* 92:25-7 *My* 29 '33; *Iron Age* 131:860-1 *Je* 1 '33; *Engineer* 155:595-6 *Je* 9 '33  
 Gegenwartsfragen im bau von maschinen-teilen. E. Heidebroek. *diags Zeit Ver Deutsch Ing* 77:1165-71 *O* 28 '33  
 Many castings are used in largest testing machine. *il Foundry* 61:38+ *S* '33  
 Non-metallic materials find application in machine design. *il Mach* 39:391-2 *F* '33  
 Part played by alloy steels in the machine age. *il Mach* 40:68-71 *O* '33  
 Use of malleable iron for machine parts. E. Touceda. *Mach* 39:334 *Ja* '33  
 Using steel castings for strength and reliability. *il Mach* 40:77-80 *O* '33  
 Welding from the designer's point of view. C. O. Herb. *il Mach* 39:569-71 *My* '33  
 Welding in the steel industry—fabrication of steel mill machinery. C. M. Taylor. *il diag Iron Age* 131:1024-7; 132:16-17+ *Je* 29-*Jl* 6 '33  
 When weldings are specified. F. W. Shaw. *diags Am Mach* 76:1231 *D* 21 '32

*See also*

- Assembling methods**  
**Machine parts**  
**Machine works**

**Replacement parts**

- Buy or make replacement parts? *Factory Management* 91:335, 374-5, 427 *Ag-O* '33  
 Manufacture of renewal parts. E. C. Brandt. *il Elec J* 30:192-5 *My* '33

**Safety devices and measures**

- Need for efficient machinery guards; wire mesh and perforated metal. *il Chem Age (Lond)* 28:576-7 *Je* 24 '33  
 Safety for chemical works machinery. E. J. Wallace. *Chem Age (Lond)* 29:399 *O* 28 '33

**Specifications**

- Yardstick for buying welded machine parts. A. S. Austin. *Mach* 39:397-9 *F* '33

**Speed**

- Significance of speed standardization. J. Decker and W. P. Acres. *Mech Eng* 55:246-8 *Ap* '33

*See also*

- Machine tools—Speed**

**Transportation**

- Flying heavy freight into the Peruvian Andes. B. Rosette. *il Comp Air M* 38:4230-2 *O* '33  
 Tractors speed unloading of large machinery shipment. *il Steel* 92:24 *Ap* 17 '33

**MACHINERY—Continued****Vibration**

- Elastic properties of various materials and their effect on the transmission of vibrations. B. E. Eisenhour and F. G. Tyzzer. diags J Fr Inst 214:691-707 D '32
- Elastic supports prevent machine noise transmission. C. C. Clymer. il diags Power 76:288-90 D '32
- Lord plate-form vibration-absorption machine mountings. diags Am Mach 77:320 My 10 '33
- Vibration-absorbing materials. il Mach 40: 99-100 O '33

**Wrecking**

- Demolishing a 22-ton casting for foundry iron. diags Eng & Min J 134:156 Ap '33

**MACHINERY, Automatic**

- Automatic machines speed roller chain production; Baldwin-Duckworth mfg. co. H. R. Simonds. il Iron Age 130:758-60 N 17 '32
- Automatic wire-forming machine. il diags Engineer 155:60-3, 70 Ja 20 '33
- Continuous punching, forming and assembling on automatic machines. F. H. Colvin. il diags Am Mach 77:522-5 Ag 16 '33

**MACHINERY, Kinematics of**

- Leistungsverluste im drehkolbenverdichter; einfluss der arbeitsschieber auf den mechanischen wirkungsgrad. A. Steller. diags Zeit Ver Deutsch Ing 76:1218-20 D 10 '32
- Principles of mechanism. A. Vallance and M. E. Farris. 335p Macmillan '33
- Whirling of a shaft with skew stiffness. D. Robertson. Engineer 156:152-3, 179-81, 213-14 Ag 18-S 1 '33
- Wirtschaftlichkeit der in resonanz betriebenen kraft- und arbeitsmaschinen. H. Schieferstein. il diags Zeit Ver Deutsch Ing 77:69-73 Ja 21 '33

See also

Mechanical movements

**MACHINERY, Replacement of**

- Business must get up to date. R. Willoughby. il Nation's Business 21:23-5+ Mr '33
- Buy for rehabilitation. E. L. Shaner. Foundry 60:18-19 N '32
- Capital goods up front; NRA begins to push the equipment and construction industries. Business Week p5-6 S 2 '33
- Check sheet of production equipment; reference book sheet. Am Mach 76:1203-4 D 7 '32
- Economic replacement of pumping equipment. H. P. Binder. Water Works & Sewerage 79: 430-2 D '32
- Equipment maintenance records. J. Geschelin. Automotive Ind 69:416-17 O 7 '33
- Executive-factory liaison clears moot points in equipment buying. J. Geschelin. S A E J 33:sup23-30 S '33; Excerpts. Automotive Ind 69:241-2 Ag 26 '33; Discussion. S A E J 33: 371-6 N '33
- Five rehabilitation reasons. C. H. Bivin and others. Am Mach 76:1201-2 D 7 '32
- Flexibility, accuracy, economy in an engine block line; Lycoming manufacturing company. W. H. Swink. il Am Mach 77:261-4 Ap 26 '33
- Ford—exponent of modernization. B. Finney. il Iron Age 130:795-8 N 24 '32
- Fundamentals of industrial equipment policies. F. E. Raymond. Mech Eng 55:411-21 Jl '33
- How to get your share of a business increase; Committee on industrial rehabilitation. A. W. Robertson. Forbes 30:12+ D 15 '32
- How to make industrial sales now. H. P. Bailey. diags Iron Age 130:878-81+ D 8 '32
- Improvements; medium-sized manufacturing plants want most new power equipment, inquiries show. Business Week p12 Ja 25 '33
- Industrial modernization program makes progress. A. W. Robertson. Rock Prod 35:26 N 19 '32
- Industrial rehabilitation work lists \$70,875,000 to be spent. Iron Age 130:778 N 17 '32
- Maintenance and obsolescence of handling equipment. E. J. Tournier. il Gas Age 71: 351-4 Ap 8 '33

- Mercury-arc rectifiers in the rehabilitation program. A. L. Atherton. il Elec J 29:565-6 D '32
- Most modernizing doesn't make new machine tools out of old. J. Geschelin. Automotive Ind 69:504-5 O 28 '33
- National rehabilitation program and the opportunity it affords for industrial salesmen. M. Muir. Management R 22:3-10 Ja '33
- Need for rehabilitating equipment will be greater in 1933. J. D. Knox. Steel 92:67-70 Ja 2 '33
- New tools for the war against decay. R. Willoughby. il Nation's Business 21:20-2+ My '33
- Present problem of the machine. J. G. Harbord. Mech Eng 55:13-16 Ja '33
- Price leveling meets three big obstacles; lack of uniformity in cost accounting, management methods, equipment modernization. F. Juraschek. Iron Age 132:30-1 N 2 '33
- Printers wise will modernize; editorial. Inland Ptr 91:25 My '33
- Railway shops badly in need of new tools. Ry Mech Eng 107:287 Ag '33
- Replacement policy and the depression. J. E. Gleason. Am Mach 76:1200-1 D 7 '32
- Scrapping obsolete textile machinery will save \$159,000,000 a year. W. W. Chase. diags Textile World 83:428-31 F 28 '33
- Selecting new equipment to produce net profits. H. P. Bailey. il Mach 39:601-5 My '33
- Supplementary credit facilities; modernization by the finance company route. K. C. Watson. Manuf Rec 102:22 Je '33
- Throw out all your obsolete machinery and then profits will climb, printer says. R. S. Pearre. Inland Ptr 90:25-8 D '32
- MACHINERY and allied products institute**
- Catechism explaining its organization, aims and purposes. Am Mach 77:500e-500g Ag 2 '33
- Machine tool builders vote to join Machinery institute. Iron Age 132:26G Jl 20 '33
- Machinery and allied products institute; the aims and purposes. Mach 40:37-8 S '33
- O'Leary to head new Machinery institute under industrial recovery act. Iron Age 132: 32D Jl 6 '33; Automotive Ind 69:53 Jl 8 '33; Business Week p8 Jl 8 '33
- MACHINERY in industry**
- Busted bootstrap; capital goods. C. B. Larabee. Ptr Ink 164:44-5+ S 28 '33
- Common sense about machines and unemployment. M. P. Taylor. 173p \$1.50 John C. Winston co, Philadelphia '33
- Digest of material on technological changes, productivity of labor, and labor displacement. Monthly Labor R 35:1031-57 N '32; Abstract. Int Labour R 27:519-23 Ap '33
- Does production machinery throw men out of work? P. Hall. Mach 40:110 O '33
- Economic consequences of power production. F. Henderson. 220p Day '33
- Economic effects of labor-saving machinery on labor. H. B. Hastings. Management R 22:291-8 O '33
- Employment in relation to mechanization in the bituminous-coal industry. Monthly Labor R 36:256-78 F '33
- Facts and threats of technocracy. Iron Age 130:960-3+ D 22 '32
- Figures that answer technocracy. R. Willoughby. Nation's Business 21:31-2+ F '33
- Future of capitalism in a mechanised world. A. Salter. Fortune 7:60-3 Ap '33
- General Johnson plays with dynamite; no manufacturer shall install additional productive machinery without a license. Forbes 32:4 Jl 15 '33
- Industry must recognize law of diminishing returns. R. B. Prescott. Iron Age 131:225-7 F 9 '33
- Labor productivity in the automobile tire industry. B. Stern. pls U S Bur Labor Statistics Bul 585:1-74 '33
- Labor's profit from power machinery. Am Bankers Assn J 25:18+ F '33
- Living with machines. W. F. Ogburn. 16p pa 25c American library assn, Chicago '33



**MACHINERY in industry—Continued**

- Machine age in the hills. M. Ross. 248p \$2  
Macmillan '33
- Machine—an aid to humanity. C. M. Jansky.  
Elec Eng 52:532-5 Ag '33
- Man and his machine; the mutual responsibilities of a new industrial era [reprinted from January 1931 issue]. H. Emerson. Factory & Ind Management 84:49-50 F '33
- Man power and the machine in highway work. J. H. Mullen. Roads & Sts 76:268-9 J1 '33
- Mechanical handling and unemployment. E. Heidebroek. Mech Handling 20:44 F '33
- Modernization—what is the situation under NIRA? Textile World 83:1423-4 Ag '33
- Obsolete men; technological unemployment. II Fortune 6:25-34+ D '32
- Plain talk about technocracy; discussion of article in November issue of the New Outlook. J. H. Van Deventer. Iron Age 130:849-50 D 1 '32
- Power as a factor in economic readjustments. W. N. Polakov. Ann Am Acad 165:31-7 Ja '33
- Progress and limitations of farm mechanization in the United States. Monthly Labor R 36:511-18 Mr '33
- Social effects of mass production. D. S. Kimball. II Mech Eng 55:83-9 F '33; Same. Science 77:1-7 Ja 6 '33
- Study of production methods as important now as in boom times. C. Berg. diags Iron Age 130:764-5 N 17 '32
- Successful living in the machine age; review of book by E. A. Filene. C. R. Norberg. Sibley J 47:83-4+ My '33
- Technical progress and unemployment. M. Bouniaton. Int Labour R 27:327-48 Mr '33
- Technical progress and unemployment; reply to Professor Bouniaton. E. Lederer. Int Labour R 28:1-25 J1 '33
- Technocratic unemployment; from the statistical depths of recent social trends arise figures to confute the technocrats. Business Week p20-1 Ja 25 '33
- Technological changes and employment in the electric-lamp industry. Monthly Labor R 36:1213-28 Je '33
- Technological unemployment in Australia. Int Labour R 28:213-15 Ag '33
- Technology and social progress. W. Rautenstrauch. Paper Tr J 96:36-43; Discussion 43-6 Ap 13 '33
- Unemployment and labor-saving machines. S. M. Kintner. Iron Age 130:812+ N 24 '32
- Wage earner's share of his production; reprint from September 1930 American bankers association journal. F. Hcbbs. Am Bankers Assn J 25:19-20+ F '33
- What mechanization means. W. Taylor. Mech Handling 19:412-13 D '32
- What of cost-cutting equipment under the NIRA? Factory Management 91:426-7, 468-70 O-N '33
- What the machine has done to us. W. S. Giele. Iron Age 131:187-91+, 264-9, 305-7, 354-6+, 389-91+, 470-5+, 544-5, 571+, 622-7+ F 2, 16-Mr 9, 23, Ap 6, 20 '33
- What the machine is doing to mankind. J. S. Thomas. J Fr Inst 215:247-72 Mr '33; Abstract. Nation's Business 21:21-3+ Ja '33

*See also*

- |                      |                     |
|----------------------|---------------------|
| Labor displacement   | Machinery. Replace- |
| Labor productivity   | ment of             |
| Labor saving devices | Power (mechanics)   |

**MACHINERY industry**

- Materials handling equipment helps to reduce production costs. Steel 92:97 Ja 2 '33
- Research in the metal-working industry not depressed. M. Holland and W. Spraragen. Iron Age 131:102-3+ Ja 12 '33
- Triple supply convention studies business opportunities under the NRA. Iron Age 132:35-6 O 5 '33

*See also*

- |                                 |   |
|---------------------------------|---|
| Agricultural machinery industry | Machinery—Exhibitions                   |
| Automobile industry and trade   | Machinery and allied products institute |
| Locomotive industry             | Motor truck industry                    |
| Machine tool industry           | and trade                               |

**Securities**

- Machinery and miscellaneous equipment companies, 1930-1932. Mag of Wall St Manual p48-9 Mr 6 '33

**Statistics**

- Distribution of United States industrial machinery exports in 1931; graph. Mach 39:352 Ja '33
- Machinery industry at grips with the business cycle. W. H. Rastall. Mech Eng 55:10-12+ Ja '33

**France**

- Paris fair; discussion of status of French machinery industry. Engineer 155:528-9 My 26 '33

**Germany**

- Credit arrangements between Germany and the Soviet Republic. Mach 39:258 D '32
- German machinery industry. T. Butts. II U S Bur For & Dom Com Trade Promotion Ser 146:1-76 '33

**Great Britain**

- Banking and industry; with special reference to engineering. Engineer 155:250-1, 277 Mr 10-17 '33
- Duties on imported machinery. Chem Age (Lond) 27:432 N 5 '32
- Engineering, 1932. Economist 116:sup56+ F 18 '33
- Engineering outlook. Engineering 135:20-1, 92-4, 150-2, 181-2, 224-6, 268-9, 309-10, 361-2, 413-14, 443-4 Ja 6, 27, F 10-24, Mr 10-17, 31, Ap 14-21 '33
- Licensing of machinery imports. Engineer 156:194 Ag 25 '33
- Position of British engineering industries. W. Reavell. Engineer 156:388-9 O 20 '33
- Quality of British engineering products; British standards institution's reply to British chamber of commerce in the Argentine Republic on standard of quality of British engineering products for South American markets. Engineer 156:317-18 S 29 '33; Same cond. Electrician 111:445-6 O 13 '33
- Unemployment; its realities and problems; excerpts from a pamphlet issued by the Engineering and allied employers' national federation. Engineer 156:120-2 Ag 4 '33

**Russia**

- Bearings for the Soviets. F. Schubert. II Am Mach 77:229-32, 273-6, 296-9, 334-7, 369-72 Ap 12-Je 7 '33
- Credit arrangements between Germany and the Soviet Republic. Mach 39:258 D '32
- Russian machine construction programme. V. V. Kuibysheff. Engineering 135:288 Mr 10 '33

**United States**

- Approval of longer work seen for capital goods. Iron Age 132:46 O 19 '33
- Machinery and jobs; NRA begins to think industry needs the breaks, rather than labor, in the capital goods field. Business Week p8 S 30 '33
- NRA and the machinery industry; abstract. Mech Eng 55:638-9 O '33
- Specialized machinery and equipment codes progress. Iron Age 132:39-40 S 21 '33
- Textile machinery code hearing sets speed record. Iron Age 132:34-5 Ag 31 '33

*See also*

- Machinery and allied products institute
- MCINTIRE, Allyn Brewster  
Sign of the crab. H. Powel. Adv & Sell 21:22-3 O 12 '33
- MCINTIRE, David A.  
Devises ingenious mechanical aids. por Management Methods 61:618 N '32
- MCINTYRE Porcupine mines  
Story of McIntyre. biblog II diags maps plans Eng & Min J 134:445-96 N '33
- MACK trucks, incorporated  
It's a long lane that has no turning. W. W. Hay. II Mag of Wall St 52:326-7 J1 22 '33
- Selected stocks to buy for future profit and protection. Mag of Wall St 52:29 Ap 29 '33

**MCKEE, Joseph V.**

Assumes presidency of Title guarantee and trust company of New York. *por* Trust Companies 56:586-7 My '33

**MCKEESPORT tin plate company**

McKeesport's profitable tin plate. *Econostat* 1:12, 32 S 16 '33

Opportunities for income and profit. *Mag of*

Wall St 52:435-4 Ag 19 '33

Profit prospects in cans; tin container industry and the outlook for leading companies.

N. T. Calhoun. *Mag of* Wall St 51:388-9+ Ja 21 '33

**MCKENZIE, W. A.**

Minister of mines and labour, British Columbia. *por* Can Min J 54:92 Mr '33

**MCKESSON & Robbins, incorporated**

McKesson & Robbins, inc. at the crossroads. *Econostat* 1:12, 32 S 30 '33

Reports loss in 1932. *Oil Paint & Drug Rep* 123:15+ Mr 27 '33

**MACMILLAN, William Duncan**

Portrait. *Sci Am* 147:325 D '32

**MACON, Georgia****Water supply**

Water works reconstruction financed from earnings. H. F. Wiedeman. *il* Pub Works 64:11-12 S '33

**MACY, R. H., and company**

Among the first to benefit from improvement in merchandising. A. L. Van Horne. *Mag of* Wall St 51:155+ N 26 '32

Macy et al. *Ptr Ink* 162:10+ F 9 '33

Macy's installs a 1,000-kw. mixed-pressure turbine. *il* Power 77:225-7 My '33

Mr Macy, meet the guppy . . . and Mr Advertiser, meet the hobby. R. K. Leavitt. *il* Adv & Sell 21:17-18+ Je 22 '33

R. H. Macy & co., inc. *il* Fortune 7:22-33+ Ap '33

Speculative audit: favorable and unfavorable factors affecting common-stock values. *Baron's* 13:14 O 23 '33

Stocks which should see better prices this fall. *Mag of* Wall St 52:483 S 2 '33

This plan built sales; Macy's Forward house. *il* System 62:504-5 N '33

**MADEIRA**

*See also*

Funchal, Madeira—Harbor

**MAGMATISM (term)**

Magmatism. R. W. Ellis. *Science* 78:102 Ag 4 '33

**MAGNESIA**

Band spectra of MgO, CaO and SrO. P. C. Mahanti. *il* Phys R 42:609-21 D 1 '32

Development and use of a Canadian plastic magnesia. A. F. Gill. *il* Can Chem & Met 17:200-3+ O '33

Factors affecting rate of vulcanization of chloroprene plastic polymers. E. R. Bridgwater and E. H. Krismann. *Ind & Eng Chem* 25:280-3 Mr '33

Making high-speed Calrod. C. H. Hannon. *il* Gen Elec R 36:409-10 S '33

**MAGNESITE**

Magnesite mining off 47.7% in 1932—total output 38,462 tons. *Chemicals* 38:9 Je 26 '33

Thermal expansion of magnesite to 1,800° C. *J Fr Inst* 214:749-50 D '32

**MAGNESITE brick**

Some experiments with zircon and zirconia refractories. G. F. Comstock. *il* Am Cer Soc J 16:27-30 Ja '33

Thermal conductivity of magnesite brick. G. B. Wilkes. *il* diag Am Cer Soc J 16:125-30 Mr '33

**MAGNESIUM**

Aluminum-magnesium mirrors. H. W. Edwards. *Phys R* 43:205 F 1 '33

Electrodeposition of magnesium. D. M. Overcash and F. C. Mathers. *Electrochem Soc Trans* 64 (preprint 12):131-6 S '33

Influence of volatile chlorides on magnesium and on copper. J. D. Grogan and T. H. Schofield. *Engineering* 135:675-6 Je 23 '33

Photoelectric sensitivity of magnesium. R. J. Cashman and W. S. Huxford. *diag Phys R* 43:811-18 My 15 '33

Purification of brine by ammoniation. W. C. Hsieh, E. O. Wilson and T. P. Hou. *Ind & Eng Chem* 25:165-7 F '33

Removal of positive ions by electroosmose apparatus. E. Bartow and M. A. Fry. *Ind & Eng Chem* 25:336-8 Mr '33

La sublimation du magnésium dans le vide, et sa coulée dans une atmosphère d'argon. J. Hérenghuel and G. Chaudron. *diags Génie Civil* 102:42-3 Ja 14 '33

**Analysis**

Analysis of sized cotton; the determination of zinc and magnesium, and some qualitative tests. A. Geake. *Textile Inst J* 23:T279-92 N '32

Precipitation and titration of magnesium oxynolinate in the presence of calcium oxalate, and its application in the analysis of Portland cement and similar silicates. J. C. Redmond. *U S Bur Stand J Research* 10:823-6 Je '33

**MAGNESIUM alloys**

Die entwicklung der leichtmetalle elektron und hydronalium. W. Schmidt. *Angew Chemie* 46:626 S 30 '33

Magnesium-alloy protection by selenium and other coating processes. G. D. Bengough and L. Whitby. *Engineering* 136:399 O 6 '33; Discussion. 136:419 O 13 '33

Magnesium alloy; the light construction metal. *Mach* 40:97 O '33

Methods of working and fabricating magnesium alloys. *diags Mach* 39:721-3 JI '33

Non-ferrous metals in the aircraft industry. F. A. Westbrook. *Metal Ind* 30:464-5 D '32

**MAGNESIUM ammonium phosphate**

Observations upon the ignition of magnesium ammonium phosphate. S. J. Kiehl and H. B. Hardt. *il* diag Am Chem Soc J 55:3555-60 S '33

**MAGNESIUM ammonium phosphate hexahydrate**

Dissociation pressures of magnesium ammonium phosphate hexahydrate and some related substances. S. J. Kiehl and H. B. Hardt. *diags Am Chem Soc J* 55:605-18 F '33

**MAGNESIUM carbonate**

*See also*

Dolomite  
Magnesite

**MAGNESIUM chloride**

Role of sodium aluminate in accelerating the separation of solid phases during water-softening operations; softening magnesium chloride solutions, containing 20 parts salt per 10<sup>5</sup> parts water. L. M. Clark and L. S. Price. *Soc Chem Ind J* 52:40T-1T F 10 '33

System magnesium chloride-lime-water. C. R. Bury and E. R. H. Davies. *Chem Soc J* p701-5 Je '33

**MAGNESIUM compounds**

Reaction between alpha, beta-unsaturated ketones and organic magnesium compounds; the structure of the addition products. E. P. Kohler and W. E. Mydans. *Am Chem Soc J* 54:4667-78 D '32

Reaction between alpha, beta-unsaturated ketones and organic magnesium compounds; unsaturated mesitylenic ketones. E. P. Kohler and C. E. Barnes. *Am Chem Soc J* 55:690-5 F '33

Reaction between unsaturated ketones and organic magnesium compounds; the secondary products. E. P. Kohler and W. D. Peterson. *Am Chem Soc J* 55:1073-82 Mr '33

*See also*

Grignard reagents

**MAGNESIUM fluoride**

Spectrum of MgF. F. A. Jenkins and R. Grinfeld. *Phys R* 43:943-4 Je 1 '33

**MAGNESIUM in the body**

Effects of deprivation of magnesium in the animal body. E. V. McCollum, H. D. Kruse and E. R. Orent. *Science* 77:457 My 12 '33



**MAGNESIUM iodide**

Interaction of configurations:  $sd-p^2$ . R. F. Bacher. *Phys R* 43:264-9 F 15 '33

**MAGNESIUM oxide**. See *Magnesia***MAGNESIUM oxychloride cement**. See *Cement*  
—Magnesium oxychloride cement**MAGNESIUM oxyquinolate**

Precipitation and titration of magnesium oxyquinolate in the presence of calcium oxalate, and its application in the analysis of Portland cement and similar silicates. J. C. Redmond. *U S Bur Stand J Research* 10: 823-6 Je '33

**MAGNESIUM phosphates**

Reactivity between dolomite and superphosphate components. W. H. MacIntire and W. M. Shaw. *Il Ind & Eng Chem* 24:1401-9 D '32

**MAGNESIUM silicates****Analysis**

Über eine rationelle methode zur analyse natürlicher magnesiumpulver. M. Bichowsky and J. Gingold. *Angew Chemie* 45:785-7 D 17 '32

**MAGNESIUM sulfate**

Rôle of sodium aluminate in accelerating the separation of solid phases during water-softening operations; softening magnesium sulphate. L. M. Clark and L. S. Price. *Soc Chem Ind J* 52:41T F 10 '33

Untersuchungen über das verhalten von erhärtetem hochofenzement gegen sulfatlösungen und salzarmes wasser. R. Grün and H. Beckmann. *Angew Chemie* 45:739-43 N 26 '32

**MAGNETIC clutches**. See *Clutches*, *Magnetic***MAGNETIC field**

Axial spin of magnetic field. W. Cramp. *diags Electrician* 111:471-2 O 20 '33; *Abstract. Engineering* 136:471 O 27 '33

Control of current across a spark gap by means of an external magnetic field. R. F. Earhart and H. A. Carlock. *diags J Fr Inst* 215:179-87 F '33

Deflection of cosmic rays by a magnetic field. L. F. Curtiss. *diags U S Bur Stand J Research* 9:815-23 D '32

Electromagnetic effects in stellar atmospheres. J. A. Anderson. *Elec Eng* 52: 621-3 S '33

Engineering acoustics. *Electrician* 110:741-2, 829-30 Je 9, 23 '33

High frequency magnetic field of a flat spiral coil. S. Githens, jr. and O. Stuhlman, jr. *R Sci Instr* 4:542-5 O '33

Hyperfine structure and the polarization of resonance radiation; magnetic depolarization and the determination of mean lives. A. C. G. Mitchell. *Phys R* 43:887-93 Je 1 '33

Magnetic dipole energy in hexagonal crystals. L. W. McKeehan. *Phys R* 43:1025-9 Je 15 '33

Magnetic dipole energy in homogeneously strained cubic crystals. L. W. McKeehan. *Phys R* 43:1022-4 Je 15 '33

Magnetic dipole fields in dislocated cubic crystals. L. W. McKeehan. *Phys R* 43:924-30 Je 1 '33

Magnetic dipole fields in unsaturated cubic crystals. L. W. McKeehan. *Phys R* 44:582-4 O 1 '33

Magnetic dipole fields in unstrained cubic crystals. L. W. McKeehan. *diags Phys R* 43:913-23 Je 1 '33

Magnetized spheroid immersed in a permeable medium. L. Page. *Phys R* 44:112-15 JI 15 '33

Mechanism of acquirement of cosmic-ray energies by electrons. W. F. G. Swann. *Phys R* 43:217-20 F 15 '33; *Same. J Fr Inst* 215: 273-9 Mr '33

New phenomena in the change of resistance of Bi single crystals in magnetic fields. O. Stierstadt. *Phys R* 43:577-9 Ap 1 '33

Radiation and induction. R. R. Ramsey. *Inst Radio Eng Proc* 21:1586-9 N '33

Radio physics course; magnets and magnetic fields. A. A. Ghirardi. *diags Radio N* 14: 620-1+, 750-1 Ap, Je '33

Relations of stellar electricity and magnetism to the phenomena of the sun's atmosphere. R. Gunn. *diags Science* 76:577-83 D 23 '32  
Royal society's Mond laboratory at Cambridge. *Il plan Engineer* 155:146-7 F 10 '33; *Electrician* 110:181-2 F 10 '33; *Elec R (Lond)* 112: 191 F 10 '33

**See also**

Faraday effect  
Hall effect

**MAGNETIC induction****See also**

Hysteresis

**MAGNETIC materials**

Development of magnetic sheet steels. W. E. Ruder. *Gen Elec R* 36:406-8 S '33

Ferrocart; losses in radio frequency magnet cores. A. Schneider. *diags Electrician* 110: 849+; 111:9 Je 30-JI 7 '33

Iron-content cores for high-frequency coils; use of Ferrocart. A. Schneider. *diags Wireless Eng* 10:183-5 Ap '33; *Discussion*. 10: 313-15, 491-2 Je, S '33

Useful instrument alloy; Mumetal. W. F. Randall. *Il Elec R (Lond)* 112:42 Ja 13 '33

**MAGNETIC measurements**

Determining the temperature of magnetic change in alloys. C. S. Williams. *diag Elec J* 30:311 JI '33

Electromagnetic balance. D. S. Ainslie. *diags R Sci Instr* 4:546-8 O '33

Formulas for magnetic hysteresis losses; magnetic properties of different grades of silicon sheet steel. S. S. Sidhu. *bibliog Elec Eng* 52:625-30 S '33

Grassot fluxmeter. E. W. Golding. *diags Electrician* 111:503-5 O 27 '33

Mathematical expression of a saturation curve. C. M. Summers. *Gen Elec R* 36:182-5 Ap '33

National physical laboratory. *diags Engineering* 134:615 N 25 '32

**See also**

Magnetic permeability      Magnetic testing  
Magnetic susceptibility      Magnetic units

**MAGNETIC moment**

Magnetic moment of the nitrogen nucleus. R. F. Bacher. *Phys R* 43:1001-2 Je 15 '33

Nuclear magnetic moments. S. Goudsmit. *Phys R* 43:636-9 Ap 15 '33

Nuclear spin and magnetic moment of sodium from hyperfine structure. C. M. Van Atta and L. P. Granath. *Il Phys R* 44:60-1 JI 1 '33

**MAGNETIC permeability**

Magnetic balance for the inspection of austenitic steel. R. L. Sanford. *pl U S Bur Stand J Research* 10:321-6 Mr '33

Permeability of iron at ultra-radio frequencies. W. Arkadiew. *Phys R* 43:671-2 Ap 15 '33

Permeability of iron at ultra-radio frequencies. J. B. Hoag and H. Jones. *diag Phys R* 42: 571-6 N 15 '32

**MAGNETIC rotation spectra**. See *Spectrum*—

Magnetic rotation spectra

**MAGNETIC separation of ores**

Evolution of magnetic milling at Scrub Oak. H. M. Roche and R. E. Crockett. *Il Eng & Min J* 134:241-4, 273-7 Je-JI '33

Tests with new wet belt magnetic separator show interesting results. *Il Eng & Min J* 134:123-4 Mr '33

**MAGNETIC susceptibility**

Crystalline fields of Pr, Nd and Yb from paramagnetic susceptibilities. W. G. Penney. *Phys R* 43:485-90 Mr 15 '33

Diamagnetic susceptibilities and polarizabilities of ions. G. W. Brindley. *Phys R* 43: 1030-1 Je 15 '33

Influence of crystalline fields on the susceptibilities of salts of paramagnetic ions; the iron group, especially Ni, Cr and Co. R. Schlapp and W. G. Penney. *Phys R* 42:666-86 D 1 '32

Magnetic susceptibilities of hydrochloric acid and lithium chloride solutions. A. F. Scott and C. M. Blair, jr. *bibliog J Phys Chem* 37: 475-82 Ap '33

**MAGNETIC susceptibility—Continued**

- Magnetic susceptibilities of lead, silver and their alloys. C. G. Montgomery and W. H. Ross. *Phys R* 43:358-60 Mr 1 '33
- Magnetic susceptibilities of some common gases. G. G. Havens. *diag Phys R* 43:992-1000 Je 15 '33
- Observations on the rare earths; the magnetic susceptibilities of europium and ytterbium salts. G. Hughes and D. W. Pearce. *Am Chem Soc J* 55:3277-9 Ag '33
- Variation of the magnetic properties of barium with temperature. C. T. Lane. *Phys R* 44:43-5 J1 1 '33

**MAGNETIC testing**

- Apparatus for magnetic testing at high magnetizing forces. R. L. Sanford and E. G. Bennett. *diag pl U S Bur Stand J Research* 10:567-73 Ap '33
- Application of electric methods of measurement and testing. D. H. Bishop. *Inst E E J* 72:53-4 Ja '33
- Bars tested magnetically for seams and internal defects. *il Iron Age* 132:16-17 Ag 3 '33
- Correlation of some mechanical and magnetic properties of 1.21-per-cent carbon tool steel. J. V. Emmons and R. L. Sanford. *il Am Soc T M Proc* 32 pt 2:380-97 '32
- Crack sleuth; magnetic powder inspects turbine blading. F. C. Jacobs. *il Power* 77:238-9 My '33
- Detection of cracks in bus parts facilitated by magnetic tester. W. J. Cumming. *il Transit J* 77:115-16 Ap '33
- Electromagnetic method of measuring the thickness of boiler tubes in situ. B. M. Thornton and W. M. Thornton. *il diags Inst Mech Eng Proc* 123:745-60 '32
- Further studies on chromium-nickel-iron and related alloys. V. N. Krivobok and others. *il Am Soc Steel Tr Trans* 21:22-60; Discussion. 60-72 Ja '33
- Magnetic balance for the inspection of austenitic steel. R. L. Sanford. *pl U S Bur Stand J Research* 10:321-6 Mr '33
- Magnetic testing of steel propellers. *il Sci Am* 149:229 N '33
- Magnetism and the structure of metals. F. Bitter. *il Mech Eng* 55:287-9+ My '33
- Magnetographic and X-ray tests of pipe welds compared. F. B. Doane. *il Iron Age* 131:194-6 F 2 '33
- Manufacture and magnetic testing of hollow steel propellers. H. Foley. *il Automotive Ind* 69:329 S 16 '33; Abstract. *S A E J* 33:sup31 O '33
- Röntgenprüfung von eisen und stahl. F. Wever. *il diags Stahl & Eisen* 53:497-505 My 11 '33

- Some recent developments in electromagnetic inspection and test equipments. B. M. Smith. *il Gen Elec R* 36:368-70 Ag '33

**MAGNETIC treatment of metals**

- Hardness changed by magnetism. E. G. Herbert. *il Metal Prog* 21:52-6 Ap '32; Discussion. 22:48-50 S '32; 23:46-9 Mr '33
- Magnetic fields and the hardness of metals. H. Esser and H. Cornelius. *Engineer* 156:sup[Metallurgist] 62-3 Ag 25 '33
- Mechanical hardness, influenced by magnetism and measured by magnetostrictive effects. S. R. Williams. *il diag Am Soc Steel Tr Trans* 21:741-68 Ag '33

**MAGNETIC units**

- Electric and magnetic units; the basis of a system of definitions. R. T. Glazebrook. *Inst E E J* 72:265-7 Mr '33

Oersted. *J Fr Inst* 215:100 Ja '33

**MAGNETISM**

- Classical theory of electricity and magnetism. M. Abraham. rev ed 285p 15s Blackie & son ltd, London '32
- Cooperative phenomena. F. Zwicky. *Phys R* 43:270-8 F 15 '33
- Discontinuities of magnetoresistance. C. W. Heaps. *Phys R* 43:763-4 My 1 '33
- Electricity and magnetism: theory and applications. N. E. Gilbert. 548p Macmillan '32
- Induced magnetism; abstract. L. R. Wilberforce. *Electrician* 110:41 Ja 13 '33

Magnetized atoms actually oscillate. F. Bitter. *il Power E1 Eng* 37:300 J1 '33; Same. *Sci Am* 149:36-7 J1 '33

Paramagnetism and the molecular field of neodymium. P. W. Selwood. *diags Am Chem Soc J* 55:3161-77 Ag '33

Radio physics course; magnets and magnetic fields. A. A. Ghirardi. *diags Radio N* 14:620-1+ Ap '33

Radio physics course; permanent magnets. A. A. Ghirardi. *diags Radio N* 14:692-3 My '33

Some remarks on the frequency dependence of superconductivity and ferromagnetism. R. Sängner. *bibliog Phys R* 44:302-7 Ag 15 '33

Theory of electricity and magnetism, being volume III of Introduction to theoretical physics. M. Planck. 247p 10s 6d Macmillan '32

**See also**

- |                  |                  |
|------------------|------------------|
| Compass          | Hysteresis       |
| Diamagnetism     | Magnetization    |
| Electricity      | Magneto-optics   |
| Electromagnetism | Magnets          |
| Electromagnets   | Magnetostriction |
| Hall effect      | Magnets          |

**MAGNETISM, Terrestrial**

- Application of Liouville's theorem to electron orbits in the earth's magnetic field. W. F. G. Swann. *Phys R* 44:224-7 Ag 1 '33
- Compton's latitude effect of cosmic radiation. G. Lemaitre and M. S. Vallarta. *Phys R* 43:87-91 Ja 15 '33
- Earth magnetism; work of the Carnegie institution. J. A. Fleming. *Electrician* 111:411 O 6 '33
- Relations among fluctuations of the cosmic-ray ionization, of the terrestrial magnetic field, of the atmospheric potential gradient, and of the absolute humidity. J. W. Broxon, G. T. Merideth and L. Strait. *Phys R* 44:253-7 Ag 15 '33

**See also**

- |         |                           |
|---------|---------------------------|
| Auroras | Polar year, International |
| Compass |                           |

**MAGNETITE**

- Eastern iron-ore mining inactive. L. Lawrence. *Min & Met* 14:11 Ja '33
- Interpretation of fault movements from mineral fractures. D. M. Fraser. *il diags plan Eng & Min J* 133:621-4 D '32
- Iron-ore mining and milling at Scrub Oak. H. M. Roche and R. E. Crockett. *il diags Eng & Min J* 134:161-4 Ap '33
- Magnetite ores of northern New Jersey. L. L. Smith. *il Econ Geol* 28:658-77 N '33
- Mineral zoning in the New Jersey-Pennsylvania-Virginia Triassic area. W. H. Newhouse. *bibliog map Econ Geol* 28:613-33 N '33
- Mining methods and costs at the Mt. Hope mine of the Warren foundry and pipe corporation. Mt. Hope, N.J. J. R. Sweet. *diags plan U S Bur Mines Information Circ* 6601:1-31 '32

**MAGNETIZATION**

- Absolute saturation of cubic cobalt. R. I. Allen and F. W. Constant. *diag Phys R* 44:228-33 Ag 1 '33
- Empirical equations for the magnetization curve; abstract. J. P. Barton. *Elec Eng* 52:51 Ja '33
- Hall e.m.f. and intensity of magnetization. E. M. Pugh and T. W. Lippert. *diag Phys R* 42:709-13 D 1 '32
- Irregularities in magnetization. K. J. Sixtus. *il Phys R* 44:46-51 J1 1 '33
- Magnetic quadrupole field and energy in cubic and hexagonal crystals. L. W. McKeehan. *Phys R* 44:38-42 J1 1 '33
- Magnetism and the structure of metals. F. Bitter. *il Mech Eng* 55:287-9+ My '33
- Magnetization of ferromagnetic crystals. F. Bitter. *il Phys R* 43:655-60 Ap 15 '33
- Mathematical expression of a saturation curve. C. M. Summers. *Gen Elec R* 36:182-5 Ap '33
- Mechanical hardness, influenced by magnetism and measured by magnetostrictive effects. S. R. Williams. *il diag Am Soc Steel Tr Trans* 21:741-68 Ag '33



**MAGNETIZATION—Continued**

- Mono-crystal Barkhausen effects in rotating fields. F. J. Beck, Jr. and L. W. McKeehan. *diags Phys R* 42:714-20 D 1 '32
- Propagation of large Barkhausen discontinuities; effect of a circular field with torsion. L. Tonks and K. J. Sixtus. *Phys R* 43:70-80 Ja 1 '33
- Propagation of large Barkhausen discontinuities; regions of reversed magnetization. L. Tonks and K. J. Sixtus. *Phys R* 43:931-40 Je 1 '33
- Some properties of homogeneously distorted cubic ferromagnetic lattices. F. Bitter. *Phys R* 42:697-708 D 1 '32
- Theory of the ferromagnetic anisotropy of single crystals. R. M. Bozorth. *Phys R* 42:882-92 D 15 '32

**MAGNETOMETERS**

- Magnetometer work advancement due to better instruments and technique. L. Spraragen. *Oil & Gas J* 32:37 S 21 '33

**MAGNETO-OPTICS**

- Bismuth isotopes. F. Allison and E. R. Bishop. *Phys R* 43:47 Ja 1 '33
- Isotopes of sodium and cesium. C. B. Dollins and E. R. Bishop. *Am Chem Soc J* 55:4372-4 N '33
- Isotopes of uranium, thorium and thallium. R. Goslin and F. Allison. *Phys R* 43:49-50 Ja 1 '33
- Lead isotopes. E. R. Bishop, M. Lawrenz and C. B. Dollins. *Phys R* 43:43-6 Ja 1 '33
- Magneto-optic method of analysis and some recent applications; abstract. F. Allison. *Science* 77:494-5 My 19 '33
- Magneto-optic method of analysis; with particular reference to the detection of elements 85 (alabamine) and 87 (virginium) and the heavy isotope of hydrogen. F. Allison. *il J Chem Educ* 10:71-8 F '33
- Magneto-optic minima of organic compounds. J. L. McGhee and M. Lawrenz. *Am Chem Soc J* 55:2614-15 Je '33
- Magneto-optic nicol rotation method for quantitative analysis of calcium. E. R. Bishop, C. B. Dollins and I. G. Otto. *Am Chem Soc J* 55:4365-70 N '33
- Manganese isotopes. I. G. Otto and E. R. Bishop. *Am Chem Soc J* 55:4371-2 N '33
- Quantitative determination of calcium by the magneto-optic method. E. R. Bishop and C. B. Dollins. *Am Chem Soc J* 54:4585-8 D '32
- Scale readings of isomeric esters on the magneto-optic apparatus. J. L. McGhee and M. Lawrenz. *Am Chem Soc J* 55:4333-4 O '33

*See also*

Faraday effect

**MAGNETOS**

- Bendix magneto. *il Automotive Ind* 68:214 F 18 '33
- C.A.V.-Bosch six-cylinder magneto for high-speed commercial vehicle engines. *il Automobile Eng* 23:6 Ja '33
- History of the Scintilla magneto. *il Aviation Eng* 8:27 Ja '33
- Scintilla Vertex magneto. *il diags Automobile Eng* 23:144-5 Ap '33

**MAGNETOSTRICTION**

- Magnetostriiction filter. H. H. Hall. *il diags Inst Radio Eng Proc* 21:1328-38 S '33
- Magnetostriiction oscillators. I. J. Saxl. *il diags Radio N* 15:275-6+ N '33
- Mechanical hardness, influenced by magnetism and measured by magnetostriiction effects. S. R. Williams. *il diag Am Soc Steel Tr Trans* 21:741-68 Ag '33
- Some properties of homogeneously distorted cubic ferromagnetic lattices. F. Bitter. *Phys R* 42:697-708 D 1 '32

**MAGNETRON**

- Electronic oscillations. E. C. S. Megaw. *diags Inst E E J* 72:313-25 [bibliog p324-5] Ap '33; Abstract. *Wireless Eng* 10:142-3, 144 Mr '33; Discussion. *Inst E E J* 72:348-52 Ap '33
- Investigation of the magnetron short-wave oscillator. E. C. S. Megaw. *bibliog diag Inst E E J* 72:326-48 Ap '33; Abstracts.

*Wireless Eng* 10:143 Mr '33; Elec R (Lond) 112:12-13 Ja 6 '33; Excerpt (Summary). *Electrician* 110:11 Ja 6 '33; Discussion. *Inst E E J* 72:348-52 Ap '33

Magnetron oscillator for ultra-short wavelengths. E. C. S. Megaw. *il diags Wireless Eng* 10:197-202 Ap '33

Theory of the magnetron oscillator. J. B. Hoag. *Inst Radio Eng Proc* 21:1132-3 Ag '33; Discussion. E. C. S. Megaw. 21:1749-51 D '33

**MAGNETS**

- Cobalt steel; growth of the magnet department of Darwins, Ltd. *il Electrician* 109:694 N 25 '32
- Dauermagnetwerkstoffe auf der Grundlage der ausschheidungshärtung. W. Köster. *il Stahl & Eisen* 53:849-56 Ag 17 '33
- Design of permanent magnets. E. Hughes. *Elec R (Lond)* 112:410 Mr 24 '33
- Magnetic damping for laboratory balances. J. Fr Inst 215:189-91 F '33
- Magnetized spheroid immersed in a permeable medium. L. Page. *Phys R* 44:112-15 Jl 15 '33
- Radio physics course; magnets and magnetic fields. A. A. Ghirardi. *diags Radio N* 14:620-1+ Ap '33
- Radio physics course; permanent magnets. A. A. Ghirardi. *diags Radio N* 14:692-3 My '33
- Torque on Faraday's magnet. E. H. Kennard. *Phys R* 43:587-8 Ap 1 '33

*See also*

Electromagnets

**MAGNOLIA petroleum company**

D. A. Little elected president; E. R. Brown made chairman of board. *por Oil & Gas J* 31:29 Mr 23 '33

**MAGNUS, Sir Philip, 1842-1933**

Sketch. *Soc Chem Ind J (Chem & Ind)* 52:731 S 8 '33

**MAGUIRE, Howard B. 1895-**

Manager of Detroit office, American steel & wire co. *por Steel* 92:13 My 8 '33

**MAHLER, Ernst**

Ernst Mahler to receive TAPPI medal. *il Paper Tr J* 97:31 S 14 '33

**MAHUA oil. See Bassia latifolia****MAIL**

Mail savings encouraged; intra-company mail. *Management Methods* 61:617 N '32

Sorting saves postage. *Management Methods* 61:665 D '32

*See also*

Advertising, Mail

**MAIL, Registered**

Registered mail charges as they affect the shipping of securities. P. V. Keyser. *Inv Banking* 3:173-4 D 28 '32

**MAIL advertising.** See Advertising, Mail

**MAIL advertising service association, International**

Heads mail service group. *Ptr Ink* 165:27 O 5 '33

**MAIL boxes**

Cast aluminum mailbox; view and plan. *Am Arch* 142:30-1 D '32

**MAIL handling**

Handling of mail bags under photo-electric control. S. H. L. Bohm. *il Mech Handling* 20:3-6 Ja '33

Mechanical handling of mails; handling 400,000 articles a year at the Sydney general post office. A. Ashton. *Mech Handling* 20:121-2 Ap '33

66,000 man-hours in this little capital-goods order; mail-handling conveyors for Atlanta post office. E. J. Patton. *Factory Management* 91:365 S '33

Technological changes and employment in the United States postal service. W. Bowden. *U S Bur Labor Statistics Bul* 574:1-69 '32

*See also*

Air mail service

Parcel post

Postal service

**MAIL order business**

- Continental to sell new cars by mail-order methods. H. M. Andrews. *Ptr Ink* 161:10+ D 29 '32
- Cost of installment buying. L. A. Froman. *Harvard Business R* 11:233-4 Ja '33
- Human interest in the catalog; Ward spring and summer book has full page pictures emphasizing thrift idea. *il Ptr Ink* 162:36 Ja 19 '33
- Latest trends and tendencies in catalog selling; a Dartnell survey. *il Ptd Salesmanship* 61:75-7 Ap '33
- Mail order; farm income is the barometer of mail-order prosperity. R. E. Wood. *Bradstreet's* 61:147 Ja 28 '33
- Mail order; postage prepayment seems to be going out. *Business Week* p6-7 Ja 4 '33
- Mail order prices. *Business Week* p4 Ja 11 '33
- Setting price policies for goods sold by mail. M. Droke. *Sales Management* 33:377-8+ O 10 '33
- Timely stratagems to cut costs or increase returns. *Sales Management* 33:380-2 O 10 '33
- See also*
- |                       |                    |
|-----------------------|--------------------|
| Advertising, Mail     | Mailing lists      |
| Catalogs              | Montgomery Ward    |
| Chain stores—Mail     | and company        |
| order stores          | Sears, Roebuck and |
| Endless chain selling | company            |

**Advertising**

- How radio selling increased Henry Field's sales 500 per cent in 7 years. J. L. Scott. *il Ptd Salesmanship* 60:311-13+ D '32
- How we test and check direct mail and newspaper advertising; Postal life & casualty company, Kansas City, Mo. M. B. Salisbury. *Sales Management* 33:405-6 O 20 '33
- Letters that back up the catalog. C. McPherson. *il Ptd Salesmanship* 61:80-3+ Ap '33
- Mail-order copy that sells overalls, seeds and prunes. J. L. Scott. *il Ptd Salesmanship* 60:226-9+ N '32
- R.F.D. loses a job; Sears, Roebuck and Montgomery Ward hire R. H. Donnelley to deliver catalogs. *Business Week* p8 Mr 1 '33
- Sears and Ward join to deliver catalogs by hand. *Ptr Ink* 162:45 F 9 '33

**Purchasing**

- Chemistry in merchandising; Montgomery Ward & co. E. H. Harvey. *il Am Dyestuff Rep* 22:594-8 O 9 '33

**Selling to dealers**

- How 17,000 small accounts were made profitable; direct mail to supplement calls by salesmen. L. Stephenson. *Ptr Ink* 163:25-7 Ap 13 '33
- Letters help increase Oshkosh profits for 1932, 53 per cent over '31. J. L. Scott. *il Ptd Salesmanship* 60:426-7 F '33

**MAIL order stores.** *See* Chain stores—Mail order stores

**MAIL orders**

- Handling C.O.D. mail orders. *Management Methods* 62:128+ Mr '33
- Mail-order hat sale plan trebles Knox over-the-counter business. *il Sales Management* 33:220 S 1 '33

*See also*

Advertising, Mail

**MAIL ships**

- Ocean mail contract postponed. H. F. Lane. *Marine Eng* 38:131 Ap '33

**MAILING**

- For saving postage pennies. *Management Methods* 61:663-4 D '32
- Lighter mail cuts postage; Prudential life insurance co. *Management Methods* 61:613-14 N '32
- Mailgram saves pennies. *il Management Methods* 61:660-1 D '32
- Postage expense reduced by use of post cards. *Management Methods* 62:123 Mr '33
- Sorting mail brings saving. *System and Management Methods* 62:397 S '33

- 20 plans that cut mail handling costs. D. E. Rogers. *il Management Methods* 62:16-17+ Ja '33

**MAILING lists**

- Dormant mailing lists. *Ptr Ink* 163:42 Ap 6 '33
- How the Crane company's campaign stimulated plant rehabilitation; new mailing list, new booklets, and salesmen follow up. R. G. Creviston. *il Ptd Salesmanship* 62:33-5+ S '33
- 67 per cent return from a double post card; a 5200 mailing to architects. E. Lunn. *il Ptd Salesmanship* 60:317-18 D '32
- Successful sampling requires select lists; Campana Italian balm. L. Anson. *il Ptd Salesmanship* 60:237-9+ N '32
- Ten ways to cash in on the upturn with direct mail. C. McPherson. *il Ptd Salesmanship* 61:205-7+ Je '33

**MAINE**

- State of Maine. *map Fortune* 8:72-3 N '33

**MAISON de la chimie.** *See* Paris—Maison de la chimie

**MAIZE.** *See* Corn

**MAJOR market newspapers, incorporated**

- Annual meeting, Chicago. *Ptr Ink* 165:58 O 26 '33

**MAKE-up, Theatrical**

- Mysteries of movie make-up. *il Sci Am* 149: 220-1 N '33

**MALARIA**

- Additional notes on the preparation and examination of thick blood films for malaria diagnosis. W. H. W. Komp. *Pub Health Rep* 48:875-84 Jl 28 '33
- Injection of mosquito sporozoites in malaria therapy. B. Mayne. *Pub Health Rep* 48: 909-16 Ag 4 '33
- Malaria in the irrigated regions of New Mexico. M. A. Barber and L. R. Forbrich. *map Pub Health Rep* 48:610-23 Je 2 '33
- Malarial fever in narcotic addicts; its possible transmission by the hypodermic syringe. G. H. Faget. *bibliog Pub Health Rep* 48: 1031-7 Ag 25 '33
- Plasmochin in malaria prevention. J. N. Baker and D. G. Gill. *bibliog Pub Health Rep* 47:2245-50 D 2 '32
- St Croix's rainiest year causes an epidemic of malaria. E. B. Shaw. *Science* 76:566-7 D 16 '32
- Value of an animal barrier in malaria control. P. F. Russell. *Science* 78:101-2 Ag 4 '33

*See also*

Mosquitoes—Ex-

termination

**MALAY Peninsula***See also*

Labor and laboring classes—Malay Peninsula

**MALEIC acid**

- Prevention of rancidity by maleic acid. *Science* 77:sup6 F 24 '33

**MALEIC anhydride**

- Addition of free radicals to certain dienes, pyrrole and maleic anhydride. J. B. Conant and B. F. Chow. *Am Chem Soc J* 55:3475-9 Ag '33

- Doubly conjugated system in the glycerides of  $\alpha$ - and  $\beta$ -elaeostearic acids. R. S. Morrell, S. Marks and H. Samuels. *Soc Chem Ind J* 52:1307-2T My 5 '33

**MALIC acid**

- Walden inversion; conversion of bromosuccinic acid into malic acid; conversion of aspartic acid into chloro- or bromosuccinic acid. H. N. K. Rørdam. *Chem Soc J* p2931-45 D '32

**MALLEABLE iron.** *See* Cast iron

**MALLEABLE iron research institute**

- Annual meeting, Cleveland, Dec. 14. *Iron Age* 130:966 D 22 '32

**MALONAMIDES**

- p-Arsanilic acid derivatives of N-substituted malonamides. J. Kennedy. *Chem Soc J* p2781-2 N '32



**MALONANILIC acid**

New derivatives of *p*-arsanilic acid; *p*-arsono-methylmalonanilic acid and related compounds. G. T. Morgan and E. Walton. *Chem Soc J* p1064-7 Ag '33

**MALONIC acid**

Carbon syntheses with malonic and related acids. A. Michael and J. Ross. *Am Chem Soc J* 55:3684-95 S '33

Course of addition of the sodium enolates of malonic and methylmalonic esters to benzalacetophenone and to crotonic ester. A. Michael and J. Ross. *Am Chem Soc J* 55:1632-46 Ap '33

Reactivity of atoms and groups in organic compounds; the influence of substituents on the thermal stability of certain derivatives of malonic acid. J. F. Norris and H. F. Tucker. *bibliog Am Chem Soc J* 55:4697-704 N '33

**MALTOSE**

Relative fatigue recovery value of different carbohydrate blends and mixtures. D. A. Laird. *J Ind Hygiene* 15:89-97 Mr '33

**Analysis**

Determination of dextrin, maltose, and dextrose in corn sirup. W. R. Fetzer, J. W. Evans and J. B. Longenecker. *bibliog Ind & Eng Chem Anal ed* 5:81-4 Mr 15 '33

**MAMMALS, Fossil**

Miocene vertebrates from Florida. G. G. Simpson, A. E. Wood and E. H. Colbert. *il Florida Geol S Bul* 10:1-58 '32

Three oreodont skeletons from the lower miocene of the Great Plains. F. B. Loomis. *il Geol Soc Bul* 44:723-33 Ag '33

**MAN***See also*

Anthropology

**Influence of environment**

Geographic factor. R. H. Whitbeck and O. J. Thomas. 422p [bibliog p403-6] \$2.25 Century co. '32

**Origin and antiquity**

Ancestry of man. G. S. Miller. *Science* 76:sup9-10 D 16 '32

Forgotten evolutionist; discussion of article written in 1802 by D. Schelver. S. J. Holmes. *Science* 77:48-9 Ja 13 '33

*See also*

Neanderthal race

**MAN, Prehistoric**

Early man and the associated faunas in the Old World. A. S. Woodward. *Science* 78:89-92 Ag 4 '33

Early man in America. E. B. Howard. *Science* 78:sup7-8 Ag 18 '33

EOanthropus and Neanderthal man. H. Weinert. *Science* 77:sup6-7 F 17 '33

Gypsum cave Nevada. M. R. Harrington. 197p pa \$2.50 Southwest museum, Highland Park, Los Angeles '33

Peking man. *Science* 78:sup8 Ag 4 '33

Peking man's brain. E. Dubois. *Science* 78:sup9-10 O 6 '33

Prehistoric man, Hall of the stone age of the old world. H. Field. 44p [bibliog p44] Field museum of natural history, Chicago '33

Reported ancestor of the human species. L. S. B. Leakey. *Science* 78:sup8 N 3 '33

*See also*

Anthropology

Glacial epoch

Man—Origin

Neanderthal race

Stone implements

**MANAGEMENT***See*

Business manage-

ment

Employment manage-

ment

Factory management

Farm management

Foundry management

Industrial manage-

ment

also subdivision Management under various headings, e.g. Motor trucks—Management; Public utilities—Management; Railroads—Management

Machine shop management

Mine management

Office management

Organization in indus-

try

Sales management

**MANAGEMENT associations**

Organizations for the promotion of management research; the management activities of the American society of mechanical engineers. *Int Management Inst Bul* 7:66-9 My '33

Organizations for the promotion of management research; the Reichskuratorium für wirtschaftlichkeit and its work. *chart (supp) Int Management Inst Bul* 7:1-4 Ja '33

**MANCHESTER, England**

Manchester scientists of former days; chemists. J. R. Partington. *Soc Chem Ind J (Chem & Ind)* 52:478-82 Je 9 '33

**MANCHURIA**

Chinese—Japanese war. J. E. Johnsen, comp. *Ref Shelf v* 8, no 8:1-196 [bibliog p21-40] '33

Chinese view of the Manchurian situation. S. A. Sze. *Ann Am Acad* 165:154-8 Ja '33

Far Eastern problem; official texts and summary of the Lytton report. 91p Carnegie endowment for international peace, Division of intercourse and education, 405 W. 117th st, New York '33

Japan and the open door in Manchukuo. R. H. Akagi. *Ann Am Acad* 168:54-63 Jl '33

Japanese view of the Manchurian situation. H. Saito. *Ann Am Acad* 165:159-66 Ja '33

League and Manchuria. *Economist* 115:968-9 N 26 '32

League of nations; debate on Manchuria. *Economist* 115:1135-6 D 17 '32

Lytton report. G. H. Blakeslee; N. Pepper. 26p Foreign policy assn. New York '32

Manchukuo and engineering developments. J. N. Penlington. *map Engineer* 155:224-5, 238-9, 248, 264-5, 290-1, 300 Mr 3-24 '33

Manchoukuo; child of conflict. K. K. Kawakami. 311p \$2 Macmillan '33

Manchukuo; the founding of the new state in Manchuria. 44p Japanese chamber of commerce, New York '33

Manchuria at the crossroads. Ching-Chun Wang. *Ann Am Acad* 168:64-77 Jl '33

Manchuria—the race for new resources. F. R. Eldridge. *Ann Am Acad* 168:95-103 Jl '33

Manchuria year book, 1932-33. 530p East-Asiatic economic investigation bureau, Tokyo '32

Treaty status of Manchuria. J. V. A. MacMurray. *Ann Am Acad* 165:146-53 Ja '33

Verdict of the League; China and Japan in Manchuria. M. O. Hudson. 102p \$1 World peace foundation '33

**Economic conditions**

Fiscal problems in Manchukuo. G. E. Sokolsky. *Barron's* 13:18 O 9 '33

**MANDELATES**

Acid salts of monobasic organic acids. J. D. M. Ross and T. J. Morrison. *Chem Soc J* p1016-22 Ag '33

Solubility relationships among optically isomeric salts; the mandelates and alpha-bromocamphor-pi-sulfonates of alpha-phenylethylamine and alpha-para-tolylethylamine. A. W. Ingersoll, S. H. Babcock and F. B. Burns. *Am Chem Soc J* 55:411-16 Ja '33

**MANDELIC acid**

Acid salts of monobasic organic acids. J. D. M. Ross and T. J. Morrison. *Chem Soc J* p1016-22 Ag '33

Pyrolysis of mandelic acid and related compounds. C. D. Hurd and H. R. Raterink. *Am Chem Soc J* 55:1541-6 Ap '33

Velocity and mechanism of racemization; mandelic acid. A. N. Campbell and A. J. R. Campbell. *Am Chem Soc J* 54:4581-5 D '32

**MANDOLONITRILE**

Catalytic reduction of mandelonitriles. J. S. Buck. *bibliog Am Chem Soc J* 55:2593-7 Je '33

Reduction of hydroxymandelonitriles; a new synthesis of tyramine. J. S. Buck. *Am Chem Soc J* 55:3388-90 Ag '33

**MANES, Alfred**

Head of insurance school on Nazi vacation.  
por East Underw 34:1+ My 19 '33

**MANGANESE**

Blast furnace smelting practice. A. J. MacDonald. il Blast F & Steel Pl 21:157-8 Mr '33

Deoxidizers for brass alloys. C. Vickers. il Foundry 60:20-1+ D '32; 61:15+ Ja '33

Les gites de manganèse en France. V. Charin. maps Génie Civil 102:419-21 My 6 '33

Half-dozen minerals used in chemical industry. F. L. Hess. J Chem Educ 10:560-4 S '33

Infrared arc spectra of manganese and rhodium. W. F. Meggers. U S Bur Stand J Research 10:757-69 Je '33

Lacustrine concretions of manganese. E. M. Kindle. il map Am J Sci 5th ser 24:496-504 D '32

Manganese. R. H. Ridgway. map U S Bur Mines Information Circ 6729:1-30 [bibliog p26-9] '33; Abstract. Can Chem & Met 17:214 O '33

Manganese; chief minerals. Can Min J 54:351 S '33

Manganese deposits of Canada. G. Hanson. maps Canada Geol S Econ Geol Ser 12:1-120 '32

Manganese deposits of Postmasburg, South Africa. A. L. Du Toit. bibliog il map Econ Geol 28:95-122 Mr '33

Manganese isotopes. I. G. Otto and E. R. Bishop. Am Chem Soc J 55:4371-2 N '33

Manganese mining and milling in the Cartersville district of Georgia. G. W. Crickmay. il Eng & Min J 134:204-6 My '33

Manganese ore industry in 1932. Min Cong J 19:15 Mr '33

Manganese ore prices, 1915-1932; tabulation. Steel 92:105 Ja 2 '33

Spectra of the calcium I-like ions: manganese VI, iron VII, cobalt VIII and nickel IX. W. M. Cady. Phys R 43:322-8 Mr 1 '33

See also

Ferromanganese  
Water supply—Manganese content

**Analysis**

Determination of small amounts of manganese in salt solutions. N. A. Clark. bibliog Ind & Eng Chem Anal ed 5:241-3 Jl 15 '33

Improved qualitative separation of the iron group in the presence of phosphate. T. B. Smith. Chem Soc J p253-7 Mr '33

Spectroscopic estimation of nickel, manganese and chromium in steels. F. Twyman and A. Harvey. Iron & Steel Inst J 126:397-407 no 2 '32; Same. Engineering 134:487-8 O 21 '32; Discussion. Iron & Steel Inst J 126:408-12 no 2 '32

**MANGANESE alloys**

Alloys of iron, manganese and carbon. V. N. Krivobok. C. Wells and others. il Am Soc Steel Tr Trans 21:807-64 S '33

Desoxydation von Siemens-Martin-stahl mit mangan-silizium-legierungen. H. Schenck. Stahl & Eisen 53:862-6 Ag 17 '33

**MANGANESE bronze**

Making manganese bronze. C. Vickers. il Foundry 60:26-7+ O; 28-9+ N '32

**MANGANESE dioxide**

Catalytic oxidation of ethylbenzene in the liquid phase with manganese dioxide. C. E. Senseman and J. J. Stubbs. Ind & Eng Chem 25:1286-7 N '33

**MANGANESE silicates**

Equilibrium of certain non-metallic systems; the equilibrium of the systems  $MnSiO_3$ ,  $Fe_2SiO_4$  and  $FeS-Fe_2SiO_4$ . J. H. Andrew and W. R. Maddocks. Iron & Steel Inst J 126:351-60, pl 35; Discussion. 361-3 no 2 '32

**MANGANESE steel**

Alloys of iron, manganese and carbon; influence of carbon on ten per cent manganese alloys. J. F. Eckel and V. N. Krivobok. il Am Soc Steel Tr Trans 21:846-64 S '33

Alloys of iron, manganese and carbon; influence of carbon on thirteen per cent manganese alloys. C. Wells and F. M. Walters, jr. il Am Soc Steel Tr Trans 21:830-45 S '33

Austenitic manganese steel castings. J. H. Hall. Am Soc T M Proc 32 pt 2:238-50; Discussion. 251-2 '32

Beitrag zur kenntnis der mechanischen eigenschaften grösster schmiedestücke. E. Maurer and H. Korschan. il Stahl & Eisen 53:247-9 Mr 9 '33

Determination of nonmetallic inclusions in plain carbon and manganese steels; iodine and nitric acid extraction methods. T. R. Cunningham and R. J. Price. bibliog Ind & Eng Chem Anal ed 5:27-9 Ja 15 '33

Hardening transformation in manganese steels. H. Scott and J. G. Hoop. il Am Soc Steel Tr Trans 21:233-48; Discussion. 249-59 Mr '33

New nickel-manganese steel. Eng & Min J 131:354 Ag '33

Observations on the effect of normalizing medium manganese steels on the microstructure and physical properties. C. R. Austin. il Am Soc Steel Tr Trans 21:435-50; Discussion. 451-62 My '33

Welding high manganese steel. Rock Prod 36:66-7 Ag '33

See also

Chromium manganese  
silicon steel

**MANGANESE sulfates**

System ferrous sulfate-manganous sulfate-water at 0 and 25°. A. M. White. diags Am Chem Soc J 55:3182-5 Ag '33

**MANHATTAN life insurance company**

Annual statement, 82d. Spectator 130:17+ Ja 26 '33

**MANHOLES**

British standards institution; specification for manhole openings on plant. Chem Age (Lond) 27:483 N 19 '32

Heat dissipation from network manholes. L. A. Nettleton. diags Elec W 102:369-72 S 16 '33

Investigations during 1932 of combustibles in manholes in Boston, Mass. G. W. Jones, J. Campbell and F. M. Goodwin. U S Bur Mines Rep of Invest 3213:1-17 '33

Solved—the manhole cover problem. il Elec W 101:653 My 20 '33

Ventilation of transformer manholes and vaults. W. T. Rose. Elec W 102:529-30 O 21 '33

**MANIKINS, Show window**

Gaba girls. il Adv Arts p30-1 N '33

**MANILA rope. See Rope****MANITOBA**

See also

Copper mines and Gold mines and mining—Manitoba  
mining—Manitoba

**MANLOVE, Allott and company, ltd.**

Manufacturers of centrifuges, rotary dryers, filter presses, and similar plant. il Soc Chem Ind J (Chem & Ind) 52:370-1 Ap 28 '33

**MANNICH reaction**

Attempts to extend the Mannich reaction to derivatives of 4-methylquinoline and 2,4-dinitrotoluene. W. O. Kermack and W. Muir. Chem Soc J p300-2 Mr '33

**MANNONIC acid**

Action of alkalies on the monobasic sugar acids; conversion of gluconic to mannonic and of galactonic to talonic acids by the action of barium hydroxide. H. T. Bonnett and F. W. Upson. Am Chem Soc J 55:1245-8 Mr '33

**MANNOSE**

Fermentation of mannose by dried yeast; abstract. C. M. Jephcott and E. Robinson. Soc Chem Ind J (Chem & Ind) 52:269-70 Mr 24 '33

**MANOMETERS**

Curved tube manometer; some notable designs. il Soc Chem Ind J (Chem & Ind) 52:581 Jl 14 '33



**MANOMETERS—Continued**

- Ein einfaches und leistungsfähiges membranmanometer aus glas oder quarz. J. Fischer. Chemische Fabrik 6:377-8 S 6 '33  
 Filling of manometers. M. Q. Doja. diag J Chem Educ 10:574 S '33  
 Kent's curved tube manometer. il Chem Age (Lond) 28:390 Ap 29 '33  
 Producer-gas fired settings. G. Alliata. diag Gas J (Lond) 203:398-9 Ag '33

**MANTELS**

- In the manner of Grinling Gibbons; over-mantle motif; photographs. Am Arch 143: 27-30 Mr '33  
 Portfolio of over-mantel treatments. Architecture 66:357-72 D '32

**MANUAL training**

- Manual dexterity; effects of training; abstract. E. M. Henshaw, P. Holman and J. N. Langdon. J Ind Hygiene 15:sup63 Jl '33

**MANUFACTURERS**

- Production minds versus sales minds. P. Barber. il Ptr Ink Mo 27:32-3+ Ag '33

**MANUFACTURERS' agents**

- Agency and consignment plans of maintaining chemical prices. Chem Markets 32:507-8 Je '33  
 Cutting costs through controlled agents; Lachoy food products. Sales Management 33: 340 O 10 '33

**MANUFACTURERS life insurance company**

- Annual report, 46th. Spectator 130:28 F 2 '33

**MANUFACTURERS' stores. See Retail stores, Manufacturers'****MANUFACTURES**

- Break-even chart. H. R. Mallory. Mech Eng 55:493-6+ Ag '33  
 David and Goliath in manufacture. D. R. Stevens. Elec W 101:97-9 Ja 21 '33; Excerpt. Manuf Rec 102:27 F '33  
 Decentralization aids manufacture of diversified products. A. F. Murray. Iron Age 132: 23 Ag 3 '33  
 Economic characteristics of the manufacturing industries. W. Rautenstrauch. Mech Eng 54:759-70 N '32; Discussion. 55:324-6, 516-17 My, Ag '33  
 Effect of the depression on multiplant manufacturing organizations. T. E. Thompson. Am Statis Assn J 28:sup75-80; Discussion. G. J. Lawrence. 81-3 Mr '33  
 Employment in selected manufacturing industries. Published in Monthly labor review  
 For the leaders of tomorrow's new born industries. A. Hirose. il Adv & Sell 21:13-15+ My 11 '33  
 Growing pains of the peanut manufacturer. H. A. Haring. Adv & Sell 21:24+ Je 22 '33  
 Money-making locations for small industries. J. A. Piquet. il Iron Age 130:871-3+ D 8 '32  
 Odds on local distribution. W. Haise. il Adv & Sell 20:19-20+ Ap 27 '33  
 Prices of manufactures. Economist 116:1011-12 My 13 '33  
 Small business and today's market; seven big advantages for the small manufacturer. A. Bradbury. Ptr Ink Mo 26:37+ F '33  
 Small business has its day. C. D. Poland. Nation's Business 21:51+ Mr '33  
 Small plant holds its own. B. Finney. Iron Age 131:499-501 Mr 30 '33

*See also*

- Branch factories,  
 Foreign  
 Brickmaking  
 Catalogs  
 Chemistry, Technical  
 Coke manufacture  
 Commerce  
 Competition  
 Cost accounting  
 Cotton manufacture  
 Dye manufacture  
 Equipment industries  
 Factories  
 Factory management  
 Family of products  
 Foundries  
 Fuel

- Gas manufacture  
 Glass manufacture  
 Home labor  
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 Inspection  
 Knit goods  
 Labor and laboring  
 classes  
 Machine shops  
 Machinery  
 Metal work  
 Metals  
 Paper making  
 Patents  
 Prices  
 Production  
 Products, New

- Quality of products  
 Quantities (in production)  
 Silk manufacture and trade  
 Textile fabrics  
 Trade marks  
 Waste products  
 Woolen and worsted manufacture  
*also* subdivision Manufacture under names of manufactured articles, e.g. Automobiles  
 —Manufacture; Leather—Manufacture; Pottery—Manufacture; Rubber—Manufacture; Sugar—Manufacture and refining

**Statistics**

- Fifteenth census of the United States; distribution of sales of manufacturing plants. 95p U.S. Bur. of the census, Washington '32  
 Manufacturing market statistics. C. B. Eliot. maps U S Bur For & Dom Com Domestic Commerce Ser 67:1-1070 '32  
 Second helping; mercantile credit survey summary. W. C. Plummer. Credit & Fin Management 35:20+ F '33  
 Summary of United States censuses of manufactures, 1899 to 1931. Monthly Labor R 36:307-8 F '33  
 Who killed the goose that laid the golden eggs? Census of manufactures findings on distribution of sales dollar. D. Blanchard. Automotive Ind 69:480-1+ O 21 '33

*See also***Production—Statistics****Canada**

- Manufacturing industries of Canada, 1930. 114p Canada Dominion bureau of statistics, Ottawa '32

**Great Britain**

- Effect of manufactures on the electricity supply industry. J. Morton. Inst E E J 72:57-8 Ja '33

**Maryland**

- Manufacturing industry of Maryland. W. L. Fairbanks and W. S. Hamill. 220p Baltimore assn. of commerce, Maryland development bureau '32

**Southern states**

- Southern manufactures \$7,364,000,000. Manuf Rec 102:13 Ap '33

**United States**

- Manufacturing market statistics. C. B. Eliot. maps U S Bur For & Dom Com Domestic Commerce Ser 67:1-1070 '32  
 What the machine has done to us. W. S. Giele. Iron Age 131:470-5+, 544-5, 571+, 622-7+ Mr 23, Ap 6, 20 '33

**MANUFACTURING chemists' association of the United States**

- Activities reviewed. C. Belknap. Chem Markets 32:513-14 Je '33  
 Annual meeting, 61st, Shawnee-on-the-Delaware, June 1-2. Chem & Met Eng 40:325 Je '33; Ind & Eng Chem News ed 11:173 Je 10 '33; Oil Paint & Drug Rep 123:19+ Je 5 '33

**MANUFACTURING districts. See Industrial districts****MANUSCRIPTS****Bibliography**

- Manuscript book collections of Spain and Portugal. H. A. Grubbs. (Union world catalog of manuscript books, no 2) 134p Wilson, H. W. '33

**Reproduction**

- Charred documents. L. Bendikson. il Lib J 55: 243-4 Mr 15 '33

**MAPLE**

- Holocellulose, total carbohydrate fraction of extractive-free maple wood. G. J. Ritter and E. F. Kurth. bibliog Ind & Eng Chem 25:1250-3 N '33

**MAPLE sirup**

- La matière aromatique des produits de l'étable à sucre. J. Risi and E. Bois. Can Chem & Met 17:144-5 Jl '33

**MAPPING**

Mapping Montana's state forests. O. W. White. il maps Civil Eng 3:17-20 Ja '33

**MAPPING, Aerial**

Aerial fire protection and photography. F. T. Jenkins. il Pulp & Pa of Can 34:272-4 Ap '33

All-seeing eye; multiple lens aerial camera. il diags Aviation 32:211-12 Jl '33

Making the plan and writing the report; Philadelphia Tri-state district. W. H. Connell. il maps Civil Eng 2:723-4 D '32

Mapping from aerial photographs. A. E. Simpson. Can Eng 64:18 Mr 21 '33

Practical means of using aerial photography in woods operations. F. R. Wilcox. il Pulp & Pa of Can (Convention no) 34:134-8 [F] '33

See also

Surveying, Aerial

**MAPS**

Making and using city plans. R. V. Black. map Civil Eng 2:753-5 D '32

Making the plan and writing the report; Philadelphia Tri-state district. W. H. Connell. il maps Civil Eng 2:722-4 D '32

See also

Airways—Maps

Geological maps

**Mounting**

Method of mounting maps. V. M. Throop. Science 78:149-50 Ag 18 '33

**MARANVILLE, Frank**

Copy can be sales-making news to the reading public; Maranville tire story. W. T. Laing. Ptr Ink 164:52-4 S 28 '33

**MARBLE**

Rate of solution of marble in dilute acids. C. V. King and Cheng Ling Liu. bibliog Am Chem Soc J 55:1928-40 My '33

Tungsten-carbide tools for drilling slate and marble. J. M. Highducheck. il diag Mach 39:407-8 F '33

**MARCASITE**

X-ray study of the transformation of marcasite into pyrite. H. V. Anderson and K. G. Chesley. bibliog il Am J Sci 5th ser 25:315-24 Ap '33

**MARCHANT, Edgar Walford, 1876-**

Portrait. Inst E E J 72:front Ja '33

**MARCONI, Guglielmo**

Marchese Marconi at Chicago. Science 78:305 O 6 '33

Micro radio waves; recent experimental work. G. Marconi. il diags Electrician 110:3-6 Ja 6 '33

**MARGARETAN, Regina**

Matzoth matriarch; Horowitz bros. & Margaretan. Fortune 7:14 Ap '33

**MARGARIC acid**

Ternary system: palmitic, margaric and stearic acids. R. L. Shriner, J. M. Fulton and D. Burks, Jr. Am Chem Soc J 55:1494-9 Ap '33

**MARGARINE.** See Oleomargarine**MARINE associations**

Marine societies. Published in monthly numbers of Marine engineering and shipping age

**MARINE biology**

Role of bacteria as food for bottom animals. G. E. MacGinitie. Science 76:490 N 25 '32

See also

Algae

Fishes

**MARINE boilers.** See Boilers, Marine**MARINE borers**

Marine borers. J. T. Jenkins. il Engineering 134:755-6 D 30 '32

**MARINE deposits**

Investigations of modern marine sediments in California. T. W. Vaughan. Nat Research Council Bul 89:74-9 '32

Radium content of ocean-bottom sediments. C. S. Piggot. il map Am J Sci 5th ser 25: 229-38 Mr '33

Studies of recent marine sediments conducted by the American petroleum institute. P. D. Trask. bibliog Nat Research Council Bul 89:60-7 '32

**MARINE engineering**

Advancement in marine engineering is most active during slack times. F. V. Smith. Marine R 63:9-10 Ap '33

L'Association technique maritime et aéronautique XXXVII<sup>e</sup> session (Paris, 29 mai-1<sup>er</sup> juin 1933). Génie Civil 102:564-7 Je 17 '33

Chapters in naval and marine engineering history. E. C. Smith. Engineering 134:584-6, 758-9; 135:321-3, 561-3, 657-8 N 18, D 30 '32, Mr 24, My 26, Je 16 '33

Factors that influence a ship's fuel consumption. F. V. Smith. Marine Eng 38:173-5 My '33

French marine and aeronautical congress, annual meeting, Paris. Engineer 155:579 Je 9 '33

Improvements in marine engineering. D. W. Niven. Marine R 63:19-22 Ja '33

Modern marine machinery. Engineering 134: 713-14 D 16 '32

Navy competition in engineering efficiency. R. P. Luker. il Marine Eng 38:96 Mr '33

Power-plant practice and marine power. R. C. Roe. Marine Eng 38:58-9 F '33; Abstracts. Marine R 62:25 D '32; Engineering 135:111-12 Ja 27 '33; Discussion. Marine Eng 38:65-6 F '33

Questions and answers for marine engineers. Published in monthly numbers of Marine engineering and shipping age

Shipbuilding and marine engineering. A. C. Hardy. Engineer 156:266-7 S 15 '33

Shipbuilding and marine engineering in 1932. il Engineer 155:19-22, 40-2, supp 2, 7 Ja 6-13 '33

See also

Boilers, Marine

Diesel engines, Marine

Gas and oil engines, Marine

Marine engines

Motor ships

Naval architecture

Propellers

Salvage

Ship propulsion

Ship resistance

Shipbuilding

Ships—Electric

equipment

Society of naval

architects and

marine engineers

Steam turbines, Marine

Steamboats

**Exhibitions**

French shipping exhibition. Engineer 156:338 O 6 '33

Shipping and engineering exhibition; increasing applications of electricity in marine engineering. A. Regnaud. il Elec R (Lond) 113:347-8 S 15 '33

Shipping, engineering and machinery exhibition at Olympia. il diags Engineer 156:224-30, supp i-xvi, 248-53, 274-82, 300-4, 310, 324-30 S 8-O 6 '33; Engineering 136:249-64, 293-308, 328-33, 336, 362, 370-2 S 8-29 '33

**MARINE engines**

Engine and exhaust turbine in one unit developed by White marine engineering co, England. il Power 77:65 F '33

Götaverken system of using exhaust steam. il Engineering 136:406-7 O 13 '33

Lentz engine. J. F. Paige. il diag Marine Eng 38:140-3 Ap '33

Reciprocating marine steam engine; Lentz engine. J. F. Paige. Marine R 63:23 Mr '33

Reibrad-wendegetriebe. F. G. Altmann. diags Zeit Ver Deutsch Ing 77:354-5 Ap 1 '33

Shipbuilding and marine engineering in 1932. Engineer 155:41-2 Ja 13 '33

Stephen and sons 2,000-i.h.p. semi-uniflow marine engine. il diags Engineering 136:489-92 N 3 '33; Engineer 156:416 O 27 '33

Turbo compound engine; propelling unit for small steamships. G. Bauer. il diags Marine Eng 38:320-4 S '33



**MARINE engines—Continued**

Unique high pressure steam unit for yacht.  
Sci Am 149:240-1 N '33

*See also*

Bollers, Marine	Marine engineering
Diesel engines, Marine	Motor ships
Gas and oil engines, Marine	Ship propulsion
	Steam turbines, Marine

**Testing**

Shop tests of turbo compound engine. G. Bauer. Marine Eng 38:383-5 O '33

**Valves**

White valve gear; abstract. Mech Eng 55:258 Ap '33

**MARINE fire.** See Greek fire

**MARINE insurance.** See Insurance, Marine

**MARINE midland corporation**

Earned \$6,740,933. Barron's 13:11 F 6 '33

Earnings. Trust Companies 56:266 F '33

Overlooked improvement in sound companies.  
Mag of Wall St 52:384-5 Ag 5 '33

**MARINE railways.** See Slipways

**MARINE structures**

Cranes for building moles. diags Mech Hand-  
dling 20:77-8 Mr '33

Destruction of timber by marine organisms  
in the port of Sydney. R. A. Johnson. Engi-  
neering 135:104 Ja 27 '33

Deterioration of structures in sea water. En-  
gineering 135:708 Je 30 '33

Marine borers. J. T. Jenkins. il Engineering  
134:755-6 D 30 '32

*See also*

Breakwaters	Jetties
Bulkheads	Lighthouses
Concrete, Effect of sea water on	Metals, Effect of sea water on
Concrete construc- tion, Subaque- ous	Piers
Docks	Piles and pile driving
Harbors	Steel, Effect of sea water on
	Wharves

**MARITIME chemical association**

Annual meeting, 5th, Wolfville, N.S. Sept. 7-8.  
Can Chem & Met 17:206-7 O '33

**MARITIME law**

Arbitration usage in collision cases; Lloyd's  
new form of agreement. Weekly Underw  
129:546-8 S 23 '33

Late decisions in maritime law. H. B. Skill-  
man, comp. Published in monthly numbers  
of Marine review

*See also*

Average (maritime  
law)  
Insurance, Marine

**United States**

How far workmen's compensation acts can  
apply to maritime law, interstate commerce,  
and the doctrine of extraterritoriality. S. B.  
Horovitz. bibliog U S Bur Labor Statistics  
Bul 577:119-26; Discussion. 137-46 '33

**MARKET areas**

Establishing sales control areas. C. E. Har-  
ing. map Adv & Sell 20:19-20+ D 8 '32

European sales areas. maps U S Bur For  
& Dom Com Trade Promotion Ser 143:1-41  
'33

Half of the United States lies in normal mar-  
keting territory of the Mid-continent. A. S.  
James. map Nat Pet N 25:43-4 My 17 '33

How competition distorts normal wholesale  
trading areas. N. H. Engle. map Sales  
Management 33:22-4 Jl 1 '33

If branch banking comes, natural trading  
areas should define location of branches.  
C. E. Haring. Adv & Sell 20:19-20+ Mr 30  
'33

*See also*

Shopping areas

**MARKET research**

Basic ingredients of a new product program;  
research, development of logical outlets, and  
co-operation of sales force. E. S. Sander-  
son. Ptr Ink 161:17-19 D 29 '32

Building sales by knowing customers' tastes;  
General motors of Canada. N. G. Shidle.  
Forbes 31:6-7+ Je 1 '33

Consulting the consumer. Adv & Sell 20:28+  
Mr 16 '33

Consumer is sales manager; Shell petroleum  
corporation. P. Ryan. il Ptr Ink Mo 27:20-  
1+ N '33; Same cond. Adv & Sell 21:40+  
O 26 '33

Design strategy helps industrial firm crash  
new consumer market; Sealright paper  
cups. R. S. McFadden. il Sales Management  
33:272+ S 15 '33

Development, research and advertising—the  
manufacturers' contribution to the industry,  
as it affects sales. J. A. Fry. Am Gas J  
133:37-40+ My '33; Same abr. Gas Age 71:  
517-18+ My 20 '33

Entire line is repiced; more advertising;  
sales jump; new Pyrex distribution policy.  
J. L. Peden and C. D. La Follette. il Ptr  
Ink 161:3-5+ D 1 '32

First of 8 million findings in know-the-con-  
sumer study. L. M. Hughes. Sales Manage-  
ment 32:170+ F 15 '33

Five ways of running a business; General  
Motors' department of consumer research.  
il Ptr Ink 164:36 Jl 13 '33

Furniture distribution in the west mid-conti-  
nent. W. Mitchell, jr. maps U S Bur For  
& Dom Com Domestic Commerce Ser 68:1-  
171 '32

Housewives' committee is organized by  
Kroger to improve products. Sales Manage-  
ment 32:122 F 1 '33

How advertising meshes with the new selec-  
tive selling; analysis by territory, buying  
power and other factors. K. Groesbeck. Ptr  
Ink 161:3-4+ D 22 '32

How to protect markets; a procedure for  
bankers and commercial customers. C. D.  
Murphy. il Rand McNally Bankers Mo  
50:466-9 S '33

Industrial selling must be founded on facts.  
C. R. Long. il Adv & Sell 20:19+ Mr 2 '33

Is free market research worth just what it  
costs? Sales Management 33:113+ Ag 1 '33

Knowing—not guessing, what they really  
want in candy assortments. H. S. Knowl-  
ton. il Food Ind 5:303+ Ag '33

Market analysis; an aid to profitable selling.  
E. Hedges. Management 22:67-74 Mr '33

Market research. S. P. Dobbs. Assn of Sp  
Lib & Inf Bur Proc 1933:111-19

Market research; abstract. W. N. Cogan and  
H. Wood. Management R 22:56 F '33

Proving ground of public opinion; General  
Motors' consumer research. A. P. Sloan, jr.  
Ptr Ink 164:92-3 S 21 '33

Research, salesmanship and tomorrow's mar-  
kets. J. H. Van Deventer. Ptr Ink 163:76-8  
Ap 27 '33

Sales opportunities widen in Italian-Ameri-  
can market. L. M. Hughes. il Sales  
Management 32:58-60+ Ja 15 '33

Survey of a retail trading area; Champaign-  
Urbana district. F. M. Jones. il U Bur  
Business Research Bul 44:1-32 '32; Ab-  
stract. Sales Management 32:66+ Ja 15 '33

Taylor finds consumer slant for scientific line;  
sales jump. R. S. McFadden. il Sales  
Management 33:150-1+ Ag 15 '33

Used salesmen in market research in develop-  
ing new product; Babcock & Wilcox co.'s  
new firebrick. B. & W. 80 Junior. Iron Age  
131:752 My 11 '33

What does the public want? consumer re-  
search activity of General motors of Canada.  
N. G. Shidle. il Automotive Ind 68:666-9+  
Je 3 '33; Same cond. Ptr Ink 163:44-8 Je 22  
'33

What women buy—and why; abstracts. H. C.  
Link. Adv & Sell 22:34 N 9 '33; Ptr Ink  
165:37+ N 9 '33

Where psychology fits into today's market-  
ing plans. L. H. Chalkley. Ptr Ink 164:108-  
10 S 14 '33

You sold chemises, not flour! W. T. Laing.  
Ptr Ink 164:64+ Ag 10 '33

*See also*

Market surveys  
Products, New—  
Testing

Questionnaires

**MARKET statistics**

- BBDO buying power index. C. E. Haring. *il Adv & Sell* 22:16-17+ N 9 '33
- Bright spot cities; business activity as measured by bank debits. *Sales Management* 31: 496 D 1 '32 [cont monthly]
- Expenditures of American consumers according to income. *Monthly Labor R* 35:1210 N '32
- How much food is sold in food stores? L. D. H. Weld. *charts Ptr Ink Mo* 27:34-5+ J1 '33
- How the census may help you; a condensed interpretation for the advertiser of the 1930 survey. E. Katz. *il Adv & Sell* 20:16-17+ Ja 19 '33
- Manufacturing market statistics. C. B. Eliot. *maps U S Bur For & Dom Com Domestic Commerce Ser* 67:1-1070 '32
- Mapping American distribution. L. D. H. Weld. *il Adv & Sell* 21:17+ My 25 '33
- Market and newspaper statistics—108 cities. 255p American assn. of advertising agencies, New York '33 [photolithographed]
- Sales Management survey of spending power; total spendable money income from all sources and retail sales in 1932 by counties and cities of 10,000 population and over. *Sales Management* 32:353-420 Ap 10 '33
- 25 brightest spot cities of 1932. *Sales Management* 32:76 Ja 15 '33

*See also*

Consumption (economics)

**MARKET stores**

- Another challenge to nationally advertised brands; market stores, the Big Bear. *il Ptr Ink* 162:41-3 Ja 26 '33
- Cheaply thrives; cheap-jack cash-and-carry depots. *Business Week* p11-12 F 8 '33
- Retailers face another menace; giant market stores. L. Dale. *Comm & Fin* 22:349 Ap 19 '33
- Super-market invades Philadelphia, featuring bone-deep price cuts. *Sales Management* 33:178 Ag 15 '33
- Super market X-ray. O. F. Rost. *il Adv & Sell* 20:17-18+ Ap 13 '33
- Super-markets breed fast. *Business Week* p9 Je 10 '33
- Super-markets enter voluntary chain stage. *Ptr Ink* 163:20+ My 4 '33
- Threat of the super-market. H. M. Foster. *Sales Management* 32:436+ Ap 20 '33
- Will price-wreckers capture retail markets? H. F. Merrill. *il Forbes* 31:15-16 Mr 15 '33

**MARKET surveys**

- Aid for analyzing markets in Delaware, Maryland, Virginia, West Virginia and the District of Columbia. C. B. Eliot. 27p U.S. Bur. of foreign and domestic commerce, Washington '33
- Aid for analyzing the market for general consumer goods in New England. 17p U.S. Bur. of foreign and domestic commerce, Washington '33 [Pub. also for Connecticut, Ohio, Pacific Southwest, Pennsylvania, Illinois, Michigan, Texas, Indiana, Kentucky, Missouri, New York, New Jersey]
- Consumer's dollar: 1929 and 1932; Monroe, Wis. *Sales Management* 33:210 S 1 '33
- How Sunkist triple checked a market survey; sale of extractors. W. B. Geissinger. *Ptr Ink* 163:60-2 My 18 '33
- Hunts new product ideas, gains unrelated field leadership; Jenkins fruit jar rings. J. R. White. *il Ptr Ink* 163:44-6 Ap 27 '33
- Installation and operation of sales budgets. H. E. Howell. *Management R* 21:355-62 D '32
- Markets by incomes. 2v Time, inc, New York '32
- Need, purpose, and method of a gas market survey. P. Cabot. *Gas Age* 72:309-12+ S 30 '33
- Survey analyzes economic status of radio audience. *Adv & Sell* 22:38 N 9 '33
- Survey of every business near plant lowers selling expense; Garden City press, Newton, Mass. B. R. Canfield. *Inland Ptr* 90:29-30 Mr '33

What the next half century may mean for gas. *bibliog Gas Age* 72:273-7+ S 23 '33

*See also*

Consumption (economics)

**MARKETING**

- Business under the Recovery act. L. Valenstein and E. B. Weiss. 314p \$2.50 Whittlesey house, McGraw-Hill '33
- Census of distribution. R. J. McFall. *Am Statis Assn J* 28:sup159-64; Discussion. T. N. Beckman. 165-7 Mr '33
- Colgate puts salesmen on trucks to provide immediate delivery. *Sales Management* 32: 126 F 1 '33
- Competition between different types of retail outlets in selling the same commodity. W. C. Hill and J. D. Scott. *Harvard Business R* 11:519-27 J1 '33
- Competition lessened by community of interest in functions of distribution. *il Textile World* 83:395 F 28 '33
- Coty invades beauty shops; hair lotion is introduced through business papers and direct mail, with general advertising to come later. *il Ptr Ink* 161:25-6 D 15 '32
- Criticism of conditions in the marketing division. P. M. Miskell. *Oil & Gas J* 31:10 Ap 6 '33; Same. *Nat Pet N* 25:20-2 Ap 5 '33
- Current marketing problems. L. D. H. Weld. *Adv & Sell* 20:40 Ja 5 '33
- Disposing of dealer stocks when new package is marketed. *Ptr Ink* 163:72-3 Je 29 '33
- Distribution of consumable goods. D. Braithwaite and S. P. Dobbs. 304p Routledge '32
- Do manufacturers render a service by carrying spot stocks? Many think "yes." J. H. Frederick. *Food Ind* 5:14-15 Ja '33
- Economics of marketing. H. B. Killough and Barrington associates, inc. 608p [bibliog p549-82] Harper '33
- Eureka sells housewife, but dealers collect and deliver. F. Wardell. *Sales Management* 33:452 N 1 '33
- Forgotten market. R. Dickinson. *Ptr Ink* 161: 46-8 N 17 '32
- From barber shop to drug store; how advertising has helped Fitch's shampoo. W. C. Lamb. *il Ptr Ink* 163:5-6 Je 1 '33
- From exclusive dealership to jobber-dealer set-up. *Ptr Ink* 163:57-8 My 11 '33
- Gadgets gain dignity of company name; Charms candy ornaments lead to organization of new company. L. P. Fisher. *il Adv & Sell* 20:15+ F 16 '33
- Grocery trade-mark helps new drug product; Worcester salt tooth paste. C. H. Dickson. *il Ptr Ink* 161:38-9 D 22 '32
- How may the manufacturers' marketing policies be improved? A. L. Edwards and others. 36p American management assn, 20 Vesey st, New York '33
- How new product captured big department store outlet; Royal typewriter company. W. A. Metzger. *il Ptr Ink* 162:17-20 F 16 '33
- How this new product covered nation in three years; Perstik. *il Ptr Ink* 164:56-7 J1 27 '33
- How to rate sales capacity as a factor in commercial credits. C. D. Murphy. *il Rand McNally Bankers Mo* 50:136-8+ Mr '33
- How Viviano is preparing to make 1935 advertising pay. *il Sales Management* 33:266+ S 15 '33
- Impromptu test, and then the advertising starts; Smoothie, new product for making ice cream. B. A. Grimes. *il Ptr Ink* 164: 81-2 J1 27 '33
- Increasing profits through better types of marketing strategy. *Sales Management* 33: 340+ O 10 '33
- Industrial selling must be founded on facts. C. R. Long. *Adv & Sell* 20:17-18+ Mr 16 '33
- Investive skill as applied to distribution. P. T. Cherington. *map Ptr Ink Mo* 27:16 S '33
- Is the government in your sales quota? *Adv & Sell* 21:30+ S 14 '33
- Methods of marketing Nebraska manufactured products. E. S. Fullbrook and F. C. Blood. *Nebraska U Studies in Business* 31:1-91 '32



**MARKETING—Continued**

- Mrs Buyer puts new paint cleaner on sale in 150 department stores. *Sales Management* 33:82 J1 15 '33
- New kinks for marketing the repositioning. A. E. Graham. *Adv & Sell* 20:15-16+ D 8 '32
- Osborn 10-point plan seeks to make distributors partners in business; abstract. *Management R* 22:184 Je '33
- Pay dirt in tourist camps. J. J. McCarthy. *il Adv & Sell* 21:26+ My 25 '33
- Pee-wee radio. C. A. Verschoor. *il Ptr Ink* 162:3-4+ F 16 '33
- Problems confronting domestic business; extract from annual report of Bureau of foreign and domestic commerce. F. M. Feiker. *Paper Tr J* 95:31-2 D 29 '32
- Readings in marketing. F. E. Clark, ed. rev ed 798p Macmillan '33
- Recruits for the wagon. *il Business Week* p12-13 My 10 '33
- Reducing station sales expense; revision of present policies in selecting outlets. F. A. Bean. *Nat Pet N* 24:83-4 N 16 '32
- Report of N.W.D.A. on manufacturers. J. T. Woodside. *Oil Paint & Drug Rep Extra* ed 124:35, 37-8 O 11 '33
- Sales slump stops as advertised brand is pushed; Curtis shoe company. J. A. Curtis. *il Ptr Ink* 162:16-13 F 23 '33
- Scientific management and economic planning; a philosophy and technique of progressive industrial stabilization. H. S. Person. *Taylor Soc Bul* 17:216-17 D '32
- Seven preliminaries to advertising. K. Groesbeck. *Adv & Sell* 20:13-14+ Ap 13 '33
- Shearing the marketing zones. H. A. Haring. *il Adv & Sell* 21:17-18+ J1 20 '33
- Some recent changes in the marketing of consumer goods. H. R. Tosdal. *Harvard Business R* 11:156-64 Ja '33
- Taylor finds consumer slant for scientific line; sales jump. R. S. McFadden. *il Sales Management* 33:150-1+ Ag 15 '33
- Territories where sales ought to be good. *Ptd Salesmanship* 61:331-3 Ag '33
- 38,092 answer "here"; Chilton company's annual roll call of the industry's dealer organization. D. Blanchard. *Automotive Ind* 68:421-3 Ap 8 '33
- Tooth brushes in grocery stores Ohio match company's new product. J. C. Staier. *il Ptr Ink* 163:41 Ap 6 '33
- Tourist camp market. *Ptr Ink* 161:56 D 8 '32
- Training the sales telescope on tomorrow's markets. J. H. Van Deventer. *Iron Age* 131:573-5+ Ap 13 '33
- Uses consumer market as an industrial demonstrator; International Nickel continues sampling idea with increased advertising of new monel metal tanks and heaters. R. Dickinson. *il Ptr Ink* 163:62-5 Je 29 '33
- When making a loan on inventories determine credit by markets. W. H. Johnson, jr. *il Bankers Mo* 49:717-18 D '32
- Wholesalers face bitter competition. G. James. *Adv & Sell* 20:23+ D 8 '32
- Why Fifth Avenue strategy won't sell the Far West. *il Sales Management* 31:426-8+ N 15 '32
- Will the small dealer become a big factor in specialty sales? P. A. Scott. *il Sales Management* 33:312-13+ O 1 '33

**See also**

Advertising  
Branch houses  
Buying habits  
Canvassing  
Chain stores  
Consignment selling  
Containers  
Dealer helps  
Display of merchandise  
Distribution (economics)  
Endless chain selling  
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Family of products  
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Jobbers, Wagon  
Mail order business  
Market stores  
Market surveys  
Markets, New  
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Products, Improved

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Salesmen  
Salesmen, Retail

Substitution (merchandizing)  
Traveling stores  
Vending machines  
Voluntary chain movement  
Warehouses  
Warehousing  
Wheat—Marketing

**Bibliography**

Business information—special fields distribution. (Business literature, v 6, nos 1-3) ea 2p Business branch, Public library, Newark, N. J. '33

**Chain store outlets**

- Cannon practice; merchandising policies changed so as to sell the chain stores yet keep its other distributors happy. *Business Week* p7 Ja 11 '33
- Chain-store system helps make farm surplus market; Safeway stores, inc. *Ptr Ink* 162:48-9 Ja 12 '33
- Deal strangles chain good-will for branded lines; makes featuring of private brands essential to profits. R. I. Harry. *Ptr Ink* 161:25-8 D 8 '32
- G.E. merchandising plan wins five-and-ten support. A. E. Graham. *Adv & Sell* 20:17-18 F 16 '33
- Grocery chain distribution trebles Radbill oil sales. *il Sales Management* 32:208-9+ Mr 1 '33
- How 10-cent package has created a place for itself. *il Ptr Ink* 161:60-3 D 15 '32
- How Texlin chalked up a 357 per cent increase in sales. R. S. McFadden. *il Sales Management* 32:327+ Ap 1 '33
- Microphone in chain store; sales meeting listens in at Nela Park. *il Ptr Ink* 164:87-8 Ag 17 '33
- This chain invites manufacturers to cooperate; Sheffield Farms stores. J. Burlinson. *il Ptr Ink Mo* 27:40+ O '33

**Cost**

- Analysis of the distribution costs of 312 manufacturers. 109p \$15 to non-members Association of national advertisers, inc, 330 West 42d st, New York '33; Review. *Ptr Ink* 163:58-60 Je 1 '33
- Balancing America's pay-roll; reducing distribution's needlessly heavy cost as national overhead. C. Fast. *Barron's* 13:11 Mr 27 '33
- Cost of marketing; a general analysis of the factors involved. L. D. H. Weld. *Taylor Soc Bul* 18:26-30 Ap '33
- Marketing costs; a method of allocating to individual commodities. F. M. Surface. *Taylor Soc Bul* 18:2-5 F '33
- Menace of anti-chain legislation; state tax measures threaten higher distribution costs, lower advertising appropriations. D. E. Mowry. *il Adv & Sell* 21:24+ J1 20 '33
- Price fixing clauses nullify distribution economies; penalize chains and large distributors. J. Jamieson. *il Adv & Sell* 21:24+ O 26 '33
- Why and how distribution costs must be cut. M. Ezekiel. *il Adv & Sell* 21:23+ S 28 '33

**Direct selling**

- Confused distribution. *Adv & Sell* 20:19 Mr 16 '33
- Continental to sell new cars by mail-order methods. H. M. Andrews. *Ptr Ink* 161:10+ D 29 '32
- Continental's direct sales of motor cars will employ service station dealers. D. G. Baird. *il Sales Management* 32:28+ Ja 1 '33
- Do jobbers balk at your new line? Stag sells 4,000 dealers direct. *il Sales Management* 31:518 D 15 '32
- How this advertiser finds and controls dealers; Century engineering corporation. E. J. Lattner. *Ptr Ink* 162:17-20 Ja 26 '33
- Jobber's star rises; high costs, heavy credit losses urge manufacturers to curtail direct selling. H. A. Haring. *il Adv & Sell* 21:13-15+ J1 6 '33

**MARKETING**—Direct selling—*Continued*

Manufacturer drops direct-to-dealer distribution; National battery company, St Paul. Forbes 30:11 D 15 '32

Selling through agents. M. A. Berman. Adv & Sell 20:19-20+ D 22 '32; 19-20+ Ja 5 '33

See also

Canvassing

**Endless chain plan**

See Endless chain selling

**New outlets**

New markets for Pennsylvania grade oils and fuels. W. C. McCreary. Nat Pet N 25:24-5 JI 5 '33

Royal typewriter co. adds 800 dealers in drive to develop low-priced market. Sales Management 31:526 D 15 '32

68 per cent increase in dealer outlets since 1929; Caterpillar tractor co. P. C. Smith. Il Ptd Salesmanship 61:276-8 JI '33

Using consumer inquiries to open new territories. Ptr Ink 162:69+ F 2 '33

**Sectional distribution**

Odds on local distribution. W. Haise. Il Adv & Sell 20:19-20+ Ap 27 '33

Sales merger gives sectional firm national coverage; Brown & Wells neckwear sold with Faultless pajamas. R. Wells. Ptr Ink 162:59-60 F 9 '33

Successful sales ideas of a small tire company; Norwalk tire and rubber co. J. W. Whitehead. Rubber Age 32:327 F '33

Why Mayer's quality wieners outsell 44 cheap competitors. L. B. Colby. Il Sales Management 32:56+ Ja 15 '33

**Small town outlets**

Main Street market; a mismanaged sales opportunity. M. Dana. Il Adv & Sell 22:19+ N 9 '33

**Study and teaching**

Survey of collegiate instruction in marketing and advertising, 1929-30. 62p Advertising federation of America, 330 W. 42d st, New York '31

**Terminology**

Report of the Committee on definitions; the problem of marketing terminology. 13p pa 50c National assn. of teachers of marketing and advertising, New York '32 (typew)

**MARKETING, Cooperative**

All King George's farmers; Empire farmers' cooperative, ltd. Business Week p20-1 N 30 '32

Cooperative marketing of farm products. (Bul 10) 85p U.S. Federal farm board, Washington '32

Co-operative marketing proves its dollar value. Ptr Ink 162:44 F 9 '33

Cooperative purchasing and marketing by farmers in 1929. Monthly Labor R 37:593-4 S '33

Cotton coöperatives in the Southeast. W. Gee and E. A. Terry. 271p Appleton-Century '33

Membership and business of farmers' cooperative associations. Monthly Labor R 35:1097-8 N '32

More advertising, more sales, and higher prices; California walnut growers association. G. E. Mitchell. Il Ptd Salesmanship 60:362-3+ Ja '33

New outlets lift product out of competition rut; California date growers association extends distribution by selling its dates fresh. T. W. Braun. Ptr Ink 162:10+ Ja 5 '33

One way back to agricultural health; California cooperative walnut growers association. C. C. Thorpe. Il Am Bankers Assn J 26:31+ Ja '33

Sane marketing can turn farm surpluses into profits; a lesson from the California fruit growers association. C. C. Teague. Ptr Ink 161:36-7+ D 15 '32

**MARKETS, New**

Atkins' instruction books tap untried market; use of company's tools by amateurs. C. H. Holland. Ptr Ink 165:25-6+ N 2 '33

Better packages; new market; Garlock packing company. Ptr Ink 161:82-3 D 8 '32

Cultivate new fields for tomorrow's steel sale's harvest. J. A. Murphy. Iron Age 132:8-10 Ag 31 '33

Depression reveals 83 per cent of market is neglected; American Radiator merchandises Arcola to old homes. B. A. Grimes. Ptr Ink 165:33-5 O 5 '33

Expanding markets by uncovering new uses. R. S. McFadden. Sales Management 33:342+ O 10 '33

Forgotten markets; Chicago opera company at the New York hippodrome. Ptr Ink 164:68 Ag 3 '33

How we found tip top sales opportunity in a rock bottom year; Walter Drey organization and Monarch typewriters. W. Drey. Il Sales Management 32:318-19+ Ap 1 '33

New outlets lift product out of competition rut; California date growers association extends distribution by selling its dates fresh. T. W. Braun. Ptr Ink 162:10+ Ja 5 '33

Now comes indoor cycling; Iver Johnson adapts a gymnasium idea. Il Ptr Ink 164:20 S 7 '33

Nujol for salads. Il Ptr Ink 164:35 S 7 '33

**MARKHAM, Edward M.**

New Chief of engineers, U.S. army. por Eng N 111:515 O 26 '33; Marine R 63:36 N '33

**MARKHAM, John H., Jr. 1876-1933**

Sketch. por Nat Pet N 25:19 F 22 '33; Oil & Gas J 31:10+ F 23 '33

**MARKING machines**

Javelin electrical etching machine. Il Engineering 136:356 S 29 '33

Weighing and marking automobile pistons. A. W. Dilts. Il Mach 39:279-80 D '32

**MARKLE, John**

Appreciation. W. B. Plank. Min' & Met 14:393 S '33

**MARKS and Spencer, limited**

Annual general meeting, 7th, London. Economist 116:1099 My 20 '33

**MARKS of origin. See Origin, Indication of****MARKSMANSHIP. See Shooting****MARLATT, Charles L. 1863-**

Retiring chief of the Bureau of entomology. Science 78:305 O 6 '33

**MARLIN-ROCKWELL corporation**

Outlook improves. Econostat 1:13, 32 S 2 '33

**MARQUARD, Frank F. 1875-**

General superintendent, Clairton works, Carnegie steel co. por Steel 92:18 F 6 '33

**MARRIAGE****Statistics**

Remarriage of widows investigated by group of casualty actuaries. C. W. Hobbs. East Underw 34:28+ N 10 '33

**Mexico**

Age at time of marriage in two Mexican localities of divergent types. P. S. Taylor. Am Statist Assn J 27:427-30 D '32

**MARRIED women**

Economic depression and the employment of women; abolition of women's employment as a remedy for unemployment. M. Thibert. Int Labour R 27:620-30 My '33

**MARSEILLES, France**

Grilles of old Marseilles. W. P. Hooper. Il Am Arch 142:36-8 N '32

**Rapid transit**

Le réseau des tramways de Marseille. Génie Civil 103:285-6 S 16 '33

**MARSHES**

Keep marshlands for wild fowl. P. G. Redington. Il Sci Am 149:14-16 JI '33

Sphagnum bog at Fort Bragg, California. G. B. Rigg. Science 77:535-6 Je 2 '33

**MARTENSITE**

Martensite forms instantly. H. J. Wiester. Il Metal Prog 23:46-8 F '33

Martensite with ferrite and pearlite; illustrations. Metal Prog 24:44 S '33



**MARTENSITE**—*Continued*

Nature of the tetragonal and cubic martensites. K. Honda and Z. Nishiyama. *diag Am Soc Steel Tr Trans* 20:464-70 N '32  
 Quenched and tempered martensite in 1% carbon steel; illustrations. *Metal Prog* 23: 44 Ja '33

**MARTIN, Rex, 1898-**

New faces and new policies in Washington. *por Aviation* 32:232, 234 Ag '33

**MARTINS bank limited**

Annual meeting, 102d, Liverpool. *Economist* 116:203-5 Ja 28 '33

**MARTITE**

Formation of martite and other iron oxides in sideritic ore of the Marquette district, Michigan. F. Wienert. *il Econ Geol* 28:68-74 Ja '33

**MARX, Karl, 1818-1883**

Karl Marx and Marxism, a universal genius: his discoveries, his traducers. A. Petersen. 63p pa. 15c New York labor news company, New York '33

**MARYLAND****Commerce**

Air for analyzing markets in Delaware, Maryland, Virginia, West Virginia and the District of Columbia. C. B. Eliot. 27p U.S. Bur. of foreign and domestic commerce, Washington '33

**Public service commission**

Public service commission of Maryland. H. G. Burke, 177p Johns Hopkins press, Baltimore '32

**Social conditions**

Old-age dependency in Maryland counties. E. S. Bellman. *Monthly Labor R* 37:856-7 O '33

**MARYLAND casualty company**

Annual statement for 1932. *Spectator* 130: 33 Ja 19 '33

**MASKS**

And now come masks; advertisers circulating them by millions as premiums. *Ptr Ink* 163: 16 Je 1 '33

Creating a craze with advertising. F. D. Gonda. *il Ptr Ink Mo* 27:48 Jl '33

Mass crazes—a new principle in advertising. F. D. Gonda. *il Ptd Salesmanship* 62:60-1 S '33

Premium carnivals. *pl Adv Arts* p32-3 Jl '33

**MASONIC temples**

Lighting of the Masonic peace memorial. *il Illum Engr* 26:214-16 S '33; Same cond. *Elec R (Lond)* 113:111, 122-3, 128 Jl 28 '33

**MASONITE**

House built of Presdwood. *il Sci Am* 148:38-9 Ja '33

Many uses of masonite products shown; Century of progress house. *il plans Am Bld* 55: 44 Je '33

Masonite-Celotex patent appeal decision. *Paper Tr J* 97:39 N 9 '33

Masonite-Celotex patent suit. *Paper Tr J* 95: 25 D 1 '32

Masonite house. *il diags plan Arch Forum* 59:56 Jl '33

Masonite wins Celotex infringement appeal. *Paper Tr J* 97:14 Jl 27 '33

**Advertising**

19,851 coupons in 16 days pulled by this advertisement; Masonite corp. J. P. Gillies. *il Ptr Ink* 162:10+ Ja 12 '33

**MASONRY**

Bond in masonry construction. W. C. Voss. *il diags Boston Soc C E J* 20:19-37 F-Mr '33

Cost of laying rubble masonry. A. K. Grimmer. *il Can Eng* 64:11 My 16 '33

Design of reinforced brick masonry; report by American society for testing materials. *Can Eng* 65:7 S 5 '33

How to avoid cracks over doors and windows in masonry walls. C. C. Hurlbut. *diags Am Arch* 142:38-40+ D '32

Masonry cements must be pre-mixed; California earthquake discloses need for control. R. E. Davis. *Concrete* 41:5-6 N '33

Moisture penetration through masonry walls.

Architecture 66:285-6, 355-6 N-D '32

Portfolio of eaves returns on masonry gables. *il Architecture* 67:355-70 Je '33

Reinforced brick masonry construction. H. Filippi. *il Can Eng* 63:13-15 D 20 '32

Reinforced brick masonry on Dearborn sewer system. C. H. Fork. *diags Eng N* 109:749-50 D 22 '32

Reinforced brick masonry slabs. *Can Eng* 65:11 Ag 8 '33

Unit masonry. *Eng N* 111:49-50 Jl 13 '33

*See also*

Brick construction	Concrete blocks
Bricks	Dams
Bridges—Foundations and piers	Foundations
Building	Mortar
Building stone	Plaster and plastering
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Concrete	

**Testing**

Relation of bond between brick and mortar and leaky masonry walls. E. F. Gallagher. *Brick & Clay Rec* 82:133-4 Ap '33

Results of tests on seven demonstration structures with summary covering tests on twenty structures. E. E. Krauss, J. Vogdes and J. R. Shank. *il Am Cer Soc J (Bul 12)* 16: 166-97 Je '33

Strength and stability of concrete masonry walls. F. E. Richart, R. B. B. Moorman and P. M. Woodworth. *il diags Ill U Eng Exp Sta Bul* 251:3-36 '32

**MASS (chemistry)**

Band spectra measurement of mass. A. Bramley. *Phys R* 44:309-10 Ag 15 '33

Comparison of the masses of He and H<sup>+</sup> on a mass-spectrograph. K. T. Bainbridge. *il Phys R* 43:103-5 Ja 15 '33; Same. *J Fr Inst* 216:201-5 F '33

Comparison of the masses of H<sup>2</sup> and helium. K. T. Bainbridge. *J Fr Inst* 216:270-1 Ag '33; Same, with reproduction of spectra. *Phys R* 44:57 Jl 1 '33

Continuous beta-ray spectrum. A. Bramley. *Phys R* 43:767 My 1 '33; Same. *J Fr Inst* 216:275-6 Ag '33

Energy turned into mass for first time in history. K. T. Bainbridge. *Science* 77:sup9 Ap 7 '33

Equivalence of mass and energy. K. T. Bainbridge. *Phys R* 44:123 Jl 15 '33; Same. *J Fr Inst* 216:255-6 Ag '33

Masses of Ne<sup>20</sup> and B<sup>11</sup>; the mass of Ne<sup>22</sup> and the disintegration of F<sup>19</sup>. K. T. Bainbridge. *bibliog il Phys R* 43:424-7 Mr 15 '33

Masses of the lithium isotopes. K. T. Bainbridge. *J Fr Inst* 216:271-2 Ag '33; Same, with reproduction of spectra. *Phys R* 44: 56-7 Jl 1 '33

**MASS production. See Production****MASSACHUSETTS bonding and insurance company**

Annual statement, 1932. *Spectator* 130:36 Mr 9 '33

**MASSACHUSETTS institute of technology**

Finances of the Massachusetts institute of technology. K. T. Compton. *Science* 76:511-12 D 2 '32

History of the departments of chemistry and physics at the M.I.T., 1865-1933. 34p Technology press, M.I.T., Cambridge, Mass. '33

**George Eastman research laboratories**

Dedication. *Science* 77:443-4 My 12 '33

Eastman laboratories dedicated. *Oil Paint & Drug Rep* 123:17 My 8 '33

Foundations for George Eastman laboratory of physics and chemistry. H. E. Sawtell. *diags Boston Soc C E J* 20:155-70 O '33

**MASSACHUSETTS mutual life insurance company**

Annual statement, 81st, year ended Dec. 31. *Spectator* 130:18 Ja 26 '33; *Ins Field (Life ed)* 62:16 F 3 '33

**MASSON, Quebec****Water supply**

Water supply and drainage systems installed at Masson. G. D. O'Connor. *diag Can Eng* 63:27-8 N 15 '32

**MASURIUM**

Discovery of the elements. M. E. Weeks. J Chem Educ 10:163-5 Mr '33

**MASURY, Alfred Fellows, 1883-1933**

Sketchy. por S A E J 32:sup25-6 My '33

Tributes. por S A E J 32:226-8 Je '33

**MATERIA medica**

Recent advances in materia medica; being a description of the methods of preparing and testing sera and vaccines, hormones and vitamins. J. H. Burn. 224p J. & A. Churchill, London '32

**MATERIAL control**

See also

Inventories  
Purchasing  
Stores systems

**MATERIALS**

Age of materials. Mach 40:65-6 O '33

Cost finding to assure profits. C. H. Hatch. Am Mach 77:656-9 O 11 '33

Costs high? sales low? look to materials. il Factory Management 91:456-7 N '33

Material selection and heat-treatment for tractors. G. C. Riegel. il Am Mach 77:72-3 F 1 '33

Materials; current research projects. Power 77:261-3 My '33

Materials of industry; development, properties and application of materials used in the mechanical industries. Mach 39:594-7 My '33

Selecting of material. J. A. Carp. Gen Elec R 36:243 My '33

Substitution of different material in a product. J. L. Alden. Iron Age 132:18+ Jl 20 '33

See also

Airplanes—Materials  
Automobiles—Materials  
Bleaching materials  
Building materials  
Ceramic materials  
Insulating materials  
Motor buses—Materials

Paper making materials  
Plastic materials  
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Strength of materials  
Tanning materials

**MATERIALS handling. See Handling of materials; Mechanical handling****MATERNITY**

See also

Childbirth

**MATERNITY benefits**

Old-age and invalidity pensions and maternity allowances in Australia. Monthly Labor R 37:291-3 Ag '33

**MATHEMATICAL economics. See Economics, Mathematical****MATHEMATICAL instruments**

See also

Calculating machines  
Integrators  
Planimeters  
Slide rule

**MATHEMATICAL physics**

Calculation of characteristic values for periodic potentials. H. D. Koenig. bibliog Phys R 44:657-65 O 15 '33

Spacetime scale as a quantum coördinate system. W. Bender. diags J Fr Inst 216:157-82 Ag '33

See also

Aerodynamics  
Approximate computation  
Elasticity  
Electricity  
Electrodynamics  
Gases  
Hydrodynamics  
Impact  
Magnetism  
Optics  
Sound  
Thermodynamics

**MATHEMATICS**

Audels new electric library. v 11, Mathematics and calculations for mechanics. F. D. Graham. \$1.50 Theo Audel & co, 65 W. 23d st, New York '32

Elementary mathematical analysis. M. I. Logsdon. v2 188p \$1.75 McGraw-Hill '33

Elementary mathematics from an advanced standpoint: arithmetic, algebra, analysis. F. Klein. 274p \$3 Macmillan '32

First course in college mathematics. W. E. Anderson. 325p, 92p \$2.75 Harper '33

Introduction to the theory of canonical matrices. H. W. Turnbull and A. C. Aitkin. 192p Blackie & son, ltd, London '32

Introductory mathematics. J. W. Lasley, jr. and E. T. Browne. 439p \$2.75 McGraw-Hill '33

Linguistic analysis of mathematics. A. F. Bentley. 315p Principia press, inc, Bloomington, Indiana '32

Mathematical excursions. H. A. Merrill. 145p Norwood press, Norwood, Mass. '33

Principles of financial and statistical mathematics. M. Philip. 405p Prentice-Hall, inc. '32

Queen of the sciences; mathematics exhibits at the World's fair. il Power Pl Eng 37:246-7 Je '33

Study of mathematics ability in relation to success in engineering studies. T. J. Higgins. J Eng Educ 23:743-6 Je '33

See also

Algebra  
Arithmetic, Commercial  
Calculus  
Charts (calculating)  
Differential equations  
Economics, Mathematical  
Geometry  
Probabilities  
Trigonometry

**Bibliography**

Catalogue of the library. R. C. Archibald, ed. 126p American mathematical society, New York '32

**History**

Civilization without native mathematics. G. A. Miller. Science 77:366 Ap 14 '33

Our common numerals. G. A. Miller. Science 78:236-7 S 15 '33

**Philosophy**

Tendencies in the logic of mathematics. E. R. Hedrick. Science 77:335-43 Ap 7 '33

**Study and teaching**

Administration of mathematics in secondary schools. E. R. Preslich. 407p \$3 Univ. of Chicago press '33

Instruction in mathematics. U S Office of Educ Bul 1932, no 17, Monograph no 23:1-72 '33

Placement examinations in mathematics at the University of Minnesota, 1925-32. R. F. Schuck. J Eng Educ 23:739-42 Je '33

Repetition effect in Iowa mathematics training examinations. R. F. Schuck. J Eng Educ 23:561-3 Mr '33

Report of the committee on mathematics for chemists. J Chem Educ 9:2108-10 D '32

**Tables, calculations, etc.**

Mathematical tables. C. D. Hodgman, comp. 2d ed 230p Chemical rubber pub. co, Cleveland '32

**MATHER, S. Livingston**

Portrait. Min Cong J 18:10 D '32

**MATHER, Stephen Tyng, 1867-1930**

In honor of the late Stephen Tyng Mather. Science 77:529 Je 2 '33

**MATHIESON alkali works, incorporated**

Report for 1932. Barron's 13:13 F 20 '33; Oil Paint & Drug Rep 123:20 F 20 '33

Selected stocks to buy for future profit and protection. Mag of Wall St 52:77 My 13 '33

**MATHIEU equation**

Calculation of characteristic values for periodic potentials. H. D. Koenig. bibliog Phys R 44:657-65 O 15 '33

**MATRIX alloy. See Bismuth alloys****MATTER**

Atomic projectiles and their applications. E. R.utherford. il diag Inst Mech Eng Proc 123:183-205 '32; Same cond. Engineer 154:486-7 N 11 '32; Abstract. Engineering 134:571-2 N 11 '32

Concerning matter and chemical entities. C. T. Kingzett. Soc Chem Ind J (Chem & Ind) 52:115-17 F 10 '33

Electrical conceptions of to-day. C. R. Gibson. 284p Lippincott '33



**MATTER—Continued**

Electrical theory of matter. W. A. Gallon.

Inst E E J 72:72-4 Ja '33

Matter created from light and cosmic rays.

Science 77:sup8 Je 9 '33

*See also*

Adsorption

Atoms

Brownian movements

Capillarity

Chemistry

Colloids

Compressibility

Diffusion

Dissociation

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Electrons

Gases

Gravitation

Hardness

Ions

Molecules

Physics

Quantum theory

Solids

Solution (chemistry)

Specific gravity

Transmutation

(chemistry)

Viscosity

Wave mechanics

**MATTRESSES (hydraulic engineering)**

Foundations get under way on New Orleans bridge. il diags Eng N 111:189-91 Ag 17 '33

**MATTSON, Edith**

Some of our members and what they do.

Special Lib 24:128 Jl '33

**MAURY, Dabney H. 1863-1933**

Sketch. Eng N 110:763 Je 8 '33

**MAXIMUM demand limiter. See Electric current limiter****MAYAS**

Flight into America's past; Inca peaks and Maya jungles. M. Beale. 286p [bibliog p285-6] \$3.50 Putnam '32

**MAYONNAISE***Advertising*

Word war; mayonnaise and salad dressing are arguing in public. Business Week p20 Ag 26 '33

**MAYONNAISE institute**

Food marketing agreement. Food Ind 5:413-14 O '33

Mayonnaise makers draft trade code. Oil Paint &amp; Drug Rep 124:19 Jl 10 '33

Set up by manufacturers. Oil Paint &amp; Drug Rep 123:40 Ja 30 '33

**MEAD, Marion**

Some of our members and what they do. Special Lib 24:131 Jl '33

**MEALY bugs**

Insecticidal activity of aliphatic thiocyanates; mealy bug. D. F. Murphy and C. H. Peet. Ind &amp; Eng Chem 25:638-9 Je '33

**MEANS, Earl A.**

Earl Means has stuck too—for 27 years. por Sales Management 32:506 My 15 '33

**MEASUREMENT**

Finding the diameter where the center is not accessible. Am Mach 77:184, 571, 636, 790-1 Mr 15, Ag 30, S 27, D 6 '33

*See also*

Calipers

Calorimeters and calorimetry

Coal measurement

Color measurement

Colorimeters and colorimetry

Electric measurements

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Standards of length

Statistical methods

Stream measurements

Surveying

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Thermometers and thermometry

Water flow

Water measurement

Water meters

Weights and measures

Compressometer, an instrument for evaluating the thickness, compressibility, and compressional resilience of textiles and similar materials. H. F. Schiefer. diag pl U S Bur Stand J Research 10:705-13 Je '33

Condensers in measuring; instruments which employ capacity variations. R. Leonhardt. il diags Elec R (Lond) 113:245-6 Ag 25 '33

Low-temperature comparator for coefficient of expansion of ceramic bodies. H. E. Davis. diag Am Cer Soc J 16:229-31 My '33

National physical laboratory; metrology department. il diags Engineering 136:173-6 Ag 18 '33

Thickness measurements of calendered materials. R. W. Brown. il diag India Rubber W 89:35-7 N '33

Die tönende saite als messgerät. H. Haake. il diag Zeit Ver Deutsch Ing 76:1228-9 D 10 '32

Van Keuren flatness tester. il Mach 39:618 My '33

*See also*

Calipers

Dilatometer

Electric instruments

Flow meters

Gages

Gear testing machines

Indicators

Micrometers

Oscillographs

Physical instruments

Pressure gages

Profilograph

Slide rule

Timing devices

Vibrograph

**MEASURING instruments, Optical**

Internal attachment for Zeiss optometer. il Iron Age 130:766 N 17 '32

Optical method of lining-up locomotive frames. il diags Engineering 136:139-41, pl 6 Ag 11 '33

Optics in locomotive repair. F. Loewen. il diag Am Mach 77:453-6 Jl 19 '33

Pratt &amp; Whitney electriclimit gage checks several diameters simultaneously. il Iron Age 131:400 Mr 9 '33

Profilprojektor. H. Holdt. il Zeit Ver Deutsch Ing 77:850 Ag 5 '33

Société Genevoise d'instruments de physique optical gear tester. il Automobile Eng 23:198 Je '33; Iron Age 131:1045 Je 29 '33; Mach 39:745-6 Jl '33

Société Genevoise model MU-100 universal measuring machine. il Am Mach 77:95-6 F 1 '33; Mach 39:418 F '33

Zeiss inspection equipment; measuring and testing instruments. il diags Automobile Eng 23:89-92 Mr '33

*See also*

Interferometer

Opacimeter

Stroboscopic instruments

**MEASURING tape**

Large uses of steel in small ways. il Steel 91:35 D 12 '32

**MEAT**

How science can help to improve the nation's food supply; meat. J. Hammond. bibliog Soc Chem Ind J (Chem &amp; Ind) 52:637-40 Ag 4 '33; Abstract. Chem Age (Lond) 29:79 Jl 22 '33

New methods of meat cookery. L. Alexander. Am Gas Assn Proc 1932:565-70

Thermal properties of meat. J. H. Awbery and E. Griffiths. diag Soc Chem Ind J 52:326T-8T O 6 '33

*See also*

Beef

Pork

Slaughtering and slaughterhouses

*Cooling*

Mass production of meat needs thousands of tons of cooling. R. F. Wheaton. il Refrig Eng 25:316-18 Je '33

*Preservation*

Chemical changes in the fat of frozen and chilled meat; the effect of smoking and the influence of atmospheric humidity on the keeping properties of bacon. C. H. Lea. Soc Chem Ind J 52:57T-63T Mr 3 '33

Chemical changes in the fat of frozen and chilled meat; the protective influence of carbon dioxide on the fat of beef stored at 0° C. C. H. Lea. Soc Chem Ind J 52:9T-12T Ja 27 '33

**MEASURING instruments**

Amplifying lever for the measurement of small displacements. G. A. Fink and G. W. Fox. diags R Sci Instr 4:276-9 My '33

Appareil magnétique pour la détermination des épaisseurs. P. Bricout. diag Génie Civil 102:284 Mr 25 '33

**MEAT—Preservation—Continued**

Effect of carbon dioxide on the colour changes or bloom of lean meat. J. Brooks. Soc Chem Ind J 52:17T-19T Ja 27 '33

Influence of carbon dioxide on the rate of multiplication of certain bacteria, as judged by viable counts. R. B. Haines. diags Soc Chem Ind J 52:13T-17T Ja 27 '33

Winter profits for the iceman; meat curing. W. K. Yates. Refrig W 68:20-1 Je '33

*See also*

Fish as food—Preservation

Meat, Frozen

**MEAT, Frozen**

Palatability of rapidly frozen meat. L. H. Lampitt and T. Moran. il Soc Chem Ind J 52:143T-6T My 26 '33

Some recent developments in low-temperature research. W. Hardy. il diags Soc Chem Ind J (Chem & Ind) 52:45-9 Ja 20 '33

Studies on the refrigeration of meat; conditions determining the amount of drip from frozen and thawed muscle. W. A. Empey. Soc Chem Ind J 52:230T-6T Jl 28 '33

**MEAT industry and trade**

Customer turnover experience of meat packing companies. H. C. Greer. J of Business 6:1-34 pt 2 Ap '33 [also published separately. pa 50c]

*See also*

Butcher shops  
Cold storage

Packing industry  
Pork products

**Statistics**

Livestock and meats. Food Ind 5:48-9 F '33  
Meat production, 1929 and 1931; tabulation. Food Ind 5:50 F '33

**Chicago**

Margins, expenses, and profits of Chicago retail meat stores. R. C. Lindquist and H. C. Greer. J of Business 6:215-25 Jl '33

**Great Britain**

Meat trade, 1932. Economist 116:sup40 F 18 '33

**Iowa**

Meat packing in Iowa. H. H. McCarty and C. W. Thompson. Iowa Studies in Business Bur of Business Research 12:1-138 '33 (pa \$1)

**MECHANICAL draft**

*See also*

Blowers  
Fans, Mechanical

**MECHANICAL drawing**

Basic units in mechanical drawing. R. P. Hoelscher and A. B. Mays. 289p \$1.60 Wiley '33

Instruction sheets for the general shop, drafting. M. S. Lewis and J. H. Dillon. 157p McGraw-Hill '32

Practical handbook of technical drawing. J. McGough. 118p Longmans '32

Technical drawing. F. E. Giesecke, A. Mitchell and H. C. Spencer. 5th ed 427p Technical book co, Austin, Texas '33

*See also*

Drafting room practice

Machinery—Drawing

Machinery—Design

**MECHANICAL engineering**

Automotive high spots at A.S.M.E.'s engineering week; summary of papers. Automotive Ind 69:12-15 Jl 1 '33

Developments and trends in mechanical engineering; review of science, mechanical technology, and professional development in 1932. il Mech Eng 54:845-58 D '32

Die entwicklungsmöglichkeiten der maschinentechnik. R. Heiss. Zeit Ver Deutsch Ing 76:1103-6 N 5 '32

Experiences in mechanical engineering; excerpts. R. W. Allen. Engineering 136:320-2 S 15 '33; Engineer 156:236-7 S 8 '33

Mechanical engineering applied to the making of lenses. W. Taylor. il diags Inst Mech Eng Proc 123:147-79 '32; Same abr. Engineer 154:450-2 N 4 '32; Same cond. Engineering 134:532-3 N 4 '32

Synopses of A.S.M.E. papers. Published in Mechanical engineering

*See also*

Aeronautic engineering

Aeronautics

Automobile engineering

Automobiles

Boilers

Chemical engineering

Electric engineering

Fuel

Hydraulic machinery

Locomotives

Lubrication and lubricants

Machine shop practice

Machine tools  
Machinery

Machinery—Design

Marine engineering

Mechanical handling

Mechanics

Motor trucks

Packing

Power (mechanics)

Power transmission

Pumping

Standardization

Steam engineering

Steam engines

Tolerance

Trucks

**Bibliography**

Book reviews. Published in monthly numbers of Mechanical engineering

**Study and teaching**

Comparison of present mechanical engineering curricula with those of 1908. W. T. Magruder. J Eng Educ 24:92-116 O '33

Things that are commonly wrong in text books on machine design. W. Trinks. diags J Eng Educ 23:523-30 Mr '33

**MECHANICAL equipment of buildings**

Air conditioning and ventilating a 31-story office building; Metropolitan life insurance company, New York. E. C. Parker. il diags Heat & Ven 30:14-19 Ag '33

Elastic supports prevent machine noise transmission. C. C. Clymer. il diags Power 76:288-90 D '32

Empire State building, New York city. F. W. Skinner. diags Engineering 134:756-8 D 30 '32

Engineering equipment of buildings. A. C. Pallot. 343p. Pitman '32

Include in \$3,300,000,000 public works program the modernization of mechanical equipment in existing properties. Heating-Piping 5:450-4, 497-9, 545-6 S-N '33

Mechanical equipment in the White House swimming pool. E. H. Brandt, Jr. il Heat & Ven 30:24-7 S '33; Same. plans Dom Eng 142:42-3 S; 43-5, 116-17 O '33

Mechanical equipment, Philadelphia saving fund society building. il Arch Forum 57:548-50 D '32

Meters guide operations at Rockefeller Center. il Power 77:572-4 N '33

Modernize public property. Manuf Rec 102:40 S '33

Noise in heating and air conditioning. S. R. Lewis. diags Heating-Piping 5:198-9 Ap '33

Plan for public improvements at zero cost; modernization of mechanical equipment of public buildings. Power 77:510-11 O '33; Excerpt (The plan). Refrig Eng 26:208 O '33

Shell-Mex house; electricity in a great London building. il Elec R (Lond) 112:147-8 F 3 '33

Some pitfalls in supervision; mechanical apurtenances. W. F. Bartels. Architecture 67:224, 283-4, 351-2 Ap-Je '33

Well-equipped store. E. E. Ashley. il diags Arch Forum 58:405-8 My '33

*See also*

Air conditioning  
Air conditioning equipment

Cooling  
Electric wiring, Interior

Elevators

Gas fitting

Heating

Hot water supply

Lighting

Office buildings—  
Electric equipment

Office buildings—  
Power

Pipe fitting

Plumbing

Pneumatic conveying

Power pipes

Steam plants

Ventilation

**MECHANICAL fans.** *See* Fans, Mechanical

**MECHANICAL handling**

Application of shovel-type electric drive to other types of materials-handling equipment at Pedro de Valdivia. R. W. Barr. il diags Gen Elec R 36:478-81 N '33



**MECHANICAL handling—Continued**

- Balanced relay equalizes material input and output. H. Van Rosen. *diag Elec W* 101: 327 Mr 11 '33
- Better materials handling methods contribute to lower processing costs. M. W. Potts. *il Iron Age* 131:58-62 Ja 5 '33
- Coke loading at coke ovens. *diags Mech Handling* 20:69-70 F '33
- Continuous pickling process in a bolt and nut factory. *Mech Handling* 20:81-2 Mr '33
- Co-ordination of goods handling equipment. J. S. Taylor. *il diags Mech Handling* 20: 285-9, 347-50 S, N '33
- Design of merchant mill repeaters. H. F. McEntire. *diag plan Elast F & Steel Pl* 20:887-8+ D '32
- Elevator-stacker for cans. *il Mech Handling* 20:275 S '33
- Exhibits at the Brewers' and allied trades' exhibition, Oct. 29-Nov. 4. *Mech Handling* 19: 401-2 D '32
- Handling devices used in manufacture of British board. *il Mech Handling* 20:175-80 Je '33
- Handling equipment improvement meets diversified needs. *Chem & Met Eng* 40:265-6 My '33
- Handling material, a real problem for the safety man. J. A. Purdy. *il Nat Safety N* 28:17-18 Ag '33
- Handling materials in a brass shop; Hawthorne works of the Western electric co. D. G. Anderson and B. F. McAuley. *il Foundry* 61:28-9+ F '33
- Handling plant transmission. *il diags Mech Handling* 19:351-3; 20:34-6 O '32, Ja '33
- How using factory methods reduces office moving time; lowers office costs. *il Management Methods* 62:172-3 Ap '33
- Improved handling methods in a container plant; economies effected in paper mill operations; Philadelphia plant of the Container corporation of America. H. N. MacDonald. *plans Mech Handling* 20:49-54 F '33
- Materials handling equipment helps to reduce production costs. *Steel* 92:97 Ja 2 '33
- Mechanical handling devices used in the canning of soft fruit. *il Mech Handling* 20:143-4 My '33
- Mechanical handling devices used in the manufacture of soap. G. F. Zimmer. *il diags Mech Handling* 20:309-12 O '33
- Mechanical handling in a sulphate factory in Holland. F. Isermann. *diags Mech Handling* 20:146-8 My '33
- Mechanical handling of hay. *Mech Handling* 20:243 Ag '33
- Mechanical handling of textile fabrics. G. L. Atkinson. *diags Mech Handling* 20:219-21, 251-3 Jl-Ag '33
- Mechanical handling processes in the canning industry; canning peas. *il diag Mech Handling* 20:73-6 Mr '33
- Modernizing a motor department; General electric co. works, Lynn, Mass. M. G. Godschall. *il plan Am Mach* 76:1195-9 D 7 '32
- Monorail materials handling in the foundry. J. B. Forker. *Mech Handling* 20:117-20 Ap '33
- Neuere blockabstreifvorrichtungen. *il diags Stahl & Eisen* 53:628-31 Je 15 '33
- Nouveau palan à main, système Verlinde. *diag Genie Civil* 102:451 My 13 '33
- Safety—a by-product of modern methods of handling materials. C. T. Fish. *il Nat Safety N* 27:31-2+ F '33
- Storage up, costs down; Abbott laboratories. A. Van Vlissingen, jr. *il Factory Management* 91:269-70 Jl '33
- Transporting and handling bulk chemicals. R. F. Bergmann. *il diags Chem & Met Eng* 40:474-7 S '33
- Transporting hot ingots at Cambria works. D. E. Renshaw. *il Iron Age* 130:992-3 D 29 '32
- Werkstättenförderung; forschungen—beispiele. H. Hellmich. *bibliog il diags Zeit Ver Deutsch Ing* 77:217-22 Mr 4 '33

*See also*

Acid handling  
Assembling methods  
Bottle washing machines

Cableways  
Cargo handling  
Cement handling  
Coal handling

Coal loading machines  
Coke handling  
Concrete handling  
Conveying machinery  
Cranes, derricks, etc.  
Cupola furnaces—  
  Charging  
  Dumping appliances  
Electric trucks, Industrial  
Farm transportation  
Freight handling  
Grain elevators  
Grain handling  
Gravel handling

Hoisting machinery  
Loading and unloading  
  ing  
Mail handling  
Mine haulage  
Mine hoisting  
Motor trucks, Industrial  
Oil handling  
Ore handling  
Pneumatic conveying  
Sand handling  
Steel handling  
Sugar handling  
Tearing machines  
Trucks

**Bibliography**

Abstracts. Published in monthly numbers of Mechanical handling

**Cost**

Purchases and stores division, A.R.A. report on handling materials. *Ry Age* 95:61-2 Jl 1 '33

**MECHANICAL models**

Mechanical cow. *il Sci Am* 148:323 Je '33

**MECHANICAL movements**

- Compact lever motion. R. H. Kasper. *diags Am Mach* 77:124-5 F 15 '33
- Device for producing intermittent rotary movement. L. Kasper. *diag Am Mach* 77:349-50 My 24 '33
- Double lever mechanism provides synchronized strokes of unequal length. L. Kasper. *diags Mach* 40:19-20 S '33
- Electric control that varies throw of crank while machine is running. A. Beusch. *diags Mach* 39:383-4 F '33
- Gearless variable-speed transmission. R. T. Todd. *diag Mach* 39:251-2 D '32
- Die gröösse und genaueigkeit der von koppelkurven ableitbaren stillstände. K. Rauh and W. Knyrim. *diags Zeit Ver Deutsch Ing* 77:196-8 F 25 '33
- Inexpensive intermittent mechanism. J. E. Fenno. *diag Mach* 40:147 N '33
- Ingenious mechanical movements. Published in monthly numbers of Machinery
- Intermittent drive mechanism. L. Kasper. *diag Mach* 39:643 Je '33
- Latch mechanism for operating two slides intermittently. F. L. Davis, jr. *diag Mach* 39:339 Ja '33
- Lever arrangement for operating two opposed clamps simultaneously. H. Scriber. *diag Mach* 40:28 S '33
- Mechanism for adjusting crank throw of wire-forming machine. L. Kasper. *diags Mach* 39: 707-8 Jl '33
- Mechanism for converting rotary into reciprocating motion. R. A. Gleason. *diags Mach* 39:769-71 Ag '33
- Principles of mechanism. A. Vallance and M. E. Farris. 335p Macmillan '33
- Single cam action performs four different functions. V. Waitkus. *diags Mach* 39:517-18 Ap '33
- Switching arrangement for cylindrical cam with intersecting grooves. J. E. Fenno. *diags Mach* 39:581-2 My '33
- Transfer mechanism for stacking parts on rods as they leave the die. R. H. Kasper. *diags Mach* 39:339-41 Ja '33
- Variable-stroke lever mechanism. W. S. Brown. *diags Mach* 39:709 Jl '33
- Verstellbare koppelkurventriebe für hubbewegungen mit einem stillstand. K. Rauh and O. Edler. *diags Zeit Ver Deutsch Ing* 77:478-80 My 5 '33

*See also*

Cams  
Eccentrics (machinery)  
Gearing

Machinery, Kinematics of  
Pulleys  
Stop mechanism

**MECHANICAL stokers.** *See* Stokers, Mechanical

**MECHANICS**

Introduction to mechanics prepared for the use of students at the Massachusetts institute of technology. N. H. Frank. rev ed 256p W. A. Fleming, Boston '33

**MECHANICS—Continued**

Mechanical analogs of electric circuits. R. W. Adams. table il Elec Eng 52:59 Ja '33  
Physical mechanics. R. B. Lindsay. 436p '44 Van Nostrand '33

Physical principles of mechanics and acoustics. R. W. Pohl. 338p Blackie & son, ltd, London '32

*See also*

Aerodynamics	Hysteresis (mechanics)
Aeronautics	Liquids
Bending moment	Load (mechanics)
Deformations (mechanics)	Machinery
Eccentrics (machinery)	Mechanical movements
Elasticity	Power (mechanics)
Engineering	Steam engines
Fluids	Strains and stresses
Force and energy	Strength of materials
Friction	Thermodynamics
Gases	Torsion
Hydraulics	Vibration
Hydrodynamics	Viscosity
Hydrostatics	Wave mechanics

**MECHANICS (persons)**

Bull market in skilled workers. K. Coolbaugh. il Nation's Business 21:42-4 N '33  
Objections to the contract system in tool-making. C. B. Cole. Mach 40:6-7 S '33

**MECHANICS, Analytic**

Analytic and vector mechanics. H. W. Edwards. 428p \$4 McGraw-Hill '33

Analytical mechanics for engineers. F. B. Seely and N. E. Ensign. 2d ed rewritten 414p Wiley '33

General mechanics, being volume 1 of Introduction to theoretical physics. M. Planck. 272p Macmillan '33

**MECHANICS, Applied**

Applied mechanics. J. Boothroyd. 184p E. Arnold & co, London '31

Applied mechanics; condensed from the 1932 progress report of the A.S.M.E. applied mechanics division. il Mech Eng 54:846-7 D '32

Investigation of the boundary layer between turbulent and streamline flow when the rate of main flow is accelerated or retarded. Mech Eng 55:120-1 F '33

Structural mechanics. H. W. Hayward, A. F. Holmes and R. G. Adams. 182p \$2.25 McGraw-Hill '32

**MECHANICS, Celestial**

Suggested mechanism of class Be stars; abstract. D. B. McLaughlin. Science 76:520 D 2 '32

*See also*

Orbits

**MECHANICS, Statistical**

Calculation of statistical averages for perturbed systems. R. Serber. Phys R 43:1011-21 Je 15 '33

Quantum statistics of almost classical assemblies. J. G. Kirkwood. Phys R 44:31-7 Jl 1 '33

**MECHANICS and traders insurance company**

Reincorporates in Connecticut. East Underw 34:24 Jl 28 '33; Spectator 131:24 Jl 27 '33

**MECHANICS institute.** See Rochester athenaeum and mechanics institute**MECHANICS' liens**

Builders construct a law; uniform lien act now goes to legislatures. G. F. Meyne. il Nation's Business 21:50+ Ja '33

Treatise on the Mechanics' lien law of Illinois. J. H. Miner. 60p Julius H. Miner, Chicago '33

**MEDALS.** See Rewards, prizes, etc.**MEDICAL advertising**

Advertising or Prof. Tugwell? W. S. Groom. Ptd Salesmanship 62:110-12 O '33; Excerpt. Ptr Ink 165:88 O 19 '33

Cook County doctors to use paid advertising. Ptr Ink 165:21 O 26 '33

Danger in advertising rulings based on censorship. C. L. Young. Ptr Ink 163:39 Je 29 '33

How far have our advertising standards been lowered? R. W. Johnson. Ptd Salesmanship 62:131-2+ O '33

Medical advertising. M. Ross. 72p Julius Rosenwald fund, Chicago '32

Turn free advertising into cash by using tactful diplomacy; public health advertising. A. J. Fehrenbach. Inland Ptr 91:27 Ap '33

*See also*

Advertising—Physicians, Appeal to  
Medicines, Proprietary—Advertising

**MEDICAL and pharmaceutical chemistry.** See Chemistry, Medical and pharmaceutical

**MEDICAL botany.** See Botany, Medical

**MEDICAL buildings**

Basic considerations in the design of medical office buildings. H. E. Warren. il diags plans Am Arch 143:18-22 Ja '33

**MEDICAL centers**

Designing procedure for the New York hospital—Cornell medical college buildings. il diags plans Arch Forum 58:87-116 F '33

Hospital luxury for rich or poor; New York hospital—Cornell medical college group. A. A. Hopkins. il Sci Am 147:340-1 D '32

Principles of planning; the New York hospital—Cornell medical college buildings. G. C. Robinson. il (front) plan Arch Forum 58: 85-6 F '33

Reliability—keynote of hospital power plant; New York hospital medical center. W. H. Fisher. il Power 77:398-401 Ag '33

*See also* Columbia-Presbyterian medical center, New York

**MEDICAL colleges**

British post-graduate hospital and medical school. Science 78:258 S 22 '33

School of medicine of Rosario; financial difficulties. Science 77:232 Mr 3 '33

*See also*

Harvard university  
—Medical school

**MEDICAL education**

Final report of the Commission on medical education. 560p Comm. on medical education, 630 W. 168th st, New York '32

Parallels in the development of legal and medical education. H. Oliphant. Ann Am Acad 167:156-64 My '33

**MEDICAL ethics**

Vienna medical faculty on yeast testimonials. Science 77:sup9 Ja 13 '33; Same. Sci Am 148:230-1 Ap '33

**MEDICAL examinations.** See Insurance, Life—  
Medical examinations; Physical examinations

**MEDICAL jurisprudence**

Medicolegal cases; abstracts of court decisions of medicolegal interest, 1926-1930. W. C. Woodward, ed. 1336p American medical assn, Chicago '32

Possibilities and need for development of legal medicine in the United States, with a supplement on University departments in the field of criminology. O. T. Schultz. Nat Research Council Bul 87:1-135 [bibliog p132-5] '32 (\$1.50)

**MEDICAL patents**

Medical patents. Science 77:451-2 My 12 '33

Wisconsin alumni research foundation; basic patent on inorganic compounds of iron and copper for the prevention and treatment of anemia. Science 77:44 Ja 13 '33

**MEDICAL research**

Academic and industrial research in the field of therapeutics. H. H. Dale. Science 77:521-7 Je 2 '33; Abstract. Oil Paint & Drug Rep 123:17+ My 1 '33

Beit memorial fellowships; annual report. Science 78:161-2 Ag 25 '33

Endocrine glands. il Fortune 8:76-82+ N '33

History of the National research council, 1919-1933; Division of medical sciences. S. Bayne-Jones. Science 78:26-9 Jl 14 '33

Medical heroes. Science 76:sup8 D 30 '32

Medical research in the clinic and laboratory. S. Flexner. Science 78:1-5 Jl 7 '33

Medicine. J. F. Fulton. Science 78:109-14 Ag 11 '33



**MEDICAL service**

- Alternatives to compulsory public health insurance. P. Williams. *Ann Am Acad* 170:128-40 N '33
- Brattleboro medical insurance plan which has been received with considerable public interest. *Weekly Underw* 127:995 N 19 '32
- Chronic illness in New York city. M. C. Jarrett. 2v 255p, 287p tables ea \$5 Columbia univ. press '33
- Federal funds for medical care. *Science* 78:275-6 S 29 '33
- Fundamentals of good medical care. R. I. Lee, L. W. Jones and B. Jones. 302p \$2.50 Univ. of Chicago press '33
- How to budget health. E. Clark. 328p \$4 Harper '33
- Insurance principle in medicine. R. G. Leland. *Nat Underw* 37:33, 34 Je 8 '33
- Medical care for the American people. 213p \$1.50 Univ. of Chicago press '32; Summary. *Monthly Labor R* 36:535-6 Mr '33
- Organized medical service at Fort Benning, Georgia. I. S. Falk. 119p pa 90c Univ. of Chicago press '32
- Surveys of organized medical service. 66p Committee on the costs of medical care, 910 Seventeenth st, N.W. Washington, D.C. '32
- Surveys of the medical facilities in three representative southern counties. C. St C. Guild. 173p pa \$1 Univ. of Chicago press '32

*See also*

- Insurance, Health
- Nurses and nursing,
- Public health

**Group plan**

- Experiment in freedom of choice of physician by members of mutual benefit association; Spaulding bakeries, inc, Binghamton, N.Y. *Monthly Labor R* 37:295-6 Ag '33
- Hospital insurance being extended in the Southwest. *Nat Underw* 36:36 N 24 '32
- Medical insurance proposal provokes bitter controversy. *Nat Underw* 37:27 F 2 '33
- Plan of hospital cover explained. *Nat Underw* 37:21+ My 4 '33; Same. *Nat Underw* (Life ed) 37:5+ My 5 '33
- Ross-Loos medical group; a description of a voluntary health insurance plan. A. B. Mills and C. St C. Guild. 59p Committee on the cost of medical care, 910 Seventeenth st, N.W. Washington, D.C. '33

**MEDICAL service, Cost of**

- Ability to pay for medical care. L. S. Reed. 107p \$2 Univ. of Chicago press '33
- Ability to pay for medical care. L. S. Reed. *Am Statist Assn J* 28:sup104-9; Discussion. A. C. Bachmeyer. 110-12 Mr '33
- Costs of medical care. I. S. Falk, C. R. Rorem and M. D. Ring. 623p \$4 Univ. of Chicago press '33
- Costs of medical care. C. E. A. Winslow. *Nat Safety N* 27:29-30 Ja '33
- Costs of medical care to the family. M. C. Klem. *Am Statist Assn J* 28:sup98-103 Mr '33
- Incidence of illness and the receipt and costs of medical care among representative families. I. S. Falk, M. C. Klem and N. Sinai. 327p \$3 Univ. of Chicago press '33
- Incomes of physicians. M. Leven. 135p \$2 Univ. of Chicago press '32
- Medical business; experts suggesting reforms take a leaf from industry. *Business Week* p20 D 14 '32
- Methods and technical problems of the committee on the costs of medical care. M. M. Davis. *Am Statist Assn J* 28:sup92-7 Mr '33
- Program of medical care for the United States. C. E. A. Winslow. *Science* 77:102-7 Ja 27 '33

- Shall we socialize medicine? *Comm & Fin* 21:1413 D 7 '32

- Study of sickness cost and private medical practice. D. B. Armstrong. 15p Metropolitan life insurance co, New York '33

*See also*

- Insurance, Health

**MEDICAL service, Industrial**

- Costs of medical care. C. E. A. Winslow. *Nat Safety N* 27:29-30 Ja '33
- Health as promoted in one small plant. O. D. Bradford. *Nat Safety N* 27:36+ Ap '33
- How small industries can organize a health program; abstract. G. S. Everts. *Nat Safety N* 28:34 Ag '33
- Industrial medicine. Published monthly by Industrial medicine, inc, 844 Rush st, Chicago
- Industrial nurse and preventive medicine. *Safety Eng* 65:71-2 F '33
- Industrial nursing. Published in monthly numbers of *Safety engineering*
- Is hourly nursing in industry practical? *Safety Eng* 65:72 F '33
- Medical control of occupational diseases. W. I. Clark. *Nat Safety N* 28:36+ J1 '33
- Medical department presents the case for safety. A. F. Lecklider. *Nat Safety N* 27:14-16+ Ja '33
- Public health nursing in industry. D. Deming. *Nat Safety N* 27:54 Ja '33

*See also*

- Diseases, Industrial
- Physical examinations
- Eye—Examination
- Workmen's compensation—Medical care
- Hygiene, Industrial

**MEDICAL service, State**

- State medical aid. (In *Intercollegiate debates*. v 12, p205-49) [bibliog p238-49] E. R. Nichols, ed. Noble and Noble, New York '31
- State medicine; its imminence and advantages. J. F. Baldwin. 48p J. F. Baldwin, 115 S. Grant Av, Columbus, O. '32

*See also*

- Insurance, Health

**MEDICAL sickness annuity and life assurance society**

- Medical sickness assurance. *Economist* 115:979 N 26 '32

**MEDICINE**

- Medicine. J. F. Fulton. *Science* 78:109-14 Ag 11 '33
- Quarterly cumulative index medicus; subject headings and cross references. 414p American medical assn, 535 North Dearborn st, Chicago '32

*See also*

- Anesthetics
- Hospitals
- Anesthetics, Local
- Hygiene
- Bacteriology
- Infectious diseases
- Chemistry, Medical
- Nurses and nursing,
- and pharmaceutical
- Public health
- Chemotherapy
- Pharmacy
- Diseases
- Physicians
- Drugs
- Public health
- Electrotherapeutics

**Dictionaries**

- Practical medical dictionary. T. L. Stedman. 12th rev ed 1256p \$7 W. Wood and co, Baltimore '33

**History**

- Advance of medicine. B. G. A. Moynihan. 64p Oxford '32

**Periodicals**

- Cost of German medical and scientific periodicals; resolution by the Medical library association. *Science* 78:139-40 Ag 18 '33
- High cost of German medical and scientific periodicals. E. R. Cunningham. *Science* 77:409-10 Ap 28 '33
- Periodicals currently received in Army medical library. 53 numb 1 U S Surgeon-general's office, library, Washington '33

**MEDICINE, Popular**

- Modern health book. G. N. Gillum. 641p [bibliog p622-6] Gillum book co, Kansas City, Mo. '32

**MEDICINES, Proprietary**

- Proprietary medicine makers file code; text. Oil Paint & Drug Rep 124:15+ Ag 21 '33
- Report of N.W.D.A. on proprietary goods. Oil Paint & Drug Rep Extra ed 124:33 O 11 '33

*See also*

- Proprietary association of America

**MEDICINES, Proprietary—Continued****Advertising**

Capper bill and advertising of medicines and cosmetics. *Ptr Ink* 164:33, 36-7 Ag 3 '33

*See also*

Advertising—Laws and regulations

**MEDUSAE. See Jellyfish**

**MELCHETT, Alfred Moritz Mond, 1st baron, 1868-1930**

Alfred Mond; first Lord Melchett. *por Chem Age (Lond)* 28:287 Ap 1 '33

Lord Melchett in review. A. E. Marshall. *por Chem Markets* 32:430-1 My '33

**MELCHETT, Henry Mond, 2d baron, 1898-**  
Sketch. *por Soc Chem Ind J (Chem & Ind)* 51:941-2 N 11 '32

**MELLITIC acid**

Solubility of thalious iodate in solutions of sodium mellitate. C. F. Failey. *Am Chem Soc J* 55:3112-16 Ag '33

**MELLON institute of industrial research. See** Pittsburgh university. Mellon institute of industrial research

**MELLOPHANIC acid**

Constitution of pyromellitic, mellophanic and prehnitic acids. L. I. Smith and G. D. Byrkit. *bibliog Am Chem Soc J* 55:4305-8 O '33

**MELTING points**

Depression of the melting point of *r*-isoborneol, *l*-borneol, and *d*-camphoroxime by various substances. T. S. Patterson, J. H. Blackwood and J. M. Stewart. *Chem Soc J* p93-5 Ja '33

Isomorphism and alternation in the melting points of the normal alcohols, acetates, bromides, acids and ethyl esters from C<sub>10</sub> to C<sub>18</sub>. J. D. Meyer and E. E. Reid. *Am Chem Soc J* 55:1574-84 Ap '33

Melting point curves of some alkyl and acetylenic mercury derivatives. T. H. Vaughn, R. J. Spahr and J. A. Nieuwland. *bibliog Am Chem Soc J* 55:4206-9 O '33

Melting point of lead oxide. *J Fr Inst* 215:102-3 Ja '33

Micromelting-point determination with the Thiele tube. E. W. Blank. *bibliog diag Ind & Eng Chem Anal* 5:74-5 Ja 15 '33

Schmelzbereiche von siliciumdioxid-glasoxyd-systemen und einige daraus zu ziehende schlüsse. M. Hollenweger and H. Rumpelt. *il diags Angew Chemie* 46:662-7 O 21 '33

Thermochemical constants of the hexafluorides of sulfur, selenium and tellurium. D. M. Yost and W. H. Claussen. *Am Chem Soc J* 55:885-91 Mr '33

**MEMBRANES**

Copper membrane gas-molecule sieve; Callendar's theory of osmosis. D. L. Warrick and E. Mack, jr. *Am Chem Soc J* 55:1324-32 Ap '33

*See also*

Films  
Osmosis

**MEMORIALS**

Mountain sculpture; use of dynamite in carving Mount Rushmore memorial. G. Borglum. *il Sci Am* 148:7-9 Ja '33

Sculpture on the Joslyn memorial, Omaha, Neb.; illustrations. *Architecture* 67:99-100 F '33

*See also*

War memorials

**MENDELEEV congress**

Sixth Mendeleev congress at Kharkov. V. Cofman. *Science* 77:286 Mr 17 '33

**MENINGITIS**

Shwartzman phenomenon; factors complicating its use in the testing of antimeningococcic serum. A. M. Pabst and S. E. Branham. *bibliog Pub Health Rep* 48:639-51 Je 9 '33

**MENINGOCOCCI**

Experimental meningococcal infection in mice. C. P. Miller. *Science* 78:340-1 O 13 '33

**MEN'S furnishing goods**

Credit group checks losses, assists retailers; Men's furnishings manufacturers group. Management Methods 62:71-3 F '33

*See also*

Clothing trade  
Neckties

**Advertising***See also*

Shirts—Advertising

**MENSURATION***See also*

Gages  
Measuring instruments  
Standards of length

Surveying  
Weights and measures

**MENTAL diseases**

Neuropsychiatric service in a marine hospital, Ellis Island. J. D. Reichard. *Pub Health Rep* 48:1136-43 S 15 '33

**MENTAL hygiene**

Increase in economic mental cases. G. K. Pratt. *Monthly Labor R* 36:1253 Je '33

Mental hygiene in schools. H. Y. McClusky. *Sci Am* 148:119 F '33

Morale: the mental hygiene of unemployment. G. K. Pratt. 64p pa 25c National committee for mental hygiene, 450 Seventh av, New York '33

**MENTAL telepathy. See Telepathy**

**MENTAL tests. See Ability tests**

**MENTHOL**

Researches in the menthone series; diagnosis and characterisation of the stereoisomeric menthols. J. Read, W. J. Grubb and D. Malcolm. *Chem Soc J* p170-3 F '33

Researches in the menthone series; the complete optical resolution of *dl*-neomenthol by means of *l*-menthol. J. Read and W. J. Grubb. *Chem Soc J* p167-70 F '33

**MENTHYL naphthylglycolates**

Isomeric (-)-menthyl  $\alpha$ -naphthylglycolates. A. McKenzie and E. R. L. Gow. *Chem Soc J* p32-7 Ja '33

**MENUS***See also*

Advertising mediums  
—Menus

**MERCANTILE buildings***See also*

Department stores  
Store buildings  
Warehouses

**MERCANTILE library, New York city**

History of the Mercantile library. *Lib J* 58:169-70 F 15 '33

**MERCAPTANS**

New condensation reaction of the thiophenols. G. Dougherty and W. H. Taylor. *Am Chem Soc J* 55:1294-5 Mr '33

Preparation of aliphatic mercaptans and sulfonic acids of high molecular weight. G. Collin and others. *Soc Chem Ind J* 52:272T-5T Ag 25 '33

Preventing escape of mercaptans in reclaiming caustic soda used in washing gasoline recovered from refinery gases. W. Mendius. *Am Pet Inst Proc (Refining div)* p38 Je '32

Studies in thiophenol chemistry; a condensation reaction between thiophenols and condensed aldehyde-ammonias. G. Dougherty and W. H. Taylor. *bibliog Am Chem Soc J* 55:4588-93 N '33

Triphenylvinyl mercaptan. C. F. Koelsch and G. Ulliot. *Am Chem Soc J* 55:3883-4 S '33

**Analysis**

Quantitative mercaptan determination with cupric chloride solution. W. A. Schulze and L. V. Chaney. *il Nat Pet N* 25:37-8, 40 Ag 23 '33

Rapid quantitative determination of mercaptans. G. R. Bond, jr. *Ind & Eng Chem Anal* 5:257-60 Jl 15 '33



**MERCAPTOBENZOTHAZOLE**

Reactions during vulcanization; the multiple-accelerator effect. H. C. Jones. *Ind & Eng Chem* 25:1009-11 S '33

**MERCAPTO compounds**

Growth retardation by the partially oxidized sulphydryl of cysteine. F. S. Hammett. *Science* 77:190 F 17 '33

**MERCERIZING**

Application of phenolic constituents of tars as wetting agents. G. T. Morgan, D. D. Pratt and A. E. J. Pettet. *Soc Dyers & Col J* 49:125-7 My '33

Deconvolution of cotton hairs as a test of the mercerisation process. M. A. Calvert and D. A. Clibbens. *diags Textile Inst J* 24: T233-54 Je '33; *Abstract. Textile Col* 55:690-1 O '33

Examination of mercerised hosiery yarns. D. A. Clibbens and A. Geake. *pls Textile Inst J* 24: T255-72 Je '33

High luster in cotton mercerization; abstract. O. Mecheels. *Textile Col* 55:687 O '33

Improved mercerizing process. *Sci Am* 149: 128+ S '33

Mercerization of cotton. *Textile Col* 55:336-8+ My '33

Mercerization of cotton for strength. J. B. Wilkie. *il Am Dyestuff Rep* 22:217-25 Mr 27 '33

Mercerization of rayon fabrics. E. Schuelke. *Am Dyestuff Rep* 22:457-8 Jl 17 '33

Mercerizing artificial silk; prevention of damage to the fibre. *Textile Col* 55:773+ N '33

New facts about mercerization. O. Mecheels. *Textile Col* 55:474-5 Jl '33

Periodic variations in hank processed yarn, and the patterns produced by them in stocking fabrics. D. A. Clibbens and A. Geake. *pls Textile Inst J* 24: T221-32 Je '33

Science of stockings. R. H. Pickard. *Soc Chem Ind J (Chem & Ind)* 51:977-8 N 25 '32

Shrilacrol; abstract. G. T. Morgan, D. D. Pratt and A. E. J. Pettet. *Mech Eng* 55: 535-6 S '33

Some examples of modern finishing machinery development. W. J. Norton. *il Textile Inst J* 24: P232-6 S '33

Stability of crude mercerizing liquors; abstract. H. Friedrich. *Textile Col* 55:255 Ap '33

Wetting-out agents and modern mercerization methods. A. J. Hall. *Am Dyestuff Rep* 22: 623-6+ O 23 '33

Wood creosote in mercerization; abstract. W. Pohl. *Textile Col* 55:255-6 Ap '33

**MERCHANDIZING**

Bell-wether merchandising; Viscose company used Fifth avenue as starting point to get national acceptance. J. A. Spooner. *il Ptr Ink Mo* 26:19+ Je '33

Born during the depression—our business has thrived; Norge corporation. H. E. Blood. *il System and Management Methods* 62:339-41+ Ag '33

Cannon practice; merchandising policies changed so as to sell the chain stores yet keep its other distributors happy. *Business Week* p7 Ja 11 '33

Check chart of new selling points. H. L. Roth. *Ptr Ink Mo* 26:49-50+ F '33

Chemistry in merchandising; Montgomery Ward & co. E. H. Harvey. *il Am Dyestuff Rep* 22:594-8 O 9 '33

Customer cooperation points the way to profits. *Textile World* 83:398 F 28 '33

Factual selling in our metal-working markets. W. B. Remington. *Iron Age* 130:835+ D 1 '32

Fighting the depression with an idea—instead of price cuts; Multibestos company tailored brake lining. M. T. Rogers. *diag Ptr Ink* 162:49-51 F 16 '33

Five points that jumped sales of new line 400 per cent; Outdoor Girl products. M. Picker. *il Ptr Ink* 161:17-19 N 17 '32

From scratch to 200,000,000 yards in four years; Cluett, Peabody is advertising and selling its Sanforized process to the industry and consumers. J. C. Turrell. *il Ptr Ink* 162:17-20 Mr 30 '33

Good merchandising is answer to profitless selling; Safeway stores. R. W. Doe. *Ptr Ink* 164:56-7, 60-1 Jl 20 '33

How to make industrial sales now. H. P. Bailey. *diags Iron Age* 130:878-81+ D 8 '32

How to sell rattlesnake meat. R. Dickinson. *il Ptr Ink* 161:24-6 D 29 '32

How we maintained sales during the deflation jag; New England confectionery company, Cambridge, Mass. H. R. Chapman. *il Sales Management* 32:474-5+ My 1 '33

If I were a marketer. R. A. Warfel. *Nat Pet N* 24:41-2+ D 28 '32

Keying merchandising strategy to 1933 conditions; a study of advertising successes. D. Francisco. *Ptr Ink* 163:3-4+ Ap 13; 51-4 Ap 20 '33

Look for new ways of merchandising. L. P. Fisher. *Adv & Sell* 20:18+ Ja 19 '33

Manufacturing of customers is biggest production problem now. J. H. Knapp. *Ptr Ink Mo* 27:13-14+ Jl '33

Merchandising that routs the second-hand problem; the Hoover company markets reconditioned vacuum cleaners. T. F. Kelly. *il Ptr Ink Mo* 25:58+ D '32

Merchants who are making good. M. N. Goodnow. *il Nation's Business* 21:30+ My '33

New and broader opportunities under NIRA for sound merchandising. *Textile World* 83: 1424-5 Ag '33

New ideas can shock business into action, even now; Knox hat company. F. H. Montgomery. *il Ptr Ink* 163:3-4+ My 25 '33

Now we break the log jam. R. Dickinson. *Ptr Ink* 164:3-4+ Ag 10 '33

Profitless selling is biggest problem of advertiser. C. W. Dipman. *il Ptr Ink Mo* 26:13-14+ Je '33

Restyling—a major factor in future merchandising programs; interview with Gordon Armstrong. *il Iron Age* 130:987-8+ D 29 '32

Restyling service—a new development in merchandising. G. Armstrong. *il diag Iron Age* 131:97-8+ Ja 12 '33

Retailers' viewpoint on business. M. L. Wilson and W. M. Hart. *Adv & Sell* 20:21-2+ D 22 '32

Salesmanship—and what it did for Powdrell & Alexander in 1932. *il Textile World* 82:964-5 N '32

Salesocracy is better. *Ptr Ink Mo* 26:22 F '33

Steel house—a problem in merchandising. R. Tappan. *Iron Age* 131:432+ Mr 16 '33

Tin gods. *il Ptr Ink Mo* 26:23 Mr '33

Turning 1933 sales opportunities into gold. J. C. McCoy. *Sales Management* 32:11-12+ Ja 1 '33

Wanted: more selling power, less selling waste. *Ptr Ink Mo* 26:21-2 Ja '33

When a group does the buying, how shall I sell? J. A. Murphy. *Iron Age* 130:911+ D 15 '32

**See also**

Advertising  
Booksellers and book-selling  
Buying habits  
Catalogs  
Chain stores  
Consignment selling  
Dated products  
Delivery of goods  
Department stores—Management  
Display of merchandise  
Electric apparatus and appliances—Merchandizing  
Exhibits  
Family of products  
Fashion  
Guaranty of goods  
Importing  
Instruction in use of product  
Jobs  
Leaders (merchandizing)  
Mail order business

Marketing  
Order blanks  
Orders  
Package goods  
Premiums (merchandizing)  
Price cutting  
Price policies  
Products, New  
Purchasing  
Retail trade—Store management  
Returned goods  
Sales, Special  
Sales management  
Sales policies  
Salesmanship  
Samples (merchandizing)  
Seasonal industries  
Specialties (merchandizing)  
Substitution (merchandizing)  
Trade-in policies  
Traveling stores  
Warehousing

**MERCHANDIZING managers**

Merchandise manager's job. *Ptr Ink* 161:52-3 D 22 '32

**MERCHANT marine**

Merchant ships and shipping. E. W. Blockside. 259p 12s 6d E. Benn, Ltd, London '33

*See also*

Harbors  
Insurance, Marine  
Seamen

Shipping  
Steamboat lines

**Great Britain**

Ships of the British merchant navy: passenger lines. E. C. Talbot-Booth. 591p A. Melrose Ltd, London '32

**United States**

American merchant marine. 164p \$1; pa 75c American bureau of shipping, 24 and 26 Old Slip, New York '33

American merchant marine tonnage. *Marine Eng* 38:342 S '33

American shipping holds its own. *il Bradstreet's* 61:217-19 Ja 28 '33

American ships in overseas trade. J. T. Lykes. *Marine R* 63:15-16 Je '33

Cargo vessels in the American merchant marine. *Marine Eng* 38:175-6 My '33; *Marine R* 63:30 My '33

Marine committee answers attacks on shipping policy. H. F. Lane. *Marine Eng* 38:93-4 Mr '33

Merchant marine and national defense. H. I. Cone. *Marine Eng* 38:183-4 My '33

Merchant marine during the fiscal year 1932. C. F. McKivergan. *Marine Eng* 38:4 Ja '33

Merchant marine statistics, 1932. 116p U.S. Dept. of commerce, Bur. of navigation, Washington; pa 10c Supt. of doc. '32

Merchant type steel vessels over 100 tons under construction in American shipyards during 1932; tabulation. *Marine R* 63:38-9 Ap '33

Merchant vessels of the United States, including yachts and government vessels, year ended June 30, 1932. 1121p, 150p *il* U.S. Dept. of commerce, Bur. of navigation, Washington; \$2.75 Supt. of doc. '32

More ships for our foreign trade. H. G. Smith. *il Sci Am* 147:334-6 D '32

National merchant marine conference, 6th, Washington, Jan. 4-5. *Marine R* 63:11-14 F; 11-16 Mr '33; *Marine Eng* 38:42-3 F '33

Naval architect and the merchant marine. J. H. Gardner. *Marine R* 63:10+ Mr '33

Our foreign trade—let's go! E. P. Trask. *Marine Eng* 38:151 Ap '33

Our Navy's greatest need: an adequate Merchant marine. 53p Middle West foreign trade committee, Cincinnati '33

Overseas shipping policies. J. T. Lykes. *Marine R* 63:15-16 Je '33

Problems of ocean shipping. H. I. Cone. *Marine R* 63:25+ My '33

Proceedings of the fifth National conference on the merchant marine, held under auspices of the United States shipping board, Washington, D. C. January 27 and 28, 1932. 161p U.S. Shipping board '32

Proceedings of the sixth National conference on the merchant marine, held under auspices of the United States shipping board. 142p U.S. shipping board '33

Reorganization consolidates marine activities. *Marine R* 63:7 Ja '33

Ship subsidy; graft in ship subventions. *Business Week* p14 O 7 '33

World mercantile shipping crisis; analysis of British point of view. A. H. Jansson. *il Marine R* 63:8-14+ Jl '33

**MERCHANTS**

Merchants who are making good. M. N. Goodnow. *il Nation's Business* 21:30+ My '33

**MERCK and company**

Merck new research laboratory at Rahway, N. J. dedicated. *Oil Paint & Drug Rep* 123:17+ My 1 '33

**MERCK corporation**

Income for 1932. *Oil Paint & Drug Rep* 123:37 Mr 6 '33

**MERCURY**

Action of mercury metastable atoms on a tungsten surface. S. Sonkin. bibliog diag *Phys R* 43:788-803 My 15 '33

Anomalies in hyperfine structure. S. Goudsmit and R. F. Bacher. *Phys R* 43:894-9 Je 1 '33

Cathodic disintegration of platinum by mercury ions. J. E. Henderson and E. Gideon. diag *Phys R* 43:601-4 Ap 15 '33

Determination of the heat of reaction of  $2\text{Fe}(\text{ClO}_4)_3 + 2\text{Hg} = 2\text{Fe}(\text{ClO}_4)_2 + \text{Hg}_2(\text{ClO}_4)_2$  from equilibrium data. V. B. Fleharty. *Am Chem Soc J* 55:2646-9 Jl '33

Effect of foreign gases upon the relative intensities of the mercury triplet  $2^3\text{P}_{012} - 2^3\text{S}_1$  under conditions of optical excitation. R. T. Macdonald and G. K. Rollefson. diag *Phys R* 43:177-80 F 1 '33

Elastic scattering of electrons by mercury atoms. E. B. Jordan and R. B. Brode. diags *Phys R* 43:112-15 Ja 15 '33

General Electric receives large mercury shipment for generating power. *Blast F & Steel Pl* 21:27 Ja '33

Interfacial tension of mercury in contact with organic liquids. F. E. Bartell, L. O. Case and H. Brown. bibliog diags *Am Chem Soc J* 55:2419-26 Je '33

Ionization and scattering accompanying positive ion impact in gases. C. A. Frische. diags *Phys R* 43:160-8 F 1 '33

Line intensity and energy distribution in high and low-pressure mercury arcs. L. B. Johnson and L. Burns. *Opt Soc Am J* 23:55-9 F '33

Mercury in human metabolism; abstract. P. Borinski. *J Fr Inst* 216:590 N '33

Mercury sealed gas valve. S. F. Essig. *il diags R Sci Instr* 3:762-3 D '32

Origin of the mercury bands at 2480Å. J. G. Winans. *il Phys R* 42:800-6 D 15 '32

Production of hydrogen peroxide in the mercury sensitized hydrogen-oxygen reaction. J. R. Bates and D. J. Salley. *Am Chem Soc J* 55:110-23 Ja '33

Production of X-rays by fast mercury ions. W. M. Coates. *Phys R* 43:837 My 15 '33

Purification of mercury by an electrolytic method. M. E. Hanke and M. Johnson. diag *Science* 78:414-15 N 3 '33

Reduction of antimonious acid in hydrochloric acid solution with mercury. L. W. McCay. *Ind & Eng Chem Anal ed* 5:1-3 Ja 15 '33

Reflection of metallic atoms from alkali halide crystals. R. R. Hancox. diags *Phys R* 42:864-81 D 15 '32

Rôle of finely divided mercury in the depolarizer of the standard cell. R. B. Elliott and G. A. Hulett. *J Phys Chem* 37:271-7 Mr '33

Simple method of producing and projecting mercury ripples. A. R. Harmon and J. B. Brinsmade. bibliog *il diag R Sci Instr* 3:803-9 D '32

Solubility of silver in mercury. R. E. DeRight. bibliog diag *J Phys Chem* 37:405-16 Ap '33

Study of polarization currents due solely to changes in electrode area. K. E. Glidden and W. A. Patrick. diag *Am Chem Soc J* 55:3594-602 S '33

Surface tension of mercury and of water in contact with saturated vapors of organic liquids. F. E. Bartell, L. O. Case and H. Brown. *Am Chem Soc J* 55:2769-76 Jl '33

Temperature coefficient of the photosensitized hydrogen-oxygen reaction. H. S. Taylor and D. J. Salley. bibliog *Am Chem Soc J* 55:96-109 Ja '33

*See also*

Amalgams

**Analysis**

Die bestimmung kleinster quecksilbermengen in organischem material. A. Stock, F. Cucuel and H. Köhle. bibliog diag *Angew Chemie* 46:187-91 Ap 1 '33

Mercury detector sensitive to 100,000,000 to 1 dilution. *Elec W* 102:523 O 21 '33

Modification of Bettendorff's arsenic test: with adaptation for mercury determination. W. B. King and F. E. Brown. bibliog *Ind & Eng Chem Anal ed* 5:168-71 My 15 '33



**MERCURY—Analysis—Continued**

Rapid qualitative detection of mercury in organic compounds. I. Stone. *Ind & Eng Chem Anal ed* 5:220 My 15 '33

Eine schnellmethode zur prüfung von salben und chemikalien auf quecksilber. E. Tornow. *Angew Chemie* 45:707-8 N 5 '32

Zur mikrometrischen bestimmung kleinster quecksilbermengen. A. Stock and others. *Angew Chemie* 46:62-5 Ja 21 '33

**MERCURY (planet)**

Perihelion of mercury. T. Merriman. *Science* 77:371-2 Ap 14 '33; Discussion. H. N. Russell. 77:412 Ap 28 '33

**MERCURY acetate**

Lead-mercurous acetate voltaic cell with acetic acid as the solvent. G. Tarbutton and W. C. Vosburgh. *Am Chem Soc J* 55:618-24 F '33

See also

Neuberg's reagent

**MERCURY acetylides**

New reaction of 1-iodoacetylenes and some new mercury acetylides. T. H. Vaughn. *Am Chem Soc J* 55:3453-8 Ag '33

Organo-mercuri acetylides and their use in the identification of organo-mercury halides. R. J. Spahr, R. R. Vogt and J. A. Nieuwland. *Am Chem Soc J* 55:2465-8 Je '33

**MERCURY alloys. See Amalgams****MERCURY-arc rectifiers. See Electric rectifiers****MERCURY boilers. See Boilers, Mercury****MERCURY chlorides**

Complex compounds in Eder's solution. G. H. Cartledge and S. L. Goldheim. *Am Chem Soc J* 55:3583-94 S '33

Electrometric studies of the precipitation of hydroxides; the action of ammonia on solutions of mercuric chloride. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p601-7 Je '33

Ternary systems constituted by mercuric chloride, water, and an alkaline-earth chloride or cupric chloride. H. Bassett and others. *Chem Soc J* p151-64 F '33

**MERCURY compounds**

Acetylene polymers and their derivatives; mercury derivatives of vinylacetylene. W. H. Carothers, R. A. Jacobson and G. J. Berchet. *Am Chem Soc J* 55:4665-7 N '33

Electrometric studies of the precipitation of hydroxides; the action of ammonia on solutions of potassium mercuri-iodide, and mercuric bromide, nitrate, sulphate, and perchlorate. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p1045-9 Ag '33

Furan mercurials. H. Gilman and G. F. Wright. *Am Chem Soc J* 55:3302-14 Ag '33

Interconversion of arylmercuric halides and diarylmercury compounds. F. C. Whitmore, R. J. Sobatzki and R. W. Beattie. *Am Chem Soc J* 55:1128-35, 1567-71 Mr-Apr '33

Melting point curves of some alkyl and acetylenic mercury derivatives. T. H. Vaughn, R. J. Spahr and J. A. Nieuwland. *bibliog Am Chem Soc J* 55:4206-9 O '33

Mercurials production is planned in Nevada. *Oil Paint & Drug Rep* 123:15 Ja 30 '33

Mercury derivatives of camphor; the constitution of Reyckler's acid. J. D. Loudon. *Chem Soc J* p823-5 J1 '33

Mono and disubstituted organo-mercury derivatives of acetylene. R. J. Spahr, R. R. Vogt and J. A. Nieuwland. *Am Chem Soc J* 55:3728-31 S '33

Reaction of iodine monochloride with certain organic mercury compounds. F. C. Whitmore and M. A. Thorpe. *Am Chem Soc J* 55:782-6 F '33

**MERCURY dibutyl**

Thermal decomposition of dibutylmercury. F. E. Frey and H. J. Hepp. *Am Chem Soc J* 55:3357-61 Ag '33

**MERCURY halides**

Organo-mercuri acetylides and their use in the identification of organo-mercury halides. R. J. Spahr, R. R. Vogt and J. A. Nieuwland. *Am Chem Soc J* 55:2465-8 Je '33

**MERCURY industry and trade**

Mercury, 1932. *Chem Markets* 33:26 J1 '33; Same. *Min Cong J* 19:9 Ag '33; Same *abr. Oil Paint & Drug Rep* 123:36 Je 19 '33

**United States**

Quicksilver code of fair competition. *Min Cong J* 19:11 S '33

**MERCURY iodides**

Phenylmethylselenetine mercuri-iodide. M. P. Balfe and H. Phillips. *Chem Soc J* p127-8 F '33

**MERCURY metallurgy**

Electrolytic refining of mercury. E. Newbery and S. M. Naude. *il diags Electrochem Soc Trans* 64 (preprint 6):57-68 S '33

Mining and furnacing quicksilver ore; Parnell Hill mine of the Southwestern quicksilver company. N. H. Stearn. *Eng & Min J* 134:24 Ja '33

**MERCURY mines and mining**

Mining and furnacing quicksilver ore; Parnell Hill mine of the Southwestern quicksilver company. N. H. Stearn. *il maps Eng & Min J* 134:22-4 Ja '33

Quicksilver mining draws prospectors in California. *Oil Paint & Drug Rep* 122:40 D 5 '32

**Nevada**

Lahontan quicksilver. C. N. Schuette. *il diags map Eng & Min J* 134:329-32 Ag '33

**MERCURY oxides**

Electrometric studies of the precipitation of hydroxides; standardisation of acid solutions by means of mercuric oxide. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p9-10 Ja '33

Use of a selenium-mercuric oxide combination in determination of nitrogen in feed materials. L. V. Taylor, jr. *Ind & Eng Chem Anal ed* 5:263 J1 15 '33

**MERCURY poisoning**

Arsenic, mercury and lead poisoning. A. Hamilton. *Safety Eng* 65:183-4 My '33

**MERCURY rectifiers. See Electric rectifiers****MERCURY sulfates**

Diffusion in standard cells. G. A. Hulett and R. B. Elliott. *diag J Phys Chem* 37:245-52 F '33

**MERCURY turbines**

Developments in the electrical industry during 1932; Emmet mercury-vapor process. J. Liston. *il Gen Elec R* 36:10 Ja '33

Die entwicklung der wärme-kraft-erzeugung. H. Schult. *Zeit Ver Deutsch Ing* 77:781-4 J1 22 '33

General Electric receives large mercury shipment for generating power. *Blast F & Steel* Pl 21:27 Ja '33

Mercury cycle saving estimated at 31 per cent; General Electric plant, Schenectady. A. R. Smith. *Elec W* 100:713 N 26 '32; Same. *Mech Eng* 55:127 F '33

Mercury plants near completion. *il Power* 77:34 Ja '33

Twenty years of mercury vapor power development. *il diag Power* Pl Eng 37:263-8 Je '33

**MERGERS. See Business consolidations****MERRY-go-rounds**

Steel employed for airplane merry-go-round. *il Iron Age* 132:53 Ag 17 '33

**MESACONIC acid**

Studies on unsaturated 1,4-dicarbonyl compounds; aryl unsaturated 1,4-diketones and ketonic acids derived from citraconic and mesaconic acids, with particular reference to the  $\beta$ -[p-bromobenzoyl]-methylacrylic acids. R. E. Lutz and R. J. Taylor. *Am Chem Soc J* 55:1168-78 Mr '33

**MESCAL pits (term)**

Mescal pits—a misnomer. H. P. Mera. *Science* 77:168-9 F 10 '33

**MESITYLENE**

Catalytic high pressure hydrogenation of aromatic hydrocarbons and catalytic high pressure destruction of the corresponding hydrogenated products. A. Dros, A. J. Tuleners and H. I. Waterman. *diags Inst Pet Tech J* 19:784-99 S '33

**MESQUITE**

Most northern occurrence of mesquite on the Great Plains. C. N. Gould. *Science* 77:511-12 My 26 '33

**MESSENGERS**

Centralized messenger corps. Management Methods 62:19-20 Ja '33

Messenger service. Management Methods 62:26 Ja '33

Tricycle girls; Westinghouse plant in East Pittsburgh. *Fortune* 7:10 Ja '33

*See also*

Advertising, Messenger delivery

**MESSINA, Sicily**

L'activité du port de Messine et les travaux envisagés pour son extension. plan Génie Civil 103:432 O 28 '33

**METABOLISM**

Effect of galactose feeding upon depancreatized dogs. J. H. Roe and R. F. Cahoon. *Science* 77:331-3 Mr 31 '33

Fate of *dl*-methionine, glycine, *d*-glutamic acid, and *l*-pyrrolidone carboxylic acid in the dog. J. A. Stekol and C. L. A. Schmidt. *tables Univ of Calif Pub in Physiology v 8*, no 4:31-41 '33

Gluconeogenesis from fat; abstract. J. R. Murlin. *Science* 77:456 My 12 '33

In vitro experiments on the metabolism of the pancreas; abstract. E. U. Still. *Science* 76:544 D 9 '32

Influence of atmospheric ionization upon the human organism. A. D. Brandt. *bibliog J Ind Hygiene* 15:354-61 S '33

Mercury in human metabolism; abstract. P. Borinski. *J Fr Inst* 216:590 N '33

Microbial metabolism and its bearing on the cancer problem. A. J. Kluyver. *Science* 76:527-32 D 9 '32

Observations on the metabolism of naphthalene in rabbits; abstract. M. C. Bourne and L. Young. *Soc Chem Ind J (Chem & Ind)* 52:271 Mr 24 '33

Physiologic changes during exposure to ionized air. C. P. Yaglou, A. D. Brandt and L. C. Benjamin. *bibliog Heating-Piping* 5:423-30 Ag '33; Same cond. *J Ind Hygiene* 15:341-53 S '33

Significance of phosphoric esters in metabolism. R. Robison. \$2 N.Y. Univ. press; 8s 6d Oxford '32

Some aspects of intermediary protein metabolism. E. Brand and M. M. Harris. *bibliog Science* 77:589-90 Je 16 '33

*See also*

Oxidation, Physiological

**METAL cleaning**

Billet scale removed with relay-controlled spray. R. M. Bayle. *il diag Elec W* 101:723-4 Je 3 '33

Blakeslee automatic and hand dip metal-parts degreasing machines. *il Iron Age* 130:926 D 15 '32; *Metal Ind* 31:29 Ja '33

Colored finishes on zinc, with cleaning methods. *il Brass W* 28:224-5 N '32

Industrial metal degreasing; most modern methods of removing heavy grease from metal products before plating and finishing. *Metal Ind* 30:473-4 D '32

Metal cleaning methods and materials. J. Geschelin. *il Automotive Ind* 68:466-70, 522-6, 702-3 Ap 15, 29, Je 10 '33

Modern developments in metal cleaning. *Chem Age (Lond)* 29:sup 1-2 Jl 1 '33

New colloidal cleaner; economical degreasing. *Chem Age (Lond)* 28:396 Ap 29 '33

New machine cleans billets rapidly and at low cost; airless wheelabrator. *il Steel* 93:32 S 4 '33; *Iron Age* 132:21 Ag 10 '32

Newer methods of metal cleaning. C. J. S. Warrington. *bibliog diag Can Chem & Met* 17:77-8 Ap '33

Production testing routine developed to maintain efficiency of new Ridoline metal cleaning system. *Automotive Ind* 68:314 Mr 11 '33

Sand blast for cleaning metal surfaces. A. S. Jamieson. *diag Power Pl Eng* 37:398 S '33

Subdivides cleaning costs; classification according to respective operations provides valuable information; Hamilton foundry & machine co. P. E. Rentschler. *Foundry* 61:19, 56 S '33

Washing and drying for small metal parts. *il Chem Age (Lond)* 29:211 S 2 '33

Why use hazardous cleaners? G. M. Briggs. *Nat Safety N* 28:21-2 S '33

*See also*

Pickling (metals)  
Sand blast

**METAL cleaning, Electrolytic**

Metal cleaning before electro-plating. *il Engineer* 156:45-6 Jl 14 '33

Metal cleaning methods and materials. J. Geschelin. *Automotive Ind* 68:525-6 Ap 29 '33

**METAL coating**

Aircraft finishing. M. R. Whitmore. *il Ind & Eng Chem* 25:19-23 Ja '33

Alumilite process for decorating and protecting aluminum products. H. Bengston and R. E. Pettit. *il Am Mach* 77:76-9 F 1 '33

Application of finishing materials on zinc. M. H. Corbin. *il Ind & Eng Chem* 25:32-4 Ja '33

Bonded-metal for resin laminating. *Steel* 93:33 Jl 10 '33

Coatings; methods of determining suitable finishes. B. S. Covell. *Plastic Prod* 9:319-21 O '33

Develops technique for fabricating 18-8 stainless-clad steels; Ingersoll steel & disc co. E. C. Kreutzberg. *il Steel* 93:23-6 S 18 '33

Electro-metal spraying; the Schoop process. *il Electrician* 110:70 Ja 20 '33

Flow-coating in transformer maintenance. H. Chase. *diag Factory Management* 91:285-6 Jl '33

M.B.V. surface treatment for aluminium and its alloys. G. Eckert. *Chem Age (Lond)* 29:sup 23-4 O 7 '33

Magnesium-alloy protection by selenium and other coating processes. G. D. Bengough and L. Whitby. *Engineering* 136:399 O 6 '33; Discussion. 136:419 O 13 '33

Metal spraying. E. F. McCrady. *Am Dyestuff Rep* 22:187-8 Mr 13 '33

Metal-gummierungen in technik und chemie. *il Chemische Fabrik* 6:sup 1 Je 7 '33

Metallization; abstract. A. Van Winsen. *Iron Age* 131:870 Je 1 '33

Metallizer gun coats anything with metal. *il Sci Am* 148:56 Ja '33

New base for phenolic resin laminating; Robertson bonded-metal P. W. Jenkins and A. W. Coffman. *il Plastic Prod* 9:183-6 Jl '33

New finishes for metals. C. R. Bragdon. *Metal Ind* 31:305-6 S '33

Preparing shafts for metal coating. *il Steel* 93:26-7 Jl 10 '33

Protective value of electroplated metal coatings on steel. *Metal Ind* 31:58-60 F '33

Reaction with paint destroys metal coating on Waldorf-Astoria tower. *il Iron Age* 132:24 S 14 '33

Sur la diffusion inter-solide des produits métallurgiques. J. Laissus. *il Chimie & Ind* 29:515-26 Mr '33

*See also*

Alloys, Hard-facing  
Electroplating  
Enamel and enamel-  
ing

Galvanizing  
Japanning  
Paint, Protective  
Pipe coating

**Testing**

Corrosion-fatigue tests on mild steel when coated with nickel by the Fescolis process. *Engineering* 136:398 O 6 '33

Effect of organic coatings in preventing damage to metal subjected to stress and corrosion. F. N. Speller and I. B. McCorkle. *il Oil & Gas J* 32:73-4 O 26 '33

Properties of metal coatings; abstract. C. W. Burgman. *Elec R (Lond)* 112:153 F 3 '33

Some factors affecting the Preece test for zinc coatings. H. H. Walkup and E. C. Groesbeck. *Am Soc T M Proc* 32 pt 2:453-63; Discussion. 464-7 '32



**METAL coloring**

Dyeing gives aluminum a color finish. *il* Iron Age 131:357+ Mr 2 '33  
 King Tut's purple gold. *Science* 77:sup9 Ja 6 '33; Same *abr.* *Sci Am* 148:181-2 Mr '33

*See also*

Aluminum—Coloring

**METAL construction**

*See also*

Copper houses                      Steel construction

Sheet metal houses

**METAL cutting**

A.S.M.E. to study metal cutting and publish practical data. R. C. Deale. *Iron Age* 131:398 Mr 9 '33

Behavior of metals during cutting investigated at length; abstracts. F. Schwerdt. *Iron Age* 132:31 Jl 6 '33; *Automotive Ind* 69:14 Jl 1 '33; *Mach* 39:797 Ag '33

Die beurteilung der zerspanbarkeit von metallen. H. Schallbroch. *il* *Zeit Ver Deutsch Ing* 77:965-71 [bibliog p971] S 9 '33

Carbide tooling on existing equipment. W. Calkins. *il* *diags Am Mach* 76:1158-60 N 23 '32

Correlation of metal-cutting data. R. C. Deale. *il* *Mech Eng* 55:625-7 O '33

Cutting teeth on tiny burrs and formed milling cutters. F. H. Mayoh. *diags Mach* 39:274-5 D '32

Experience with tungsten carbide saws. *il* *Iron Age* 132:31+ O 19 '33

Figures on sawed surfaces. K. Honda. *il* *diag Metal Prog* 24:54-5 O '33

Forschung und forschungsergebnisse zur schnitt-theorie. F. Schwerdt. *il* *diags Zeit Ver Deutsch Ing* 76:1257-65 D 24 '32

Free-cutting brass; machinability of the various alloys. D. K. Crampton and H. P. Croft. *Metal Prog* 23:31-2+ Ja '33

Machining aluminum. W. B. Francis. *Metal Ind* 31:303 S '33

Metal cutting discussed by machine shop division of American society of mechanical engineers. *Steel* 93:40-1 Jl 3 '33

Metal cutting research. *Am Mach* 77:599 S 13 '33

Multi-blade cutting tools; their design and use. R. R. Weddell. *il* *diags Am Mach* 77:489-91, 526-7, 556-7 Ag 2-30 '33

Neuere untersuchungen des fräsvorganges. E. Brödnér. *bibliog il* *diags Zeit Ver Deutsch Ing* 77:1113-17 O 14 '33

Planing versus milling. A. C. Danekind. *il* *Mech Eng* 55:673-6 N '33

Simple cutting tool for measuring pressures in the direction of cut. O. W. Boston and C. E. Kraus. *il* *diag Am Soc Steel Tr Trans* 21:623-43; *Discussion*. 643-51 Jl '33

Spanenstellung und oberflächengüte. A. Wallichs and H. Opitz. *il* *Zeit Ver Deutsch Ing* 77:924-6 Ag 26 '33

Stand der kenntnisse über die zerspanbarkeit von stahl und gusseisen. F. Rapatz. *il* *diags Stahl & Eisen* 52:1037-45 O 27 '32; *Abstract* (Machinability of iron and steel). *Engineer* 155:sup[Metallurgist] 4-5 F 24 '33; *Discussion*. *Stahl & Eisen* 53:404-5 Ap 20 '33

Thick slitting saw of high-speed steel in the milling machine. G. D. Taylor. *diag Am Mach* 77:427 Jl 5 '33; *Discussion*. A. L. DeLeeuw. 77:602-3 S 13 '33

Trend in metal-cutting materials. R. C. Deale. *Mach* 39:796-7 Ag '33

Über die bestimmung des temperaturfeldes beim spanablauf. F. Schwerdt. *il* *diags Zeit Ver Deutsch Ing* 77:211-16 Mr 4 '33

*See also*

Broaching	Machine work
Cutting machines	Milling
Cutting-off machines	Milling cutters
Cutting tools	Oxyacetylene cutting
Drilling and boring	Saws
(metal working, etc.)	Screw machines
Electric cutting	Shears (machines)
Lubrication and lubricants (cutting and grinding)	Steel cutting
Machine tools	Thread cutting
	Threading machines
	Tool steel

**Tables, calculations, etc.**

Estimating time for cutting internal keyways; reference book sheet. C. W. Willits. *Am Mach* 76:1229 D 21 '32

Modern metal-cutting materials and how to select them; results of tests at East Pittsburgh plant of the Westinghouse electric & mfg. co. J. M. Highducheck. *il* *chart Mach* 40:12-17 S '33

Multi-blade cutting tools; their design and use. R. R. Weddell. *il* *diag Am Mach* 77:488-91 Ag 2 '33

Standards for production control. A. M. Linsley. *charts Am Mach* 77:421-4, 462-5, 492-3 Jl 5-Ag 2 '33

What type of machine tool will remove the greatest volume of metal per horsepower consumed? R. E. W. Harrison. *Mach* 39:401 F '33

**METAL cutting, Subaqueous**

Burning through metal barriers underwater. R. G. Skerrett. *il* *diag Comp Air M* 33:4035-8 Ja '33

Chalumeau pour l'oxy-coupage sous l'eau, système Töpper, fonctionnant avec les combustibles liquides. *il* *diag Génie Civil* 101:612 D 17 '32

Cutting steel under water by using oxygen-hydrogen torch. C. Kandel. *il* *Mach* 39:369-73 F '33

**METAL decoration**

New process of decorating stainless steel. *il* *Comp Air M* 37:4003 D '32

**METAL finishing**

Alumilite process for decorating and protecting aluminum products. H. Bengston and R. E. Pettit. *il* *Am Mach* 77:76-9 F 1 '33

Brake-drum surfaces made smooth and extremely hard by planishing. *il* *Mach* 39:716 Jl '33

Colored finishes on zinc, with cleaning methods. *il* *Brass W* 28:224-5 N '32

Conveyors for metal finishing. W. E. Warner. *Mech Handling* 20:256 Ag '33

Electroplated coatings combat corrosion and provide attractive finishes. G. Soderberg. *il* *Steel* 92:29-30+ My 1 '33

Fabricating and finishing metal stamped ware; National enameling & stamping co, Milwaukee. J. B. Nealey. *il* *Steel* 92:21-3 Mr 27 '33

Finishes for aluminum; lustrous surfaces for ornamentation. T. D. Stay. *il* *Metal Prog* 23:24-7 Ja '33

How attractive finish helps metal products sales. H. R. Simonds. *il* *Iron Age* 132:16-19 O 26; 16-19+ N 9 '33

Mechanical finishing. W. S. Barrows. *Metal Ind* 31:273-6 Ag '33

New finish for nickel-clad steel. *Steel* 91:32+ N 21 '32

New profilograph measures roughness of finely finished and ground surfaces. E. J. Abbott and F. A. Firestone. *il* *diag Automotive Ind* 69:204-7 Ag 19 '33

Quality of decorative and rust-proofed finishes depends upon process control. J. Geschelin. *Automotive Ind* 69:457-8 O 14 '33

Quality of metal surfaces. J. Gaillard. *Am Mach* 76:1149-52 N 23 '32

Quick-drying and enduring finishes. H. Chase. *Am Mach* 77:241 Ap 12 '33

Recent developments in metal lacquers. K. R. Longnecker. *Metal Ind* 30:475-6 D '32

Specifying surface quality; a method based on accurate measurement and comparison. E. J. Abbott and F. A. Firestone. *il* *Mech Eng* 55:569-72 S '33

Successful finishing of die castings. E. Parkinson and F. V. Paulhaber. *Iron Age* 131:783+ My 18 '33

Symposium on priming and finishing of non-ferrous surfaces. *il* *Ind & Eng Chem* 25:19-34 Ja '33

Zur quantitativen ermittlung der haftfestigkeit von anstrichen. E. K. O. Schmidt. *bibliog il* *diags Angew Chemie* 46:525-9 Ag 12 '33

*See also*

Bonderizing	Lacquer and lacquering
Grinding	Polishing
Honing	Steel—Finishing
Japanning	

**METAL foils***See also*

Aluminum foil

**METAL fume fever**

Zinc in relation to general and industrial hygiene. C. K. Drinker and L. T. Fairhall. Pub Health Rep 48:955-61 [bibliog p960-1] Ag 11 '33

**METAL products fabricators' federation**

Fabricators of metal products organize to consider code. Steel 93:12 Ag 14 '33

**METAL protection**

Anodic process prevents corrosion; Boeing airplane co. R. Johnson. il Elec West 70:158 My '33

Commercial rustproofing; Parkerizing. Chem Age (Lond) 28:57 Ja 21 '33

Corrosion destroys, paint protects. J. C. Gehant. Nat Safety N 28:25+ S '33

Electroplated coatings combat corrosion and provide attractive finishes. G. Soderberg. il Steel 92:29-30+ My 1 '33

Protecting finished surfaces from rust. F. D. Hartford. Maintenance Eng 91:54 F '33

Quality of decorative and rust-proofed finishes depends upon process control. J. Geschelin. Automotive Ind 69:457-8 O 14 '33

Reducing metal corrosion rate by use of an inhibitor. A. R. Dunham. Gas Age 71:657-8 Je 24 '33

Rubber coatings for abrasion and corrosion resistance. L. Church. il Chem & Met Eng 40:467-9 S '33

Rustproofing by electroplating. Steel 93:41+ Ag 28 '33

Short-period rust preventers; abstract. P. Mabb. Mech Eng 55:580-1 S '33

Sur la diffusion inter-solide des produits métallurgiques. J. Laissus. il Chimie & Ind 29: 515-26 Mr '33

Symposium on priming and finishing of non-ferrous surfaces. il Ind & Eng Chem 25:19-34 Ja '33

Where there's wear—try hard-facing. il Factory Management 91:411-13 O '33

*See also*

Alloys, Hard-facing

Aluminum—Protection

Chromium plating

Corrosion and anti-corrosives

Electroplating

Galvanizing

Iron—Protection

Metal coating

Paint, Protective

Pipe coating

Pipe lines—Protection

Steel—Protection

**METAL spraying. See Metal coating****METAL trade**

Metal industries; symposium on their record in 1932 and prospects for 1933. Metal Ind 31:5-14 Ja '33

*See also*

Copper industry and trade

Hardware

Iron industry and trade

Lead industry and trade

Metal workers

Metals—Prices

Metals, Non-ferrous

Scrap metal

Sheet metal trade

Steel industry and trade

Tin industry and trade

Tin plate

Zinc industry and trade

**Statistics**

Pig iron and metal products of the United States, calendar years 1923-1931 (1932 estimated). Metal Ind 31:45 Ja '33

**United States**

Improved materials widen markets. H. R. Simonds. Iron Age 131:34-6, 104-5+ Ja 5-12 '33

Non-ferrous metal codes pour in at Washington. Eng & Min J 134:359-63 S '33

*See also* Metal products fabricators' federation

**METAL treating institute**

Organization. Steel 93:12 O 9 '33

**METAL waste***See also*

Scrap metal

**METAL work**

Highly developed production equipment made available in 1932. R. E. Miller. Iron Age 131:51-7 Ja 5 '33

Metal bus bodywork. W. Swallow. il Automobile Eng 23:115-16 Mr '33

Methods of working and fabricating magnesium alloys. diags Mach 39:721-3 Jl '33

Plastic forming of metals. E. Siebel. Steel 93:23-5 O 16; 37-8+ O 23; 32-4 O 30; 36+ N 6; 26, 28 N 13 '33 (to be cont)

Press work pressures. C. W. Lucas. diags Am Mach 77:181-3, 218-19, 248-9, 280-1, 312-13, 344-5, 376-7, 412-13, 440-1, 472-3, 506-7, 538-9, 568-9, 600-1, 632-3, 662-3, 696-7, 726-7 Mr 15-N 8 '33

What metal has done—metal can do; illustrations. Iron Age 131:821 My 25 '33

*See also*

Brass founding

Brass work

Bronze

Bronze founding

Bushings

Dies

Electroplating

Forging

Foundries

Foundry practice

Heat treatment

Machine shop practice

Machine tools

Metal working industries

Polishing

Punching

Rolling (metal work)

Sheet metal work

Solder and soldering

Stamping

Tin plate

Tubes, Steel—Manufacture

Turning

Welding

**Patents**

Patents. Published in monthly numbers of Metal industry

**Specifications**

Standards and specifications for metals and metal products; nationally recognized standards and specifications for ores, metals, and manufactures except machinery, vehicles, and electrical supplies. U S Bur Stand Misc Pub 120:1-1359 '33 [buck \$3 Supt. of doc.]

**METAL work, Architectural**

Lamination in metal work; hinge for church door. E. Clute. il diags Architecture 67:265-8 My '33

Portfolio of metal stair railings. il Architecture 67:169-84 Mr '33

Reaction with paint destroys metal coating on Waldorf-Astoria tower. il Iron Age 132:24 S 14 '33

Stainless steel in ornamental iron work. F. L. Prentiss. il Iron Age 132:12-15 O 26 '33

*See also*

Aluminum, Structural

Aluminum work, Architectural

Copperwork, Architectural

Ironwork, Architectural

Sheet metal work, Architectural

**METAL work, Artistic**

Artists discover metal; wall ornament at Radio City of sheet metal; illustration. Metal Prog 22:34 D '32

Stainless steel in ornamental iron work. F. L. Prentiss. il Iron Age 132:12-15 O 26 '33

**METAL work, Laminated**

Lamination in metal work; hinge for church door. E. Clute. il diags Architecture 67:265-8 My '33

**METAL workers**

Master code of Fabricated metal products federation receives hearing. Iron Age 132: 46F-46G O 12 '33

*See also*

Foundries—Employees

Iron workers

Machine shops—Employees

Steel workers

**France**

Wages in French metal industries in 1932. Monthly Labor R 35:1166 N '32

**Germany**

Recent official enquiries into wages and hours of work in various industries in Germany. Int Labour R 28:534-6 O '33



## METAL workers—Continued

## United States

Union rates of wages and full-time hours of labor in the metal trades. tables Monthly Labor R 36:1375-83 Je '33

## METAL working industries

Current trends and expectations in the metal-working industry. Iron Age 131:1031-8; 132: 33-5 Je 29-Jl 6 '33

Drop forging industry's overcapacity calls for constructive reorganization. J. B. Sehl. Iron Age 131:819-20+ My 25 '33

Improved materials widen markets. H. R. Simonds. Iron Age 131:34-6, 104-5+ Ja 5-12 '33

Research in the metal-working industry not depressed. M. Holland and W. Spraragen. Iron Age 131:102-8+ Ja 12 '33

Speculative buying in the metal-working industry; an original survey. Iron Age 132: 18A-18B Jl 20; 19-22 Jl 27 '33

## See also

Foundries  
Machinery industry  
Sheet metal trade

## Great Britain

Bennett sons & Shears, Ltd. il Soc Chem Ind J (Chem & Ind) 52:542-3 Je 30 '33

## United States

Approved codes in the metal-working industry; tabulated data. Am Mach 77:710 N 8 '33

Drop forge code filed. Iron Age 132:38 S 21 '33  
Metal industry divisions—news of codes. Iron Age 132:39-40 S 7 '33

Metal manufacturing and finishing industries of the United States. A. Bregman. charts Metal Ind 31:1-4, 51-3, 159-61, 370-2 Ja-F, My, N '33

Non-ferrous metal and plating industries codes. Metal Ind 31:299-301 S '33

Proposed general code of fabricated metal products. Iron Age 132:41-2 S 7 '33

Survey of 420 metal working plants. Iron Age 131:22-4 Ja 5 '33

What beer means to our metals business. G. S. Herrick. il Iron Age 131:461-3+ Mr 23 '33

## METAL working machinery

Continuous punching, forming and assembling on automatic machines. F. H. Colvin. il diags Am Mach 77:522-5 Ag 16 '33

Covering springs; a new machine for securing the metal covers in position. il Automobile Eng 23:291 Ag '33

Machine for rolling numbers in graduated cylindrical parts. A. E. Granville. il Am Mach 77:410 Je 21 '33

Progressive die used on dieing machine doubles output of cartridge links; Henry & Wright mfg. co. il Iron Age 131:511-12 Mr 30 '33

Railway axle plant for Russia. il Engineer 156:330-2, 334 O 6 '33

Tolhurst solid-curb chip wringer with V-belt drive. il Mach 40:51 S '33

## See also

Bending machines  
Forging machinery  
Foundry machinery  
Heading machines  
Lathes  
Machine tools  
Presses

Rolling mills  
Sharpening  
Sheet metal working machinery  
Straightening machines  
Wire drawing machines

## METAL working plants

Artists and engineers cooperate in production of die cast hardware; Devereaux corporation. J. B. Nealey. il Iron Age 131:740-2 My 11 '33

Extruded and pressed metals; works of Messrs. McKechnie brothers, Ltd., Birmingham. il Elec R (Lond) 113:257 Ag 25 '33

Modern bicycle production utilizes special equipment; Iver Johnson's arms & cycle works. H. R. Simonds. il Iron Age 131:13-14+ My 25 '33

Thompson bros. (Bilston), Ltd. il Soc Chem Ind J (Chem & Ind) 52:582 Jl 14 '33

Welded buoys and tanks; John Bellamy, Ltd. il Engineer 156:143-4 Ag 11 '33

## See also

Bolts and nuts—  
Manufacture  
Forge shops  
Foundries

Iron works  
Machine works  
Rolling mills  
Steel works

## Accidents

National safety council lists safest plants. Iron Age 132:26J Jl 20 '33

## Employees

See Metal workers

## Equipment

Flash welding automobile doors; Edward G. Budd mfg. co, Philadelphia. il Iron Age 131: 316-17 F 23 '33

Hack-saw blade works of Messrs. James Neill and company (Sheffield), limited. Engineering 136:29-31, pl 2 Jl 14 '33

Modernize butt-weld tube mill; Fretz-Moon tube co. G. T. Church. il Iron Age 131:666-7 Ap 27 '33

Progressive improvements made in technique of bolt manufacture. J. B. Nealey. il Steel 91:23-6 N 23 '32

25 years' progress in metallurgical plant. W. R. Barclay. Engineer 156:312-13 S 29 '33

Unique forming and welding operations; Midland steel products co, Cleveland, manufactures automobile rear-axle housings. F. L. Prentiss. il diags Iron Age 131:193-201+ F 2 '33

Works of Tube products, Ltd. il Engineer 155: 88-9 Ja 27 '33

## Management

Credits and collections in the metal-working industry. H. A. Russell. Iron Age 130:799+ N 24 '32

## METALLOGRAPHY

Alloys of iron, manganese and carbon. V. N. Krivobok, C. Wells and others. il Am Soc Steel Tr Trans 21:807-64 S '33

Classical and atomistic metallography. A. Portevin. Metal Prog 23:45-6 Ja '33

Cobalt-tungsten system. W. P. Sykes. il Am Soc Steel Tr Trans 21:385-421; Discussion. 421-3 My '33

Copper-cadmium alloys. G. Owen and L. Pickup. Engineer 155:sup[Metallurgist] 44-5 Je 30 '33

Creep and structural stability of nickel-chromium-iron-alloys at 1,600° F. W. A. Tucker and S. E. Sinclair. diag pls U S Bur Stand J Research 10:851-62 Je '33

Darkfield illumination adds contrast and resolving power. W. Zieler. front il Metal Prog 23:19-23 Ja '33; Correction. 23:49 F '33

Decade of applied X-ray research. G. L. Clark. il diag Soc Chem Ind J (Chem & Ind) 52:317-25, 336-46 Ap 14-21 '33

Effect of grain boundaries on equilibrium. Engineer 156:sup[Metallurgist] 53-4 Ag 25 '33

Experiments on the effects of variations in mould and pouring temperatures on the macro- and microstructures of some low melting-point metals and alloys; abstracts and discussion. F. D. Weaver. Engineering 135:311-12 Mr 17 '33; Engineer 155:266-7 Mr 17 '33; Metal Ind 31:125 Ap '33

General rules for formulating specific alloys. A. Portevin. Metal Prog 22:47+ D '32

Grain boundary effects as a factor in heterogeneous equilibrium of alloy systems. A. Phillips and R. M. Brick. il diag J Fr Inst 215:557-77 My '33

Influence of recrystallization temperature and grain size on the creep characteristics of non-ferrous alloys. C. L. Clark and A. E. White. il Am Soc T M Proc 32 pt 2:492-506; Discussion. 507-16 '32

Inverse segregation. H. Sutton. Engineer 155: sup[Metallurgist] 22-4, 35-6 Ap 28, Je 30 '33

Magnetism and the structure of metals. F. Bitter. il Mech Eng 55:287-9+ My '33

Materials for cold heading; structure more important than composition. H. B. Pulsifer. il Metal Prog 23:13-17 Mr '33

**METALLOGRAPHY—Continued**

- Mechanism and metallurgy. L. B. Hunt. Engineer 156:sup[Metallurgist] 78-9 O 27 '33
- Method of preparation of lead and lead alloy cable sheath for microscopic examination. W. H. Bassett, jr. and C. J. Snyder. bibliog il Am Soc T M Proc 32 pt 2:558-68; Discussion. 569-75 '32
- Mounting polished surfaces in bakelite. H. C. Fuller. il Econ Geol 28:393-5 Je '33
- Nonferrous physical metallurgy; new methods and tools. S. L. Hoyt. Min & Met 14:38-9 Ja '33
- Nonferrous physical metallurgy; review of literature shows wide variety of work. R. F. Mehl. bibliog Min & Met 14:40-2 Ja '33
- Phase transformations. I. Weerts. Engineer 155:sup[Metallurgist] 14-16 F 24 '33
- Practical microscopical metallurgy. R. H. Greaves and H. Wrighton. 2d ed rev & enl 256p \$6 Van Nostrand '33
- Precision, high power metallographic apparatus. F. F. Lucas. il diag Metal Prog 24: 20-5 O '33
- Preparation of lead and lead alloys for microscopical examination. B. Jones. il Engineering 136:449 O 20 '33
- Special sensitive plate for metallographic work announced by Eastman kodak co. Iron Age 130:sup14 D 29 '32
- Structure analogies of alloys. A. Westgren. il diags Am Soc Steel Tr Trans 20:507-28 D '32
- Veining or sub-boundary structures. L. Northcott. Iron & Steel Inst J 126:267-79, pl 23-6b; Discussion. 280-7 no 2 '33
- X-ray analysis of electrodeposited alloys. C. W. Stillwell. Metal Ind 31:47-50 F '33
- X-ray analysis of iron-tin alloys. W. F. Ehret and A. F. Westgren. il Am Chem Soc J 55:1339-51 Ap '33
- X-ray investigation of the copper-aluminum alloys; abstract. A. J. Bradley and P. Jones. Metal Ind 31:126 Ap '33
- See also*
- |                      |                  |
|----------------------|------------------|
| Alloys               | Metals—X ray in- |
| Copper metallography | spection         |
| Etching (metals)     | Steel—Metallog-  |
| Iron—Metallography   | raphy            |
- METALLURGICAL advisory board**  
Annual meeting, 7th, Pittsburgh, Oct. 20. Science 78:258-9 S 22 '33
- METALLURGICAL analysis**  
Analysis of white metals and their smelter products. H. Neubert. Ind & Eng Chem Anal ed 5:60-1 Ja 15 '33
- Application of the quartz spectrograph to the study of opaque minerals. M. H. Haycock. il diags Econ Geol 28:364-82 Je '33
- Control through spectroscopy. E. S. Dreblow and A. Harvey. Ind & Eng Chem 25:823-5 Jl '33
- Dithizon als hilfsmittel zum nachweis von schwermmetallspuren. H. Fischer. Angew Chemie 46:442-6 Jl 1 '33
- Electrographic analysis. A. Glazunov. Metal Prog 24:58+ O '33
- Identification of cerussite and anglesite, and flotation with galena. F. D. DeVaney and R. E. Evans. il U S Bur Mines Rep of Invest 3214:1-9 '33
- Metallurgical spectrum analysis. W. J. Crook. il diags Am Soc Steel Tr Trans 21:708-32 Ag '33
- Non-destructive analysis. A. Portevin. Metal Prog 23:52+ Mr '33
- Quantitative microscopic methods with an integrating stage applied to geological and metallurgical problems. F. E. Thackwell. il Econ Geol 28:178-82 Mr '33; Discussion. H. L. Alling. 28:695-6 N '33
- Quantitative separation of small amounts of zinc from material rich in iron. F. G. Hills. Ind & Eng Chem Anal ed 5:201 My 15 '33
- Special reagents for the analytical laboratory; some new products. Chem Age (Lond) 28: 411 My 6 '33; Abstract. Can Min J 54:389 O '33
- Star gazing in the shop; use of spectroscope and spectrograph. C. O. Herb. il Mach 39: 625-8 Je '33

Tables for the microchemical detection and estimation of the metals. K. M. Herstein. Am Dyestuff Rep 22:442-4 Jl 17 '33

*See also*

Alloys—Analysis	Copper—Analysis
Antimony—Analy-	Ore sampling
sis	Steel—Analysis

**METALLURGICAL apparatus**

Control of pulp flow. diags Eng & Min J 134: 99 Mr '33

*See also*

Ball mills	Crushing machinery
Classifiers	Tube mills
Converters	

**METALLURGICAL laboratories**

L'installation et l'organisation d'un laboratoire sidérurgique moderne. F. Chevenard. il diags plan Soc Ing Civils Bul 85:1109-58 S '32

Les nouveaux ateliers et laboratoires de l'École centrale des arts et manufactures. L. Guillet. il Génie Civil 103:269-73 S 16 '33

**METALLURGICAL libraries**

Members' and staff bulletins of the British cast iron research association. M. Pears. Assn of Sp Lib & Inf Bur Proc 1933:67-70

**METALLURGICAL patents**

Patents. Published in monthly numbers of Metal industry

Some recent metallurgical patents. Chem Age (Lond) 27:sup36 D 3 '32 [cont monthly]

**METALLURGICAL plants**

McIntyre metallurgy; flotation and cyanidation. J. J. Denny. flow sheet il diags plan Eng & Min J 134:472-84 N '33

Mill remodelment at Wright Hargreaves. il Can Min J 54:354 S '33

Milling methods and costs at the Golden Cycle mill, Colorado Springs, Colo. L. S. Harner. flow sheets U S Bur Mines Information Circ 6739:1-18 '33; Excerpts. Min Cong J 19:19 N '33

Milling methods and costs at the San Guillermo concentrator of the Compania industrial El Potosi, S.A., San Guillermo, Chihuahua, Mexico. C. A. Mehrling, F. G. Bacon and O. Wiser. flow sheet U S Bur Mines Information Circ 6706:1-22 '33

Pioneer mill. H. G. Nichols. flow sheet il Can Min J 54:5-8 Ja '33

Usine de Montricher. J. F. Audouin and A. L. Racapé. il Soc Ing Civils Bul 85:1028-34 S '32

Zinc metallurgists perfect recent developments. F. G. Breyer. Min & Met 14:55-6 Ja '33

*See also*

Blast furnaces	Ore treatment
Flotation plants	Smelting works
Iron works	Steel works

**Accidents**

Accidents at metallurgical works in the United States during the calendar year 1931. W. W. Adams. U S Bur Mines Tech Pa 532:1-14 '33

**Electric equipment**

Synchronous blower motor rides through 30-cycle outage. L. W. Hayward. Elec W 100: 826-7 D 17 '32

**Equipment**

Aluminium industry in Scotland; abstracts. G. Boex. Engineer 155:559-60 Je 2 '33; Engineering 135:592-3, 633-6 Je 2-9 '33; Discussion. Engineering 135:628-9 Je 9 '33

Amalgamation-flotation of gold ore; metallurgical operations at the Boise-Rochester mill of the St Joseph lead company. S. Campbell. flow sheet il Eng & Min J 134: 188-90 My '33

Continuous lead refining; Broken Hill associated smelters proprietary, ltd, Port Pirie, South Australia. G. K. Williams. Eng & Min J 134:285-6 Jl '33

Copper refining in Lancashire. il Elec R (Lond) 112:803-4, 805 Je 9 '33



**METALLURGICAL plants—Equipment—Cont.**

- Cost of making a mine; details of expenditures at the Ashley gold mine. flow sheet Can Min J 54:233-6 Je '33
- Fabriform centrifugal amalgamator. il Min & Met 14:74 Ja '33
- Flotation on the mother lode; Idaho Maryland mines co, Grass Valley, Calif. E. W. Ellis. flow sheet il Eng & Min J 134:382-3 S '33
- Gold blankets used in Bussieres mill. P. R. Bradley. Eng & Min J 134:284 J1 '33
- Gravity milling and flotation of low-grade gold ore; Beebe gold mining company. J. B. Hutt. flow sheet il diag Eng & Min J 133:630-1 D '32
- Merrill-Crowe precipitation process. flow sheet Can Min J 54:37-8 Ja '33; Abstract. Min & Met 14:73 Ja '33
- Metallurgical practice at Broken Hill, New South Wales. flow sheets il Eng & Min J 134:61-4 F '33
- New drum-type filter uses endless strings and compression with good results. il Eng & Min J 134:84 F '33
- Operating results obtained with Hadsel mill indicate economical reduction. H. Hardinge. il diag Eng & Min J 134:82-4 F '33
- Ore dressing; some progress even with curtailed operations. C. E. Locke. Min & Met 14:32-3 Ja '33
- Smelting and refining technique at Port Pirie, Australia. O. H. Woodward. flow sheets Eng & Min J 134:140-4 Ap '33
- Tests with new wet belt magnetic separator show interesting results. il Eng & Min J 134:123-4 Mr '33

**Power**

- Compound generator made to serve control and battery; zinc plant substation of the Anaconda copper mining company. W. C. Noddings. Elec W 100:859 D 24 '32
- Dead-load ball-mill power consumption. A. M. Gow and M. Guggenheim. Eng & Min J 133:632 D '32
- Electrolytic copper refinery; Canadian copper refiners, ltd. at Montreal East. il diag Engineer 156:153-5 Ag 18 '33
- Rotational energy tides converter over power failure; Tennessee copper company. L. W. Hayward. Elec W 100:782 D 10 '32

**METALLURGICAL research**

- Carnegie advisory board reviews metallurgical developments. Iron Age 132:39-40 O 26 '33; Steel 93:29-31 O 30 '33
- Carnegie research grants. Engineer 155:495 My 19 '33
- Chief features of last year's progress in some metallurgical fields. E. F. Cone. Iron Age 131:27-8, 31-2+ Ja 5 '33
- Colloquium des Kaiser Wilhelm-instituts für metallforschung, 16. Juni 1933, Harnackhaus, Berlin-Dahlem. Angew Chemie 46: 579-81 S 9 '33
- Field for non-ferrous metals is broadened by active research. Mach 39:388-90 F '33
- Investigations on non-ferrous metals; annual report of the British non-ferrous metals research assn. Chem Age (Lond) 29:sup3-5 J1 1 '33
- Mechanism and metallurgy. L. B. Hunt. Engineer 156:sup[Metallurgist]78-9 O 27 '33
- Modern alloys; their application to the solution of refinery problems. A. L. Foster. il Nat Pet N 24:45-6+ N 16; 27-8+ D 7 '32
- National physical laboratory; metallurgy department. il Engineering 136:147-9 Ag 11 '33
- Progress in non-ferrous metals research; papers at the annual meeting of the Institute of metals. Chem Age (Lond) 28:218-19 Mr 11 '33
- Rare metals; an interesting field largely neglected this year. D. M. Liddell. Min & Met 14:43-5 Ja '33
- See also*  
Corrosion research  
Steel research

**Bibliography**

- Nonferrous physical metallurgy; review of literature shows wide variety of work. R. F. Mehl. Min & Met 14:40-2 Ja '33

**METALLURGY**

- Chemicals used in metal winning and treatment. Chem & Met Eng 40:14 Ja '33
- Effect of science on metallurgy. H. Carpenter. Chem Age (Lond) 28:454-5 My 20 '33
- Importance of metallurgy to the engineer. C. H. Bulleid. Inst Mech Eng Proc 123:767-72 '32
- Institute of metals has full two-day program. Min & Met 14:149-51 Mr '33
- Metallurgical use of calcium phosphate. B. M. Suslov. Metal Prog 24:50+ S '33
- Metallurgy. E. Gregory. 284p Blackie & son, ltd, London '32
- Metallurgy from the standpoint of the chemical engineer. L. S. Ward. Chem Age (Lond) 28:162-3; Discussion. 163 F 25 '33
- Nonferrous physical metallurgy; review of literature shows wide variety of work. Min & Met 14:34-42 Ja '33
- Principles of metallurgy. D. M. Liddell and G. E. Doan. 626p \$5.50 McGraw-Hill '33
- Relationship of engineering to metallurgy. F. C. Lea. Engineering 135:447-8 Ap 21 '33
- Small impurities. Engineer 155:sup[Metallurgist] 18-19 Ap 28 '33
- Smelting and refining technique at Port Pirie, Australia. O. H. Woodward. flow sheets Eng & Min J 134:140-4 Ap '33
- Statistical research in metallurgy. H. Diergarten. Metal Prog 24:46+ Ag '33
- Theory and practice covered in milling sessions of A.I.M.E. Min & Met 14:133-4 Mr '33

*See also*

- |                             |                        |
|-----------------------------|------------------------|
| Alloys                      | Metallography          |
| Amalgams                    | Metallurgical analysis |
| Blast furnaces              | Metallurgical plants   |
| Chemistry, Technical        | Metallurgical research |
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| Electrodeposition of metals | Nickel metallurgy      |
| Electrometallurgy           | Open hearth process    |
| Flotation process           | Ore treatment          |
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| Magnetic separation of ores | Smelting               |
| Manganese                   | Steel metallurgy       |
| Mercury metallurgy          | Tungsten metallurgy    |
|                             | Zinc metallurgy        |

**Bibliography**

- A.I.M.E. technical publications and contributions published January to June, 1933, inclusive. Min & Met 14:sup6-7 Je '33
- Cumulative index of metallurgical abstracts published in vols. I & II of Metals & alloys, July 1929-December 1931. pa \$2 Chemical catalog co. '33
- Journal of the Institute of metals; v L. Metallurgical abstracts and index to volumes XLVIII, XLIX, and L of the journal. G. S. Scott, ed. 962p Institute of metals, 36 Victoria st, London, S. W. 1 '33
- Recent publications relating to ores, fuels, and metallurgy. Iron & Steel Inst J 125:711-22 no 1; 126:679-88 no 2 '32; 127:732-41 no 1 '33

**History**

- Quarter century of metallurgical progress. W. Rosenhain. Can Chem & Met 17:210-12, 231-2, 234-5 [bibliog p234-5] O-N '33; Same, without bibliog. Engineering 136:725-8 D 29 '33; Abstract. Chem Age (Lond) 29:sup21-2 O 7 '33

**METALS**

- Constitution of metallic sodium. E. Wigner and F. Seitz. Phys R 43:804-10 My 15 '33
- Diffraction of electrons by metal surfaces. L. H. Germer. il Phys R 43:724-6 My 1 '33

**METALS—Continued**

- Electrical resistance and heat in metals. C. R. Underhill. *J Fr Inst* 216:629-34 N '33
- Electron theory of metallic conduction. J. C. Slater. *Science* 77:595-7 Je 23 '33
- Emission of positive ions from heated metals. L. L. Barnes. *Phys R* 42:487-91 N 15 '32
- Evaporation of metals in vacuum. H. W. Edwards. *R Sci Instr* 4:449 Ag '33
- Experimental determination of the distribution of conduction electrons in metals. H. M. O'Bryan and H. W. B. Skinner. *Phys R* 44:602-3 O 1 '33
- Fermi-Dirac statistical theory of gas degeneration. V. Karapetoff. *Mech Eng* 55:237-42, 290-4, 358-62+ Ap-Je '33
- Gases in metals. V. H. Gottschalk and R. S. Dean. *Engineer* 155:sup[Metallurgist]43 Je 30 '33
- Gases in metals symposium. *Min & Met* 14:150-1 Mr '33
- Heat transmission from metal surfaces to boiling liquids. D. S. Cryder and E. R. Gilliland. *bibliog diags Ind & Eng Chem* 24:1382-7 D '32; Same, without table. *Refrig Eng* 25:78-93 F '33; Abstract. *Mech Eng* 55:192 Mr '33; Discussion. *Refrig Eng* 25:83-5+ F '33
- Imperishable imperial metal; metal fixtures of Caligula's pleasure galleys. *Can Min J* 53:545 D '32
- Metal aids the sportsman and camper. J. G. Mapes. *il Metal Prog* 24:14-18 Ag '33
- Metal temperatures. W. S. Gullette. *diags Am Pet Inst Proc (Refining div)* p87-8 Je '32
- Metals in teeth may generate electricity. E. S. Lain. *Sci Am* 149:172-3 O '33
- Nonferrous physical metallurgy; byproduct metals. A. J. Phillips. *Min & Met* 14:38 Ja '33
- Relative corrodibility of some common metals and alloys; tabulation. J. Strauss. *Metal Prog* 24:41 N '33
- Solubility of nitrogen and hydrogen in aluminum; abstract. P. Röntgen and H. Braun. *Engineer* 154:sup[Metallurgist] 185-7 D 30 '32
- Some theoretical and practical aspects of gases in metals. J. H. Scaff and E. E. Schumacher. *il diags Bell System Tech J* 12:178-96 Ap '33
- Sur la diffusion inter-solide des produits métallurgiques. J. Laissus. *il Chimie & Ind* 29:515-26 Mr '33
- Surface effect on toughness and endurance. A. Portevin. *Metal Prog* 23:51+ Ap '33
- Theory of the energy distribution of photoelectrons. L. A. DuBridge. *Phys R* 43:727-41 My 1 '33
- Überblick über die ergebnisse der kinetischen untersuchung der passivitätserscheinungen. W. J. Müller. *Angew Chemie* 46:197-8 Ap 8 '33
- Variation with angle of emission of the radiation from metals bombarded by slow electrons. C. Boeckner. *U S Bur Stand J Research* 9:583-91 N '32

**See also**

Alkali metals  
Alloys  
Aluminum  
Amalgams  
Annealing  
Antimony  
Babbitt metal  
Bearing metals  
Bismuth  
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Electrodeposition of metals  
Electrometallurgy  
Electrons—Emission from metals  
Fatigue in metals  
Films, Metallic  
Foundry practice  
Geology  
Gold  
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Ageing and age-hardening in metals; abstracts. C. H. Desch. *Soc Chem Ind J (Chem & Ind)* 52:403-4 My 5; Correction. 52:416 My 12 '33; *Chem Age (Lond)* 28:412 My 6 '33

Aging of springs. R. W. Carson. *bibliog Am Mach* 77:202-3 Mr 29 '33

Aging of zinc die-casting alloys. *Am Mach* 77:213 Mr 29 '33

**Analysis**

*See Metallurgical analysis*

**Failure**

Crystallization of metals is not caused by vibration. J. A. Kendrick. *Power Pl Eng* 37:402 S '33

Investigation of the mechanical breakdown of prime movers and boiler plant. L. W. Schuster. *il Engineering* 135:488-9, 554-6, 661-4 My 5, 19, Je 16 '33; Abstract. *Engineer* 155:459-62 My 5 '33; Discussion. *Engineering* 135:496-7, 582-4 My 5, 26 '33; *Engineer* 155:449, 453-4 My 5 '33

**History**

Knowledge of the metals in ancient India. R. N. Bhagvat. *il J Chem Educ* 10:659-66 N '33

**Prices**

Chart of metal prices for 1931-1932. *Metal Ind* 31:44 Ja '33

Daily and average monthly prices of metals. Published in monthly numbers of *Engineering and mining journal*

Metal and mineral markets published weekly by McGraw-Hill

Metal prices. Published in monthly numbers of *Metal industry*

Metals, tin plate and galvanized sheets; monthly prices, 1914-1932. *Iron Age* 131:92 Ja 5 '33

Variations in the prices of metals in the last twenty years. J. C. Bailar, jr. *J Chem Educ* 10:99-107 F '33

**Season cracking**

Development of internal stresses and season-cracking in cold-drawn brass tubes. J. Fox. *il Engineering* 136:375-6 O 6 '33

**Shrinkage**

*See Shrinkage of metals*

**Standards**

Figure of merit. W. Rosenhain. *Engineer* 156:sup[Metallurgist]79-80 O 27 '33

Standards and specifications for metals and metal products; nationally recognized standards and specifications for ores, metals, and manufactures except machinery, vehicles, and electrical supplies. *U S Bur Stand Misc Pub* 120:1-1359 '33 [back \$3 Supt. of doc.]

**Testing**

A.S.T.M. committee meetings, New York, March 6-10. *Metal Ind* 31:128-9 Ap '33

Atmospheric action as a factor in fatigue of metals. H. J. Gough and D. G. Sopwith. *il diags Engineering* 134:694-6 D 9 '32; Discussion. 134:409-10 O 7 '32

Automatic autographic extensometer for use in tension tests of materials. R. L. Templin. *il diags Am Soc T M Proc* 32 pt 2:783-92 '32

Die beurteilung der zerspanbarkeit von metallen. H. Schallbroch. *il Zeit Ver Deutsch Ing* 77:965-71 [bibliog p971] S 9 '33



## METALS—Testing—Continued

Dynamische dehnungsmesser und oszillo-graphen zur untersuchung des walzvor-ganges. H. Hoff and T. Dahl. *il diags Stahl & Eisen* 53:593-8; Discussion. 598-604 Je 8 '33

Einfluss der vorspannung auf die dauerfestigkeit. P. Ludwik and J. Krystof. *bibliog il diags Zeit Ver Deutsch Ing* 77:629-35 Je 17 '33

Endurance of metal in corrosive surroundings. T. S. Fuller. *il diag Metal Prog* 23:23-6 Je '33

Fatigue testing. J. W. Cuthbertson. *il diags Engineering* 136:55-7, 80-2 J 21-28 '33

For testing castings, forgings, welds, navy uses rays from radium. C. S. Barrett. *il Heating-Piping* 5:208-9 Ap '33

Gamma ray radiographic testing. G. E. Doan. *il diags J Fr Inst* 216:183-216, 351-85 [bibliog p 384-5] Ag-S '33

Gamma rays to insure internal soundness. D. Lewis. *il Metal Prog* 24:29-31 J '33

Mechanical hardness, influenced by magnetism and measured by magnetostrictive effects. S. R. Williams. *il diag Am Soc Steel Tr Trans* 21:741-68 Ag '33

Mesure de l'usure au frottement des pièces à surface dure. N. N. Sawin. *il diags Génie Civil* 103:254-7, 278-80 S 9-16 '33

Les méthodes modernes d'essais de matériaux dans la construction des moteurs; machine d'essais dynamiques, système Schenck. *il diags Génie Civil* 101:550-3 D 3 '32

National physical laboratory, engineering department. *il diags Engineering* 136:95-7, 121 J 28-Ag 4 '33

New indentation hardness tests. T. Matsumura. *Engineer* 155:sup[Metallurgist] 5-6 F 24 '33

Short time testing of metals to ascertain endurance; abstracts. H. F. Moore and H. B. Wishart. *Iron Age* 132:32E J 6 '33; *Automotive Ind* 69:211 Ag 19 '33

Simple tests for identifying metals that are to be oxy-acetylene welded; chart. *Iron Age* 132:27-8 J 6 '33

Some comparative corrosion-fatigue tests employing two types of stressing action. H. J. Gough and D. G. Sopwith. *diags Iron & Steel Inst J* 127:301-32 no 1 '33; Same cond. *Engineering* 136:75-8 J 21 '33; Abstract. *Engineer* 155:472 My 12 '33; Discussion. *Iron & Steel Inst J* 127:333-5 no 1 '33; *Engineer* 155:472 My 12 '33

Some thermal conductivities. *Engineer* 154:sup[Metallurgist] 173-5 N 25 '32

Der stand des knickproblems stabförmiger körper unter besondrer berücksichtigung der bedürfnisse des maschinenbaus. J. Bach. *diags Zeit Ver Deutsch Ing* 77:610-14 Je 10 '33

Die veränderlichkeit der werkstoffdämpfung. A. Esau and H. Kortum. *bibliog Zeit Ver Deutsch Ing* 77:1133-5 O 21 '33

Wear of hard metallic surfaces. N. N. Sawin. *il diags Am Mach* 77:496-9 Ag 2 '33

What metals to use in anthracite-breaker chutes. W. L. Keene and D. F. McFarland. *il diag Coal Age* 38:335-6+ O '33

See also

Brinell hardness test	Magnetic testing
Extensometer	Notched bar testing
Herbert pendulum	

## Temperature effects

Comparison of certain white-metal bearing alloys particularly at elevated temperatures; abstracts. C. E. Swartz and A. J. Phillips. *Iron Age* 132:22 J 13 '33; *Steel* 93:31 J 10 '33

Creep characteristics of metals at elevated temperatures. A. E. White and C. L. Clark. *il diags Am Soc Steel Tr Trans* 21:1-16; Discussion. 16-21 Ja '33

Effect of lead at elevated temperatures; abstract. J. N. Kenyon. *Iron Age* 132:22 J 13 '33

Factors affecting choice of working stress for high-temperature service; abstract. P. G. McVetty. *Power* 76:346 Mid-D '32

Fatigue-resisting properties of light aluminium alloys at elevated temperatures. J. W. Cuthbertson. *Engineering* 135:342-3; Discussion. 327 Mr 24 '33; Discussion. *Engineer* 155:267 Mr 17 '33

Growth of gray cast irons. T. J. Wood. *il Iron Age* 132:12-13 J 13; 12-14 J 27; 30-2 [bibliog p 32] Ag 3 '33

Hardness of metals at high temperatures. J. F. Kayser. *diag Engineering* 134:604-5 N 18 '32; Same. *Engineer* 154:sup[Metallurgist] 173 N 25 '32; Same. *Metal Prog* 23:50+ Mr '33

Load losses in small helical springs at elevated temperatures. F. P. Zimmerli, W. P. Wood and G. D. Wilson. *diags Am Soc Steel Tr Trans* 21:796-806 S '33

Mechanical properties of white-metal bearing alloys at different temperatures. H. K. Herschman and J. L. Basil. *il diags Am Soc T M Proc* 32 pt 2:536-55; Discussion. 556-7 '32

Rates of scale formation on iron and a few of its alloys. K. Heindlhofer and B. M. Larsen. *il Am Soc Steel Tr Trans* 21:865-95 O '33

Report on Bureau of standards study to determine the effect of temperatures on cast iron; abstract. C. M. Saeger, jr. and E. J. Ash. *Iron Age* 131:1043 Je 29 '33

Temperature coefficient of the moduli of metals and alloys used as elastic elements. G. H. Keulegan and M. R. Houseman. *il diags U S Bur Stand J Research* 10:289-320 Mr '33

Thermal effects in elastic and plastic deformation. M. F. Sayre. *bibliog Am Soc T M Proc* 32 pt 2:584-92; Discussion. 593-606 '32

See also

Creep of metals

## Wear

Abnutzung von zahnradern. M. Fink and U. Hofmann. *il Zeit Ver Deutsch Ing* 77:978-9 S 9 '33

Mesure de l'usure au frottement des pièces à surface dure. N. N. Sawin. *il diags Génie Civil* 103:254-7, 278-80 S 9-16 '33

Resistance to wear of nitrogen-hardened cast iron. J. E. Hurst. *Engineer* 156:337-8 O 6 '33

Wear in the polishing of plated and other surfaces; abstracts and discussion. O. F. Hudson. *Engineer* 156:307 S 29 '33; *Engineering* 136:391 O 6 '33

Wear of hard metallic surfaces. N. N. Sawin. *il diags Am Mach* 77:496-9 Ag 2 '33

## X ray inspection

Application of electric methods of measurement and testing. D. H. Bishop. *Inst E E J* 72:54 Ja '33

Bestimmung der dicke von schiffsplatten und kesselwänden mit röntgenstrahlen. O. Fischer. *il diag Zeit Ver Deutsch Ing* 76:1158 N 19 '32

Decade of applied X-ray research. G. L. Clark. *il diag Soc Chem Ind J (Chem & Ind)* 52:317-25, 336-46 Ap 14-21 '33

Effect of normalizing on the grain structure and physical properties of automobile sheet steel. W. F. McGarrrity and H. V. Anderson. *il Am Soc Steel Tr Trans* 21:130-50; Discussion. 150-4 F '33

Hoover Dam penstocks to be X-ray inspected. *il Iron Age* 131:639 Ap 20 '33

Magnetographic and X-ray tests of pipe welds compared. F. B. Doane. *il Iron Age* 131:194-6 F 2 '33

Making radiographic inspections of chemical equipment. H. R. Isenburger. *il diag Chem & Met Eng* 40:130-2 Mr '33

Prevent losses with proper gates and risers. P. Dwyer. *diags Foundry* 61:34+ O '33

Produces X-ray stereoscopic images in three dimensions at California inst. of technology. *il Steel* 91:27 D 26 '32

Radiographic examination of pressure vessel welds; Babcock & Wilcox co. R. E. Hiller. *il diags Iron Age* 131:736-9 My 11 '33

**METALS—X ray inspection—Continued**

- Radium in engineering practice. V. E. Pullin. *Inst Mech Eng Proc* 124:305-22, pl 1-24 [bibliog p322] '33; Same. *Engineer* 155:304-6 Mr 24 '33; Same. *Engineering* 135:340-2, pl 22 Mr 24 '33; Abstract. *Elec R (Lond)* 112: 448 Mr 31 '33; Discussion. *Inst Mech Eng Proc* 124:323-32 '33; *Engineer* 155:302 Mr 24 '33; *Engineering* 135:335-6 Mr 24 '33
- Recent progress in the X-ray inspection of welds. H. R. Isenburger. *il diags Steel* 92: 29-32 Je 5 '33
- Results of an X-ray study of the diffusion of chromium into iron; abstract. L. C. Hicks. *Steel* 93:30 O 16 '33
- Röntgennachweis der inneren korrosion von drahtseilen. R. Glocker, P. Wiest and R. Woernle. *il Stahl & Eisen* 53:758-61 Jl 20 '33; Abstract (X-ray examination of wire ropes). *Engineer* 156:sup [Metallurgist] 58 Ag 25 '33
- Röntgenprüfung von eisen und stahl. F. Weyer. *il diags Stahl & Eisen* 53:497-505 My 11 '33
- Röntgen-tagung des Eisenhüttenmännischen Instituts der technischen hochschule in Berlin. *il Stahl & Eisen* 53:535-41 My 18 '33
- Strahlenmessungen bei Röntgenprüfungen an brückenteilen. W. Rostek, A. Herr and M. Widemann. *Stahl & Eisen* 53:801-3 Ag 3 '33
- Using X-ray to determine thickness of plating. H. R. Isenburger. *Marine R* 63:31 My '33
- X-ray analysis of electrodeposited alloys. C. W. Stillwell. *il Metal Ind* 31:47-50 F '33
- X-ray and gamma-ray inspection as used in ship construction. H. R. Isenburger. *bibliog il Marine Eng* 38:137-9, 148 Ap '33
- X-ray in examination of welded pressure vessels. J. H. Goolsby. *il diags Refrig Eng* 25: 134-9+ Mr '33
- X-ray investigation of the copper-aluminum alloys; abstract. A. J. Bradley and P. Jones. *Metal Ind* 31:126 Ap '33
- X-ray studies of steel wires of medium carbon content. N. P. Goss and G. L. Clark. *il Am Soc Steel Tr Trans* 20:471-3 N '32
- X-ray study of phase boundaries in thermal diagrams of alloy systems: Cu-Zn system; abstract. G. Owen and L. Pickup. *Engineer* 154:sup[Metallurgist] 168-70 N 25 '32
- X-ray technique for examination of four-inch steel. R. E. Hiller. *il Gen Elec R* 35:276-80 Jl '32; Abstract. *Eng N* 110:220-1 F 16 '33
- X-rays and the welder. R. H. Stephens. *il Elec R (Lond)* 112:481 Ap 7 '33
- X-rays' place in the non-ferrous metal industry. H. R. Isenburger. *il Metal Ind* 31:121-2 Ap '33
- METALS, Cold treatment of**  
109° below zero; an ideal temperature for certain metal-working operations. C. O. Herb. *il diags Mach* 39:305-9 Ja '33
- METALS, Cold working of**  
Aging of springs. R. W. Carson. *bibliog Am Mach* 77:202-3 Mr 29 '33
- Cold rolling of sheets and of tinplate. W. Trinks. *diags Blast F & Steel Pl* 21:315-20, 359-61 Je-Jl '33
- Effect of cold working on the Izod notched-bar impact value of monel metal. N. B. Pilling. *diags Am Soc T M Proc* 32 pt 2:576-83 '32
- Heading properties of brass wire as it varies with composition and temper. D. K. Crampton. *il diags Metal Prog* 23:20-4 Mr '33
- Materials for cold heading; structure more important than composition. H. B. Pulsifer. *il Metal Prog* 23:13-17 Mr '33
- Physical properties of zinc at various stages of cold rolling; abstracts and discussion. R. Chadwick. *Engineer* 155:267 Mr 17 '33; *Engineering* 135:326-7 Mr 24 '33; *Metal Ind* 31:126 Ap '33
- See also*  
Steel, Cold working of
- METALS, Effect of salt solutions on**  
Corrosion of metals in salt solutions and seawater. G. D. Bengough. *il diag Soc Chem Ind J (Chem & Ind)* 52:195-210, 228-39, pl 1-4 O 10-17 '33

**METALS, Effect of sea water on**

- Condenser-tube corrosion; two reports. J. R. Freeman, jr. and A. W. Tracey. *il Mech Eng* 55:556 S '33
- Corrosion resistance of iron-chromium alloys in various media; the salt spray test. W. B. Arness and J. N. Ostrofsky. *il diag Am Soc Steel Tr Trans* 20:429-58; Discussion. 458-63 N '32
- See also*  
Steel, Effect of sea water on
- METALS, Effect of temperature on**  
Festigkeitseigenschaften von stahl, stahlguss und guesseisen in der kälte. R. Walle. *bibliog il Chemische Fabrik* 6:207-11, 220-2 My 17-24 '33
- Heat-resisting cast irons; abstract. E. Morgan. *Engineer* 155:658 Je 30 '33
- Movie of metals at high heat. B. A. Rogers and L. R. van Wert. *il Metal Prog* 23:46 F '33
- Super-conductivity of metals observed at low temperatures; abstracts. J. C. McLennan. *Electrician* 110:328 Mr 10 '33; *Elec R (Lond)* 112:344-5 Mr 10 '33
- See also*  
Creep of metals
- METALS, Heat-resisting**  
*See also*  
Alloys, Heat-resisting  
Steel, Heat resisting
- METALS, Liquid**  
Immiscible metals. *Engineer* 154:sup[Metallurgist] 178-9 D 30 '32
- METALS, Magnetic treatment of.** *See* Magnetic treatment of metals
- METALS, Molten**  
Phenomena occurring in the melting of metals. W. L. Webster. *Engineer* 156:sup [Metallurgist] 70-1 O 27 '33
- Surface tension of molten metals. A. I. Kry-nitsky. *Engineer* 156:sup[Metallurgist] 76 O 27 '33
- METALS, Non-ferrous**  
Average strength data for non-ferrous metals; data sheets. *Mach* 39:312A, 376A Ja-F '33
- British institute of metals meeting; abstracts of papers. *Metal Ind* 31:125-7 Ap '33; *Chem Age (Lond)* 28:218-19 Mr 11 '33; *Can Chem & Met* 17:102 My '33
- Canadian non-ferrous production in 1932. *Iron Age* 132:40 Jl 6 '33
- Dissertation on non-ferrous metals used for power plant piping. H. C. Moffett. *Power Pl Eng* 37:208-10 My '33
- Economics of mining (non-ferrous metals). T. J. Hoover. 547p \$6 Stanford university press, Stanford University, Calif. '33
- Experiments on the effects of variations in mould and pouring temperatures on the macro- and microstructures of some low melting-point metals and alloys; abstracts and discussion. F. D. Weaver. *Engineering* 135:311-12 Mr 17 '33; *Engineer* 155:266-7 Mr 17 '33
- Field for non-ferrous metals is broadened by active research. *Mach* 39:388-90 F '33
- Institute of metals division, A.I.M.E.; abstracts of papers on non-ferrous metals. *Metal Ind* 31:86-9 Mr '33
- Institute of metals division, A. I. M. E. fall meeting; discussions of metal problems; abstracts of papers. *Metal Ind* 31:365-8 N '33
- Institute of metals silver jubilee meeting, Birmingham, Sept. 18-21. *Engineering* 136: 365-7, 391-3, 419-20 S 29-O 13 '33; *Engineer* 156:306-8 S 29 '33; *Chem Age (Lond)* 29:269-70 S 23 '33; *Soc Chem Ind J (Chem & Ind)* 52:763-5 S 22 '33; *Metal Ind* 31:335-7 O '33
- Investigations on non-ferrous metals; annual report of the British non-ferrous metals research assn. *Chem Age (Lond)* 29:sup3-5 Jl 1 '33
- Non-ferrous foundry ingot shapes. P. Barker. *Metal Ind* 31:166-7, 204-5, 302-3 My-Je, S '33
- Non-ferrous metal statistics; the world's production, consumption, and prices in 1932. *Engineer* 156:208 S 1 '33



**METALS, Non-ferrous—Continued**

- Non-ferrous metals. Bradstreet's 60:1519+, 1663+; 61:85, 356+ N 19, D 17 '32, Ja 21, F 18 '33
- Non-ferrous metals. Comm & Fin 22:31 Ja 11 '33
- Non-ferrous metals and their products. Metal Ind 31:159-61 My '33
- Non-ferrous metals in the aircraft industry. F. A. Westbrook. Metal Ind 30:463-5 D '32
- Non-ferrous metals in the food industry. Chem Age (Lond) 28:140 F 18 '33
- Non-ferrous metals in the limelight. Iron Age 131:45-6 Ja 5 '33
- Nonferrous physical metallurgy; review of literature shows wide variety of work. Min & Met 14:34-42 Ja '33
- Non-ferrous sessions of A.S.T.M. at Chicago. Iron Age 132:22 Jl 13 '33
- Probe nonferrous problems; abstracts of papers at A.F.A. convention. Foundry 61:49-50 Jl '33
- Quarter century of metallurgical progress. W. Rosenhain. Can Chem & Met 17:210-12, 231-2, 234-5 [bibliog p234-5] O-N '33; Same, without bibliog. Engineering 136:725-8 D 29 '33; Abstract. Chem Age (Lond) 29:sup21-2 O 7 '33
- Rare metals; an interesting field largely neglected this year. D. M. Liddell. Min & Met 14:43-5 Ja '33
- Summaries of papers and reports on non-ferrous metals at A.S.T.M. annual meeting, Chicago. Metal Ind 31:237-8 Jl '33
- Symposium on nonferrous metals in the automotive industry. Min & Met 14:464-5 N '33
- Symposium on priming and finishing of non-ferrous surfaces. Il Ind & Eng Chem 25:19-34 Ja '33
- Use of non-ferrous metals in the food industry. T. N. Morris and J. M. Bryan. Soc Chem Ind J (Chem & Ind) 52:139-41 F 17 '33

*See also*

- |           |           |
|-----------|-----------|
| Aluminum  | Gold      |
| Beryllium | Lead      |
| Brass     | Magnesium |
| Bronze    | Silver    |
| Copper    | Zinc      |
- Furnaces, Non-ferrous melting

**Testing**

- X-rays' place in the non-ferrous metal industry. H. R. Isenburger. Il Metal Ind 31:121-2 Ap '33

**METALS, Perforated**

- Perforated metals for filtration purposes. Il Chem Age (Lond) 29:307 S 30 '33

**METALS, Powdered**

- Optical properties of metallic and crystalline powders. A. H. Pfund. diag Opt Soc Am J 23:375-8 O '33
- Powder metallurgy competes effectively with smelting and machining processes. C. Hardy. Il Eng & Min J 134:373-4 S '33
- Powdered metals; new alloys, new applications, develop steadily. Business Week p7-8 D 28 '32
- Printing with metallic powders. Meliand 5:168-9 Ag-S '33
- Zeh and Hahnemann presses for powdered metal forming. Il Metal Ind 31:28 Ja '33

**METAMORPHISM**

- Contact metamorphism of the slates of Minnesota by granite and by gabbro magmas. F. F. Grout. Il map Geol Soc Bul 44:989-1039 [bibliog p1033-9], pl 38-9 O '33
- Hydrothermal metamorphism of an ultrabasic intrusive at Schuyler, Virginia. H. H. Hess. Il diags Am J Sci 5th ser 26:377-408 O '33
- Metamorphism. A. Harker. 360p Methuen & Co, Ltd, London '32
- Metamorphism and hydrothermal alteration of the Homestake gold-bearing formation. J. K. Gustafson. Il map Econ Geol 28:123-62 Mr '33
- Problem of serpentinization and the origin of certain chrysotile asbestos, talc and soapstone deposits. H. H. Hess. Il diags Econ Geol 28:634-57 N '33

**METASTABLE atoms**

- Action of mercury metastable atoms on a tungsten surface. S. Sonkin. bibliog diag Phys R 43:788-803 My 15 '33
- Efficiency of electron release by metastable atoms. E. W. Pike. Phys R 43:144-5 Ja 15 '33
- Nature of active nitrogen. J. Okubo and H. Hamada. Phys R 42:795-9 D 15 '32
- Photoelectric and metastable atom emission of electrons from surfaces in the rare gases. C. Kenty. diag Phys R 43:181-93 F 1 '33

**METATHEBAINONE**

- Metathebainone. R. S. Cahn. Chem Soc J p1038-40 Ag '33
- Metathebainone. L. F. Small and E. Meitzner. bibliog Am Chem Soc J 55:4602-10 N '33

**METCALFE, George Richmond, 1865-**

- A.I.E.E. editor retires after 23 years' devoted service. por Elec Eng 52:55 Ja '33

**METEOR crater, Arizona**

- Age of Meteor crater. E. Blackwelder. bibliog Science 76:557-60 D 16 '32; Discussion. F. M. Brown. 77:239-40 Mr 3 '33

**METEORITES**

- Carolina bays—are they meteor craters? F. A. Melton and W. Schriever. Il Sci Am 149:106-7, 158-9+ S-O '33
- Cruz del Aire meteorites. R. E. S. Heine-man. Il Am J Sci 5th ser 24:465-70 D '32
- Fall of a meteorite in South Carolina. S. H. Perry. Science 78:312 O 6 '33
- Meteoric irons and silica-glass from the meteorite craters of Henbury (Central Australia) and Wabar (Arabia); abstract. L. J. Spencer. Soc Chem Ind J (Chem & Ind) 52:144 F 17 '33
- No meteorite. R. W. Stone. Science 77:87 Ja 20 '33
- Our stone-pelted planet. H. H. Nininger. 237p \$3 Houghton '33

*See also*

- Meteor crater, Arizona

**METEOROLOGICAL optics**

- Reversal of the pinhole image. E. C. Bryant. Science 77:428 My 5 '33

*See also*

- Rainbow

**METEOROLOGICAL stations**

- Weather station on Mt Wachusett. Science 77:362 Ap 14 '33

**METEOROLOGY**

- Antarctic meteorology; investigation of South polar weather. Science 78:sup5-6 S 22 '33
- Cause of variation in the solar constant. H. P. Gillette. Water Works & Sewerage 80:109 Mr '33

- Meteorological data; progress report of special committee, Am. Soc. C. E. map Am Soc C E Proc 59:153-82 Ja '33; Discussion. 59:708-20, 896-900, 1024-35, 1195-1200, 1340-3 Apr-M, Ag-O '33

*See also*

- |                         |                           |
|-------------------------|---------------------------|
| Air                     | Hurricanes                |
| Atmosphere              | Lightning                 |
| Atmospheric electricity | Magnetism, Terrestrial    |
| Atmospheric temperature | Polar year, International |
| Climate                 | Rain and rainfall         |
| Clouds                  | Snow                      |
| Floods                  | Solar radiation           |
| Fog                     | Sun spots                 |
| Humidity                | Sunlight                  |
|                         | Weather                   |

**METEOROLOGY, Aeronautic**

- Book of the sky. M. Luckiesh. rev & enl 335p \$3 Dutton '33
- Relation of weather to transoceanic flying. J. H. Kimball. Il map Mech Eng 55:105-10+ F '33
- Weather by teletype. Sci Am 148:169 Mr '33

**METEORS**

- Ionizing effect of meteors in relation to radio propagation. A. M. Skellett. Inst Radio Eng Proc 20:1933-40 D '32
- Leonid meteor swarm. Science 76:sup11 N 25 '32

**METEORS—Continued**

- More about meteors. H. N. Russell. *il Sci Am* 148:78-9 F '33
- Observation of a New Mexico meteor from the air. R. W. Ellis. *Science* 78:58 JI 21 '33
- Observations of Kennelly-Heaviside layer heights during the Leonid meteor shower of November, 1931. J. P. Schafer and W. M. Goodall. *Inst Radio Eng Proc* 20:1941-5 D '32
- Unpredicted meteor shower. *Science* 78:sup8 O 20 '33

**METER readers**

- Meter readers contribute to consumption analysis. P. J. Dishner. *Elec W* 101:174 F 4 '33
- Meter reading. G. H. Fenkell. *Am Water Works Assn J* 25:779-92 Je '33

**METER reading**

- Importance of following up missed meter readings at this time. J. G. Waddick. *Am Gas Assn Mo* 15:153 Ap '33
- Maintaining, reading and billing of water meters in Baltimore, Md. J. S. Strohmeier. *Am Water Works Assn J* 25:916-21 JI '33; Same. *Water Works & Sewerage* 80:267-9 JI '33
- Meter reading. G. H. Fenkell. *Am Water Works Assn J* 25:779-92 Je '33
- Meter route sheets and binders. W. H. German. *Am Gas Assn Proc* 1932:380-6; Discussion. 386

**METERS**

- Metering and control systems improved by centralization. *il Power* 77:28-9 Ja '33
- Metering equipment. *Power* 76:352-3 Mid-D '32
- Meters guide operations at Rockefeller Center. *il Power* 77:572-4 N '33
- Meters, recorders and testing instruments. *il diags Power* 76:360-3 Mid-D '32
- Power show exhibits; new control instruments. *Chem & Met Eng* 39:680 D '32
- Survey of instruments in the heating plants of large Chicago buildings. J. A. Masek. *il Heat & Ven* 30:9-14 O '33

*See also*

- |                 |               |
|-----------------|---------------|
| Anemometers     | Meter reading |
| Current meters  | Micrometers   |
| Electric meters | Steam meters  |
| Flow meters     | Viscosimeters |
| Gas meters      | Water meters  |
| Liquid meters   |               |

**METHANE**

- Evolution of methane detecting devices for coal mines. L. C. Isley and A. B. Hooker. *U S Bur Mines Information Circ* 6733:1-12 '33
- Experimental determination of the flame temperatures of complex mixtures of combustible gases and a method for calculating them. B. Lewis, H. Seaman and G. W. Jones. *J Fr Inst* 215:149-67 F '33
- Explosions of methane and air; propagation through a restricted tube. H. Robinson and R. V. Wheeler. *pl Chem Soc J* p758-60 JI '33
- Factors in the production of methane gas from sewage sludge; employed for heating digesters, generating steam and operating gas engines. R. O. Wynne-Roberts. *diags Can Eng* 64:25-7 Ja '33
- Infrared absorption bands of methane. W. V. Norris and H. J. Unger. *Phys R* 43:467-72 Mr 15 '33
- Limits of inflammability of natural gases containing high percentages of carbon dioxide and nitrogen. G. W. Jones and R. E. Kennedy. *tables U S Bur Mines Rep of Invest* 3216:1-23 '33; Same. *Am Gas J* 139:13-15, 46 JI; 21-3 Ag '33; Same abr. *Gas Age* 72:53-6 JI 15 '33
- Mechanical equipment for continuous fermentation of fibrous materials. A. M. Buswell and C. S. Boruff. *bibliog diags Ind & Eng Chem* 25:147-9 F '33
- Methane fermentation of carbohydrates. G. E. Symons and A. M. Buswell. *bibliog Am Chem Soc J* 55:2028-36 My '33

Die oxydation des methans durch metalloxyde. B. Neumann and Hsiao-Hai Wang. *Angew Chemie* 46:57-61 Ja 21 '33

Preparation of pure methane from natural gas. H. H. Storch and P. L. Golden. *Am Chem Soc J* 54:4662-3 D '32

Production of organic compounds from coke oven gas. J. W. Osterrieth and G. Dechamps. *Gas J (Lond)* 201:202-5 Ja 25 '33; Excerpts. *Chem Age (Lond)* 28:45-6 Ja 21 '33; Discussion. *Gas J (Lond)* 201:205-6 Ja 25 '33; *Chem Age (Lond)* 28:46-7 Ja 21 '33

Rate of solution of methane in quiescent liquid hydrocarbons. R. D. Pomeroy and others. *bibliog diag Ind & Eng Chem* 25:1014-19 S '33

Studies in the mechanism of flame movement; the fundamental speed of flame in mixtures of methane and air. H. F. Coward and F. J. Hartwell. *pls Chem Soc J* p2676-84 N '32

Studies in the mechanism of flame movement; the speed of flame in currents of mixtures of methane and air. H. F. Coward and E. H. M. Georgeson. *diag Chem Soc J* p546-51 My '33

Sur la transformation du benzène, du toluène et du xylène en méthane. A. Mailhe. *Chimie & Ind* 28:1263-71 D '32

Synthesis of acetylene by pyrolysis of methane. H. H. Storch and P. L. Golden. *bibliog il Ind & Eng Chem* 25:768-71 JI '33

Thermodynamic functions of hydrocarbon gases from spectroscopic data. L. S. Kassel. *Am Chem Soc J* 55:1351-63 Ap '33

Über die bildung von methylalkohol bei der partiellen oxydation von methan und äthylen unter hohem druck. H. Pichler and R. Reder. *bibliog diags Angew Chemie* 46:161-5 Mr 18 '33

Vapor pressure constant of methane. T. E. Sterne. *Phys R* 42:556-64 N 15 '32

*See also*

Fire damp

**METHANE, Liquid**

Purification of hydrocarbons by crystallization from liquid methane; isolation of 2-methylheptane from petroleum. R. T. Leslie. *diags U S Bur Stand J Research* 10:609-18 My '33

**METHANOL**

Acidity of organic acids in methyl and ethyl alcohols. W. L. Bright and H. T. Briscoe. *bibliog J Phys Chem* 37:787-96 Je '33

Comparison of methanol and other anti-freeze agents. T. C. Albin. *Chem & Met Eng* 40:526-7 O '33

Conductivity of tetramethylammonium salts in methyl and ethyl alcohol. T. H. Mead, O. L. Hughes and H. Hartley. *Chem Soc J* p1207-14 S '33

Reactions and properties of boron fluoride in methyl alcohol. L. A. O'Leary and H. H. Wenzke. *bibliog Am Chem Soc J* 55:2117-21 My '33

Solubility of thiourea in water, methanol, and ethanol. L. Shnidman. *bibliog J Phys Chem* 37:693-700 Je '33

Sorption of organic vapors by glyptal resins. C. H. Winning and J. W. Williams. *diag J Phys Chem* 36:2915-35 D '32

Über die beeinflussung der brechung von flüssigkeitsgemischen durch geringe säuremengen. T. Tomonari. *Angew Chemie* 46:269-71 My 13 '33

Use of synthetic methanol as a motor fuel. D. A. Howes. *Inst Pet Tech J* 19:301-31 Ap '33

**Manufacture**

Production of organic compounds from coke oven gas. J. W. Osterrieth and G. Dechamps. *Gas J (Lond)* 201:202-5 Ja 25 '33; Excerpts. *Chem Age (Lond)* 28:45-6 Ja 21 '33; Discussion. *Gas J (Lond)* 201:205-6 Ja 25 '33; *Chem Age (Lond)* 28:46-7 Ja 21 '33

Über die bildung von methylalkohol bei der partiellen oxydation von methan und äthylen unter hohem druck. H. Pichler and R. Reder. *bibliog diags Angew Chemie* 46:161-5 Mr 18 '33



## METHANOL—Continued

## Statistics

- Larger supplies of synthetic methanol. Chem & Met Eng 40:47 Ja '33
- Methanol and acetate of lime data, 1932. Oil Paint & Drug Rep 123:53 F 27 '33
- Methanol and acetate of lime; monthly data. Published in Oil, paint and drug reporter
- Methanol, monthly, 1930-1932. Survey of Cur Business 13:20 Ap '33
- METHOXYACENAPHTHENEQUINONE**  
Nitration of 3-methoxyacenaphthenequinone and 2-methoxynaphthalic anhydride. R. I. Davies, I. M. Heilbron and F. Irving. Chem Soc J p2715-17 N '32
- METHOXYBENZALPYRUVIC acid**  
Addition reactions of unsaturated alpha-ketonic acids. M. Reimer and H. H. Kammerling. Am Chem Soc J 55:4643-8 N '33
- METHOXYETHANOL**  
Distribution coefficients of some monocarboxylic acids and esters between immiscible solvents. H. J. Henriques. Am Chem Soc J 55:3284-8 Ag '33
- METHOXYFLUOBORIC acid**  
Reactions and properties of boron fluoride in methyl alcohol. L. A. O'Leary and H. H. Wenzke. bibliog Am Chem Soc J 55:2117-21 My '33
- METHOXYMALONIC acid**  
New derivatives of hydroxymethoxysuccinic and methoxymalonic acids. J. Fryde and R. T. Williams. Chem Soc J p642-4 Je '33
- METHOXYNAPHTHALIC anhydride**  
Nitration of 3-methoxyacenaphthenequinone and 2-methoxynaphthalic anhydride. R. I. Davies, I. M. Heilbron and F. Irving. Chem Soc J p2716-17 N '32
- METHOXYSTYRENE**  
Kinetics of the rearrangement of  $\alpha$ -methoxystyrene. F. H. MacDougall, W. M. Lauer and M. A. Spielman. Am Chem Soc J 55:4089-97 O '33
- METHOXYL group**  
Studies in the chlorophyll series; the position of the methoxyl group. J. B. Conant and E. M. Dietz. Am Chem Soc J 55:839-49 F '33
- METHYL**  
Two reactions of gaseous methyl and ethyl. J. H. Simons and M. F. Dull. diags Am Chem Soc J 55:2696-701 Jl '33
- METHYLACETYLENE**. See Propine
- METHYL alcohol**. See Methanol
- METHYLAMINE**  
Distribution of methylamine between water and chloroform and the existence of methylamine complexes of the metal-ammine type. W. A. Felsing and S. E. Buckley. bibliog J Phys Chem 37:779-86 Je '33
- Heat capacities of gaseous mono- and dimethylamine. W. A. Felsing and F. W. Jessen. bibliog diags Am Chem Soc J 55:4418-22 N '33
- METHYLANILINE**  
Nitrosation of methylaniline. J. C. Earl and N. F. B. Hall. Chem Soc J p510-12 My '33
- METHYL azide**  
Thermal decomposition of methyl azide; a homogeneous unimolecular reaction. J. A. Leermakers. Am Chem Soc J 55:3098-105 Ag '33
- METHYL borate**  
Preparation and purification of methyl borate and ethyl borate. S. H. Webster and L. M. Dennis. diags Am Chem Soc J 55:3233-5 Ag '33
- METHYL bromide**  
Application of the halogen derivatives of the hydrocarbons with particular reference to methyl bromide. A. Henning. Soc Chem Ind J (Chem & Ind) 52:462-4 Je 2 '33
- METHYL chloride**  
Flow of superheated refrigerants in copper tubing. J. E. Linebaugh. Refrig Eng 26:32-4 Ag '33

Hazards of gas leakage as affected by ventilation; with special reference to methyl chloride. J. B. Churchill and E. T. Williams. Refrig Eng 25:256-60 My '33

**METHYL cyanide**. See Acetonitrile

**METHYLCYCLOHEXANONE**

Asymmetric syntheses; the action of optically active nitrites on cyclic ketones. M. Pezold and E. L. Shriner. bibliog Am Chem Soc J 54:4707-11 D '32

Asymmetric syntheses; the action of optically active nitrates on cyclic ketones. R. L. Shriner and E. A. Parker. Am Chem Soc J 55:766-70 F '33

**METHYL ether**

Compressibilities of certain gases at low pressures and various temperatures. W. Cawood and H. S. Patterson. Chem Soc J p619-24 Je '33

Decomposition of dimethyl ether on the surface of platinum. E. W. R. Steacie and H. A. Reeve. J Phys Chem 36:3074-84 D '32

**METHYLETHYL phenanthrene**

Synthesis of alkylphenanthrenes; 7-methyl-1-ethyl- and 1-ethyl-7-isopropyl-phenanthrenes; constitution of abietic and *d*-pimaric acids. R. D. Haworth. Chem Soc J p2717-20 N '32

**METHYL formate**

Explosive properties of methyl formate-air mixtures; effect of molecular constitution on behavior. G. W. Jones, W. E. Miller and H. Seaman. diags Ind & Eng Chem 25:694-6 Je '33

Reducing inflammability of fumigants with carbon dioxide. R. M. Jones. diags Ind & Eng Chem 25:394-6 Ap '33

**METHYL furoic acid**

Orientation in the furan nucleus; 5-methyl-3-furoic acid. H. Gilman, R. R. Burtner and E. W. Smith. Am Chem Soc J 55:403-6 Ja '33

**METHYL glucosides**

Optical superposition and the 4 : 6-benzylidenemethylglucosides. D. S. Mathers and G. J. Robertson. Chem Soc J p636-8 Je '33

**METHYL heptane**

Purification of hydrocarbons by crystallization from liquid methane; isolation of 2-methylheptane from petroleum. R. T. Leslie. diags U S Bur Stand J Research 10:609-18 My '33

**METHYL hexane**

1, 1-Dimethylcyclopentane and 2-methylhexane in a Midcontinent petroleum. J. H. Bruun and M. M. Hicks-Bruun. bibliog U S Bur Stand J Research 10:465-73 Ap '33

**METHYL iodide**

Mechanism of bimolecular reactions in solution; the addition of methyl iodide to pyridine in several solvents. H. W. Thompson and E. E. Blandon. Chem Soc J p1237-40 S '33

**METHYL isopropyl-naphthalene**

1-Methyl and 1:7-dimethyl-4-isopropyl-naphthalene. W. S. Rapson and W. F. Short. Chem Soc J p128-30 F '33

**METHYL malonate**

Addition reactions of vinyl phenyl ketone; methyl malonate. C. F. H. Allen and H. W. J. Cressman. Am Chem Soc J 55:2953-60 Jl '33

**METHYL malonic acid**

Course of addition of the sodium enolates of malonic and methylmalonic esters to benzalacetophenone and to crotonic ester. A. Michael and J. Ross. Am Chem Soc J 55:1632-46 Ap '33

**METHYL oleate**

Catalytic reduction of aromatic nitro-compounds. S. J. Green. Soc Chem Ind J 52:52T-6T, 172T-3T F 24, Je 16 '33

Studies on the nature of antioxidants present in natural fats; further observations on the removal of antioxidants from olive and linseed oils. A. Banks and T. P. Hilditch. Soc Chem Ind J (Chem & Ind) 51:413T-14T D 23 '32

**METHYL orange**

New methods of standardizing acids and alkalies. A. H. Pettinger. *Textile Col* 55:93-4 F '33

**METHYL phenanthrene**

Synthesis of alkylphenanthrenes; 9-methyl-, 1,9-dimethyl-, and 1,2:8-trimethyl-phenanthrenes. R. D. Haworth and C. R. Mavin. *Chem Soc J* p2720-3 N '32

**METHYL phloroglucinol**

Usnic acid; derivatives of methylphloroglucinol. F. H. Curd and A. Robertson. *Chem Soc J* p437-44 Ap '33

**METHYLPIPERIDINOPROPYL benzoates**

2-Methylpiperidinopropyl thiol- and thionbenzoates. S. A. Karjala and S. M. McElvain. *Am Chem Soc J* 55:2963-73 JI '33

**METHYL quinoline**

Attempts to extend the Mannich reaction to derivatives of 4-methylquinoline and 2,4-dinitrotoluene. W. O. Kermack and W. Muir. *Chem Soc J* p300-2 Mr '33

**METHYL salicylate**

Densities of mixtures of benzene with phenylethyl alcohol and with methyl salicylate. R. C. Glowaski and C. C. Lynch, jr. *Am Chem Soc J* 55:4051-2 O '33

**METHYL salicylate vicianoside**

Syntheses of glucosides; methyl salicylate vicianoside (? violutoside). A. Robertson and R. B. Waters. *Chem Soc J* p2770-1 N '32

**METHYL sulfide**

Studies in dielectric polarisation; benzene solutions of methyl, *n*-propyl, and *n*-butyl sulphides. E. C. E. Hunter and J. R. Partington. *Chem Soc J* p2819-24 D '32

**METHYLATION**

Methylation and constitution of inulin. J. C. Irvine and T. N. Montgomery. *Am Chem Soc J* 55:1988-94 My '33

4-Nitro-5-(3-pyridyl)pyrazole, a new oxidation product of nicotine; methylation products. H. King. *Chem Soc J* p2768-70 N '32

Reduction studies of Schiff bases; the condensations of certain secondary aromatic amines with formaldehyde in acid solution; nuclear or N-methylations by means of formaldehyde. E. C. Wagner. *biolog Am Chem Soc J* 55:724-31 F '33

Synthesis of a series of alpha-substituted N-methylpyrrolines. L. C. Craig. *biolog Am Chem Soc J* 55:295-8 Ja '33

**METHYLENE**

Free methylene radical. F. O. Rice and A. L. Glasebrook. *Am Chem Soc J* 55:4329-30 O '33

**METHYLENE blue**

Adsorption of Ponceau 4R (new cocine) and methylene blue by lead sulfate and the influence of adsorbed Ponceau on the speed of kinetic exchange. I. M. Kolthoff and C. Rosenblum. *Am Chem Soc J* 55:2664-72 JI '33

Controlling methylene blue dispersion. L. Fox. *Textile Col* 55:318 My '33

Derivatives of methylene-blue. H. D. K. Drew and F. S. H. Head. *Chem Soc J* p248-53 Mr '33; Abstract and discussion. *Soc Chem Ind J* (Chem & Ind) 52:80-1 Ja 27 '33

Dye—an antidote. B. Cohen. *Ind & Eng Chem* 25:472 Ap '33

False remedies for carbon monoxide asphyxia. Y. Henderson. *Science* 78:408-9 N 3 '33

Is methylene-blue anti-carcinogenic? M. Copisarow. *Science* 78:212 S 8 '33

Methylene blue and cyanide poisoning. *Science* 78:sup7 JI 21 '33

Methylene blue as an antidote. *Science* 77:sup 6-7 Ja 20 '33

Methylene blue as an antidote for cyanide and carbon monoxide. M. M. Brooks. *Nat Safety N* 27:50 Je '33

Methylene blue as antidote for carbon monoxide and cyanide poisoning. *Safety Eng* 65:229 Je '33

Methylene blue in cyanide and carbon monoxide poisoning. H. E. Howe. *Textile Col* 55:333 My '33

Methylene blue test for grading milk; abstract. N. H. MacBeth. *Can Chem & Met* 17:170 Ag '33

Regulation of chlorine application in sewage odor control work; methylene blue test. A. E. Griffin. *Water Works & Sewerage* 80:218-19 Je '33

Sodium tetrathionate and methylene blue in cyanide and carbon monoxide poisoning. J. H. Draize. *Science* 78:145 Ag 18 '33

Stability of fats and oils; applications of the methylene blue test. H. D. Royce. *biolog diag Ind & Eng Chem Anal ed* 5:244-7 JI 15 '33

Treatment of asphyxia due to carbon monoxide or cyanide by artificial respiration and methylene blue. S. C. Dickinson. *Am Gas J* 139:22-5 S '33

**METHYLENE bromide**

Cyclic and polymeric compounds from the reactions of ethylene mercaptan with polymethylene halides. N. B. Tucker and E. E. Reid. *Am Chem Soc J* 55:775-81 F '33

**METHYLENE chloride**

Cyclic and polymeric compounds from the reactions of ethylene mercaptan with polymethylene halides. N. B. Tucker and E. E. Reid. *Am Chem Soc J* 55:775-81 F '33

**METHYLENE dibutyl disulfone**

Preparation and properties of methylene di-*n*-butyl disulfone. R. E. Stutz and R. L. Shriner. *Am Chem Soc J* 55:1242-4 Mr '33

**METHYLENE disulfones**

Methylene disulfones. D. T. Gibson. *Am Chem Soc J* 55:2611-12 Je '33

**METHYLENE ethers**

Cellulose methylene ether. F. C. Wood. *Soc Chem Ind J* 52:33T-4T F 3 '33

Methylene ether-esters; a promising group of new solvents and plasticizers. F. Walker. *Plastic Prod* 9:187-8 JI '33

**METRIC system****Conversion tables**

American standard value for inch-millimeter conversion recommended at conference under auspices of the American standards association. *Steel* 91:32 D 19 '32; Excerpt.

*Automotive Ind* 67:648 N 19 '32

Inch-millimeter conversion tables; reference book sheet. *Am Mach* 76:1165 N 23 '32

**METRO-GOLDWYN-MAYER**

Metro-Goldwyn-Mayer has recently made the best and most profitable U. S. pictures. *il Fortune* 6:50-64+ D '32

**METROPOLITAN districts**

Government of the metropolitan region of Chicago. C. E. Merriam, S. D. Parratt and A. Lepawsky. 193p \$2 Univ. of Chicago press '33

Metropolitan community. R. D. McKenzie. 352p \$3.50 McGraw-Hill '33

Metropolitan district water supply tunnel from the Ware river to the Wachusett reservoir. F. E. Winsor. map diags Boston Soc C E J 19:461-87 N '32

Progress on the new water supply for metropolitan Boston. *il diags map Eng N* 111:308-14 S 14 '33

**METROPOLITAN employment assurance bureau of Racine, Wisconsin**

Wisconsin firm extends sale of job insurance. *Nat Underw* 36:26 D 8 '32

**METROPOLITAN industrial gas sales council**

Annual meeting, 6th, Brooklyn, May 17. *Gas Age* 71:558 My 27 '33

**METROPOLITAN life insurance company**

Changes group plan in Britain. *East Underw* 34:7 Mr 3 '33; Same. *Spectator* 130:17 Mr 2 '33; Same. *Weekly Underw* 128:450 Mr 4 '33

Complete the transfer of British business of Metropolitan Life. *East Underw* 34:3 S 22 '33

Field convention. *East Underw* 34:3-8+ My 12 '33

Housing the Metropolitan Life's ordinary department. J. Philp. *East Underw* 33:20 D 9 '32

New home office building in New York. *il plans Arch Rec* 74:175-94 S '33

Report for 1932. *East Underw* 34:4 F 3 '33; *Spectator* 130:17+ F 2 '33; *Weekly Underw* 128:262 F 4 '33; *Nat Underw* (Life ed) 37:5+ F 3 '33



- METROPOLITAN-VICKERS** electrical company  
Technical news bulletin and the house journal of the Metropolitan-Vickers electrical company. B. M. Dent. Assn of Sp Lib & Inf Bur Proc 1933:56-8
- MEXICAN railway company**  
Ordinary general meeting, 135th, London. Economist 115:1207 D 24 '32  
Ordinary general meeting, 136th, London. Economist 117:38 J1 1 '33
- MEXICANS in the United States**  
How Mexicans earn and live. (Cost of living studies, V) Univ of Calif Pub in Economics v 13, no 1:1-114 '33  
Increase of Mexican population in United States, 1920 to 1930. Monthly Labor R 37:46-8 J1 '33  
Mexican labor in the United States, migration statistics, II-III. P. S. Taylor. fold map Univ of Calif Pub in Economics v 12, no 1:1-10; no 2:11-22 '33
- MEXICO**  
Motorists' guide to Mexico. M. Scully and V. Scully. 238p The South-West press, Dallas, Texas '33  
*See also*  
Debts, Public—  
Mexico  
Geology—Mexico  
Labor laws and legislation—Mexico  
Petroleum—Mexico  
Railroads—Mexico  
Silver mines and mining—Mexico
- MIAMI river**  
Explosives widen and deepen Miami river and canal. R. S. Petty. il Explosives Eng 11:344-5 N '33
- MICA**  
Genesis of the mica pegmatite deposits of Latah county, Idaho. A. L. Anderson. il Econ Geol 28:41-58 Ja '33  
Passage of photoelectrons through mica. N. E. Bradbury and L. A. Young. diag Phys R 43:84-5 Ja 1 '33  
*See also*  
Muscovite
- MICARTA**  
Machining non-metallic materials. Am Mach 77:565-6 Ag 30 '33  
Migrations of micarta. il Elec J 30:37 Ja '33
- MICE**  
Accurate method for measuring new-born mice. A. Svihla. Science 77:331 Mr 31 '33  
Mighty mousers. A. Van Vlissingen, jr. Factory Management 91:130 Ap '33
- MICHAEL condensation.** See Condensation, Chemical
- MICHAEL'S reaction**  
Properties of conjugated compounds; the Michael reaction applied to a triene ester. E. H. Farmer and S. R. W. Martin. Chem Soc J p960-2 Ag '33
- MICHEL engine**  
Cylinders of Michel engine arranged star fashion, three on the same central combustion chamber. il diags Automotive Ind 67:644-6 N 19 '32  
Michel Diesel, a high-speed, 3-crankshaft, no-valve unit. E. P. A. Heinze. il diags Power 77:92-3 F '33  
Le moteur Michel, à combustion interne. G. Delanghe. diags Génie Civil 103:178-81 Ag 19 '33
- MICHELSON lamp**  
Interferential comparisons of the red and other radiations emitted by a new cadmium lamp and the Michelson lamp; abstract. J. E. Sears and H. Barrell. R Sci Instr 4:162 Mr '33
- MICHELSON-MORLEY experiments.** See Ether (of space)
- MICHIGAN**  
*See also*  
Banks and banking—  
Michigan  
Gas, Natural—Michi-  
gan  
Iron mines and min-  
ing—Michigan  
Retail trade—Michi-  
gan  
Commerce  
Aid for analyzing markets in Michigan. 18p U. S. Bur. of foreign and domestic commerce, Washington '33
- MICHIGAN, Lake**  
Pollution of Lake Michigan. A. E. Gorman; J. R. Baylis. il diags map Civil Eng 3:519-24 S '33  
Spring-summer operation at Lake Michigan filter plants. Eng N 111:250 Ag 31 '33
- MICHIGAN association of insurance agents**  
Annual meeting, St Joseph. Nat Underw 37:25-9 O 12 '33
- MICHIGAN university**  
Engineering research at Michigan. A. E. White. il Metal Prog 23:33-6 Mr '33
- MICROANALYSIS**  
Absolute colorimeter in the laboratory; measuring procedure in micro analysis. il Chem Age (Lond) 28:388 Ap 29 '33  
Chemical analysis of rayons; the micro-determination of metals in commercial rayon yarns. B. P. Ridge, M. Corner and H. S. Cliff. bibliog Textile Inst J 24:T293-308 Ag '33  
Detection of heavy metals and traces of impurities in cotton fabrics. H. M. Chase. Am Dyestuff Rep 22:75-81 Ja 30 '33  
Ein halbmikro-apparat zur bestimmung des kohlenstoffes und wasserstoffes nach der methode von Orthner und Reichel. G. Komppa and W. Rohrmann. il diags Chemische Fabrik 6:201-2 My 10 '33; Discussion. L. Lindner. 6:277 Je 21 '33  
Micro-analyses quantitatives totales d'uraninites; abstract. F. Hecht and W. Beich-Rohrwig. Chimie & Ind 30:541 S '33  
Microanalysis of gases; carbon monoxide, ethylene, and acetylene. F. E. Blacet, G. D. MacDonald and P. A. Leighton. bibliog il diags Ind & Eng Chem Anal ed 5:272-4 J1 15 '33  
Microburet for potentiometric microanalysis. H. L. Lochte and A. Hoover. diag Ind & Eng Chem Anal ed 5:335 S 15 '33  
Microchemical methods as applied to spots on textile fibers. I. W. Grote. Am Dyestuff Rep 22:446-8 J1 17 '33  
Microdetermination of calcium in sea water. P. L. Kirk and E. G. Moberg. diag Ind & Eng Chem Anal ed 5:95-8 Mr 15 '33  
Micro estimation of halogens in organic compounds. A. Elek and D. W. Hill. bibliog diag Am Chem Soc J 55:2550-4 Je '33  
Micro estimation of sulfur and phosphorus in organic compounds. A. Elek and D. W. Hill. Am Chem Soc J 55:3479-82 Ag '33  
Rapid micro method for the determination of chlorides in fluids. L. T. Fairhall and J. W. Heim. Am Chem Soc J 55:968-70 Mr '33  
Simplified Karns technic for the micro-estimation of iodine. H. von Kolnitz and R. E. Remington. bibliog diag Ind & Eng Chem Anal ed 5:38-9 Ja 15 '33  
Simplified method for microdetermination of iodine in eggs. H. J. Almqvist and J. W. Givens. Ind & Eng Chem Anal ed 5:254 J1 15 '33  
Spektralanalytische erfassung kleinster mengen; spurenuche. W. Gerlach. il Angew Chemie 46:557-62 S 2 '33  
Tables for the microchemical detection and estimation of the metals. K. M. Herstein. Am Dyestuff Rep 22:442-4 J1 17 '33  
Zur bestimmung von kohlenstoff und wasserstoff nach dem centigrammverfahren. K. Kilsper. il diags Chemische Fabrik 6:63-4 F 1 '33  
Zur mikrometrischen bestimmung kleinster quacksilbermengen. A. Stock and others. Angew Chemie 46:62-5 Ja 21 '33
- MICROCHEMISTRY**  
Chemical applications of the polarizing microscope. N. H. Hartshorne. Soc Chem Ind J (Chem & Ind) 52:367 Ap 28 '33  
From the ponderable to the imponderable. O. Hahn. Science 77:397-403 Ap 28 '33; Abstract. J Fr Inst 215:763-5 Je '33  
Microchemistry; a new technique for solving textile problems. K. M. Herstein. il Textile World 83:1452-4 Ag '33  
Micro-density determination of solids and liquids. E. W. Blank and M. L. Willard. bibliog diags J Chem Educ 10:109-12 F '33  
Micromelting-point determination with the Thiele tube. E. W. Blank. bibliog diag Ind & Eng Chem Anal ed 5:74-5 Ja 15 '33

**MICROCHEMISTRY—Continued**

Role of microchemistry in chemical education. P. E. Spoerri. *J Chem Educ* 10:491-3 Ag '33

Textile industry meets microchemistry. K. M. Herstein. *il Textile Col* 55:238-9+ Ap '33

See also

Microanalysis

**MICRO-COULOMETERS.** See Voltameters

**MICRO-INCINERATION.** See Ashing

**MICROMANIPULATORS**

Improvement of the Chambers micromanipulator. C. C. Lindgren. *diags Science* 78:242-3 S 15 '33

**MICROMETERS**

Improving micrometer collars. W. S. Rowell. *diags Am Mach* 77:699 O 25 '33

Inside attachment for an outside micrometer. A. Kendall. *il diag Am Mach* 77:90 F 1 '33

Machine for graduating micrometer collars. A. E. Granville. *il Am Mach* 76:1233 D 21 '32

Ein neues ultramikrometer. *Chemische Fabrik* 6:158 Ap 5 '33

Safety attachment for micrometers. G. J. Murdock. *diag Am Mach* 76:1170 N 23 '32

Screw micrometer gages for rubber specimens. W. L. Holt. *diags U S Bur Stand J Research* 10:575-82 My '33

**MICROORGANISMS**

Amateur and his microscope; exploring unknown waters. J. D. Corrington. *diags Sci Am* 149:210-11 N '33

Formation of organo-metalloidal compounds by microorganisms; trimethylarsine and dimethylethylarsine. F. Challenger, C. Higginbottom and L. Ellis. *Chem Soc J* p95-101 Ja '33

Formation of semi-transparent membranes from cultures of slime-producing microorganisms. J. R. Sanborn. *Science* 77:290 Mr 17 '33

Manual of microbiology for the study of bacteria, yeasts and molds. W. L. Obold and M. M. Diehm. 140p F. A. Davis co, Philadelphia '32

Microbial metabolism and its bearing on the cancer problem. A. J. Kluyver. *Science* 76:527-32 D 9 '32

Microbiological developments old and new. E. F. Kohman. *J Chem Educ* 10:543-5 S '33

Microbiology of foods. F. W. Tanner. 768p Twin city printing co, Champaign, Ill. '32

Production of parchment-like membranes from cultures of slime-forming microorganisms. J. R. Sanborn. *Ind & Eng Chem* 25:288 Mr '33

Recent studies with reference to the rôle of microorganisms in sediments. G. A. Thiel. *Nat Research Council Bul* 89:133-42 '32

See also

Bacteria Mildew

Microscope and microscropy Viruses

**MICROPHONES**

Collection of sound in reverberant rooms, with special reference to the application of the ribbon microphone. H. F. Olson. *il diags Inst Radio Eng Proc* 21:655-72 My '33

Condenser microphone for home assembly. A. F. Holmes. *il diags Radio N* 14:714-15+ Je '33

Equipment and technique for home recording. W. H. Wenstrom. *il diags Radio N* 14:466-7+ F '33

Handy microphone substitutes. A. Lescarbourea. *il Radio N* 14:474+ F '33

How to make a ribbon microphone. E. R. Meissner. *il diags Radio N* 15:20-1+ J1 '33

New carbon microphone introduced by Marconi's wireless telegraph company. *Engineer* 156:390 O 20 '33

New velocity microphone. F. Siemens. *il Radio N* 14:406+ Ja '33

Voice transmitters in the eye hospital, Columbia-Presbyterian medical center. J. O. Oliver. *Arch Rec* 74:26 J1 '33

See also

Loud speaking apparatus

**MICROPHOTOMETERS.** See Photometers

**MICROSCOPE and microscopy**

Amateur and his microscope. E. H. Anthes; L. V. Foster and J. F. Brandt and others. *il diags Sci Am* 149:18-19, 58-9, 110-11, 160-1, 210-11 J1-N '33

Bacteria for amateurs. R. M. Watrous. *il diags Sci Am* 148:148-50 Mr '33

Chemical applications of the polarizing microscope. N. H. Hartshorne. *Soc Chem Ind J (Chem & Ind)* 52:367 Ap 28 '33

Constant temperature apparatus adapted for use on the microscope stage. R. F. Pitts. *diags Science* 76:626-7 D 30 '32

Delta method for studying microscopic sediments. W. E. Allen. *Science* 76:572-3 D 16 '32

Developments in the microscopy of paper. J. B. Calkin. *bibliog Paper Tr J* 96:37-8 Ja 19 '33

Evaluating gold in certain placers by microscopy. A. L. Crawford. *il Min & Met* 14:372-4 S '33

Examination of the reverse side of micro-mounts. A. P. Jacot. *Science* 78:128-9 Ag 11 '33; Discussion. 78:267-8 S 22 '33

History of the microscope. R. S. Clay and T. H. Court. 266p C. Griffin and co, ltd, London '33

Industrial microscopy. W. Garner. 389p \$5 Pitman '32

Introduction to the micro-analysis of yarn twist. E. R. Schwarz. *bibliog diags pls Textile Inst J* 24:T105-18 Mr '33

Manipulation of the research microscope. R. Wichterman. *diags Science* 78:266-7 S 22 '33

Method for permanently recording the locations of objects on microscope slides. K. E. Lohman. *Science* 78:214-15 S 8 '33

Method for the precise measurement of optical path-difference, especially in stressed glass. R. W. Goranson and L. H. Adams. *il diags J Fr Inst* 216:475-504 O '33

Microscopic examination of rubber and other solid technical products. F. H. Roninger, Jr. *bibliog il Ind & Eng Chem Anal ed* 5:251-3 J1 15 '33

Microscopic inspection aids study of meter jewels. L. H. Kistler. *il Elec W* 102:527 O 21 '33

Microscopic study of steel with polarized light. Yap, Chu-Phay. *bibliog il Am Soc Steel Tr Trans* 21:663-72 J1 '33

Microscopical determination of ore-treatment methods. A. S. Hecht. *Eng & Min J* 134:14-16 Ja '33

Mikroskopische untersuchung des verkokungsvorganges. E. Terres and O. Reinecke. *il Angew Chemie* 45:715-19 N 12 '32

New binocular microscope. *il Chem Age (Lond)* 28:7 Ja 7 '33

New form of centrifuge-microscope for simultaneous observation of control and experimental material. E. N. Harvey. *diag Science* 77:430-1 My 5 '33

New microscope shows textiles as they are. E. R. Schwarz. *il Textile World* 82:1176 D '32

Precision, high power metallographic apparatus. F. F. Lucas. *il diag Metal Prog* 24:20-5 O '33

Preparation of minerals for microscopic examination. J. Murdock. *Min & Met* 14:216 My '33

Press and technique for mounting small specimens. D. E. Krause and J. F. Oesterle. *il Metal Prog* 24:33-5 N '33

Quantitative microscopic methods with an integrating stage applied to geological and metallurgical problems. F. E. Thackwell. *il Econ Geol* 28:178-82 Mr '33; Discussion. H. L. Alling. 28:695-6 N '33

Seeing an unseen world. W. D. Grier. *il diags Sci Am* 148:86-8 F '33

Seeing the unseen. R. Disraeli. 142p \$2 John Day co. New York '33



**MICROSCOPE and microscopy—Continued**

- Small laboratory for chemical microscopy. R. D. Cool. bibliog il J Chem Educ 9:2084-9 D '32
- Statistical microscopic examination of mill products of the Copper Queen concentrator, of the Phelps Dodge corporation, Bisbee, Ariz. R. E. Head and others. flow sheet diags U S Bur Mines Tech Pa 533:1-48 '32
- Thin sections of weathered rocks. T. Clements. Eng & Min J 134:99 Mr '33
- Universal stage for opaque objects. B. F. Ellis. diag Science 78:105-6 Ag 4 '33
- Use of the microscope in ore dressing. G. A. Burgener. Can Min J 54:58 F '33
- What the microscope shows of textile fibers. S. M. Edelstein. Am Dyestuff Rep 22:467-9+ J1 31 '33
- Zeiss inspection equipment; measuring and testing instruments. il diags Automobile Eng 23:89-92 Mr '33
- See also*
- Metallography                      Stains and staining  
Microchemistry                      (microscopy)  
Photomicrography

**Electron microscope**

- Electron optics. V. K. Zworykin. il diags J Fr Inst 215:535-55 My '33

**Lighting**

- Darkfield illumination adds contrast and resolving power. W. Zieler. front il Metal Prog 23:19-23 Ja '33; Correction. 23:49 F '33
- Microscope lamp for biological laboratories. R. M. Holman. diag Science 77:610-11 Je 23 '33
- Oberflächenmikroskopie. H. Wagner and M. Zifel. il Chemische Fabrik 5:421-3 N 9 '32

**MICROSCOPIC slides**

- Apparatus for slide technique. E. S. James. diags Science 77:369 Ap 14 '33
- Convenient slide warmer. E. F. Woodcock. diag Science 78:287 S 29 '33
- Preparing quick-drying Canada balsam for the mounting of slides. H. Coombs. Science 78:193-4 S 1 '33

**MIDDLE Atlantic states ice association**

- Middle Atlantic states and Eastern ice associations unite as Eastern states ice assn. Refrig W 68:26-9 Ap '33

**MIDDLE East***See also*

- Petroleum industry and trade—Middle East

**MIDDLE West utilities company. See Insull companies****MIDLAND, Michigan****Streets**

- Stabilizing a gravel street surface. K. B. Robertson and D. N. Smith. diags Can Eng 65:11-14 Ag 22 '33

**MIDLAND bank limited**

- Ordinary general meeting, London. Economist 116:256-9 F 4 '33

**MIDLAND casualty company of Wisconsin**

- Merged with Great northern life insurance company. Ins Field (Fire ed) 62:10 Je 8 '33; Nat Underw 37:39 Je 8 '33

**MIDLAND mutual life insurance company**

- Report, 1932. Ins Field (Life ed) 62:16 Ja 27 '33; Spectator 130:25 F 2 '33; Weekly Underw 128:212 Ja 28 '33

**MIDWEST engineering and power exposition**

- Conference and exhibition, 6th, Chicago, June 27-29. Power Pl Eng 37:361-2 Ag '33

**MIDWEST motor fuel tax collectors association**

- Tax officials of seven states effect an organization to fight tax evasion. R. C. Conine. Oil & Gas J 32:21 S 21 '33

**MIGRANT problem**

- Survey of transient boys in the United States. Monthly Labor R 36:91-3 Ja '33
- 200,000 wandering boys. il Fortune 7:46-7 F '33

**MIGRATION**

- American migration; significant changes in place of residence. Index 12:217-22 N '32

*See also*

- Farm population  
Immigration and emigration  
Labor, Casual

**MILDEW**

- Cloth mildew. Am Dyestuff Rep 22:196 Mr 13 '33
- Dyeing and finishing troubles caused by mold fungi or mildew. R. Cowan. Am Dyestuff Rep 21:690-2 D 5 '32
- Host specialization of *Erysiphe graminis tritici*; abstract. E. B. Mains. Science 76:544 D 9 '32
- Mildew. F. C. Pratt. Textile Col 55:344-5+ My '33
- Mildew in silk; problems in hosiery yarns. D. S. Chamberlin. bibliog Melind 5:25-7, 51-2 Ap-My '33
- Mildew in the textile industry. W. Garner. bibliog il Textile Col 55:95-8+ F '33
- Prevention of mildew; Abracide. Chem Age (Lond) 23:379 Ap 29 '33
- Some cases of mildew on silk-cellulose acetate materials. F. V. Davis. Textile Inst J 24: T86-9 F '33

**MILITARY aeronautics. See Aeronautics, Military****MILITARY airplanes. See Airplanes, Military****MILITARY airships. See Airships, Military****MILITARY architecture**

- La construction et l'aménagement des abris souterrains contre les gaz toxiques. de Saint-Maurice and G. F. Jaubert. diags Génie Civil 103:333-4 S 30 '33

**MILITARY engineering**

- Army engineering. W. A. Mitchell. 3d ed rev 329p Society of American military engineers, Mills bldg, Washington, D.C. '33
- Engineer field manual. 4v U.S. Engineer dept, Washington '32
- National defense facilities on land. L. Brown. il Civil Eng 3:446-8 Ag '33

**MILITARY expenditures. See Armaments—Cost****MILITARY tanks. See Tanks, Military****MILITARY transportation. See Transportation, Military****MILK**

- Adsorption experiments with vitamins B (B<sub>1</sub>) and G (B<sub>2</sub>). H. C. Sherman and N. Halliday. Am Chem Soc J 55:332-5 Ja '33
- Milk as a constant source of vitamins. H. C. Sherman. Science 78:sup10 O 13 '33
- Milk, the indispensable food. J. A. Tobey, ed. 200p [bibliog p198-200] Olsen pub. co, Milwaukee '33
- Milk we drink. C. H. Vivian. il Comp Air M 38:4113-18 My '33
- Minerals in milk. J. A. Tobey. il Sci Am 149: 24-5 J1 '33
- Most perfect milk possible. O. Erf. il Sci Am 148:210-11 Ap '33
- Readjustment of salts in milk by base exchange treatment. J. F. Lyman, E. H. Browne and H. E. Otting. Ind & Eng Chem 25:1297-8 N '33
- Study of the fat-globule size in milk. M. H. Campbell. Vermont Agric Exp Sta Bul 341: 1-67 '32
- Use of vitamin D from cod-liver oil in milk and bread. T. F. Zucker. Science 77:19-20 Ja 6 '33

*See also*

- Butter fat                      Dairies  
Cheese                          Lactose

**Analysis**

- Food and drug analysis at Birmingham. Chem Age (Lond) 29:228 S 9 '33
- Laboratory manual. 461p International assn. of milk dealers, Chicago '33

## MILK—Continued

## Bacteriology

- Acid changes in milk produced by certain bacteria; abstract. L. H. Lampitt and M. Bogod. Soc Chem Ind J (Chem & Ind) 51:1076-7 D 30 '32
- Bacteriological standards for milk and ice-cream. V. Borland and others. Soc Chem Ind J (Chem & Ind) 51:1001-3 D 2 '32

## Pasteurization

- Is raw milk a raw deal? Sci Am 148:111-12 F '33
- Saving 75 per cent in floor space requirements; closed-plate type heat exchanger permits doubling of pasteurizing and cooling capacity. D. B. Goldberg. il Food Ind 5:350-2 S '33

## Prices

- Lesson from the milk industry. Nat City Bank p13-15 Ja '33
- Provisions of milk control board act relative to the fixing of minimum prices for milk held constitutional. Pub Health Rep 48:884-7 J1 28 '33

## Testing

- Methylene blue test for grading milk; abstract. N. H. MacBeth. Can Chem & Met 17:170 Ag '33

## Transportation

- Motor trucks, milk and the consumer. H. E. Seanor. Roads & Sts 76:67-8 F '33

See also  
Milk delivery  
Milk tanks

## MILK, Chocolate

- Final curtain on the cocoa-milk case? C. H. Wilson. Food Ind 5:233 Je '33

## MILK, Condensed

- Engineering aspects of the condensing and drying of milk. A. W. Scott. 120p Royal technical college, Glasgow '32; Review. Chem Age (Lond) 27:598 D 24 '32
- Nestlé and Anglo-Swiss condensed milk company. Economist 116:930-1 Ap 29 '33
- New method of using corn sugar. Food Ind 4:394-5 D '32

## MILK, Dried

- Engineering aspects of the condensing and drying of milk. A. W. Scott. 120p Royal technical college, Glasgow '32; Review. Chem Age (Lond) 27:598 D 24 '32
- Milk powdering plants; hot air and discharge fans are of concern to underwriters. M. E. Bulske. Weekly Underw 129:15-16 J1 1 '33

## MILK, Evaporated

- Evaporated milk association, 203 N. Wabash Ave, Chicago, publishes pamphlets for free distribution
- New milk truce; Wisconsin calls a parley on price-cutting competition. Business Week p12-13 Mr 29 '33

## Advertising

- Milk and vitamin D; campaign of Dean milk company. il Ptr Ink 164:25 S 28 '33
- This company's policies became the keystone of a code; Pet milk company. J. A. Latzer. il Ptr Ink 164:17-20 Ag 3 '33
- 250,000 entrants in this contest and only 40 prizes; Carnation company. S. D. Roberts. Ptr Ink 161:60-1 N 17 '32

## MILK bottles

- Provision of city ordinance regarding use of marked bottles or other containers for milk held invalid. Pub Health Rep 48:1115-16 S 8 '33

- Trading gum for empties brought back the bottles. il Food Ind 5:251 J1 '33

## Cleaning

- Gel formation in sodium metasilicate solutions. M. J. Prucha and C. A. Getz. Ind & Eng Chem 25:68-72 Ja '33

## MILK cans

- One-piece milk can; Youngstown pressed steel co. il Steel 93:28 Ag 7 '33

## MILK cooling

- Dairy industry is based on refrigeration. C. T. Baker. il Refrig Eng 25:318-19 Je '33
- Refrigeration from wasted cooling. il plan Elec West 70:157 My '33
- Saving 75 per cent in floor space requirements; closed-plate type heat exchanger permits doubling of pasteurizing and cooling capacity. D. B. Goldberg. il Food Ind 5:350-2 S '33

## MILK delivery

- Cutting milk delivery costs. Food Ind 5:21, 66 Ja-F '33

## Safety devices and measures

- Horse is still with us; safety in milk delivery. W. C. Washburn. il Nat Safety N 27:18-20+ Mr '33

## MILK handling

- Agitating milk with sterile air. il diag Sci Am 148:102 F '33

## MILK products. See Dairy products

## MILK sugar. See Lactose

## MILK supply

- How science can help to improve the nation's food supply; milk and dairy products. H. D. Kay. Soc Chem Ind J (Chem & Ind) 52: 624-7 Ag 4 '33; Excerpts. Chem Age (Lond) 29:78 J1 22 '33; Discussion. Soc Chem Ind J (Chem & Ind) 52:628-30 Ag 4 '33; Chem Age (Lond) 29:79-80 J1 22 '33

## Laws and regulations

- Milk reorganisation scheme. Economist 116: 287-8 F 11 '33
- Recent court decisions on milk control. J. A. Tobey. Pub Health Rep 47:2250-6 D 2 '32
- Regulation of milk marketing in Wisconsin. F. A. Staten. J Land & Pub Util Econ 9: 317-22 Ag '33

## Standards

- Bacteriological standards for milk and ice-cream. V. Borland and others. Soc Chem Ind J (Chem & Ind) 51:1001-3 D 2 '32

## MILK tanks

- Milk station tanks, oxyacetylene welded, are of 18-8 steel. il Steel 93:25 J1 10 '33
- Milk tanks of 18-8 clad steel. il Steel 93:25 N 13 '33
- Stainless clad steel milk truck has 3000-gal. capacity. il Iron Age 131:579+ Ap 13 '33

## MILK trade

- Cows come under utility regulation. Pub Util 12:474-6 O 12 '33
- Dairy farmers again in turmoil. il Forbes 31: 6-8 My 1 '33
- Dairymen clamor for codes; may have blanket agreement. Food Ind 5:367 S '33
- Excess production keeps milk prices low. R. Brennan. Dun & Bradstreet 41:6-9 Mr 11 '33
- 52,000 farmers market milk under one brand. il Ptr Ink 161:80+ N 17 '32
- Fixing of a minimum price for milk held constitutional as a valid and reasonable exercise of police power. Econostat 1:23 S 9 '33
- Lesson from the milk industry. Nat City Bank p13-15 Ja '33
- Milk—a public utility? a successful experiment in Manitoba. J. E. Boyle. Barron's 13:18 S 4 '33

- Milk and Mr. Wallace; New York's milk control board can give the Secretary of agriculture an instructive lesson. Business Week p10 My 10 '33

- Milk control problems; Chicago and Philadelphia. Business Week p23 Ag 26 '33

- Milk has utility troubles. il Business Week p18 Ag 19 '33

- Milk products (including strikes). Business Week p9 Ap 26 '33

- Milk showdown; AAA begins to tackle the essentials of milk control on a national basis. Business Week p25-6 O 14 '33

- Milk strike. il Business Week p7 Mr 1 '33

- Milk war and peace; New York settles a milk strike; Wisconsin fights one. Business Week p16-17 My 24 '33

- Milky way; dairymen find a way out of strikes through the farm relief act. il Business Week p22-3 My 31 '33



**MILK trade—Continued**

Regulation of milk marketing in Wisconsin. F. A. Staten. J Land & Pub Util Econ 9:317-22 Ag '33

Spilled milk; dairy farmers are crying for political help; market difficulties. Business Week p6 Ap 12 '33

3 A.M. credit. L. C. Stone. Adv & Sell 21:34 My 25 '33

Unique experiment in state regulation that rescues the utility instead of the user; New York's milk control law. H. C. Spurr. Pub Util 12:22-7 Jl 6 '33

See also

**Dairying****Advertising**

Advertising as a fair weapon in competitive selling; applications to the dairy industry. D. Francisco. Ptr Ink 161:51-4+ D 1 '32

Copy appeals for milk. Ptr Ink 165:35+ N 2 '33

Giving the secondary product a place in the advertising; butter, cream and cheese are effectively presented in milk campaign. Il Ptr Ink 161:72-3 D 1 '32

Quality evidence; Los Angeles milk company suggests simple test of advertised claims. Il Ptr Ink 162:36 Mr 23 '33

Warning dairymen turn to advertising. Il Ptr Ink 164:63-4 Ag 17 '33

**Statistics**

Milk and milk products. Food Ind 5:52-3 F '33

**MILK waste**

Anaerobic stabilization of milk waste. A. M. Buswell, C. S. Boruff and C. K. Wiesman. bibliog Il Ind & Eng Chem 24:1423-5 D '32

**MILL villages.** See Company towns

**MILLIAMMETERS**

Extending meter ranges by means of multipliers and shunts. G. A. Eaton. diags Radio N 14:592-3+ Ap '33

**MILLIKEN, John F.** 1890-

President, United licensed officers association. B. K. Price. por Marine R 63:35 O '33

**MILLINE**

Don't milline the publisher. J. A. Coveney. Adv & Sell 20:24+ N 24 '32; Reply. B. Jefferson. 20:15 D 22 '32

**MILLINERY**

Hat trust? Guild to defend French models now defends anti-trust suit. Business Week p5 Ap 12 '33

Knitting cellophane; producing imitation-straw fabrics on circular latch-needle machines. J. H. Leppert. diags Textile World 83:1084-5 Je '33

**MILLING**

Automatic feeding fixture for milling slots. L. L. Locke. diags Am Mach 77:121 F 15 '33

Auxiliary miller table for backing off radial slots. W. C. Betz. diags Mach 39:464 Mr '33

Cam-milling attachment for the bench lathe. E. Wittmann. diags Am Mach 77:604 S 13 '33

Carbide cutters for face milling. F. W. Curtis. Il Am Mach 77:9-11 Ja 4 '33

Case for milling; a machine-tool engineer looks at the economics of milling versus planing. R. E. W. Harrison. Mech Eng 55: 682-4 N '33; Abstract. Iron Age 132:23 N 30 '33

Charts for selecting machines of correct size for milling and turning operations. A. E. Gutzwiller. Mach 39:724-6 Jl '33

Elements of milling; abstract. O. W. Boston and C. E. Kraus. Iron Age 132:31 Jl 6 '33

Hollow-milling a tapered shank. diags Mach 39:699 Jl '33

Milling a curved taper. A. W. Hacker. diags Am Mach 76:1170 N 23 '32

Milling around obstructions. D. L. Curtis. Il diags Am Mach 76:1167 N 23 '32

Milling in two planes. M. Harris. diags Am Mach 77:664 O 11 '33

Milling Woodruff keyseats in the lathe. H. Coy. diags Am Mach 77:253 Ap 12 '33

Neuere untersuchungen des fräsvorganges. E. Brödner. bibliog Il diags Zeit Ver Deutsch Ing 77:1113-17 O 14 '33

Planing versus milling. A. C. Danekind. Il Mech Eng 55:673-6 N '33

Revising a milling process. J. H. Hamm. diags Am Mach 77:445 Jl 5 '33

Set-up time for pedestal wedges and shoes reduced to almost nothing. O. Herbert. diags Mach 39:646 Je '33

Unusual milling operation. F. H. Mayoh. diags Am Mach 76:1235 D 21 '32

**MILLING cutters**

Carbide cutters for face milling. F. W. Curtis. Il Am Mach 77:9-11 Ja 4 '33

Cutting teeth on tiny burrs and formed milling cutters. F. H. Mayoh. diags Mach 39: 274-5 D '32

Fixture for grinding formed cutters. H. J. Chamberland. Il Am Mach 77:604 S 13 '33

Relief of formed milling cutters. R. V. Hutchinson. Am Mach 77:133-6, 178-80 Mr 1-15 '33

Simplified milling cutter layout. V. J. Smith. diags Am Mach 77:461 Jl 19 '33; Discussion. F. W. Shaw. 77:731 N 8 '33

**MILLING machinery.** See Crushing machinery

**MILLING machines**

Case for planing. F. E. Cardullo. Il Mech Eng 55:677-81 N '33

Deckel motor driven universal tool milling machine. Il Am Mach 77:737 N 8 '33

Fay automatic double-end milling and centering machine. Il Am Mach 77:287 Ap 26 '33

Fräsmaschine zum abrunden der radzähne. diags Zeit Ver Deutsch Ing 76:1254 D 17 '32

Grosse vereinigte hobel- und fräsmaschine. F. Sipmann and A. Schlegelmilch. Il diags Zeit Ver Deutsch Ing 77:423-4 Ap 22 '33

Hall continuous planetary milling machine. Il Am Mach 77:319-20 My 10 '33; Mach 39:607-8 My '33; Iron Age 131:708-9 My 4 '33; Mech Eng 55:383-4 Je '33; Automotive Ind 69:513 O 28 '33

Herbert 15S vertical milling machine. Il Engineer 155:230 Mr 3 '33

Herbert kneeless plain milling machine. Il diags Engineer 155:580-1 Je 9 '33

Improved automatic feed for bench millers. J. F. Cavanagh. diags Am Mach 77:22 Ja 4 '33

Jones & Lamson automatic double end milling and centering machine. Il Automotive Ind 68:533 Ap 29 '33; Iron Age 131:709 My 4 '33; Mach 39:608-9 My '33

Kearney & Trecker rail-type milling machines designed to employ carbide cutters. Il Iron Age 132:32 N 2 '33; Am Mach 77:701 O 25 '33; Automotive Ind 69:525 O 28 '33; Mach 40:177 N '33

Kempsmith hydraulic miller. Il Automotive Ind 67:665 N 19 '32

Kent-Owens no. 3 RV-DS milling machine. Il Am Mach 77:704 O 25 '33; Automotive Ind 69:525-6 O 28 '33

Milling combustion spaces. Il Automobile Eng 23:18 Ja '33

New machines for old; transforming obsolete planer into an up-to-date miller. O. G. Rutemiller. Il Am Mach 77:425-7 Jl 5 '33

Newton drum-type milling and center drilling machine. Il Am Mach 77:351 Mr 24 '33; Iron Age 131:864 Je 1 '33; Mach 39:677 Je '33

Non-cutting time reduced in milling. R. E. Miller. Iron Age 131:52-3 Ja 5 '33

Portable pedestal miller. R. B. Loveland. Il Ry Mech Eng 107:103-4 Mr '33

Producto-matic milling machine. Il Am Mach 76:1239 D 21 '32; Mach 39:357 Ja '33; Iron Age 131:135-6 Ja 19 '33; Automotive Ind 68:321 Mr 11 '33

Producto-matic no. 35 automatic indexing milling machine. Il Am Mach 77:159 Mr 1 '33; Iron Age 131:477 Mr 23 '33; Mach 39:489 Mr '33

Producto no. 12½ automatic cam milling machine. Il Am Mach 77:291 Ap 26 '33; Mach 39:610-11 My '33; Iron Age 131:865 Je 1 '33

Sellers 120-in. planer-type milling machine. Il Am Mach 77:639-40 S 27 '33; Iron Age 132:42-3 S 28 '33; Mach 40:113-14 O '33

Sundstrand electromil for light milling. Il Automotive Ind 69:520 O 28 '33

**MILLING machines—Continued**

Surfaceuse-fraiseuse à quatre têtes, de 8m 55 de course. il diags Génie Civil 101:493-5 N 19 '32

Two large machine tools made by William Asquith, Ltd. il Engineer 155:534-6 My 26 '33

**Fixtures**

Cam milling fixture with automatic stop. F. W. Curtis, diags Mach 39:733-4 Ag '33

Fixture for cutting slots at right angles in one operation. C. W. Hinman, diags Mach 40:158-60 N '33

Fixture for slotting bodies of special cocks. C. C. Tomney, diags Am Mach 77:635 S 27 '33

Fixture having a combination clamp and plunger. L. L. Locke, diags Am Mach 77:155 Mr 1 '33

Indexing fixture operated by a single lever. L. L. Locke, diags Am Mach 77:22-3 Ja 4 '33

Milling fixture of swivel type for rounding the ends of chain links. E. E. Burke, il Mach 39:528 Ap '33

Milling fixtures that accommodate nine sizes of motor frames. il Mach 40:44 S '33

Pneumatic clamping in milling fixture design. F. W. Curtis, diags Mach 39:761-3 Ag '33

Profiling fixture. D. L. Curtis, diag Am Mach 77:185 Mr 15 '33

Rotary fixture for milling tongues on shafts. diags Mach 39:589 My '33

**MILLS, Ogden Livingston**

Personalities in business. por Barron's 13:4 Ap 24 '33

**MILLS, Ball. See Ball mills****MILLS, Tube. See Tube mills****MILWAUKEE, Wisconsin**

Milwaukee: convention city. Credit & Fin Management 35:12-13+ Ap '33

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Unemployment—  
Milwaukee, Wisconsin

**Bridges**

Pump concrete 600 feet on viaduct contract in Milwaukee. il Concrete 41:3-4 S '33

**Sewerage**

Five years' operation of the Milwaukee activated sludge plant. il Pub Works 64:10-11+ N '33

Grit and screenings incineration plant. D. W. Townsend, il plans Water Works & Sewerage 80:317-21 S '33

Milwaukee plans extension to activated-sludge plant. il diag plans Eng N 111:98-101 Ji 27 '33

**Water supply**

Ground-level storage and booster station at Milwaukee. H. H. Brown. Am Water Works Assn J 25:1362-71 O '33

Milwaukee builds a welded tank of 6,000,000-gal. capacity. diag Eng N 110:589 My 11 '33

New 6,000,000 gallon water storage tank solves distribution problem at Milwaukee. H. H. Brown. il Water Works & Sewerage 80:237-40 Ji '33

Storage tank operation to aid pressure conditions. E. F. Tanghe. Eng N 111:321-2 S 14 '33

**MIMEOGRAPH paper**

Properties of mimeograph paper. Pulp & Pa of Can 34:230 Mr '33

**MINCEMEAT**

Apples are apples. . . sometimes! tale of a mincemeat explosion. W. H. Grimes. il Food Ind 5:339-40+ S '33

**MINE accidents**

Accident experience and costs in Colorado metal mines. E. H. Denny and E. A. Anundsen. U S Bur Mines Information Circ 6713:1-23 '33

Accident-prevention record of the metal-mining industry, 1931. Min Cong J 19:16 Mr '33

Accidents in the mining industry of Mexico in 1930 and 1931. Monthly Labor R 36:1070-1 My '33

Explosives accidents in California metal mines. S. H. Ash. U S Bur Mines Information Circ 6725:1-18 '33

Metal-mine accidents in the United States during the calendar year 1931. W. W. Adams. U S Bur Mines Bul 374:1-36 '33

Reduced mine accidents with better lighting. W. C. Owings. Elec W 102:343 S 9 '33

Safety record of metal mines in Minnesota in 1931. Min Cong J 18:22 D '32

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Blasting—Safety devices and measures	Coal mines and mining—Safety measures
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	Mine rescue work
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**MINE air****See also**

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**MINE cages**

Economy of using new alloys in mine cage construction. Min & Met 14:328 Ag '33

**MINE cars**

Application of steel castings in mining equipment. W. M. Sheehan. il Min & Met 14:257-9 Je '33

Equipping for hand tramming. L. Eaton, diags Eng & Min J 134:369-70 S '33

Loader efficiency increased by installing big cars at Fairpoint mine. P. R. Paulick. il Coal Age 38:175-6+ Je '33

Modern equipment keeps mines running despite wage differential; DeBardleben coal corporation, Birmingham, Ala. Coal Age 38:158-9 My '33

Safety car holder. R. C. Rice, diags Coal Age 37:417 N '32

Types of cars used by the Lehigh navigation coal company; abstract. J. S. Miller. Coal Age 38:201-2 Je '33

**MINE construction**

Cost of making a mine; details of expenditures at the Ashley gold mine. flow sheet Can Min J 54:233-6 Je '33

Design of mine openings; application of the principles of similitude develops fundamental data. P. B. Bucky. il Eng & Min J 134:322-4 Ag '33

Level development. L. Eaton, diags Eng & Min J 134:29-33 Ja '33

Some notes on methods and costs of equipping and developing prospects. C. F. Jackson. U S Bur Mines Information Circ 6693:1-24 '33

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Mine doors	Mine timbering
Mine roofs	

**MINE doors**

Electric eye opens Nemacolin doors. il diags plan Coal Age 38:77-8+ Mr '33

Light beam opens mine door. H. S. Littlewood. il diag Elec J 30:163-4 Ap '33; Excerpts. Illum Eng Soc Trans 28:389-90 My '33

**MINE drainage**

Discharge launder for valve bailer. diag Eng & Min J 134:328 Ag '33

Pipe lines for drift drainage. Eng & Min J 134:411 O '33

Unwatering flooded coal mines in Washington. S. H. Ash and T. Murphy. il diags U S Bur Mines Tech Pa 549:1-18 '33

**See also**

Mine pumping  
Mine water



**MINE dust**

Control of the silicosis hazard in the hard rock industries; application of the Kelley trap to underground drilling operations. T. Hatch and others. *il diags J Ind Hygiene* 15:41-56 Ja '33  
 Miner's health. D. Harrington. *il Nat Safety N* 28:30-2 O '33

**MINE equipment**

Drill steels for mining purposes. W. H. Hatfield. *Can Min J* 54:236 Je '33  
 Efficient air compressing. L. Eaton. *il Eng & Min J* 134:245-7 Je '33  
 List of permissible mine equipment. L. C. Ilsley. *U S Bur Mines Information Circ* 6699:1-19 '33  
 McIntyre's equipment; mechanical and electrical. W. F. J. Cosser. *il diags plan Eng & Min J* 134:485-91 N '33  
 Wire ropes for mines. C. D. Meals. *il Can Min J* 53:305-11; 54:63-6 Jl '32, F '33

*See also*

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**MINE examination**

Mine examination and valuation. C. H. Baxter and R. D. Parks. 316p Michigan college of mining and technology, Houghton, Mich. '33

**MINE explosions***See also*

Coal mines and min-	Mine fires
ing—Accidents and	Mine gases
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**MINE fans.** *See* Fans, Mine**MINE filling**

Backfilling permits recovery of abandoned pillars while preserving surface improvements. H. A. Dierks. *il diags Coal Age* 38:255-8 Ag '33  
 Cut-and-fill stoping. C. H. Johnson and E. D. Gardner. *diags U S Bur Mines Information Circ* 6688:46-8 '33; Same. *Can Min J* 54:178-80 My '33  
 Piping a sand-water mix; Pinar del Rio Matahambre copper mine in Cuba. C. L. Mantell. *diag Heating-Piping* 5:87 F '33

**MINE fires**

Electric fires at mines. A. R. Webster. *Can Min J* 54:343-5 S '33  
 Guarding against mine fires. O. A. Glaeser. *il Eng & Min J* 134:74-7 F '33  
 Metal-mine fires and ventilation. D. Harrington. *U S Bur Mines Information Circ* 6678:1-31 [bibliog p 19-31] '33  
 Saving life by barricading in mines and tunnels at times of disaster. D. Harrington and M. W. von Bernewitz. *U S Bur Mines Information Circ* 6701:1-5 '33

**MINE foremen**

Foreman who checks and double-checks. J. J. Rutledge. *Explosives Eng* 11:238-40 Ag '33  
 Mine foreman who is not honest with his company. J. J. Rutledge. *Explosives Eng* 11:285-7 S '33  
 Proper regard for a superior officer. J. J. Rutledge. *Explosives Eng* 11:12-14 Ja '33

**MINE gases**

Origin of and pressure of gas flowing into coal mines. G. S. Rice. *Min & Met* 14:234-6 My '33

*See also*

Carbon monoxide  
 Fire damp  
 Mine ventilation

**MINE haulage**

Automatic tramway solves refuse disposal at Fordson. J. H. Edwards. *diags Coal Age* 38:271 Ag '33  
 Brings coal to tippie without breakage or admixed impurity. O. Carter. *il Coal Age* 38:259-60 Ag '33  
 Consistent daily output per loader key to building up system of economical production. A. R. Long. *diags Coal Age* 37:401-2+ N '32

Conveying in German potash mines. E. Schäfer. *Mech Handling* 20:148 My '33  
 Development and application of energy in the mining and metallurgical treatment of copper ore; abstract. W. Jurden. *Engineering* 136:478 O 27 '33

Efficient haulage theme of Wilkes-Barre meeting. *Coal Age* 37:403 N '32  
 Level development. L. Eaton. *diags Eng & Min J* 134:29-33 Ja '33

Lubrication of endless-rope haulage lines. *diag Eng & Min J* 133:617 D '32

Mine haulage; the combination-type electric locomotive; cost data. H. A. Neustaedter. *Eng & Min J* 134:340 Ag '33

1½ mile tunnel solves haulage problems of a Rocky Mountain coal mine; Kenilworth mine. *il Coal Age* 38:305-7 S '33

Portable electric lamps for animal haulage in Alabama. F. E. Cash and C. E. Saxon. *U S Bur Mines Information Circ* 6712:1-5 '33

Refuse handled by subway conveyor and skips. J. H. Edwards. *il Coal Age* 37:407-8 N '32

Rope haulage. L. Eaton. *Eng & Min J* 134:424 O '33

Time studies point way to improvements in underground transportation. D. L. McElroy. *Coal Age* 37:395-7 N '32

Transportation costs at Wheelwright reduced by remodeling haulage. E. R. Price. *il Coal Age* 37:434-6 D '32

World's longest bi-cable ropeway; Northern Peru mining & smelting company. W. L. Graham. *il Eng & Min J* 134:287-8 Jl '33

*See also*

Cableways	Mine cars
Electric locomotives,	Mine hoisting
Mine	Mine tracks
Locomotives, Mine	Ore handling

**Cost**

Cost of mine transportation. M. J. Elsing. *Eng & Min J* 134:101-4 Mr '33

Cost of storage-battery, compressed-air, and gasoline-locomotive transportation. M. J. Elsing. *Eng & Min J* 134:191-4 My '33

Cost of trolley-locomotive transportation. M. J. Elsing. *Eng & Min J* 134:145-8 Ap '33

**MINE hoisting**

L'allègement des cages d'extraction de mines. L. Schwob. *Génie Civil* 102:425-6 My 6 '33  
 L'allègement des cages d'extraction pour mines. L. Lahoussay. *Génie Civil* 102:249-52 Mr 18 '33

Deraill protects inside slope at Spring Canyon. *Coal Age* 38:131-2 Ap '33

Economy of using new alloys in mine cage construction. *Min & Met* 14:328 Ag '33

La fabrication et la surveillance des câbles d'extraction. *Génie Civil* 101:483-4 N 12 '32

Hoist design and construction. L. Eaton. *Eng & Min J* 133:576-9, 625-6 N-D '32

Hoisting rope repair. *diags Eng & Min J* 134:369 S '33

McIntyre's equipment; mechanical and electrical. W. F. J. Cosser. *il diags plan Eng & Min J* 134:485-91 N '33

Magnetic attachment added to hoisting engine stop. *il Coal Age* 38:312 S '33

Mechanical braking and its influence on winding equipment. J. F. Perry and D. M. Smith. *il diags Inst Mech Eng Proc* 123:537-602 '32; Same cond. *Engineering* 134:608-11, 663-5, 696-8 N 18, D 2-9 '32; Discussion. *Inst Mech Eng Proc* 123:603-20 '32

Old automobile makes efficient hoist. *il Eng & Min J* 133:610 D '32

Recapping a winding rope. *Can Min J* 53:552 D '32

Shaft hoist rope calculations. H. M. Hall. *Can Min J* 54:108-9 Mr '33

Wire mining ropes. R. Saxton. *diags Mech Handling* 20:91-2 Mr '33

*See also*

Mine haulage  
 Mine shafts

**Safety measures**

Inherent dangers of safety catches for vertical mine shafts. A. L. Egan. *Engineering* 135:426-8 Ap 21 '33

**MINE hoisting—Continued****Tables, calculations, etc.**

Formula for calculating length of hoisting ropes. J. C. Thomson. diags Eng & Min J 134:411 O '33

**MINE hoisting, Electric**

Desloge mine plant modernized—operating costs reduced. H. A. Neustaedter. il diags Eng & Min J 134:238-40 Je '33

Electric colliery winders. Elec R (Lond) 113: 85 JI 21 '33

Homestake's new hoists. diag Can Min J 54: 383-4 O '33

Hydraulic speed control features drive of Broken Hill hoist. F. J. Mars. Eng & Min J 134:170 Ap '33

New hoists help booming gold production. il Elec J 30:33 Ja '33

Office-type elevator installed in man hoist at Caples mine in West Virginia. il Coal Age 38:115+ Ap '33

Performance of mine hoists. Elec W 101:66 Ja 14 '33

Sinking and equipment of the no.2 shaft at Minas de Matahambre; with cost data. D. D. Homer and R. H. Cromwell. il diags map plans Explosives Eng 2:38-62 F '33

Unique electric hoists. plan Eng & Min J 134:410-11 O '33

**MINE inspectors' institute of America**

Annual meeting, 24th, Pittsburgh, May 15-17. Coal Age 38:204-5 Je '33

**MINE lighting**

Different lighting system for coal mines; abstract. W. Cramp. Elec W 100:831 D 17 '32  
Lighting in mines. S. Barber, C. C. Emmett and T. D. Jones. Engineering 135:619 Je 9 '33

Portable electric lamps for animal haulage in Alabama. F. E. Cash and C. E. Saxon. U S Bur Mines Information Circ 6712:1-5 '33

Reduced mine accidents with better lighting. W. C. Owings. Elec W 102:343 S 9 '33

Safety in mines; eleventh annual report of the Safety in mines research board. Electrician 111:212 Ag 18 '33

**MINE management**

Economics of mining (non-ferrous metals). T. J. Hoover. 547p \$6 Stanford university press, Stanford University, Calif. '33

Mining methods and costs at the Mt. Hope mine of the Warren foundry and pipe corporation, Mt. Hope, N.J. J. R. Sweet. diags plan U S Bur Mines Information Circ 6601: 1-31 '32

Somebody's after my job. J. J. Rutledge. Explosives Eng 11:348-9 N '33

**See also**

Coal mines and min- Mine foremen  
ing—Management Mining methods

**MINE models**

Design of mine openings; application of the principles of similitude develops fundamental data. P. B. Bucky. il Eng & Min J 134: 322-4 Ag '33

**MINE mules. See Mules****MINE pumping**

Cleaning borehole lifts pump capacity. diags Coal Age 38:346 O '33

Modern automatic pumping at Consolidated Coppermines. W. B. Clark. il Min & Met 14: 295-6 JI '33

West Virginia coal mine uses motorpump water box. il Comp Air M 38:4194 Ag '33

**MINE pumps**

Deep-well pump at Indiana mine solves de-watering problem. Coal Age 37:415 N '32

Dirt removed from shaft pump with saw-tooth impeller. diag Coal Age 37:414 N '32

Unwatering flooded coal mines in Washington. S. H. Ash and T. Murphy. il diags U S Bur Mines Tech Pa 549:1-18 '33

**MINE reports**

Essentials for a preliminary report on a small lode-gold mine or prospect, with notes on sampling. C. W. Wright. diags U S Bur Mines Information Circ 6748:1-11 '33

**MINE rescue work**

Federal economy and mine rescue work. Science 77:sup6-7 F 10 '33

Holmes safety association annual report. Safety Eng 65:128+ Ap '33

**MINE roofs**

Blasting practices as they affect the roof of coal mines in Ohio, Pennsylvania, and West Virginia. J. N. Geyer. diags U S Bur Mines Information Circ 6738:1-11 '33; Same. Explosives Eng 11:333-40 N '33; Excerpts. Min Cong J 19:20 N '33

Falls of roof and coal in the Book Cliffs and Wasatch Plateau coal fields of Utah. H. Tomlinson. diags map plans U S Bur Mines Rep of Invest 3189:1-24 '32

Falls of roof in mines operating in the Pittsburgh coal bed, West Virginia. J. W. Paul and J. N. Geyer. diags map U S Bur Mines Tech Pa 547:1-23 '33

Places of occurrence of injury from falls of roof. J. W. Paul and D. L. Sibray. diags U S Bur Mines Rep of Invest 3203:1-12 '33

Preventing falls of roof in coal mines. W. H. Tomlinson. Explosives Eng 10:379-81 D '32

Roof control; abstract. R. E. Salvati. Min Cong J 19:25 Je '33

Study of falls of roof and coal in mines of Lincoln county, Wyoming. H. Tomlinson. diags maps U S Bur Mines Rep of Invest 3188:1-18 '32

Study of falls of roof and coal in northern Colorado. H. Tomlinson. il plans map U S Bur Mines Rep of Invest 3193:1-20 '33

Study of falls of roof and coal, Rock Springs coal district, Sweetwater county, Wyo. H. Tomlinson. il diags U S Bur Mines Rep of Invest 3207:1-22 '33

Study of mine roof of the Pittsburgh coal bed in the Pittsburgh mining district. J. W. Paul and L. N. Plein. diags map plans U S Bur Mines Tech Pa 541:1-98 '32

Study of roof in Pennsylvania mines contiguous to the Monongahela river. J. W. Paul and J. G. Calverley. diags map U S Bur Mines Tech Pa 550:1-31 '33

**MINE sanitation**

Miner's health. D. Harrington. il Nat Safety N 28:30-2 O '33

**MINE shafts**

Concreting the Denn shaft. F. P. Brunel. diags Eng & Min J 133:614-17 D '32

Development and mining, seven thousand feet the objective; McIntyre Porcupine mines. D. E. Keeley. il diags Eng & Min J 134:459-60, 469-71 N '33

How would you reopen this shaft? J. J. Rutledge. plan Explosives Eng 11:318-19 O '33

Macassa shaft. G. A. Howes. il Can Min J 54:93-7 Mr '33

Shaft sinking at the United States mine. N. S. Christensen. diags plans Min & Met 14:325-7 Ag '33

Shaft-sinking methods and costs, and cost of plant and equipment at the Macassa mine, Kirkland Lake, Ontario. G. A. Howes and C. F. Jackson. diags U S Bur Mines Information Circ 6674:1-10 '32

Shaft-sinking on a churn-drill hole. H. A. Neustaedter. il diags plan Eng & Min J 134:207-8 My '33

Sinking and equipment of the no.2 shaft at Minas de Matahambre; with cost data. D. D. Homer and R. H. Cromwell. il diags map plans Explosives Eng 2:38-62 F '33

**See also**

Mine hoisting  
Mine ventilation

**MINE signals, Electric**

Mine haulage signalling; abstract. S. W. Richards. Electrician 109:648 N 18 '32

**MINE stoppings**

Fireproof stoppings; advantages and disadvantages. L. S. Voltz. Min Cong J 19:22-3 F '33

**MINE stowage. See Mine filling****MINE subsidences**

Anthraxite problems dominate discussion at meeting of Coal division of A.I.M.E. Coal Age 37:398 N '32



**MINE subsidences—Continued**

Ground movement and subsidence. G. S. Rice. *Min & Met* 14:22-4 Ja '33

Mining methods discussion includes subsidence session at A.I.M.E. meeting. *Min & Met* 14:145-6 Mr '33

Mining under caved areas; Hidden Creek mine of the Granby consolidated mining, smelting & power company, Anyox, B.C. F. S. McNicholas. *diags Eng & Min J* 134:112 Mr '33

**MINE surveying**

Cartography for mining geology. H. Schmitt. *bibliog Econ Geol* 27:716-36 D '32

Compass surveys for stope-contract settlements. S. Tainter. *plan Eng & Min J* 134:209 My '33

Surveying diamond-drill holes. W. R. Storms. *il plans Eng & Min J* 134:157-9 Ap '33

**MINE taxation**

Depletion provision changes in new act explained. H. C. Jackson. *Min & Met* 14:14-15 Ja '33

Iron mining industry in Minnesota. W. P. Chinn. *Min Cong J* 19:21-2 My '33

Kaffir taxation. *Economist* 117:27-8 Jl 1 '33

Taxation of coal lands as applied in Pennsylvania. E. A. Holbrook. *Min & Met* 14:297 Jl '33

**MINE timber**

Possible results of standardized mine timbers; abstract. E. B. Agee. *Min Cong J* 19:25 Je '33

Preservation of mine timbers; abstract. B. M. Winegar. *Min Cong J* 19:13+ Ag '33

Timber treatment promotes operating economies at Carbon fuel co. *Coal Age* 38:160-1 My '33

**MINE timbering**

Development and mining, seven thousand feet the objective; McIntyre Porcupine mines. D. E. Keeley. *il diags Eng & Min J* 134:459-68 N '33

How would you re-timber this coal mine? *plan diags Explosives Eng* 11:84-5, 124-6, 156-9 Mr-My '33

Longwall, steel arches and posts in Nova Scotia mines. S. C. Miffen. *il Coal Age* 38:261-2 Ag '33

Meco patent chock release. *il Mech Handling* 20:70 F '33

Safety props. W. J. Salt. *diag Coal Age* 38:98-9 Mr '33

Skillful planning opens way to more profitable anthracite operation. J. H. Pierce. *Coal Age* 38:39-40 F '33

Square-set system of mining. E. D. Gardner and W. O. Vanderburg. *diags U S Bur Mines Information Circ* 6691:1-73 '33

Timber withdrawing and devices used for this purpose in some coal mines. J. W. Paul and J. G. Calverley. *diags U S Bur Mines Information Circ* 6722:1-14 '33

Use of iron and steel for underground support. J. S. Carson. *Coal Age* 38:128-9 Ap '33

Will United States follow Europe in wide use of steel arches, posts and straps? R. D. Hall. *il Coal Age* 38:9-11 Ja '33

**MINE tracks**

Calks for steel and wood ties keep track in place. *diags Coal Age* 37:416 N '32

Coal mining company uses welding to build bridge of old pipe and rails. *il Steel* 93:30 S 25 '33

Copper-bearing steel rails for mine use. J. O. Greenan. *il Eng & Min J* 134:364 S '33

Digest from recommended practice section, coal division, the American mining congress. *Min Cong J* 19:23 F '33

Equipping for hand tramming. L. Eaton. *diags Eng & Min J* 134:369-70 S '33

Standardized mine track work; its relation to safety, production and maintenance. J. B. Haskell and R. L. Ireland, jr. *Min Cong J* 19:17-19 Ja '33

Steel pipe and arc welding build new bridge for Kemmerer coal co. *il Coal Age* 38:132 Ap '33

Successful bonding of secondary tracks achieved with removable terminal. *diag Coal Age* 37:446-7 D '32

Underground transportation; abstract. J. B. Haskell. *Coal Age* 37:440-1 D '32

**MINE valuation**

Economics of mining (non-ferrous metals). T. J. Hoover. 547p \$6 Stanford university press, Stanford University, Calif. '33

Mine examination and valuation; with interest and annuity tables. C. H. Baxter and R. D. Parks. 316p [bibliog p294-311] Michigan college of mining and technology, Houghton, Mich. '33

**MINE ventilation**

Effects on mine ventilation of shaft-bottom vanes and improvements in aircourses. C. M. Smith. *il diags plans Ill U Eng Exp Sta Bul* 249:1-46 '32

Hanging canvas ventilating tube. *diags Eng & Min J* 134:409 O '33

Metal-mine fires and ventilation. D. Harrington. *U S Bur Mines Information Circ* 6678:1-31 [bibliog p 19-31] '33

Metal-mine ventilation. D. Harrington. *U S Bur Mines Information Circ* 6734:1-11 '33

Pressure losses due to bends and area changes in mine airways. G. E. McElroy. *diags U S Bur Mines Information Circ* 6663:1-34 '32

Tests with separate ventilators for cooling the air at warm working places; abstract. O. Muller and H. Wohlbier. *Min Cong J* 19:17 S '33

*See also*

Fans, Mine

Mine doors

**MINE water**

Character of drainage from mines in the thick Freeport coal bed, Pennsylvania. R. D. Leitch, W. P. Yant and R. R. Sayers. *map U S Bur Mines Rep of Invest* 3193:1-29 '32

Mahr tunnel encounters 20,000-g.p.m. flow; Cerro de Pasco property. *il Eng & Min J* 134:414 O '33

*See also*

Mine drainage

**MINERAL industries**

Charts of world production, imports, and exports of major minerals of industry, 1929. 13p U. S. Bur. foreign & domestic commerce, Washington '33

Determining value of limestones and other raw materials. E. C. Eckel. *Concrete (mill sec)* 41:45-6 Mr '33

Elements of a national mineral policy. C. K. Leith. *Min & Met* 14:224-6 My '33

Growth and development of the nonmetallic mineral industries. O. Bowles and C. W. Justice. *U S Bur Mines Information Circ* 6687:1-49 '33

Mineral industry; its statistics, technology and trade during 1932. G. A. Roush, ed. v 41 680p \$12 McGraw-Hill '33

Nonmetallic industries in 1932. *Min & Met* 14:52-4 Ja '33

Our mineral civilization. T. T. Read. 165p Williams & Wilkins co, Baltimore '32

*See also*

Aggregates

Coal trade

Feldspar

Iron industry and

trade

Metal trade

Metallurgy

Mineralogy

Mines and mineral

resources

Mining industry and

finance

Petroleum industry

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Phosphates

Potash industry and

trade

Quarries and quarry-

ing

Rock products indus-

try

Salt

Silicates

Sodium nitrate

Stone, Crushed

Sulfur industry and

trade

**Statistics**

Digest of mineral products of the United States, 1930 and 1931; tabulation. *Min Cong J* 19:15 Mr '33

Mineral production of the world, 1924-1929; a statistical summary. L. M. Jones. *U S Bur Mines Mineral Resources of U S* 1930, pt 1:859-962 '32

**MINERAL industries—Statistics—Continued**

State of the A.I.M.E. and of the mineral industries. S. Turner. *Min & Met* 14:127-31 Mr '33

Wage costs in the mineral industries. P. M. Tyler. *Min & Met* 14:447-51 N '33

**California**

California mineral production and directory of mineral producers for 1931. H. H. Symons. (Bul. no. 107) il 229p California Division of mines, Ferry bldg, San Francisco '32

**Canada**

Preliminary estimate of 1932 mineral production. *Can Chem & Met* 17:34 F '33

Rare-element minerals of Canada. H. V. Ellsworth. *Canada Geol S Econ Geol Ser* 11:1-272 '32

**Russia**

Asbestos milling in the Urals. W. A. RuKeyser. flow sheets il diags *Eng & Min J* 134:415-19 O '33

**United States**

Present status of the mineral industry. S. Turner. U S Bur Mines Information Circ 6682:1-4 '32; Same. *Can Min J* 54:109-11 Mr '33

Protection and the mining industry. H. W. Smith. *Min Cong J* 19:11-12+ Ja '33

**MINERAL wool**

Insulating the open-hearth furnace. H. J. Williams. il *Iron Age* 132:36-7+ S 28 '33

Rock wool for insulation. M. F. Goudge. *Rock Prod* 35:17 N 19 '32; Same. *Can Eng* 63:46 D 13 '32

Wärmeschutzstoffe aus gichtstaub und schlackenwolle. O. Krebs. *Stahl & Eisen* 53: 1109-10 O 26 '33

**MINERALOGICAL analysis**

Age of a Canadian cyrtolite. O. B. Muench. *Am J Sci* 5th ser 25:487-93 Je '33

**MINERALOGICAL society of America**

Proceedings of the thirteenth annual meeting, Cambridge, Mass., Dec. 28-29, 1932. *Geol Soc Bul* 44:235-42 F '33

**MINERALOGY**

Application of the quartz spectrograph to the study of opaque minerals. M. H. Haycock. il diags *Econ Geol* 28:364-82 Je '33

Elements of optical mineralogy. pt. 2. Descriptions of minerals. A. N. Winchell. 3d rev ed 459p \$6 Wiley '33

Interpretation of fault movements from mineral fractures. D. M. Fraser. il diags plan *Eng & Min J* 133:621-4 D '32

Metamorphism and hydrothermal alteration of the Homestake gold-bearing formation. J. K. Gustafson. il map *Econ Geol* 28:123-62 Mr '33

Position of the cotectic line between potash feldspar and plagioclase and their relations. H. L. Alling. bibliog diags *Am J Sci* 5th ser 25:471-6 Je '33

Preparation of minerals for microscopic examination. J. Murdock. *Min & Met* 14:216 My '33

Preparation of thin sections of friable material. T. H. Hite. *Am Cer Soc J* (Bul) 16: 135-7 My '33

**See also**

Coal  
Crystallography  
Geology  
Metals

Meteorites  
Mines and mineral resources  
Rocks

**MINERALS**

Accessory minerals of crystalline rocks. A. N. Winchell and others. *Nat Research Council Bul* 89:142-50 '32

Heralding the nonmetallic mineral age. C. C. Whittier. *Min & Met* 14:410-13 O '33

Pegmatites. F. L. Hess. bibliog *Econ Geol* 28:447-62 Ag '33

**See also**

Aggregates  
Clay  
Coal  
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Kaolin

Metals  
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Ore deposits

Petroleum  
Precious stones  
Quartz  
Rocks  
Salt

Silicates  
Slate  
Sulfur  
Thorianite  
Vermiculite

**Age**

Age of a Canadian cyrtolite. O. B. Muench. *Am J Sci* 5th ser 25:487-93 Je '33

**Bibliography**

Abstracts of literature on accessory minerals in sedimentary rocks as related to possible source crystalline rocks. A. C. Tester. *Nat Research Council Bul* 89:168-82 '32

Abstracts of literature on accessory minerals of igneous rocks. J. C. Reed. *Nat Research Council Bul* 89:151-68 '32

**MINERALS in food**

Minerals in milk. J. A. Tobey. il *Sci Am* 149:24-5 Jl '33

**MINERS****See also**

Coal miners  
Mine foremen  
Miners' houses

**Clothing**

Protective clothing in the mining industry. R. D. Currie and W. J. Fene. U S Bur Mines Information Circ 6724:1-15 '33; Excerpts. *Safety Eng* 66:43-8 Ag '33

Protective hats and caps that saved men's lives. A. C. Carruthers. il *Safety Eng* 64: 210-11 N '32

**Diseases and hygiene**

Dust in industry; the economic and hygienic aspects of silicosis. A. E. Russell. *Mech Eng* 55:163-6 Mr '33

Minerals in silicotic lungs. W. R. Jones. il *Can Min J* 54:381-3 O '33

Miner's health. D. Harrington. il *Nat Safety* N 28:30-2 O '33

Occupational cancer. *Int Labour R* 26:693-704 N '32

Safety and health, major considerations at the McIntyre. A. D. Campbell. il plan *Eng & Min J* 134:492-6 N '33

Silicosis and tuberculosis among miners of the Tri-state district of Oklahoma, Kansas, and Missouri. R. E. Sayers and others. map plan pls U S Bur Mines Tech Pa 545:1-30; 552:1-28 '33; Abstract. *Monthly Labor R* 37:68-70 Jl '33; Abstract (pt. 1). *Can Min J* 54:187-9 My '33

**See also**

Miners' nystagmus  
Miners' phthisis

**Czechoslovakia**

Average daily wages in the mining industry in Czechoslovakia in 1931. *Monthly Labor R* 36:182 Ja '33

**Idaho**

Mine wages in Idaho, 1932. *Monthly Labor R* 37:377 Ag '33

**India**

Employment, output, and earnings in Indian mines in 1931. *Monthly Labor R* 36:94-5 Ja '33

**Japan**

Restriction on employment of women and children in Japanese mines. *Monthly Labor R* 37:848-9 O '33

**Manitoba**

Hard times and the wage scale at Flin Flon. J. P. de Wet. *Can Min J* 54:156-7 Ap '33

**Mexico**

Mexican gambusino in El Tigre. W. A. Wasley. il *Min & Met* 14:187-9 Ap '33

**Netherlands**

Wages of miners in Netherlands in June, 1931 and 1932. *Monthly Labor R* 35:1169 N '32

**South Africa**

Miners' wages. *Economist* 117:867 N 4 '33



## MINERS—Continued

## United States

Wages and hours of labor in metalliferous mines, 1924 and 1931. U S Bur Labor Statistics Bul 573:1-64 '33

## MINERS' houses

Employee housing. A. H. Hubbell. il diags plans Eng & Min J 133:204-9, 270-5, 387-91, 516-20; 134:69-73, 113-17 Ap-My, Jl, O '32, F-Mr '33

## MINERS' nystagmus

Third report of miners' nystagmus committee of Great Britain. Monthly Labor R 36:1253-5 Je '33

Third report of the miners' nystagmus committee; abstract. J Ind Hygiene 15:sup58-9 My '33

## MINERS' phthisis

Miners' phthisis in South Africa. Monthly Labor R 35:1086-7 N '32

Silicosis. R. R. Sayers. Safety Eng 64:275-8 D '32

## MINES and mineral resources

Les découvertes inattendues, lors de l'exécution des sondages. Génie Civil 103:68-9 Jl 15 '33

Nationality of commercial control of world minerals. W. P. Rawles. 44p A.I.M.E. '33

Our mineral civilization. T. T. Read. 165p Williams & Wilkins co, Baltimore '32

Our mineral resources and researches. M. M. Leighton. il W Soc E J 37:333-47 D '32

## See also

Aluminum  
Asbestos  
Bauxite  
Clay mines and mining  
Coal  
Coal mines and mining  
Copper mines and mining  
Diamond mines and mining  
Geology  
Gold mines and mining  
Iron mines and mining  
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Lead mines and mining  
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Magnesite  
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Mine management  
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Salt mines and mining  
Silver mines and mining  
Slate  
Smelting  
Sulfur  
Talc  
Tantalum  
Tin mines and mining  
Tungsten  
Zinc mines and mining

## Bibliography

Mining geology; ore finders, idle, turn to research and authorship. J. T. Singewald, jr. Min & Met 14:9-11 Ja '33

State mining directories and key indexes to the mineral resources of each state. (Reference list no. 22) J. K. Wilcox, comp. The John Crerar library, Chicago '32 (typew)

## Lost mines

Lost mines; tales of rich finds that have eluded rediscovery. R. C. Rowe. il Comp Air M 38:4027-9 Ja '33

## Alaska

Alaska; 1932 production. Min Cong J 19:9 Ag '33

Kantishna district and mining development in the Tatlanika and Totatlanika basins. F. H. Moffit. maps U S Geol S Bul 836-D:301-45 '32

Mineral industry of Alaska in 1931 and administrative report. P. S. Smith. U S Geol S Bul 844-A:1-117 [bibliog p1A-15A] '33

Mineral investigations in the Alaska railroad belt, 1931. S. R. Capps. map U S Geol S Bul 844-B:119-35 '33

Mineral resources of Alaska; report on progress of investigations in 1930. P. S. Smith and others. fold maps U S Geol S Bul 836:1-454 [bibliog p 1a-14a] '33

## See also

Coal—Alaska  
Gold mines and mining—Alaska

## Alberta

Scientific research in Alberta. Engineering 135:146 F 3 '33

## Arizona

## See also

Gold mines and mining—Arizona

## Bolivia

Bolivian bismuth industry. T. L. Johnston. flow sheet il diag map Min & Met 14:333-8 Ag '33

## Brazil

Genesis of the deposits of auriferous jacutinga. E. P. de Oliveira. bibliog Econ Geol 27:744-9 D '32

## See also

Diamond mines and mining—Brazil

## British Columbia

British Columbia mining industry; a digest of the annual report of the minister of mines. H. G. Nichols. il Can Min J 54:346-51 S '33

## California

California journal of mines and geology. Published quarterly. Calif. Division of mines, Ferry bldg, San Francisco

Kramer borax deposit in California and the development of other borate ores. R. G. Mead. bibliog maps Min & Met 14:405-9 O '33

Studies in the mineral and chemical resources of the Mojave desert. P. L. Turrill. bibliog il map J Chem Educ 9:1318-39, 1530-52, 2040-64 Ag-S, D '32

## See also

Geology—California  
Gold mines and mining—California  
Petroleum—California  
Petroleum industry and trade—California

## Canada

Annual report on the mineral production of Canada during the calendar year 1931. 218p Canada. Dominion bur. of statistics, Ottawa '33

Canada's mineral production in 1932. Can Min J 54:56-8 F '33

Canadian metal production, 1932. Can Min J 54:157-8 Ap '33

Mineral and metal economics and engineering; Canadian institute of mining and metallurgy 34th annual meeting. Can Chem & Met 17:71-2 Ap '33

Mineral deposits of the Canadian shield. E. L. Bruce. 428p \$8 Macmillan '33

Mineral production of Canada, first 6 months, 1933; tabulation. Can Min J 54:394 O '33

Mining student reports on his inspection trip. J. O. Loftstrom. il maps Explosives Eng 11:241-9 Ag '33

Provincial mining reviews; summary of the major events of 1932. Can Min J 54:17-23 Ja '33

Rare-element minerals of Canada. H. V. Ellsworth. diags maps Canada Geol S Economic Geology Ser 11:1-272 '32

## See also

Gold mines and mining—Canada  
Mineral industries—Canada

## Colorado

Methods and costs of mining ferberite ore at the Cold Springs mine, Nederland, Boulder county, Colo. W. O. Vandenberg. diags U S Bur Mines Information Circ 6673:1-15 '32

**MINES and mineral resources—Colorado—Cont.**  
Molybdenum; its mining, milling, and uses. A. Kissock. *il Min & Met* 14:181-2+ Ap '33  
New lepidolite deposit in Colorado. E. B. Eckel. *il map Am Cer Soc J* 16:239-45 My '33

Silver and bismuth-bearing galena from Leadville. E. P. Chapman and R. E. Stevens. *il Econ Geol* 28:678-85 N '33

Suggestions for prospecting in the Alma district, Colorado. Q. D. Singewald and B. S. Butler. *diag maps Colorado Scientific Soc Proc* v13, no4:89-131 '33

#### Cuba

Sinking and equipment of the no.2 shaft at Minas de Matahambre; with cost data. D. D. Homer and R. H. Cromwell. *il diags map plans Explosives Eng* 2:38-62 F '33

#### Egypt

Conveying manganiferous ore; comprehensive grading, shipping and conveying plant at Abu Zenina, Egypt. *il diags plan Mech Handling* 19:393-7 D '32

#### Far East

Ores and industry in the Far East. H. F. Bain. *rev & enl ed* 288p [bibliog p273-9] \$3  
Council on foreign relations, inc. 45 E. 65th st, New York '33

#### France

Les gîtes de manganèse en France. V. Charin. *maps Génie Civil* 102:419-21 My 6 '33  
Nouveaux gisements français de matières premières pour l'industrie céramique. V. Charin. *il maps diags Génie Civil* 102:6-9 Ja 7 '33

Le ravitaillement de la France en produits minéraux. F. Blondel. *Génie Civil* 103:7-10, 33-6 Jl 1-8 '33

*See also*

Oil shales—France  
Petroleum—France

#### Georgia

Manganese mining and milling in the Cartersville district of Georgia. G. W. Crickmay. *il Eng & Min J* 134:204-6 My '33

#### Germany

*See also*  
Coal mines and mining—Germany

#### Great Britain

Empire minerals for the chemical industry. *Chem Age (Lond)* 29:61-4 Jl 15 '33

#### Greece, Ancient

Economic geology and its allied sciences in ancient times. C. L. Sagui. *diags Econ Geol* 28:20-40 Ja '33

#### Idaho

Lode deposits in the Boise basin, Idaho. C. P. Ross. *map Econ Geol* 28:329-43 Je '33

#### India

Mineral resources of Jammu and Kashmir. *diags maps Engineering* 134:557-9 N 11 '32  
Occurrence and industrial possibilities of monazite in the black sands on the Orissa coast. S. B. Roy. *Soc Chem Ind J (Chem & Ind)* 52:745 S 15 '33

#### Louisiana

General bulletin handbook (Minerals division). Louisiana Dept of Conservation Bul 22:1-345 '32

#### Manitoba

Annual financial statement of central Manitoba mines. *Can Min J* 54:325-6 Ag '33  
Manitoba; output of minerals during 1932. *Can Min J* 54:250 Je '33

*See also*

Gold mines and mining—Manitoba

#### Mexico

Relation between silver content and tetrahedrite in the ores of the North Cananea mining co, Cananea, Sonora, Mexico. H. V. Warren. *Econ Geol* 27:737-43 D '32  
Silver-lead smelting progress in Chihuahua, Mexico. H. R. MacMichael. *Min & Met* 14:93-4 F '33

#### Minnesota

Safety record of metal mines in Minnesota in 1931. *Min Cong J* 18:22 D '32

#### Nevada

Metal and nonmetal occurrences in Nevada. *bibliog fold map Univ of Nevada Bul* v 26, no 6:1-129 '32  
Sodium sulphate from Nevada mine finds ready market. P. C. Rich. *il Eng & Min J* 134:252-3 Je '33

#### New Caledonia

Isolated Diesel plant; chrome ore mine of the Mutual chemical company in New Caledonia. *il map Eng & Min J* 134:278-80 Jl '33  
Le nickel et le chrome dans les colonies françaises. C. Berthelot. *il map Chimie & Ind* 29:718-23 Mr '33

#### New Jersey

Mineral zoning in the New Jersey-Pennsylvania-Virginia Triassic area. W. H. Newhouse. *bibliog map Econ Geol* 28:613-33 N '33

#### New Mexico

Metal resources of New Mexico and their economic features. S. G. Lasky and T. P. Wootton. *New Mexico State Bur of Mines and Mineral Resources Bul* 7:1-178 '33

#### Northwest Territories, Canada

Chalcocite deposit, Great Bear Lake, Canada. C. Riley. *Econ Geol* 28:496-501 Ag '33  
Some mineral relationships in the Great Bear Lake area. C. Riley. *il map Can Min J* 54:137-41 Ap '33

#### Ontario

Origin of the Frood ore deposit. B. C. Freeman. *il map Econ Geol* 28:276-88 My '33  
*See also*  
Gold mines and mining—Ontario

#### Oregon

Nonmetallic mineral resources of eastern Oregon. *Rock Prod* 35:17 N 19 '32

#### Pennsylvania

Geology and mineral resources of the Middletown quadrangle, Pennsylvania. G. W. Stose and A. I. Jonas. *fold map U S Geol S Bul* 840:1-86, pl 1-15 '33

*See also*  
Coal mines and mining—Pennsylvania

#### Quebec

Canadian kaolin silica products limited. W. M. Goodwin. *il Can Min J* 54:377-80 O '33  
Cape Smith sulphide deposits. W. B. Airth. *il map Can Min J* 54:53-5 F '33

#### Rome, Ancient

Economic geology and its allied sciences in ancient times. C. L. Sagui. *diags Econ Geol* 28:20-40 Ja '33  
Mining of the Romans; abstract. T. A. Rickard. *Min & Met* 14:167 Mr '33

#### Rumania

Roumanian production of minerals and metals; summary of report for 1932. *Engineering* 136:190 Ag 25 '33  
La Roumanie minière. C. Berthelot. *bibliog il diags maps Soc Ing Civils Bul* 86:458-519 Mr '33

#### Russia

Ferromanganese for export produced in Russia. B. M. Suslov. *Metal Prog* 24:46+ N '33



- MINES and mineral resources—Russia—Cont.**  
 Ferrovanadium from 0.1% ore. B. M. Suslov. Metal Prog 23:47 Je '33  
 New sources of vanadium. B. M. Suslov. Metal Prog 24:45 Ag '33
- Siberia**  
 Chrysotile asbestos in the Bajenova district, U.S.S.R. W. A. RuKeyser. il maps Eng & Min J 134:335-9, 375-81, 415-19 Ag-O '33
- South Africa**  
 African treasures; sixty years among diamonds and gold. W. P. Taylor. 288p J. Long, Ltd, London '32  
 Le développement de l'industrie minière dans l'Afrique australe. C. Berthelot. map Génie Civil 102:32-6, 62-4 Ja 14-21 '33  
 Manganese deposits of Postmasburg, South Africa. A. L. Du Toit. bibliog il map Econ Geol 28:95-122 Mr '33
- See also*  
 Gold mines and mining—South Africa
- South Dakota**  
 Quarter century of mineral production. E. P. Rothrock. 55p Univ. of South Dakota, Vermillion '32
- Tanganyika territory**  
 Minerals in Tanganyika territory. Eng & Min J 134:33 Ja '33
- Texas**  
 Tertiary and quaternary geology of the lower Rio Grande region, Texas. A. C. Trowbridge. fold maps U S Geol S Bul 837:1-260, pl 1-45 '32
- United States**  
 Minerals yearbook, 1932-33. O. E. Kiessling. 819p U. S. Bur. of mines, Washington; \$1.25 Supt. of doc. '33
- See also*  
 Coal—United States Iron ores—United States  
 Gold mines and mining—United States Petroleum—United States  
 Iron mines and mining—United States
- Utah**  
 Mining gilsonite in Utah. R. C. Fleming. il Min & Met 13:529-30 D '32
- Virginia**  
 Ilmenite-apatite deposits of west-central Virginia. C. W. Ryan. diag Econ Geol 28:266-75 My '33  
 Mineral zoning in the New Jersey-Pennsylvania-Virginia Triassic area. W. H. Newhouse. bibliog map Econ Geol 28:613-33 N '33
- Wyoming**  
 Electrometallurgical resources of the North Platte River basin, Wyoming. C. S. Dietz. il Wyoming Geol Survey Bul 23:1-235 '32
- MINIATURE models.** See Models, Miniature
- MINIMUM wage**  
 Cost of living and the minimum wage; abstract. Management R 22:246 Ag '33  
 Decision against lowering of living wage in South Australia. Monthly Labor R 37:862-3 O '33  
 Decision as to basic wage in Queensland. Monthly Labor R 37:310-12 Ag '33  
 Employment agreement offered all industries. Oil Paint & Drug Rep 124:17-18+ J1 24 '33  
 Illinois minimum-wage law; text. Monthly Labor R 37:306-10 Ag '33  
 Insuring the essentials. B. N. Armstrong. 717p [bibliog p684-701] \$5 Macmillan '32  
 Interest sharpens in low-wage laws. Forbes 31:10-11 Mr 15 '33  
 Minimum wage for women in Canada. Monthly Labor R 37:860-2 O '33  
 Minimum-wage laws of Connecticut and Ohio; texts. Monthly Labor R 37:57-65 J1 '33  
 Minimum-wage laws of New Hampshire, New Jersey, New York, and Utah. Monthly Labor R 36:1259-76 Je '33
- Minimum wage rates set for public works fund projects. Eng N 111:238-9 Ag 24 '33  
 Minimum-wage regulations in Canadian provinces. Monthly Labor R 36:210 F '33  
 Minimum wage scale on relief work set by state highway departments. map Eng N 109:634 N 24 '32  
 Progress of minimum-wage movement in Mexico. J. Daniels and W. P. Cochran, jr. Monthly Labor R 37:791-6 O '33  
 Review of minimum wage legislation; abstract. Management R 22:245 Ag '33  
 Shorter working day and a minimum wage. S. Hillman. Harvard Business R 11:457-61 J1 '33  
 South kicks; Blue Eagle gives the black man too much and destroys southern competitive advantages. Business Week p9-10 S 23 '33  
 Steel founders' society code; country divided into 21 wage districts for minimum pay rates for general labor. Foundry 61:13-14, 43-4 S '33  
 Summary of permanent codes adopted. Monthly Labor R 37:518-50, 812-33 S-O '33  
 Wage offensive; New York's minimum wage move. Business Week p18 Mr 15 '33  
 Why we need a minimum wage law. F. Perkins. il Nation's Business 21:23-4+ J1 '33  
 Work of Massachusetts minimum wage commission. Monthly Labor R 35:1311-12 D '32
- MINING costs**  
 Cost of equipping and developing a small gold mine in the Bradshaw mountains quadrangle, Yavapai county, Ariz. D. C. Minton, jr. flow sheet diags U S Bur Mines Information Circ 6735:1-10 '33  
 Cost of making a mine; details of expenditures at the Ashley gold mine. flow sheet Can Min J 54:233-6 Je '33  
 Cost of mine transportation. M. J. Elsing. Eng & Min J 134:101-4 Mr '33  
 Cost of storage-battery, compressed-air, and gasoline-locomotive transportation. M. J. Elsing. Eng & Min J 134:191-4 My '33  
 Cost of surface metal mining. M. J. Elsing. Eng & Min J 134:17-21 Ja '33  
 Macassa shaft. G. A. Howes. il Can Min J 54:93-7 Mr '33  
 Method and cost of exploring, equipping for development, and developing the Central Patricia group of claims, Northern Ontario. A. J. Keast and C. F. Jackson. maps plan U S Bur Mines Information Circ 6681:1-13 '33  
 Methods and costs of developing and equipping the Ashley gold mine, Matachewan gold district, Ontario. W. H. Emens and C. F. Jackson. flow sheet map U S Bur Mines Information Circ 6707:1-27 '33  
 Mining methods and costs at Granada gold mines (Itd.), Rouyn, Quebec. R. L. Loof-bourow. diags U S Bur Mines Information Circ 6709:1-14 '33  
 Mining methods and costs at plant C, Eliot, Calif. of the Pacific coast aggregates (inc.). E. B. Kendall. diags map U S Bur Mines Information Circ 6705:1-11 '33  
 Mining methods and costs at the Central-Eureka mine, Amador county, Calif. J. Apiers. diags Explosives Eng 11:119-23 Ap '33  
 Mining methods and costs at the Mt. Hope mine of the Warren foundry and pipe corporation, Mt. Hope, N.J. J. R. Sweet. diags plan U S Bur Mines Information Circ 6601:1-31 '32  
 Mining methods and costs at the Washington mine of the Alan Wood mining company. C. H. Loux. Min Cong J 19:38-9 My '33  
 Shaft-sinking methods and costs, and cost of plant and equipment at the Macassa mine, Kirkland Lake, Ontario. G. A. Howes and C. F. Jackson. diags U S Bur Mines Information Circ 6674:1-10 '32  
 Shaft-sinking practices and costs. J. F. Johnson. Min & Met 14:221 My '33  
 Some notes on methods and costs of equipping and developing prospects. C. F. Jackson. U S Bur Mines Information Circ 6693:1-24 '33

**MINING costs—Continued**

Summary of the cost of mining. M. J. Elsing. Eng & Min J 133:611-13 D '32; Excerpts. Min Cong J 19:20 Ja '33

Wage costs in the mineral industries. P. M. Tyler. Min & Met 14:447-51 N '33

*See also*

Coal mines and mining—Costs

**MINING engineering**

Design of mine openings; application of the principles of similitude. develops fundamental data. P. B. Bucky. il Eng & Min J 134:322-4 Ag '33

Determination of oreshoot bottoms. H. Schmitt. bibliog diags Eng & Min J 134:52-4 F '33

Elements of mining. R. S. Lewis. 510p \$5 Wiley '33

Elements of mining. G. J. Young. 3d ed 707p \$6 McGraw-Hill '32

Engineering and geology; the quest for gold and the outcome; McIntyre Porcupine mines. H. G. Skavlem. il diags maps Eng & Min J 134:451-8 N '33

Geology applied to mining in the Ducktown district. H. F. Kendall and J. H. Ffolliott. map Min & Met 14:175-9 Ap '33

Mr Jackling receives the John Fritz medal. Min & Met 14:261-5 Je '33

*See also*

Blasting

Clay mines and mining

Coal mines and mining

Copper mines and mining

Diamond mines and mining

Drilling and boring (earth and rocks)

Electricity in mining

Iron mines and mining

Lead mines and mining

Mine drainage

Mine haulage

Mine hoisting

Mine management

Mine shafts

Mine surveying

Mine timbering

Mine ventilation

Mines and mineral resources

Mining engineers

Mining machinery

Mining methods

Mining schools and education

Ore handling

Ore sampling

Prospecting

Rock drills

Salt mines and mining

Shaft sinking

Sulfur mines and mining

Tin mines and mining

Tunnels and tunneling

Zinc mines and mining

**Bibliography**

A.I.M.E. technical publications and contributions published January to June, 1933, inclusive. Min & Met 14:sup6-7 Je '33

**Exhibits**

*See also*

Coal mines and mining—Exhibits

**Power**

Between compressor and face; distributing air underground. L. Eaton. diags Eng & Min J 134:288-9 Jl '33

Development and application of energy in the mining and metallurgical treatment of copper ore; abstract. W. Jurden. Engineering 136:478 O 27 '33

Efficient air compressing. L. Eaton. il Eng & Min J 134:245-7 Je '33

Electric vs. steam power in Michigan mines. Elec W 101:108-9 Ja 21 '33

Isolated Diesel plant; chrome ore mine of the Mutual chemical company in New Caledonia. il map Eng & Min J 134:278-80 Jl '33; Abstract. Power 77:461 S '33

McIntyre's equipment; mechanical and electrical. W. F. J. Cossar. il diags plan Eng & Min J 134:485-91 N '33

Valuable source of primary power; producer wood gas use in mine power plant. R. C. Rowe. il Can Min J 54:105-7 Mr '33

*See also*

Coal mines and mining—Power

Electricity in mining

**Safety measures**

Discipline in relation to accidents. F. B. Dunbar. Explosives Eng 11:103-5 Ap '33

Field and scope of the new Health and safety committee. S. Turner. Min & Met 14:302 Jl '33

Fireproof stoppings; advantages and disadvantages. L. S. Voltz. Min Cong J 19:22-3 F '33

Guarding against mine fires. O. A. Glaeser. il Eng & Min J 134:74-7 F '33

Health and safety; accident costs being cut in half. Min & Met 14:57 Ja '33

National safety competition of 1932. W. W. Adams. U S Bur Mines Rep of Invest 3219:1-17 '33

National safety competition of 1932; mines and quarries. W. W. Adams. il Explosives Eng 11:168-73 Je '33

Prizes, awards and bonuses. A. H. Trestrail. il Safety Eng 65:85-6 Mr '33

Recommendations of the United States Bureau of mines on certain questions of safety as of February 3, 1933. U S Bur Mines Information Circ 6732:1-43 '33

Rigid enforcement of safety rules makes Retsof 3-time winner; Retsof mine, Retsof, N.Y. T. F. Courthope. il map Explosives Eng 11:303-5 O '33

Safety and health, major considerations at the McIntyre. A. D. Campbell. il plan Eng & Min J 134:492-6 N '33

Safety at the Magna and Arthur plants of the Utah copper company. D. J. Parker and J. G. Hadley. il Explosives Eng 11:89-94 Mr '33

Safety at West Vulcan mine. A. H. Trestrail. Min Cong J 18:19+ D '32

Safety council studies major factors in accident prevention. Coal Age 37:409-11 N '32

Safety in Arizona mining. W. E. Hunter. Min Cong J 19:21-2 F '33

Saving life by barricading in mines and tunnels at times of disaster. D. Harrington and M. W. von Bernewitz. U S Bur Mines Information Circ 6701:1-5 '33

Sound safety practices win for Balmat mine of St Joseph lead company. R. J. Mechin and R. F. Mitchell. il map Explosives Eng 11:306-9 O '33

Working an underground mine six years without lost-time accidents. C. A. Herbert. U S Bur Mines Information Circ 6677:1-5 '33; Same. Explosives Eng 11:268-70 S '33

*See also*

Blasting—Safety devices and measures

Coal mines and mining—Safety measures

Electricity in mining—Safety devices and measures

Mine hoisting—Safety measures

Mine rescue work

**Study and teaching**

Purpose and scope of mining and metallurgical engineering education. E. A. Holbrook. J Eng Educ 24:75-87 S '33

West Virginia university's mining extension department. C. E. Lawall. il Explosives Eng 10:371-3+ D '32

**MINING engineers**

Student engineer looks at his profession. D. D. Jenkins. il Explosives Eng 11:10-11+ Ja '33

*See also*

Mining schools and education

*also* names of engineers, e.g.

Jackling, D. C.

**MINING industry and finance**

Depression and mining. R. E. Phelan. Can Min J 54:313-17 Ag '33

Mining events and dividends, United States: Alaska; Canada; Mexico. K. M. Donnellan, ed. 125p California stock exchange, Los Angeles '33

Mining notes. Economist 116:872 Ap 22 '33

*See also*

Coal trade

Copper industry and trade

Iron industry and trade

Metal trade

Mine taxation

Mineral industries

Mines and mineral resources

Mining costs

Silver industry and trade



MINING industry and finance—*Continued*

## Securities

- Boom in gold stocks. *Can Chem & Met* 17:32 F '33  
 Gold mining stocks at their peak? P. Dobbs. *Mag of Wall St* 51:584+ Mr 18 '33  
 Gold stocks as a hedge. E. E. Allen, jr. *Barron's* 13:9 S 25 '33  
 Mining, smelting and metal companies, 1930-1932. *Mag of Wall St Manual* p45-6+ Mr 6 '33  
 Position of leading mining and metal stocks. *Mag of Wall St* 51:486; 52:427 F 18, Ag 19 '33  
 Secure or insecure? prospectus on common stock in the Montana mines and power co. *Min & Met* 14:403-4 O '33

## Australia

- Activity in Australasia includes organization of numerous new gold companies. *il Eng & Min J* 134:434-5 O '33

## Canada

- Demand for engineering services increases as Canadian activity expands. *Eng & Min J* 134:435-6 O '33

*See also*

- McIntyre Porcupine mines

## South Africa

- Crown mines, limited, 37th ordinary general meeting, Johannesburg. *Economist* 116:1158-9 My 27 '33

## Transvaal

- Rand ore reserve estimates. *Economist* 116:253 F 4 '33

*See also*

- Gold mines and mining—Transvaal

## United States

- Industrial recovery expands in many mining regions. *Eng & Min J* 134:307-8 Jl '33

## MINING law

- Mining laws of Bulgaria. R. M. Santmyers. U S Bur Mines Information Circ 6719:1-8 '33  
 Mining laws of Chosen (or Korea). E. P. Youngman. U S Bur Mines Information Circ 6700:1-5 '33  
 Mining laws of Cyprus. E. P. Youngman. U S Bur Mines Information Circ 6686:1-12 '33  
 Mining laws of French Equatorial Africa, West Africa, Cameroun, and Togo. P. M. Tyler. U S Bur Mines Information Circ 6716:1-12 '33  
 Mining laws of French Guiana. P. M. Tyler. U S Bur Mines Information Circ 6704:1-8 '33  
 Mining laws of French Indo-China. E. P. Youngman. U S Bur Mines Information Circ 6698:1-7 '33  
 Mining laws of Iraq. E. P. Youngman. U S Bur Mines Information Circ 6683:1-17 '33  
 Mining laws of Luxemburg. E. P. Youngman. U S Bur Mines Information Circ 6702:1-6 '33  
 Mining laws of Madagascar. R. M. Santmyers. U S Bur Mines Information Circ 6718:1-9 '33  
 Mining laws of New Caledonia and French Oceania. P. M. Tyler. U S Bur Mines Information Circ 6711:1-9 '33  
 Mining laws of Newfoundland. E. P. Youngman. U S Bur Mines Information Circ 6642:1-20 '32  
 Mining laws of Norway. E. P. Youngman. U S Bur Mines Information Circ 6654:1-16 '32  
 Mining laws of Siam. E. P. Youngman. U S Bur Mines Information Circ 6644:1-13 '33  
 Mining laws of Surinam (Dutch Guiana). E. P. Youngman. U S Bur Mines Information Circ 6717:1-14 '33  
 Mining laws of Sweden. E. P. Youngman. U S Bur Mines Information Circ 6703:1-5 '33  
 Mining laws of Switzerland. P. M. Tyler. U S Bur Mines Information Circ 6684:1-4 '33  
 Mining laws of Syria. P. M. Tyler. U S Bur Mines Information Circ 6697:1-10 '33  
 Mining laws of Tunisia. R. M. Santmyers. U S Bur Mines Information Circ 6694:1-10 '33

- Mining legislation. C. R. Thomas. *Min Cong J* 18:15-16+ D '32

- Mining statutes of the state of Pennsylvania (summarized). J. A. Huff and V. V. Baker. U S Bur Mines Information Circ 6653:1-106 '32

*See also*

- Mine taxation  
 Petroleum laws and regulations

## MINING machinery

- Alloy steels and their uses in the mining industry. W. J. Priestley. *il Min Cong J* 19:23-4+ Mr '33  
 Auger drills 50-ft. horizontal holes. *il Eng & Min J* 134:85 F '33  
 Mining company saves with ball bearings. F. A. Westbrook. *Elec W* 101:727-8 Je 3 '33  
 Portable mine loader for use in close quarters. A. M. Hoffmann. *il Comp Air M* 38:4064-5 F '33  
 Rock drills and accessories. L. Eaton. *diags Eng & Min J* 134:65-8, 106-9 F-Mr '33  
 Underground loading machines. L. Eaton. *diags Eng & Min J* 134:195-6 My '33  
 Underground scraping equipment. L. Eaton. *diags Eng & Min J* 134:151-6 Ap '33

*See also*

- Coal mining machinery  
 Electricity in mining  
 Excavating machinery  
 Hoisting machinery  
 Mine haulage  
 Rock drills  
 Scrapers  
 Shoveling machines

## Exhibitions

- Cardiff engineering exhibition. *il diags Engineering* 134:669-71, 734-6 D 9, 23 '32

## MINING methods

- Ancient mining customs in modern England. F. E. Gregory. *Min & Met* 14:293-4 Jl '33  
 Compass surveys for stope-contract settlements. S. Tainter. *plan Eng & Min J* 134:209 My '33  
 Cut-and-fill stoping. C. H. Johnson and E. D. Gardner. *diags plans U S Bur Mines Information Circ* 6688:1-58 '33; *Excerpt (Spreading fill)*. *Can Min J* 54:178-80 My '33  
 Development and mining seven thousand feet the objective; McIntyre porcupine mines. D. E. Keeley. *il diags Eng & Min J* 134:459-68 N '33  
 Iron-ore mining and milling at Scrub Oak. H. M. Roche and R. E. Crockett. *il diags Eng & Min J* 134:161-4, 197-200 Ap-My '33  
 Level development. L. Eaton. *diags Eng & Min J* 134:29-33 Ja '33  
 Methods and costs of mining ferberite ore at the Cold Springs mine, Nederland, Boulder county, Colo. W. O. Vanderburg. *diags U S Bur Mines Information Circ* 6673:1-15 '32  
 Mining asbestos in U.S.S.R. W. A. RuKeyser. *il diags map Eng & Min J* 134:375-81 S '33  
 Mining methods and accident prevention record at Hanley clay mine. C. T. Morrow. *il diag map Explosives Eng* 11:327-32 N '33  
 Mining methods and costs at Fresnillo, Zacatecas, Mexico. A. Livingston. *diags plans U S Bur Mines Information Circ* 6661:1-31 '32  
 Mining methods and costs at Granada gold mines (ltd.), Rouyn, Quebec. R. L. Loofbourou. *diags U S Bur Mines Information Circ* 6709:1-14 '33  
 Mining methods and costs at plant C, Eliot, Calif. of the Pacific coast aggregates (inc.). E. B. Kendall. *diags map U S Bur Mines Information Circ* 6705:1-11 '33  
 Mining methods and costs at the Central-Eureka mine, Amador county, Calif. J. Spiers. *diags Explosives Eng* 11:119-23 Ap '33  
 Mining methods and costs at the Mt. Hope mine of the Warren foundry and pipe corporation, Mt. Hope, N.J. J. R. Sweet. *diags plan U S Bur Mines Information Circ* 6601:1-31 '32

**MINING methods—Continued**

- Mining methods and costs at the New Cornelia Branch, Phelps Dodge corporation, Ajo, Ariz. G. R. Ingham and A. T. Barr. map plans U S Bur Mines Information Circ 6666: 1-17 '32; Same cond. Explosives Eng 11: 181-90 Je '33
- Mining methods and costs at the Teziutlan copper mine of the Mexican corporation, S. A., Teziutlan, Puebla, Mexico. E. P. Herivel. diags U S Bur Mines Information Circ 6736:1-15 '33
- Mining methods and costs at the vanadium mine of the United States vanadium corporation, Rifle, Colo. B. Burwell. diags U S Bur Mines Information Circ 6662:1-9 '32
- Mining methods and costs at the Washington mine of the Alan Wood mining company. C. H. Loux. Min Cong J 19:38-9 My '33
- Mining methods discussion includes subsidence session at A.I.M.E. meeting. Min & Met 14: 145-6 Mr '33
- Mining under caved areas; Hidden Creek mine of the Granby consolidated mining, smelting & power company, Anyox, B.C. F. S. McNicholas. diags Eng & Min J 134:112 Mr '33
- Phosphate rock industry of the United States. W. H. Waggaman. flow sheets il J Chem Educ 10:476-83 Ag '33
- Progress hampered by reduced operations. L. Eaton. Min & Met 14:12-13 Ja '33
- Progress in blasting with LOX at Chuquicamata. W. D. B. Motter, jr. il diag Min & Met 14:367-72 S '33
- Record underground blast; fifty-five tons of explosive in a single shot at Climax, Colorado. W. J. Coulter and W. E. Romig. il diags Eng & Min J 134:405-9 O '33
- Tin placer mining in Nigeria. W. E. Sinclair. il diag map Eng & Min J 134:55-7 F '33
- See also*
- |                                     |                          |
|-------------------------------------|--------------------------|
| Blasting                            | Mine haulage             |
| Clay mines and mining               | Mine hoisting            |
| Coal mines and mining—Methods       | Mine timbering           |
| Diamond mines and mining            | Mining engineering       |
| Gold mines and mining—Placer mining | Petroleum—Mining process |
|                                     | Shaft sinking            |
|                                     | Sulfur mines and mining  |
- Stripping operations**
- Cost of surface metal mining. M. J. Elsing. Eng & Min J 134:17-21 Ja '33
- Hinged bridge conveyor for stripping overburden. E. Luther. il diags Mech Handling 20:276-7 S '33
- Mining asbestos in U.S.S.R. W. A. RuKeyser. il diags map Eng & Min J 134:375-81 S '33
- Open pit blasting at Flin Flon. M. A. Roche. diags Can Min J 54:219-20 Je '33
- See also*
- Coal mines and mining—Stripping operations
- MINING schools and education**
- Mineral education; the Institute's youngest division reviews the year. C. H. Fulton. Min & Met 14:6-7 Ja '33
- Solving some safety and school problems at the coal mines near Kemmerer, Lincoln county, Wyo. G. M. Kintz. Min Cong J 19: 16-17 O '33
- See also*
- American institute of mining and metallurgical engineers—Mineral industry education division
- MINING society of Nova Scotia**
- Annual meeting, 41st, Sydney, N.S. July 11-12. Coal Age 38:266-8 Ag '33
- MINING towns**
- Water supply system and sewers at Flin Flon, Man. F. E. Simmons. il diag Can Eng 64: 25-7 F 28 '33
- Water system at Flin Flon. J. P. de Wet. Can Min J 54:70-1 F '33
- MINISTERS of the gospel.** See Clergy

**MINNEAPOLIS, Minnesota**

- Architecture**
- Creation of a telephone building; North-western Bell telephone system's unit. il plan Architecture 67:199-206 Ap '33
- Rapid transit**
- Transit in the twin cities. il Transit J 77: 305 O '33
- Sewerage**
- Sewerage district set up for St Paul and Minneapolis. Eng N 110:542 Ap 27 '33
- Water supply**
- Shell of concrete standpipe pre-stressed by steel hoops; water tower, Minneapolis. J. A. Jensen. il diags Eng N 110:224-5 F 16 '33
- MINNEAPOLIS, St Paul and Sault Ste. Marie railway**
- Annual report for fiscal year ended Dec. 31, 1932. Ry Age 94:614-16 Ap 22 '33
- MINNESOTA**
- Economic conditions**
- Impact of the depression on business activity and real income in Minnesota. R. S. Valle. Minnesota U Studies in Economics and Business 8:5-59 '33 (pa. 75c)
- MINNESOTA academy of science**
- Organization. Science 77:405 Ap 28 '33
- MINNESOTA university**
- Northwest research foundation and the University of Minnesota. Science 78:329-30 O 13 '33
- MINNOWS**
- Unique nutritional organs in the embryos of the top minnows of the Mexican plateau. C. L. Turner. Science 77:93-4 Ja 20 '33
- MINORITIES**
- International guarantees of minority rights; procedure of the Council of the League of nations in theory and practice. J. Stone. 288p Oxford '32
- National minorities in Europe. O. Junghann. 121p [bibliog p120-1] Covici, Friede, New York '32
- MINTS**
- Royal mint; extensive application of gas. il diag Gas J (Lond) 201:40-1 Ja 4 '33
- MIRRORS**
- Aluminum-magnesium mirrors. H. W. Edwards. Phys R 43:205 F 1 '33
- Evaporation technique for aluminum. J. Strong. Phys R 43:498 Mr 15 '33
- MISBRANDING**
- Drug name proscription revised by U.S. Bureau. Oil Paint & Drug Rep 123:36 F 13 '33
- Quality marks for watch cases. Metal Ind 31:376 N '33
- MISSING persons**
- See also*
- Death, Presumption of
- MISSION buildings (Spanish)**
- See also*
- Mission Inn, Riverside, California
- MISSION Inn, Riverside, California**
- Additions to Mission Inn, Riverside, California; views and plans. Am Arch 143:15-24 S '33
- MISSISSIPPI**
- See also*
- Budget—Mississippi
- MISSISSIPPI bubble**
- John Law and the Mississippi bubble. L. F. Loree. Manuf Rec 102:14-16 S '33
- Mississippi bubble. il Am Bankers Assn J 26:72 Ag '33
- MISSISSIPPI river**
- Flow in river bends. H. D. Vogel and P. W. Thompson. il Civil Eng 3:266-8 My '33



**MISSISSIPPI river—Continued**

Pleistocene diversion of the Mississippi river across Crowley's Ridge, southeastern Missouri; abstract. F. E. Matthes. *Science* 77: 459-60 My 12 '33

Study of the pollution and natural purification of the upper Mississippi river. H. R. Crohurst. *U S Public Health Bul* 203:1-113 '32

*See also*

Inland waterways corporation

**Flood control projects**

Concrete wall with sheetpile cutoff replaces levee at Helena, Ark. H. V. Pittman. *il diags plan Eng N* 110:780-4 Je 15 '33

Controlling floods along the Mississippi. T. B. Larkin. *il map Civil Eng* 3:560-4 O '33

New cutoffs being made on the Mississippi. maps *Eng N* 111:358-9 S 21 '33

New plans for the Mississippi. *il maps diags Eng N* 110:795-801, 838-42; 111:14-17, 41-5, 79-81, 102-5, 133-7, 166-9 Je 22-Ag 10 '33

Unit prices—eleven levee sections, Mississippi. tables *Eng N* 110:793-4 Je 15 '33

**MISSOURI**

*See also*

Geology—Missouri

**Commerce**

Aid for analyzing markets in Missouri. 21p U.S. Bur. of foreign and domestic com, Washington '33

**MISSOURI gazette**

When St Louis had 200 houses. *Ptr Ink* 162: 64 Mr 16 '33

**MISSOURI-Kansas-Texas railroad**

Had small deficit in 1932. *Ry Age* 94:725-6 My 20 '33

Katy head makes them all salesmen. H. Manley. *Forbes* 32:17-18 O 15 '33

Low price stocks that can be purchased now for later appreciation. *Mag of Wall St* 51: 216-17 D 10 '32

Missouri-Kansas-Texas lines and the great Southwest. *il Ry Age* 93:sup166-9 D 3 '32

**MISSOURI Pacific railroad**

Alleghany and the MOP; reorganization asked. *Barron's* 13:8 Ap 10 '33

Missouri Pacific and the inland waterways. *il Ry Age* 93:sup213-16 D 3 '32

Missouri Pacific improves main stem in Kansas. *il map Ry Age* 94:204-7 F 11 '33

Missouri Pacific to reorganize under new law. *Ry Age* 94:508+ Ap 8 '33

Unusual designs are used for concrete bridges; grade-revision project on Missouri Pacific. *il Ry Age* 94:468-70 Ap 1 '33

**MISSOURI river**

Missouri river project opposed by railroads. *Ry Age* 95:166 Jl 22 '33

**MISSOURI state life insurance company**

Annual meeting and report for 1932. *East Underw* 34:5+ Ja 20; 6 Ja 27 '33; *Ins Field* (Life ed) 62:5+ Ja 20 '33

Control trustee as Greenfield retires. *Ins Field* (Life ed) 61:5+ D 9 '32

Developments. *Spectator* 129:17+ D 22 '32

Explanation of recent loan of \$800,000. *Nat Underw* (Life ed) 36:5+ D 23; 5+ D 30 '32

General American gets Missouri State Life. *Weekly Underw* 129:453+ S 9 '33

General American now in operation. *Nat Underw* (Life ed) 37:2+ S 15; 3+ S 22; 3+ S 29 '33; *Ins Field* (Life ed) 62:5+ S 15 '33; *Spectator* 131:13+ S 14 '33; *Weekly Underw* 129:498+, 537+ S 16-23 '33

Missouri State reinsurance approved by Supreme court. *Nat Underw* (Life ed) 37:9 O 27 '33

Missouri State's stormy history. *East Underw* 34:4+ S 1 '33

Protective group approves contract. *Nat Underw* (Life ed) 37:3+ N 10 '33

Purchase agreement by which General American Life takes over the Missouri State life. *East Underw* 34:10+ S 15 '33

Review re-building plans for Missouri State; company is impaired. *East Underw* 34:1+, 5+ S 1; 5+ S 8 '33; *Ins Field* (Life ed) 62: 5-6 S 1; 5-6, 16-17 S 8 '33; *Nat Underw* (Life ed) 37:1+ S 1; 3+ S 8 '33; *Spectator* 131:13+ Ag 31 '33; *Weekly Underw* 129:415 S 2 '33

Talbot demands Missouri State interlocking loan plan be rescinded at once. *Ins Field* (Life ed) 61:5-6+ D 23; 5+ D 30 '32

**MIST**

Conditions under which gas and liquid mixtures rise. J. Versluys. *il Inst Pet Tech J* 19:694-700 Ag '33

Dusts, smokes, mists, and fogs. S. C. Blacktin. *Soc Chem Ind J* (Chem & Ind) 51:1006-7 D 2 '32

Sorption von gasen, dämpfen und nebeln. H. Remy. *Angew Chemie* 46:101-4 F 11 '33

**MITCHELL, Ernest I. 1878-1933**

Sketch. *por Ptr Ink* 163:20 Je 8 '33

**MITCHELL, Ewing Y. 1878-**

New faces and new policies in Washington. *por Aviation* 32:232-3 Ag '33

**MITCHELL, Sidney Zollicoffer, 1862-**

Leaves Electric bond & share. *Gas Age* 71: 341-2 Ap 1 '33; *por Elec W* 101:402 Ap 1 '33

Personalities in business. *por Barron's* 13:4 Ap 3 '33

**MITCHELLS and Butlers, limited**

Annual general meeting, 46th. *Economist* 117: 382-3 Ag 19 '33

**MITOGENETIC rays**

Electrical device for measuring M rays. *Science* 78:sup6 Jl 14 '33

**MIXERS**

Fulton-Sylphon company water mixer. *il diags Engineering* 135:138 F 3 '33

Improvements in Banbury mixers. *il Rubber Age* 33:114 Je '33

Lancirick mixer. *il Rubber Age* 33:159 Jl '33

Mechanical conditioning of treated waters. R. S. Rankin. *il N E Water Works Assn J* 46: 380-8 D '32

Midget Banbury mixer. *Plastics* 8:424-5+ N '32

Mischvorrichtung für brennstoffe. F. Neuroth. *il diags Zeit Ver Deutsch Ing* 76:1109-10 N 5 '32

Mixing advances despite empirical status. *il diags Chem & Met Eng* 40:266-7 My '33

Mixing and kneading in the laboratory. *il Chem Age* (Lond) 28:393 Ag 29 '33

Ring mixers. *il Soc Chem Ind J* (Chem & Ind) 51:973-4 N 25 '32

Science of mixing and kneading; modern machinery at the bakers' exhibition. *il Chem Age* (Lond) 29:233-5 S 9 '33

Some factors involved in the Banbury mixing of zinc oxide in rubber stocks. W. C. Mathews and G. S. Haslam. *bibliog il Rubber Age* 32:206-10 D 25 '32

Standard equipment for mixing operations. *il diags Chem Age* (Lond) 28:114-16 F 11 '33

Stohtert and Pitt hot tarmacadam mixer. *il Gas J* (Lond) 203:352 Ag 16 '33

Universal mixing and kneading machinery. *il Chem Age* (Lond) 29:277 S 23 '33

Universal mixing and kneading machines. *il Chem Age* (Lond) 27:485-6 N 19 '32

*See also*

Agitators  
Asphalt mixers

Concrete mixers  
Sand mixers

**MIXING**

Balanced relay equalizes material input and output. H. Van Rosen. *diag Elec W* 101:327 Mr 11 '33

Queer things that happen in mixing; dry granular materials. L. V. Burton. *il Food Ind* 5:390-1+ O '33

*See also*

Agitation  
Concrete mixing  
Gas mixing

MIXING devices. *See Mixers*

MIXING machines. *See Mixers*

Moisture content measurements. T. E. Hep-  
penstall and H. A. Hauff, *il Paper Tr J* 96  
43-5 My 25 '33



**MOISTURE**—*Continued*

Moisture determination; a speedy method involving use of carbide; abstract. S. Stanworth. *Chem Age (Lond)* 28:367 Ap 22 '33

*See also*

Clay—Moisture content	Humidity
Concrete—Moisture content	Hygrometry
Cotton—Moisture content	Hygroscopicity
Evaporation	Water
Gas—Moisture content	Wood—Moisture content
	Wool—Moisture content

**MOL (term)**

Mol; direct road to the answer in all combustion problems. E. F. Dawson. *Power* 76:292-4 D '32

**MOLASSES**

Molasses as a fertiliser. *Chem Age (Lond)* 28:309 Ap 8 '33  
 Molasses heating for feed mills. D. E. Blandy. *il Elec W* 101:822 Je 24 '33  
 Power alcohol from molasses; production suggested in India. *Chem Age (Lond)* 28:269 Mr 25 '33  
 Resistance to flow of molasses found to agree with basic laws. G. N. Cox. *Eng N* 111:441 O 12 '33

**MOLDED products**

Applications of vinyl resins. J. G. Davidson and H. B. McClure. bibliog *il plan Ind & Eng Chem* 25:645-52 Je '33; Same. *Plastic Prod* 9:143-50 Je '33  
 Artistic abuse of the plastics. J. Sinel. *il Plastic Prod* 9:13 Mr '33  
 Enlarging the market for molded products. L. W. Hutchins. *Plastics* 8:415-16+ N '32  
 How molded hard rubber compares with synthetic resins. C. P. Morgan. *India Rubber W* 88:39-40 Jl '33  
 Marking plastic materials by branding. *Mach* 39:496C Mr '33  
 Midget radios versus electric clocks. F. E. Brill. *Plastic Prod* 9:182 Jl '33  
 New material opens new markets; Durez 1406 series. H. S. Spencer. *il Plastics* 8:418+ N '32  
 Some hints on molded design. F. E. Brill. *il Plastic Prod* 9:54-5 Ap '33  
 Stock mold catalog. *il diags Plastics* 8:421-2, 459-60 N '32, Ja '33  
 Synthetic plastic materials; their characteristics and application. H. Chase. *il Mach* 40:137-9 N '33  
 Synthetic plastics solve many problems in materials. *il Mach* 40:85-8 O '33  
 Transfer molding. F. H. Shaw. *il diags Plastic Prod* 9:310-13 O '33  
 What price material? *Plastics* 8:469-70+ Ja '33

*See also*

Plastic materials  
 Resinous products

**Manufacture**

Costing for molding. G. K. Scribner. *Plastic Prod* 9:229-30 Ag '33  
 From powder to pills to plastic products; Reynolds spring co. Jackson, Mich. R. Finney. *il Iron Age* 132:18-19+ Ag 31 '33  
 Moulding inquiries and how to meet them; the preparation of estimates. A. G. Snell. *Chem Age (Lond)* 28:286 Ap 1 '33  
 New applications of molded synthetic plastics. *il Mach* 39:351 Ja '33  
 Plant and machinery for the plastics industry. W. O. Griffiths. *Chem Age (Lond)* 29:321-2 O 7 '33; Same abr. *Plastic Prod* 9:359 N '33  
 Plant equipment from synthetic resins. D. H. Killeffer. *il Ind & Eng Chem* 25:1217-19 N '33  
 Plastic molding. L. F. Rahm. 246p [bibliog p241] \$3 McGraw-Hill '33  
 Plastic molding at the Cutler-Hammer plant. R. A. Fiske. *il Iron Age* 131:698-9+ My 4 '33  
 Plastics and the fabricator. H. C. Parker. *Soc Chem Ind J* 52:supS18, S20-1 My 19 '33

*See also*

Molds (for plastics)

**MOLDED products, Mechanical**

Gatke non-metallic bearings. *il Blast F & Steel Pl* 21:328 Je '33; *Mach* 39:680 Je '33  
 Machine tool handwheels and knobs made from synthetic plastic materials. *il Mach* 39:263 D '32  
 Non-metallic materials find application in machine design. *il Mach* 39:391-2 F '33  
 Physical properties of molded plastic materials; data sheet. H. Chase. *Mach* 40:88A O '33  
 Plastic molding at the Ford plant. H. Chase. *il Automotive Ind* 69:390-2 S 30 '33  
 Plastische massen in der technik. W. Röhrs. *il diags Zeit Ver Deutsch Ing* 76:1233-9 D 17 '32

**MOLDING**

Benzyl cellulose moulding compositions. *Chem Age (Lond)* 28:529-30 Je 10 '33; Same abr. *Plastic Prod* 9:228 Ag '33  
 Estimating molding cost; a review of English practices. A. G. Snell. *Plastic Prod* 9:271 S '33  
 Fewer motions, more output. C. G. Johnson. *il Factory Management* 91:395 O '33  
 French oil mill machinery co.'s plastic-products molding presses. *il Mach* 39:543-4 Ap '33; *Am Mach* 77:289 Ap 26 '33  
 New model casting materials; moulage process. *il Sci Am* 149:123 S '33  
 Suggestions for molding synthetic plastic materials. C. W. Hinman. *Mach* 39:594-6 My '33  
 Synthetic resin products. A. E. Williams. *il diags Engineering* 136:132-3 Ag 11 '33  
 Transfer molding. F. H. Shaw. *il diags Plastic Prod* 9:310-13 O '33

**MOLDING machines**

Continuous molding machine aids production. *il Iron Age* 131:628 Ap 20 '33; Same. *Mach* 39:586 My '33  
 Jar roll-over moulding machine. *il diag Engineering* 136:19 Jl 7 '33  
 Large gears are machine-molded; Link-Belt co. *il Iron Age* 130:923 D 15 '32  
 Mold gear wheels on machines. *il diags Foundry* 61:10-12+ O '33

**MOLDING machines (woodworking).** *See* Woodworking machinery

**MOLDINGS**

Architects must know their mouldings. E. S. Hall. *il Am Arch* 142:24-6+ N '32

**MOLDS (botany)**

Large-scale laboratory cultivation of molds. W. H. Peterson and others. *il Ind & Eng Chem* 25:213-15 F '33

*See also*

Fungi  
 Mildew

**Culture**

Modified hanging drop technique. I. H. Blank. *diag Science* 76:496-7 N 25 '32

**MOLDS (for casting)**

Action of coal dust as a facing material; abstract. B. Bird. *Iron Age* 131:1040-1 Je 29 '33  
 Bonds sand molds with cement; French foundry steel castings. V. Delport. *il Foundry* 61:44-5+ Je '33  
 Cylinder molds are skin dried; Studebaker corp. *il Foundry* 61:17+ Ap '33  
 Finishing the heat of steel; construction of the bottom of a pouring unit. J. H. Hruska. *Blast F & Steel Pl* 21:587-8 N '33  
 Grain structure control insures mold permeability control. H. W. Dietert and F. Valtier. *Iron Age* 132:11, 62 Jl 27 '33  
 Loam mold for large steel casting. H. V. Fell. *il Foundry* 60:20-1+ N; 22-3+ D '32  
 Prevent losses with proper gates and risers. P. Dwyer. *diags Foundry* 60:40-2 D '32; 61:38+ Ja; 41-2+ F; 38, 40+ Mr '33  
 Use dry sand cores for disk in stainless steel. *Foundry* 61:28-9 Mr '33

*See also*

Cores  
 Papier mâché  
 Sand, Foundry

**MOLDS (for casting)**—*Continued***Permanent molds**

- Aluminum bronze parts cast in permanent molds. E. Griffith. *il Am Mach* 77:616-17 S 27 '33
- Kokillen und giessen im stahlwerk; amerikanische arbeitsweise im vergleich zur deutschen. A. Ristow. *diags Stahl & Eisen* 53:617-24; Discussion. 625-7 Je 15 '33
- Nicrosilal heat-resisting castings. *il Engineer* 154:673 D 30 '32
- Non-ferrous metal mould castings. F. R. Francis. *Can Chem & Met* 16:299-300 D '32; Excerpts. *Chem Age (Lond)* 28:sup3-4 Ja 7 '33
- Permanent molds in manufacturing cream separator parts; DeLaval separator company, Poughkeepsie, N.Y. H. R. Simonds. *il Iron Age* 131:940-3 Je 15 '33
- Permanent molds in production of crankshafts; methods developed by A. W. Morris. *il diag Iron Age* 131:665-6 Ap 27 '33
- Permanent molds speed production; Delco-Remy corporation. F. G. Steinebach. *il Foundry* 61:10-12+ My '33
- Produces castings in metal molds; Eaton-Erb foundry co. F. Erb and E. Bremer. *il Foundry* 61:38-9+ Je '33
- Widening scope of aluminum permanent mold castings. H. L. Smith, jr. *il Iron Age* 131:312-13+ F 23 '33

**MOLDS (for glass)**

- Application of modern machinery to mould making for the glass industry; abstract. F. S. Harmer. *Soc Chem Ind J (Chem & Ind)* 51:1063-4 D 23 '32
- Design of moulds for domestic glassware; abstract. H. W. Howes. *Soc Chem Ind J (Chem & Ind)* 51:1063 D 23 '32
- Moulds; materials and design; abstract. T. Wardley. *Soc Chem Ind J (Chem & Ind)* 51:1063 D 23 '32

**MOLDS (for plastics)**

- Equipment and methods used in molding plastic materials. C. W. Hinman. *Mach* 39:530-2 Ap '33
- Heat-treatment of molds for plastics. E. F. Bachner. *il Am Mach* 77:279 Ap 26 '33
- Making molds and dies by three-dimensional engraving process. *il Mach* 39:533-4 Ap '33
- Mold for telephone-receiver caps. C. W. Hinman. *diags Mach* 39:587-8 My '33
- Molds construction and costs. E. F. Bachner. *il Plastic Prod* 9:135-6 Je '33
- Plastic molding at the Ford plant. H. Chase. *il Automotive Ind* 69:390-2 S 30 '33
- Use of master models for estimating and making molds for plastic parts. C. B. Cole. *il diag Mach* 39:346-7 Ja '33

**MOLDS (for rubber)**

- Latex rubber mold. *diag India Rubber W* 88:40 Ag '33

**MOLE (dermatology)**

- Birthmarks treated by radium. *Science* 78:sup8 S 29 '33
- Pigmented hairy mole. G. F. Laidlaw and M. R. Murray. *Science* 77:sup9 My 12 '33

**MOLECULAR association**

- Applications of thallium compounds in organic chemistry; molecular association of dialkylthallium chelate compounds. E. R. Wiltshire and R. C. Menzies. *Chem Soc J* p2734-9 N '32

- Freezing points of solutions of nitrobenzene in benzene and cyclohexane, and their relations to the electrical polarisation. L. G. Davy and N. V. Sidgwick. *Chem Soc J* p281-6 Mr '33

*See also*

**Polymerization****MOLECULAR dynamics**

- Dynamic models of organic molecules; abstracts. D. H. Andrews. *Soc Chem Ind J (Chem & Ind)* 51:1033 D 16 '32; *Can Chem & Met* 16:291 D '32

*See also*

**Quantum theory**  
**Wave mechanics****MOLECULAR heat**

- Empirical molecular heat equations from spectroscopic data. W. M. D. Bryant. *bibliog Ind & Eng Chem* 25:820-3 J1 '33

**MOLECULAR rays**

- Limitation in currents of positive alkali ions of homogeneous velocities. P. Keck and L. B. Loeb. *diags R Sci Instr* 4:486-90 S '33
- Reflection of metallic atoms from alkali halide crystals. R. R. Hancox. *diags Phys R* 42:864-81 D 15 '32
- Scattering of molecular rays in gases. R. M. Zabel. *Phys R* 44:53 J1 1 '33

**MOLECULAR rearrangements**

- Abnormal reactions of benzylmagnesium chloride; the mechanism of the *o*-tolyl rearrangement. J. R. Johnson. *Am Chem Soc J* 55:3029-32 J1 '33
- Acetylene polymers and their derivatives; halogen-4-butenadienes 1,2; the mechanism of 1,4-addition and of  $\alpha,\gamma$ -rearrangement. W. H. Carothers and G. J. Berchet. *Am Chem Soc J* 55:2807-13 J1 '33
- Beckmann rearrangement. A. H. Blatt. *Chem R* 12:215-60 [bibliog p257-60] Ap '33
- Common basis of intramolecular rearrangements; the dehydration of di-*tert*-butylcarbinol and the conversion of the resulting nonenes to trimethylethylene and isobutylene. F. C. Whitmore and E. Stahly. *bibliog Am Chem Soc J* 55:4153-7 O '33
- Dehydration and rearrangement of certain pinacolyl alcohols and related compounds. F. C. Whitmore and P. A. Krueger. *Am Chem Soc J* 55:1528-35 Ap '33
- Dehydration of tertiary alcohols containing a neopentyl system; methylisopropyl-*tert*-butylcarbinol, methyl-di-*tert*-butylcarbinol, and methylethyleneopentylcarbinol. F. C. Whitmore and K. C. Laughlin. *Am Chem Soc J* 55:3732-8 S '33
- Hydrolysis and rearrangement of certain olefin dibromides containing a tertiary bromine. W. L. Evers and others. *Am Chem Soc J* 55:1136-40 Mr '33
- Intramolecular rearrangement of phenyl ethers with the aid of aluminum chloride. R. A. Smith. *Am Chem Soc J* 55:849 F '33
- Kinetics of the rearrangement of  $\alpha$ -methoxystyrene. F. H. MacDougall, W. M. Lauer and M. A. Spielman. *Am Chem Soc J* 55:4089-97 O '33
- Mechanism of aromatic rearrangements; the benzidine change. C. K. Ingold and H. V. Kidd. *Chem Soc J* p984-8 Ag '33
- Molecular rearrangements involving optically active radicals; the Hofmann rearrangement of the amide of an optically active 2,2'-disubstituted 6-carboxydiphenyl. E. S. Wallis and W. W. Moyer. *bibliog Am Chem Soc J* 55:2598-603 Je '33
- Molecular rearrangements involving optically active radicals; the Lossen rearrangement of optically active hydroxamic acids. E. S. Wallis and R. D. Dripps. *Am Chem Soc J* 55:1701-5 Ap '33
- Organic reactions with boron fluoride; the rearrangement of isopropylphenol, *o*-, *m*- and *p*-cresyl ethers. F. J. Sowa, H. D. Hinton and J. A. Nieuwland. *Am Chem Soc J* 55:3402-7 Ag '33
- Pinacol-pinacolone rearrangement; the rearrangement of pinacols containing the biphenylene group. W. E. Bachmann and H. R. Sternberger. *Am Chem Soc J* 55:3819-21 S '33
- Preparation and properties of neopentyl chloride in relation to molecular rearrangements. F. C. Whitmore and G. H. Fleming. *bibliog Am Chem Soc J* 55:4161-2 O '33
- Rearrangement of alkenyl phenyl and cresyl ethers and the syntheses of isopropenyl phenols and their reduction products. J. B. Niederl and E. A. Storch. *bibliog Am Chem Soc J* 55:284-94 Ja '33
- Rearrangement of *ortho*-amino-sulphones. L. A. Warren and S. Smiles. *Chem Soc J* p2774-8 N '32
- Rearrangement of the phenylhydrazones of some unsymmetrically substituted dibenzalacetones. L. C. Ralford and J. B. Enrikin. *Am Chem Soc J* 55:1125-8 Mr '33



**MOLECULAR rearrangements—Continued**

- Rearrangements of polyines; tetra-biphenyl-di-tertiary-butylethynylethane, J. C.-Y. Tsao and C. S. Marvel. *diag Am Chem Soc J* 55:4709-13 N '33
- Rearrangements of polyines; tetraphenyl-di-(3-methyl-3-ethylpentynyl-1)-ethane. J. Harmon and C. S. Marvel. *Am Chem Soc J* 55:1716-22 Ap '33
- Rearrangements of the polyines; reactions of bis-1,1'-(1,3-diphenylindenyl). M. T. Goebel and C. S. Marvel. *Am Chem Soc J* 55:3712-15 S '33
- Researches on pyrimidines; the molecular rearrangement of ethyl 2-ethylmercapto-6-thiocyanopyrimidine-5-acetate. Yuoh-Fong Chi and Chi Ming Ma. *Am Chem Soc J* 55:4655-7 N '33
- Researches on pyrimidines; the molecular rearrangement of 2-ethylmercapto-5-phenyl-6-thiocyanopyrimidine. Yuoh-Fong Chi and Yu-Lin Tien. *Am Chem Soc J* 55:4181-4 O '33
- Retropinacolone rearrangement. W. E. Bachmann. *Am Chem Soc J* 55:3857-9 S '33
- Studies in the rearrangements of phenyl ethers; the action of aluminum chloride on butyl phenyl ethers. R. A. Smith. *Am Chem Soc J* 55:3718-21 S '33
- Studies of the Beckmann change; the spontaneous rearrangement of oxime picryl ethers. A. W. Chapman and C. C. Howis. *Chem Soc J* p806-11 Jl '33
- Studies on the rearrangement of tertiary-butylmethylcarbinol (pinacolyl alcohol). F. C. Whitmore and H. S. Rothrock. *Am Chem Soc J* 55:1106-9 Mr '33
- Studies on the rearrangement of tertiary-butylmethylcarbinol (pinacolyl alcohol); dehydration. F. C. Whitmore and P. L. Meunier. *Am Chem Soc J* 55:3721-2 S '33
- Studies on unsaturated 1,4-dicarbonyl compounds; some new derivatives of dimethylfumaric acid. R. E. Lutz and R. J. Taylor. *Am Chem Soc J* 55:1585-92 Ap '33
- MOLECULAR volume**
- Apparent molal heat capacity, volume, and compressibility of electrolytes. F. T. Gucker, jr. *Chem R* 13:111-30 [bibliog p 129-30] Ag '33
- MOLECULAR weights**
- Determination of molecular weight of linseed oil and its polymerides. P. J. Gay. *Soc Chem Ind J (Chem & Ind)* 52:703-5 S 1 '33
- Improved method of introducing the sample into a Victor Meyer vaporization chamber. A. Dietz. *diag J Chem Educ* 9:2096-8 D '32
- Improved method of sealing the capillary tubes in the Rast modification of the Barger method of molecular weight determination. J. R. Spies. *Am Chem Soc J* 55:250 Ja '33
- Method for introducing the liquid into the Victor Meyer apparatus. L. F. Weeks. *diag J Chem Educ* 10:372 Je '33
- Molecular and atomic weights. F. E. Brown. *J Chem Educ* 10:308-9 My '33
- Molecular weight of erythrocrucorin. T. Svedberg and I. B. Eriksson. *Am Chem Soc J* 55:2834-41 Jl '33
- Molecular weight of l-erythrose. V. Deulofeu. *Chem Soc J* p2973-5 D '32
- Molecular weight of linear macromolecules by ultracentrifugal analysis; polymeric  $\omega$ -hydroxydecanoic acid. E. O. Kraemer and W. D. Lansing. *Am Chem Soc J* 55:4319-26 O '33
- Molecular weight of the hemocyanin of octopus vulgaris. T. Svedberg and I. B. Eriksson. *il Am Chem Soc J* 54:4730-8 D '32
- Molecular weights of some dissolved substances. A. W. Pound and J. R. Pound. *J Phys Chem* 37:969-72 O '33
- Relationship between mole fractions and absolute viscosities of blended lubricating oils. E. R. Epperson and H. L. Dunlap. *Ind & Eng Chem* 24:1369-71 D '32
- Victor Meyer apparatus. E. W. Blank. *diag J Chem Educ* 10:505-6 Ag '33
- Viscosity and molecular weights of polymeric materials. E. O. Kraemer and F. J. Van Natta. *J Phys Chem* 36:3175-86 D '32
- See also*  
Atomic weights  
Boiling points
- MOLECULES**
- Building of molecules for the textile industry. R. E. Rose. *Am Dyestuff Rep* 22:47-54 Ja 16 '33
- Dependence of crystallization velocity on molecular structure. M. E. Krahle. *Am Chem Soc J* 55:1425-9 Ap '33
- Electrokinetics; interfacial energy and the molecular structure of organic compounds;  $Al_2O_3$ -organic liquid interfaces. O. G. Jensen and R. A. Gortner. *diags J Phys Chem* 36:3138-51 D '32
- Electron diffraction and molecular structure: carbonyl compounds. R. W. Dornte. *Am Chem Soc J* 55:4126-30 O '33
- Electronic structures of polyatomic molecules and valence; electronic states, quantum theory of the double bond. R. S. Mulliken. *Phys R* 43:279-302 F 15 '33
- Energy levels and statistical weights of polyatomic molecules. D. S. Villars. *Chem R* 11:369-436 [bibliog p433-6] D '32
- Entropy of polyatomic molecules and the symmetry number. J. E. Mayer, S. Brunauer and M. G. Mayer. *bibliog Am Chem Soc J* 55:37-53 Ja '33
- Fluorescence of diatomic molecules of antimony. J. Genard. *Phys R* 44:468-9 S 15 '33
- Frequency variation of the dielectric constant of dilute non-aqueous solutions. J. L. Oncley and J. W. Williams. *diags Phys R* 43:341-54 Mr 1 '33
- Infrared absorption spectrum and the molecular structure of ozone. S. L. Gerhard. *Phys R* 42:622-31 D 1 '32
- Molecular dissymmetry and physiological activity. L. H. Easson and E. Stedman. *Chem Soc J* p 1094-8 Ag '33
- Molecular structure of ozone. W. S. Benedict. *Phys R* 43:580-1 Ap 1 '33
- Perturbation theory of molecules formed from two  $2p$  atoms. J. R. Stehn. *Phys R* 42:582-4 N 15 '32
- Physical structure of elastic colloids. W. F. Busse. *J Phys Chem* 36:2862-79 D '32
- Properties of molecules as learned from surface films; abstract. N. K. Adam. *Soc Chem Ind J (Chem & Ind)* 52:121 F 10 '33; Same. *Chem Age (Lond)* 28:122 F 11 '33
- Raman effect in relation to some chemical problems. J. J. Fox. *Soc Chem Ind J (Chem & Ind)* 52:161-2 F 24 '32; Discussion. 52:181-3 Mr 3 '33
- Sound waves and molecules. V. O. Knudsen and H. O. Kneser. *Science* 77:sup9 My 19 '33
- Specific heat of oxygen at high temperatures from ozone explosions and the energy of the  $^1\Delta$  level of the neutral oxygen molecule. B. Lewis and G. von Elbe. *Am Chem Soc J* 55:511-19 F '33
- Structure of molecules. P. Debye, ed. 190p Blackie & son Ltd, London '32
- Theory of depolarization, optical anisotropy, and the Kerr effect. R. Serber. *Phys R* 43:1003-10 Je 15 '33
- Theory of vibrational isotope effects in polyatomic molecules. E. O. Salant and J. E. Rosenthal. *Phys R* 42:812-22; 43:581-2 D 15 '32, Ap 1 '33
- Thermal equilibrium between oxygen molecules and atoms. G. von Elbe and B. Lewis. *Am Chem Soc J* 55:507-11 F '33
- Two lectures on the nature of simple molecules and of elementary processes. A. J. Allmand. 57p Institute of chemistry of Great Britain and Ireland, 30 Russell square, London, W.C. 1 '32
- See also*  
Atoms  
Stereochemistry
- Collisions**
- Energy exchange in unimolecular gas reactions. O. K. Rice. *Am Chem Soc J* 54:4558-81 D '32

## MOLECULES—Continued

## Models

- Adaptable electronic models. S. J. French. *il J Chem Educ* 10:564-5 S '33  
 Dynamic models of organic molecules; abstracts. D. H. Andrews. *Soc Chem Ind J (Chem & Ind)* 51:1033 D 16 '32; *Can Chem & Met* 16:291 D '32

## Rotation

- Dipole rotation in crystalline solids. C. P. Smyth and C. S. Hitchcock. *Am Chem Soc J* 54:4631-47 D '32  
 Maximum rotations in the homologous series of  $\alpha$ -bromo acids. P. A. Levene. *Am Chem Soc J* 55:1295-6 Mr '33  
 Molecular rotation in ice at 10°K., free energy of formation and entropy of water. W. F. Giauque and M. F. Ashley. *Phys R* 43:81-2 Ja 1 '33  
 Rotation of molecules or groups in crystalline solids. C. S. Hitchcock and C. P. Smyth. *Am Chem Soc J* 55:1296-7 Mr '33

## MOLEY, Raymond

- Brain trust; Roosevelt's classroom cabinet of economists. *por Business Week* p16-17, 18 Mr 22 '33  
 That Columbia crowd. C. H. McCall. *por Credit & Fin Management* 35:16-17, 39 Je '33

## MOLLUSKS

See also

Teredos

## MOLLUSKS, Fossil

- Mount Jura investigation. C. H. Crickmay. *Geol Soc Bul* 44:895-926, pl 23-34 O '33  
 Some of Alpheus Hyatt's unfigured types from the Jurassic of California. C. H. Crickmay. *U S Geol S Professional Pa* 175-B:51-8, pl 14-18 '33

See also

Trigoniidae

## MOLYBDENUM

- Contamination of nickel crystals grown in a molybdenum resistance furnace. A. Dingwall, J. Zacharias and S. L. Siegel. *il diag Electrochem Soc Trans* 63 (preprint 36): 395-400 My '33  
 Crankshafts; a brief consideration of the influence of molybdenum. *Automobile Eng* 23: 221 Je '33; Discussion. *J. Vogel*. 23:258 Jl '33  
 Effect of temperature on the emission of electron field currents from tungsten and molybdenum. A. J. Ahearn. *diag Phys R* 44:277-86 Ag 15 '33  
 Fluorescence yield from the LIII level of uranium. R. J. Stephenson. *diag Phys R* 43:527-33 Ap 1 '33  
 Gas-free metals used in X-ray tubes. W. D. Coolidge and E. E. Charlton. *il diag Met Prog* 24:39-40 N '33  
 Molybdenum additions broaden cast iron's sphere of automotive usefulness. *il Automotive Ind* 68:618-20 My 20 '33  
 Molybdenum aids iron uniformity. *Steel* 92:27 Je 26 '33  
 Molybdenum industry in 1932. *Chem Markets* 33:32 Jl '33  
 Molybdenum; its mining, milling, and uses. A. Kisson. *il Min & Met* 14:181-2+ Ap '33  
 Multiplets in the spectra of Cb III and Mo IV. A. Y. Eliason. *Phys R* 43:745-8 My 1 '33  
 Precipitation of rhenium sulfide from ammoniacal solution; a separation of rhenium and molybdenum. J. H. Müller and W. La Lande, jr. *Am Chem Soc J* 55:2376-8 Je '33  
 Record underground blast; fifty-five tons of explosive in a single shot at Climax, Colorado. W. J. Coulter and W. E. Romig. *il diag Eng & Min J* 134:405-9 O '33  
 Secondary emission of electrons from molybdenum. P. L. Copeland. *diag J Fr Inst* 215: 593-8 My '33  
 Temperature variation of the positive ion emission from molybdenum. L. L. Barnes. *diag Phys R* 42:492-7 N 15 '32  
 Test of the classical momentum transfer theory of accommodation coefficients of ions at cathodes. K. T. Compton and E. S. Lamar. *Phys R* 44:338-44 S 1 '33

Thermal decomposition of phosphine by tungsten and molybdenum. H. W. Melville and H. L. Roxburgh. *diag Chem Soc J* p586-95 Je '33  
 Wave-lengths of the silver, molybdenum, copper, iron and chromium K $\alpha$  lines. J. A. Bearden. *Phys R* 43:92-7 Ja 15 '33

## Analysis

New method for determining molybdenum in alloy and plain steels. C. M. Johnson. *Iron Age* 132:16-17 Jl 13 '33

## MOLYBDENUM alloys

Alloys of iron and molybdenum. J. L. Gregg. 507p \$6 McGraw-Hill '32

## MOLYBDENUM steel

Alloys of iron and molybdenum. J. L. Gregg. 507p \$6 McGraw-Hill '32  
 Molybdenum in steel castings. H. W. Gillett and J. L. Gregg. *Foundry* 61:27+ Jl '33; Abstract. *Iron Age* 131:sup12 Je 29 '33  
 Some molybdenum high speed steels. J. V. Emmons. *bibliog il Am Soc Steel Tr Trans* 21:193-221; Discussion. 221-32 Mr '33

## MOMENTS of inertia

New rules for areas, moments and moments of inertia. J. A. Davis. *Engineering* 135: 508-11 My 12 '33

## MONAZITE

Occurrence and industrial possibilities of monazite in the black sands on the Orissa coast. S. B. Roy. *Soc Chem Ind J (Chem & Ind)* 52:745 S 15 '33

MOND, Alfred. See Melchett, Alfred *Moritz* Mond, 1st baron

## MOND nickel company

Information bulletins and house journal. E. W. Parker. *Assn of Sp Lib & Inf Bur Proc* 1933:62-6

## MONEL metal

Characteristics of monel metal; reference book sheet. *Am Mach* 77:309-10 My 10 '33  
 Corrosion of nickel and monel metal by sulfured grape juice. E. M. Mrak and W. V. Cruess. *Ind & Eng Chem* 25:367-9 Ap '33  
 Grinding, polishing and buffing of monel metal and pure nickel. *Am Mach* 77:341-2 My 24 '33  
 Monel metal—a remarkable metal alloy. *il Mach* 40:80 O '33  
 Monel metal and pure nickel; their properties with reference to chemical plant. *il Chem Age (Lond)* 28:sup15-16 Mr 4 '33  
 Monel metal for bolts. *Chem Age (Lond)* 29:26 Jl 8 '33  
 Monel metal; its use for aero engine valve seats. *il Automobile Eng* 23:44 F '33  
 Service, not first cost, real measure of value. *il Sheet Metal Worker* 24:37 F '33

## Advertising

Uses consumer market as an industrial demonstrator; International Nickel continues sampling idea with increased advertising of new monel metal tanks and heaters. R. Dickinson. *il Ptr Ink* 163:62-5 Je 29 '33

## Testing

Effect of cold working on the Izod notched-bar impact value of monel metal. N. B. Pilling. *diag Am Soc T M Proc* 32 pt 2: 576-83 '32

## MONEY

ABC of stabilization. *Business Week* p20-1 Jl 8 '33  
 Agenda for the World economic conference. L. Pasvolksy. *Barron's* 13:18-19 F 27 '33  
 At a meeting in London. *il Am Bankers Assn J* 26:13-15+ Jl '33  
 Balanced deflation, inflation, or more depression. J. Viner. 30p pa 25c Univ. of Minnesota press, Minneapolis '33  
 Bank for international settlements 3d annual report. *Fed Res Bul* 19:355-67 Je '33  
 British view of gold standard and American monetary policies. R. McKenna. *Trust Companies* 56:167-9+ F '33  
 Business and the conference; International chamber of commerce views conflict with our policy in London. L. Pasvolksy. *Barron's* 13:10 Jl 3 '33



**MONEY—Continued**

- Circulating credit creates commerce; a novel test of the extent of money circulation during a convention. *Credit & Fin Management* 35:12 Je '33
- Commodity dollar; Roosevelt's message to the London conference presages a rubber dollar. *Business Week* p16-17+ J1 15 '33
- Conference crisis; self-adjusting international currency unit. *Business Week* p3-4 J1 8 '33
- Crisis in the world's monetary system. G. Cassel. 98p Oxford '32
- Currency standards defined. *Am Bankers Assn J* 25:34-5 Mr '33
- Deflation vs. inflation and the future. G. Biddulph. *Chem Markets* 32:216-18 Mr '33
- Depreciation of currency and exports. D. Schindler-Huber. *Engineer* 156:19-20 J1 7 '33
- Did gold cause the depression? *Nat City Bank* p118-22 Ag '33
- Dollar and pound. *Economist* 117:439-40 S 2 '33
- Domestic and international stabilization of monetary standards. H. H. Preston. *Trust Companies* 57:11-16 J1 '33
- Dynamite in foreign exchange; will attempts to peg currencies prove successful? H. Richmond, jr. *Mag of Wall St* 52:220+ Je 24 '33
- Economic nationalism. A. R. Orage. *Fortune* 8:56-7+ N '33
- Electric dollars urged at science meeting as monetary panacea for the nation. *Elec W* 100:866 D 31 '32
- Entering the arena with depreciated currency countries. W. Wilson. *Trust Companies* 56: 576 My '33
- Europe looks askance; politicians and bankers abroad dare not think Roosevelt program can succeed. C. R. Hargrove. *Barron's* 13:6 Ag 21 '33
- Exchange stabilization. *Nat City Bank* p72-4 My '33
- Fixed income or guaranteed purchasing power? C. F. Hoyden. *Mag of Wall St* 52:61+ My 13 '33
- Function of money and the gold standard. *Can Min J* 54:9-11 Ja '33
- Functions of money. L. Alston. 139p \$1.75 Macmillan '32
- Gold and currency highlights in 1932. *Bradstreet's* 61:144-5+ Ja 28 '33
- Hand of stabilization is the hand of death. T. H. Price. *Comm & Fin* 22:536 Je 21 '33
- Inflation and your money. E. H. Collins. 32p Guaranty trust company of New York, 140 Broadway, N.Y. '33
- Inflation no royal road to reflation. L. P. Ayres. *Automotive Ind* 68:194-6+ F 18 '33
- Inherent function of money. W. Brown. 114p McAllister pub. co, Chicago '33
- International economics. R. F. Harrod. 211p \$1.25 Harcourt '33
- International situation. *Nat City Bank* p4-8 Ja '33
- Introduction to money and credit. J. D. Magee. rev ed 502p F. S. Crofts & co, New York '33
- Is the rubber dollar coming? G. F. Warren. *Ptr Ink* 165:48-9+ O 19 '33
- Lasting prosperity. A. G. McGregor. 151p \$2.25 Pitman '33
- Major problem one of restoring industrial balance and normal credits; dangers to be apprehended from various inflationary proposals. C. S. McCain. *Trust Companies* 56: 170-2 F '33
- Midland bank limited ordinary general meeting. *London. Economist* 116:256-9 F 4 '33
- Minor papers on the currency question, 1809-1823. D. Ricardo. 231p Johns Hopkins press, Baltimore '32
- Modern money. J. C. Bonine. 129p \$1.50 Stratford co, Boston '33
- Modern money. H. L. M. Melchett. 278p [bibliog p262] M. Secker, London '32
- Monetary theory and the trade cycle. F. A. Hayek. 244p \$2 Harcourt '33
- Money. F. A. Bradford. rev ed 403p \$2.50 Longmans '33
- Money and banking. W. H. Steiner. 931p \$4.50 Holt '33
- Money and the price level. F. M. Huntington-Wilson. 222p \$2 Century co. '32
- Money power and human life. F. Henderson. 205p Day '33
- Money versus man. F. Soddy. 121p \$1.25 Dutton '33
- More money for everyman. J. Mill. 128p \$1.50 Roland Swain co, 1715 Chestnut st, Philadelphia '33
- Nationalism defeating internationalism; World economic conference. J. C. Cresswill. *Mag of Wall St* 52:261-2+ J1 8 '33
- Philosophy of money. F. J. Eddy. 94p Fred J. Eddy, Van Nuys, Calif. '33
- Planned money. B. P. Blackett. 201p \$1.50 Appleton '33
- Profits key to price recovery. J. S. Lawrence. *Econostat* 1:8-10+ Mr 25 '33
- Qualitative credit control. W. E. Dunkman. 345p [bibliog p334-8] \$3 Columbia univ. press '33
- Report of the World economic conference; report of the monetary and financial commission. *Economist* 117:sup2-4 J1 29 '33
- Roosevelt defines stabilization. *Econostat* 1:5 J1 8 '33
- Serial currency; a plan for issuing currency based upon labor expended in the construction of public works. R. A. Perkins. 19p Robert A. Perkins, 320 Paulton block, Sioux Falls, S.D. '32
- Social consequences of a return to gold: an analysis of certain current proposals for an international monetary standard. P. W. Martin and E. J. Riches. *Int Labour R* 27: 25-50 Ja '33
- Socialisation of banking. O. Sachse. 138p \$1.25 Macmillan '33
- Socialized money. H. O. Campbell. 160p H. O. Campbell. 160p Homer O. Campbell, Seattle '33
- Some thoughts on price control; a criticism of Mr Keynes' Theories on money. E. Dehn. *Bankers M* 126:138-40 F '33
- Stable money, the remedy for the economic world crisis. R. Eisler. 313p Search pub. co, ltd, London '32
- Terminology of economics. P. F. Nash. *East Underw* 34:19+ pt 2 S 22 '33
- Theory of the credit standard. H. Glückstadt. 345p [bibliog p339-42] P. S. King & son, ltd, London '32
- Trans-Atlantic movements of U. S. currency; the ebb and flow reflect developments here and abroad. S. I. Posner. *Am Bankers Assn J* 25:32-3+ Ja '33
- Unstable money. J. Strachey. 31p pa 25c Day '33
- Wealth, virtual wealth and debt. F. Soddy. 2d ed 320p \$2.50 Dutton '33
- What everybody wants to know about money. G. D. H. Cole, ed. 435p \$3 Knopf '33; Review. *Economist* 117:sup9-10 O 7 '33
- What will you use for money. H. Richmond, jr. *Mag of Wall St* 51:375+ Ja 21 '33
- What's happening at London; monetary stabilization is a bigger problem than it seemed at first. *Business Week* p18-19 Je 17 '33
- When inflation is not inflation. I. Fisher. *Ptr Ink* 165:59-62, 64+ O 5 '33
- Why prices and values decline. S. Bell. *Comm & Fin* 22:184 F 22 '33
- Will the kilowatt succeed gold as a currency basis? *Pub Util* 11:114-16 Ja 19 '33
- World conference and monetary reflation; essential solidarity of world problems. J. Stamp. *Barron's* 13:14 Mr 6 '33
- World conference draft annotated agenda submitted by the Preparatory commission of experts. *Economist* 116:sup3-5 Ja 28 '33
- World conference; the monetary declarations. *Economist* 117:64-5 J1 8 '33
- World currencies; relationship between the pound, the franc, and the dollar. *Business Week* p6-7 My 10 '33

**MONEY—Continued**

World problems and proposed remedies; suggested platinum coinage for Russia. L. D. Edie. Bankers M 126:222-6 Mr '33

*See also*

Bank notes	Inflation (finance)
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Coins	Precious metals
Credit	Prices
Finance	Scrip
Foreign exchange	Silver as money
Gold as money	Wealth
Hoarding	
Index numbers (economics)	

**Bibliography**

Help on money questions found in recent books. H. Jameson. Rand McNally Bankers Mo 50:281+ Je '33

**Devaluation**

After devaluation what? I. Axelson. Bankers M 127:25-8 Jl '33  
 Deflated dollar; fallacy that devaluation would affect prices or save gold. G. Herschfeld. Spectator 130:6-7 Mr 9 '33  
 Devaluation post mortem. J. A. Fitzgerald. Am Bankers Assn J 26:50 N '33  
 Disastrous consequences to American agriculture of devaluing the dollar. O. J. Wheatley. Annalist 41:627+ My 5 '33  
 Effect of depreciated currencies, as shown by official statistics. R. S. Tucker. Annalist 41:595-6 Ap 28 '33  
 Gold as a measuring rod of value. C. H. Fowler. Trust Companies 57:401-5 O '33  
 Inflation vs. devaluation; the effects of each on distribution of income. E. C. Harwood. Annalist 42:435-6 O 6 '33  
 Is a devalued dollar necessary to start industry? T. M. Knappen. il Mag of Wall St 51:612-14+ Ap 1 '33  
 Money illusion: why devaluation is an unsound and dangerous expedient. W. A. Morton. Annalist 42:541 O 27 '33  
 Must the dollar be revalued? Mag of Wall St 51:288 D 24 '32  
 Progress of dollar devaluation. S. R. Wagel. Comm & Fin 22:611-12 Jl 12 '33  
 Will devaluation work? automatic rise in prices and other hoped-for benefits questioned. O. Ely. Barron's 13:3, 9 Ap 17 '33  
 Write down the debts of inflation; revaluation of gold. R. C. Rowe. Pulp & Pa of Can 34:263-5 Ap '33

**Exhibitions**

Unique scrip and currency issued during the recent national banking holiday; exhibit at the Chase national bank of New York. il Trust Companies 56:575 My '33

**History**

Currency manipulation in the XVI century. Am Bankers Assn J 26:51 Jl '33  
 Money; gold, silver and paper. F. W. Hirst. 271p 7s 6d Scribner '33  
 New deal in ancient Greece; Solon's reforms resemble in many particulars the current program of recovery. E. Groseclose. Barron's 13:3+ Ag 28 '33  
 Story of assignats and greenbacks. Nat City Bank p 174-9 N '33  
 Story of money. N. Angell. 411p \$1 Garden City pub. co, inc, Garden City, N.Y. '29

**Canada**

Canada weighs the dollar. Business Week p5 F 15 '33  
 Canadian exchange. Economist 116:231-2 F 4 '33

**Europe**

Plan for a European currency-normalization fund; an exposition of the Stresa recommendations. L. Pasvolsky. Barron's 12:5 D 12 '32

**Germany**

Financial experiments in Germany. A. Comstock. Barron's 13:7+ N 6 '33

Germany watches the dollar; rigid control of foreign exchange. Business Week p24-5 My 24 '33

**Great Britain**

Bankers and the pound. Economist 116:225-6 F 4 '33  
 British monetary policy. F. Benham. 116p P. S. King & son, ltd, London '32  
 British situation. Nat City Bank p184-8 D '32  
 Empire currency policy. Economist 117:270-1 Ag 5 '33  
 England; purpose of exchange equalization account. Guaranty Survey 12:12 Mr '33  
 Exchange equalisation account. Economist 116:sup6-8 My 13 '33  
 Exchange equalization fund; purposes and aims. M. Winkler. Dun & Bradstreet 41:2-3+ My '33  
 Exchange stabilization. Nat City Bank p72-4 My '33  
 Functions of money. L. Alston. 139p Macmillan, London '32  
 G. H. Q. of £ s. d. J. Wardlaw-Milne. 130p Cassell and co, ltd, London '32  
 Great financial illusion; pernicious result of British currency policy. A. Lansburgh. Barron's 13:18 Ja 16 '33  
 Monetary half-year. Economist 117:6-8 Jl 1 '33  
 Money in 1932. Economist 116:7-8 Ja 7 '33  
 Principal cause of unemployment. D. W. Maxwell. 273p Williams & Norgate ltd, London '32  
 Sterlingaria becomes authentic; British dominions to maintain currencies on sterling base. J. S. Lawrence. Econostat 1:8-10 Ag 5 '33  
 Why sterling has been undervalued with respect to purchasing power parity. D. W. Ellsworth. Annalist 41:37 Ja 13 '33  
 Will decline of the £ cause inflation here? T. H. Price. Comm & Fin 21:1412 D 7 '32

*See also*

Gold as money—Great Britain

**Poland***See also*

Gold as money—Poland

**Russia**

Russia's debased currency. Barron's 13:12 F 13 '33  
 World problems and proposed remedies; suggested platinum coinage for Russia. L. D. Edie. Bankers M 126:222-6 Mr '33

**Sweden**

Managed money; Sweden has had striking success. Business Week p20 Mr 8 '33  
 Operation and principles of a managed currency system; results of the Swedish system. J. Liljencrants. Trust Companies 57:369-72+ O '33  
 Sweden's managed currency. R. S. Tucker. Barron's 13:3 Je 19 '33

**United States**

Agenda for restoration of confidence and stability. E. W. Kemmerer. Trust Companies 56:417-22 Ap '33  
 Alternatives in stabilization. Am Bankers Assn J 26:19+ Ag '33  
 American dollar abroad. H. P. Willis. Dun & Bradstreet 41:5-7+ Je '33  
 American dollar at home and abroad. T. M. Knappen. Mag of Wall St 52:58-60+ My 13 '33  
 Another flight of the dollar. Bradstreet's 61:400 F 25 '33  
 Banking crisis. Nat City Bank p49-57 Ap '33  
 Business and financial conditions. Guaranty Survey 13:1-4 Ap '33  
 Can prices be lifted by federal gold operations? T. M. Knappen. Mag of Wall St 53:66+ N 11 '33  
 Can we afford to stabilize now? pros and cons of early revaluation of the dollar. J. D. C. Weldon. Mag of Wall St 53:13-14+ O 28 '33  
 Central versus open market banking. E. S. Pillsbury. Comm & Fin 22:373-4 Ap 26 '33  
 Clearing house scrip: will history repeat itself? historical summary. Forbes 31:13-14 Mr 15 '33



**MONEY—United States—Continued**

Composite currency reserve consisting of gold, silver and staple merchandise. T. H. Price. *Comm & Fin* 22:610 JI 12 '33

Controlled inflation. *Business Week* p18-19 My 17 '33

Controlled inflation. A. Crawford. *il Burroughs Clearing House* 17:3-5+ Je '33

Controlling the uncontrollable: the commodity dollar simplified. A. Lee. *Annalist* 42:571-2 N 3 '33

Cry for inflation. A. Crawford. *il Burroughs Clearing House* 17:8-10+ Mr '33

Currency inflation is economic dynamite. M. S. Rathburn. *il Mag of Wall St* 51:420-2+ F 4 '33

Debt-payer's dollar; a tractable unit is the aim. E. H. Collins. *Am Bankers Assn J* 26:20 Ag '33

Devaluation post mortem. J. A. Fitzgerald. *Am Bankers Assn J* 26:50 N '33

Distrust of the dollar main obstacle to return of financial confidence. E. W. Axe. *Annalist* 41:558-9 Ap 21 '33

Dollar—constant or free. J. S. Lawrence. *Econostat* 1:8-10+ Je 24 '33

Dollar depreciation and the market. A. T. Miller. *Mag of Wall St* 53:60-1+ N 11 '33

Dollar ignores gold theory; how administration's new gold policy conflicts with world values. C. R. Harrower. *Barron's* 13:4 O 30 '33

Experimenting with the dollar. *Economist* 117:799-800 O 28 '33

Fallacies in financing government deficits; proposed bill basing note issue on price index has convertibility provision, but it would not work. *Barron's* 13:11 Ja 16 '33

Farm crisis creates new dollar; multiple commodity dollar rises from ashes of gold standard. J. S. Lawrence. *Econostat* 1:8-10 N 11 '33

Financial policies of the administration; editorial. *Bankers M* 126:529-35 Je '33

Financial situation improved by gold imports and decreased circulation. D. W. Ellsworth. *Annalist* 41:3-4 Ja 6 '33 [cont monthly]

For a new monetary standard; compensated dollar. *Comm & Fin* 22:375 Ap 26 '33

Foreign exchange quandary. *Business Week* p14-15 S 23 '33

Functions of the gold standard. *Nat City Bank* p59-62 Ap '33

Gold embargo and other administration measures. *Nat City Bank* p67-71 My '33

Gold standard and the administration's general economic programme. B. M. Anderson, jr. *Chase Econ Bul* 13:3-21 My 6 '33

Inflation; issuing new currency. *Business Week* p7-8 My 10 '33

Inflation—stabilization; it's naive to ask whether we are going to have inflation when we are having it. *Business Week* p18-19+ O 21 '33

Inflationism. *il Am Bankers Assn J* 25:32-4+ Mr '33

Interpretation of "money in circulation." *Annalist* 41:165 Ja 27 '33

Is a devalued dollar necessary to start industry? T. M. Knappen. *il Mag of Wall St* 51:612-14+ Ap 1 '33

Kinds of money in circulation. Published in monthly numbers of Federal reserve bulletin

Laboratory dollar. J. S. Lawrence. *Econostat* 1:8-10 My 20 '33

Legislative landmarks in 1932. *Bradstreet's* 61:146+ Ja 28 '33

Maintaining our gold standard. T. F. Woodlock. *Barron's* 13:19 Mr 27 '33

Maintaining the value of the dollar. J. B. Hubbard. *Barron's* 13:3+ Mr 20 '33

Managed dollars; hint of a commodity dollar alarms financiers, but not mere managed money. *Business Week* p5-6 N 4 '33

Managed dollars; Roosevelt announces a monetary policy. *Business Week* p5-6; Editorial comment. p32 O 28 '33

Meals or meal tickets; effects of more money, cheaper money. D. A. Weir. *Credit & Fin Management* 35:18-19+ F '33

Monetary legislation; section of Agricultural relief act which deals with Federal reserve and monetary matters. *Fed Res Bul* 19:269-71 My '33

Money and banking. Published in monthly numbers of National city bank

Money and banking in 1932. L. M. Atwater. *Mag of Wall St Manual* p8-9 Mr 6 '33

Money illusion: why devaluation is an unsound and dangerous expedient. W. A. Morton. *Annalist* 42:541 O 27 '33

Need for assurance of a sound money policy. *Guaranty Survey* 13:1-7 O '33

New economics; report of self-constituted Committee for the nation. *Business Week* p9 Mr 15 '33

New gold policy and the effect on prices. *Nat City Bank* p168-71 N '33; Excerpts. *Comm & Fin* 22:971 N 8 '33

Our balance of payments and its bearing on the position of the dollar. G. E. Anderson. *Annalist* 41:659-60 My 12 '33

Paper dollar and gold dollar prices compared; investment significance. H. Richmond, jr. *Mag of Wall St* 52:320-1+ JI 22 '33

President's price goal. T. M. Knappen. *il Mag of Wall St* 52:466-8+ S 2 '33

Prices, debts and inflation. *Comm & Fin* 22:690-1 Ag 9 '33

Probable changes in the velocity of circulation; abstract. F. R. Ottman. *Am Statist Assn J* 27:434 D '32

Progress of inflation. S. M. Foster. *Barron's* 13:3+ O 23 '33

Proposals for inflation. *Nat City Bank* p21-31 F '33

Public cross-examines gold policy. *Econostat* 1:5-7 O 28 '33

Real wealth as the money base. *Mag of Wall St* 51:224+ D 10 '32

Relation of money wages to per capita money for 90 years. H. P. Gillette. *Roads & Sts* 76:148-9 Ap '33

Rubber dollar and the stock market. A. T. Miller. *Mag of Wall St* 52:307-8+ JI 22 '33

Rubber dollars and Dr Warren. W. McMillan. *Ptr Ink* 165:61+ O 26 '33

Searching for better dollars; tabular standard. J. S. Lawrence. *Econostat* 1:8-10+ My 13 '33

Seasonal variations in money in circulation. *Fed Res Bul* 18:735-46 D '32

Some fallacies underlying the demand for inflation. B. M. Anderson, jr. *Chase Econ Bul* 13:3-20 My 9 '33

Sound money—an anachronism. J. S. Lawrence. *Econostat* 1:8-10 My 6 '33

Stabilization of money. J. G. Hodgson, comp. *Ref Shelf v* 8, no 7:1-238 [biblog p27-50] '33

Steady dollar; Washington is likely to create a fund to buy and sell dollars. *Business Week* p22-3 Je 7 '33

Story of assignats and greenbacks. *Nat City Bank* p174-9 N '33

Thomas amendment—an analysis. *Econostat* 1:5-7 Ap 29 '33

Wanted—an honest dollar. R. M. Harriss. *Comm & Fin* 22:750 Ag 30 '33; Discussion. 22:848, 911-12 S 27, O 18 '33

We buy gold abroad. *Business Week* p3-4 N 4; 10-11 N 11 '33

We need a stable dollar to restore the profits of banking. H. O. Edmonds. *Rand McNally Bankers Mo* 50:611 N '33

What the rubber dollar means to business and investment. T. M. Knappen. *Mag of Wall St* 52:361-3+ Ag 5 '33

"When, as and if" we inflate. J. C. Cresswill. *Mag of Wall St* 52:564-5+ S 30 '33

*See also*

Gold as money—  
United States

**MONEY, International**

Bartex; Britishers propose new exchange unit to be based on goods. *Business Week* p23 D 21 '32

Managed sterling currency as an international medium of exchange. W. T. Easterbrook. *Econostat* 1:16 Ap 22 '33

Public works as a cure for depression; how Mr J. M. Keynes would increase employment and prices. *Index* 13:85-9 My '33

**MONEY, International—Continued**

Toward an international standard of value. M. Sykes. *Comm & Fin* 22:443 My 17 '33  
 Why not include cotton? Canadian financier proposes international coin based on silver and wheat. *Comm & Fin* 21:1465 D 21 '32

**MONEY market**

Detroit money market. G. W. Woodworth. *Michigan Univ Bur of Business Research Business Studies* v5, no2:1-221 [biblog p209-20] '32

Finance—security and money markets. Published in monthly numbers of *Survey of current business*

Financial markets. Published in weekly numbers of *Business week*

International money markets. Published in monthly numbers of *Dun & Bradstreet*

Money market. *Economist* 116:sup7-8 F 18 '33

*See also*

Brokers' loans	Federal reserve banks
Commercial paper	Interest
Discount	Money

**MONEY raising campaigns**

Advertising sees it through. *il Adv & Sell* 20:20 N 24 '32

Financial statement may be best charity appeal; Salvation army uses cold figures. *Ptr Ink* 162:57-8 Mr 2 '33

Prizes in contest go to Graham and McCarthy; best appeal to pay Community fund pledges. *Ptd Salesmanship* 62:121-3 O '33

**MONEY rates. See Interest****MONOCHROMATOR**

Large crystalline quartz double monochromator. W. E. Forsythe and B. T. Barnes. *il diag R Sci Instr* 4:289-94 My '33  
 World's largest spectroscope completed at Nela Park. *Illum Eng Soc Trans* 28:199-200 Mr '33; *Gen Elec R* 36:290 Je '33

**MONOGRAPTIDAE. See Graptolites****MONOMOLECULAR films. See Films****MONOPOLIES**

Cartels, concerns and trusts. R. Liefmann. 379p \$6 Dutton '32

Injunction protecting utility monopoly dissolved; Fairbanks, Morse & co. v. Texas electric service co. *Pub Util* 11:430-1 Mr 30 '33

Monopoly; a history and theory. V. A. Mund. 164p [biblog p153-60] \$3 Princeton univ. press, Princeton, New Jersey '33

Theory of monopolistic competition. E. Chamberlin. 213p \$2.50 Harvard univ. press '33; Review by B. W. Knight. *Pub Util* 11:734-5 Je 8 '33

*See also*

Business consolidations	Corporation law
Competition	Restraint of trade
	Trusts, industrial

**MONORAIL conveyors**

American monorail trolley drive employs tire. *il Steel* 92:26 Ja 23 '33; *Automotive Ind* 68:121 Ja 28 '33

Automatic hoist and monorail tractor solve materials handling problem; Columbia axle co. E. R. Tozer. *il Steel* 93:30 O 23 '33

Monorail materials handling in the foundry. J. B. Forker. *Mech Handling* 20:117-20 Ap '33

Mono rail telfers. *il diags Mech Handling* 19:381-3; 20:27-9 N '32, Ja '33

New heavy-duty monorail crabs. *diags Mech Handling* 20:277-9 S '33

Palan électrique blindé à commande par bouton, système Verlinde. *diag Génie Civil* 101:615 D 17 '32

Palan électrique, système Tourtellier, à hauteur perdue très réduite, circulant sur monorail. *diags Génie Civil* 103:379 O 14 '33

**MONSANTO chemical company**

Annual report, 1932. *Oil Paint & Drug Rep* 123:22 Mr 13 '33

Diversified output and sustained earning power. W. W. Hay. *Mag of Wall St* 52:174-5 Je 10 '33

Management's part in chemical engineering achievement. *Chem & Met Eng* 40:478-9 S '33

Merit of Monsanto; the company's status in the expanding chemical industry. T. M. Foristall. *Barron's* 13:6-7 Jl 3 '33  
 Monsanto gets control of Swann corporation. *Oil Paint & Drug Rep* 123:15 Ap 24 '33; *Chemicals* 38:1-2 My 1 '33

**MONTANA mines and power company**

Secure or insecure; prospectus on common stock. *Min & Met* 14:403-4 O '33

**MONTGOMERY Ward and company**

Among the first to benefit from improvement in merchandising. A. L. Van Horne. *Mag of Wall St* 51:154 N 26 '32

Certain Montgomery Ward stockholders organize. *Barron's* 13:8 S 11 '33

How the mail-order companies fared. *Barron's* 13:9 Ja 9 '33

Montgomery Ward reduces loss. *Econostat* 1:12-4 Ap 15 '33

New merchandising policy. *Barron's* 13:7 Ap 10 '33

Selected stocks to buy for future profit and protection. *Mag of Wall St* 52:76-7 My 13 '33

Speculative audit; favorable and unfavorable factors affecting common-stock values. *Barron's* 13:14 O 16 '33

Stockholders rebel. *Business Week* p10 S 9 '33

**Bureau of standards**

Chemistry in merchandising. E. H. Harvey. *il Am Dyestuff Rep* 22:594-8 O 9 '33

**MONTMORILLONITE**

Petrography of the fuller's earth deposits. Olmstead, Illinois, with a brief study of some non-Illinois earths. R. E. Grim. *il Econ Geol* 28:344-63 Je '33

**MONTREAL, Quebec**

Quebec, Montreal, and Ottawa. T. M. Longstreth. 318p [biblog p313] \$3 Century co. '33

**Bridges**

Paving Victoria bridge; sheet asphalt and expansion steel mesh. F. J. Leduc. *il Can Eng* 63:16-17 D 6 '32

**Libraries**

Directory of special libraries in Montreal. 43p  
 Montreal special libraries assn, Montreal '33

**Sanitary affairs**

Two incinerators for the collection and disposal of refuse in Montreal. G. D. O'Connor. *il Can Eng* 63:5-8 N 22 '32

**Streets**

Montreal paving law criticized. *Can Eng* 63:33 N 15 '32  
 Reinforced concrete subway on Jean Talon street, Montreal. *il Can Eng* 65:5-8 O 3 '33

**Water supply**

Montreal health by-law. *Can Eng* 64:20 F 28 '33

**MONTREAL light, heat and power consolidated**  
 Beauharnois committee favors reorganization. *Elec W* 101:470 Ap 15 '33

**MONTREAL university**

University of Montreal; its history, new buildings and chemistry department. G. Baril. *Can Chem & Met* 17:23-4+ F '33

**MONUMENTS**

Cap of Peary monument made of 18-8 steel to withstand arctic exposure. *il Steel* 92:34 Je 5 '33

Harness idle hours; Peace monument for Duwamish Head, a cooperative design by members of the Seattle architectural club. H. K. Wolfe. *il Am Arch* 143:49 S '33

Monument to surveying at Lafayette college, Easton, Pa. P. P. Rice. *il Civil Eng* 3:356 Je '33

Washington monument facts brought up to date. D. H. Gillette. *diags Eng* N 110:501-2 Ap 20 '33

*See also*

War memorials  
 Washington monument, Washington, D.C.



**MOORE, C. I. D.**

Influencer of careers; vice-president of Pacific Mutual. B. Whiting. *por* East Underw 33:40-1 D 9 '32

**MOORE, Eliakim Hastings, 1862-1932**

Sketch. L. E. Dickson. *Science* 77:79-80 Ja 20 '33

**MOORING masts.** See Airships—Mooring masts**MORAINES**

New York moraines. H. L. Fairchild. *il fold map* Geol Soc Bul 43:627-62 [bibliog p659-62] S '32

**MORAN, Eugene F., 1872-**

President, Moran towing & transportation co., inc. B. K. Price. *por* Marine R 63:39 Ag '33

**MORDANTS.** See Dyes and dyeing—Mordants**MORGAN, Arthur E.**

Portrait. *Pub Util* 12:387 S 28 '33

**MORGAN, John Pierpont, jr.**

Mister Morgan. *por* Fortune 8:56-63+ Ag '33

**MORGAN, J. P., and company**

Duties and uses of private bankers. J. P. Morgan. *Bankers M* 127:57-62 Jl '33

House of Morgan. S. Bell. *Comm & Fin* 22:517-18 Je 14 '33

J. P. Morgan advises and explains. *Barron's* 13:4 My 29 '33

J. P. Morgan & co. *Business Week* p30 My 31; p5-6; Editorial comment. p32 Je 7 '33

Morgan inquiry. *Economist* 116:1123-4, 1232-4 My 27, Je 10 '33

Morgan investigation. *J Account* 56:1-4 Jl '33

Morgan investigation debunked. *Forbes* 31:6 Je 15 '33

Next, Morgan & co.; Senate investigation. *Business Week* p12+ Ap 12 '33

O. P. Van Sweringen heard in Morgan investigation. *Ry Age* 94:834+ Je 10 '33

**MORGAN, Philip M.**

President, Wire machinery builders' association. *por* Steel 93:21 O 23 '33

**MORGAN, William**

London celebrates centenary of William Morgan, actuary. *East Underw* 34:14+ My 19 '33

**MORGENTHAU, Henry, jr.**

Portrait. *Business Week* p8 Mr 29 '33

**MORINIDIN chloride**

Synthesis of pyrylium salts of anthocyanidin type; morinidin chloride; observations on cyanomaculrin. E. H. Charlesworth, J. J. Chavan and R. Robinson. *Chem Soc J* p370-4 Ap '33

**MORLEY-MILLER experiments.** See Ether (of space)**MORPHIDES**

See also

Bromomorphide

**MORPHINE**

Effect of morphine on the anal sphincters. T. Koppányi and W. S. Murphy. *Science* 78:14 Jl 7 '33

See also

Desoxymorphines

**MORPHINE group**

Preliminary synthetic experiments in the morphine group; completion of the synthesis of a laudanoline dimethyl ether related to sinomenine. R. Robinson and S. Sugawara. *Chem Soc J* p280-1 Mr '33

Reductions in the morphine series; dihydropseudocodeine. R. E. Lutz and L. F. Small. *Am Chem Soc J* 54:4715-30 D '32

**MORPHOLINE**

Some new local anesthetics containing the morpholine ring. J. H. Gardner, D. V. Clarke and J. Semb. *Am Chem Soc J* 55:2999-3000 Jl '33

**MORRIS, Robert Hamilton, 1878-**

Sketch. *por* Explosives Eng 11:196-7 Jl '33

**MORRIS plan banks**

Inflation and the Morris plan. T. F. Green. *Bankers M* 127:106-7 Jl '33

Morris plan banks explained for commercial bankers. J. R. Cudney. *Rand McNally Bankers Mo* 50:478-9 S '33

**MORTALITY**

Good housing versus food. G. C. M. McGonigle. *Monthly Labor R* 37:912-13 O '33

Improving human values through health; abstracts. A. S. Knight. *East Underw* 33:22 D 9 '32; *Ins Field* (Life ed) 61:10 D 9 '32

1932 proves the best health year. *Safety Eng* 65:107 Mr '33

Tropical mortality studies; Kenya colony and protectorate. F. L. Hoffman. *Spectator* 130:13-14 Ja 19 '33

See also

Insurance, Life

Longevity

**Statistics**

Accidental deaths drop in 1932. *Nat Safety N* 27:11-12+ Mr '33

Actual vs. expected mortality, 1917-1931; tabulation. *Spectator* 129:13 D 8 '32

Appendicitis record for 1932. F. L. Hoffman. *Spectator* 131:6-7+ Ag 3 '33

Cancer record of 1932. F. L. Hoffman. *Spectator* 130:10-12 Ap 27 '33

Deaths during 52-week period ended December 31, 1932. *Pub Health Rep* 48:92 Ja 27 '33

Deaths during week in certain large cities of the United States. Published in weekly numbers of Public health reports

Diabetes record of 1931. F. L. Hoffman. *Spectator* 129:7+ N 24 '32

Diabetes record of 1932. F. L. Hoffman. *Spectator* 131:10-13 Jl 6 '33

Effect of allocation of non-resident deaths upon official mortality statistics. H. F. Dorn. *Am Statis Assn J* 27:401-12 D '32

Final summary of mortality statistics, 1931. *Pub Health Rep* 48:170-1 F 17 '33

Health of insured wage earners during 1932. *Monthly Labor R* 36:786-9 Ap '33

Homicide record for 1932. F. Hoffman. *Spectator* 130:10-13+ Mr 30 '33

Loss of life by fire; April—June, 1932. *Safety Eng* 64:225 N '32

Maternal, fetal, and neonatal mortality among 1,815 hospitalized American Indians. E. B. Sterling. *Pub Health Rep* 48:522-35 My 19 '33

Mortality experience of International typographical union, 1932. F. L. Hoffman. *Monthly Labor R* 36:1248-52 Je '33

Mortality in certain states during 1932, with comparative data for recent years. *Pub Health Rep* 48:478-86 My 5 '33

Occupational fatality rate lowest in 1932; Metropolitan's figures show. *East Underw* 34:32 My 5 '33

Suicide record for 1932. F. L. Hoffman. *Spectator* 130:6-7, 10-11 Je 8 '33

Trends in diphtheria mortality. E. A. Lane. *Pub Health Rep* 48:473-8 My 5 '33

Trends of health in the United States. R. H. Britten. *bibliog* *Pub Health Rep* 48:27-41 Ja 13 '33

Tuberculosis record for 1932. F. L. Hoffman. *Spectator* 131:6-7, 14-15 O 26 '33

Typhoid fever in the large cities of the United States in 1932. *Am Water Works Assn J* 25:1157-68 Ag '33

**MORTAR**

Aus untersuchungen mit zement, zementmörtel und beton. O. Graf. *il Zeit Ver Deutsch Ing* 77:813-19 JI 29 '33

Distinction entre la prise et le durcissement des ciments et des mortiers. E. Marcotte. *diag Génie Civil* 102:86-7 Ja 28 '33

Effects of particle interference in mortars and concretes. C. A. G. Weymouth. *diags Rock Prod* 36:26-30 F '33

Faulty construction accused for California earthquake damage; tests prove mortar was much weaker than law requires. *Brick & Clay Rec* 82:125-6 Ap '33

Feuerfester mörtel zum flicken von silikakoksöfen. E. Comblés. *diags Stahl & Eisen* 53:984-8 S 21 '33

Leaky brick walls and how to prevent them. J. H. Mallon. *bibliog* *il Arch Rec* 72:412-16+ D '32

Less shrinkage, better workability, with prehydrated mortar. E. Y. Bragger. *Concrete* 41:14-15 N '33

**MORTAR—Continued**

- Masonry cements must be pre-mixed; California earthquake discloses need for control. R. E. Davis. Concrete 41:5-6 N '33  
Studies of masonry cements—workability. J Fr Inst 215:484-5 Ap '33  
Volumetric changes in neat cements and mortars. R. E. Mills. Am Concrete Inst J 4:344-50 Mr '33  
Wisconsin magnesium lime mortars. G. J. Barker. Il Wisconsin U Eng Exp Sta Ser 75:1-39 '33

See also  
Trass

**Testing**

- Bond in masonry construction. W. C. Voss. Il diags Boston Soc C E J 20:19-37 F-Mr '33  
Comparative tests of permeability of five cement mortars. W. A. Carlson. diag Concrete 40:5-7 D '32  
Effect of carbon dioxide on the strength of some building materials. G. E. Bessey. Soc Chem Ind J 52:288T-93T S 15 '33  
Effect of composition of Portland cement on length and weight changes of mortars. H. Woods, H. R. Starke and H. H. Steinour. diag Rock Prod 36:24-9 Je '33  
Effect of curing conditions on the strength of cement mortar. D. O. Woolf and K. F. Shippey. Pub Roads 14:106-8 Ag '33  
Effect of sugar in mortars; abstract. J. B. Oliva. Rock Prod 36:40 Ap '33  
Relation of bond between brick and mortar and leaky masonry walls. E. F. Gallagher. Brick & Clay Rec 82:133-4 Ap '33  
Strength and durability tests of mortar-mix mortar. M. G. Spangler. Am Cer Soc J 16:246-9 My '33  
Strength tests of cement require changes in methods. E. W. Reed-Lewis. Concrete (mill sec) 41:26-9 Ag '33

**MORTGAGE banks**

See also

- Home loan banks  
Home owners' loan corporation

**MORTGAGE companies**

- Details of R.F.C. aid for guaranteed mortgages told. Nat Underw 37:38 My 25 '33  
Explains R.F.C. plans to aid guaranteed mortgage holders. F. H. Burns. East Underw 34:30 Je 16 '33  
Handling a big responsibility; N. Y. state insurance department jurisdiction over rehabilitation of title and mortgage companies. East Underw 34:17 N 3 '33  
How National Surety views mortgage co. order. East Underw 34:29+ Mr 24 '33  
Mortgage backers get indirect aid. Nat Underw 37:23+ Ap 6 '33  
Mortgage companies in bondage; New York. Arch Forum 58:sup26 Ap '33  
Mortgage migraine; New York operates on mortgage companies. Business Week p21-2 Ag 12 '33  
Plan to aid mortgage companies finds favor; U. S. fidelity and guaranty and Maryland casualty vitally interested in refinancing arrangements. Weekly Underw 128:1158 Je 17 '33  
R.F.C. plan for handling mortgage loans offers timely relief for surety carriers. Ins Field (Fire ed) 62:7+ Ap 6 '33; East Underw 34:34 Ap 7 '33  
Refinancing plans for mortgage loans; R.F.C. co-operating in aid to mortgage companies whose bonds have U.S.F. & G. or Maryland Casualty guaranty. East Underw 34:42 My 26 '33  
Rehabilitation of title and mortgage companies in the state of New York. Trust Companies 57:207-8 Ag '33  
Revised mortgage plan satisfactory; life companies handle business better than guarantee concerns did. Nat Underw (Life ed) 37:2+ Je 16 '33  
Two more companies under N. Y. state control; Lawyers title and guaranty company of New York and Lawyers Westchester mortgage and title company of White Plains. Spectator 131:28-9 Ag 17 '33; East Underw 34:30 Ag 18 '33

- Two new companies will be formed; part of rehabilitation plan for N. Y. title and mortgage and Home title. Spectator 131:27+ Ag 10 '33  
Van Schaick's reorganization plan for mortgage guaranty companies. East Underw 34:29+ Ag 11 '33

**MORTGAGES**

- Adequate price on foreclosure sale; suit. Econostat 1:28 Ap 15 '33  
Apportionment of losses on mortgage foreclosures; mortgage loans as trust investments. G. Newhall. Trust Companies 56:353-5 Mr '33  
Building industry will benefit from \$2,000,-000,000 home relief act. Am Bld 55:12-13+ Jl '33  
City home mortgages and farm relief. G. E. Anderson. Il Am Bankers Assn J 25:38-40 My '33  
Come-back for real estate mortgages. E. A. Craig. Trust Companies 56:661-3 Je '33  
Common sense view of foreclosed real estate. A. Van Vlissingen, Jr. Burroughs Clearing House 17:14-15+ Ap '33  
Crisis in home financing. M. Edwards. Il Nation's Business 21:30+ Ap '33  
Distribution of proceeds on sale of properties under foreclosed mortgages; apportionment between life tenant and remainderman by trustee. A. I. Farb. Trust Companies 57:245-50 S '33  
Expect states to aid mortgagors. Nat Underw (Life ed) 37:4 F 3 '33  
Federal mortgage aid outlined. Am Bld 55:38+ Ag '33  
Federal securities act provides many exemptions for mortgages. Arch Forum 59:243 S '33  
Fiduciaries and the mortgage situation. F. J. Fuller. Trust Companies 56:406 Ap '33  
500,000 investors in guaranteed mortgage participation certificates will be aided through a new non-profit protective corporation. Arch Forum 58:516-17 Je '33  
Foreclosure or adjustment? T. M. Knappen. Mag of Wall St 51:470-2+ F 18 '33  
Forgotten home owner. Business Week p16 Mr 8; 16+ Ap 12 '33  
Giving the home owner protection. R. Wilmoughby. Nation's Business 21:23-6+ Ag '33  
Guaranteed mortgages. Bankers M 126:153-4 F '33  
Guarantees off; New York suspends mortgage guarantees as bondholders refuse to accept lower interest rates. Business Week p4 Mr 22 '33  
Hartford view of home loan bonds; company executives do not see any virtue in exchanging mortgages. Nat Underw (Life ed) 37:3 Ag 11 '33  
Home mortgage refinancing. Manuf Rec 102:19 Jl '33  
Home owner's loan act. Dun & Bradstreet 41:7 My '33  
How the mortgage guaranty situation is being handled in New York; Guaranteed mortgage protection corporation. G. S. Van Schaick. Trust Companies 56:551-3 My '33  
How to control bank costs; mortgage loan department costs. B. E. Young. Bankers Mo 49:738-40+ D '32  
Implications of real estate tax changes. M. Sykes. Comm & Fin 22:173 F 15 '33  
Let us not lose faith in mortgages; cooperation with owners of mortgaged properties. J. M. Steere. Trust Companies 55:683-4 D '32  
Life insurance companies and banks confer with Governor on N.Y. foreclosures. East Underw 34:14+ Mr 3 '33; Nat Underw (Life ed) 37:4 Mr 3 '33  
Liquidating one of the largest mortgage pools in captivity. E. A. Morton. Trust Companies 55:695-9 D '32  
Loans on mortgages. C. A. Mann. Am Bankers Assn J 26:59 O '33  
Many states ponder moratorium idea. Nat Underw (Life ed) 37:3 F 17; 3+ F 24 '33  
More mortgage distress; Realty stabilization corp. to aid in the refinancing of maturing guaranteed mortgages in New York city. Business Week p20 F 22 '33



**MORTGAGES—Continued**

- Mortgage debts and building prospects. J. D. C. Weldon. *il Mag of Wall St* 52:516-18+ S 16 '33
- Mortgage indebtedness; editorial. Bankers M 126:114-15 F '33
- Mortgage interest reduction opposed. Nat Underw (Life ed) 37:3+ F 10 '33
- Mortgage money; real estate as an investment. M. M. Horsfield. *Barron's* 13:3, 7 Ag 14 '33
- Mortgage relief; bond issue puts steam behind the machinery of the Home owners' loan corp. *Business Week* p24 S 16 '33
- Mortgage relief; home owners continue agitation for better terms. *Business Week* p16 My 24 '33
- Mortgage situation at important stage. *Ins Field* (Life ed) 62:5+ Mr 3 '33
- Mortgage situation in New York. R. M. Hurd. *Trust Companies* 56:53-6 Ja '33
- Mortgages and morals. H. O. Frey. *Trust Companies* 56:571-2 My '33; Same. *Bankers M* 127:271-2 S '33
- New rules and precedents in dealing with mortgages; some problems confronting trust officials. H. O. Frey. *Trust Companies* 56:249-50 F '33
- Owners' equities. C. H. Lench. *Am Arch* 143:96-7 Mr '33
- Plan for liquidating mortgage loans; three classes of debtors and how to deal with them. D. B. Smith. *il Burroughs Clearing House* 17:14-16 S '33
- Present home-mortgage situation; administration's three-fold program to aid home owners. A. J. Mertze. *Barron's* 13:18 Je 26 '33
- Preserving the sanctity of contract and trustee obligations; mortgage situation. E. D. Duffield. *Trust Companies* 56:303-6 Mr '33; Abstract. *Weekly Underw* 128:352 F 18 '33
- Problems of the trustee in connection with bond issues; trust mortgages, foreclosures and reorganizations. H. L. Stanton. *Trust Companies* 55:529-36 N '32
- Prospect is better in city real estate; expect many properties taken over for management to work out well. *Nat Underw* (Life ed) 37:1+ N 3 '33
- Real estate mortgages—urban and rural. *Comm & Fin* 22:211 Mr 1 '33
- Real mortgage relief for the small home owner. *Business Week* p21 Je 17 '33
- Recent decisions affecting involuntarily of contract. *Trust Companies* 56:635-6 Je '33
- Rights of life tenant and remaindermen in foreclosed mortgages. W. L. Nossaman. *Trust Companies* 55:545-8+ N '32
- Roosevelt asks two billion for home building and refinancing. *Am Bld* 55:12-13 My '33
- Rules on listing mortgage lien holders fixed by Sup't. Van Schaick. *East Underw* 34:41 S 29 '33; *Spectator* 131:31 O 12 '33
- Save the home; Home owners' loan corp. is organizing its machinery. *il Business Week* p20-1 Ag 12 '33
- Skylines on the auction block. M. Edwards. *il Nation's Business* 21:20-2+ Mr '33
- Status of guaranteed mortgages as fiduciary investments; New York guaranteed mortgage protection corporation. G. W. Naumburg. *Trust Companies* 57:59-60 Ji '33
- Status of insurance under mortgage foreclosure; abstract. W. B. Knuff. *Management R* 22:13 Ja '33
- Success of the H.O.L.C. *il Arch Forum* 59:232-4 S '33
- Sue to force Missouri State to accept bonds of Home owners loan corporation. *Nat Underw* (Life ed) 37:7 Ag 25 '33
- Suggestions for the relief of the mortgage situation in New York city. R. M. Hurd. *Bankers M* 126:255-6 Mr '33
- Taking a deed in lieu of foreclosing a mortgage; protecting interests of the mortgagee in taking title to property. R. M. Hoyt. *Trust Companies* 57:133-6+ Ag '33
- Treatise on the law of mortgages of real property. F. H. Aldrich. 2d ed 650p Callaghan '33
- Use of foreclosure in acquiring title. D. Hamilton. *Weekly Underw* 129:866 N 4 '33
- Warns against moratorium dangers. F. H. Ecker. *Weekly Underw* 128:256 F 4 '33
- What can be done to improve the real estate mortgage situation; employing stagnant supplies of credit and cash. H. D. Pettibone. *Trust Companies* 56:193-7 F '33
- What the depression has taught us about real estate loans. R. L. Hoguet. *Bankers M* 126:29-34 Ja '33

**See also**

Bonds, Real estate  
 Chattel mortgages  
 Deeds of trust

**MORTGAGES, Farm**

- Canada's mortgage relief. *Business Week* p14 Ja 18 '33
- Companies effecting temporary suspension of foreclosures in Iowa. *Spectator* 130:16+ F 2 '33
- Companies generally postpone Iowa farm foreclosures. *East Underw* 34:3+ F 3 '33
- Companies' side to question of mortgage moratoria. W. E. Jones. *Ins Field* (Life ed) 62:4+ Mr 10 '33
- Company policy on mortgage loan foreclosures well defined. R. W. Sheehan. *Spectator* 130:20 F 9 '33
- Country banks since the A.A.A. W. E. Barkley. *Am Bankers Assn J* 26:24+ N '33
- Decrease in mortgage foreclosures. *Barron's* 13:11 F 13 '33
- Farm mortgage as a life insurance investment; abstracts. G. S. Nollen. *East Underw* 34:30+ O 13 '33; *Ins Field* (Life ed) Conv no 62:18-19 O 13 '33; *Nat Underw* (Life ed) Conv no 37:6 O 14 '33
- Farm mortgage refinancing; the federal plan and what it means to the bankers. C. R. Rosenberg, Jr. *il Burroughs Clearing House* 17:9+ Je '33
- Farm mortgage relief; Roosevelt offers liquid bonds for frozen farm mortgages. *Business Week* p18 Ap 12 '33
- Farm mortgage relief; seven interesting answers. F. W. Clements and others. *Am Bankers Assn J* 25:44-5 Mr '33
- Farm-mortgage relief unlikely in short session. *Barron's* 13:23 Ja 30 '33
- Farm mortgages. G. E. Anderson. *il Am Bankers Assn J* 25:22-3+ F '33
- Farm mortgages; the farm debt problem will be sitting on the doorstep of Congress alongside the war debts. *Business Week* p14-15 N 30 '32
- Farm rebellion. *il Business Week* p3-4 F 8 '33
- Farm relief for Ole Swanson; a case study. *Business Week* p24-5 O 14 '33
- Farm relief; George bill to permit readjustment of farm mortgages. *il Business Week* p13-14 Ja 18 '33
- Foreclosure moratorium announced by companies. *Nat Underw* (Life ed) 37:3+ F 3; 4+ F 10 '33
- Foreclosure or adjustment? T. M. Knappen. *Mag of Wall St* 51:470-2+ F 18 '33
- Has the farmer won a Pyrrhic victory? the mortgage indebtedness stays on the books in spite of the foreclosure moratorium. W. P. Black. *Barron's* 13:18 F 6 '33
- Inspection-rating of farm mortgages. T. G. Best. *il Am Bankers Assn J* 25:39 Mr '33
- Insurance farm mortgage conference acquainting life company officials with the real problems in great agricultural areas. *Nat Underw* (Life ed) 36:7-8 D 16 '32
- Insurance studies farm mortgage refunding plan. *Nat Underw* (Life ed) 37:3+ Ap 7 '33
- Iowa uprising is clearly explained; New York Life's proper attitude in foreclosure disturbance. *Nat Underw* (Life ed) 37:1+ Ja 13 '33
- Large scale farm mortgage lifting. *Econostat* 1:5-6 Ap 1 '33
- Life companies give every consideration to farmers in handling mortgage situation. T. R. Porter. *Ins Field* (Life ed) 62:4 F 10 '33
- Life company's farm mortgage loans. H. S. Nollen. *East Underw* 34:15 pt 2 S 22 '33
- Life officers meet with Morgenthau on mortgage situation. *East Underw* 34:1+ My 19 '33

- MORTGAGES, Farm—Continued**  
 Mortgage debts and business cycles. *Comm & Fin* 22:145-6 F 8 '33  
 Mortgage relief; insurance companies balk at writing down farm mortgages; second mortgage loans to farmers get under way. *Business Week* p16 My 24 '33  
 New farm-relief bill recognizes law of supply and demand, but is silent on inflated mortgages. W. P. Black. *Barron's* 13:5+ Mr 20 '33  
 Order Iowa bank receivers to stop foreclosure sales. *Nat Underw (Life ed)* 37:10 Ja 20 '33  
 Real forgotten man, owner-operator who has kept his debts and taxes paid. J. Fields. *Comm & Fin* 22:290-1 Mr 29 '33  
 Reducing farm debts; Wallace and Morgenthau dictators of the farmer's destiny. *Business Week* p7-8 Ap 5 '33  
 Sometimes the boys get out of hand. *Forbes* 31:11 F 1 '33
- MORTON, Stratford Lee, 1887-**  
 St Louis general agent has rare American historical collection. D. F. Barrett. *por East Underw* 33:36+ D 9 '32
- MORTUARY chapels**  
 Alre-Flo, individual pipe system for heating a large building; Talmage mortuary at Roswell, N. M. it plans Sheet Metal Worker 23:512-15+ D '32
- MOSAICS**  
 Famous glass mosaics of Saint Sophia being uncovered. *Glass Ind* 14:3 Ja '33  
 Great glass mosaic to adorn Rockefeller Center. R. G. Skerrett. *il Glass Ind* 14:4-7+ Ja '33  
 Magnificent mosaic for Rockefeller Center. R. G. Skerrett. *il Comp Air M* 38:4057-61 F '33
- MOSQUITO lotions**  
 Seven Swedes in a swamp; Burma-Vita company developed a new product; mosquito chaser. C. M. Odell. *Ptr Ink* 163:10+ My 25 '33
- MOSQUITOES**  
 Encephalitis and mosquitoes. *Science* 78:sup9 N 3 '33  
 Insect transmission experiments with herpesencephalitis virus. J. S. Simmons, R. A. Kelser and V. H. Cornell. *chart Science* 78:243-6 S 15 '33  
 Mosquito glands in treatment of general paralysis. *Sci Am* 149:76-7 Ag '33  
 Mosquito may carry horse plague. *Science* 77:sup6-7 Mr 24 '33  
 Mosquitoes kill live stock. F. C. Bishopp. *Science* 77:115-16 Ja 27 '33  
 No proof that mosquitoes transmit sleeping sickness. H. S. Cumming. *Science* 78:sup8 O 6 '33  
 Value of an animal barrier in malaria control. P. F. Russell. *Science* 78:101-2 Ag 4 '33
- Extermination**
- Electrical mosquito trap. H. S. Cumming. *Science* 76:sup12 N 25 '32  
 Mosquito extermination. J. M. Ginsburg and R. L. Vannote. *Sci Am* 148:337 Je '33  
 Tiny mosquito fish win. *Sci Am* 149:23 Jl '33
- MOSS, H. H.**  
 Winner of Samuel Wylie Miller medal. *por Steel* 92:17 My 15 '33
- MOST favored nation clause.** See *Favored nation clause*
- MOTHERS' pensions**  
 Freedom for mothers. J. O. Smith. 212p *Dorrance & co, inc, Philadelphia* '33  
 Mothers' aid, 1931. U S Children's Bur Pub 220:1-39 '33
- MOTHPROOFING**  
 Destructive action of dermestids and its prevention. A. Herfs. *Melliand* 4:684-5 F '33  
*See also*  
 Insurance, Moth damage
- MOTHPROOFING preparations**  
 Destruction of clothes moths. *Chem Age (Lond)* 28:124 F 11 '33
- Moth—friend or foe? A. A. Dessow. *Am Dye-stuff Rep* 22:285-7 Ap 24 '33; Discussion. 22:287-8, 332 Ap 24, My 22 '33  
 Moth insecticides. H. E. Ritchey. *Am Dye-stuff Rep* 22:398+ Je 19 '33  
 Mothproofing compounds should find wider use in textile processing. *il Textile World* 82:979 N '32  
 Paradichlorobenzene as an insecticide. F. W. Wolff. *Oil Paint & Drug Rep* 123:19+ Je 12 '33  
 Use of liquid insecticides for preventing moth damage. W. Thomas. *Oil Paint & Drug Rep* 123:33 Je 12 '33
- MOTHS**  
 Chrome-dressed furs are not mothproof. C. O. Clark. *Soc Dyers & Col J* 49:319 O '33  
 Scientific name of the webbing clothes moth. G. W. Herrick and G. H. Griswold. *Science* 77:391-2 Ap 21 '33  
*See also*  
 Black carpet beetle  
 Wool pests
- MOTION**  
 Space structure and motion. G. Strömberg. *Science* 76:477-81, 504-8 N 25-D 2 '32  
*See also*  
 Force and energy      Solar system—Motion  
 Mechanical move-      in space  
 ments      Vortex motion  
 Mechanics
- MOTION pictures.** See *Moving pictures*
- MOTION study**  
 Fewer motions, more output. C. G. Johnson. *il plans Factory Management* 91:394-6 O '33  
 Here's how! motion study cut costs and made better goblets. J. K. Loudon. *il diags Factory & Ind Management* 84:59-61 F '33  
 Motion study applied to small assembly and machine work; abstracts. A. G. Shaw. *Engineer* 156:254 S 15 '33; *Electrician* 111:313 S 15 '33  
 Motion study by mail; garter manufacturer is told the one best way. E. H. MacNiece. *diags Factory & Ind Management* 84:12-13 Ja '33  
 Motion study in—waste effort out. A. Williams, jr. *il Factory Management* 91:265-7 Jl '33  
 Motion study speeds a simple assembly. R. M. Barnes. *il diags Am Mach* 77:338-40 My 24 '33  
 Motion study; trying it on the dog. W. P. Cahill. *il Factory Management* 91:111-13 Mr '33  
 Motion-time analysis at the Link-Belt co. H. C. Robson. *Iron Age* 130:920-1 D 15 '32  
 Time analysis and motion study. F. Cermak. *Am Cer Soc Bul* 12:224-6 Jl '33  
 What's happening to plant layout? product control versus process control. A. H. Mogenssen. *il Factory Management* 91:175-8 My '33  
*See also*  
 Time study
- MOTOR and equipment manufacturers' association**  
 Assumption of after-market activities condition of M.E.M.A.—A.P.E.M. merger. *Automotive Ind* 69:164+ Ag 5 '33
- MOTOR boats**  
 Census of numbered motor boats, 1930-1932; tabulation. *Automotive Ind* 68:261 F 25 '33  
 Fortschritte im bau von motorkreuzern. H. Docter. *il diags Zeit Ver Deutsch Ing* 77:972-4 S 9 '33  
 How to build thirty-five modern motor boats. C. F. Chapman and F. W. Horenburger, eds. 120p *Motor boating*, 57th st at 8th av, New York '29  
 Motor boating for all. A. H. Lindley-Jones. 151p \$1.25 Spon '33  
 Nouveaux bateaux à moteurs Diesel, pour le service de Venise au Lido. *il plans Génie Civil* 101:559-60 D 3 '32  
 Pay-as-you-cruise; motor boat maker cuts the price by cutting the luxuries. *Business Week* p11-12 Mr 15 '33



**MOTOR boats—Continued**

Porpoising of high-speed motor boats; abstracts. W. G. A. Perrin. Engineer 155:445 My 5 '33; Engineering 135:485 My 5 '33; Discussion. Engineer 155:445-6 My 5 '33; Engineering 135:485-6 My 5 '33  
 Racing motor boat, Miss Britain III. il Engineering 136:150 Ag 11 '33

**See also**

Electric boats  
 Motor ships

**Exhibitions**

Annual motor boat show, 28th, New York. Automotive Ind 68:120 Ja 28 '33  
 Marine motor show, Olympia. il diags Engineering 154:477-9 N 11 '32

**Manufacture**

Great Lakes Engineering builds a welded cruiser, D. True, il diags Marine Eng 38:135-6 Ap '33

**MOTOR bus associations**

Index to bus associations, 1933. Bus Transportation 12:114 F '33

**MOTOR bus drivers**

Laws regulating hours of labor of motor-bus drivers. Monthly Labor R 36:109-16 Ja '33  
 Three point program prevents accidents; Cheyenne motor bus company. Transit J 77:408 N '33  
 Through hell and high water; bus driver rescued 65 passengers single-handed. il Bus Transportation 12:289 Jl '33

**MOTOR bus engines**

Büssing-N.A.G. Diesel engine. il diags Automobile Eng 23:43-4 F '33  
 European automotive Diesel vehicles; abstracts. T. B. Rendel. Automotive Ind 69:250 Ag 26 '33; Nat Pet N 25:25 S 13 '33  
 Leyland oil engine. il Engineer 155:100 Ja 27 '33  
 Montreal experiments with crude oil engine bus. il Elec Traction 29:146-7 My '33  
 New Jendrassik Diesel. C. Danninger. il diags Automotive Ind 68:394-6 Ap 1 '33  
 140 hp. M-A-N Diesel engine built for heavy duty vehicles. il diags Automotive Ind 67:647-8 N 19 '32  
 White coach has horizontally opposed 12 cylinder engine. il diag Elec Traction 28:465-7 N '32  
 White motor company horizontally opposed bus engine. il diag Sci Am 148:107 F '33  
 White twelve-cylinder engine. il diag Automobile Eng 23:283-4 Ag '33

**Carbon deposits**

Denatured alcohol as a carbon solvent. Bus Transportation 12:142 Mr '33

**Cooling**

Deterioration in water systems; suggestions for reducing overheating in heavy vehicles. E. A. Smith. Automobile Eng 23:302-4 Ag '33

**Design**

A.C.F. motors co. bus with horizontal six-cylinder engine. P. M. Heldt. il diags Automotive Ind 68:728-32 Je 17 '33  
 Coventry Climax B.4 engine. il diags Automobile Eng 23:213-14 Je '33  
 Engine below decks in new A.C.F. il plan Bus Transportation 12:254-6 Je '33  
 Leyland 8-litre oil engine. il diags Automobile Eng 23:199-202 Je '33; Abstract. Automotive Ind 69:69-70 Jl 15 '33

**Exhaust**

Exhaust gas analysis cuts gasoline consumption; Cities service power prover. il Transit J 77:88-9 Mr '33  
 Gassing, its cause and cure. R. D. Fageol. Bus Transportation 12:207 My '33  
 Only a trace of CO in Diesel exhaust. Automotive Ind 69:121 Jl 29 '33

**Fuel**

Creosote as a motor fuel. Gas J (Lond) 201:369 F 15 '33  
 Experiment with charcoal gas in operating trucks. J. Arnold. Oil & Gas J 31:41 N 17 '32

Experimental run of gas-driven 'bus. il Gas J (Lond) 201:367 F 15 '33

Gas for motor vehicles. Gas J (Lond) 203:349 Ag 16 '33

Gas-works fuels for omnibus engines; creosote oil and compressed coal gas; abstract. D. E. Bell. Gas J (Lond) 202:809; Discussion. 809-10 Je 14 '33

L'huile de créosote utilisée comme carburant. M. Stuart. Génie Civil 102:574 Je 17 '33

Improving operation with better fuel. Elec Traction 29:88 Mr '33

Performance of high-speed Diesel engines for road transport as affected by the nature of the fuel. J. G. Withers. Inst Pet Tech J 19:713-24 Ag '33

Running buses on wood; Imbert gas generator uses charcoal. J. Hoffmann. il Elec Traction 29:236-7 Ag '33

Sweden and Chile would use gas instead of gasoline. Automotive Ind 68:498 Ap 22 '33

Ten million mile test given top lubes in Greyhound busses. J. C. Chatfield. Nat Pet N 25:31-2+ F 8 '33; Abstract. Mech Eng 55:312 My '33

Town-gas 'bus in daily service. il Gas J (Lond) 202:37 Ap 5 '33

**Fuel feeding**

Increase gasoline mileage with thermostatic control. il Elec Traction 29:245 Ag '33

**Lubrication**

Is the time coming when we'll never drain the crankcase? W. J. Cumming. Bus Transportation 12:240-1 Je '33

Oil-reclamation economics. G. T. Hook. S A E J 32:sup20-1 Ja '33

**Manufacture**

Cummins Diesel produced by automotive methods. J. Geschelin. il Automotive Ind 68:102-5 Ja 28 '33

Machining operations on White pancake type engine. F. L. Prentiss. il Iron Age 132:12-15 Ag 3 '33

Piston manufacture; production of the Sunbeam steel-skirted component. il Automobile Eng 22:549-53 N '32

**Mounting**

Angularly flexible mountings may find wide use with Diesels. Automotive Ind 69:186-7 Ag 12 '33

**Performance**

Cummins Diesel test bus makes coast-to-coast trip in 91 hours. J. Geschelin. il Automotive Ind 67:771-3 D 17 '32

Diesel-engined bus completes record run from New York to Los Angeles. il Elec Traction 28:496-7 D '32

High compression + anti-knock fuel = 25% improvement in performance. A. F. MacDonald. il Bus Transportation 12:410-11 O '33

**Repair**

Here's one for the engine overhaul shop. diags Bus Transportation 12:293 Jl '33

How to fit a piston pin. M. A. Beckmann. il Bus Transportation 12:243 Je '33

Special equipment that cuts down engine rebuilding time. J. G. Hoifgaard. il Bus Transportation 12:368 S '33

**Specifications**

American stock engines specifications; tabulation. Automotive Ind 68:240-7 F 25 '33

Current motor bus engine specifications; tabulation. Bus Transportation 12:110-11 F '33

**Testing**

Alloy ring carrier cast in light piston resists wear, Diesel tests show; Mercedes-Benz bus tested in Germany. il Automotive Ind 67:747-9 D 10 '32

Exhaust gas analysis cuts gasoline consumption; Cities service power prover. il Transit J 77:88-9 Mr '33

**MOTOR bus industry and trade**

European Diesel makers in drive for export markets. A. W. Childs. Automotive Ind 68:301-2+ Mr 11 '33

**MOTOR bus industry and trade—Continued****Statistics**

1932 production. E. F. Theisinger. *Bus Transportation* 12:93-5 F '33

**Great Britain**

British motor industry. *Economist* 117:805-6 O 28 '33

**MOTOR bus lines**

Binghamton's riding public rides buses; why they prefer them. E. F. Theisinger. *il Bus Transportation* 12:404-7 O '33

Jacksonville goes bus. *il Elec Traction* 29:112-13 Ap '33

Motor coaches for city transportation. *il Manuf Rec* 102:14-15 Ap '33

Principles of motor transportation. F. K. Edwards. 377p \$4 McGraw-Hill '33

So Dubuque went bus. *il map Bus Transportation* 12:128-30 Mr '33

Substitution of buses for street cars in Dubuque, Iowa. A. H. Smith. *il map Elec Traction* 29:54-6 F '33

**See also**

Railroads—Motor vehicle auxiliaries      Railroads—Motor vehicle competition  
Trolley buses

**Accidents**

Accident record improved at Fort Worth. *Transit J* 77:181 Je '33

Ask your claim agent. *il Bus Transportation* 12:230-2 Je '33

**Accounting**

Advanced model transportation accounting system. W. Bergmann and H. G. Wingardner. N E L A Bul 19:661-8 N '32

Property records for motor buses; Boston Elevated accounting system. T. A. Dunbar. *il Elec Traction* 28:494-5+ D '32

Types of price records. *Transit J* 77:419 N '33

**Advertising**

Advertising for rides and friends; Philadelphia rapid transit company. D. N. Phillips. *il Transit J* 77:78-81 Mr '33

Display advertising makes the window shopper bus-travel minded. *il Bus Transportation* 12:274-5 Jl '33

Miss schoolma'am is a prospect. T. J. Wynne. *il Bus Transportation* 12:162-3 Ap '33

Samples, a merchandising idea that is old but still effective; free bus tickets issued by department store helps advertise bus line. *Bus Transportation* 11:503 D '32

**Commuter service**

Is the commuter worth while? map *Bus Transportation* 12:401-3 O '33

**Consolidation**

Operating and maintenance economies through consolidation; merger of B. C. rapid transit company and B. C. motor transportation, Ltd. F. H. Fullerton. *il Elec Traction* 29:175-6+ Je '33

**Costs**

Maintenance and the small operator. *il Bus Transportation* 12:234-6 Je '33

Maintenance methods and practices which won the first award for small city companies; St Joseph railway, light, heat and power company. *il Bus Transportation* 12:62-6 Ja '33

They meet all trains and planes; cost of operating aerocars as of April 21, 1933. Club transportation service, inc. *Bus Transportation* 12:363 S '33

What do you want? low first cost or low cost per mile? chart. *Bus Transportation* 12:242 Je '33

What motor carriers spent in 1932. *Bus Transportation* 12:87 F '33

**Employees**

Something new—conductorettes; Washington motor coach company. *il Bus Transportation* 12:159 Ap '33

Two hundred salesmen; employees of Virginia public service company go after business. E. L. Kelly. *il Bus Transportation* 12:124-5 Mr '33

**Express service**

Express as a revenue builder. M. V. Little. *il Elec Traction* 29:24 Ja '33

New check plan speeds C.O.D. settlement. *il Bus Transportation* 12:172-3 Ap '33

Passengers and parcels carried on the same bus by Peerless Stages. *il Bus Transportation* 12:279 Jl '33

Solicit express! *Bus Transportation* 12:195-6 My '33

**Fares**

Here at last, a central rate bureau and a national tariff system for buses. C. F. Warden. *Bus Transportation* 12:126-7 Mr '33  
Improve short haul riding with new fare plan. C. C. Coates. *il Elec Traction* 28:459+ N '32

**Finance**

Pacific Greyhound gains in depression. *il map Ry Age* 94:307-8+ F 25 '33

Tide has turned. *Bus Transportation* 12:189-92 My '33

Transit companies in large centers make best showing. *Transit J* 77:179-80 Je '33

**Franchises**

Fifth Avenue lines held legal emergency routes franchised. *Bus Transportation* 12:112-13 F '33

**Garages**

Carhouse goes bus; Eastern Massachusetts street railway. *il map Bus Transportation* 12:77-9 F '33

Electrode boilers in a large bus garage. *il Elec R (Lond)* 112:374 Mr 17 '33

It's all in the cards. F. E. Kunkel. *il Elec Traction* 29:204-5+ Jl '33

Maintenance tips from the Southeastern garage, Lexington, Ky. J. L. Drury. *il Elec Traction* 28:457-8 N '32

Union Pacific adopts standard design divisional garages. *il diag plan Bus Transportation* 12:205-6 My '33

**Information service**

Tell 'em right; system of keeping rate information, routes and schedules for bus agents and travel bureaus. E. M. Neil. *il Bus Transportation* 12:169-70 Ap '33

**Inspection**

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**Laws and regulations**

Brousseau tells Coolidge; 22 fundamentals which N.A.A.C.C. thinks essential to understanding of transportation problem. *Automotive Ind* 67:768-9+ D 17 '32

Code for federal bus and truck regulation written. *Nat Pet N* 25:17 Ap 5 '33

Commissioners draft bill for control of interstate motor transport. *Ry Age* 95:659-60 N 4 '33

Constructive governmental supervision of motor transport. J. P. Kuhn. *Ry Age* 94:870-1 Je 17 '33

Coordination of rail and bus regulation held essential in code filed by bus group. *Automotive Ind* 69:198 Ag 12 '33

Dangerous precedent is being presented in proposed anti-truck legislation. R. F. Britton. *Oil & Gas J* 31:44 Mr 9 '33

Equal opportunity for carriers asked in national report of Chamber of commerce of the United States. *Bus Transportation* 12:73-4 Ja '33

Federal regulation of motor transport. H. M. Muller, comp. *Ref Shelf v* 8, no 9:1-154 [bibliog p19-27] '33

Germany tackles the road transport problem. *Aera* 23:1388-92 N '32

Highlights of 1933 bus legislation. *Bus Transportation* 12:155-6 Ap '33

Joint rail-highway users committee issues report. *Ry Age* 94:187+ F 4 '33

Laws regulating hours of labor of motor-bus drivers. *Monthly Labor R* 36:109-16 Ja '33



**MOTOR bus lines**—Laws and regulations—*Cont.*  
Legislative battles in full swing. *Bus Transportation* 12:131-3 Mr '33

Memorandum submitted to the National transportation committee by the National association of motor bus operators. *Bus Transportation* 12:sup8-15 Ja '33

New entries in the state law books. *Bus Transportation* 12:323-4 Ag '33

New laws regulate many phases of bus and truck operation. *Bus Transportation* 12:221-2 My '33

Rail-road pact; agreement between highway users and railroad men leaves some important issues still to be settled. *Business Week* p16-17 F 8 '33

Rails and bus lines agree on regulation. *Baron's* 13:6 F 6 '33

Refuting the charge buses are unregulated. I. Bowen. *Bus Transportation* 12:46-8 Ja '33

Regulation for contract motor carriers in Ohio. *Ry Age* 94:835 Je 10 '33

Shopkeepers and the highway. G. V. Sheridan. *Bus Transportation* 12:45 Ja '33

Solons do not indorse uniform truck limits; meeting held under the auspices of the American legislators association. *Ry Age* 95:641-2 O 23 '33

State motor vehicle legislation. *Ry Age* 94:117-19, 309-11, 370-2 Ja 28, F 25, Mr 11 '33

State rights should be respected. W. A. Draper. *Bus Transportation* 12:37 Ja '33

Threats to highway transportation. R. F. Britton. *il Bus Transportation* 12:393-6 O '33

Two more states enact motor regulation laws; North Dakota and Indiana. *Ry Age* 94:564-5 Ap 15 '33

Utility commissioners discuss motor carrier problems. *Bus Transportation* 11:514 D '32

Views on motor transport regulation. J. B. Eastman. *Ry Age* 95:636-7 O 23 '33

Washington state passes new motor carrier laws. *Ry Age* 95:377+ S 9 '33

Why impose rail regulation on motor carriers? W. G. Fitzpatrick. *Bus Transportation* 12:34-6 Ja '33

Wisconsin enacts motor carrier regulatory law. *Ry Age* 95:675 N 4 '33

#### Maintenance and repair

Ask your claim agent. *il Bus Transportation* 12:230-2 Je '33

Blue Ridge three-time winner of *Bus Transportation* maintenance awards. *il Bus Transportation* 12:117-20 Mr '33

Brooklyn, a tough town for batteries. *il Bus Transportation* 12:246-8 Je '33

Cleveland wins 1933 maintenance award. L. Church. *il plan Transit J* 77:397-402 N '33

Digest of the brief submitted by Washington railway & electric company for *Bus Transportation* maintenance awards for 1932. *il Bus Transportation* 11:487-91 D '32

Hard facing bus parts. *Elec Traction* 29:296 S '33

High compression + anti-knock fuel = 25% improvement in performance. A. F. MacDonald. *il Bus Transportation* 12:410-11 O '33

Keeping maintenance in line with present revenues. E. M. Lunda. *Bus Transportation* 12:160-1 Ap '33

Lights, camera, action! maintenance work in Greyhound garage, Pittsburgh. E. F. Theisinger and others. *il Bus Transportation* 12:226-9 Je '33

Maintaining the heart of the bus; the electrical system. E. M. Lunda. *il Elec Traction* 29:260-1 S '33

Maintenance and the small operator. *il Bus Transportation* 12:234-6 Je '33

Maintenance awards for 1933; conditions of contest. *Bus Transportation* 12:67-8 Ja '33

Maintenance methods and practices which won the first award for small city companies; St Joseph railway, light, heat & power company. *il Bus Transportation* 12:62-6 Ja '33

Making bus operation pay; improved operating and maintenance practices adopted by Surface transportation company, New York. *il Transit J* 77:176-8 Je '33

Miles or gallons? what do you get for your oil dollar? *Bus Transportation* 12:318-20 Ag '33

Night mechanics for small bus fleets. *Transit J* 77:160-1 My '33

One painter for a 124-bus fleet. *il Bus Transportation* 12:237-8 Je '33

Public service transport, inc. builds its own batteries. *il Elec Traction* 29:177-8 Je '33

Reduce failures 400% in four years; Washington rapid transit company. F. E. Kunkel. *il Elec Traction* 29:84-5+ Mr '33

Reduction of road failures. C. B. Lindsey. *il Elec Traction* 28:496 D '32

Road failures averted by preventive maintenance of Pittsburgh buses. C. A. Faust. *il Transit J* 77:119-21 Ap '33

Short cuts cut costs short; abstract. C. C. Phares. *Transit J* 77:326 O '33

Some cost-saving methods in motorcoach upkeep. R. M. Ahrens. *S A E J* 32:71-2 F '33

Standardize inspection and maintenance; Greyhound lines. *Elec Traction* 29:86-7 Mr '33

10,000 miles for a dime; Cincinnati street railway spark plugs. *Bus Transportation* 12:233 Je '33

Thirsty piston rings drink up profit. *il Bus Transportation* 12:244-5 Je '33

What do you want? low first cost or low cost per mile? chart. *Bus Transportation* 12:242 Je '33

#### See also

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#### Management

Doubling in brass. *Bus Transportation* 12:287-8 Jl '33

Down in Texas; economies effected by Southland-Greyhound lines, inc. P. W. Tibbetts. *Bus Transportation* 12:351-2 S '33

Eau Claire, another recruit in the all-bus army. *il map Bus Transportation* 12:193-4 My '33

Get your share of this business; motor bus line travel to the World's fair. *Bus Transportation* 12:209 My '33

Jacksonville bus lines gain patronage. *il Transit J* 77:181-2 Je '33

Keeping out of the red in spite of a 30% decline; Oklahoma transportation company. R. Hickox. *Elec Traction* 29:206-7 Jl '33

Observations in 1933 on the operation, building and upkeep of buses. M. Schreiber. *Elec Traction* 29:339-40 O '33

Oil-reclamation economics. G. T. Hook. *S A E J* 32:sup20-1 Ja '33

Serving the small city; Salina street railway. R. A. Hickey. *il Transit J* 77:303-4 O '33

Small cities can have buses; Keokuk motor bus company. *il Bus Transportation* 12:364-5 S '33

Story of the Pennsylvania Greyhound lines. S. R. Sundstrom. *il map Ry Age* 95:564-8 O 21 '33

20,000 more miles for \$3,300 less; Black Hawk motor transit co. P. O. Johnson. *il Bus Transportation* 11:498-9 D '32

#### Public relations

How the small company can handle its own publicity. H. F. Woods, jr. *Bus Transportation* 12:164-6 Ap '33

#### Railroad operation

Is the motor coach a rail-traffic builder? *il Ry Age* 95:330-2 S 2 '33

Joint service proves satisfactory and economical; Reading transportation company and Pennsylvania Greyhound lines complete third winter of pooled operations. *il Ry Age* 94:904-6 Je 24 '33

#### Records

It's all in the cards. F. E. Kunkel. *il Elec Traction* 29:204-5+ Jl '33

Property records for motor buses; Boston Elevated accounting system. T. A. Dunbar. *il Elec Traction* 28:494-5+ D '32

Time card, a moving picture of daily work performed; Brooklyn bus corporation. *il Bus Transportation* 12:140 Mr '33

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Safety glass needed in public vehicles. A. C. Carruthers. Safety Eng 66:57 Ag '33  
You can't stop accidents with wall mottoes. V. Scobie. *il* Bus Transportation 12:313-14 Ag '33

**See also**

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**Schedules**

New York's East Side lines start service. *il* map Bus Transportation 12:269-72 Jl '33  
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**Service**

Bus meals; Oklahoma line arranges for lower-price meals. Business Week p23 O 14 '33  
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Reserving seats helps to fill them. W. Parker. Elec Traction 29:25 Ja '33  
Serving off-line resorts? Short way lines, Toledo, negotiates with taxicab operators. F. M. Temple. *il* map Bus Transportation 12:200-1 My '33

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Oxy-acetylene welding installation at L.G.O.C. works. *il* diags Engineering 135:353-5, 358 Mr 31 '33  
Six tips from the Interstate power shop at Dubuque, Iowa; illustrations. Bus Transportation 12:329 Ag '33  
Union Pacific adopts standard design divisional garages. *il* diag plan Bus Transportation 12:205-6 My '33

**Statistics**

Basic facts about the bus industry, with comparisons to rail and other transport. Bus Transportation 12:88-9 F '33  
Bus business. Business Week p10-11 Mr 8 '33  
Bus industry shows little change during 1932. Bus Transportation 12:90-2 F '33  
Business is improving. Bus Transportation 12:83-6 F '33  
Electric railway bus facilities show slight expansion in 1932. K. L. McKee. Aera 23:1393-8 N '32  
Revenues approaching 1932 levels; operating statistics for the period January to June, 1933. Bus Transportation 12:305-8 Ag '33  
Tide has turned. Bus Transportation 12:189-92 My '33

**Stores systems**

Keeping used material moving. Bus Transportation 12:102 F '33

**Street railroad operation**

Bus and trolley bus meet distinct needs. A. E. Williams and others. Transit J 77:383-5 O 10 '33  
Buses assume a more prominent position during 1932. Transit J 77:20-2 Ja '33  
Carhouse goes bus; Eastern Massachusetts street railway. *il* map Bus Transportation 12:77-9 F '33  
Depot bus service; Cincinnati street railway inaugurates a special bus service. *il* map Elec Traction 29:144-5 My '33  
Eastern Massachusetts solves a problem. *il* diag Bus Transportation 12:167-8 Ap '33  
Electric railway bus facilities show slight expansion in 1932. K. L. McKee. Aera 23:1393-8 N '32  
Improving service by coordinating rail and bus lines. H. S. Robertson. Elec Traction 29:269+ S '33

Special bus services bring added revenue. A. T. Warner; H. R. Mallison. *il* Transit J 77:393-4 O 10 '33  
Transit co-ordination proves its worth in Atlanta. *il* Transit J 77:141-3 My '33

**Taxation**

Memorandum submitted to the National transportation committee by the National association of motor bus operators. Bus Transportation 12:sup8-15 Ja '33  
Protect yourself against higher and prejudicial taxation. S. A. Markel. Bus Transportation 11:418-19 O '32; Discussion 11:494 D '32  
Untaxed! buses paid 7.41% of operating revenue, railroads 6.6% in 1931. A. M. Hill. Bus Transportation 12:26-30 Ja '33

**Terminals**

Bus station, Viborg, Finland; views and plans. Arch Rec 73:425-6 Je '33  
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Miami terminal is up-to-the-minute. E. W. Sudlow. *il* Elec Traction 29:21+ Ja '33  
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St Louis bus terminal free service to shoppers. *il* Elec Traction 29:114-15 Ap '33  
St Louis' new terminal, *il* plan Bus Transportation 12:136-7 Mr '33  
Washington's new terminal; illustrations. Bus Transportation 12:325 Ag '33  
Washington's terminal problem is solved. map Bus Transportation 11:500-1 D '32

**Tickets**

Improve short haul riding with new fare plan. C. C. Coates. *il* Elec Traction 28:459+ N '32

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Large capacity six-wheel buses for Berlin. J. Koffmann. *il* Elec Traction 29:20-1 Ja '33

**California**

California bus men fighting the share-expense racket. Bus Transportation 12:203-4 My '33

**Canada**

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**Chicago**

Bus serves the fair. *il* plan Elec Traction 29:136-8 My '33  
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**Germany**

Germany tackles the road transport problem. Aera 23:1388-92 N '32

**New York (city)**

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**San Antonio, Texas**

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**Staten Island**

Richmond railways motorizes entire system. Transit J 77:283 S '33

**United States**

Bus code becomes effective Nov. 13. Automotive Ind 69:598 N 11 '33  
Bus industry forges on. R. G. Burr. Bus Transportation 12:80-2 F '33  
Code of fair competition for the motor bus industry; text and questions and answers. Bus Transportation 12:397-400 O '33  
Code of fair competition for the transit industry. Transit J 77:274-5 S '33



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 Hearing on the motor bus code; with text. Bus Transportation 12:344-9 S '33  
 Inside story of the transit code. W. E. Wood. Elec Traction 29:262-3+ S '33  
 Motor bus industry—code of fair competition; text. Bus Transportation 12:310-12 Ag '33  
 N.A.M.B.O. proposes code for bus operators. Ry Age 95:198 JI 29 '33  
**MOTOR bus lines, School**  
 Profits in school buses. W. Parker. il Elec Traction 29:238-9 Ag '33  
 School bus raises educational standards. M. C. S. Noble, jr. Bus Transportation 12:315 Ag '33  
 Serving young America. T. Covert. il Bus Transportation 12:38-41 Ja '33

#### Safety devices and measures

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 Indiana six with an all-metal body. il Bus Transportation 12:181 Ap '33  
 Looking into the bus future. F. R. Fageol. Elec Traction 29:71+ Mr '33  
 Mack 20-passenger model CG for city service. il Bus Transportation 12:361-2 S '33; Elec Traction 29:286-7 S '33; Transit J 77:318 O '33  
 New York's East Side lines start service. il map Bus Transportation 12:269-72 JI '33  
 Les nouveaux autobus à moteur à 6 cylindres de la Société des transports en commun de la Région parisienne. G. Vergnole. il diags Génie Civil 103:111-13 JI 29 '33  
 Observations in 1933 on the operation, building and upkeep of buses. M. Schreiber. Elec Traction 29:339-40 O '33  
 Pullman of the highway reserves seats. il Elec Traction 29:116 Ap '33  
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 Yellow coaches for Gotham and Windy city. il Bus Transportation 12:412 O '33  
 Yellow's three new transit type coaches. il diags Bus Transportation 12:284-6 JI '33; Transit J 77:253 Ag '33

#### See also

Insurance, Motor bus      Tires, Motor bus  
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#### Axles

American stock front axles specifications; tabulation. Automotive Ind 68:254 F 25 '33  
 American stock rear axles specifications; tabulation. Automotive Ind 68:250-1 F 25 '33  
 Rear axle specifications for current bus models; tabulation. Bus Transportation 12:105 F '33

#### Bodies

Attractive bus bodywork; novel cab treatment on a Spicer-bodied Dennis chassis. il Automobile Eng 23:191 My '33  
 Bender tells how White's city body is put together. il Bus Transportation 11:510-12 D '32  
 Commercial bodywork at the Scottish show. il Automobile Eng 22:599-602 D '32  
 Double-deck bus bodywork on a Maudslay M.L. 7c chassis. il diags Automobile Eng 23:109-11 Mr '33  
 Importance of working drawings. Automobile Eng 23:39 Ja '33  
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 Public service co-ordinated transport, Newark redesigns bus interior. il Transit J 77:404 N '33  
 Special bodywork; luxurious living accommodation on a bus chassis. il Automobile Eng 23:270-1 JI '33  
 Three new FitzJohn bodies; little jobs for light service. Bus Transportation 12:197 My '33

#### Chassis

American gasoline motor bus chassis specifications; tabulation. Automotive Ind 68:238-9 F 25 '33  
 Büssing-N.A.G. six-wheeled omnibus chassis. il Automobile Eng 23:159-60 My '33

#### Cleaning

Buses now go to dry cleaner. il Bus Transportation 12:362 S '33  
 Live steam removes grime from car and bus equipment. C. C. Phares. Transit J 77:155-6 My '33; Same cond. il Elec Traction 29:115 Ap '33

#### Clutches

American stock clutches specifications; tabulation. Automotive Ind 68:255 F 25 '33  
 Bendix-Westinghouse air clutch control. il Elec Traction 28:467 N '32  
 Hydraulic torque converter. il diags Engineer 156:362-3 O 13 '33; Excerpts. Mech Eng 55:767 D '33

#### Design

A.C.F. achieves compactness in design with under-floor engine mounting. il Transit J 77:222-3 JI '33  
 A.C.F. motors co. bus with horizontal six-cylinder engine. P. M. Heldt. il diags Automotive Ind 68:728-32 Je 17 '33  
 Double-deck bus bodywork on a Maudslay M.L. 7c chassis. il diags Automobile Eng 23:109-11 Mr '33  
 Drawing and handicraft competitions; a review of the principal exhibits at the Regent Street polytechnic. diags Automobile Eng 23:268-9 JI '33  
 Engine below decks in new A.C.F. il plan Bus Transportation 12:254-6 Je '33  
 Fight between body and chassis stopped by Bender. il Bus Transportation 12:353 S '33  
 FitzJohn's new streamlined parlor car. il Bus Transportation 12:359 S '33  
 If it's speed they want, give it to 'em; Heisers 16-passenger steel coach; Washington motor coach company. il Bus Transportation 12:198 My '33  
 Large capacity six-wheel buses for Berlin. J. Koffmann. il Elec Traction 29:20-1 Ja '33  
 Metal bus bodywork. W. Swallow. il Automobile Eng 23:115-16 Mr '33  
 New design of a thirty-eight-seater coach on a Q-type A.E.C. chassis. il diags Automobile Eng 23:352-4 S '33  
 Observation coach on an A. E. C. Regal chassis. il diags Automobile Eng 23:233-5 Je '33  
 Simplification of control needed; abstract. B. E. Bachman. S A E J 31:474 D '32  
 Sleeping coach with motor behind rear wheels. J. L. Pittenger. il Elec Traction 28:492-3 D '32  
 Streamline steel coaches. J. J. Guimont. il Elec Traction 29:179 Je '33  
 Trailer bus arrives. il Elec Traction 29:22-3 Ja '33; Bus Transportation 12:145-6 Mr '33  
 Twenty-seater service bus. il diags Automobile Eng 22:603-5 D '32  
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Three seats sacrificed, ten passengers gained. H. R. Holder. il Bus Transportation 11:496-7 D '32

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- Electrical equipment of automobiles; a review of progress. W. H. Glaser. *Inst E E J* 72: 147-52 F '33
- Maintaining the heart of the bus; the electrical system. E. M. Lunda. *il* Elec Traction 29:260-1 S '33
- Public service transport, inc. builds its own batteries. *il* Elec Traction 29:177-8 Je '33
- Summary of replies to question 93 on batteries. Bus Transportation 12:180 Ap '33
- Wiring diagram for Mack BT transit bus. Bus Transportation 12:214 My '33
- Wiring diagram for Mack CL transit type. Bus Transportation 12:370 S '33
- Wiring diagram for Reo FB and GB. Bus Transportation 11:508 D '32
- Wiring diagram for series 85 A.C.F. Bus Transportation 12:294 Jl '33
- Wiring diagram for Studebaker buses. Bus Transportation 12:102 F '33
- Wiring diagram for White model 613. Bus Transportation 12:330 Ag '33
- Wiring diagram for White model 65. Bus Transportation 12:178 Ap '33
- Wiring diagram for Yellow type 40. Bus Transportation 12:414 O '33
- Wiring diagram for Yellow Z225 model V. Bus Transportation 12:142 Mr '33

**Equipment**

- Adjusting starter mechanism and chain idler on Yellow coaches. *diags* Bus Transportation 12:213 My '33
- Exhibit on paper; recent developments in electric railway car and bus equipment. *il* *diags* Elec Traction 29:286-95 S '33
- Twin Coach parts improved. *il* Transit J 77: 414-15 N '33

**Floors**

- Metal flooring. *diag* Automobile Eng 23:192 My '33

**Freight compartments**

- Passengers and parcels carried on the same bus by Peerless Stages. *il* Bus Transportation 12:279 Jl '33

**Gearing**

- American stock gearsets specifications; tabulation. Automotive Ind 68:252-3 F 25 '33
- Fluid flywheel and epicyclic transmission in Toronto buses. *il* *diag* Elec Traction 28:460-1 N '32
- Hydraulic torque converter. *il* *diags* Engineer 156:362-3 O 13 '33

**Inspection**

- Detection of cracks in bus parts facilitated by magnetic tester. W. J. Cumming. *il* Transit J 77:115-16 Ap '33
- Road failures averted by preventive maintenance of Pittsburgh buses. C. A. Faust. *il* Transit J 77:119-21 Ap '33

**Laws and regulations**

- Alabama's motor bills approved by Governor. *Ry Age* 93:751 N 26 '32
- New bus rules prescribed for New York state. Transit J 77:47 F '33

*See also*

- Motor bus lines—  
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**Lubrication**

- Miles or gallons? what do you get for your oil dollar? Bus Transportation 12:318-20 Ag '33

**Manufacture**

- Bender tells how White's city body is put together. *il* Bus Transportation 11:510-12 D '32

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- Metal bus bodywork. W. Swallow. *il* Automobile Eng 23:115-16 Mr '33

**Painting**

- Modern equipment facilitates painting at Baltimore. *il* Transit J 77:185 Je '33
- One painter for a 124-bus fleet. *il* Bus Transportation 12:237-8 Je '33

**Repair**

- Jig facilitates cold riveting. *il* Transit J 77: 155 My '33; Elec Traction 29:147-8 My '33
- New methods cut bus maintenance. W. J. Cumming. *il* *diags* Am Mach 77:304-5 My 10 '33
- Removing dents from body panels. W. E. Warner. *diag* Elec Traction 29:80 Mr '33
- Repair welding. A. F. Keogh. *il* Elec Traction 29:52-3 F '33
- Safe dolly for crippled bus. C. C. Phares. *il* Elec Traction 29:57 F '33
- Welding broken axle shafts saves \$2,400 annually. E. Wotton. *il* Bus Transportation 11:502 D '32

**Seats**

- Laycock tubular steel bus seat. *diags* Automobile Eng 23:38 Ja '33

**Sleeping compartments**

- Sleeping coach with motor behind rear wheels. J. L. Pittenger. *il* Elec Traction 28: 492-3 D '32

**Specifications**

- American gasoline motor bus chassis specifications; tabulation. Automotive Ind 68:238-9 F 25 '33
- Component parts and physical characteristics of current motor bus chassis models; tabulation. Bus Transportation 12:106-9 F '33

**Springs and suspension**

- Air springs cushion buses from road shocks. *il* Transit J 77:415 N '33

**Steering gear**

- Bendix-Westinghouse air steering control. *diags* Transit J 77:153 My '33; Bus Transportation 12:216 My '33
- Power steering is demanded by heavy and high speed vehicles. P. M. Heldt. *il* *diags* Automotive Ind 67:738-43, 774-7 D 10-17 '32

**Testing**

- Omnibus testing machine. *il* *diag* Engineer 154:673-4 D 30 '32

**Tire carriers**

- Labor saver tire carrier. C. C. Phares. *il* Elec Traction 28:462 N '32

**Wheels**

- I.A.E. provisional standard no. 80; 5/8 in. dia. B.S.F. studs for disc wheels, for commercial vehicles. *diags* Automobile Eng 23:219-20 Je '33

*See also*

- Tires, Motor bus

**MOTOR buses and roads**

- Road impact produced by a heavy motor bus. J. A. Buchanan. *il* Pub Roads 13:137-47+ N '32

**MOTOR buses on rails**

- Tests of Firestone pneumatic rail tires. *il* *diag* *Ry Age* 93:981-2 D 31 '32

**MOTOR caravans**

- Special bodywork. *il* Automobile Eng 23:71-2 F '33

**MOTOR cars (railroad)**

- Associated equipment company 130 h.p. oil-engined railcar. *il* Engineer 156:86 Jl 28 '33
- Austro-Daimler pneumatic tired rail car. *il* *diags* *Ry Age* 95:219-21 Ag 5 '33; Same. *Ry Mech Eng* 107:309-12 S '33
- AutoTram seats 42, weighs 26,000 lb. net. *il* Automotive Ind 67:737 D 10 '32; Sci Am 148: 110 F '33; Transit J 77:64 F '33; Iron Age 131:362 Mr 2 '33
- Budd completes first new deal gasoline railroad train. *il* Iron Age 132:25 N 9 '33
- Butane serving as fuel in California rail coach. Oil & Gas J 32:33 Je 1 '33
- Centrifugal air cleaners serve railway equipment. M. J. Baldwin. *diag* Elec Eng 51: 869-70 D '32



**MOTOR cars (railroad)—Continued**

- Description of Autotram rail car. *Il* Rubber Age 32:374+ Mr '33
- Diesel railcars; abstract. *Mech Eng* 55:702 N '33
- Express rail-car traction; editorial. *Engineering* 135:653-4 Je 16 '33
- French road extends rail-car service. *L. A. Glynn. Il* diags *Ry Age* 95:238-40 Ag 12 '33
- Light alloys help make possible the Autotram, latest development in railway cars. *Il Metal Ind* 31:135 Ap '33; *Mach* 39:673-4 Je '33
- New equipment may stem passenger losses of railroads. *Il Steel* 92:13-14 Ap 3 '33
- New fuel for rail motor cars. *Il Ry Age* 94:896 Je 24 '33
- New two-engined FWD railbus has independent drive for each axle. *Il plan Automotive Ind* 69:421 O 7 '33; *Mech Eng* 55:640 O '33; *Ry Age* 95:561-2 O 21 '33
- 140 hp. M-A-N Diesel engine built for heavy duty vehicles. *Il diags Automotive Ind* 67:647-8 N 19 '32
- 130 h.p. oil engine-driven railcar for Great western railway. *Il diags supp Engineer* 156:411-14 O 27 '33
- Operating results with Diesel locomotives and rail cars. *H. D. Bush. Engineering* 135:265 Mr 3 '33
- Pneumatic-tired rail cars in Austria; abstract. *Mech Eng* 55:130 F '33
- Pneumatic tires roll in steel rims on light weight Austrian Daimler railcar. *Il diags Automotive Ind* 68:495+ Ap 22 '33; *Transit J* 77:96 Mr '33
- Power rail car has aluminum body; the Autotram. *Il diag Ry Age* 94:544-7 Ap 15 '33
- Rail car engine repairs. *Il Ry Mech Eng* 107:335-7 S '33
- Rail motor cars are still in demand; Autotram. *C. B. Peck. Il Ry Age* 94:177-8 F 4 '33
- Rail motor cars pay out in 22 months; Southern Pacific lines in Texas and Louisiana. *Il map Ry Age* 95:502-3 O 7 '33
- Rail motor cars use increasing. *Ry Age* 94:890-1 Je 24 '33
- Schnellere personenbeförderung und verwendung von triebwagen bei der Reichsbahn. *L. Jänecke. Zeit Ver Deutsch Ing* 77:747 JI 8 '33
- Stout railcar weighs 25,000 lbs. and seats 50 passengers. *Il Automotive Ind* 69:400 S 30 '33
- Through trains every ten minutes? *Il Forbes* 30:10 D 15 '32
- Track-circuit shunting with light-weight cars. *Ry Age* 93:951 D 24 '32
- Twin Coach rail unit for B. & L. E. branch line. *Il Ry Age* 94:892-3 Je 24 '33
- Versuchsfahrten mit einem schnellschienen-omnibus. *E. Cramer. diags Zeit Ver Deutsch Ing* 77:975-8 S 9 '33
- Why and how of the rubber-tired railroad-coach. *E. J. W. Ragsdale. Il diag S A E J* 32:54-8+ F '33; Abstract. *Rubber Age* 32:319-20 F '33; Discussion. *S A E J* 32:sup15 F '33
- Will rail cars win back lost passenger traffic? *P. M. Heldt. Automotive Ind* 69:90-2+ JI 22 '33

**See also**

Motor buses on rails

**Design**

- Nouvelle automotrice Diesel, à deux bogies moteurs, des Établissements de Dietrich et Cie. *Il plan Génie Civil* 103:380-2 O 14 '33
- Les nouvelles automotrices à moteurs des chemins de fer de l'État. *H. Martin. Il diags plan Génie Civil* 103:341-7 O 7 '33

**Diesel-electric**

- Armstrong-Shell express rail coach. *plan Engineer* 155:229 Mr 3 '33; *Nat Pet N* 25:30 Ap 19 '33
- Armstrong, Whitworth Diesel-electric streamlined rail coach. *Il Engineering* 136:152 Ag 11 '33; Abstract. *Mech Eng* 55:640 O '33
- Armstrong, Whitworth oil-electric rail-bus. *Engineer* 156:18, 168 Je 7, Ag 18 '33
- Diesel-electric traction; several types on view at Scotswood works of Armstrong Whitworth & co. *Il Electrician* 109:663-4 N 25 '32

Diesel-electric traction; success of British main line trials. *Electrician* 110:366 Mr 17 '33

Diesel-electric trains as a temporary measure; abstract and discussion. *C. J. H. Trutch and C. M. Beckett. Elec R (Lond)* 112:453-4 Mr 31 '33

Electric traction; Armstrong Whitworth Diesel-electric stream-lined railbus. *Il Electrician* 110:866 Je 30 '33; *Elec R (Lond)* 112:935, 943 Je 30 '33

Flying Hamburger speeds at 96.3 m.p.h. *Automotive Ind* 67:807 D 24 '32

German Diesel-electric system; the Reichsbahn's new high-speed coach, Flying Hamburger. *Il Elec R (Lond)* 112:775 Je 2 '33

German state railways install high-speed motor coach; the Flying Hamburger. *Il Ry Age* 94:503-5 Ap 8 '33; *Ry Mech Eng* 107:160-3 My '33

High-speed rail cars; Berlin-Hamburg service. *A. Bradenwitz. Il diags Electrician* 110:511-12 Ap 21 '33

Oil-electric locomotives and rail cars at the Scotswood works of Armstrong Whitworth & co. *Engineer* 154:543 N 25 '32

Reliability and economy of the Diesel-engined locomotive and rail coach. *A. C. Heap. Engineering* 135:454-6 Ap 28 '33

Der schnelltriebwagen der Deutschen reichsbahn-gesellschaft. *F. Fuchs and M. Breuer. Il diags Zeit Ver Deutsch Ing* 77:57-68 Ja 21 '33; Abstract. *Génie Civil* 102:317-20 Ap 8 '33; Abstract (Streamlined high-speed car of the German national railroad company) *Mech Eng* 55:191-2 Mr '33

**Gasoline-electric**

Stainless-steel train delivered to Texas & Pacific; two-car unit for main-line mail-baggage-passenger service. *Il Ry Age* 95:692-4 N 11 '33

**Manufacture**

Neuerungen im personenwagenbau der Deutschen reichsbahn unter besonderer berücksichtigung des leichtbaues. *G. Wiens. Il diags Zeit Ver Deutsch Ing* 77:339-48 Ap 1 '33

**Oil-electric**

Budd-Michelin car. *Il Elec J* 30:14-15 Ja '33

Electrical equipment for Santa Fe 900-hp. rail motor car. *J. W. Brauns. Il plan Gen Elec R* 36:192-3 Ap '33

Fast rail car on pneumatic tires built for Reading company. *Il Sci Am* 148:10 Ja '33

Materials main factor in new type railway train; Union Pacific. *Il Mach* 40:67 O '33

Pneumatic tired rail car for Reading company. *Il Elec Traction* 28:450-1 N '32; *Elec Eng* 51:865-6 D '32; *Iron Age* 130:sup16 N 17 '32; *Rubber Age* 32:168 D 10 '32; *Transit J* 76:552 D '32

Pullman light-weight rail car designed for high speeds. *Il Ry Age* 95:489-90 O 7 '33

Round and light will be the U.P.'s new high-speed train. *Il diags Fortune* 8:64-6 Ag '33

Second stainless-steel car with pneumatic tires for Reading co. *Il diag Ry Mech Eng* 107:4-7 Ja '33

Union Pacific plans high-speed streamlined train. *Il diag Ry Age* 94:761-2 My 27 '33; Abstracts. *Ry Mech Eng* 107:228 Je '33; *Sci Am* 149:81 Ag '33

**Patrol cars**

Motor cars in railway police service. *Il Ry Age* 94:902 Je 24 '33

**Repair**

Making valve repairs to engines on rail-motor cars. *E. O. Whitfield. Il Ry Mech Eng* 106:513-14 D '32

Passenger equipment maintenance drastically cut. *Ry Age* 95:601-3+ O 28 '33

**Speed**

Détermination de la vitesse maximum des véhicules de chemins de fer munis de roues motrices. *A. Buchwald. Génie Civil* 102:329-30 Ap 8 '33

**MOTOR cars (railroad)—Continued****Storage battery**

Drumm battery train establishes new record.  
Elec W 102:294 S 2 '33

**Testing**

Testing rail motor car engines. il Ry Mech  
Eng 107:267 J1 '33

**MOTOR cycle engines****Fuel**

Use of synthetic methanol as a motor fuel.  
D. A. Howes. Inst Pet Tech J 19:301-31  
Ap '33

**Lubrication**

Scott oil pump; a variable delivery unit designed for two-stroke engines. diag Automobile Eng 23:299 Ag '33

**MOTOR cycle industry and trade****Great Britain**

Engineering outlook; the motor cycle and cycle industry. Engineering 135:150-2 F 10 '33

**MOTOR cycles**

Les applications du pneumatique à la voie ferrée; les motocyclettes-draisines, système Alcyon, pour route et pour voie ferrée. G. Delanghe. il diags Génie Civil 102:303-6 Ap 1 '33

**See also**

Cycle cars

**MOTOR fuel. See Automotive fuel****MOTOR products corporation**

Moving from red ink to black. Mag of Wall St 52:528-9 S 16 '33

**MOTOR ships**

All-welded Diesel-electric self-unloader for Dolomite products company of Rochester. N. Y. R. H. Macy. il diags Marine Eng 38:286-7 Ag '33

Caribia and Cordillera; two new twin screw German motorships. il Marine R 63:24 F '33  
Caribia, first of two, twin screw, German motorships. il diags Marine R 63:10-14 My '33

Caribia, motor liner. il Engineer 155:485 My 12 '33

Caribia und Cordillera, die doppelschraubenfracht- und fahrgastmotorschiffe der Hamburg-Amerika-linie. E. Goos. diags plans Zeit Ver Deutsch Ing 77:161-70 F 18 '33

Cordillera, twin screw German motorship. il Marine R 63:24 S '33

Dolomite No. 1, largest all-welded steel freighter. il diags Marine R 63:16-18+ S '33

Une évolution dans l'aménagement des paquebots; le lancement du Président-Doumer. O. Quéant. il Génie Civil 102:117 F 4 '33

George A. McWilliams, Diesel dredge. J. M. Allen. il Marine Eng 38:262-4 J1 '33

Marine Diesel engine; description of six installations. il Marine R 63:15-22 N '33

M. S. Oceania. il Marine Eng 38:296-7+ Ag '33

Motor vessel for canals service; Severn Trader. il Engineer 155:50 Ja 13 '33

Motorfundamente auf schiffen. W. Scholz. il diags Zeit Ver Deutsch Ing 76:1141-7 N 19 '32

Le nouveau caboteur à moteur Diesel G. Bouineau. il Génie Civil 102:234-5 Mr 11 '33

Sea power and the Diesel engine. E. B. Polister. Marine Eng 38:341-2 S '33

Shipbuilding and marine engineering in 1932. il Engineer 155:19-22, supp 2, 7 Ja 6 '33

Turecamo Girls, Diesel tugboat. il plans Marine Eng 38:339-40+ S '33

Turecamo Girls, direct drive Diesel towboat. il Marine R 63:21+ Ag '33

Twin-screw motor yacht "Trenora." il Engineering 136:187-9, 196, pl 8 Ag 25 '33; Engineer 156:109 Ag 4 '33

Wanganella, British motor liner. il Marine Eng 38:82-5 Mr '33

Wm. F. Kenny; Dearborn; Wylie L. Moore. il diags Marine R 63:30, 32, 34 Ap '33

Ymer, ice-breaking ship. plans Marine Eng 38:165-7 My '33

**See also**

Diesel engines, Marine	Motor boats
Gas and oil engines, Marine	Ship propulsion, Electric

**Performance**

Performance of Standard Oil tankers. R. L. Hague. Marine Eng 38:22-6 Ja '33; Discussion. 38:32, 64-5 Ja-F '33

**Steamboat conversion**

Modernizing cargo ships in Europe. Marine Eng 38:381-2 O '33

Torpedo boat destroyers converted to fruit carriers. B. C. D'Antoni. il Marine Eng 38:214-16 Je '33

**MOTOR truck drivers**

Can management control the fleet's experience? E. L. Harold. Nat Safety N 28:21-2 J1 '33

Committees key of Borden truck safety plan. Food Ind 5:369 S '33

Driver must provide accurate information in case of accident. Foundry 61:49 Mr '33

Drivers share in earnings of their trucks. W. Parker. Rock Prod 36:18 Ja '33

Fifth state-wide safety drive in Massachusetts. Safety Eng 65:205 Je '33

How to talk to drivers about traffic safety. J. R. Craig. Safety Eng 65:165-6 My '33

Numerous methods available for inciting good truck driving. Foundry 61:35 S '33

One full year: 310,000 miles, 3,900 drive-days without an accident; United parcel service. il Safety Eng 65:203-4 Je '33

Previous experience of driver dictates training program. Foundry 60:53 N '32

Training the driver; abstract. G. A. Rogers. Safety Eng 66:129 O '33

Working hours of truck drivers. Roads & Sts 76:289 Ag '33

**See also**

Drivers as salesmen

**MOTOR truck engines**

Büssing-N.A.G. Diesel engine. il diags Automobile Eng 23:43-4 F '33

Cylinder irons; a study of the material in three commercial vehicle engine cylinders. J. E. Hurst. Automobile Eng 23:245-7 J1 '33

Cylinder maintenance; upkeep of a fleet of heavy vehicles. W. F. Enever. Automobile Eng 22:561-2 N '32

Delivery costs are too high; exhaust gas tests will prove it. A. C. Schmid. Food Ind 5:22-4 Ja '33

Doman and Marks, two new air-cooled sixes for commercial service. P. M. Heldt. il Automotive Ind 69:368-9 S 23 '33

European automotive Diesel vehicles; abstracts. T. B. Rendel. Automotive Ind 69:250 Ag 26 '33; Nat Pet N 25:25 S 13 '33

Federals have larger engines. il Automotive Ind 69:10-11 J1 1 '33

Fuel savings assure Diesel a place in heavy duty transport. J. Geschelin. il Automotive Ind 68:372-4 Mr 25 '33

G.M.T.'s have new engines. il Automotive Ind 68:107-8 Ja 28 '33

Leyland oil engine. il Engineer 155:100 Ja 27 '33

New Diesel truck engine to broaden oil market and affect operating basis of transport. S. A. Guiberson, jr. il Oil & Gas J 31:142 N 17 '32

New Jendrassik Diesel. C. Dannerger. il diags Automotive Ind 68:394-6 Ap 1 '33

140 hp. M-A-N Diesel engine built for heavy duty vehicles. il diags Automotive Ind 67:647-8 N 19 '32

Some notes and observations on petrol and Diesel engines; cracking of bearings. H. R. Ricardo. diags Roy Aeronautical Soc J 37:509-18; Discussion. 523-46 Je '33

35 Diesel truck models at Berlin show. E. P. A. Heinze. il Automotive Ind 68:317-19 Mr 11 '33

**See also**

Automobile engines



**MOTOR truck engines—Continued****Cooling**

Deterioration in water systems; suggestions for reducing overheating in heavy vehicles. E. A. Smith. *Automobile Eng* 23:302-4 Ag '33

**Design**

Coventry Climax B.4 engine. *il* *diags* *Automobile Eng* 23:213-14 Je '33  
Cylinders of Michel engine arranged star fashion, three on the same central combustion chamber. *il* *diags* *Automotive Ind* 67:644-6 N 19 '32  
Krupp 2- and 2½-ton express lorries. *il* *diags* *Automobile Eng* 23:239-40 Jl '33  
Leyland 8-litre oil engine. *il* *diags* *Automobile Eng* 23:199-202 Je '33; Abstract. *Automotive Ind* 69:69-70 Jl 15 '33  
Petter A.C.E. Diesel engine; a two-stroke model embodying a separate scavenge pump. *il* *diags* *Automobile Eng* 23:317-18 S '33

**Fuel**

Charcoal fuel for motor trucks. *Sci Am* 148: 177 Mr '33  
Coal gas as fuel for road transport vehicles. C. H. S. Tupholme. *il* *Ind & Eng Chem News ed* 11:193-4 Je 20 '33; Abstract. *Am Gas J* 139:28-9 Jl '33  
Experiment with charcoal gas in operating trucks. J. Arnold. *Oil & Gas J* 31:41 N 17 '32  
Gas for motor vehicles. *Gas J (Lond)* 203:349 Ag 16 '33  
Saving money in buying and using motor truck fuels and lubricants; engineering service of gasoline and oil industries. *il* *Food Ind* 5:268-72 Jl '33  
Town's gas for motor vehicles. *il* *diag* *Engineer* 154:647 D 23 '32; *Automotive Ind* 68: 170 F 11 '33  
Town's-gas-operated motor vehicle. *il* *Engineering* 134:605-6 N 18 '32; Abstract. *Gas J (Lond)* 200:556 N 23 '32

**Lubrication**

Oil-reclamation economics. G. T. Hook. *S A E J* 32:sup20-1 Ja '33

**Manufacture**

Balancing connecting rods for truck motors. H. C. Francis. *il* *Am Mach* 77:235 Ap 12 '33  
Büssing works; an old-established German factory for the production of commercial vehicles. *il* *Automobile Eng* 23:277-81 Ag '33  
Piston manufacture; production of the Sunbeam steel-skirted component. *il* *Automobile Eng* 22:549-53 N '32  
Saurer works; methods employed in the production of a high-grade Diesel-engined vehicle. *il* *Automobile Eng* 23:7-13 Ja '33

**Mounting**

Angularly flexible mountings may find wide use with Diesels. *Automotive Ind* 69:186-7 Ag 12 '33

**Specifications**

American stock engines specifications; tabulation. *Automotive Ind* 68:240-7 F 25 '33

**Testing**

Friction losses dissected. L. C. Lichty and G. B. Carson. *Automotive Ind* 69:236 Ag 26 '33; Abstract with discussion. *S A E J* 33: sup42-3 O '33

**MOTOR truck industry and trade**

Adverse legislation threatens truck sales. R. J. Staehli. *Automotive Ind* 68:63-5 Ja 21 '33  
European Diesel makers in drive for export markets. A. W. Childs. *Automotive Ind* 68: 301-24 Mr 11 '33  
How codes affect truck purchases; fleet sales are not subject to N.A.D.A. code. *Food Ind* 5:458 N '33  
Non-uniform regulation by states creates truck-building riddle. M. C. Horine. *S A E J* 32:165-71 My '33

**See also**

Automobile industry and trade

**Statistics**

Exports. *Automotive Ind* 68:226-7 F 25 '33  
Production; world production trends. *Automotive Ind* 68:219-22 F 25 '33

**Great Britain**

British motor industry. *Economist* 117:805-6 O 28 '33

**MOTOR truck robberies**

Truck hi-jackings attracts attention. *Nat Underw* 37:13+ S 28 '33

**MOTOR truck trailers. See Trailers****MOTOR trucks**

Chevrolet commercial line for 1933 offered on choice of three wheelbases. *diags* *Automotive Ind* 68:74-5+ Ja 21 '33  
Diamond T new 1½-ton truck is priced at \$595. *Automotive Ind* 68:775 Je 24 '33  
Driver and his truck. E. W. Winans. *il* *Nat Safety N* 27:24-5+ My '33  
Federal offers new six-wheelers with two or four wheel drive. *il* *Automotive Ind* 69:419-20 O 7 '33  
Federal offers two new truck lines on wheelbases of 153 to 237 in. *il* *diags* *Automotive Ind* 68:54-5 Ja 14 '33; *Roads & Sts* 76:135 Mr '33  
Federal three new 6-cylinder trucks. *il* *Roads & Sts* 76:282-3 Jl '33  
Federals have larger engines. *il* *Automotive Ind* 69:10-11 Jl 1 '33  
FWD tractor truck. *il* *Eng & Contr* 71:280 D '32  
General Motors offer two new truck models. *Ry Age* 94:598 Ap 22 '33  
General Motors super heavy-duty trucks. *il* *Concrete* 40:26 D '32; *Ry Age* 94:119 Ja 28 '33  
G.M.T. brings forth improved models in heavy duty line. *il* *Automotive Ind* 68:283 Mr 4 '33  
G.M.T.'s have new engines. *il* *Automotive Ind* 68:107-8 Ja 28 '33  
International harvester co.'s new 2-ton motor truck. *il* *Roads & Sts* 76:132 Mr '33; *Ry Age* 94:455 Mr 25 '33; *Oil & Gas J* 31:71 Ap 6 '33  
International offers one-half ton motor truck. *il* *Ry Age* 94:116 Ja 28 '33  
Krupp 2- and 2½-ton express lorries. *il* *diags* *Automobile Eng* 23:239-40 Jl '33  
Marmon-Herrington all-wheel-drive trucks. *il* *Ry Age* 95:163 Jl 22 '33  
Mechanical handling of refuse; how material is conveyed in containers by lorries to destructor. T. Ruete. *il* *Mech Handling* 19: 414 D '32  
Morris-Commercial fours or sixes. *diag* *Gas J (Lond)* 202:220 Ap 26 '33  
Morris-Commercial silent-third trucks. *il* *Gas J (Lond)* 201:201 Ja 25 '33  
New Dodge 1-1½ ton truck. *il* *Automotive Ind* 68:527 Ap 29 '33  
New L.M.S. luggage, parcels and motor car vans. *il* *Engineer* 156:94-5 Jl 28 '33  
Operating motor trucks in the food industries. *Food Ind* 5:20-1 Ja '33 [cont monthly]  
Restrictive truck legislation developing new vehicle types. *il* *Food Ind* 5:184 My '33  
Sterling enters Diesel-powered truck field. *il* *Eng & Contr* 71:281 D '32  
Stewart announces three new truck models. *il* *Ry Age* 94:906 Je 24 '33  
Studebaker has new line of four trucks. *Automotive Ind* 68:150 F 4 '33  
Temporary code approved for motor truck operators. *Ry Age* 95:348 S 2 '33  
Le transport des marchandises avec séparation des éléments de roulement et de chargement. *il* *diags* *Génie Civil* 102:375-7 Ap 22 '33  
Trenton refuse bodies for city of Baltimore carry larger load. *il* *Roads & Sts* 76:132 Mr '33  
Use of motor trucks in woods operations. L. R. Scheult. *il* *Pulp & Pa of Can* 33:379-82-, 437-40 O-N '32  
What about the small 3-axle truck? *il* *Food Ind* 5:465 N '33  
White offers new K series trucks to meet axle load laws. *il* *Automotive Ind* 69:190 Ag 12 '33

**MOTOR trucks—Continued**

White offers new 1½ and 2 ton trucks at \$1,085 and \$1,185. J. W. Cottrell. *il* Automobile Ind 69:590-1 N 11 '33

Woods problems and the motor truck. *il* Pulp & Pa of Can 34:595-6 O '33

Year round use of ice equipment; conversion into oil tank trucks. J. West. *Refrig W* 68: 24 Je '33

**See also**

Automobiles	Motor trucks in freight service
Brakes, Motor truck	Motor vehicles
Delivery of goods	Refrigeration on cars, trucks, etc.
Electric trucks	Tank trucks
Exhibits, Traveling	Tires, Motor truck
Jobbers, Wagon	Tractors
Motor truck drivers	Traveling stores
Motor truck engines	
Motor truck industry and trade	

**Accidents**

Pennsylvania highway truck accidents, six months, April to September, 1932, inclusive. 20p Associated railroads of Pennsylvania, 1250 Broad Street Station building, Philadelphia '33

**Accounting**

Advanced model transportation accounting system. W. Bergmann and H. G. Wingardner. *N E L A Bul* 19:661-8 N '32

**Axles**

American stock front axles specifications; tabulation. *Automotive Ind* 68:254 F 25 '33

American stock rear axles specifications; tabulation. *Automotive Ind* 68:250-1 F 25 '33

Axles for commercial vehicles. *il* *diags Automobile Eng* 23:289-90 Ag '33

Hardening and drawing Ford drive shafts by improved methods; Timken-Detroit axle co. J. B. Nealey. *il* *Mach* 39:472-3 Mr '33

**Bodies**

Commercial bodywork at the Scottish show. *il* *Automobile Eng* 22:599-602 D '32

Dodge commercial bodies follow passenger car lines. *il* *Automotive Ind* 68:109 Ja 28 '33

Shotwelding boosts revenue by cutting truck body weight. *il* *Automotive Ind* 68:559 My 6 '33

Special van bodywork; details of a publicity van with interior office accommodation; Farmer and stock-breeder. *il* *Automobile Eng* 23:314 Ag '33

Two-ton delivery van on a Commer Centaur chassis. *il* *diags Automobile Eng* 23:34-6 Ja '33

Welded stainless steel truck bodies. *il* *Food Ind* 5:418 O '33

**Brakes**

*See* Air brakes, Motor truck; Brakes, Motor truck

**Chassis**

U. S. gasoline truck chassis specifications; tabulation. *Automotive Ind* 68:232-7 F 25 '33

**Clutches**

American stock clutches specifications; tabulation. *Automotive Ind* 68:255 F 25 '33

**Cost of operation**

Operating and maintenance costs of automobiles and trucks. R. F. Caldwell. *il* *Pulp & Pa of Can* 34:279-80 Ap '33

**Design**

Luton van on a two-ton Dodge chassis. *il* *diags Automobile Eng* 23:272-4 J1 '33

New truck design economically meets restrictive highway laws. *il* *diags Nat Pet N* 25: 43-4 O 11 '33

One-ton delivery van on a Morris-Commercial chassis. *il* *diags Automobile Eng* 23:151-3 Ap '33

Refrigerator motor-trucks. H. M. Williams and J. W. Carl. *il* *S A E J* 31:457-60 D '32

Simplification of control needed; abstract. B. B. Bachman. *S A E J* 31:474 D '32

Two-ton delivery van on a Commer Centaur chassis. *il* *diags Automobile Eng* 23:34-6 Ja '33

**Electric equipment**

C.A.V.-Bosch six-cylinder magneto for high-speed commercial vehicle engines. *il* *Automobile Eng* 23:6 Ja '33

Electrical equipment of automobiles; a review of progress. W. H. Glaser. *Inst E E J* 72:147-52 F '33

**Equipment**

Brady roller shutters for vans. *diags Automobile Eng* 23:154 Ap '33

Neon signs for vans. *Automobile Eng* 23: 155 Ap '33

**See also**

Air brakes, Motor truck  
Tires, Motor truck

**Gearing**

American stock gearsets specifications; tabulation. *Automotive Ind* 68:252-3 F 25 '33

Brown-Lipe gear change. *il* *diags Automobile Eng* 23:326 S '33

Brown-Lipe has new line of helical gear transmissions. *il* *Automotive Ind* 69:489 O 21 '33

Four wheel drive unit for six-wheel truck produced by Gear grinding machine co. *il* *Automotive Ind* 68:287 Mr 4 '33

Fuller five-speed gear box; constant mesh helical gears employed. *diag Automobile Eng* 23:304 Ag '33

Pearn Richards boring machine for motor lorry back axles. *il* *Engineer* 155:282 Mr 17 '33; *Engineering* 135:344 Mr 24 '33

Third and fourth speeds have helical gears in new Fuller five-speed transmission. *diag Automobile Ind* 68:343 Mr 18 '33

Thornton tandem drive for light trucks. *il* *Automotive Ind* 69:192 Ag 12 '33

**Inspection**

Delivery costs are too high; exhaust gas tests will prove it. A. C. Schmid. *Food Ind* 5:22-4 Ja '33

**Laws and regulations**

Adverse legislation threatens truck sales. R. J. Staehli. *Automotive Ind* 68:63-5 Ja 21 '33

Alabama's motor bills approved by Governor. *Ry Age* 93:751 N 26 '32

Brousseau tells Coolidge; 22 fundamentals which N.A.C.C. thinks essential to understanding of transportation problem. *Automotive Ind* 67:768-9+ D 17 '32

Citizens transportation league enrolls 212,000 voters for promotion of transportation regulation. *il* *Ry Age* 94:369-70 Mr 11 '33

Code for federal bus and truck regulation written. *Nat Pet N* 25:17 Ap 5 '33

Colorado Supreme court rules on motor carriers. *Pub Util* 11:432-3 Mr 30 '33

Coming curb on the contract carriers. J. W. Greenleaf and D. J. Teviotdale. *Pub Util* 11: 259-65 Mr 2 '33

Commissioners draft bill for control of interstate motor transport. *Ry Age* 95:659-60 N 4 '33

Common carrier truckers propose national regulatory law. *Nat Pet N* 25:16 Ja 18 '33

Constructive governmental supervision of motor transport. J. P. Kuhn. *Ry Age* 94:870-1 Je 17 '33

Contract carrier regulation upheld by Supreme court. *Bus Transportation* 12:72 Ja '33

Dangerous precedent is being presented in proposed anti-truck legislation. R. F. Britton. *Oil & Gas J* 31:44 Mr 9 '33

Equal opportunity for carriers asked in national report of Chamber of commerce of the United States. *Bus Transportation* 12:73-4 Ja '33

Federal regulation of motor transport. H. M. Muller, comp. *Ref Shelf v* 8, no 9:1-154 [bibliog p 19-27] '33

Four motor laws passed by Tennessee legislature. *Ry Age* 94:703-4 My 13 '33

Germany tackles the road transport problem. *Aera* 23:1388-92 N '32

Harmonious regulation of transport agencies needed. P. J. Farrell. *Ry Age* 95:533-4 O 14 '33



**MOTOR trucks—Laws and regulations—Cont.**

Highlights of 1933 bus legislation. *Bus Transportation* 12:155-6 Ap '33

Highway code—highway law. *Business Week* p10 Ag 19 '33

How Texas' 7000-pound truck payload limit hit the oil companies. *J. S. Henry. Nat Pet N* 24:25-6 D 28 '32

Joint rail-highway users committee issues report. *Ry Age* 94:187+ F 4 '33

Legislation in Maryland extends motor regulation. *Ry Age* 94:741-2 My 20 '33

Legislative battles in full swing. *Bus Transportation* 12:131-3 Mr '33

Motor carrier legislation enacted in Massachusetts. *Ry Age* 95:319 Ag 26 '33

Motor carrier regulatory law enacted in Oregon. *Ry Age* 94:676+ My 6 '33

Motor truck regulatory law enacted in Maine. *Ry Age* 94:602-3+ Ap 22 '33

Motors give, rails take; joint report of committee of rail and highway users. *D. Blanchard. Automotive Ind* 68:155-7 F 11 '33

Need for uniformity of state motor-vehicle codes; abstract. *P. Schon. S A E J* 32:sup35 F '33

New curb on the contract carrier; decision of the Supreme court. *H. C. Spurr. Pub Util* 11:106-10 Ja 19 '33

New Hampshire regulates highway freight carriers. *Ry Age* 94:809 Je 3 '33

New highway carrier law passed in West Virginia. *Ry Age* 95:167 Jl 22 '33

New laws regulate many phases of bus and truck operation. *Bus Transportation* 12:221-2 My '33

New motor transportation laws enacted by Virginia. *Manuf Rec* 102:28 Ap '33

New motor truck laws enacted in Minnesota. *Ry Age* 94:873 Je 17 '33

New restrictions and tax on trucks threaten oil company deliveries. *R. B. Stafford. Nat Pet N* 24:11-12 N 30 '32

Non-uniform regulation by states creates truck-building riddle. *M. C. Horine. S A E J* 32:165-71 My '33

Operating motor trucks in the food industries. *Food Ind* 5:20-1 Ja '33 [cont monthly]

Proposed highway truck tolls in Ontario. *Can Eng* 64:14 Ap 4 '33

Public control of contract motor carriers. *J. J. George. J Land & Pub Util Econ* 9:233-46 Ag '33

Rail and truck committee agrees to regulatory principles. *Nat Pet N* 25:11 F 1 '33

Rail regulation fundamentals not applicable to trucks; abstract. *B. E. Hutchinson. S A E J* 33:274 Ag '33

Rail—truck competition in England. *Am Bankers Assn J* 25:52-3 Je '33

Rail-road pact; agreement between highway users and railroad men leaves some important issues still to be settled. *Business Week* p16-17 F 8 '33

Railroaded; state's right to bar truck lines from crowded route is confirmed. *Business Week* p14 Ap 26 '33

Rails and bus lines agree on regulation. *Barron's* 13:6 F 6 '33

Regulation for contract motor carriers in Ohio. *Ry Age* 94:835 Je 10 '33

Road and rail traffic. *Economist* 116:848-9; 117:219-20 Ap 22, Jl 29 '33

Road and rail traffic bill; summary. *Engineer* 155:400 Ap 21 '33

Shopkeepers and the highway. *G. V. Sheridan. Bus Transportation* 12:45 Ja '33

Solons do not indorse uniform truck limits; meeting held under the auspices of the American legislators association. *Ry Age* 95:641-2 O 28 '33

State motor vehicle legislation. *Ry Age* 94:117-19, 309-11, 370-2 Ja 28, F 25, Mr 11 '33

Stringent Kentucky truck law brings border warfare with Indiana. *R. B. Stafford. Nat Pet N* 25:15-16 Ja 4 '33

Supreme court decision opens way for rail attacks on trucks; Texas statute upheld. *R. B. Stafford. Nat Pet N* 24:11-12+ D 7 '32

Supreme court sustains Texas contract truck law. *Ry Age* 93:876 D 10 '32; Same cond. *Eng N* 109:694-5 D 8 '32; Abstract. *Barron's* 12:6 D 19 '32

Symposium on truck regulations. *W. A. Olen and others. Roads & Sts* 75:489-95 D '32

Truck regulation; abstract. *T. R. Dahl. S A E J* 32:sup12; Discussion. 12-13 F '33

Truck regulation and competition with the railways. *P. Johnson. Roads & Sts* 76:58-9 F '33

Truck regulation bills filed in Massachusetts. *Ry Age* 94:84+ Ja 21 '33

Two more states enact motor regulation laws; North Dakota and Indiana. *Ry Age* 94:564-5 Ap 15 '33

Utah regulating peddler trucks and motor carriers. *Ry Age* 95:445-6 S 23 '33

Utility commissioners discuss motor carrier problems. *Bus Transportation* 11:514 D '32

Views on motor transport regulation. *J. B. Eastman. Ry Age* 95:636-7 O 28 '33

Washington state passes new motor carrier laws. *Ry Age* 95:377+ S 9 '33

What to do about highway transport. *il Ry Age* 93:849-51 D 3 '32

Why public utility regulation of motor trucks? *T. D. Pratt. Bus Transportation* 12:42-4 Ja '33

Wisconsin enacts motor carrier regulatory law. *Ry Age* 95:675 N 4 '33

See also

Motor trucks—Taxa-

tion

Motor trucks—Weight

### Lighting

Tail-light guard for trucks. *il Comp Air M* 38:4164 Jl '33

### Lubrication

Saving money in buying and using motor truck fuels and lubricants; engineering service of gasoline and oil industries. *il Food Ind* 5:268-72 Jl '33

### Management

Can management control the fleet's experience? *E. L. Harold. Nat Safety N* 28:21-2 Jl '33

Control of motor-vehicle transport operations. *F. I. Hardy. S A E J* 31:436-7 N '32; Discussion. 31:sup17-19+; 32:87-91 N '32, Mr '33

Cut fleet costs, increase fuel economy, is transport-fuel sessions theme; abstracts of Engineering congress papers. *T. C. Smith. S A E J* 33:sup19-24 O '33

How the N.R.A. codes affect truck use. *il Food Ind* 5:417 O '33

Labor saving devices in garage and repair shop of Pacific gas and electric company. *C. W. Geiger. il Am Gas J* 138:9-11 F '33

Oil-reclamation economics. *G. T. Hook. S A E J* 32:sup20-1 Ja '33

Operating municipal trucks; pooling of truck equipment used in the public utility field. *Pub Works* 64:26 F '33

Reducing tire expenses by proper control and maintenance methods; individual tire card. *il diags Food Ind* 5:180-4 My '33

Saving money in buying and using motor truck fuels and lubricants; engineering service of gasoline and oil industries. *il Food Ind* 5:268-72 Jl '33

See also

Delivery of goods

Ice delivery

Oil delivery

### Manufacture

Büssing works; an old-established German factory for the production of commercial vehicles. *il Automobile Eng* 23:277-81 Ag '33

Changes in plant layout for varying production; White motor company. *R. A. Fintz. il Am Mach* 77:430-3 Jl 5 '33

Saurer works; methods employed in the production of a high-grade Diesel-engined vehicle. *il Automobile Eng* 23:7-13 Ja '33

### Painting

How direct mail de luxe sold paint jobs for trucks; Canadian industries, ltd. *W. R. Atwood. il Ptr Ink Mo* 27:24-5+ S '33

**MOTOR trucks—Continued****Prices**

Average retail price of passenger cars and trucks, 1921-1932. *Automotive Ind* 68:225 F 25 '33

No change in Ford truck chassis prices. *Automotive Ind* 68:204 F 18 '33

**Purchasing**

Predetermined operating requirements for purchasing equipment. *J. M. Orr. S A E J* 33: sup19-20 O '33

**Rating**

Reference table for use with truck rating performance factor. *S A E J* 32:20 Ap '33

Standard truck rating OK for trial. *il S A E J* 32:sup14-16 Mr '33

**Repair**

Repair welding. *A. F. Keogh. il Elec Traction* 29:52-3 F '33

Safe driving requires constant inspection of trucks. *Foundry* 60:58 D '32

Trucks, men—and safety. *Pet Age* 26:22-3 N '32

**Safety devices and measures**

Safe driving requires constant inspection of trucks. *Foundry* 60:58 D '32

Trucks, men—and safety. *Pet Age* 26:22-3 N '32

When the fleet is scattered; automotive equipment operated by the Pillsbury flour mills company. *C. V. Wells. Nat Safety* N 27: 13-14 F '33

*See also*

Motor truck drivers

**Size**

Maximum limitations imposed by states on size and weight of motor vehicles on highways outside of incorporated areas, 1932; tabulation. *H. H. Kelly. Pub Roads* 13:167-8 D '32

Non-uniform regulation by states creates truck-building riddle. *M. C. Horine. S A E J* 32:165-71 My '33

**Specifications**

Low-step trucks of many models for house-to-house delivery service; complete specifications of all models. *il diags Food Ind* 5:100-4 Mr '33

S.A.E. committee presents code of size and weight limitations on motor vehicles. *Automotive Ind* 69:49 Jl 8 '33

S.A.E. transport code committee makes report for study by members. *il S A E J* 32: 256-9 Jl '33

U. S. gasoline truck chassis specifications; tabulation. *Automotive Ind* 68:232-7 F 25 '33

**Springs**

Underslung rear spring mounted direct to frame on GMT model. *diag Automotive Ind* 67:746 D 10 '32

**Steering gear**

Air steering control; Bendix-Westinghouse. *S. Johnson, Jr. diags Automobile Eng* 23:300 Ag '33; Excerpt. *Ry Age* 94:599 Ap 22 '33

Air steering control by Bendix-Westinghouse. *il Sci Am* 149:77 Ag '33

Power steering is demanded by heavy and high speed vehicles. *P. M. Heldt. il diags Automotive Ind* 67:738-43, 774-7 D 10-17 '32

**Taxation**

Memorandum submitted to the National transportation committee by the National association of motor bus operators. *Bus Transportation* 12:sup8-15 Ja '33

Motor trucks are paying their fair share of taxes for all highway and governmental purposes. *Bus Transportation* 12:sup7 Ja '33

New restrictions and tax on trucks threaten oil company deliveries. *R. B. Stafford. Nat Pet N* 24:11-12 N 30 '32

Oklahoma Senate passes drastic motor truck tax measure. *Nat Pet N* 25:24 Ap 12 '33

Symposium on truck regulations. *W. A. Olen and others. Roads & Sts* 75:489-95 D '32

What's wrong with the laws; abstract. *D. C. Fenner. il S A E J* 32:sup20-2 Je '33

**Testing**

Wärmeaustausch zwischen bremsstrommel und felge bei lastkraftwagen. *H. Knoblauch. il Zeit Ver Deutsch Ing* 77:321-2 Mr 25 '33

**Weight**

Maximum limitations imposed by states on size and weight of motor vehicles on highways outside of incorporated areas, 1932; tabulation. *H. H. Kelly. Pub Roads* 13:167-8 D '32

Non-uniform regulation by states creates truck-building riddle. *M. C. Horine. S A E J* 32:165-71 My '33

**Wheels**

I.A.E. provisional standard no. 80; 5/8 in. dia. B.S.F. studs for disc wheels, for commercial vehicles. *diags Automobile Eng* 23:219-20 Je '33

I.A.E. provisional standard no. 81; hub flanges for disc wheels, for commercial vehicles. *diags Automobile Eng* 23:2 Ja '33

*See also*

Tires, Motor truck

**MOTOR trucks, Industrial**

Clark tructier ram for lifting, carrying and tiering strip steel and wire in coils, heavy wheels, etc. *il Am Mach* 77:30-1 Ja 4 '33

Internal transport in workshops; Lodomer petrol-driven elevating platform truck. *il Engineer* 155:75 Ja 20 '33

Lister twin power unit for auto-truck. *diag Engineer* 155:242 Mr 10 '33

Three examples of economical handling. *F. A. Westbrook. il Maintenance Eng* 90:462 D '32

*See also*

Electric trucks, Industrial

**Safety measures**

Industrial truck and tractor accidents and their elimination. *G. E. Sanford. il Safety Eng* 66:123-4 O '33

**MOTOR trucks, Military**

Army begins motorization of National Guard artillery. *L. Peat. il Automotive Ind* 68: 488-9 Ap 22 '33

Ordnance meets changing needs of cavalry and infantry. *H. A. Nisley. il S A E J* 33: sup32-8 S '33; Abstract. *Automotive Ind* 69: 256-7 Ag 26 '33

**MOTOR trucks, Used**

Trucks obsolete for transport use serve on lease pulling wells. *W. F. Lowe. il Nat Pet N* 24:34 D 7 '32

**MOTOR trucks and roads**

Allocation of highway costs among classes of motor vehicles for purposes of calculating graduated tax schedules. *A. D. Schultz. Am Statis Assn J* 28:286-92 S '33

Effects of vehicle travel on highways. *P. W. Seiley. Roads & Sts* 75:494-5 D '32

Hold of railroads on legislatures cramps truck design and use. *T. R. Dahl. il S A E J* 32:12-14 Ap '33

What's wrong with the laws; abstract. *D. C. Fenner. il S A E J* 32:sup20-2 Je '33

*See also*

Automobiles and roads

Road traffic

**MOTOR trucks in construction work**

Batching plant economics for separate aggregates. *T. C. Thee and O. K. Normann. il diags Eng N* 110:52-4 Ja 12 '33; Same. *Roads & Sts* 76:97-100 Mr '33

Fast-truck concrete haul cuts building cost; construction of the Meadowbrook hospital in Nassau county, New York. *W. J. Barney. il plan Eng N* 109:778-9 D 29 '32

One-yard trucks haul concrete for 3-mile overhead highway. *il Concrete* 41:18 Ja '33

Transportation of road materials. *W. D. Colby. Can Eng* 64:60 Mr 7 '33



**MOTOR trucks in freight service**

- Big loss in gasoline consumption is threatened by railroad campaign against motor trucks. Oil & Gas J 31:9 D 22 '32
- Boston & Maine truck operations continue profitable. il Ry Age 94:907-8 Je 24 '33
- Brief regarding the railroad-highway transportation controversy. Roads & Sts 76:60-6+ F '33
- Coal trucks; more and more bituminous coal moves over the highways. Business Week p7 Ja 4 '33
- Cutting the cost of store-door delivery; Pacific motor transport co. L. B. Young. il Ry Age 93:952-4 D 24 '32
- Federated truck associations protest effects of basing point plans in NRA codes on motor haulage. Automotive Ind 69:352 S 16 '33
- 45,000 communities rely solely on motor transportation. A. L. Cricher. il Bus Transportation 12:55-7 Ja '33
- Freight cars; effect of transportation requirements on their evolution. C. B. Peck. il Mech Eng 55:151-5 Mr '33
- Heavy volume of trucked freight shown. Ry Age 95:162-3 Jl 22 '33
- Hold of railroads on legislatures cramps truck design and use. T. R. Dahl. il S A E J 32:12-14 Ap '33
- How provide collection and delivery service? British railways' operation of own trucks. C. E. R. Sherrington. il Ry Age 95:315-17 Ag 26 '33
- How railroads and commercial aggregate producers cooperate in Kansas. J. H. Ruckman. map Rock Prod 36:28-9 Mr '33
- How Texas & New Orleans provides store-door service to shippers. H. M. Lull. Ry Age 94:115-16 Ja 28 '33
- Is it worth it? hysteria over 2½ to 5½ per cent freight movement. G. P. McCallum. Bus Transportation 11:493-4 D '32
- Is there a demand for store-door service? Ry Age 95:651-3 N 4 '33
- Lost traffic recovered by Missouri Pacific trucks. il map Ry Age 95:439-40 S 23 '33
- Missouri-Kansas-Texas transportation company complete third year of store-door service. il Ry Age 95:318 Ag 26 '33
- Motor truck freight transportation characteristics and costs of motor-truck operation by common carriers and contract haulers in intercity service. 59p U. S. Bur. of public roads, Washington '32
- Motor trucking presents new marketing problems. Ry Age 94:187+ F 4 '33
- Motor trucks, milk and the consumer. H. E. Seanor. Roads & Sts 76:67-8 F '33
- Motors give, rails take; joint report of committee of rail and highway users. D. Blanchard. Automotive Ind 68:155-7 F 11 '33
- New container and trailer for co-ordinated service. il Ry Age 93:955-6 D 24 '32
- Pennsylvania and Long Island plan New York store-door service. Ry Age 94:597-8 Ap 22 '33
- Principles of motor transportation. F. K. Edwards. 377p \$4 McGraw-Hill '33
- Proposed code of American highway freight association filed. Ry Age 95:414-15 S 16 '33
- Railroad agents and shippers comment on store-door service; Boston & Maine gets first-hand data. Ry Age 95:441-3 S 23 '33
- Railroad annual reports review motor transport operations. il Ry Age 94:772-4+ My 27 '33
- Railroad complaints against truck competition are answered by automobile chamber of commerce. A. J. Brosseau. Oil & Gas J 31:8 D 22 '32
- Rails into roads; Rhode Island commission says obsolete trackage should be converted into truck highways. Business Week p11-12 N 23 '32
- Railway truck use greatly extended. J. C. Emery. il Ry Age 94:183-4+ F 4 '33
- Shipping loaded trucks and trailers on railway freight cars. Concrete (mill sec) 40: 35-7 D '32
- Show shippers' views on railways vs. highways; Trans-Missouri-Kansas shippers' board report. Ry Age 93:747-9 N 26 '32

- Store-door service adopted by southeastern roads. il map Ry Age 94:595-6 Ap 22 '33
- Store-door service—can the railroads afford it? J. R. Turney. Ry Age 94:452-4 Mr 25 '33
- Symposium on truck regulations. W. A. Olen and others. Roads & Sts 75:489-95 D '32
- Truck and rail co-ordination; comparison between various transportation methods. W. A. Olen. Can Eng 64:17 My 2 '33
- Truck regulation and competition with the railways. P. Johnson. Roads & Sts 76:53-9 F '33
- Truck transport expensive with all costs considered. C. B. Sudborough. Ry Age 95:675-6 N 4 '33
- Truck transportation. J. H. Alldredge. il Manuf Rec 102:20-1+ Je '33
- Truckers protest steel code delivered price clause. Iron Age 132:49 O 26 '33
- Trucks; their service to the public. R. C. Fulbright. il Bus Transportation 12:13-17 Ja '33
- Unregulated transport destroys farm and business stability. Ry Age 93:797-800 D 3 '32

*See also*

- |                     |                     |
|---------------------|---------------------|
| Freight handling—   | Railroads—Motor ve- |
| Store door delivery | hicle competition   |
| Highway transporta- | Tank trucks         |
| tion                |                     |

**Advertising**

- Truck owners use advertising to win an argument; defeat a railroad sponsored bill at the polls. R. J. Staehli. Ptr Ink 161:86+ D 8 '32

**Bibliography**

- Store door delivery; a list of references chronologically arranged. 30p Library Bur. of railway economics, Washington, D. C. '33 (typew)

**Rates**

- Proposed highway truck tolls in Ontario. Can Eng 64:14 Ap 4 '33

**MOTOR trucks in repair service**

- Machine shop on wheels; D. H. Mead's traveling repair shop. J. H. Sheehan. il Am Mach 77:169 Mr 15 '33
- What must be carried in the repair truck? il diag Dom Eng 141:26-7 Mr '33

**MOTOR trucks in selling**

- Colgate puts salesmen on trucks to provide immediate delivery. Sales Management 32: 126 F 1 '33
- Do jobbers balk at your new line? Stag sells 4,000 dealers direct. il Sales Management 31:518 D 15 '32
- Recruits for the wagon. il Business Week p12-13 My 10 '33

*See also*

- Exhibits, Traveling  
Jobbers, Wagon

**MOTOR vehicles**

- Mechanical-horse car; Pak-age-car. il Sci Am 148:186 Mr '33

*See also*

- |                       |                     |
|-----------------------|---------------------|
| Automobiles           | Motor trucks        |
| Cycle cars            | Railroads—Motor ve- |
| Electric trucks       | hicle auxiliaries   |
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| tion                  | Taxicabs            |
| Motor buses           | Tractors            |
| Motor caravans        | Trailers            |
| Motor cars (railroad) | Trolley buses       |
| Motor cycles          |                     |

**Law**

- Digest of decisions relating to validity of state statutes regulating operation of motor vehicles. E. S. Jouett. rev ed 73p Research committee of Mississippi Valley railroads, Louisville, Ky. '33
- Gas tax; states act to encourage winter driving (and tax-paying) by extending registration dates. Business Week p10-11 Ja 25 '33
- Highway traffic; officials of all states recommend model code. Business Week p12+ D 7 '32

**MOTOR vehicles—Law—Continued**

- Law applied to motor vehicles. C. J. Bab-bitt. 4th ed 1788p Lawyers co-operative pub. co, Rochester, N.Y. '33
- More states to allow use of 1932 auto li-censes early in 1933. R. B. Stafford. Nat Pet N 24:26-7 D 28 '32
- Motor vehicle laws of Rhode Island, 1932. 125p Rhode Island. Motor vehicle dept, Providence '32
- Pending conflict between state and federal regulation; the radio, air, motor, and pipe-line services. A. H. Ulm. Pub Util 12:524-9 O 26 '33
- Problem of motor vehicle regulation. H. H. Kelly. Pub Roads 13:153-63 D '32
- Regulation of road business lacks necessary unity. T. H. MacDonald. il Eng N 110:2-5 Ja 5 '33
- Summary of motor vehicle acts, 1932-1933, United States, Alaska, Hawaii, Panama Canal Zone and Canadian provinces. 139p License dept, Automobile club of Southern California, Los Angeles '32

*See also*

- |                                       |                                   |
|---------------------------------------|-----------------------------------|
| Automobile laws and regulations       | Motor trucks—Laws and regulations |
| Motor bus lines—Laws and regula-tions | Taxicabs—Laws and regulations     |
|                                       | Traffic regulations               |

**Statistics**

- Automobile industry in 1932; preliminary facts and figures. A. Reeves, comp. Pet Age 27: 18 Ja '33; Same. Roads & Sts 76:127 Mr '33
- Automobile registrations fell 5.9 per cent in 1932. Nat Pet N 25:20 Ja 11 '33
- Canadian registrations show 7.8% decrease. Automotive Ind 67:806 D 24 '32
- Factors affecting the demand for gasoline and crude oil over the next few years. S. A. Swensrud. Oil & Gas J 31:14+ Mr 16 '33; Excerpts. Pet Age 27:20-2+ Mr '33
- Gasoline gallonage slumps most in states with high taxes. Nat Pet N 25:14-15 F 8 '33
- Motor vehicle registration in 1932. Roads & Sts 76:207 My '33; Same. Oil & Gas J 31:25 My 4 '33
- Motor-vehicle registrations, 1932; tabulation. Pub Roads 14:54 My '33
- Production; world production trends. Auto-motive Ind 68:219-22 F 25 '33
- Registrations of motor vehicles, 1931-1932. Automotive Ind 68:216-18 F 25 '33
- Some highway facts. Bus Transportation 12: 58-9 Ja '33
- U.S. registrations show 6.2% drop for year; may reach 24,356,541 units. Automotive Ind 67:808 D 24 '32; Same. Nat Underw (Auto ins no) 37:28 Ap 14 '33
- World registrations total 33,568,295. A. W. Childs. Automotive Ind 69:196 Ag 12 '33

**Taxation**

- Allocation of highway costs among classes of motor vehicles for purposes of calculating graduated tax schedules. A. D. Schultz. Am Statis Assn J 28:286-92 S '33
- Coal-gas vehicles and the 1933 finance act. Gas J (Lond) 203:304 Ag 9 '33
- Cost to American public of diversion of gaso-line taxes and motor vehicle fees from their lawful purposes; abstracts. E. N. Smith. Roads & Sts 76:71-3 F '33; Bus Transportation 12:98-100 F '33
- Does the motor carrier pay enough taxes for the highway? Pub Util 11:119-20 Ja 19 '33
- Five and a half billion dollar investment with an 18% tax rate paid by motor vehicle own-ers in 1930. T. P. Henry. Bus Transportation 12:10-12 Ja '33
- Highway costs and who pays them. W. Che-valier. Bus Transportation 12:22-5 Ja '33
- Highway demand is turning from main to local roads. B. H. Petty. il Eng N 110:7-10 Ja 5 '33
- How the tax burden falls on different forms of transportation; tabulation. Bus Trans-portion 12:60 Ja '33
- Is high taxation limiting the use of motor vehicles? P. W. Seiler. il Forbes 30:6-8 D 15 '32

- Let's look at the record of transport taxa-tion. A. Reeves. Bus Transportation 12:49-51 Ja '33
- Little man's stake in motor legislation. R. F. Britton. il Bus Transportation 12:52-4 Ja '33
- Making public roads pay. T. H. MacDonald. Bus Transportation 12:7-9 Ja '33
- Motor payments unlike railway tax assess-ments. E. E. Shumaker. Ry Age 94:458 Mr 25 '33
- Motor-vehicle receipts, 1932; tabulation. Pub Roads 14:55 My '33
- Motor vehicle taxation for highway purposes. C. H. Sandage and R. W. Nelson. Iowa U Studies in Business 11:1-109 [bibliog p93-4] '32
- New motor vehicle duties. Economist 116: 900 Ap 29 '33
- Protect inalienable rights of highway users. R. D. Chapin. Automotive Ind 67:667-8 N 26 '32
- Road taxes for roads! W. C. Markham. il Eng N 110:5-7 Ja 5 '33
- Some anomalies of road taxation. Economist 116:739-40 Ap 8 '33
- Special motor-vehicle tax apportionment; ab-stract. D. C. Fenner. S A E J 33:292 Ag '33
- State registration fees and special taxes for motor vehicles. National highway users con-ference, National press bldg, Washington, D.C. '33
- Taxation of motor vehicle transportation. 196p \$2.50 National industrial conference board, inc, New York '32

*See also*

- |                          |                          |
|--------------------------|--------------------------|
| Automobiles—Taxa-tion    | Motor bus lines—Taxation |
| Electric trucks—Taxation | Motor trucks—Taxa-tion   |
- MOTORMEN.** See Street railroads—Motormen
- MOTORS.** See Airplane engines; Automobile en-gines; Diesel engines; Gas and oil engines; Motor bus engines; Motor truck engines
- MOTORS, Electric.** See Electric motors
- MOTTLED enamel.** See Teeth—Diseases
- MOULDINGS.** See Moldings
- MOULTON, Harold G.**  
Portrait. Pub Util 12:381 S 28 '33
- MOUNT FOREST, Ontario**

**Water supply**

- New well at Mount Forest. il Can Eng 65:19 N 7 '33
- MOUNT McKinley national park**  
Eastern portion of Mount McKinley national park. S. R. Capps. fold map U S Geol S Bul 836-D:219-300 '32
- MOUNT Rushmore memorial.** See Memorials
- MOUNTAIN railroads**  
Le funiculaire aérien pour voyageurs du Mont Salève, près de Genève. A. Lévy-Lambert. il map diags Génie Civil 101:621-4 D 24 '32
- Standseilbahn auf den Petřín bei Prag. H. Smonker. diags Zeit Ver Deutsch Ing 76: 1074-5 O 29 '33; Discussion. 77:293-4 Mr 18 '33
- MOUNTAIN roads**  
L'aménagement de la route des Alpes. J. Thomas. il diags map Génie Civil 102:159-61 F 18 '33
- Driving a 4,230-ft. tunnel in Yosemite national park. C. S. Moore. il diags Eng N 111:76-8 Jl 20 '33
- Die Grosse Glockner-Hochalpenstrasse. F. Wal-lack. il map Zeit Ver Deutsch Ing 77:497-8 My 13 '33
- Rampe-autostrade de montagne. P. Ferretti. diags Génie Civil 102:233-4 Mr 11 '33
- Roadbuilders conquer the Alps again; Gross-glockner highway. R. Peer. il Comp Air M 38:4090-4 Ap '33
- Roadbuilding amid giant sequoias. O. L. Snider. il Comp Air M 38:4226-9 O '33
- Scenic drive on Mt Franklin affords an in-ternational vista. J. C. Coyle. il Comp Air M 38:4054 F '33



**MOUNTAIN roads—Continued**

Snow removal method and equipment on mountain highways of California. *il Roads & Sts* 76:346, 348-50 S '33

**MOUNTAINS**

Age of rivers and the mountains they flow through. D. W. Johnson. *Science* 76:sup10-11 D 9 '32

Alpine land forms of western United States. E. J. Russell. *il Geol Soc Bul* 44:927-49 O '33

Proceedings of the thirty-first annual meeting of the Cordilleran section of the Geological society of America, Stanford University, Calif. April 8-9, 1932. *Geol Soc Bul* 44:145-72 F '33

Reconnaissance studies in the Sierra de Jimulco, Mexico. L. B. Kellum. *il fold map Geol Soc Bul* 43:541-64 S '32

Structure of the Sawatch range. J. T. Stark and F. F. Barnes. *maps Am J Sci 5th ser* 24:471-80 D '32

*See also*

Geology

Volcanoes

Wind gaps

*also* names of mountains, e.g. Everest, Mount; Himalaya mountains; Jura, Mount; Santa Monica mountains

**MOUSE-trap quotation**

Fra and the mouse-trap. A. Freeman. *Ptr Ink* 162:66 F 2 '33

Mouse-trap finale. *Ptr Ink* 162:104-5 Ja 19 '33

**MOVING**

It cost \$30,000 to move, but—we'll save \$125,000! Foote brothers gear & machine company, Chicago. F. H. Fowler and W. A. Barr. *il plan Factory Management* 91:73-6 Mr '33

**MOVING of libraries**

Moving the Enoch Pratt library. L. W. Joselyn. *Lib J* 58:480-2 Je 1 '33

**MOVING picture actors**

Mysteries of movie make-up. *il Sci Am* 149:220-1 N '33

**MOVING picture films**

Movie-makers teach a lesson in product improvement by air conditioning. L. H. Polderman. *il Heating-Piping* 5:292-3+ Je '33

Sound film printing; Shepherd's Bush laboratories of the Gaumont-British picture corporation, ltd. *il Elec R (Lond)* 112:299-300 Mr 3 '33

**MOVING picture industry**

Films learn a new role—economy. *il Bradstreet's* 61:216 Ja 28 '33

Metro-Goldwyn-Mayer has recently made the best and most profitable U. S. pictures. *il Fortune* 6:50-64+ D '32

Motion picture industry. H. T. Lewis. 454p [bibliog p435-7] \$4 Van Nostrand '33

Movie home rule; big theater chains decentralize and shed links. *Business Week* p16 Ja 18 '33

Some economic aspects of motion picture production and marketing. R. Cassady, jr. *J of Business* 6:113-31 Ap '33

Then came the dawn; receivers get to work on the theater leases that gave them their jobs. *Business Week* p12 F 8 '33

Warner salesmen smash through in drive to meet company crisis. *Sales Management* 32:120+ F 1 '33

*See also*

Fox, William

Paramount publix corporation

Warner brothers pictures, inc.

**Advertising**

Come back, Judge Crater. *il Ptr Ink* 164:26 S 7 '33

**Finance**

Amusement companies, 1930-1932. *Mag of Wall St Manual* p59-60 Mr 6 '33

British film finance. *Economist* 117:676-7 O 7 '33

Climax of the movie tragedy approaches. C. F. Morgan. *Mag of Wall St* 51:670-1+ Ap 15 '33; Correction. 52:51 My 13 '33

Property investment burdens movie houses.

Barron's 13:9 Ja 23 '33  
Rockefellers' large interest in the movies; and Costs of movie films. Barron's 13:10 Ja 16 '33

Sanity reaches the movies. C. F. Morgan. *il Mag of Wall St* 53:70-1+ N 11 '33

**Europe**

European motion-picture industry in 1932. U S Bur For & Dom Com Trade Information Bul 815:1-42 '33

**Great Britain**

British film finance. *Economist* 117:676-7 O 7 '33

British film institute? *Economist* 115:1022 D 3 '32

Gaumont British finance. *Economist* 117:544 S 16 '33

**MOVING picture machines**

Philips sound-film equipment. *il Elec R (Lond)* 112:486 Ap 7 '33

1600-foot 16-mm projector. *il Sci Am* 149:130 S '33

**MOVING picture photography**

Debbie slow motion camera. *il Aviation Eng* 8:24 Ap '33

Photometric determination of camera exposures for motion picture work. A. M. Gundelfinger and J. W. Stafford. *J Fr Inst* 215:81-92 Ja '33

Precise timing of sporting events. C. H. Fetter and H. M. Stoller. *il diag Elec Eng* 52:386-91 Je '33

Simple apparatus for making micro motion pictures. R. W. G. Wyckoff and J. B. Lagsdin. *il R Sci Instr* 4:337-9 Je '33

Talkie troubles; Arctic blizzards and tropical sun put the talkie cameraman to supreme tests. A. R. Boone. *il Sci Am* 147:326-9 D '32

**Industrial applications**

Motion study applied to small assembly and machine work; abstracts. A. G. Shaw. *Engineer* 156:254 S 15 '33; *Electrician* 111:313 S 15 '33

Use of the motion camera for testing electrical apparatus. W. Wilson. *Engineering* 136:331-2, pl 12-13 O 6 '33; Abstracts. *Engineer* 156:255-6 S 15 '33; *Elec R (Lond)* 113:349 S 15 '33; *Electrician* 111:313 S 15 '33

**Scientific applications**

Contribution to the photographic study of the mechanism of a ship's wake; abstract and discussion. T. B. Abell. *Engineer* 155:419 Ap 28 '33; *Engineering* 135:469 Ap 28 '33

Eclipse cinematography. P. Bourgeois and J. F. Cox. *R Sci Instr* 4:340-1 Je '33

Eclipse cinematography. S. A. Korff. *R Sci Instr* 4:86-7 F '33

Kleinzeitforschung in der technik. W. Ende. *il Zeit Ver Deutsch Ing* 77:10-12 Ja 7 '33

Motion pictures of celestial phenomena taken at the McMath-Hulbert observatory of the University of Michigan; abstract. R. R. McMath, F. C. McMath and H. S. Hulbert. *Science* 76:520 D 2 '32

Motion pictures of the growth of nerve fibers. C. C. Speidel. *Science* 77:sup9-10 Ja 6 '33

Movie of metals at high heat. B. A. Rogers and L. R. van Wert. *il Metal Prog* 23:46 F '33

*See also*

Moving pictures, Photomicrographic

**MOVING picture photography, Amateur**

Cinematography and talkies. J. R. Cameron and J. A. Dubray. 255p Cameron pub. co. Woodmont, Conn. '33

Versatile amateur movie camera. *il Sci Am* 148:338 Je '33

**MOVING picture projection**

Motion picture projection and sound pictures. J. R. Cameron and others. 5th ed 1535p Cameron pub. co. Woodmont, Conn. '33

New projection lamps double screen illumination. *Illum Eng Soc Trans* 28:461-2 Je '33

**MOVING picture studios****Equipment**

- New film studio at Shepperton. *il Engineer* 155:434 Ap 28 '33  
 Steel supplants wood for scaffolding in Hollywood studios. *il Iron Age* 132:17 Ag 10 '33

**MOVING picture theaters**

- Best for the biggest; plastics in Radio City. F. Settele. *il Plastics* 8:455-6+ Ja '33  
 Le cinéma-théâtre Rex, à Paris. A. Antonl. *il diags plans Génie Civil* 103:317-23 S 30 '33  
 L'immeuble du cinéma Marignan-Pathé, avenue des Champs-Élysées, à Paris. E. Fougea. *il plans Génie Civil* 102:557-62, pl 3 Je 17 '33  
 Radio-Keith-Orpheum theatre, Rockefeller Center, New York; views and plans. *Am Arch* 142:41-54 D '32  
 Theater Raspail 216, Paris, France; views and plan. *Arch Rec* 73:332-5 My '33

**Electric equipment**

- Elephant and Castle theatre. *il Elec R (Lond)* 112:3-4 Ja 6 '33

**Employees**

- Wages and hours of stage employees and motion-picture machine operators. *Monthly Labor R* 36:1111-15 My '33

**Heating and ventilation**

- First completely air conditioned theater in Spokane. R. H. Beck. *il Heat & Ven* 30:31-3 Ja '33  
 Radio City; air conditioning systems in the Radio City and Roxy theaters; illustrations. *Heat & Ven* 30:41 F '33

**Lighting**

- Design of theatre down lights. E. B. Kirk. *diag Illum Eng Soc Trans* 28:280-3 Mr '33  
 Interior lighting; problems of cinema and theatre. E. W. Maitland. *Electrician* 110:466 Ap 7 '33  
 Lighting in the Radio City theatres. S. R. McCandless. *il Illum Eng Soc Trans* 28:665-75 S '33  
 Novel lighting in Paris cinema. *il Elec W* 101:352 Mr 18 '33  
 R.K.O. Roxy theatre, Radio City, N.Y. *il Illum Eng Soc Trans* 28:213-15 Mr '33  
 Refinement in controls marks Radio City music hall. *il diags Elec W* 102:277-82 Ag 26 '33  
 Theatre lighting; new cinema at Aberdeen. *il Electrician* 110:275 F 24 '33

**MOVING picture theaters, Open air**

- Open-air movies are being tried in Camden, N.J. *il Arch Forum* 59:81 Jl '33

**MOVING pictures**

- Metro-Goldwyn-Mayer has recently made the best and most profitable U. S. pictures. *il Fortune* 6:50-64+ D '32  
 Our movie made children. H. J. Forman. 288p \$2.50 Macmillan '33

**Bibliography**

- Visual fatigue of motion pictures; a world-wide summary and survey. A. E. Singer. comp. 48p pa \$1 Amusement age pub. co. New York '33

**Setting and scenery**

- Designing motion picture sets. A. B. Laing. *il diags plan Arch Rec* 74:59-64 Jl '33  
 Films now seeking manufacturers' products for use as props. *il Sales Management* 33:316 O 1 '33  
 History in the talkies. A. R. Boone. *il Sci Am* 148:70-4 F '33  
 Movies visit a steel company; Master of men made by Columbia pictures. *il Iron Age* 132:24 N 9 '33  
 Muslin in the movies; fabric walls bring acoustic perfection to Hollywood sets. A. B. Laing. *il Textile World* 83:1252-3 Jl '33  
 Plumber in Hollywood. *il Dom Eng* 141:38-9 Ap '33

**MOVING pictures, Colored**

- Mazda lamps for color photography. R. E. Farnham. *Illum Eng Soc Trans* 28:637-8 S '33

**MOVING pictures, Photomicrographic**

- Movie of metals at high heat. B. A. Rogers and L. R. van Wert. *il Metal Prog* 23:46 F '33  
 Simple apparatus for making micro motion pictures. R. W. G. Wyckoff and J. B. Lagsdin. *il R Sci Instr* 4:337-9 Je '33

**MOVING pictures, Talking**

- Amateur talking pictures and recording. B. Brown. 225p \$2.25 Pitman '33  
 Collection of sound in reverberant rooms, with special reference to the application of the ribbon microphone. H. F. Olson. *il diags Inst Radio Eng Proc* 21:655-72 My '33  
 Engineering acoustics. *Electrician* 109:317-18, 348-9, 583-4, 613-14, 645, 687-8, 720-1, 754-5, 787-8, 814-15, 842-3; 110:16-17, 132-3 S 9-16, N 4-D 30 '32, Ja 6, 27 '33  
 History in the talkies. A. R. Boone. *il Sci Am* 148:70-4 F '33  
 Motion picture projection and sound pictures. J. R. Cameron and others. 5th ed 1535p Cameron pub. co. Woodmont, Conn. '33  
 Sound film printing; Shepherd's Bush laboratories of the Gaumont-British picture corporation, ltd. *il Elec R (Lond)* 112:299-300 Mr 3 '33  
 Sound recording and reproduction. W. W. Simons. *il front diags W Soc E J* 38:243-59 O '33  
 Talkie troubles; Arctic blizzards and tropical sun put the talkie cameraman to supreme tests. A. R. Boone. *il Sci Am* 147:326-9 D '32  
 Talking picture and address system installed on the liner Manhattan. W. Whitmore. *il Marine R* 63:20-1 F '33  
 Talking pictures. B. Brown. 2d ed 309p \$3 Pitman '32

**Animated cartoons**

- When Mickey Mouse speaks. A. R. Boone. *il Sci Am* 148:146-7 Mr '33

**Home apparatus**

- Radio and movies synchronized. *il diag Sci Am* 149:82+ Ag '33

**MOVING pictures in advertising**

- Advertisers as movie hosts. *Ptr Ink* 162:73 Mr 2 '33  
 Cash customers, also, are lured by Warner-GE prosperity special. *il Sales Management* 32:262 Mr 15 '33  
 Dramatizes technical sales story by talkie film; Packard electric company. B. N. MacGregor. *Ptr Ink* 164:9-10+ Jl 13 '33  
 Films now seeking manufacturers' products for use as props. *il Sales Management* 33:316 O 1 '33  
 Parkway baking company builds sales through children's clubs. *il Sales Management* 33:190-1 Ag 15 '33  
 Propaganda by film; use of cinemas by the Liverpool electricity department. P. J. Robinson. *Electrician* 111:368-9 S 29 '33  
 Propaganda in Liverpool; up-to-date publicity methods of the Corporation Electricity department. W. A. G. Martin. *Electrician* 110:215 F 17 '33  
 Sound picture is selling talk for wire rope. *Ptr Ink* 164:60-1 S 14 '33  
 Stranded in Prescott; B.I. film shows distinct advance on former similar efforts. *il Electrician* 110:142 Ja 27 '33  
 Talkies train feed dealers and sell consumers; Larrowe milling company. F. W. Thomas. *il Sales Management* 31:470+ D 1 '32

**MOVING pictures in education**

- Educational talking picture. F. L. Devereux. 222p \$2 Univ. of Chicago press '33  
 Film in national life. 204p Great Britain Commission on educational and cultural films, London '32  
 Measuring the effectiveness of sound pictures as teaching aids. V. C. Arnspiger. 156p \$2 Teachers college '33



**MOVING pictures in education—Continued**

Sound motion picture in science teaching.  
P. J. Rulon. 236p [bibliog p109-10] \$2.50  
Harvard univ. press '33

**MOVING pictures in industry**

Bigger and better orders trail showings of new Black & Decker film; portable electric hammers and saws. R. Black. Sales Management 32:325+ Ap 1 '33

Demonstration films; portable industrial apparatus for engineering purposes. il Auto-mobile Eng 23:164 My '33

Film plan meets wide line training problem; Westinghouse electric and manufacturing company. il Sales Management 33:356 O 10 '33

Impressing a sales story on 500 jobbing organizations; a talking motion picture, Black & Decker mfg. co. R. D. Black. Ptr Ink Mo 26:27+ My '33

Sales problems sales films are solving. Sales Management 33:359 O 10 '33

Sunkist film moves quantities of fruit for growers exchange. W. B. Geissinger. il Sales Management 33:218+ S 1 '33

Tough sales problems the new sales films are solving. il Sales Management 33:26-8 J 1 '33

**MOVING pictures in safety education**

Safety engineering goes on the screen; demonstration of safety glass for automobiles. A. C. Carruthers. il Safety Eng 64:247-9 D '32

**MOWHA seed oil.** See *Bassia latifolia***MUCKING machines**

Electricity digs Hoover Dam tunnels. il Sci Am 147:330 D '32

**MUD cracks**

Factors that determine the curvature of mud-cracked layers. W. H. Bradley. il Am J Sci 5th ser 26:55-71 J 1 '33

Hail prints and mud-cracks of proterozoic age. C. L. Fenton and M. A. Fenton. Science 77:491 My 19 '33

**MUD flow**

Mud flow. C. C. Wilson. Inst Pet Tech J 19:878-80; Discussion. 880-4 O '33

**MUD stalagmites.** See *Stalagmites*, Mud**MUD volcanoes**

Contribution to the knowledge of sedimentary volcanism in Trinidad. H. G. Kugler. pls Inst Pet Tech J 19:743-60 [bibliog p760]; Discussion. 760-72 S '33

**MUFFLERS.** See *Airplane engines—Mufflers*; *Automobile engines—Mufflers***MUFFLY, Glenn**

Portrait. Refrig Eng 24:328 D '32

**MUIR, Malcolm**

Portrait. Coal Age 38:248 J 1 '33

**MULCH paper**

Paper gardens; International paper co. pushes paper patterns and protection for flower beds in one package. Business Week p14 J 15 '33

**MULES**

Portable electric lamps for animal haulage in Alabama. F. E. Cash and C. E. Saxon. U S Bur Mines Information Circ 6712:1-5 '33

**MULLEN, Thomas R. 1893-**

Treasurer and general manager, Lehigh structural steel co. por Steel 93:20 O 9 '33

**MULLITE**

Bauxites and mullites. M. E. Nahmias. Am Cer Soc J 16:420-1 S '33

Classification and definition of specialized refractories. H. E. White. Am Cer Soc Bul 12: 252-6 Ag '33

Notes on the X-ray diffraction patterns of mullite. E. Posnjak and J. W. Greig. il Am Cer Soc J 16:569-83 N '33

Resistance to sudden temperature change of some bodies of the system talc-clay-mullite. R. M. King and C. L. Evans. Am Cer Soc J 16:360-2 Ag '33

Structure of sillimanite and related materials. W. H. Taylor. Am Cer Soc J 16:418-20 S '33

**MUMETAL**

Useful instrument alloy. W. F. Randall. il Elec R (Lond) 112:42 Ja 13 '33

**MUNICH reinsurance company, Munich, Germany**

Annual report, 56th, year ended June 30. East Underw 34:30 Ja 6 '33

**MUNICIPAL accounting**

Accounting manual for small cities (under 25,000 population). C. H. Chatters. 79p pa \$1  
Municipal finance officers' assn. of the United States and Canada, 850 E. 58th st. Chicago '33

Governments under audit. J Account 56:324-7 N '33

Is municipal credit sound? C. H. Chatters. Eng N 109:740-1 D 22 '32

Local authority finance, accounts and auditing. J. H. Burton. 2d ed 2v Gee & co, ltd, London '32

Manual of public works records and accounting for cities of 10,000 to 40,000 population as installed in Winona, Minnesota. 81p pa \$1  
Committee on uniform street and sanitation records, 923 E. 60th st, Chicago '32 (typew)

Manual of street sanitation records including other public works activities for cities of 25,000 to 500,000 population as installed in Kenosha, Wisconsin. 81p Committee on uniform street sanitation records, 923 E. 60th st, Chicago '31 (typew)

Model water department cost accounting system. il Pub Works 64:37+ F '33

Municipal and governmental accounting. L. Morey. J Account 56:350-64 N '33

Municipal audit programmes. S. Whitehead. 2d ed 161p Pitman '32

Pennsylvania C.P.A. examination; solution of problem. J Account 55:465-70 Je '33

**See also****Waterworks—Accounting****MUNICIPAL advertising**

Newark advertises for taxes. il Adv & Sell 21:34 O 26 '33

Pay taxes urges this campaign. il Ptr Ink 161:75 D 29 '32

**MUNICIPAL and state affairs, Institute of.** See *Institute of municipal and state affairs***MUNICIPAL auditoriums.** See *Auditoriums, Municipal***MUNICIPAL bonds**

Analysis of the debt of the city of Detroit as at February 28, 1933. 23p \$1 Detroit bur. of governmental research, inc. '33

Appraising the outlook for municipal bonds. M. D. Gould. Mag of Wall St 52:373-4+ Ag 5 '33

Bond issues aid street work in St Paul. G. H. Herrold. il Civil Eng 3:226-8 Ap '33

Charges for legal opinions on municipal bonds. Inv Banking 3:106 N 25 '32

Future of municipal bonds as investment for savings and trust funds. C. M. Spencer. Trust Companies 56:719 Je '33

Group charges for municipal bond legal opinions. E. F. Dunstan. Inv Banking 3:172-3 D 28 '32

Interim report of I.B.A. municipal securities committee. E. F. Dunstan. Inv Banking 3: 197-9 F 21 '33

Is municipal credit sound? C. H. Chatters. Eng N 109:738-42 D 22 '32

Official depositary for municipal opinions; Manufacturers and traders trust company, Buffalo. J. E. Chambers. Inv Banking 3:267-8 Je 16 '33

Protective committee surveys problems of Kentucky counties' bonded indebtedness. J. R. Lindsay. Ins Field (Life ed) 62:4 J 1 28; 4+ Ag 4; 4 Ag 11 '33

Public-works finance in normal and emergency times. L. D. Edie. Eng N 110:645-7 My 18 '33

Report of I.B.A. municipal securities committee. Inv Banking 3:62-9 N 16 '32

State and municipal bonds. W. L. Raymond. 2d ed 397p Financial pub. co, Boston '32

Study of tax-exempts. D. D. Mackey. Rand McNally Bankers Mo 50:201-3+ Ap-May '33

When state and municipal bonds come due. M. Sykes. Comm & Fin 22:315 Ap 5 '33

**MUNICIPAL bonds—Continued**

Why revenue bonds are gaining favor; paid out of receipts from municipally owned utilities. R. MacPherson. *il Rand McNally Bankers* Mo 50:462-4+ S '33

**Default**

First aid in municipal bond defaults. F. L. Bird. *Dun & Bradstreet* 41:2-4 O '33

Municipal bankruptcy and new laws we may expect. D. D. Mackey. *Rand McNally Bankers* Mo 50:462-4+ S '33

Municipal debt defaults, their prevention and adjustment. C. H. Chatters, ed. 55p 50c Public administration service, Chicago '33

Municipal defaults, 1926-April 1933; tabulation. S. Shanks. *Am Bankers Assn J* 25: 58 My '33

**MUNICIPAL buildings**

City hall and war memorial building, Newton, Massachusetts; views and plans. *Am Arch* 143:55-62 JI '33

Planning of public buildings; with views and plans. *Arch Forum* 59:178-89 S '33

St Paul city hall and Ramsey county courthouse, St Paul, Minnesota; views and plans. *Am Arch* 143:35-46 JI '33

**See also**

Auditoriums, Municipal	Municipal centers
Community centers	Police stations
Fire houses	Public comfort stations

**Heating and ventilation**

Oil-fired central boiler plant shows savings for New Haven municipal buildings. W. W. Gaylord. *il plan Heat & Ven* 30:30-2 Ap '33

**MUNICIPAL centers**

New city hall and esplanade added to St Paul civic center. G. H. Herrold. *il map Eng N* 110:410-11 Mr 30 '33

**MUNICIPAL charters**

Model city charter with home rule provisions recommended for state constitutions. rev ed 106p pa \$1 National municipal league, 309 E. 34th st, New York '33

**MUNICIPAL contracts.** See **Contracts, Municipal****MUNICIPAL documents.** See **Municipal publications****MUNICIPAL employees**

Further contributions to the prestige value of public employment. L. D. White. 88p \$1.50 Univ. of Chicago press '32

Wage changes reported by trade-unions and municipalities. Published in Monthly labor review

**Salaries**

Salaries in police departments of principal cities in the United States, December 1932. tables Monthly Labor R 36:1116-50 My '33

**MUNICIPAL engineering**

City engineers discuss important problems: A.S.M.E. meeting, Milwaukee. *Eng N* 111: 445-8 O 12 '33

Filing system for a city engineering office. B. Eisner. *Public Works* 64:15-16 F '33

Municipal engineering an unusual opportunity for social service. P. L. Brockway. *Pub Works* 64:10 Mr '33

Municipal engineers discuss current problems at Detroit meetings. *Eng N* 110:117-19 Ja 26 '33

Municipal facilities for public health. S. A. Greeley. *Civil Eng* 3:439-41 Ag '33

Serving local community needs through public facilities; Pittsburgh, Pa. C. M. Reppert. *il Eng N* 110:620-4 My 18 '33

**See also**

City planning	Parks
Grade crossing elimination	Pavements
Metropolitan districts	Public works
Municipal improvement	Refuse collection
	Refuse disposal

Sanitary engineering  
Sewage disposal  
Sewerage  
Snow removal  
Street cleaning

Street lighting  
Streets  
Water purification  
Water supply  
Water supply engineering

**MUNICIPAL finance**

Actual taxpayers in taxless towns. C. W. Thompson. *Pub Util* 11:458-65 Ap 13 '33

Administration of municipal sinking funds in New York state. A. H. Myers. 40p [bibliog p38-40] New York state conference of mayors and other municipal officials, Bur. of training and research, Albany, N.Y. '33

Cities and their creditors; significance of proposed amendment to the Federal bankruptcy act. J. P. Broderick. *Barron's* 13:9 S 4 '33

Cities in debt—and trouble. *Business Week* p22 Ap 5 '33

City credit good; bonds in default an insignificant fraction of American municipal issues. *Business Week* p12-13 Ja 4 '33

City reduces expenses; Lexington, Ky. P. Morton. *il Manuf Rec* 102:23 Ap '33

Comparison of city costs; town served by company paying taxes operates for less than so-called tax free town. *Pub Serv Management* 54:7-8 Ja '33

Control of local finance through taxpayers' associations and centralized administration. C. R. Tharp. 84p M. Ford. pub. co, Indianapolis, Ind. '33

Detroit pays the piper. *Business Week* p20+ My 24; 8-9 Je 7 '33

Detroit's new deal; refunding agreement with major bondholders. *Business Week* p13 JI 22 '33

How a city proceeded to get its financial house in order; Fall River, Mass. J. Jackson. *Bankers M* 126:257-60 Mr '33

How cities can cut costs. C. E. Ridley and O. F. Nolting. 55p pa \$1 International city managers' assn, 923 E. 60th st, Chicago '33

Is municipal credit sound? C. H. Chatters. *Eng N* 109:738-42 D 22 '32

Last word on tax free towns. J. A. Whitlow. *Pub Serv M* 55:107-9, 141-3 O-N '33

Local governments stand inspection. J. S. Lawrence. *Bradstreet's* 61:7-10 Ja 7 '33

Municipal bankruptcy and new laws we may expect. D. D. Mackey. *Rand McNally Bankers* Mo 50:462-4+ S '33

Municipal bankruptcy—Wilcox bill; abstracts. S. H. Esarey. *Ins Field (Life ed) Conv* no 62:17 O 13 '33; *Nat Underw (Life ed)* 37:3 O 13 '33; *Spectator* 131:12-13 O 12 '33

Municipal debt defaults; their prevention and adjustment. C. H. Chatters, ed. 55p pa 50c Public administration service, 850 E. 58th st, Chicago '33; Review. *Inv Banking* 4:31-3 O 7 '33

Municipal finance in 1932. F. L. Bird. *Bradstreet's* 61:245-6+ Ja 28 '33

Municipal finance research; Dun and Bradstreet, inc. E. Trull. *Special Lib* 24:148 Ag '33

Municipalities face difficult year. F. L. Bird. *Dun & Bradstreet* 41:4-5 Ap '33

New York city finances. *Nat City Bank* p10-12 Ja '33

Plan which saved New York city's credit. *Trust Companies* 57:442 O '33

Reich aids German cities. *Business Week* p26-7 O 14 '33

Report of I.B.A. municipal securities committee. *Inv Banking* 3:62-9 N 16 '32

Report of I.B.A. municipal securities committee. *Inv Banking* 3:260-6 Je 16 '33

Towns, and the cash basis; Kansas pay-as-you-go law. J. P. Broderick. *Barron's* 13:8 JI 3 '33

Unmasking municipal utility operation. R. D. Cockrell. *Pub Serv M* 54:118-20 Ap '33

What is happening to municipal credit and securities? C. P. Dennett. *Trust Companies* 56:433-6 Ap '33

What the records show about the tax-free towns of Oklahoma. E. F. McKay. *Pub Util* 12:72-81 JI 20 '33

When municipalities go bankrupt; the state receivership idea and some outstanding examples. W. Kilpatrick. *Barron's* 13:9+ My 1 '33



**MUNICIPAL finance—Continued**

Who pays the towns' taxes in taxless towns?  
H. Corey. Pub Util 10:676-81 D 8 '32

See also

Budget, Municipal  
Municipal bonds  
Municipal taxation  
Pavements—Finance

Sewerage—Finance  
Waterworks—Finance

**MUNICIPAL government**

City managers discuss new problems resulting from the changing times; International City managers association meeting. Eng N 111:391 S 28 '33

Codification and drafting of ordinances for small towns. J. F. Sly, J. B. Fordham and G. A. Shipman. 70p Municipal administration service, 309 E. 34th st, New York '32  
Current municipal problems. E. S. Griffith. 293p \$2 Houghton '33

Maine towns. O. C. Hormell. 101p Bowdoin college, Brunswick, Me. '32  
Model city charter. rev ed 106p National municipal league, New York '33

Municipal problems, 1932. 104p American municipal assn, Chicago '33

Some observations on municipal practices in European cities. D. C. Stone and A. B. Stone. 158p International city managers' assn, 923 E. 60th st, Chicago '32 (typew)

See also

Municipal taxation

City manager plan

City manager yearbook, 1933. C. E. Ridley and O. F. Nolting, eds. 356p International city managers' assn, 923 East 60th st, Chicago '33

Germany

German cities; a study of contemporary municipal politics and administration. R. H. Wells. 283p [bibliog p263-73] Princeton university press, Princeton, N.J. '32

**MUNICIPAL home rule**

Law and practice of municipal home rule, 1916-1930. J. D. McGoldrick. 431p \$4.50 Columbia univ. press '33

**MUNICIPAL improvement**

Distribution of costs of assessable improvements; a symposium of practices in American cities. P. H. Cornick and others. Civil Eng 3:222-32 Ap '33

It is up to the cities. H. L. Ickes. Roads & Sts 76:355-7 O '33

New city hall and esplanade added to St Paul civic center. G. H. Herrold. il map Eng N 110:410-11 Mr 30 '33

Preventing disintegration of cities. H. Bartholomew. il Civil Eng 3:259-62 My '33

Public improvements and land values. L. Purdy. Eng N 110:639-40 My 18 '33

Value of planned city development; 24 years of progress under Chicago plan. H. E. Young. il Civil Eng 3:503-5 S '33

See also

City planning  
Housing  
Pavements

Special assessments  
Streets

**MUNICIPAL liability**

Law suit prevention. W. W. Reeder. il Pub Works 64:14 Ag '33

Liability of city for sewage pollution of stream; suit. Pub Health Rep 48:691-3 Je 16 '33

Liability of city for water-borne typhoid fever; suit. Pub Health Rep 48:90-2 Ja 27 '33

**MUNICIPAL officials**

Judgment in Glenmore dam inquiry; all city officials and engineers exonerated. Can Eng 64:15-17 Ja 31 '33

**MUNICIPAL ownership**

Farmer shines at government in business. Pub Serv Management 53:171-2 D '32

Municipal ownership in the last five years. P. J. Raver. map J Land & Pub Util Econ 9:121-34 My '33

Problem of tax exemption. C. W. Battley. Pub Serv M 54:143-4 My '33

What the records show about the tax-free towns of Oklahoma. E. F. McKay. Pub Util 12:72-81 Jl 20 '33

When the ratepayer becomes a taxpayer; municipally owned plant should be taxed the same as other property. H. H. Trachsel. Pub Util 10:628-34 N 24 '32

Why the state utility commissions should regulate the municipal plants. H. Wright. Pub Util 11:652-62, 710-17 My 25-Je 8 '33

See also

Electric plants, Municipal  
Electric utilities—  
Municipal ownership  
Government ownership

Los Angeles—Water and power department  
Waterworks—Municipal ownership

**MUNICIPAL publications**

Responsibility of the library for conservation of local documents. J. B. Hollingsworth. Special Lib 24:146, 148 Ag '33

**MUNICIPAL purchasing.** See Purchasing, Municipal

**MUNICIPAL reference libraries**

Municipal reference library notes; published monthly, except during July and August, by the New York public library

See also

Municipal publications

**MUNICIPAL reports**

How to prepare an annual public works report. 31p Committee on uniform street and sanitation records, 923 E. 60th st, Chicago '33

**MUNICIPAL taxation**

Comparative tax rates of 277 cities, 1932. C. E. Rightor. 16p Municipal administration service, 309 E. 34th st, New York '32

Curtailment of local taxes inadvisable. C. E. Rightor. Civil Eng 3:422 Ag '33

Distribution of costs of assessable improvements; a symposium of practices in American cities. P. H. Cornick and others. Civil Eng 3:222-32 Ap '33

Equitable distribution of benefit assessments applied specifically to street widening projects. H. Shifrin. il Civil Eng 3:158-60 Mr '33

High tax rate in municipal ownership towns Michigan records show. Pub Serv M 55:19-21 Jl '33

Local governments stand inspection. J. S. Lawrence. Bradstreet's 61:7-10 Ja 7 '33

Report of I.B.A. municipal securities committee. Inv Banking 3:260-6 Je 16 '33

Shall towns make more money? J. P. Broderick. Barron's 13:5 Ja 2 '33

State and local taxation; need for relief from an increasing burden. Index 13:21-7 F '33

Tax free town study reveals some interesting fiction. R. C. Cleminson. Pub Serv M 55:45-6 Ag '33

Tax tale of two towns. R. D. Cockrell. Pub Serv M 54:153-4 My '33

Threat of tax exemption. B. Colby. Barron's 13:11 Je 5 '33

See also

Special assessments

**MUNICIPAL tramways and transport association**

Annual meeting, 32d, Blackpool, June 20-23. Elec R (Lond) 112:942 Je 30 '33

**MUNITIONS of war**

Industrie und wehrkraft. F. Brommer. Zeit Ver Deutsch Ing 77:839-41 Ag 5 '33

**Bibliography**

Traffic in arms, munitions, and implements of war and control of their manufacture. (Reading list no. 34) 22p Carnegie endowment for international peace library, 700 Jackson place, Washington, D.C. '33

**MUNROE, Charles E. 1849-**

In honor of Charles E. Munroe. A. B. Lamb. Science 77:384-5 Ap 21 '33

**MURAL painting and decoration**

Abundance of the earth, by Jules Guerin. Louisiana capitol; view. Arch Forum 57:528 D '32

Adventures of Huckleberry Finn, painted by D. Putnam Brinley. il Architecture 67:151-2 Mr '33

**MURAL painting and decoration—Continued**

- Dean Cornwell's murals for the Los Angeles library; illustrations. *Architecture* 67:327-30 Je '33
- Illuminated glass mural; flight of Amelia Earhart across the Atlantic; new Roxy theatre. Rockefeller Center, New York city. *Architecture* 66:351 D '32
- Industrial Detroit; a selection from the frescoes by Diego Rivera in the Detroit institute of arts. *il Fortune* 7:48-53 F '33
- Magnificent mosaic for Rockefeller Center. R. G. Skerrett. *il Comp Air M* 38:4057-61 F '33
- Murals from the National gallery in Tokyo. *Fortune* 8:31, 35-46 J1 '33
- Portfolio of over-mantel treatments. *Architecture* 66:357-72 D '32
- Primitive and modern industry; murals by John Holmer for the State office building, Columbus, Ohio. H. D. Smith. *il Arch Forum* 59:87-90 Ag '33
- Wall decorations in the private bar of a Vienna home by Franz Taussig. *Arch Forum* 57:518 D '32

*See also*

**Mosaics**

**MURIATIC acid.** *See* Hydrochloric acid

**MURPHY, Earl N.**

Star salesmen the depression couldn't lick. *por Sales Management* 33:46-7 J1 '33

**MURPHY, Frank**

Governor-General Murphy. *por Barron's* 13:4 My 15 '33

**MUSCLE**

- Chemical mediators of autonomic nerve impulses. W. B. Cannon. *bibliog Science* 78:43-8 J1 21 '33
- Influence of freezing temperatures on haddock's muscle. G. A. Reay. *Soc Chem Ind J* 52:265T-70T Ag 25 '33
- Muscular weakness in Graves' disease. E. Shorr, H. B. Richardson and H. G. Wolff. *Science* 77:sup8 Je 9 '33
- Über die milchsäurebildung in der muskulatur. G. Embden. *Angew Chemie* 46:220; Discussion. 220 Ap 15 '33

*See also*

**Muscles****MUSCLE Shoals project**

- Great Tennessee bubble; practical economic aspects. W. Irwin. *Pub Util* 11:439-47 Ap 13 '33
- Muscle Shoals; a new chapter in a long controversy. *Index* 13:101-6 Je '33
- Muscle Shoals a tax burden. *Pub Serv M* 54:147-8 My '33
- Muscle Shoals active at last. W. B. West. *il map Sci Am* 149:149-51 O '33
- Muscle Shoals bill is passed by Senate. *Oil Paint & Drug Rep* 123:15 My 8 '33
- Muscle Shoals bill signed by President. *Oil Paint & Drug Rep* 123:48A My 22 '33
- Muscle Shoals drama; alleged misuse of government property by the Alabama power co. and the Tennessee power co. *Business Week* p8-9 My 31 '33
- Muscle Shoals fertilizer production costs studied. *Oil Paint & Drug Rep* 124:16 J1 3 '33
- Muscle Shoals—operate it or scrap it? D. J. Guy. *il Nation's Business* 21:20-2+ Ap '33
- Muscle Shoals plan agreed on by Congress. *Oil Paint & Drug Rep* 123:17+ Ap 17; 14+ Ap 24 '33
- Muscle Shoals plans turned to phosphates. *Oil Paint & Drug Rep* 124:16 O 16 '33
- Uncle Sam in the power business; is President-elect's proposal to operate Muscle Shoals a threat to public utility investments? F. C. Fullerton. *il Mag of Wall St* 51:475+ F 18 '33
- U.S. can use any patent at Muscle Shoals plant. *Chemicals* 38:1-2 Ap 17 '33

*See also*

**Tennessee Valley project****MUSCLES**

Action-current as measure of muscle contraction. R. H. Stetson and H. D. Bouman. *Science* 77:219-21 F 24 '33

- Muscular work, fatigue and recovery. G. P. Crowden. 74p \$1 Pitman '32
- Physiology of muscular activity. E. C. Schneider. 401p [bibliog p367-82] W. B. Saunders co, Philadelphia '33
- Sources of quick muscle energy. J. Sacks. *Sci Am* 149:126-7 S '33
- Work output of rats subjected to continuous faradic stimulation. W. T. Heron, W. J. Ingle and W. M. Hales. *Science* 76:550 D 9 '32

**MUSCOVITE**

Formation of muscovite in soils, and refinements in specific gravity separations. N. J. Volk. *bibliog diag Am J Sci* 5th ser 26:114-29 Ag '33

**MUSEUM cases**

Aluminum museum cases popular. *il Metal Ind* 30:477 D '32

**MUSEUM exhibits****Backgrounds**

Science of man which is anthropology; with photographs of Field Museum exhibits. *Fortune* 8:66-70 O '33

**MUSEUM libraries**

- Art museum library serves the curator. G. L. McCann. *Special Lib* 24:86-8 My '33
- Guideposts for a science museum library. M. W. Taylor. *Special Lib* 24:83-5 My '33
- Leisure and the museum library. T. Cowles. *Special Lib* 24:88-9 My '33

**MUSEUM of science and industry, Chicago**

- Danish exhibit at the Chicago museum of science and industry. *Science* 77:206 F 24 '33
- From cave-man to engineer. W. Kaempfert. 128p pa 60c Museum of science and industry. Chicago '33
- Man-made mine opened for convention visitors to Chicago by Rosenwald museum. *il Coal Age* 38:182-3 Je '33

**MUSEUMS**

- International cooperation of science museums. *Science* 76:534 D 9 '32
- Museums of archeology and geology at the University of Kentucky. *Science* 77:277 Mr 17 '33
- New fumigating plant in Los Angeles museum. G. H. Logan. *il diag Ind & Eng Chem News ed* 11:200+ J1 10 '33
- Technical museums; abstracts. H. W. Dickinson. *Engineer* 156:381-2 O 20 '33; *Engineering* 136:472 O 27 '33
- Who are using our museums? E. M. Hawkins. *Special Lib* 23:443-5 D '32

*See also*

- |   |   |
|---|---|
| American museum of natural history, New York city | Museum of science and industry, Chicago |
| Art galleries and museums                         | Oxford university—Ashmolean museum      |
| Field museum of natural history, Chicago          |   |

**Advertising**

Again, the triceratops. *Ptr Ink* 164:36 S 7 '33

**MUSHROOMS**

- Cultivation of the mushroom. L. F. Lambert. 57p \$1 L. F. Lambert, Coatesville, Pa. '33
- Vegetable from the dark. A. A. Hopkins. *il Sci Am* 148:96-7 F '33

**MUSIC**

Tactual perception of musical intervals. L. D. Goodfellow. *J Fr Inst* 215:731-6 Je '33

*See also*

**Jazz music****Telephone transmission**

- Perfect quality and auditory perspective in the transmission and reproduction of music. F. B. Jewett. *diags Science* 77:435-40 My 12 '33
- Reproduction of music by new methods. *Science* 77:sup6 Ap 21 '33
- Sound reproduced in perspective. *il Sci Am* 148:338 Je '33

**Therapeutic use**

*See* Music, Influence of



**MUSIC, Influence of**

Music aids the anesthetist. A. F. Erdmann. *il*  
Sci Am 149:84 Ag '33

**MUSICAL instruments**

See also

Organs  
Phonograph  
Violins

**MUSICIANS****Diseases and hygiene**

Diseases of the musical profession. K. Singer.  
253p Greenberg, New York '32

**MUSKRATS**

Les dangers de l'élevage des rongeurs à four-  
rure. J. Ritchie. *Génie Civil* 102:550 Je 10 '33

**MUTUAL benefit life insurance company**

New reserve set-up. J. S. Thompson. *East*  
*Underw* 34:6 Mr 24 '33  
Paid out \$90,500,000 in 1932. *East Underw* 34:5  
F 10 '33

**MUTUAL benefit societies. See Benefit societies****MUTUAL life insurance company of New York**

Annual report, 1932. *Weekly Underw* 128:462  
Mr 4 '33; *East Underw* 34:8 F 24 '33

**MUTUAL savings banks. See Savings banks****MYCALEX**

Properties of mycalex. W. W. Brown. *Inst*  
*Radio Eng Proc* 21:1339-42 S '33

**MYLONITE**

Occurrence of mylonites in the crystalline  
rocks of Georgia. G. W. Crickmay. *bibliog*  
*il map Am J Sci* 5th ser 26:161-77 Ag '33

**MYRICITIN**

Dyes and tans from the species of myrica.  
C. D. Mell. *Textile Col* 55:117-18 F '33

**MYRISTIC acid**

Structure of unimolecular films; surface po-  
tentials of films of long chain compounds.  
R. J. Fosbinder and A. E. Lessig. *diag J*  
*Fr Inst* 215:425-33 Ap '33

**MYRISTICA malabarica**

Fatty acid and glyceride structure of the seed  
fat of myristica malabarica. G. Collin. *Soc*  
*Chem Ind J* 52:100T Ap 7 '33

**N****NRA. See National recovery administration****NAILS**

Development and use of roofing nails. A. J.  
Deniston, Jr. *il Sheet Metal Worker* 24:187-  
8+ Je '33

Nails given sand blast treatment show in-  
creased holding power. *Steel* 91:26 N 28 '32

Stand der nagelversuche. H. J. Ströer. *il Zeit*  
*Ver Deutsch Ing* 77:13-18 Ja 7 '33

Wire nails, 1907-1932, market history; tabu-  
lation. *Steel* 92:119 Ja 2 '33

**NAMES****Dictionaries**

International book of names. C. O. S. Maw-  
son. xlv, 308p \$2 Crowell '33

**NAMES, Geographical**

Official gazetteer of Rhode Island. 95p U. S.  
Geographic board, Washington '32

Origin of the place names of Nebraska (The  
toponymy of Nebraska). J. T. Link. *Ne-  
braska Geol S Bul* 7:1-186 [bibliog p161-70]  
'33

**NANNOTRAGULUS**

Skeleton of nannotragulus. F. B. Loomis. *il*  
*Am J Sci* 5th ser 25:390-8 My '33

**NAPHTHA**

Behavior of trimethylene sulfide in heptane  
and naphtha solutions. R. W. Bost and  
M. W. Conn. *Ind & Eng Chem* 25:526-8 My  
'33

Cold treating process for cracked naphthas.  
R. A. Halloran. *diag Nat Pet N* 25:35-6+  
Jl 26 '33

Demand for special solvents increases with  
improvement in tire shipments. *Oil & Gas*  
*J* 32:28 Je 15 '33

Developments in naphtha-reforming practice  
for octane-number improvement. E. J. Le-  
Roi and H. W. Ferguson. *diags Am Pet*  
*Inst Proc* 14M(3):68-72 My '33; Same. *Nat*  
*Pet N* 25:120-2+ My 17 '33; Same *abr. Oil*  
& *Gas J* 32:48+ My 25 '33

Halt on importing naphtha may help the  
natural market. *Oil & Gas J* 31:30 D 29 '32

Highly specialized petroleum naphthas re-  
place coal tar products in paint and lac-  
quer. R. C. Conine. *Oil & Gas J* 31:66-7 Mr  
30 '33

Naphtha als heizmittel. *Chemische Fabrik* 6:  
286-7 Je 28 '33

Naphtha tax; as motor fuel must take the  
2½c tax. *Business Week* p11 Ja 25 '33

Solvents, diluents, thinners. C. I. Kelly. *Chem*  
*Markets* 32:417-18 My '33

See also

Benzine  
Gasoline

**Specifications**

Special naphtha user requires products vary-  
ing widely in specifications. *Oil & Gas J*  
31:23 Mr 30 '33

**NAPHTHALENE**

Action of elementary fluorine upon certain  
aromatic organic compounds under various  
conditions. L. A. Bigelow and others. *diags*  
*Am Chem Soc J* 55:4614-20 N '33

High-boiling-point organic compounds. J. J.  
Grebe and E. F. Holser. *diags Mech Eng*  
55:369-73 [bibliog p373] Je '33

Low temperature specific heats; an improved  
calorimeter for use from 14 to 300°K; the  
heat capacity and entropy of naphthalene.  
J. C. Southard and F. G. Brickwedde. *diag*  
*Am Chem Soc J* 55:4378-84 N '33

Observations on the metabolism of naphtha-  
lene in rabbits; abstract. M. C. Bourne and  
L. Young. *Soc Chem Ind J* (Chem & Ind)  
52:271 Mr 24 '33

Structure of naphthalene. H. W. Thompson.  
*Soc Chem Ind J* (Chem & Ind) 52:61 Ja 20  
'33

Synthesis of some homologous naphthalenes.  
E. deB. Barnett and F. G. Sanders. *Chem*  
*Soc J* p434-7 Ap '33

Zur kenntnis binärer gemische; die viscosität  
von naphthalinlösungen. L. Piattl. *Angew*  
*Chemie* 45:719-20 N 12 '32

**NAPHTHALENE glycollic acid**

Isomeric (-)-menthyl  $\alpha$ -naphthylglycolates. A.  
McKenzie and E. R. L. Gow. *Chem Soc J*  
p32-7 Ja '33

**NAPHTHALENE sulfonic acids**

Correlation of fluorescence spectra with chem-  
ical structure of some naphthalene deriva-  
tives. A. J. Allen, R. Franklin and E. Mc-  
Donald. *bibliog il J Fr Inst* 215:705-22 Je '33

**NAPHTHENES**

Analysis of hydrocarbon oils. R. H. Griffith  
and H. Hollings. *Inst Pet Tech J* 19:701-12  
Ag '33

Determination of paraffin and naphthene con-  
tent of gasolines. C. C. Minter. *Nat Pet N*  
25:25+ F 22 '33

Knocking characteristics of naphthene hydro-  
carbons. W. G. Lovell, J. M. Campbell and  
T. A. Boyd. *bibliog Ind & Eng Chem*  
25:1107-10 O '33; Excerpt. *Oil & Gas J* 31:18-  
19 Ap 6 '33

**NAPHTHENIC acids**

Neues aus der chemie der naphthensäuren.  
J. v. Braun. *Angew Chemie* 46:653 O 14 '33

**NAPHTHOL AS**

New developments in the naphthol AS series.  
*Melliand* 4:572 D '32

**NAPHTHOL sulfonic acids**

Method of analysis of mixtures of Schaeffer  
and F acids; effect of these acids in de-  
pressing the phenol-water critical solution  
temperature. D. G. Kerr. *Soc Chem Ind J*  
52:336T-8T O 13 '33

**NAPHTHOL sulfonic acids—Continued**

New reaction of certain diazosulphonates derived from  $\beta$ -naphthol-1-sulphonic acid; constitution of the phthalazine derivatives. F. M. Rowe and A. T. Peters. *Chem Soc J* p1067-70 Ag '33

**NAPHTHOLS**

Correlation of fluorescence spectra with chemical structure of some naphthalene derivatives. A. J. Allen, R. Franklin and E. McDonald. *bibliog il J Fr Inst* 215:705-22 Je '33

Naphthol studies; the chlorination of 1,5-dihydroxynaphthalene. A. S. Wheeler and W. J. Mattox. *Am Chem Soc J* 55:686-90 F '33

Nitration of  $\alpha$ - and  $\beta$ -naphthols. F. Bell. *Chem Soc J* p286-8 Mr '33

**NAPHTHOYLBENZOIC acid**

Conversion of phthaloylnaphthalenes and naphthoyl-2-benzoic acids into benzanthrakinones. L. F. Fieser and M. Fieser. *Am Chem Soc J* 55:3342-52 Ag '33

**NAPHTHYL acetamide**

Nitration of aceto- $\alpha$ -naphthalide, and the preparation of 2- and 4-nitro-1-naphthylamines. H. H. Hodgson and J. Walker. *Chem Soc J* p1205-7 S '33

**NAPHTHYLACETIC acid**

Synthesis of  $\alpha$ -naphthylacetic acid. DeW. T. Keach. *Am Chem Soc J* 55:2974-5 Jl '33

**NAPHTHYLAMINE**

Bromination of  $\beta$ -naphthylamine. F. Bell. *Chem Soc J* p2732-4 N '32

Correlation of fluorescence spectra with chemical structure of some naphthalene derivatives. A. J. Allen, R. Franklin and E. McDonald. *bibliog il J Fr Inst* 215:705-22 Je '33

**NAPHTHYL ethylbarbituric acid**

Synthesis of 5- $\alpha$ -naphthyl-5-ethylbarbituric acid. D. T. Keach. *Am Chem Soc J* 55:3440-2 Ag '33

**NAPHTHYL ethylhydantoin**

Synthesis of 5,5- $\alpha$ -naphthylethylhydantoin. DeW. T. Keach. *Am Chem Soc J* 55:2979-81 Jl '33

**NAPHTHYL group**

Some naphthyl derivatives of barbituric acid. DeW. T. Keach. *Am Chem Soc J* 55:2975-9 Jl '33

**NAPHTHYL isopropylamine hydrochloride**

Action of heat on  $\beta$ -naphthylisopropylamine hydrochloride. T. Heap. *Chem Soc J* p495-6 My '33

**NAPHTHYL isothiocyanate**

Alpha-naphthyl isothiocyanate as a reagent for primary and secondary aliphatic amines. C. M. Suter and E. W. Moffett. *bibliog Am Chem Soc J* 55:2497-9 Je '33

**NAPLES, Italy****Sanitary affairs**

Public health organization and administration in Naples. J. G. Townsend and E. Buonocore. *Pub Health Rep* 47:2328-54 D 23 '32

**NAPPING of textiles**

Napping-room air; re-circulation system installed by Pepperell. F. A. Westbrook. *il Textile World* 83:1821 O '33

**NARCEINE**

Identity of narceine with pseudonarceine, its dehydration and structure. C. R. Addinall and R. T. Major. *Am Chem Soc J* 55:1202-9 Mr '33

Narcotine and hydrastine; a study of the mechanism of their conversion into narceine, methylhydrastine and their derivatives. C. R. Addinall and R. T. Major. *bibliog Am Chem Soc J* 55:2153-63 My '33

**NARCOTIC addicts. See Drug habit****NARCOTICS**

Alcohol and narcotics control change sought. *Oil Paint & Drug Rep* 123:15, 34; Editorial comment. 13 Ap 10 '33

Chemical basis of narcosis; abstract. J. H. Quastel. *Soc Chem Ind J (Chem & Ind)* 51: 978 N 25 '32

Narcotic control agencies will meet in Geneva. *Oil Paint & Drug Rep* 124:15+ O 9 '33

Narcotic drug law is signed by Gov. Lehman. *Oil Paint & Drug Rep* 123:16 My 8 '33

Narcotic import quotas reduced. *Oil Paint & Drug Rep* 123:15 Ja 2 '33

Narcotic smuggling charged to Bulgaria. *Oil Paint & Drug Rep* 123:15+ Mr 27 '33

Narcotics control convention given effect by presidential proclamation. *Oil Paint & Drug Rep* 124:19, 33 Jl 17 '33

Narcotics convention will become effective in July. *Oil Paint & Drug Rep* 123:14 Ap 10; 16 Ap 17 '33

Les stupéfiants et la chimie légale. E. Kohn-Abrest. *Chimie & Ind* 29:1477-90 Je '33

**See also**

Drug habit

Opium

Hypnotics

**NARCOTINE**

Narcotine and hydrastine; a study of the mechanism of their conversion into narceine, methylhydrastine and their derivatives. C. R. Addinall and R. T. Major. *bibliog Am Chem Soc J* 55:2153-63 My '33

**NARROW** gage railroads. *See Railroads, Narrow gage*

**NASH motor company**

Money maker in the motor field. *Barron's* 13: 24 Ja 16 '33

Preserving Nash's profits. *Econostat* 1:11, 23 Ag 5 '33

What is the investment outlook for these companies? *Mag of Wall St* 51:390 Ja 21 '33

**NASHUA, New Hampshire****Water supply**

Historical notes on a line of 10-inch cast iron pipe laid in 1854, Pennichuck water works. D. C. Calderwood. *il N E Water Works Assn J* 47:124-8 Je '33

**NASHVILLE agricultural normal institute**

School that is not only a school. E. A. Sutherland. *il Manuf Rec* 102:20-1 S '33

**NASSAU, Bahama Islands**

Highway construction in Nassau. R. N. A. Burnside. *il Explosives Eng* 11:80-1 Mr '33

**Water supply**

Excluding salt water from island wells. J. O. Riddell. *diags map Civil Eng* 3:383-5 Jl '33

**NAST, Condé**

Look of eagles. *Adv & Sell* 20:21+ F 16 '33

**NATION planning**

Planning for planning; principles for the organization of state and regional planning on a national scale. J. L. Crane, jr. *Civil Eng* 3:525-6 S '33

**NATIONAL academy of sciences**

Abstracts of papers presented at the Ann Arbor meeting, Nov. 14-16. *Science* 76:518-22, 543-7, 570-2 D 2-16 '32

Abstracts of papers presented at the Washington meeting. *Science* 77:454-60, 494-6, 517-20 My 12-26 '33

Medals presented at the annual dinner. *Science* 77:514-15 My 26 '33

Meeting, Washington, April 24-26. *Science* 77: 422 My 5 '33

National academy of sciences; address at the annual dinner, Washington, April 25. W. W. Campbell. *Science* 77:549-52 Je 9 '33

**NATIONAL advertising.** *See Advertising, National*

**NATIONAL aeronautic association**

Hiram Bingham's N.A.A. C. Caldwell. *Aero Digest* 22:19+ Je; 23:14+ Jl '33

**NATIONAL association for better housing**

Organization. *Sales Management* 33:170 Ag 15 '33; *Am Bankers Assn J* 26:73 S '33; *Concrete* 41:6 S '33; *Brick & Clay Rec* 82: 204 Je '33

**NATIONAL association of accident and health managers**

Annual meeting, Pittsburgh, June 15-16. *Ins Field (Fire ed)* 62:3+ Je 22 '33; *East Underw* 34:34-5 Je 23 '33; *Nat Underw* 37:23-4+ Je 22 '33



**NATIONAL association of broadcasters**

Radio broadcasters iron out their problems.  
Ptr Ink 165:69, 72-4 O 19 '33

**NATIONAL association of casualty and surety agents**

Joint convention with International association of casualty and surety underwriters, White Sulphur Springs, Sept. 26-28, East Underw 34:35-7+ S 29; 33 O 6 '33; Ins Field (Fire ed) 62:10 S 28; 9+ O 5 '33; Nat Underw 37:23+ O 5 '33; Spectator 131:32-3 S 28; 33+ O 5 '33; Weekly Underw 129:627-8+ S 30 '33

**NATIONAL association of chemical specialty manufacturers**

Specialty manufacturers in chemicals organize. Refrig Eng 26:149 S '33

**NATIONAL association of cotton manufacturers**

Annual convention, Boston, Oct. 4. Textile World 83:1796-9 O '33

**NATIONAL association of credit men**

Annual convention, 38th, Milwaukee, Wis. Credit & Fin Management 35:14-15+ J1 '33  
Annual report reviews many of N.A.C.M. activities. H. H. Heimann. Credit & Fin Management 35:20-1+ Ag '33

Be it resolved; resolutions on accountancy, bankruptcy, credit interchange and credit education. Credit & Fin Management 35:26+ O '33

Credit credo. E. D. Ross. Credit & Fin Management 35:14-15+ Ja '33

Milwaukee convention—series: A, number: 5, year: 1900. F. Haase. Credit & Fin Management 35:14+ My '33

Traditions and pioneers of NACM. J. H. Tregoe. pors Credit & Fin Management 35:16-17+ S; 16-17 O; 20-1+ N '33

See also

Economic credit council

**Credit interchange bureaus**

Directory. Credit & Fin Management 35:35 Ja '33

Let's join forces! F. J. Hamerin. Credit & Fin Management 35:29+ Ja '33

**Fraud prevention department**

Handled with care; second credit protection fund. K. W. Fraser. Credit & Fin Management 35:18+ Mr '33

**NATIONAL association of hosiery and underwear manufacturers**

Convention, Philadelphia. Textile World 83:941-2 My '33

Executive conference, New York, Oct. 26-27. Textile World 82:958-9 N '32

**NATIONAL association of ice industries**

Annual convention, 15th, Pittsburgh, Pa. Nov. 15-18. Refrig W 67:22-6, 31-3 D '32

**NATIONAL association of insecticide and disinfectant manufacturers**

Annual convention, 19th, New York, Dec. 12-13. Oil Paint & Drug Rep 122:15-16+ D 19 '32

Midyear meeting, Chicago, June 5-6. Oil Paint & Drug Rep 123:19, 33-4 Je 12 '33

**NATIONAL association of insurance agents**

Annual meeting, 38th, Chicago. East Underw Extra ed 34:3-22 O 14 '33; Ins Field (Chicago Conv Daily ed) 62:7-22 O 11; 7-22 O 12; 7-22 O 13 '33; Nat Underw Conv no 37:7-28 O 13 '33; Spectator 131:25+ O 12; 25+ O 19 '33; Weekly Underw 129:709-23 O 14 '33

Annual report of administration. Ins Field (Chicago Conv Daily ed) 62:12+ O 11 '33; Same. East Underw Extra ed 34:4+ O 14 '33; Abstract. Spectator 131:25+ O 12 '33

Guarding the agency system. C. L. Gandy. Spectator 129:25 sec 2 D 8 '32

**NATIONAL association of life underwriters**

Annual convention, 44th, Chicago. East Underw Extra ed 34:3-26 S 30 '33; Ins Field (Chicago Conv Daily ed) 62:7-34 S 27; 7-34 S 28; 7-34 S 29 '33; Nat Underw (Life ed) Daily ed 37:1-36 S 27; 5-32 S 28; 5-24 S 29 '33; Spectator 131:10-14, 16 S 28; 12-13+ O 5 '33; Weekly Underw 129:581-96 S 30 '33

Mid-year meeting, Chicago, April 28-29. Ins Field (Life ed) 62:5+ My 5 '33; Nat Underw (Life ed) 37:3+ My 5 '33

Professional attitude of mind. C. C. Thompson. Spectator 129:20 sec 2 D 8 '32

**NATIONAL association of lubricating grease manufacturers**

Grease makers organize and frame trade code. Oil Paint & Drug Rep 124:32D J1 17 '33

Lubricating grease manufacturers vote unanimously to accept oil code. Oil & Gas J 32:25 S 28 '33

**NATIONAL association of manufacturers of pulp and paper machinery and equipment**

Paper machinery firms organize. Paper Tr J 97:51 S 7 '33

**NATIONAL association of master plumbers**

Annual meeting, 51st, New Orleans, June 20-22. Dom Eng 142:79-81 J1 '33; Am Gas Assn Mo 15:319-20 Ag '33

President Barrett names directors. pors Dom Eng 142:104-6 S '33

**NATIONAL association of motor bus operators**

Annual meeting, Chicago, Sept. 21-22. Bus Transportation 12:384-7 O '33; Elec Traction 29:337-9 O '33

Motor bus industry—code of fair competition; text. Bus Transportation 12:310-12 Ag '33

**NATIONAL association of mutual insurance agents**

Annual meeting, 2d, Columbus, O. Nat Underw 37:6 S 28 '33

**NATIONAL association of mutual insurance companies**

Annual convention, Minneapolis. Nat Underw 37:6+ O 12; 3+ O 19 '33

**NATIONAL association of mutual savings banks**

Annual convention, Swampscott, Mass. May 24-26. Bankers M 126:633 Je '33

**NATIONAL association of paint distributors**

Annual meeting, 19th, Chicago, Feb. 20-22. Oil Paint & Drug Rep 123:15+ F 27 '33

**NATIONAL association of portable sand, gravel and stone producers**

Organization. Rock Prod 36:26 S '33

**NATIONAL association of power engineers**

Annual convention, 51st, Buffalo, Aug. 28-Sept. 2. Power Pl Eng 37:445 O '33

**NATIONAL association of railroad and utilities commissioners**

Annual meeting, 44th, Hot Springs, Ark., Nov. 15-18. Ry Age 93:737-40 N 26 '32; Elec W 100:676, 708 N 19-26 '32; Pub Util 10:706-9 D 8 '32; Bus Transportation 11:514 D '32  
Annual meeting, 45th, Cincinnati, Oct. 10-13. Ry Age 95:659-61 N 4 '33; Elec W 102:518-19 O 21 '33; Pub Util 12:578-85, 601-2 N 9 '33

**NATIONAL association of railroad tie producers. See Railway tie association****NATIONAL association of real estate boards**

Annual convention, Chicago. Arch Forum 59:80 J1 '33

**NATIONAL association of retail druggists**

Secretary denies mismanagement. Oil Paint & Drug Rep 123:38+ My 8 '33

Secretary exonerated but not re-elected at annual convention. Oil Paint & Drug Rep 124:16 S 25 '33

**NATIONAL association of waste material dealers**

Annual meeting, Chicago, August 7-9. Paper Tr J 97:17-18 Ag 17 '33

Waste material code submitted; text. Paper Tr J 97:18-20 Ag 31 '33

**NATIONAL banks. See Banks and banking, National****NATIONAL biscuit company**

National Biscuit's stability. Econostat 1:13+ My 27 '33

Speculative audit; favorable and unfavorable factors affecting common-stock values. Barron's 13:14 J1 10 '33

**NATIONAL bituminous pavers' industrial association**

Organization. Roads & Sts 76:328 S '33

**NATIONAL board of boiler and pressure vessel inspectors**

Annual meeting, 9th, New York. Weekly Underw 129:829 O 28 '33

**NATIONAL board of fire underwriters**

Annual meeting, 67th, New York. Ins Field (Nat bd no) 62:3-14 My 26 '33; East Underw 34:1, 30-1 My 26; 19-21 Je 2 '33; Spectator 130:25+ Je 1 '33; Weekly Underw 128:1000-1+ My 27 '33

**NATIONAL board of fire underwriters—Cont.**

Home office buildings of distinction. *il* Spectator 131:13+ J1 27 '33

Koop announces membership of committees. East Underw 34:25 Je 16 '33; Same. Spectator 130:25+ Je 15 '33

National Board work; abstracts. C. W. Bailey. East Underw 34:17+ Ja 13 '33; *Ins Field* (Fire ed) 62:7+ Ja 12 '33

Taxes as an advertising theme. *il* *Ptr Ink* 161:37 D 22 '32

**NATIONAL brick manufacturers research foundation**

Annual meeting, 2d, Pittsburgh, Feb. 15. *Brick & Clay Rec* 82:86-7 Mr '33

**NATIONAL bureau of casualty and surety underwriters**

Annual report; abstracts. J. A. Beha. East Underw 34:34-5 My 19 '33; *Ins Field* (Fire ed) 62:12 My 25 '33; *Spectator* 130:31-2 My 25 '33

What the National Bureau is doing for the agent. *Spectator* 131:6-7+ Ag 10 '33

With the casualty companies. J. A. Beha. *Spectator* 129:23 sec 2 D 8 '32

**NATIONAL cash register company**

Capital adjustment. *Barron's* 12:9 N 28 '32  
Lost \$4,499,265 in 1932. *Barron's* 13:10 Mr 27 '33

National Cash Register cleans house. *Economist* 1:11+ Ap 1 '33

Outlook. *Barron's* 12:14 D 19 '32

**NATIONAL chain store association**

Chain association dissolves. *Ptr Ink* 164:94 S 28 '33

**NATIONAL city bank of New York**

James H. Perkins chosen chairman of the board of the National city bank of New York. *Trust Companies* 56:371-2 Mr '33

Progressive developments. *Trust Companies* 56:470 Ap '33

Resignation of C. E. Mitchell as chairman and appointment of James H. Perkins. *Nat City Bank* p33-4 Mr '33

Stock-market probe centered on City bank. *Barron's* 13:10 F 27 '33

**NATIONAL coal association**

Annual meeting, 14th, Chicago, June 15-17. *Coal Age* 38:230-4 J1 '33

**NATIONAL committee for trade recovery**

Aids R. E. C. loan applicants. L. J. Mulhearn. *Concrete* 41:11 Ja '33

**NATIONAL committee on industrial rehabilitation**

Federal reserve district committees comprise Robertson organization. *Concrete* (mill sec) 41:36 Ja '33

Hard-boiled boosting; profits is the theme. *Business Week* p14 D 28 '32

Industrial flying wedge wins \$105,000,000 of new business. A. W. Robertson. *Sales Management* 32:22+ Ja 1 '33

Industrial rehabilitation—what has been accomplished. A. W. Robertson. *Elec W* 29:543 D '32

Rehabilitation—what it is and what it is not. A. W. Robertson and others. *Am Mach* 76:1182-91 D 7 '32

**NATIONAL committee on wood utilization**

Wood utilization unit abolished by President. *Oil Paint & Drug Rep* 124:18 J1 17 '33

**NATIONAL conference on city planning**

Annual conference, 24th, Pittsburgh, Nov. 14-16. *Eng N* 109:632 N 24 '32

**NATIONAL conference on construction**

Resolutions adopted. *Eng & Contr* 71:259-60 N '32

**NATIONAL conference on low-cost housing**

Construction of low-cost housing discussed at Cleveland meeting, Oct. 25-27. *Eng N* 111:543-4 N 2 '33

**NATIONAL conference on slum clearance**

Meeting, Cleveland, July 6-7. *Eng N* 111:58-9 J1 13 '33

**NATIONAL conference on the renewal of home building**

Bright prospects for home building seen by housing conference, Chicago, May 9-10. *Concrete* 41:13 Je '33; *Brick & Clay Rec* 82:203 Je '33

**NATIONAL construction council of Canada**

Organization. *Can Eng* 64:15-16 F 14 '33

**NATIONAL container association**

Organization. *Paper Tr J* 97:25 Ag 31 '33

**NATIONAL convention of insurance commissioners**

Annual meeting, Chicago. *Nat Underw* 37:1+ Je 1 '33; *Nat Underw* (Life ed) 37:3+ Je 2 '33; *Weekly Underw* 128:1046-7 Je 3 '33

Annual meeting, 64th, Chicago, June 1-3. *Ins Field* (Fire ed) 62:7-8+ Je 8 '33; *East Underw* 34:1+ Je 9 '33; *Nat Underw* 37:3+ Je 8 '33; *Spectator* 130:27-9 Je 8 '33

Garfield W. Brown made president. *Nat Underw* 37:3+ F 16 '33; *Ins Field* (Fire ed) 62:7-8 F 16 '33

Insurance policy; annual meeting, Chicago. *Business Week* p22 Je 17 '33

Meeting, New York, Dec. 6. *Ins Field* (Fire ed) 61:7-8 D 8 '32; *Nat Underw* 36:3+ D 8 '32; *Weekly Underw* 127:1117-21+ D 10 '32; *Spectator* 129:32-3 D 8; 27+ D 15 '32

Names committees of commissioners. *Ins Field* (Fire ed) 61:11+ N 24 '32

**NATIONAL cottonseed products association, inc.**

Annual convention, New Orleans, May 15-16. *Oil Paint & Drug Rep* 123:17+ My 22 '33

**NATIONAL council of American shipbuilders**

Annual report. H. G. Smith. *Marine R* 63:23+ My '33

**NATIONAL crushed stone association**

Annual convention, Detroit. *Rock Prod* 36:44-6 Ja '33; *Eng N* 110:121-2 Ja 26 '33

**NATIONAL discount company, limited**

Ordinary annual general meeting, London. *Economist* 116:207 Ja 28 '33

**NATIONAL display installation association**

Display installers organize. *Ptr Ink* 164:76 S 7 '33

**NATIONAL distillers products corporation**

National distillers products corp. *il* *Fortune* 8:33-9, 112+ N '33

**NATIONAL district heating association**

Annual meeting, 24th, Chicago, June 27-30. *Power Pl Eng* 37:339-40 Ag '33

**NATIONAL drug trade conference**

Annual meeting, Washington. *Oil Paint & Drug Rep* 122:17+ D 19 '32

**NATIONAL editorial association**

Directors vote greatly enlarged program for year. *Inland Ptr* 91:65 J1 '33

**NATIONAL electric light association (superse-**

ded by Edison electric institute)  
Committees ask continued activities as N.E.L.A. sales section expires. *Elec W* 101:404-5 Ap 1 '33

Convention is called to dissolve N.E.L.A.; constitution of the Edison electric institute. *N E L A* Bul 20:59-62 F '33

N.E.L.A. convention votes dissolution. *Elec W* 101:209 F 13 '33

N.E.L.A. dissolved; Edison electric institute formed. *Elec W* 101:49-50 Ja 14 '33

Optimism pervades National sales section conference, Chicago, Nov. 2-4. *N E L A* Bul 19:749-53 D '32

See also

Edison electric institute

**NATIONAL electrical code**

Code revised for 1933. *Elec West* 70:162-3 My '33

Contractors' viewpoint on wiring and the code. L. E. Mayer. *Elec W* 102:541 O 21 '33

More diversity in home uses than code recognizes. W. F. Walsh. *Elec W* 101:124-7 Ja 28 '33

Some probable changes. *Elec W* 101:473 Ap 15 '33

**NATIONAL electrical manufacturers' association**

Value of NEMA. *Plastics* 8:453+ Ja '33



- NATIONAL exposition of power and mechanical engineering**  
Annual power show, 10th, New York, Dec. 5-10. Power Pl Eng 36:48-52 Ja '33; Chem & Met Eng 39:680-1 D '32; Iron Age 130:929 D 15 '32; Power 76:351-3 Mid-D '32; Textile World 82:1181 D '32; Engineering 135:37-9, 70-1, 74, 138-40, 194-6 Ja 13-20, F 3, 17 '33
- NATIONAL federation of supply wholesalers**  
Organization at Central supply association meeting. Dom Eng 142:89 N '33
- NATIONAL fertilizer association**  
Annual convention, White Sulphur Springs, West Virginia. Oil Paint & Drug Rep 123:16+ Je 26 '33
- NATIONAL fire insurance company of Hartford**  
Annual statement, 1932. Spectator 130:29 Mr 16 '33
- NATIONAL fire protection association**  
Annual meeting, 37th, Milwaukee, May 20. Nat Underw 37:2+ Je 1; 7+ Je 8 '33; Weekly Underw 129:235+ Ag 5 '33  
Marine division will further safety. Weekly Underw 129:350 N 4 '33; East Underw 34:20 N 3 '33
- NATIONAL foreign trade convention**  
Annual convention, 20th, Pittsburgh. Comm & Fin 22:397-8 My 3 '33; Iron Age 131:707B My 4 '33
- NATIONAL founders association**  
Annual convention, 36th, New York, Nov. 16-17. Iron Age 130:805-6+ N 24 '32; Steel 91:13-14 N 21 '32; Foundry 60:17+ D '32
- NATIONAL fraternal congress of America**  
Annual convention, 20th, Milwaukee. Nat Underw (Life ed) 37:4+ S 1; 2 S 8 '33; Ins Field (Life ed) 62:7 S 8 '33  
Meeting, New Orleans. Nat Underw (Life ed) 37:4 F 24 '33
- NATIONAL gas and electric corporation**  
Outlines reorganization plan. Gas Age 72:139 Ag 5 '33
- NATIONAL gas council of Great Britain and Ireland**  
Annual meeting, 15th, London, May 10. Gas J (Lond) 202:389-92 My 17 '33
- NATIONAL highway users conference**  
Highway defense; organized by the automobile makers, the automobile users are meeting the railroads' solid front. il Business Week p4-5 D 28 '32
- NATIONAL illumination committee of Great Britain**  
Report for the year 1932. Illum Engr 26:98 Ap '33
- NATIONAL industrial advertisers association**  
Convention. Ptr Ink 164:45+ Jl 6 '33
- NATIONAL industrial conference board**  
Employers of the United States and the International labor organization, T. G. Spates. Ann Am Acad 166:148-50 Mr '33  
Industrial conference board elects Heinz. Ptr Ink 163:28 Je 1 '33  
Planning; National industrial conference board expands program to deal with crisis, chooses Virgil Jordan as new chief. Business Week p9 Ja 4 '33
- NATIONAL industrial recovery act, 1933**  
About this new bird: is it an eagle or a hawk? S. Norvell. Sales Management 33:162, 164+ Ag 15 '33  
Administration and effect of the Recovery act on petroleum industry from legal viewpoint. P. Q. Nyce. Oil & Gas J 32:18+ S 7 '33  
Administration clarifies attitude on Recovery act. C. B. Larrabee. Ptr Ink 163:17-20 Je 29 '33  
Advertising and the new economics. R. Dickinson. Ptr Ink 164:3-4+ Jl 6 '33  
Advertising and the Recovery act. R. Dickinson. Ptr Ink 164:17-20 Jl 20 '33  
Advertising and the Recovery act. C. B. Larrabee. Ptr Ink Mo 27:19+ Ag '33  
Advertising and the Recovery act; symposium. Adv & Sell 21:17-18+ Jl 6 '33  
Advertising methods to be used to speed recovery. R. Dickinson. il Ptr Ink 164:29-31 Jl 27 '33
- Aims and accomplishments of the National industrial recovery act. M. D. Gould. Analyst 42:80-1 Jl 21 '33
- American recovery programme. Economist 117:482-3, 526-7 S 9-16 '33
- America's new economic frontier. E. A. Elliott. Comm & Fin 22:729-30 Ag 23 '33
- Analysis of the N.I.R.A. labor section; questions and answers. J. C. Gall. Brick & Clay Rec 83:118-19 O '33; Excerpt. Nat Pet N 25:23-4 O 18 '33
- Applying the labor requirements of the Recovery act to the automotive industry. J. Geschelin. Automotive Ind 68:735-7 Je 17 '33
- Back-to-work act. Business Week p3-8 Je 24; 3-8 Jl 1; 5-6 Jl 8 '33
- Business prepares for partnership. L. Valenstein. Adv & Sell 21:13-14+ Je 22; 20+ Jl 6 '33
- Business traffic signals provided by the National industrial recovery act. A. P. Haake. Credit & Fin Management 35:14-15+ Ag '33
- Business under the Recovery act. L. Valenstein and E. B. Weiss. 314p \$2.50 Whittlesey House, McGraw-Hill '33
- Can the right interpretation confuse section 7A? J. T. Smith. Automotive Ind 69:578+ N 11 '33
- Codes vs. consent decrees. Business Week p6-7 S 2 '33
- Commercial borrowing under the Recovery act. J. Hanna. Am Bankers Assn J 26:24-5+ S '33
- Common-sense economics that average men can grasp. F. L. Carlisle. Ptr Ink 165:103-4 O 12 '33
- Condensed version of government-industry partnership bill. Steel 92:12 My 22 '33
- Congress gets ready-mades; scores of men have worked on the industry control bill. Business Week p3-4 My 24 '33
- Court test; NRA wins first legal argument. Business Week p3-4 Ag 19 '33
- Everybody's business. F. W. Parsons. Adv & Sell 22:3+ N 9 '33
- General Johnson explains NIRA. Ptr Ink 164:33-5 S 7 '33
- How NRA affects the plumbing industry. H. O. Nelson. Dom Eng 142:97-8 O '33
- How the industrial recovery act will operate. Iron Age 131:830-1 My 25 '33
- Impressions of NIRA and its working. C. D. Howe. Pulp & Pa of Can 34:591-2 O '33
- Industrial recovery and control bill goes to Congress. Am Mach 77:340c-340d My 24 '33
- Industrial recovery bill. Guaranty Survey 13:4-5 My '33
- Industrial recovery bill a boon to honest advertising. C. B. Larrabee. Ptr Ink 163:3-4, 81-3 Je 22 '33
- Industry at grips with Recovery act. Automotive Ind 69:1-2 Jl 1 '33
- Industry control retained in recovery bill by 49-to-31 vote in the Senate. Oil Paint & Drug Rep 123:17+ Je 12 '33
- Industry tries the new deal. Nation's Business 21:16-19+ Ag '33
- Industry wants to know what it faces. G. L. Lacher. Iron Age 132:31 Jl 13 '33
- Insurance studies U.S. recovery act. G. A. Watson. Nat Underw 37:3+ Je 22 '33
- Is the open shop in jeopardy? L. W. Moffett. Automotive Ind 69:76-7 Jl 15 '33
- Johnson defines NIRA purposes. Sales Management 33:103 Ag 1 '33; Excerpts. Factory Management 91:331-2 Ag '33
- Labor provisions in Recovery bill attacked at hearing. L. W. Moffett. Iron Age 131:917A-917C Je 8 '33
- Labor provisions of the Recovery act. H. I. Harriman. Nation's Business 21:15+ O '33
- Labor relations under the Recovery act. O. Tead and H. C. Metcalf. 259p \$2 Whittlesey House, McGraw-Hill '33
- Labor surveys its new utopia. C. M. Wright. il Mag of Wall St 52:469-70+ S 2 '33
- Manufacturer and the Industrial recovery act. J. W. Hook. Mach 39:788-9 Ag '33
- Mass attack. Business Week p3-7 Jl 22 '33
- Measures for recovery take shape. Bus Transportation 12:276-8 Jl '33

- NATIONAL industrial recovery act, 1933—Cont.**  
Meeting the ordeal; what will the NRA do to the utilities. F. W. Parsons. Gas Age 72:205-6+ S 2 '33
- National advertiser and N R A. R. Dickinson. Ptr Ink 164:47-9 Ag 3 '33
- National industrial recovery act. Nat City Bank p106-11 Jl '33
- National industrial recovery act. B. S. Kirsh and H. R. Shapiro. 156p \$2.50 Central book co, New York '33
- National industrial recovery act explained. 14p Prentice-Hall, inc. '33
- NIRA faces realities. S. Bell. Comm & Fin 22:730, 747-8 Ag 23-30 '33
- NIRA—from the firing line. P. Salisbury. Sales Management 33:102, 103+ Ag 1 '33
- National industrial recovery act; information service. T. Briscoe, W. Gavett and D. Q. Hammond. 108p Directory of directors co, New York '33 [To be kept up to date by supplementary weekly bulletins]
- NIRA shows her teeth. S. Bell. Comm & Fin 22:948-9 N 1 '33
- Nira, versus the Constitution. P. R. Van Duyne. Iron Age 132:35-6 Jl 13 '33
- National industrial recovery bill offered; coal legislation plans sidetracked. Coal Age 38:216-17 Je '33
- National industrial recovery in America. C. C. Concannon. Soc Chem Ind J (Chem & Ind) 52:839-40 O 20 '33; Same cond. Chem Age (Lond) 29:363 O 21 '33
- National recovery act as it applies to water works construction; abstract. W. W. Brush. Water Works & Sewerage 80:342 S '33
- National recovery act in the Supreme court; argument against the constitutionality of the Act. J. M. Beck. Fortune 8:48-9+ N '33
- NRA and the small city. J. Kelley and P. McCrea. Il Nation's Business 21:30, 32+ O '33
- NRA can help individuals only as it helps national. L. F. Cahn. Ptr Ink 164:71-2 S 7 '33
- NRA clarifies the course for capital goods. A. H. Little. Ptr Ink 165:17-18, 20-1 N 2 '33
- NRA directory; which deputy will answer the questions and hold the hearings for your industry. Business Week p8-10 Ag 12 '33
- NRA speeds codes to forestall recession. Am Mach 77:468c-468e Jl 19 '33
- National recovery bill. C. W. Stocks. Bus Transportation 12:239 Je '33
- National recovery program. Guaranty Survey 13:7-10 Jl '33
- National recovery program. J. D. Magee, W. E. Atkins and E. Stein. 80p pa 40c F. S. Crofts & co, New York '33
- No cause for worry in all this socialized individualism. E. R. Seligman. Ptr Ink 165:41, 43-4 N 9 '33
- Oil to come within provisions of general recovery bill. Nat Pet N 25:11-12 Je 7 '33
- Plain talk on N.I.R.A. Power 77:416 Ag '33
- Policies formulated for public works under Recovery act. Eng N 111:24 Jl 6 '33
- Policy, please. Business Week p3-10 Ag 12 '33
- President speeds recovery. Am Mach 77:500c-500d Ag 2 '33
- Price making under the National recovery act. W. A. McDermid. Il Adv & Sell 21:13-15+ Jl 20 '33
- Procedure of hearings. D. R. Richberg. Oil Paint & Drug Rep 124:16 Jl 3 '33; Same. Oil & Gas J 32:9 Jl 6 '33
- Pros and cons of NIRA. S. Bell. Comm & Fin 22:688-9 Ag 9 '33
- Public works program analyzed. Concrete 41:3-4 Jl '33
- Purpose of the Recovery bill. R. F. Wagner. Dun & Bradstreet 41:2-3+ Je '33
- Railroads not under N.I.R.A. Ry Age 95:307-8 Ag 26 '33
- Recovery act catechism. Business Week p12-14 Je 24; 8-9 Jl 22; 10-11 Jl 29 '33
- Recovery act gets under way. Ptr Ink 163:5-6 Je 22 '33
- Recovery act interpreted. C. W. Dunn. Oil Paint & Drug Rep 123:19, 43 Je 26 '33
- Recovery act; some of the legal problems resulting therefrom. Econostat 1:24-5+ Jl 1 '33
- Recovery act won't freeze trade. H. Bennette. Nat Pet N 25:13 Jl 12 '33
- Recovery and the NRA. S. Bell. Comm & Fin 22:789, 810, 849-50, 870, 889-90 S 13-O 11 '33
- Recovery bill likely to benefit insurance. J. A. Beha. East Underw 34:30 Je 16 '33; Excerpts. Spectator 130:32-3 Je 15 '33; Weekly Underw 128:1158+ Je 17 '33
- Recovery bill presents industry with new problems and new opportunities. D. Blanchard. Automotive Ind 68:633-4+ My 27 '33
- Rules and regulations for highway work under \$400,000,000 federal appropriation. Roads & Sts 76:256-8, 261-3 Jl '33
- Soft music for free competition; the National industrial recovery act writes finis to trade warfare. J. S. Lawrence. Econostat 1:8-10+ My 27 '33
- Some first-hand observations on Recovery act. C. B. Larrabee. Ptr Ink 164:51-4 Jl 20 '33
- Some problems raised by NRA. C. R. Erdman, jr. Special Lib 24:139-41 Ag '33
- Supreme economic council. Fortune 8:44-8, 100+ S '33
- Text of President Roosevelt's statement on Recovery act policies. Paper Tr J 97:41-2 Jl 6 '33; Same. Oil Paint & Drug Rep 123:38 Je 26 '33
- Three paths to profits under the new deal. C. H. Hatch. Il Am Mach 77:485-7 Ag 2 '33
- Trade association suggestions under industry control bill. F. H. Figsby. Gas Age 71:591-2 Je 10 '33
- Triple supply convention studies business opportunities under the NRA. Iron Age 132:35-6 O 5 '33
- Truce on the Sherman law. M. Edwards. Nation's Business 21:13-16 Jl '33
- Two-year plan. G. E. Anderson. Am Bankers Assn J 26:20-1+ Jl '33
- Utilities and the new deal. P. Cabot. Elec W 102:428-31 S 30 '33
- Vagaries of NIRA. S. Bell. Comm & Fin 22:769-70 S 6 '33
- Washington becomes the capital of business. T. M. Knappen. Mag of Wall St 52:213-15+ Je 24 '33
- What industry thinks of industrial control. T. J. Foster. Iron Age 132:30-1 Ag 10 '33
- What industry thinks of industry control. L. M. Rossi. Iron Age 132:31-2 Jl 27 '33
- What is this National industrial recovery act? questions and answers. Brick & Clay Rec 83:11 Jl '33
- What N R A means to business. L. Stern. Mag of Wall St 52:417-19+ Ag 19 '33
- What of labor? profits? under the NRA? B. C. Forbes. Forbes 32:5-6 S 1 '33
- What the industrial recovery act means to business. H. A. Toulmin, jr. Il System and Management Methods 62:295-7+ Jl '33
- What the industrial recovery act means to you. Elec West 71:22-3 Jl '33
- What the industry thinks of industry control. G. M. Verity; H. Coonley; C. A. Moore. Iron Age 131:1038A-1038B; 132:20-1 Je 29, Jl 13 '33
- What the National industrial recovery act requires of all domestic industries. Chem & Met Eng 40:378-9 Jl '33
- What will NRA do to automotive costs? A. F. Denham. Automotive Ind 69:216 Ag 19 '33
- Where do we belong—under N.I.R.A. or A.A.A.? Food Ind 5:263-4 Jl '33
- Which way business? R. E. Flanders. Am Mach 77:562-4 Ag 30 '33
- Will Recovery act revolutionize your business? H. F. Merrill. Il Forbes 32:9-10+ Jl 1 '33
- Will the National recovery act cartelize American industry? L. H. Marks. Chem Markets 33:121-5 Ag '33
- Your industry and the new government control bill. J. Gooch, jr. Sales Management 32:599+ Je 15 '33
- See also  
Industrial codes  
National recovery administration



**NATIONAL industrial recovery act, 1933—Cont.****Bibliography**

- Industry and government; glimpses of recent books dealing with National industrial recovery. *Mech Eng* 55:618-20 O '33
- National industrial recovery act and trade associations; sources of information. *Cleveland Pub Lib Business Information Bur Bul v 4*, no 3:1-2 JI '33
- N R A, the new deal for business and industry; a bibliography, May-August, 1933. J. K. Wilcox, comp. 78p American library assn, Chicago '33

**Text**

- Industrial recovery section abridged; public works section in full. *Eng N* 110:814-17 Je 22 '33
- National industrial recovery act becomes law; complete text. *Civil Eng* 3:399-405 JI '33
- National industrial recovery act; complete text. *Monthly Labor R* 37:74-87 JI '33
- Principal sections affecting industrial plants; text. *Factory Management* 91:227 Je '33; Same, with final revisions. 91:278-9 JI '33
- Public works section of National recovery act; text (omitting taxation provisions). *Roads & Sts* 76:253-5 JI '33
- Recovery act, title I. *Steel* 92:12, 57-8 Je 19 '33; *Am Mach* 77:404C-404E Je 21 '33; *Paper Tr J* 96:9, 17-18 Je 22 '33; *Ptr Ink Mo* 27:30-3 JI '33
- NATIONAL industrial recovery council. See United States—National industrial recovery council
- NATIONAL institute of industrial psychology. Investigation and research work of the National institute of industrial psychology in 1932. *Int Management Inst Bul* 7:53-4 Ap '33
- NATIONAL investors corporation. Report for 1932. *Barron's* 13:19 Ja 9 '33
- NATIONAL labor board. Art metal construction co. strike settled by National labor board; regional boards named. *Iron Age* 132:33H N 9 '33
- Creation of National labor board. *Monthly Labor R* 37:552-3 S '33
- First month's activities. *Monthly Labor R* 37:885-8 O '33
- Labor boards. *Business Week* p7 N 4 '33
- Labor starts a new chapter. *Business Week* p5-6 Ag 26 '33
- NATIONAL lead company. Annual report, year ended Dec. 31. *Oil Paint & Drug Rep* 123:30 F 6 '33; *Barron's* 13:10 F 27 '33
- Earnings show substantial gain. *Oil Paint & Drug Rep* 124:30 Ag 7 '33
- National Lead's canny management. *Econostat* 1:13, 32 S 30 '33
- Sound stocks for income and long range profit. *Mag of Wall St* 52:632 O 14 '33
- Stocks I would buy to hold. A. T. Miller. *Mag of Wall St* 51:628 Ap 1 '33
- NATIONAL life and accident insurance company. Annual statement, 33d. *Ins Field (Life ed)* 62:15 F 10 '33
- NATIONAL life insurance company of the United States of America. Assets inventory made by receiver. *Nat Underw (Life ed)* 37:2+ N 10 '33
- Palmer warns against National U.S.A. twists. *East Underw* 34:17 O 27 '33
- Receivership. *East Underw* 34:5+ O 20 '33; *Ins Field (Life ed)* 62:5-6+ O 20 '33; *Nat Underw (Life ed)* 37:2+ O 20 '33; *Spectator* 131:16+ O 19 '33
- Report for 1932. *Nat Underw (Life ed)* 37:8 Ja 27 '33; *Ins Field (Life ed)* 62:12 F 3 '33; *Spectator* 130:21 F 2 '33; *Weekly Underw* 128:209 Ja 28 '33
- NATIONAL life insurance company of Vermont. National Life of Vermont tallies notable year. *Weekly Underw* 128:208 Ja 28 '33; *Spectator* 130:22 F 2 '33

**NATIONAL machine tool builders' association**

- Machine tool builders vote to join Machinery and allied products institute. *Iron Age* 132:26G JI 20 '33
- Spring meeting, 31st, Cleveland, April 23-25. *Iron Age* 131:712 My 4 '33; *Steel* 92:22 My 1 '33

**NATIONAL metal congress**

- Congress, 15th, Detroit, Oct. 2-6. *Min & Met* 14:463-5 N '33

**NATIONAL metal exposition**

- Exposition, 15th, Detroit, Oct. 2-6. *il Steel* 93:44, 47 O 9; 33:4+ O 16 '33
- List of exhibitors at the National metal congress, Detroit, Oct. 2-6. *Iron Age* 132:38-41+ S 28 '33

**NATIONAL metal trades association**

- Annual meeting, 35th, Chicago, June 8. *Iron Age* 131:961-2 Je 15 '33; *Mach* 39:751 JI '33

**NATIONAL monuments**

- Ancient American system for collecting water supply. J. B. Hamilton. *il Eng N* 110:225 F 16 '33

**See also**

- Pinnacles national monument

**Protection**

- Building a steel shelter over Casa Grande ruins. F. A. Kittredge and E. A. Nickel. *il diags Eng N* 111:46-8 JI 13 '33

**NATIONAL mutual life assurance society**

- Annual general meeting, 103d, London. *Economist* 116:489 Mr 4 '33

**NATIONAL occupational conference**

- Organization of National occupational conference. *Monthly Labor R* 36:1288-9 Je '33

**NATIONAL paint, oil and varnish association**

- now (National paint, varnish and lacquer association)
- Annual convention, 45th, Washington, D.C., Nov. 14-16. *Oil Paint & Drug Rep* 122:15+ N 21; 7-30 Extra ed N 29 '32

**NATIONAL paint, varnish and lacquer association**

- Two national associations are merged in new organization. *Oil Paint & Drug Rep* 124:15+ N 6 '33

**NATIONAL paper trade association**

- Annual convention, 30th, New York, Feb. 13-15. *Paper Tr J* 96:51+ F 16 '33
- Annual fall meeting, Chicago, Oct. 3-6. *Paper Tr J* 97:13+ O 12 '33

**NATIONAL paperboard association**

- National paperboard association changes. *Paper Tr J* 97:16 N 2 '33

**NATIONAL parks and reserves**

- Animal life in the national parks. *Science* 78:sup 10 O 20 '33

- Complete electrification for Yakima park. R. D. Waterhouse. *il Elec West* 71:26-7 JI '33

- Conservation versus preservation. V. E. Shelford. *Science* 77:535 Je 2 '33

- Fauna of the national parks of the United States. 157p National park service, Washington, D.C. '33

- National parks and emergency conservation. I. F. Story. 31p U. S. National park service, Washington '33

- \$6,000,000 allocated to Indian and park projects. *Iron Age* 132:45 S 14 '33

- Wild animals in national parks. H. C. Bryant. *Science* 76:sup10 D 16 '32

**See also**

- |                                     |   |
|-------------------------------------|---|
| Everglades national park (proposed) | United States—National parks, buildings and reservations, Office of |
| Forest reserves                     | Yellowstone national park   |
| Lassen volcanic national park       | Yosemite national park  |
| Mount McKinley national park        |   |
| National monuments                  |   |
| Pinnacles national monument         |   |

**Libraries**

- Plan of development for national park libraries. *Lib J* 58:546-7 Je 15 '33

**Canada**

- National parks road building. *Can Eng* 65:12 S 26 '33

- NATIONAL parks, buildings and reservations.**  
Office of. See United States—National parks, buildings and reservations, Office of
- NATIONAL paving brick association**  
Annual convention, Detroit, Jan. 17-18. Brick & Clay Rec 82:53-4 F '33; Eng N 110:120-1 Ja 26 '33
- NATIONAL petroleum association**  
Annual meeting, 31st. Atlantic City, Sept. 20-22. Nat Pet N 25:14-16 S 27 '33; Oil & Gas J 32:10 S 23 '33  
Semi-annual meeting, 30th, Cleveland. Oil & Gas J 31:10+ Ap 27 '33
- NATIONAL pipe and supplies association**  
Meet to solve pipe distributing problems. Dom Eng 141:79-80 My '33
- NATIONAL provincial bank, limited**  
Annual general meeting, London. Economist 116:197-201 Ja 28 '33
- NATIONAL publishers association**  
Periodical publishers meet. Ptr Ink 165:77-8 O 12 '33
- NATIONAL purchasers protective association**  
Counterfeit warnings to be given buyers. Oil Paint & Drug Rep 123:15 F 20 '33
- NATIONAL ready mixed concrete association**  
Annual meeting. Rock Prod 36:46-7 Ja '33; Eng N 110:122-3 Ja 26 '33
- NATIONAL recovery administration**  
Business organization comprising all activities proposed to effect recovery; Swope plan. Oil Paint & Drug Rep 124:15, 30c N 6 '33  
Crisis is familiar word at NRA headquarters. C. B. Larrabee. Ptr Ink 165:59-62 N 2 '33  
Digests of new Swope plan and 1931 plan. Barron's 13:4 N 6 '33  
Functions of imports division. Paper Tr J 97:37 N 9 '33  
How the industrial recovery act will be administered. L. W. Moffett. Iron Age 131: 957-8 Je 15 '33  
Industrial advisory board and NRA. R. L. Lund. Oil Paint & Drug Rep Extra ed 124:29 O 11 '33  
Industrial recovery administration will not approve price-fixing; abstracts. H. S. Johnson. Oil Paint & Drug Rep 124:15+ J1 3 '33; Oil & Gas J 32:9+ J1 6 '33  
Industry's spokesmen; Advisory board, supplemented ably by resident advisors, gives industry a service in code-making. pors Business Week p10-11 O 21 '33  
Johnson says lack of sympathy with NRA makes Ford ineligible for U. S. contracts. D. Blanchard. Automotive Ind 69:546-7 N 4 '33  
NRA compliance division; group will handle complaints. System 62:500-1 N '33  
National recovery administration faces more complicated problems. Oil Paint & Drug Rep 124:16A+ S 18 '33  
NRA in its major crisis. Business Week p6-8; Editorial comment. p36 N 11 '33  
National recovery administration personnel and advisors appointed. Oil Paint & Drug Rep 123:17+ Je 26 '33  
NRA program as it affects capital and labor, particularly in industrial concerns. O. D. Young. Gen Elec R 36:471-2 N '33  
NRA—the third phase. Business Week p7-8 S 2 '33  
National recovery administration undertakes creation of permanent organization. L. W. Moffett. Iron Age 132:51B S 28 '33  
National recovery administration will function as four industrial divisions. Oil Paint & Drug Rep 124:15 O 30 '33  
On the NRA firing line; what the government's new organization is doing. H. W. Saxon. Barron's 13:15 Ag 21 '33  
Organization set up to expedite action under Recovery act. Eng N 110:788-9 Je 15 '33
- People's show; NRA parade in New York. H. Broun. Ptr Ink 164:65-6 S 21 '33  
Plenty of fireworks as NRA's honeymoon ends. C. B. Larrabee. Ptr Ink 164:17-19 Ag 31 '33  
Recovery act personnel—the organization and the men who will administer it. pors Textile World 83:1283-6 J1 '33  
Recovery administration purposes no dictatorship over private enterprise. D. R. Richberg. Oil Paint & Drug Rep 124:17+ J1 10 '33; Same. Am Mach 77:457-9 J1 19 '33; Discussion. 77:491, 655 Ag 2, O 11 '33  
Recovery setup. Business Week p5-6 Je 10; 3-5 Je 17 '33  
Self-government; Gerard Swope announces plan. Business Week p11 N 4 '33  
Shifting battle lines; administration's campaign for recovery enters the financial phase. Business Week p6-7 O 21 '33  
This new NRA. Business Week p10-11 O 14 '33  
Washington organizes for business. L. W. Moffett. Iron Age 131:999-1001+ Je 22 '33  
Who's who in the new deal for business. H. F. Merrill. Forbes 32:6-8+ J1 15 '33
- See also  
Industrial codes      National labor board  
National industrial recovery act, 1933
- NATIONAL register of electrical installation contractors**  
Annual report and meeting. Elec R (Lond) 112:603 Ap 28 '33
- NATIONAL research council**  
Appropriations for grants-in-aid. I. Bowman. Science 78:126-8 Ag 11 '33  
Appropriations for grants in aid by the National research council. W. H. Howell. Science 77:214-16 F 24 '33  
History of the National research council, 1919-1933. A. L. Barrows and others. Science 77:355-60, 500-3, 552-4, 618-20; 78:26-9, 93-5, 158-61, 203-6, 254-6 Ap 14, My 26, Je 9, 30, J1 14, Ag 4, 25, S 8, 22 '33  
National research fellowships in the biological sciences. Science 77:577 Je 16 '33  
Organization and members, 1932-1933. 68p National research council, Washington, D.C. '32
- Science advisory board  
Coordinating committees of the railroads and the Science advisory board. Science 78:357 O 20 '33  
Science advisory board. Science 78:306 O 6 '33  
Science advisory board created. Science 78:120 Ag 11 '33
- NATIONAL research council of Canada, Ottawa**  
Co-ordination in national research; abstract. F. E. Lathe. Can Chem & Met 17:11 Ja '33  
Fifteenth annual report, containing the report of the president and financial statement, 1931-1932. 169p National research council of Canada, Ottawa '33
- Laboratories  
Laboratory scale industrial apparatus in the National research laboratories. F. G. Green. Il Can Chem & Met 17:163-6 Ag '33
- NATIONAL retail credit association**  
Credit decree; Retail credit association consents to be less ambitious as Department of justice decides that its reports are commodities. Business Week p11 O 21 '33  
Retailers puzzled by anti-trust suit. Forbes 32:14 Ag 15 '33
- NATIONAL retail dry goods association**  
Annual convention, 22d, New York. Business Week p6 Ja 25 '33; Ptr Ink 162:68-70 Ja 26 '33; Textile World 83:225 F 14 '33
- NATIONAL safety council**  
Annual report of the treasurer. Nat Safety N 27:29 F '33



**NATIONAL safety council—Continued**

Annual safety congress, 21st, Washington, D. C. Oct. 3-7. Nat Safety N 26:15-19 N '32; Safety Eng 64:169-70+ O '32; Coal Age 37: 409-11 N '32; Monthly Labor R 35:1102-3 N '32

Annual safety congress, 22d, Chicago. Safety Eng 66:125, 129-31 O '33; Nat Safety N 28:19-20+ N '33; Monthly Labor R 37:1100 N '33

Executive officers, 1933-4. pors Nat Safety N 28:21-2 N '33

1932 could have been worse; annual report of the managing director. W. H. Cameron. Nat Safety N 27:17+ F '33

President's address. J. I. Banash. Nat Safety N 28:23-4+ O '33

Safety. Fortune 7:16 My '33  
Safety congress draws devotees; cement and quarry sections meetings. Rock Prod 36:46 O '33

Sectional officers, 1933-1934. pors Nat Safety N 28:25-6+ N '33

**NATIONAL sand and gravel association**

Annual convention, Detroit. Rock Prod 36:44-6 Ja '33; Eng N 110:122 Ja 26 '33

**NATIONAL screw machine products association**

Organization. Iron Age 132:39 O 12 '33

**NATIONAL steel corporation**

National Steel flourishes. Econostat 1:13, 32 S 23 '33

Selected stocks to buy for future profit and protection. Mag of Wall St 52:30 Ap 29 '33  
Strengthens working position. Barron's 13:21 Mr 27 '33

**NATIONAL surety company**

Form new realty service concern; National realty management co. succeeds Greyling realty corporation. Nat Underw 37:25 Jl 6 '33; East Underw 34:33 Jl 7 '33; Ins Field (Fire ed) 62:10 Jl 6 '33; Spectator 131:33 Jl 6 '33

**NATIONAL surety corporation**

Deal is pondered by insurance commissioners. Nat Underw 37:39-40+ Je 8 '33

Insurance salvage. Business Week p17 My 10 '33

New setup of National Surety upheld by court. East Underw 34:37 My 19 '33

Protective committee is formed. East Underw 34:42+ My 12 '33; Nat Underw 37:27+ My 11 '33; Spectator 130:31+ My 11 '33

Rehabilitation of National surety, with reasons for action. G. Van Schaick. Ins Field (Fire ed) 62:7+ My 11 '33

Reorganization plan. East Underw 34:30 My 5 '33; Ins Field (Fire ed) 62:7-8+ My 4 '33; Nat Underw 37:21+ My 4 '33

Reorganization plan; text. East Underw 34: 43-5 My 26 '33

Wm. B. Joyce retires as head of National Surety; official changes. East Underw 34: 39+ My 26 '33; Ins Field (Fire ed) 62:7-8 My 25 '33; Nat Underw 37:37+ My 25 '33; Weekly Underw 128:1018+ My 27 '33

**NATIONAL tea company**

Phenomenon in merchandising. Barron's 13:8 Mr 6 '33

**NATIONAL transportation committee**

Al Smith's tenants; Mr Coolidge's National transportation committee listens to what's wrong with the railroads. Business Week p7-8 D 21 '32

National transportation committee on railroads and waterway competition. Marine R 63:17-18 Mr '33

Proposes new policies for railroads; with supplemental report of Alfred E. Smith. Annalist 41:261+ F 17 '33; Same cond. Barron's 13:6 F 20 '33; Conclusions. Eng N 110:262+ F 23 '33; Comm & Fin 22:166 F 15 '33

Railroad rescue; National transportation committee's solution of the railroad problem is to treat railroad as a business. Business Week p6-7 F 22 '33

Rails seek unsecured R. F. C. loans; hearings of various organizations to solve transportation problem in progress. Barron's 12:6 D 12 '32

Report. Guaranty Survey 12:5-7 F '33

**NATIONAL union fire insurance company, Pittsburgh**

National Union under Thomas administration. Il East Underw 34:21+ Jl 7 '33

**NATIONAL warm air heating and air conditioning association** (formerly National warm air heating association)

Meeting, Chicago, June 6-8. Sheet Metal Worker 24:191-2 Je '33

**NATIONAL warm air heating association**

Annual meeting, 20th, Urbana, Ill. Dec. 7-8. Heat & Ven 30:52-3 Ja '33; Sheet Metal Worker 23:534-5 D '32

**NATIONAL wholesale druggists association**

Annual meeting, 59th, French Lick, Oct. 2-5. Oil Paint & Drug Rep Extra ed 124:3-46 O 11 '33

Board of control meeting, St Louis, April 26-28. Oil Paint & Drug Rep 123:15+ My 8 '33

**NATIONAL wholesale grocers' association of the United States**

Confidence dominates grocery convention. M. W. Griggs. Dun's R 41:6+ F 25 '33

**NATIONAL wood fibre growers association**

South organizes for forestry benefits. W. T. White. Il Manuf Rec 102:18-19+ N '33

**NATIONALISM**

America chooses nationalism; new problems confront us if we pursue this policy. W. P. Black. Barron's 13:18-19 Jl 31 '33

Gospel of self-sufficiency. Economist 117:171-2 Jl 22 '33

National ideals and internationalist idols. W. B. Donham. Harvard Business R 11:389-408 pt 2 Ap '33

Nationalism in the Soviet Union. H. Kohn. 164p \$2.50 Columbia univ. press '33

Nationalism; man's other religion. E. Shillito. 170p Willett, Clark & co, Chicago '33

View of Europe, 1932. P. van Zeeland. 153p \$1.75 Johns Hopkins press, Baltimore '33

We need foreign trade, too. J. A. Farrell. Nation's Business 21:13-15 S '33

**NATIVE races**

Gold in Kenya. Economist 115:1224-5 D 31 '32

**NATURAL dyes. See Dyes and dyeing—Natural dyes****NATURAL gas. See Gas, Natural****NATURAL gasoline. See Gasoline, Natural****NATURAL gasoline association of America**

All standing committees announced. Oil & Gas J 32:29-30 Jl 6 '33

Annual convention, Tulsa, May 15-17. Oil & Gas J 31:12+ My 18 '33; Nat Pet N 25:31-2 My 17 '33

Imposing record made in 12 years. Nat Pet N 25:86 My 17 '33

**NATURAL history libraries**

See also

National parks and reserves—Libraries

**NATURAL history museums**

See also

American museum of natural history  
Field museum of natural history, Chicago

**Exhibits**

Setting the museum stage; preparation and care of exhibits at the American museum of natural history, New York. C. H. Vivian. Il Comp Air M 38:4030-4 Ja '33

**NATURAL history society of Queensland**

Rare publications; volume 1, 1892-94 (1895) of the Transactions of the Natural history society of Queensland. W. J. Fox. Science 77: 351-2 Ap 7 '33

**NATURAL resources**

Available natural resources in the Far East. B. Carpenter. Ann Am Acad 168:35-40 Jl '33

Natural resource industry problems. W. C. Teagle. Oil & Gas J 31:16-17 My 11 '33

Supplementing natural resources. H. E. Howe. Elec Eng 52:188-9 Mr '33

**NATURAL resources—Continued**

World resources and industries. E. W. Zimmermann. 842p [bibliog p810-24] \$5 Harper '33

*See also*

Coal	Petroleum
Forests and forestry	Water power
Gas, Natural	Water supply
Mines and mineral resources	

**NATURAL steam.** See Steam, Natural

**NATURE photography***See also*

Photography of plants

**NATURE sanctuaries**

Means of saving natural biotic communities. V. E. Shelford. Science 77:281-2 Mr 17 '33

**NAUMKEAG steam cotton company,** Salem, Massachusetts

Industrial relations in a New England textile mill; the Pequot mills. G. A. Johnston. Int Labour R 27:471-98 Ap '33

**NAUTICAL instruments**

Harrison's first marine timekeepers. Engineering 135:306 Mr 17 '33

Keeping correct time on board ship, a vital factor in navigation. J. G. Bisset. Il Marine R 63:41+ Ap '33

Macneil fog-eye for navigation. W. G. Barcus. Il Aviation Eng 8:19-20 My '33

New electrical aids to navigation. H. G. Dorsey. Illum Eng Soc Trans 28:299-301 Ap '33

Pitometer log is installed on S.S. Washington. Marine R 63:23 Ag '33; Marine Eng 38:285 Ag '33

*See also*

Direction finding apparatus

Sextant

**NAVAL architects and marine engineers, Society of.** See Society of naval architects and marine engineers

**NAVAL architecture**

Ausländische forschung auf dem gebiet des schiffbaus und ihre auswertung für deutsche verhältnisse. G. Weinblum. Zeit Ver Deutsch Ing 77:1065-9 S 30 '33

Cargo ship design. G. S. Baker. Marine Eng 38:225-6, 265, 293-301 Je-Ag '33

Conte di Savoia, quadruple-screw liner. Il diags Engineering 135:345-8, pl 23 Mr 31 '33

Effect of local hollowing forward with varying type of sections and length of entrance; abstract and discussion. A. F. Lindblad. Engineering 135:469 Ap 28 '33

Experiment and practice in merchant ship design, ancient and modern. G. S. Baker. Marine R 63:17-18+ Je '33

Le ferry-boat Scilla, pour la traversée du détroit de Messine. Il diags Génie Civil 103:417-20 O 28 '33

Die Hamburger schiffahrt in den letzten 50 jahren; technische entwicklung des schiff- und schiffsmaschinenbaues. E. Goos. Zeit Ver Deutsch Ing 76:1137-40 N 19 '32

Highest standard of safety in ship construction set by S. S. Washington. Il Marine Eng 38:198-207+ Je '33

Know your own ship. T. Walton. 26th ed rev 446p \$5 Lippincott '32

Measurements of speed, power, wind resistance, maneuvering ability, deflection, strains. G. Kempf. Il Marine Eng 38:86-9 Mr '33

New hull form is developed for increased economy by Sir Joseph W. Isherwood. Marine R 63:20-1 Mr '33

New Isherwood arcform hull design. diag Marine Eng 38:379 O '33

Sir Joseph Isherwood develops a new ship form. Marine Eng 38:94-5 Mr '33; Abstract. Mech Eng 55:312 My '33

Some observations with regard to the problem of the structural design of the pressure hull of submarines; abstract. R. L. Payne. Engineering 135:484-5 My 5 '33

Structural hazards on shipboard that lead to personal injuries. S. D. McComb. East Underw 33:32+ N 25 '32; Excerpts. Weekly Underw 127:1010-12 N 26 '32; Abstracts. Marine Eng 37:514 D '32; Marine R 62:23-4 D '32; Engineering 135:111 Ja 27 '33

Suggested method for minimising vibrations in ships. C. E. Inglis. diags Engineering 135:445-6 Ap 21 '33; Abstract. Engineer 155:445 My 5 '33; Discussion. Engineering 135:485 My 5 '33

Suggestions for better ship design to increase return on investment. Marine R 62:14-16 O '32; Discussion. J. F. Roos. 63:50 Ap '33

10,000 tons of fighting cat; what a new set of rules did to naval design; the U.S.S. Indianapolis. E. Ellsberg. Il Fortune 7:56-61+ Mr '33

*See also*

Airplane carriers	Ship resistance
Barges	Shipbuilding
Ferryboats	Ships
Freight ships	Steamboats
Ice-breaking vessels	Submarine boats
Marine engineering	Tank ships
Motor ships	Towboats
Propellers	Train ferries
Seatrains	Warships
Ship propulsion	Yachts

**Designs and plans**

Caribia und Cordillera, die doppelschraubenfracht- und fahrgastmotorschiffe der Hamburg-Amerika-linie. E. Goos. diags plans Zeit Ver Deutsch Ing 77:161-70 F 18 '33

Colombia and Haiti, Colombian line steamships. Il diags plans Marine Eng 38:8-21 Ja '33

High strength steel; comparison of liners proposed to be built of special high strength steel and of mild steel. E. P. Trask. Il Marine Eng 38:240-8+ Jl '33; Correction. 38:302 Ag '33

Les paquebots Rex et Conte di Savoia de la société Italia. Il plans Génie Civil 102:149-55 F 18 '33

Problems of Colombian ship design. T. E. Ferris. Il Marine Eng 38:5-7+ Ja '33

Proposed combination passenger and freight vessel for Gulf Pacific mail line. diag plans Marine Eng 38:290-1 Ag '33

Twin-screw tug Awarua. Il diags plan Engineering 134:561, 568 N 11 '32

**Study and teaching**

Education of naval constructors and naval architects; abstract. G. H. Rock. Marine R 62:22-3 D '32

**Tables, calculations, etc.**

Beitrag zur ausbildung von schiffsformen. G. Weinblum. Zeit Ver Deutsch Ing 76:1149-54 N 19 '32

Elastic characteristics of a naval tank vessel; abstracts. W. P. Roop. Marine R 62:24 D '32; Marine Eng 38:28; Discussion. 28-9 Ja '33

New rules for areas, moments and moments of inertia. J. A. Davis. Engineering 135:508-11 My 12 '33

**NAVAL art and science****Terminology**

English-French naval terms, with alphabetical indices. A. R. Bradshaw. 284p Williams & Norgate Ltd, London '32

**NAVAL stores**

Development of naval stores standards. C. E. Smith. Oil Paint & Drug Rep 123:15+ F 6; 27+ F 27 '33

Naval stores conditions and outlook. J. E. Lockwood. Oil Paint & Drug Rep 123:31+ Je 26 '33

Naval stores industry. A. S. Campbell. Manuf Rec 102:44+ S '33

Naval stores market agreement is presented. Oil Paint & Drug Rep 124:31 N 13 '33

*See also*

Association of gum naval stores distributors

Turpentine



## NAVAL stores—Continued

## Statistics

Naval stores. Published in weekly numbers of Oil, paint and drug reporter  
Output in 1931-1932. Oil Paint & Drug Rep 122:29 D 26 '32

## NAVIES

Effect of treaties on naval strength. il Marine Eng 38:398-401 N '33  
Naval construction in 1932. H. C. Bywater. il Engineer 155:6-7, supp 6 Ja 6 '33  
Navy league of United States explains our naval policy to the Navy league of the British Empire. N. M. Hubbard, jr. Marine Eng 38:402-4 N '33  
Sea power and the Diesel engine. E. B. Polister. Marine Eng 38:341-2 S '33

## See also

Disarmament	United States—Navy
Great Britain—Navy	Warships
Submarine boats	

## NAVIGATION

Air almanac for the year 1933. 212p U.S. naval observatory, Washington '32

## See also

Beacons	Radio beacons
Direction finding apparatus	Radio compass
Harbors	River traffic
Hydrographic surveying	Rivers
Lighthouses	Shipbuilding
Maritime law	Shipping
Motor boats	Ships
Motor ships	Sounding
Radio aids to navigation	Steamboats
	Submarine boats
	Waterways
	Yachts

NAVIGATION, Aerial. See Aeronautics; Aviation

## NAVY yards and naval stations

Civil engineering and construction in the U.S. navy; Bureau of yards and docks. il Eng N 110:368-71 Mr 23 '33  
Navy shipping guide showing the location and the mail, telegraph, and shipping addresses of shore stations of the navy. 310p U. S. Bureau of supplies and accounts (Navy dept) Washington '32  
Shore establishment for the navy. R. E. Bakenhus. il Civil Eng 3:443-6 Ag '33

## Safety devices and measures

Preventing accidents in naval construction work. W. E. Hall. il Nat Safety N 27:15-16+ F '33

## NEANDERTHAL race

Neandertal skeletons in Palestine. G. G. MacCurdy. Science 76:sup8 D 23 '32

## NEBRASKA

## Railway commission

Organization and personnel of the Nebraska railway commission. L. L. Durisch. J Land & Pub Util Econ 9:42-51 F '33

## NEBRASKA university

## Bibliography

List of publications by members of the faculty of the University of Nebraska, January 1925 to June 1931 inclusive. C. L. Craig and R. C. Wilder, comps. 147p University of Nebraska, Committee on research projects, Lincoln '32

## NEBULAE

Density of energy in the universe. S. A. Korff. bibliog Phys R 44:300-1 Ag 15 '33  
Electron-nebula ratio. J. D. M. Smith. Soc Chem Ind J (Chem & Ind) 52:364-5 Ap 28 '33

Expanding universe. A. Eddington. 182p Macmillan '33

Misnamed planetary nebulae—what are they? H. N. Russell. il Sci Am 149:12-13 Jl '33

## NECKTIES

And now it's Arrow cravats. il Ptr Ink 161:10+ D 15 '32

Display stand that combines art and merchandise. il Adv & Sell 20:sup [Adv Arts] 34 Mr '33

Idea that opened hundreds of new accounts; Cheney brothers cravats designed from game birds. G. W. Hunter. il Ptr Ink Mo 26:27+ Ja '33

Necktie seller turns buyer. Ptr Ink 162:78 Mr 2 '33

Rayon neckties; better weaving would further increase demand. J. Picone. il Textile World 82:975 N '32

Sales merger gives sectional firm national coverage; Brown & Wells neckwear sold with Faultless pajamas. R. Wells. Ptr Ink 162:59-60 F 9 '33

This display piece helps open new accounts; Bachrach neckties. il Ptr Ink 162:76 Mr 30 '33

## NECROBACILLOSIS

Human necrobacillosis. F. W. Shaw. Science 77:392-3 Ap 21 '33

## NEEDLE bearings

Heavy loads make accurate calculation of needle bearing capacities essential. diags Automotive Ind 68:641-3 My 27 '33

## NEEDLES, Arthur Chase

N. & W. president receives 50-year service insignia. Ry Age 95:96 Jl 8 '33

## NEGLIGENCE

Employee concurrently negligent not precluded from recovery under employer's liability act. Monthly Labor R 36:791-2 Ap '33

Pennsylvania negligence, 1891-1932, indexed, covering 144 to 306 Pennsylvania state reports and 1 to 102 Pennsylvania Superior court reports. H. Rickert, comp. 2d ed 1933p George T. Bisel co, Philadelphia '33

## See also

Damages

## NEGOTIABLE instruments

Commercial law cases, negotiable instruments. H. W. Babb. 265p Blanchard ptg. co, Boston '33

Digest of the law of bills of exchange, promissory notes, cheques, and negotiable securities. M. D. E. S. Chalmers. 10th ed 501p Stevens & sons, ltd, London '32

Law of bills and notes. W. P. Richardson. 4th ed 238p Brooklyn law bookstore, 375 Pearl st, Brooklyn, N.Y. '32

## See also

Acceptances	Commercial paper
Acceptances, Trade	Drafts
Bank notes	Travelers' checks
Bonds	Warehouse receipts
Checks	

## NEGROES in the United States

Negro in America. A. Locke. (Reading with a purpose no68) 64p 50c; pa 35c American library assn, Chicago '33

Negro in New Jersey; report of a survey by the Interracial committee of the New Jersey conference of social work in cooperation with the State department of institutions and agencies. 116p pa \$1 Department of institutions and agencies, Trenton, N.J. '32

Washington conference on the economic status of the negro. Monthly Labor R 37:42-4 Jl '33

## Employment

Accounting as a field for colored men. I. M. Martin. J Account 55:112-16 F '33

Forgotten tenth; an analysis of unemployment among negroes in the United States and its social costs: 1932-1933. 63p pa 35c National urban league, 1133 Broadway, New York '33 [publishes a series of pamphlets on negro employment]

## Housing

Negro housing proposed for Richmond, Va. A. Kastner. il diags plans Arch Rec 73:164-8+ Mr '33

## NEILLY, Balmer

Portrait. Can Min J 54:174 My '33

## NEOARSPHENAMINE. See Neosalvarsan

## NEOCARMIN

Neocarmin W; a reagent for the quick recognition of all textile fibers. Meliland 5:179-80 Ag-S '33

**NEODYMIUM**

Crystalline fields of Pr, Nd and Yb from paramagnetic susceptibilities. W. G. Penney. *Phys R* 43:485-90 Mr 15 '33

Observations on the rare earths; the transference numbers of the chlorides of neodymium, samarium and gadolinium. G. Hughes and others. *Am Chem Soc J* 55:3236-42 Ag '33

Paramagnetism and the molecular field of neodymium. P. W. Selwood. *diags Am Chem Soc J* 55:3161-77 Ag '33

Radioactivity of lanthanum, neodymium and samarium. W. F. Libby and W. M. Latimer. *Am Chem Soc J* 55:433 Ja '33

**NEOMENTHOL**

Researches in the menthone series; diagnosis and characterisation of the stereoisomeric menthols. J. Read, W. J. Grubb and D. Malcolm. *Chem Soc J* p170-3 F '33

Researches in the menthone series; the complete optical resolution of *dl*-neomenthol by means of *l*-menthol. J. Read and W. J. Grubb. *Chem Soc J* p167-70 F '33

**NEON**

Charge distributions in fluorine and neon. F. W. Brown. *Phys R* 44:214-23 Ag 1 '33

Disintegrations of neon nuclei by fast neutrons. W. D. Harkins, D. M. Gans and H. W. Newson. *il Phys R* 44:236-7 Ag 1 '33

Elastic electron scattering in neon. A. L. Hughes and J. H. McMillen. *diag Phys R* 43:875-82 Je 1 '33

Infra-red spectra of neon, argon, and krypton. W. F. Meggers and C. J. Humphreys. *U S Bur Stand J Research* 10:427-48 Ap '33

Ionization of argon, neon and helium by A. Ne and He atoms. C. J. Brasefield. *diag Phys R* 43:785-7 My 15 '33

Isotope shift in neon. J. H. Bartlett, jr. and J. J. Gibbons, jr. *Phys R* 44:538-43 O 1 '33

Light excitation in neon by lithium ions. A. J. Dempster and R. E. Holzer. *Phys R* 43:365-6 Mr 1 '33

Masses of Ne<sup>20</sup> and Be<sup>11</sup>; the mass of Ne<sup>23</sup> and the disintegration of F<sup>19</sup>. K. T. Bainbridge. *bibliog il Phys R* 43:424-7 Mr 15 '33

Neon tube oscillators. D. Pollack. *diags Radio N* 14:409-10 Ja '33

Neutralization and ionization of high-velocity ions of neon, argon and krypton by collision with similar atoms. H. F. Batho. *bibliog diag Phys R* 42:753-65 D 15 '32

Secondary emission from collectors in neon discharge. C. Spiwak and E. Reichrudel. *Phys R* 42:580-1 N 15 '32

Some factors affecting action cross section for collisions of the second kind between atoms and ions. O. S. Duffendack and K. Thomson. *Phys R* 43:106-11 Ja 15 '33

**NEON lamps.** See Electric lamps, Neon

**NEOPENTANE.** See Tetramethylmethane

**NEOSALVARSAN**

Relation between the trypanocidal and spirocheticidal activities of neosarsphenamine. T. F. Probey. *bibliog Pub Health Rep* 48:758-64 Je 30 '33

Relation between trypanocidal and spirocheticidal activities of neosarsphenamine; uniformity of effect of different types of neosarsphenamine on the serological reactions in human syphilis. M. Buchholtz and T. F. Probey. *Pub Health Rep* 48:166-9 F 17 '33

**NEPHELITE**

New source of alumina; Russian investigations anticipate use of nephelite. *Chem Age (Lond)* 28:193 Mr 4 '33; Same. *Can Min J* 54:153 Ap '33

**NEPHELOMETRIC analysis**

Nephelometric determination of chloride. I. M. Kolthoff and H. Yutzy. *bibliog Am Chem Soc J* 55:1915-22 My '33

**NERVES**

Chemical mediators of autonomic nerve impulses. W. B. Cannon. *bibliog Science* 78:43-8 Jl 21 '33

Cutaneous sensation. S. W. Ranson. *bibliog Science* 78:395-9 N 3 '33

In vitro respiration of nerve; abstract. T. H. Chang, R. W. Gerard and M. Shaffer. *Science* 76:571 D 16 '32

Local electric anesthesia. F. Peterson. *Science* 77:326 Mr 31 '33

Mechanism of nervous action. E. D. Adrian. 103p \$2 Univ. of Pennsylvania press, Philadelphia '32

Method of outlining cutaneous nerve areas. I. M. Thompson and V. T. Inman. *diags Science* 77:216-17 F 24 '33

Motion pictures of the growth of nerve fibers. C. C. Speidel. *Science* 77:sup9-10 Ja 6 '33

**NERVOUS system**

Colloid chemistry of the nervous systems. W. D. Bancroft and J. E. Rutzler, jr. *J Phys Chem* 36:3162-74 D '32

Neuro-embryologic study of behavior; principles, perspective and aim. G. E. Coghill. *Science* 78:131-8 Ag 18 '33

**Diseases**

Infections of the central nervous system; an investigation of the most recent advances. 563p Williams & Wilkins co, Baltimore '32

**NESSLER reagent**

Photometric investigation of Nessler reaction and Witting method for determination of ammonia in sea water. H. E. Wirth and R. J. Robinson. *bibliog Ind & Eng Chem Anal* ed 5:293-6 S 15 '33

Spectrographic analysis of the Nessler-ammonia reaction; abstract. C. B. Allsopp and C. G. L. Wolf. *Soc Chem Ind J (Chem & Ind)* 52:160 F 24 '33

**NETHERLANDS**

See also

Cost of living—Neth- Wages—Nether-  
erlands lands

**Commercial policy**

Dutch renouance tariff truce. *Business Week* p24 S 9 '33

**Economic conditions**

Balancing the budget; foreign trade; signs of recovery. *Economist* 117:673-4 O 7 '33  
Holland in 1932. *Economist* 116:sup17 F 18 '33

**NEUBERG'S reagent**

Determination of amino acids and related compounds in honey. R. E. Lothrop and S. I. Gertler. *bibliog Ind & Eng Chem Anal* ed 5:103-5 Mr 15 '33

**NEUROSES, Traumatic**

Functional neuroses; their nature and relation to injury. G. T. Harding. *U S Bur Labor Statistics Bul* 577:182-8; Discussion. 188-9 '33

**NEUTRONS**

Artificial production of neutrons. *Science* 77:sup8 Ja 27 '33

Artificial production of neutrons. H. R. Crane, C. C. Lauritsen and A. Soltan. *Phys R* 44:514 S 15 '33

Atomic disintegration by a relatively slow neutron. W. D. Harkins, D. M. Gans and H. W. Newson. *il Phys R* 43:208-9 F 1 '33

Collisions of neutrons with protons. F. N. D. Kurie. *il diags Phys R* 44:463-7 S 15 '33

Dependence of the absorption of neutrons on their velocity. T. W. Bonner. *Phys R* 44:235 Ag 1 '33

Deutons creating neutrons as cause of atomic disintegration. *Science* 78:sup8 O 6 '33

Disintegration of the nuclei of nitrogen and other light atoms by neutrons. W. D. Harkins, D. M. Gans and H. W. Newson. *il diags Phys R* 44:529-37 O 1 '33

Disintegrations of neon nuclei by fast neutrons. W. D. Harkins, D. M. Gans and H. W. Newson. *il Phys R* 44:236-7 Ag 1 '33

Effective neutron collision radius. I. I. Rabi. *Phys R* 43:838 My 15 '33

Emission of  $\gamma$ -rays by nuclei excited by neutrons, and nuclear energy levels. W. D. Harkins. *Phys R* 43:362-3 Mr 1 '33

Ionization of gases by neutrons. T. W. Bonner. *diag Phys R* 43:871-4 Je 1 '33

Knowledge on the neutron. J. Chadwick. *Chem Age (Lond)* 28:508 Je 3 '33



**NEUTRONS—Continued**

- Mass defect of helium. E. Wigner. *Phys R* 43:252-7 F 15 '33  
 Neutron. F. N. D. Kurie. *Science* 77:sup8-9 Mr 3 '33  
 Neutron of high velocity, and energy relations for nuclear disintegration by non-capture. W. D. Harkins, D. M. Gans and H. W. Newson. *Phys R* 43:584-5 Ap 1 '33  
 Neutron, the atomic nucleus and mass defects. W. D. Harkins. *Am Chem Soc J* 55: 855-7 F '33  
 Neutrons. K. K. Darrow. *bibliog R Sci Instr* 4:58-64 F '33  
 Neutrons and atomic nuclei; abstract. W. D. Harkins. *Science* 77:458 My 12 '33  
 Neutrons in the nucleus. A. Landé. *Phys R* 43:620-6 Ap 15 '33  
 Neutrons made by high voltage. *Science* 78: sup9 S 29 '33  
 Production of neutrons by high speed deuterons. H. R. Crane, C. C. Lauritsen and A. Soltan. *Phys R* 44:692-3 O 15 '33  
 Protons and neutrons. M. Delbruck. *Science* 76:sup9 N 18 '32  
 Scattering and absorption of neutrons. J. R. Dunning and G. B. Pegram. *Phys R* 43: 497-8 Mr 15 '33

**NEVADA**

*See also*  
 Earthquakes—Nevada

**Antiquities**

*See also*  
 Gypsum cave, Nevada

**NEVUS. See Mole (dermatology)****NEW AMSTERDAM casualty company**

1932 results given. *East Underw* 34:38 F 3 '33

**NEW CALEDONIA**

*See also*  
 Mines and mineral resources—New Caledonia

**NEW CASTLE, New York****Water supply**

Solving a suction-lift problem in an automatic pumping station. E. I. McCaffery. *plan Am Water Works Assn J* 25:321-6 Mr '33

**NEW ENGLAND**

New England's classic contributions to hydraulic science. C. W. Sherman. *N E Water Works Assn J* 47:153-63 Je '33

*See also*  
 Rain and rainfall—New England  
 Retail trade—New England

**Commerce**

Aid for analyzing the market for general consumer goods in New England. 17p U. S. Bur. of foreign and domestic commerce, Washington '33

**Economic conditions**

New England's prospect: 1933. J. T. Adams and others. 502p American geographical society of New York, New York '33

**Industries and resources**

New England rehabilitation projects now at \$2,613,000. *Am Mach* 77:16d Ja 4 '33

**NEW ENGLAND association of insurance agents**

Annual convention, 12th, Boston, June 9. *Weekly Underw* 128:1099-1101, 1142+ Je 10-17 '33; *East Underw* 34:10+ Je 16 '33

**NEW ENGLAND council**

New England organizes for business recovery. *Factory & Ind Management* 83:466-7 D '32

**NEW ENGLAND gas association**

Annual business conference, 7th, Boston, Feb. 16-17. *Gas Age* 71:189-90+ F 25 '33

**NEW ENGLAND ice dealers association**

Annual convention, 5th, Springfield, Mass. March 29-30. *Refrig W* 68:29-32 Ap '33

**NEW ENGLAND institute of chemical distribution**

New England chemical distributors form an institute. *Chemicals* 38:1 Jl 24 '33

**NEW ENGLAND intercollegiate geological excursion**

Annual excursion, 28th, Providence and Newport, Oct. 14-15. *Science* 76:465-6 N 18 '32

**NEW ENGLAND mutual life insurance company**

Assets set new high. *East Underw* 34:4 F 17 '33

Reports active year. *Ins Field (Life ed)* 62:10 Ja 27 '33; *Weekly Underw* 128:268 F 4 '33

**NEW ENGLAND sewage works association**

Fall meeting, Bridgeport, Conn. Oct. 17. *Water Works & Sewerage* 79:381-3 N '32

**NEW ENGLAND water works association**

Annual convention, 51st, Springfield, Mass. Sept. 27-30. *N E Water Works Assn J* 46: 406-27 D '32

Annual meeting, 52d, Bridgeport, Conn. Sept. 19-22. *Eng N* 111:384-6 S 28 '33; *Water Works & Sewerage* 80:355-63 O '33

**NEW GUINEA**

*See also*  
 Gold mines and mining—New Guinea

**NEW JERSEY**

Philadelphia Tri-state regional plan in New Jersey. H. J. Sherman. *il Civil Eng* 2:726-8 D '32

*See also*  
 Sewerage—New Jersey  
 Water supply—New Jersey

**Commerce**

Aid for analyzing markets in New Jersey. 16p U. S. Bur. of foreign and domestic commerce, Washington '33

**NEW JERSEY association of underwriters**

Annual meeting, Atlantic City. *Ins Field (Fire ed)* 62:9+ S 21 '33; *Nat Underw* 37:3+ S 21 '33

**NEW JERSEY gas association**

Annual convention, 15th, Camden, March 16. *Gas Age* 71:304+ Mr 25 '33

**NEW MARKETS. See Markets, New****NEW MEXICO**

Santa Fe trail of today and yesterday. L. A. Luther. *il Comp Air M* 38:4039-42 Ja '33

**Antiquities**

Arrowheads found with new Mexican fossils. *Science* 76:sup12-13 N 25 '32

**Sanitary affairs**

Malaria in the irrigated regions of New Mexico. M. A. Barber and L. R. Forbrich. *map Pub Health Rep* 48:610-23 Je 2 '33

**NEW models. See Automobile industry and trade—New models; Products, Improved****NEW ORLEANS**

New Orleans business outlook. A. J. Mann. *Comm & Fin* 22:387+ Ap 26 '33

**Architecture**

New Orleans; its old houses, shops and public buildings. N. C. Curtis. 267p \$3.50 Lippincott '33

**Bridges**

Contracts signed for large bridge at New Orleans. *Eng N* 110:34 Ja 5 '33  
 Foundations get under way on New Orleans bridge. *il diags Eng N* 111:189-91 Ag 17 '33  
 Mississippi River bridge at New Orleans will accommodate both railway and highway traffic. *diag Ry Age* 94:700 My 13 '33  
 Work progresses on \$15,000,000 Mississippi River bridge. *il Manuf Rec* 102:24+ N '33

**Harbor**

Port of New Orleans, Louisiana. (Port ser. no. 5) rev 1932 231p U. S. Engineer dept. Board of engineers for rivers and harbors, Washington '32

**Rapid transit**

Transit in New Orleans. *il Transit J* 77:148 My '33

**NEW ORLEANS cotton exchange**

New Orleans cotton exchange. R. Clark. *Comm & Fin* 22:27 Ja 11 '33

**NEW packages.** See Package goods—New packages

**NEW products.** See Products, New

**NEW uses.** See Advertising copy—Use appeal; Markets, New

#### NEW YORK (city)

Budget less Broddingnagian; some cheer for the taxpayers of New York. J. P. Broderick. Barron's 13:5+ Ja 30 '33

City gets breathing spell; how the June obligations were met. Barron's 13:15 Je 12 '33

Gotham's chronic fiscalitis. Econostat 1:5-6 Ag 5 '33

Metropolis viewed at dusk; photographs by Samuel H. Gottscho. Arch Rec 74:front N '33

New York city finances. Nat City Bank p10-12 Ja '33

New York headache; the big city faces a financial crisis. Business Week p13 Ag 19 '33

Plan which saved New York city's credit. Trust Companies 57:442 O '33

Port of New York authority. il Fortune 8:22-31, 118-19 S '33

Real New York. H. Worden. 401p \$2.50 Bobbs '32

Unique uniqueness. F. Richards. Comp Air M 38:4152-3 Je '33

What is expected of the fire insurance companies in connection with the New York city refinancing plan. Spectator 131:29+ O 12 '33; Same. Weekly Underw 129:708 O 14 '33; Same abr. East Underw 34:40+ O 13 '33

See also

Banks and banking— Taxation—New York  
New York (city) (city)

Electricity supply— Unemployment—  
New York (city) New York (city)

Housing—New York  
(city)

#### Architecture

House of Vincent Astor; views and plans. Architecture 67:217-22 Ap '33

Some unsolved problems in high building. H. S. Swan. J Land & Pub Util Econ 9:25-36 F '33

See also

Empire State build- Housing—New York  
ing (city)

#### Bridges

Brooklyn bridge—a half century of service. E. A. Byrne. il Civil Eng 3:299-303 Je '33

East River bridge traffic, New York city. Eng N 109:772 D 29 '32

See also

Hudson River bridges

#### Charities

Chronic illness in New York city. M. C. Jarrett. 2v 258p, 287p tables ea \$5 Columbia univ. press '33

#### Churches

All Souls Unitarian church, New York city; views and plan. Arch Rec 73:24-8 Ja '33

#### Commerce

Current economic data pertaining to the Port of New York. (In Commerce Bul v 4, no 10, p127-40) Port of New York authority, 80 8th av, New York '32

#### Foreign population

Sales opportunities widen in Italian-American market. L. M. Hughes. il Sales Management 32:58-60+ Ja 15 '33

#### Harbor

How explosives made New York harbor safer; illustrations from the files of the N.Y. daily graphic of 58 years ago. Explosives Eng 11:205-12 Ji '33

Improvement of Hudson river by narrowing the navigable fairway. L. J. Bevan. map Am Soc C E Proc 58:705-12 My '32; Discussion. 58:1428-38; 59:477-9 O '32, Mr '33

Multi-risk cover in New York harbor. Weekly Underw 128:631 Ap 1 '33

New York piers for 1,000-ft. ships. il diags plan Eng N 111:123-8 Ag 3 '33

Piers for superliners; new ocean terminal in New York. C. H. Vivian. il Comp Air M 38:4048-53 F '33

Rockaway Point jetty stops sand drift in New York harbor. il maps Eng N 110:547-9 My 4 '33

#### Hospitals

Reliability—keynote of hospital power plant; New York hospital medical center. W. H. Fisher. il Power 77:398-401 Ag '33

See also

Columbia-Presbyterian medical center, New York

#### Metropolitan district

From plan to reality. 142p Regional plan assn, inc. 400 Madison av, New York '33

Regional planning produces results in New York region. Eng N 110:543 Ap 27 '33

#### Metropolitan museum of art

Art of the Metropolitan museum of New York. D. C. Preyer and D. Adlow. rev ed 466p \$5 Page co, Boston '33

#### Police

Radio patrol system of the city of New York. F. W. Cunningham and T. W. Rochester. il map Inst Radio Eng Proc 21:1239-51 S '33

#### Politics and government

New York and the Seabury investigation. J. Dewey, ed. 48p City affairs committee of New York, New York '33

See also

Tammany Hall

#### Post office

Development of air rights entails difficult substructure work; more than 200 column footings placed at the Pennsylvania station, New York, for post office extension. il plan Ry Age 95:342-5 S 2 '33

#### Railroads

Cooperation simplifies the shippers' job; Union freight terminal, New York. il Nation's Business 21:24-5 F '33

Eastern railways unifying N. Y. harbor operations. Ry Age 95:199-200 Ji 29 '33

New union inland freight station opened at New York. il plan Ry Age 94:440-3 Mr 25 '33

Off-rail union terminal built in New York by Port of New York authority. il plans diags Eng N 109:768-71 D 29 '32

#### Rapid transit

Fifth Avenue lines held legal emergency routes franchised. Bus Transportation 12:112-13 F '33

New York railways to adopt buses. il map Transit J 77:308-9 O '33

New York's East Side lines start service. il map Bus Transportation 12:269-72 Ji '33

Transit-unification discussion to fore again. Barron's 13:7 Mr 27 '33

See also

New York (city)—  
Subways

#### Rockefeller Center

Air conditioning a broadcasting studio; ductwork N.B.C. studios in tower of Radio City; illustrations. Heat & Ven 30:30 Mr '33

Début of a city. il plan Fortune 7:62-7 Ja '33

Entertainment treasure house; Music hall at Rockefeller Center. A. A. Hopkins. il Sci Am 148:152-3 Mr '33

Erecting roof trusses in Rockefeller Center. il diags Eng N 109:614-17 N 24 '32

Home furnishings trend foreshadowed by Radio City textiles. il Textile World 83:247-50 F 14 '33



**NEW YORK (city)**—Rockefeller Center—*Cont.* Ideal office environment available in new Radio City buildings. *il* Management Methods 62:62-3 F '33

Interesting previews of the world's greatest broadcast metropolis; Radio City. S. Kaufman. *il* Radio N 15:332-3+ D '33

Lighting in the Radio City theatres. S. R. McCandless. *il* Illum Eng Soc Trans 28:665-83 S '33

Magnificent mosaic for Rockefeller Center. R. G. Skerrett. *il* Comp Air M 38:4057-61 F '33

Main entrance, British Empire building; views. *Am Arch* 143:50-1 J1 '33

Meters guide operations at Rockefeller Center. *il* Power 77:572-4 N '33

Planning. *il* diags plans Eng N 109:579-99 N 17 '32

Radio City. W. Lippman. *Am Arch* 143:18 Mr '33

Radio City air conditioning includes some steam-jet refrigeration. A. Merle. *il* diags Power 77:449-52 S '33

Radio City; air conditioning systems in the Radio City and Roxy theatres; illustrations. Heat & Ven 30:41 F '33

Radio City—from real estate to art. M. L. Werner. *Econostat* 1:16 Mr 25 '33

Radio City music hall and RKO Roxy theater; views and plans. *Arch Forum* 58:153-64 F '33

Radio City to have world's largest air conditioning system. *Refrig W* 67:36 D '32

Radio City's British Empire building completely air conditioned. A. Merle. *il* diags Heating-Piping 5:239-41+ My '33

RCA building, Rockefeller Center, New York; views and plans. *Arch Forum* 59:273-8 O '33

Radio-Keith-Orpheum theatre; views and plans. *Am Arch* 142:41-54 D '32

Refinement in controls marks Radio City music hall. *il* diags Elec W 102:277-82 Ag 26 '33

Rockefeller Center. *Elec J* 30:34-5 Ja '33

Rockefeller Center. 38p Rockefeller Center, inc. New York '32

Rockefeller Center elevators operate at 1,200 f.p.m. *il* Power 77:395-7 Ag '33

Rockefeller Centre in New York city. R. Fleming. *il* plan Engineering 136:53-5 J1 21 '33

Rockefeller Center makes progress in the difficult years of depression. *il* Bradstreet's 61:182-3 Ja 23 '33

Story of Rockefeller Center; allied arts. E. Clute. *il* Arch Forum 58:128-32 F '33

Theatres at Radio City. *il* Stevens Ind 50:4-6 F '33

#### Sewerage

Construction of Wards Island sewage treatment works ahead of schedule. R. H. Gould. *il* Civil Eng 3:154-7 Mr '33

#### Streets

Control of pavement cuts; practice in New York city. R. A. MacGregor. *Civil Eng* 3:161-3 Mr '33

Development of Queens boulevard, Borough of Queens; program of a three-part competition. *il* plan Arch Rec 73:10-14 Ja '33

Queens Boulevard competition prizes. *il* Arch Rec 73:432-7 Je '33

Scant headroom complicates grade-separation problem on Queens boulevard. S. G. Koon. *plan Eng N* 110:53 Ja 12 '33

Trends in highway traffic in the New York region. *Eng N* 110:372-3 Mr 23 '33

West Side elevated highway, New York city. *il* Roads & Sts 76:218 Je '33

#### Subways

Advances in subway design and equipment; review of various developments for New York system. A. I. Raisman. *il* diags Civil Eng 3:21-5 Ja '33

Bright lights for parked subway cars. R. W. Cost. *il* plan Elec J 30:121 Mr '33

New York Independent subway extended. *il* map Transit J 77:239-40 Ag '33

Noiseless car developed by Interborough rapid transit. *il* diag Transit J 77:281-2 S '33

Opening of Eighth Avenue subway outstanding event in rapid transit. *Transit J* 77:19 Ja '33

#### Tunnels

Contract signed for PWA loan for Hudson tunnel. *Eng N* 111:296 S 7 '33

#### Water supply

Deep tunnels for delivery of water supply. W. E. Spear. *il* diag map Civil Eng 3:122-5 Mr '33

Underground waste detection as a factor in the New York water conservation program. F. B. Nelson. *Am Water Works Assn J* 24:1709-14; Discussion. 1714-16 N '32

#### NEW YORK (state)

##### Insurance department

Companies can avoid more stringent insurance supervision; interview with G. Van Schaick. C. Axman. *East Underw* 34:21+ Ja 20 '33

New York department now has advisory board. *East Underw* 34:3+ My 5 '33

Van Schaick seeks to define special powers; case of Tibbets vs. Bond & mortgage guaranty company affords opportunity. *Spectator* 131:33 J1 27 '33

##### NEW YORK board of trade

Drug, chemical, and allied trades section Annual meeting, Jan. 12. *Oil Paint & Drug Rep* 123:17+ Ja 16 '33; Chemicals 38:12 Ja 23 '33

##### NEW YORK botanical garden

Activities financed by Emergency unemployment relief committee's women's work bureau. *Science* 78:276 S 29 '33

Annual meeting of corporation, Jan. 9. *Science* 77:82-3 Ja 20 '33

##### NEW YORK Central railroad

Annual report, year ended December 31, 1932. *Ry Age* 94:816 Je 3 '33

Basis for confidence in New York Central. D. Hovey. *il* map Barron's 13:3, 7 Je 12; 6-7+ Je 19 '33

Delaware & Hudson gets 10% interest in Central. *Barron's* 13:10 Ja 30 '33

New York Central in 1932. *Ry Age* 94:822-3 Je 10 '33

Stocks which should see better prices this fall. *Mag of Wall St* 52:483-4 S 2 '33

Tide turns for New York Central. *Econostat* 1:14-15+ Je 10 '33

Why did D. & H. buy into N.Y. Central? P. H. Fulton. *Mag of Wall St* 51:482+ F 18 '33

##### NEW YORK clearing house

Clearing house organized; plans made public at organization 80 years ago. *il* Am Bankers Assn J 26:82 S '33

Wall St. vs. Woodin; guarantee of Harriman bank deposits. *Business Week* p18 Ap 19 '33

##### NEW YORK cotton exchange

Cotton year book of the New York cotton exchange, 1932. 211p charts tables New York cotton exchange, New York '32

##### NEW YORK curb exchange

Curb curbed; new rules on trading in unlisted stocks and bonds. *Business Week* p17-18 J1 29 '33

On the New York Curb; weekly sales and prices. Published in weekly numbers of Barron's

Quotations. Published in Magazine of Wall Street

Record of New York curb exchange in 1932. *Mag of Wall St Manual* p15-18 Mr 6 '33

Representative bonds on the New York curb exchange. *Mag of Wall St Manual* p31 Mr 6 '33

Transactions. Published in weekly numbers of Annalist

Transactions, 1932. *Annalist* 41:128-33 Ja 20 '33

##### NEW YORK fire insurance exchange

Eighty-eight per cent favor exchange rules. *Weekly Underw* 128:909 My 13 '33

Urged 15 changes in exchange pact. *Nat Underw* 37:3+ My 4 '33

**NEW YORK life insurance company**

Alfred E. Smith elected to New York Life board. East Underw 34:13 JI 14 '33  
Reaching two billions of assets. East Underw 34:4 Mr 3 '33; Ins Field (Life ed) 62:8 F 24 '33

**NEW YORK, New Haven & Hartford railroad**

Moderate risks for large profits. Mag of Wall St 51:362 Ja 7 '33  
Recovery lags. Econostat 1:13, 32 N 4 '33

**NEW YORK, Ontario & Western railway**

What is the investment outlook for these companies? Mag of Wall St 51:404 Ja 21 '33

**NEW YORK produce exchange securities market**

Transactions. Published in weekly numbers of Annalist  
Transactions, 1932. Annalist 41:139 Ja 20 '33

**NEW YORK real estate exchange**

Transactions, 1932. Annalist 41:139 Ja 20 '33

**NEW YORK shipbuilding corporation**

Cord—shipbuilder. Business Week p23 Ag 12 '33

**NEW YORK state association of local agents, incorporated**

Annual convention, 51st, New York. East Underw 34:23-4, 26 My 26 '33; Ins Field (Fire ed) 62:8+ My 25 '33; Spectator 130:33 My 25 '33; Weekly Underw 128:998-9 My 27 '33

**NEW YORK state barge canal**

Barge canal activity anticipated this year. Weekly Underw 128:678+ Ap 8 '33

**NEW YORK state college of ceramics. See Alfred university—New York state college of ceramics****NEW YORK stock exchange**

Accountants and the New York stock exchange. J Account 55:241-6 Ap '33

Bond market record in 1932. Mag of Wall St Manual p25-30 Mr 6 '33

Bond transactions. Published in weekly numbers of Annalist

By-the-way; highlights and sidelights in the history of the New York stock exchange. Bradstreet's 61:365, 403 F 18-25 '33

Critical year for the N.Y. stock exchange. II Bradstreet's 61:130-6 Ja 28 '33

Exchange reform and the whip; no evidence that reforms were made under Washington pressure. J. S. Lawrence. Econostat 1:8-10 Ag 12 '33

Is federal control of the stock exchange needed? J. C. Clifford. Mag of Wall St 53: 18-19+ O 28 '33

London buying; England's United States investments. II Fortune 8:32-3, 124-7+ S '33

New York stock exchange price range of active stocks. Published in bi-weekly numbers of Magazine of Wall Street

No business; stock exchange closing third in history. Comm & Fin 22:231 Mr 8 '33

On the stock exchange; weekly sales and prices. Published in weekly numbers of Barron's

Record of New York stock exchange in 1932. Mag of Wall St Manual p11-14 Mr 6 '33

Report for 1931-32 year. R. Whitney. Barron's 12:4 D 19 '32

Report of the president, 1931-1932. 98p, 24p, 14 charts New York stock exchange, New York '32

Splendid accomplishment; report prepared by a committee of the American institute of accountants. J Account 55:161-8 Mr '33

Stock exchange again under political pressure. T. F. Woodlock. Barron's 13:4 Ja 30 '33

Stock exchange; its economic function. H. G. S. Noble. 91p \$1.50 Harper '33

Stock exchange's Newark move. Barron's 13:14 S 25; 4 O 2 '33

Stock transactions. Published in weekly numbers of Annalist

Transactions, 1932. Annalist 41:116-27 Ja 20 '33

Wall Street and Mulberry street. II Business Week p12-14 S 30 '33

Wall Street housecleaning. Business Week p11-12 Ag 12 '33

Wall Street prepares to move. J. S. Lawrence. Econostat 1:8-10 S 23 '33

Wall Street roundabout. Economist 117:133-4 JI 15 '33

Wall Street swings. Economist 117:237-8 JI 29 '33

Will new exchange rules curb abuses? Forbes 32:15-16 Ag 15 '33

See also

New York curb exchange

**Rules**

Stock exchange demands audit of listed companies. J Account 55:81-8 F '33

**Senate investigation**

See Stock exchange—Senate investigation

**NEW YORK telephone company**

1932 report. Barron's 13:13 Mr 13 '33

**NEW YORK Times**

New York Times index, annual cumulative volume, year 1932. 2733p N. Y. Times co, Times Square, N.Y. '33

**NEW YORK university****History**

New York university, 1832:1932. T. F. Jones, ed. 459p Oxford '33

**NEW ZEALAND**

See also

Labor and laboring Land tenure—New  
classes—New Zea- Zealand  
land

**Commerce**

Trade opportunities in New Zealand. Chem Age (Lond) 27:507 N 26 '32

**Economic conditions**

New Zealand in 1932. Economist 116:sup28 F 18 '33

**NEWARK, New Jersey****Bridges**

Three-level crossing involves interesting bridges; flat-slab structure carries Lehigh Valley over new highway. A. B. Cohen. II diag plan Ry Age 94:236-9 F 18 '33  
Three-level rail and road crossing. A. B. Cohen. II diags Eng N 110:179-83 F 9 '33

**Rapid transit**

Transit in Newark. II Transit J 77:273 S '33

**Sewerage**

Liner plates 18 years old show little corrosion; old Passaic Valley sewer, Newark. J. S. Unger. II Eng N 110:337-8 Mr 16 '33

**NEWARK, New York****Sewerage**

New activated sludge treatment plant, Newark. G. D. Holmes. II plan Water Works & Sewerage 80:159-62 My '33

**NEWCOMEN society for the study of the history of engineering and technology**

Summer meeting, Cornwall. Engineer 155:632-3 Je 23 '33

**NEWFOUNDLAND**

See also

Geology—Newfoundland

**Commerce**

Trade in Newfoundland. Chem Age (Lond) 29:208 S 2 '33

Trade of Newfoundland. Engineering 136:230 S 1 '33

**NEWPORT, Rhode Island**

Newport, Rhode Island. II map Fortune 8:56-67+ S '33

**NEWS agencies. See Press agencies****NEWS photographs**

News photography. J. Price. 165p Industries pub. co, New York '32

**NEWSPAPER advertising awards**

Make Chicago newspaper advertising awards. Ptr Ink 163:77 My 25 '33

**NEWSPAPER advertising executives association**

Annual meeting, Grand Rapids. Ptr Ink 164: 69+ JI 6 '33



**NEWSPAPER carriers**

Newspaper district management. L. Smith. 184p L. Smith, Kansas City Kansan, Kansas City, Kan. '33

**NEWSPAPER ethics**

Is this cartoon worth \$100,000? 125 West Coast newspapers warned by advertising agency. il Refrig W 68:10-12+ Ja '33

**NEWSPAPER libraries**

Newspaper libraries, a symposium. Z. P. Trotter and others. Special Lib 23:427-34 D '32

Newspaper reference methods. R. W. Desmond. 229p [biblog p209-21] \$2.50 Univ. of Minnesota press, Minneapolis '33; Review. Special Lib 24:185 O '33

Report on classification. Special Lib 23:445-7 D '32

Tenth conference of newspaper librarians. W. Alcott. Special Lib 23:435 D '32

**NEWSPAPER offices**

Newspaper building floor designed for 2,100-lb. load; Times-Star building in Cincinnati, supported with pipe-pile foundations. W. A. Lensky. il plans Eng N 110:586-8 My 11 '33

**Power**

Low-current starting of 1000-kw converters; the conversion equipment of the Cincinnati Times-Star. L. O. Dorfman and E. L. Blankenbaker. il diag Elec J 30:418-20 O '33

**NEWSPAPER publishers association, American.**

See American newspaper publishers association

**NEWSPAPERS**

Circulation guarantees, taxes and inflation discussed by A.N.P.A. Ptr Ink 163:60-1 My 4 '33

Headlines and deadlines; a manual for copyeditors. R. E. Garst and T. M. Bernstein. 217p \$2.75 Columbia univ. press '33

Newspaper writing and editing. W. G. Bleyer. rev & enl ed 482p \$2.25 Houghton '32

Newspapers need 10,000 planes in next decade. J. V. Piersol. S A E J 32:164 Ap '33

Newspapers of the future. S. P. Weston. Pulp & Pa of Can 34:5-6 Ja '33

Newspaper's position under the Securities act. P. S. Hanna. il Adv & Sell 21:21 S 28 '33

Rival newspapers in one plant; Tribune and Journal of Albuquerque, N.M. Ptr Ink 162:27 F 23 '33

**See also**

Advertisements,  
Classified  
Advertising, Solicit-  
ing of  
Advertising mediums  
—Newspapers  
American newspaper  
publishers' asso-  
ciation  
Audit bureau of cir-  
culations  
Journalism

Newspaper ethics  
Newspaper libraries  
Newspaper offices  
Newspaper paper  
Periodicals  
Printing, Practical  
Publicity  
Radio broadcasting—  
Newspaper rela-  
tions  
Reporting  
Trade journals

**Advertising**

Good newspaper promotion as a space buyer sees it. J. J. Hartigan. Ptr Ink 164:47-8 Jl 13 '33

Linage in newspaper promotion. Ptr Ink 164:26-7 Jl 6 '33

**Advertising rates****See Advertising—Rates****Advertising service**

Is free market research worth just what it costs? Sales Management 33:118+ Ag 1 '33

Newspaper rates not high, says Standard Oil executive. Ptr Ink 165:57-8 O 26 '33

Selective selling with the aid of newspapers. Sales Management 33:372-3 O 10 '33

**Circulation**

Sunday News sale hits 2,000,000; Tribune's baby is growing up. Sales Management 33:448+ N 1 '33

**Comic strip**

Funny papers. il Fortune 7:44-9+ Ap '33

**Directories**

Political handbook of the world, parliaments, parties and press as of January 1, 1933. W. H. Mallory, ed. 202p \$2.50 Harper '33

**Employees**

Periodical and newspaper publishers submit codes. Adv & Sell 21:26+ Ag 17 '33

Typographical union, San Diego, Calif., newspapers; arbitration. Monthly Labor R 35:1120-1 N '32

**Finance**

Newspapers can and ought to make a profit on commercial printing. B. O. Brown. Inland Ptr 90:63-5 F '33

**Financial news**

Proper interpretation of financial news; opportunity of banks to cooperate with the press. R. W. Robey. Trust Companies 57:397-8 O '33

**Headlines**

Headlines and deadlines; a manual for copyeditors. R. E. Garst and T. M. Bernstein. 217p \$2.75 Columbia univ. press '33

Past tense in headlines. Inland Ptr 91:34 Ag '33

**Illustrations**

News photography. J. Price. 165p Industries pub. co, New York '32

Poor makeready and bad stereotypes spoil halftones in newspapers. S. H. Horgan. Inland Ptr 90:34-5 Mr '33

**See also**

Newspapers—Pic-  
ture sections

**Indexes**

New York Times index, annual cumulative volume, year 1932. 2733p N. Y. Times co, Times Square, N.Y. '33

**Information service**

Newspaper gets 40,000 'phone calls. Pub Serv M 54:144 My '33

**Insurance service**

Milwaukee Leader issues newspaper auto policy in arrangement with Workmen's Mutual. Nat Underw 36:21 D 1 '32; Ins Field (Fire ed) 61:12 D 1 '32

Special inducement practices attacked; Van Schaick holds hearing on link between insurance offers to subscribers of periodicals. Ins Field (Fire ed) 62:8 Ja 5 '33

**Picture sections**

See profit in offset photo sections; small-city publishers may imitate gravure picture feature of metropolitan newspapers. D. H. De Michaels. Inland Ptr 91:22 Ap '33; Discussion. L. Flader. 91:53-4 My '33

**Prices**

Predicts five-cent newspapers. F. Knox. Ptr Ink 161:73 D 22 '32

**Radio competition**

Associated press curbs radio use of news. Ptr Ink 163:65+ Ap 27 '33

Broadcast ban. Business Week p16 My 10 '33

**Radio programs**

Inland newspapers demand pay for radio programs. Ptr Ink 162:33-4 Mr 2 '33

**Reproduction**

Films versus books. E. A. Henry. Lib J 58:237-40 Mr 15 '33

**Scientific news**

Publicity and the physicist. R. D. Potter. R Sci Instr 4:261-3 My '33

**Securities**

Newspaper shares as investments. Economist 117:183-4 Jl 22 '33

**Size**

Newspapers of the future. S. P. Weston. Pulp & Pa of Can 34:5-6 Ja '33

## NEWSPAPERS—Continued

## Syndicate service

Funny papers. *il* Fortune 7:44-9+ Ap '33

## Typography

Francis Wayland Ayer trophy for newspaper typography is won by New York Times. *il* Inland Ptr 91:66-7 My '33; Ptr Ink 163:67 Ap 20 '33

## Great Britain

Allied newspapers. *Economist* 116:1085 My 20 '33  
Associated newspapers, limited. *Economist* 116:1323-4 Je 17 '33  
Mornings' war. *Economist* 117:119-20 Jl 15 '33  
Newspaper shares as investments. *Economist* 117:183-4 Jl 22 '33  
Premium war in Great Britain. *Business Week* p20-1 Ap 12 '33

## St Louis

When St Louis had 200 houses. *Ptr Ink* 162: 64 Mr 16 '33

## Trenton, New Jersey

Trenton's newspapers, 1778-1932. 66p Trenton Times newspapers, Trenton, N.J. '32

## United States

Democracy and the press. J. F. Essary. *Ann Am Acad* 169:110-19 S '33

## NEWSPRINT export manufacturers association of Canada

Canadian news print paper export unit formed. *Paper Tr J* 97:11 N 9 '33

## NEWSPRINT institute of Canada

Price bros. suit dismissed with costs. *Pulp & Pa of Can* 34:337 My '33

## NEWSPRINT paper

American news print. J. L. Fearing. *Paper Tr J* 96:22-3 Mr 16 '33; Discussion. A. M. Ferry. 96:24 Ap 6 '33

Canada and NRA; newsprint industry in Canada to cooperate with United States producers. *Business Week* p22+ N 4 '33

Canada must compete in world markets. R. A. McInnis. *Pulp & Pa of Can* 34:261-2+ Ap '33

Could seven governments agree? *Pulp & Pa of Can* 34:167-8 F '33

Fibre strength aspects of newsprint manufacture. G. D. O. Jones, T. W. Ross and H. W. Johnston. *Pulp & Pa of Can* 34:331-6 My '33

Georgia pines for sulphite pulp and newsprint. G. M. Rommel. *il Chem & Met Eng* 40:197-200 Ap '33

Lack of tariff damage to newsprint manufacturer. W. Rosebush. *Paper Tr J* 97:30-1 S 21 '33

NRA hearing on newsprint code completed; with text of code. *Paper Tr J* 97:15, 21-2+ S 7 '33

Newsprint and news ink. B. L. Wehmhoff, D. P. Clark and D. H. Boyce. *U S Govt Ptg Office Tech Bul* 18:1-86 '33

Newsprint and the publisher. *Pulp & Pa of Can* 34:229-30 Mr '33

Newsprint from boiled wood; Fish process. A. E. Parrett. *diag Pulp & Pa of Can* 34:515-16+ Ag '33

Newsprint-merger plan making progress. *Barron's* 13:19 Ja 30 '33

Newsprint paper; pressroom performance, printing quality and manufacturing control. W. G. MacNaughton. *Pulp & Pa of Can* 34:17-19, 169-73 Ja-F '33

Newsprint war may force fundamental issues to a showdown. *Business Week* p19+ N 23 '32

North American output in 1932 was 72.7% of record. *Pulp & Pa of Can* (Convention no) 34:146 [F] '33

Thirty years development in design of paper mills. J. Stadler. *il chart Pulp & Pa of Can* 34:215-18 Mr '33

Tinting of newsprint by the Trimbley machine. *Pulp & Pa of Can* 34:192 F '33

U. S. ruling on newspaper. *Pulp & Pa of Can* 33:476 D '32

Water removal factors on the news print paper machine. G. D. Bearce. *Paper Tr J* 96:33-5 Ja 19 '33

See also Association of newsprint manufacturers of the United States; newsprint export manufacturers association of Canada

## Prices

International cuts news print price \$5 a ton. *Paper Tr J* 96:9 Ap 20 '33

News print crisis foreshadows common action. *Paper Tr J* 96:11, 13 Ap 27 '33

Publishers should anticipate higher prices. *Pulp & Pa of Can* 34:315-16 My '33

Truce on prices is reached by U. S., Canadian and European news print interests. *Paper Tr J* 97:31 O 26 '33

## NEWTON, Massachusetts

## Sewerage

Difficult sewer tunnel built by welfare labor; emergency form of cost-plus-fixed-fee contract. W. P. Morse. *il Eng N* 110:376-7 Mr 23 '33

## NIAGARA FALLS, Ontario

## Water supply

Niagara Falls washwater tank. *il Can Eng* 65: 15 Ag 15 '33

## NIAGARA Hudson power corporation

Niagara Hudson nets \$1.07. *Econostat* 1:13+ Ap 29 '33

## NICHES

Portfolio of Gothic niches. *il Architecture* 68: 301-16 N '33

## NICHOLS, Ruth G.

Some of our members and what they do. *Special Lib* 24:130 Jl '33

## NICHOLS medal

Award of the Nichols medal to W. D. Bancroft. *Science* 77:164 F 10 '33; *Oil Paint & Drug Rep* 123:15 F 6 '33

## NICHROME. See Nickel alloys

## NICKEL

Catalytic reduction of aromatic nitro-compounds. S. J. Green. *Soc Chem Ind J* 52:52T-6T, 172T-3T F 24, Je 16 '33

Checking caustic corrosion with nickel and its alloys. H. E. Searle and R. Worthington. *Chem & Met Eng* 40:528-30 O '33

Corrosion of nickel and monel metal by sulfured grape juice. E. M. Mrak and W. V. Cruess. *Ind & Eng Chem* 25:367-9 Ap '33

Depolarised nickel anode cast from chemically pure nickel. *Electrician* 109:620 N 11 '32

Effect of ammonia on the positive ion emissivity of iron, nickel and platinum. A. K. Brewer. *Am Chem Soc J* 54:4588-97 D '32

Fifty years of nickel; abstract. R. C. Stanley. *il Chem Age* (Lond) 28:sup34 Je 3 '33

Food manufacturing equipment; extended use of pure nickel. *il Chem Age* (Lond) 29:23-6 Jl 8 '33

Grinding, polishing and buffing of monel metal and pure nickel. *Am Mach* 77:341-2 My 24 '33

History of nickel. *Soc Chem Ind J* (Chem & Ind) 52:461 Je 2 '33

Influence of crystalline fields on the susceptibilities of salts of paramagnetic ions; the iron group, especially Ni, Cr and Co. R. Schlapp and W. G. Penney. *Phys R* 42:666-86 D 1 '32

Monel metal and pure nickel; their properties with reference to chemical plant. *il Chem Age* (Lond) 28:sup15-16 Mr 4 '33

New method for determining the thermionic work functions of metals and its application to nickel. G. W. Fox and R. M. Bowie. *diags Phys R* 44:345-8 S 1 '33

Nickel and its alloys. R. C. Stanley. *Metal Ind* 31:8-9 Ja '33

Le nickel et le chrome dans les colonies françaises. C. Berthelot. *il map Chimie & Ind* 29:718-23 Mr '33

Nickel in foundry brasses and bronzes. *il Metal Ind* 30:466-7 D '32

Nonferrous physical metallurgy; review of literature shows wide variety of work. N. B. Pilling. *Min & Met* 14:35 Ja '33



**NICKEL—Continued**

- Relation of hydrogen to nickel with special reference to the catalytic power of the latter. H. N. Huntzicker and L. Kahlenberg. *bibliog Electrochem Soc Trans* 63 (preprint 33): 335-53 My '33
- Rôle of nickel in nitriding steels. H. J. French and V. O. Homerberg. *il Am Soc Steel Tr Trans* 20:481-504 D '32; Abstracts. *Iron Age* 130:534-5+ O 6 '32; *Automotive Ind* 67:640-3 N 19 '32; Discussion. L. Guillet; J. Strauss. *Am Soc Steel Tr Trans* 20:505-6 D '32; Same. (Guillet). *Iron Age* 130:578 O 13 '32
- Some properties of homogeneously distorted cubic ferromagnetic lattices. F. Bitter. *Phys R* 42:697-708 D 1 '32
- Sorption of oxygen by nickel catalysts. W. W. Russell and L. G. Ghering. *diag Am Chem Soc J* 55:4468-74 N '33
- Spectra of the calcium I-like ions: manganese VI, iron VII, cobalt VIII and nickel IX. W. M. Cady. *Phys R* 43:322-8 Mr 1 '33
- Study of the use of the tungsten-nickel electrode system in neutralizations. N. H. Furman and G. W. Low, Jr. *Am Chem Soc J* 55:1310-15 Ap '33
- Synthesis and reactions of certain nitrogen ring compounds over nickel. C. F. Winans and H. H. Adkins. *bibliog Am Chem Soc J* 55: 4167-76 O '33
- Temperature dependence of Young's modulus for nickel. J. Zacharias. *diags Phys R* 44: 116-22 Jl 15 '33
- Theory of the ferromagnetic anisotropy of single crystals. R. M. Bozorth. *Phys R* 42: 882-92 D 15 '32
- Welding of nickel and nickel alloys. H. Herrmann. *Engineer* 155:sup[Metallurgist] 30-2 Ap 28 '33; Same abr. *Iron Age* 132:25-6+ S 14 '33
- What is being done with nickel. R. C. Stanley. *J Fr Inst* 215:227-9 F '33
- Zeeman effect in the arc spectrum of nickel. H. H. Marvin and A. E. Baragar. *Phys R* 43:973-9 Je 15 '33
- Analysis**
- Dimethyl glyoxime reaction for nickel. E. C. Righellato. *Chem Age (Lond)* 28:574 Je 24 '33
- Improved qualitative separation of the iron group in the presence of phosphate. T. B. Smith. *Chem Soc J* p253-7 Mr '33
- Separation and determination of copper and nickel by salicylaldoxime. H. L. Riley. *Chem Soc J* p895 Jl '33
- Spectroscopic estimation of nickel, manganese and chromium in steels. F. Twyman and A. Harvey. *Iron & Steel Inst J* 126:397-407 no 2 '32; Same. *Engineering* 134:487-8 O 21 '32; Discussion. *Iron & Steel Inst J* 126:408-12 no 2 '32
- Physiological effect**
- Inherent sensitivity of the skin to nickel and cobalt; abstract. S. G. Stewart. *J Ind Hygiene* 15:sup81 Jl '33
- NICKEL acetate**
- Further studies on acetic acid-acetate solutions. A. W. Davidson and W. Chappell. *Am Chem Soc J* 55:3531-7 S '33
- NICKEL alloys**
- Checking caustic corrosion with nickel and its alloys. H. E. Searle and R. Worthington. *Chem & Met Eng* 40:528-30 O '33
- Copper-nickel tubes; their advantages for steam condensers. R. Worthington. *il Metal Prog* 24:20-4 Jl '33
- Creep and structural stability of nickel-chromium-iron-alloys at 1,600° F. W. A. Tucker and S. E. Sinclair. *diag pls U S Bur Stand J Research* 10:851-62 Je '33
- Dilatational properties of nickel iron alloys. C. J. Smithells. *Chem Age (Lond)* 28:sup22 Ap 1 '33
- Electrodeposition of iron-copper-nickel alloys; deposition from sulfate-boro-citrate baths. L. E. Stout and C. L. Faust. *Electrochem Soc Trans* 64 (preprint 10):111-22 S '33
- Equilibrium diagram of the nickel-zinc system. K. Tamaru. *Engineer* 155:sup[Metallurgist] 19-21 Ap 28 '33
- High alloy castings; their foundry problems. R. D. Alger and G. C. McCormick. *il Metal Prog* 24:15-19 Jl '33
- Inconel; new nickel-base chromium alloy. *Iron Age* 131:sup12 Mr 16 '33
- Inconel springs retain load capacity at 700 deg. F. *Iron Age* 132:13 Ag 17 '33
- Investigation of methods of decarburizing iron-nickel-chromium alloys. R. W. Dayton. (Engineering and science ser no. 41) 28p [bibliog p28] Rensselaer polytechnic institute, Troy, N.Y. '33
- Nickel and its alloys. R. C. Stanley. *Metal Ind* 31:8-9 Ja '33
- Precipitation-hardening nickel-copper alloys containing aluminium. D. G. Jones, L. B. Pfeil and W. T. Griffiths. *Engineering* 136: 505-7 N 3 '33; Abstract. *Engineer* 156:307 S 29 '33; Discussion. *Engineering* 136:367 S 29 '33; *Engineer* 156:307 S 29 '33
- Thermal expansion of heat-resisting iron alloys; iron-chromium and iron-chromium-nickel. J. B. Austin and R. H. H. Pierce, Jr. *Ind & Eng Chem* 25:776-9 Jl '33
- Usefulness of jigs in welding high nickel alloys. *il diags Sheet Metal Worker* 24:260-1 Ag '33
- Weldability and other properties of Inconel; abstracts. F. G. Flocke, J. G. Schoener and R. J. McKay. *Iron Age* 132:25 O 12 '33
- What is being done with nickel. R. C. Stanley. *J Fr Inst* 215:227-9 F '33
- Wire for resistance furnaces. A. G. Arend. *Elec R (Lond)* 113:248 Ag 25 '33
- See also**
- |                                    |                       |
|------------------------------------|-----------------------|
| Illium                             | Monel metal           |
| Iron alloys—Chromium nickel alloys | Mumetal               |
| Iron alloys—Nickel alloys          | Nickel chromium steel |
|                                    | Nickel steel          |
- Testing**
- Investigation of the effects of hydrogen and oxygen on the unsoundness of copper-nickel alloys; abstracts and discussion. N. P. Allen and A. C. Street. *Engineer* 155:294 Mr 24 '33; *Engineering* 135:363 Mr 31 '33
- NICKEL carbonyl**
- Electric dipole moments of nickel carbonyl, di-iodoacetylene, diethyl sulphide, diethyl-sulphone, and decalin. L. E. Sutton, R. G. A. New and J. B. Bentley. *Chem Soc J* p652-8 Je '33
- Nickel carbonyl; a study of the mechanism of its formation from nickel sulfide and carbon monoxide. M. M. Windsor and A. A. Blanchard. *Am Chem Soc J* 55:1877-83 My '33
- NICKEL chromium steel**
- Contribution to the study of the properties of austenitic steels. L. B. Pfeil and D. G. Jones. *Iron & Steel Inst J* 127:337-78 [bibliog p376-8] pl 25-26 no 1 '33; Same cond. *Engineering* 136:50-2 Jl 14 '33; Discussion. *Iron & Steel Inst J* 127:379-89 no 1 '33
- Develops nickel-chrome-molybdenum steels for heavy-duty forgings. M. R. Chase. *il Steel* 92:23-5 My 15; 23-5 My 22 '33
- Investigation of methods of decarburizing iron-nickel-chromium alloys. R. W. Dayton. (Engineering and science ser no. 41) 28p [bibliog p28] Rensselaer polytechnic institute, Troy, N.Y. '33
- New approaches to the study of the deformation of steel. E. J. Janitzky. *il Iron Age* 132: 14-17+ N 2 '33
- NICKEL-clad steel.** See Nickel coating
- NICKEL coating**
- New finish for nickel-clad steel. *Steel* 91:32+ N 21 '32
- Nickel-clad steel plate and sheet a useful material for chemical plant construction. *il Chem Age (Lond)* 27:sup27-8 N 5 '32
- Nickel-clad steel sheets, strip and wire. *il Iron Age* 131:787 My 18 '33
- NICKEL compounds**
- Co-ordination compounds of oximes; compounds of 4-isotonitroso-1-phenyl-3-methyl-5-pyrazolone with the alkali metals, nickel, and thallium. O. L. Brady and M. D. Porter. *Chem Soc J* p840-2 Jl '33

**NICKEL compounds—Continued**

Researches on ammines; nickel-ammine salts in aqueous solution. H. J. S. King, A. W. Cruse and F. G. Angell. *Chem Soc J* p2928-31 D '32

X-ray studies of the system nickel-oxygen-water; compounds containing trivalent nickel. R. W. Cairns and E. Ott. *il Am Chem Soc J* 55:534-44 F '33

**NICKEL hydrates**

X-ray studies of the system nickel-oxygen-water; compounds containing trivalent nickel. R. W. Cairns and E. Ott. *il Am Chem Soc J* 55:534-44 F '33

**NICKEL hydroxide**

X-ray studies of the system nickel-oxygen-water; nickelous oxide and hydroxide. R. W. Cairns and E. Ott. *Am Chem Soc J* 55:527-33 F '33

**NICKEL industry and trade**

Nickel markets. R. C. Stanley. *Can Chem & Met* 17:29 F '33

**NICKEL metallurgy****Electrometallurgy**

Contamination of nickel crystals grown in a molybdenum resistance furnace. A. Dingwall, J. Zacharias and S. L. Siegel. *il diag Electrochem Soc Trans* 63 (preprint 36):395-400 My '33

**NICKEL oxides**

X-ray studies of the system nickel-oxygen-water; compounds containing trivalent nickel. R. W. Cairns and E. Ott. *il Am Chem Soc J* 55:534-44 F '33

X-ray studies of the system nickel-oxygen-water; nickelous oxide and hydroxide. R. W. Cairns and E. Ott. *Am Chem Soc J* 55:527-33 F '33

**NICKEL plating**

Adhesion of electrodeposited coatings to steel. A. W. Hothersall. *il diag Electrochem Soc Trans* 64 (preprint 8):83-97 S '33

Defects in nickel plating. L. Wright. *il Electrician* 109:676-8 N 25 '32

New bath for the direct nickeling of zinc. G. W. Nichols. *Electrochem Soc Trans* 64 (preprint 14):149-54 S '33

Nickel deposits; some of the properties which affect their use. L. Wright. *il Electrician* 110:323-4 Mr 10 '33

Nickel plating of fabricated zinc in a barrel. A. Hirsch. *Electrochem Soc Trans* 63 (preprint 14):129-33 My '33; *Excerpt. Iron Age* 131:991 Je 22 '33

Peeling of electrodeposited nickel. E. A. Vuilleminier. *Metal Ind* 31:130-1 Ap '33

Throwing power and current efficiency of the nickel plating solution at low and at high pH. R. Harr. *diag Electrochem Soc Trans* 64 (preprint 19):203-17 S '33

**NICKEL steel**

Beitrag zur kenntnis der mechanischen eigenschaften grösster schmiedestücke. E. Maurer and H. Korschan. *il Stahl & Eisen* 53:250-1 Mr 9 '33

Classes and uses of nickel-steel castings. A. G. Zima. *Iron Age* 132:59 S 14 '33

New approaches to the study of the deformation of steel. E. J. Janitzky. *il Iron Age* 132:14-17+ N 2 '33

Welding of structural nickel steel; abstracts. W. L. Warner. *Iron Age* 132:24-5 O 12 '33; *Eng N* 111:444 O 12 '33; *Elec W* 102:569 O 28 '33

**See also**

Chromium nickel steel

Nickel chromium steel

**NICKEL sulfate**

Equilibria in the systems  $(\text{NH}_4)_2\text{SO}_4\text{-NiSO}_4\text{-H}_2\text{O}$ ,  $(\text{NH}_4)_2\text{SO}_4\text{-CoSO}_4\text{-H}_2\text{O}$ ,  $(\text{NH}_4)_2\text{SO}_4\text{-ZnSO}_4\text{-H}_2\text{O}$ ,  $\text{Na}_2\text{SO}_4\text{-NiSO}_4\text{-H}_2\text{O}$ , and  $\text{Na}_2\text{SO}_4\text{-CoSO}_4\text{-H}_2\text{O}$ , at 25°. R. M. Caven and W. K. Gardner. *Chem Soc J* p943-6 Ag '33

**NICKEL sulfide**

Nickel carbonyl; a study of the mechanism of its formation from nickel sulfide and carbon monoxide. M. M. Windsor and A. A. Blanchard. *Am Chem Soc J* 55:1877-83 My '33

**NICOTINE**

Comparison of the toxicity of nicotine and anabasine. W. A. Gersdorff. *Am Chem Soc J* 55:2941-5 Jl '33

Effect of strong ultraviolet irradiation upon the toxicity of pure nicotine. G. Wakeham and C. B. Johnston. *Am Chem Soc J* 55:1601-4 Ap '33

Interference of pyridine derivatives in arsenic determination. C. R. Gross. *Ind & Eng Chem Anal ed* 5:58-60 Ja 15 '33

New synthesis of norm nicotine and nicotine. L. C. Craig. *Am Chem Soc J* 55:2854-7 Jl '33

4-Nitro-5-(3-pyridyl)pyrazole, a new oxidation product of nicotine; confirmatory synthetical experiments. G. A. C. Gough and H. King. *Chem Soc J* p350-1 Ap '33

4-Nitro-5-(3-pyridyl)pyrazole, a new oxidation product of nicotine; methylation products. H. King. *Chem Soc J* p2768-70 N '32

Pyridyl nitro pyrazole, an oxidation product of nicotine; the position of the nitro-group. H. Lund. *Chem Soc J* p686-7 Je '33

Synthesis and physiological action of alpha substituted N-methylpyrrolidines. L. C. Craig. *bibliog Am Chem Soc J* 55:2543-50 Je '33

**See also**

Tobacco

**NIGER river**

Les travaux d'irrigation dans la région du Macina, au Soudan, au moyen des eaux au Niger. *il maps Génie Civil* 101:602-5 D 17 '32

**NIGERIA****See also**

Tin mines and mining

—Nigeria

**NIGHT effects.** See Radio beacons**NIGHT work**

Night work; cotton manufacturers find a way to save a principle in the face of discouraging defections. *Business Week* p8 N 23 '32

Night-work policy re-affirmed by Institute but responsibility decentralized. *il Textile World* 82:1147 D '32

**NILE river**

Sudd region of the Nile. H. E. Hurst. *Engineer* 155:586 Je 9 '33

**NILES, Ohio****Water supply**

False Wheeler filter bottom used in new water plant; Mahoning Valley filter plant. G. G. Dixon. *il diag Eng N* 111:317-21 S 14 '33

New water plant stresses pre-treatment; Mahoning Valley sanitary district. G. G. Dixon. *il diag map plan Eng N* 110:395-9 Mr 30 '33

**NINHYDRIN**

New preparation of ninhydrin. W. O. Teeters and R. L. Shriner. *Am Chem Soc J* 55:3026-8 Jl '33

**NINHYDRIN reaction**

Determination of amino acids and related compounds in honey. R. E. Lothrop and S. I. Gertler. *bibliog Ind & Eng Chem Anal ed* 5:103-5 Mr 15 '33

**NIOBIUM.** See Columbium**NIPAWIN, Saskatchewan****Bridges**

Bridge over the Saskatchewan river at Nipawin. A. R. Ketterson. *il diag Can Eng* 65:3-8 O 24 '33

NIRA. See National industrial recovery act, 1933

**NIRVANOL**

Optically active 5,5'-disubstituted hydantoins. H. Sobotka, M. F. Holzman and J. Kahn. *Am Chem Soc J* 54:4697-702 D '32

**NITRALLOY**

Nitralloy hardening; a new heat-treatment furnace designed for handling large quantities. *il Automobile Eng* 23:56 F '33



**NITRATE plants**

Application of shovel-type electric drive to other types of materials-handling equipment at Pedro de Valdivia. R. W. Barr. *il diags Gen Elec R* 36:478-81 N '33

**NITRATES**

Asymmetric syntheses; the action of optically active nitrates on  $\alpha$ -tetralone. W. H. Horne and R. L. Shriner. *Am Chem Soc J* 55:4652-4 N '33

Asymmetric syntheses; the action of optically active nitrates on cyclic ketones. R. L. Shriner and E. A. Parker. *Am Chem Soc J* 55:766-70 F '33

Le nitrate de chaux et la synthèse des nitrates. A. Couturier. *il Chimie & Ind* 29:463-71 F '33

Solubility of nitrates in anhydrous acetic acid. A. W. Davidson and H. A. Geer. *Am Chem Soc J* 55:642-9 F '33

Die wichtigsten neuerungen auf dem gebiete der anorganisch-chemischen industrie. A. Bräuer, J. Reitstötter and H. Siebeneicher. *bibliog Angew Chemie* 46:139-40 Mr 4 '33

See also

Ammonium nitrate	Potassium nitrate
Nitration	Silver nitrate
Nitric acid	Sodium nitrate
Nitrogen fixation	

**Analysis**

Diphenylamine sulfonic acid as a reagent for the colorimetric determination of nitrate. I. M. Kolthoff and G. E. Noponen. *Am Chem Soc J* 55:1448-53 Ap '33

Die quantitative bestimmung von nitrat-, harnstoff- und ammoniakstickstoff in mischdüngern. F. Alten and H. Weiland. *Angew Chemie* 46:165-6 Mr 18 '33

Volumetric determination of nitrates with ferrous sulfate as reducing agent. I. M. Kolthoff, E. B. Sandell and B. Moskovitz. *Am Chem Soc J* 55:1454-7 Ap '33

**NITRATION**

Action of nitric acid on the 1-acyl-2:3-diphenylindoles. R. C. G. Fennell and S. G. P. Plant. *Chem Soc J* p2872-6 D '32

Addition reactions of the indole nucleus. S. G. P. Plant and M. L. Tomlinson. *Chem Soc J* p955-60 Ag '33

Alkyl-nitroguanidines; dearrangement and preparation by nitration. T. L. Davis and R. C. Elderfield. *Am Chem Soc J* 55:731-40 F '33

Behavior of mixed halogenated phenols in the Zincke method of nitration. L. C. Raiford and G. R. Miller. *bibliog Am Chem Soc J* 55:2125-31 My '33

Behavior of piperonal derivatives toward bromination and nitration. L. C. Raiford and F. W. Oberst. *bibliog Am Chem Soc J* 55:4288-92 O '33

Comparison of the directive powers of elements having consecutive atomic numbers; nitration of 2:4:6-triphenylpyrylium perchlorate. C. G. Le Fèvre and R. J. W. Le Fèvre. *Chem Soc J* p2894-9 D '32

Comparison of the directive powers of elements having consecutive atomic numbers; the nitration of 9-phenylxanthylum perchlorate. R. J. W. Le Fèvre and J. Pearson. *Chem Soc J* p482-4 My '33

Equipment for nitration and sulfonation. R. N. Shreve. *bibliog il diags Ind & Eng Chem* 24:1344-53 D '32

Mode of studying nitration. J. A. Hetherington and I. Masson. *Chem Soc J* p105-14 Ja '33

Nitration of  $\alpha$ - and  $\beta$ -naphthols. F. Bell. *Chem Soc J* p286-8 Mr '33

Nitration of aceto- $\alpha$ -naphthalide, and the preparation of 2- and 4-nitro-1-naphthylamines. H. H. Hodgson and J. Walker. *Chem Soc J* p1205-7 S '33

Nitration of  $\beta$ -phenylethylpyridines and related compounds. B. D. Shaw and E. A. Wagstaff. *Chem Soc J* p79-83 Ja '33

Nitration of chalkone. R. J. W. Le Fèvre, P. J. Markham and J. Pearson. *Chem Soc J* p344-6 Ap '33

Nitration of di-*p*-tolyl- and di-*p*-chlorophenylphenylpyrylium perchlorates. H. E. Johnston and R. J. W. Le Fèvre. *Chem Soc J* p2900-2 D '32

Nitration of 4-nitro-*o*-tolyl *p*-toluenesulphonate. F. H. Curd and A. Robertson. *Chem Soc J* p1166-7 S '33

Nitration of *o*-dichlorobenzene. J. R. Ruhoff. *Am Chem Soc J* 55:3470-1 Ag '33

Nitration of para-cresol and of para-cresyl carbonate in the presence of sulfuric acid. H. J. Lucas and Yun-pu Liu. *Am Chem Soc J* 55:1271-80 Mr '33

Nitration of 3-methoxyacenaphthenequinone and 2-methoxynaphthalic anhydride. R. I. Davies, I. M. Heilbron and F. Irving. *Chem Soc J* p2715-17 N '32

Substitution in compounds containing two or more phenyl groups; nitration of diphenyl derivatives containing *m*-directing substituents. W. S. M. Grieve and D. H. Hey. *Chem Soc J* p968-72 Ag '33

Volume effects of alkyl groups in aromatic compounds; influence of 2:6-dinitration on a group  $CR_2R_2Alk$ . R. J. W. Le Fèvre. *Chem Soc J* p977-80 Ag '33

**NITRIC acid**

Application of conductivity measurement of nitric acid concentration to plant control. H. M. Coster. *il diags Ind & Eng Chem* 25:980-2 S '33

Bicentenary of Joseph Priestley; Priestley's work on nitrogen peroxide. A. N. Meldrum. *Chem Soc J* p905-15 Jl '33

Controlling nitric acid corrosion. R. Tull. *il Chem Markets* 32:43-4 Ja '33

Heavy chemicals; their manufacture and use. J. Healy, jr. *Am Dyestuff Rep* 22:92-7 Ja 30 '33

Oxidation of 5-keto-gluconic acid with nitric acid in the presence of vanadium. W. E. Barch. *Am Chem Soc J* 55:3653-8 S '33

Solubility of silver chloride in nitric acid at 0°. C. R. Johnson and G. W. Low, jr. *Am Chem Soc J* 55:2262-5 Je '33

See also

Nitration

**Manufacture**

Gewinnung von salpetersäure aus ammoniak. A. Sander. *il diag Zeit Ver Deutsch Ing* 77:450-1 Ap 29 '33

Die wichtigsten neuerungen auf dem gebiete der anorganisch-chemischen industrie in den jahren 1927-1931. A. Bräuer, J. Reitstötter and H. Siebeneicher. *bibliog Angew Chemie* 45:727-38 N 19 '32

**NITRIDING process.** See Case hardening—Nitriding process

**NITRIFICATION**

Photochemical nitrification in sea water. C. E. ZoBell. *Science* 77:27-8 Ja 6 '33

**NITRILES**

Preparation and estimation of nitriles of  $\Delta\alpha$ - and  $\Delta\beta$ -olefinic acids. R. A. Letch and R. P. Linstead. *Chem Soc J* p612-14 Je '33

Researches on chloramines; a study of the reactions of certain ald-chloramines with bases. C. R. Hauser and E. Moore. *Am Chem Soc J* 55:4526-30 N '33

**NITRITES**

Ammonia-chlorine treatment yields nitrites in effluent. R. Hulbert. *Eng N* 111:315-16 S 14 '33

Asymmetric syntheses; the action of optically active nitrites on cyclic ketones. M. Pezold and R. L. Shriner. *bibliog Am Chem Soc J* 54:4707-11 D '32

Explanation of the formation of alkyl nitrites in dilute solutions; butyl and amyl nitrites. W. A. Noyes. *Am Chem Soc J* 55:3888-9 S '33

**Analysis**

Volumetric methods of estimating nitrites. R. D. Cool and J. H. Yoe. *bibliog Ind & Eng Chem Anal ed* 5:112-14 Mr 15 '33

**NITRO compounds**

Apparent anomalous lability of the 2-nitro-group in 2:3-dinitrotoluene; an example of the reversed-field effect. H. H. Hodgson and E. W. Smith. *Chem Soc J* p500-1 My '33

**NITRO compounds—Continued**

- Catalytic reduction of aromatic nitro-compounds. S. J. Green. Soc Chem Ind J 52: 52T-6T, 172T-3T F 24, Je 16 '33
- Formation of organic nitro compounds by electrolytic action. D. F. Calhane and C. C. Wilson. Electrochem Soc Trans 63 (preprint 13):117-28 My '33
- Formation of sodium thiosulfate from the oxidation of sodium sulfides by means of an aromatic nitro compound. J. L. Bullock and G. S. Forbes. Am Chem Soc J 55:232-8 Ja '33
- Influence de synthèses récentes sur le développement de l'industrie des explosifs. J. P. Lehalleur. bibliog Chimie & Ind 29: 258-61 F '33

See also

Dinitrotoluene  
Explosives**NITROANISOLE**

- Studies in dielectric polarisation; the dipole moments of the nitroanisoles. E. G. Cowley and J. R. Partington. Chem Soc J p1257-9 S '33

**NITROBENZALDEHYDE**

- Betti condensation; effect of substituents on the stability and optical rotation of the resulting amines. F. E. Ray and W. A. Moomaw. Am Chem Soc J 55:749-52 F '33
- Interaction of ketene with aromatic aldehydes and its bearing on the Perkin reaction. C. D. Hurd and C. L. Thomas. bibliog Am Chem Soc J 55:275-83 Ja '33

**NITROBENZENE**

- Dipole rotation in crystalline solids. C. P. Smyth and C. S. Hitchcock. Am Chem Soc J 54:4631-47 D '32
- Dispersion of the Kerr electro-optic effect in the short infrared spectrum. L. R. Ingersoll and W. R. Winch. diags Phys R 44: 399-405 S 1 '33
- Freezing points of solutions of nitrobenzene in benzene and cyclohexane, and their relations to the electrical polarisation. L. G. Davy and N. V. Sidgwick. Chem Soc J p281-6 Mr '33
- Microfractionating column for liquids having low heat of vaporization. P. E. Weston. diag Ind & Eng Chem Anal ed 5:179-80 My 15 '33
- Mode of studying nitration. J. A. Hetherington and I. Masson. Chem Soc J p105-14 Ja '33
- Nitrobenzene process for lubricating oils. S. W. Ferris and W. F. Houghton. flow chart diag Am Pet Inst Proc p82-93 sec 3 D '32; Same cond. Oil & Gas J 31:65+ N 17 '32; Excerpts. Nat Pet N 24:25-8+ N 30 '32; Abstract. Automotive Ind 68:79-80 Ja 21 '33
- Solid-liquid equilibria in the system nitrobenzene-*m*-dinitrobenzene. D. L. Hammick and T. K. Hanson. Chem Soc J p669-70 Je '33
- Viscosity of nitrobenzene. W. M. Cox and J. H. Wolfenden. diag Chem Soc J p118-19 F '33

**NITROBENZOIC acid**

- Activity coefficients of the nitrobenzoic acids. P. H. Sykes and P. W. Robertson. Am Chem Soc J 55:2621-5 Jl '33

**NITROBENZYL tartrate**

- Influence of solvents and of other factors on the rotation of optically active compounds; the rotation dispersion of the nitrobenzyl tartrates. T. S. Patterson and D. McCreath. Chem Soc J p760-8 Jl '33

**NITROCELLULOSE**

- Cellulose acetate plastic improves laminated safety glass; comparison with cellulose nitrate plastics. G. B. Watkins and J. D. Ryan. II Ind & Eng Chem 25:1192-5 N '33
- Cellulose derivatives; uses in the electrical industries. J. S. Gourlay. Electrician 109: 602-3 N 11 '32
- Cellulose nitrate vs. cellulose acetate in plastics. E. C. Atwell. Plastic Prod 9:356-9 N '33
- Plastics; celluloid and casein types and their uses. F. Sproxtton. Soc Chem Ind J 52:sup S12+ My 19 '33; Abstract. Chem Age (Lond) 28:428 My 13 '33

- Plastics—cellulose esters and ethers and their uses. W. J. Jenkins. Soc Chem Ind J (Chem & Ind) 52:705-8 S 1 '33

- Plastics with special reference to cellulose materials. W. J. Jenkins. Soc Chem Ind J (Chem & Ind) 52:241-5; Discussion. 245 Mr 17 '33

- Protective coatings for cable leads; the merits of nitrocellulose lacquer. J. S. Gourlay. Elec R (Lond) 112:734-5 My 26 '33

- Sur les stabilisants et gélatinisants dans les poudres sans fumée. M. Giua and G. Guastalla. Chimie & Ind 29:268-77 F '33

- Tensile strength of nitrocellulose films. G. G. Jones and F. D. Miles. diag Soc Chem Ind J 52:251T-64T Ag 18 '33

- Les vernis et peintures nitrocellulosiques et leurs dérivés. A. Antoni. il Génie Civil 103: 133-7, 149-55 Ag 5-12 '33

See also

Celluloid  
CollodionExplosives  
Pyroxylin**Analysis**

- Determination of *o*-nitrotoluene in nitrocellulose powder by the immersion refractometer. J. A. O'Callaghan and S. G. Cook. Ind & Eng Chem Anal ed 5:333-4 S 15 '33

**NITROCHLOROTOLUENE**

- Dipole moment and group rotation; the moments of the chloro- and nitrobenzyl chlorides and the effect of group separation. J. M. A. de Bruyne, R. M. Davis and P. M. Gross. bibliog Am Chem Soc J 55:3936-44 O '33

**NITROCRESOL**

- Bromination of 2-nitro-*p*-cresol. W. O. Kermack and W. T. Spragg. Chem Soc J p2946-8 D '32

**NITROCYCLOHEXYLPHENOLS**

- Some nitrocyclohexylphenols and their derivatives. J. F. Bartlett and C. E. Garland. Am Chem Soc J 55:2064-8 My '33

**NITROFLUOROBENZENE**

- Formation of aromatic ethers from *p*-nitrofluorobenzene. M. J. Rarick, R. Q. Brewster and F. B. Dains. Am Chem Soc J 55:1289-90 Mr '33

**NITROGEN**

- Adsorption of nitrogen by iron synthetic ammonia catalysts. P. H. Emmett and S. Brunauer. Am Chem Soc J 55:1738-9 Ap '33
- Charge distributions for the normal atoms from boron to neon. F. W. Brown, J. H. Bartlett, jr. and C. G. Dunn. Phys R 44:296-9 Ag 15 '33
- Density of ammonia at reduced pressures and its relation to the atomic weight of nitrogen, the gas constant, *R*, and the limiting molal volume. V. G. Dietrichson, C. W. Orleman and C. Rubin. diag Am Chem Soc J 55: 14-21 Ja '33
- Disintegration of the nuclei of nitrogen and other light atoms by neutrons. W. D. Harkins, D. M. Gans and H. W. Newson. II diags Phys R 44:529-37 O 1 '33
- Effect of foreign gases upon the relative intensities of the mercury triplet  $^{23}P_{102}$ — $^{28}S_1$  under conditions of optical excitation. R. T. Macdonald and G. K. Rollefson. diag Phys R 43:177-80 F 1 '33
- Effect of gaseous impurities on the radiochemical combination of carbon monoxide and oxygen. C. Rosenblum. Am Chem Soc J 55:220-3 Ja '33
- Effect of nitrogen in combustion processes. H. H. Gray. Soc Chem Ind J (Chem & Ind) 52:351-2 Ap 21 '33
- Heats of dissociation of hydrogen and nitrogen. W. W. Lozier. Phys R 44:575-81 O 1 '33
- Limits of inflammability of natural gases containing high percentages of carbon dioxide and nitrogen. G. W. Jones and R. E. Kennedy. tables U S Bur Mines Rep of Invest 3216:1-23 '33; Same. Am Gas J 139:13-15, 46 Jl; 21-3 Ag '33; Same abr. Gas Age 72:53-6 Jl 15 '33
- Magnetic moment of the nitrogen nucleus. R. F. Bacher. Phys R 43:1001-2 Je 15 '33



**NITROGEN—Continued**

- Metastable D-level of the nitrogen atom. H. Stücklen and E. P. Carr. *il Phys R* 43:944-5 Je 1 '33
- Nature of active nitrogen. J. Okubo and H. Hamada. *Phys R* 42:795-9 D 15 '32
- Rotational analysis of the perturbed (13,15)  $\Sigma \rightarrow \Sigma$   $N_2^+$  band. A. E. Parker. *Phys R* 44: 90-1 J1 15 '33
- Significance of nitrogen. J. E. Zanetti. 101p [bibliog p76-8] Chemical foundation, inc, New York '32
- Solubility of nitrogen and hydrogen in aluminium; abstract. P. Röntgen and H. Braun. *Engineer* 154:sup[Metallurgist]185-7 D 30 '32
- Solubility of nitrogen in liquid ammonia at 25° from 25 to 1000 atmospheres. R. Wiebe and T. H. Tremearne. *diags Am Chem Soc J* 55:975-8 Mr '33
- Solubility of nitrogen in water at 50, 75 and 100° from 25 to 1000 atmospheres. R. Wiebe, V. L. Gaddy and C. Heins, jr. *diag Am Chem Soc J* 55:947-53 Mr '33
- Zeeman effect for perturbed  $N_2^+$  terms. A. E. Parker. *Phys R* 44:84-9 J1 15 '33

*See also*

- |  |   |
|--|---|
| Case hardening—<br>Nitriding process<br>Nitrates | Nitrogen fixation<br>Steel—Nitrogen content |
|--|---|

**Analysis**

- Determination of nitrogen in coal by the Kjeldahl method. J. H. G. Carlile. *diag Soc Chem Ind J* 52:306T-BT S 22 '33
- Nitrogen content of some standard-sample steels. J. G. Thompson and E. H. Hamilton. *U S Bur Stand J Research* 9:593-5 N '32
- Die quantitative bestimmung von nitrat-, harnstoff- und ammoniakstickstoff in mischdüngern. F. Alten and H. Weiland. *Angew Chemie* 46:165-6 Mr 18 '33
- Selenium in the determination of phosphorus and nitrogen in phospholipides. F. E. Kurtz. *Ind & Eng Chem Anal ed* 5:260 J1 15 '33
- Suppression of sulfuric acid mist in Kjeldahl digestions. A. Henwood and R. M. Garey. *Science* 76:524 D 2 '32
- Use of a selenium-mercuric oxide combination in determination of nitrogen in feed materials. L. V. Taylor, jr. *Ind & Eng Chem Anal ed* 5:263 J1 15 '33

**Statistics**

- Nitrogen output in 1931. *Oil Paint & Drug Rep* 123:34 Ja 2 '33
- Nitrogen production of world decreases. *Oil Paint & Drug Rep* 122:15 D 26 '32

**NITROGEN, Compressed**

- L'emploi de l'azote sur les camionsciternes utilisés au revêtement des routes. *il diag Génie Civil* 101:588-9 D 10 '32

**NITROGEN, Solid**

- Phosphorescence of solid nitrogen and its relation to crystal structure. L. Vegard. *Science* 77:588-9 Je 16 '33

**NITROGEN chlorides**

- Reaction of nitrogen trichloride with Grignard reagents. G. H. Coleman, M. A. Buchanan and W. L. Paxson. *Am Chem Soc J* 55:3669-72 S '33

**NITROGEN compounds**

- Artificial fibers containing nitrogen. F. Ohl. *Am Dyestuff Rep* 22:320-2 My 8 '33
- Attempts to prepare some nitrogenous derivatives of divalent carbon. D. Wood, jr. and F. W. Bergstrom. *Am Chem Soc J* 55: 3314-19 Ag '33
- Nitrogen compounds in petroleum distillates. T. S. Perrin, J. R. Bailey and others. *bibliog Am Chem Soc J* 55:4136-49 O '33
- Nitrogen compounds of germanium; the action of ammonia and amines on germanium tetraiodide. W. C. Johnson and A. E. Sidwell. *Am Chem Soc J* 55:1884-9 My '33
- Nitrogen industry in 1932. E. B. Maxted. *Chem Age (Lond)* 27:632-3 D 31 '32
- Nitrogen output in 1931. *Oil Paint & Drug Rep* 123:34 Ja 2 '33
- Production of nitrogen and fixed-nitrogen compounds. 1931 and 1929. *Chem & Met Eng* 40:51 Ja '33

- Synthesis and reactions of certain nitrogen ring compounds over nickel. C. F. Winans and H. Adkins. *bibliog Am Chem Soc J* 55: 4167-76 O '33

- Synthesis of a series of alpha-substituted N-methylpyrrolines. L. C. Craig. *bibliog Am Chem Soc J* 55:295-8 Ja '33

- Thermal data on organic compounds; the heat capacities, entropies and free energies of ten compounds containing oxygen or nitrogen. G. S. Parks; H. M. Huffman and M. Barmore. *Am Chem Soc J* 55:2733-40 J1 '33

- Unexpected developments in 1932 nitrogen production. C. Tyler. *Chem & Met Eng* 40: 36-7 Ja '33

*See also*

- |   |   |
|---|---|
| Ammonia<br>Ammonium compounds<br>Nitrates | Nitro compounds<br>Nitrogen fixation<br>Nitroso compounds |
|---|---|

**NITROGEN fixation**

- Chemical action in the glow discharge; the decomposition of nitrogen dioxide and the nitrogen dioxide equilibrium. A. K. Brewer and P. D. Kueck. *bibliog J Phys Chem* 37: 889-96 O '33

- Improved apparatus for demonstration of fixation of atmospheric nitrogen. G. W. Thiesen. *il J Chem Educ* 10:498 Ag '33

- Nitrogen industry in U.S.S.R. N. Almoian. *Ind & Eng Chem News ed* 11:201-2 J1 10 '33

- World production and consumption of fixed nitrogen, 1927-1932. *Chemicals* 38:3 Ja 23 '33

*See also*

- Ammonia—Manufacture

**NITROGEN oxides**

- Chemical action in the glow discharge; the decomposition of nitrogen dioxide and the nitrogen dioxide equilibrium. A. K. Brewer and P. D. Kueck. *bibliog J Phys Chem* 37: 889-96 O '33

- Compressibilities of certain gases at low pressures and various temperatures. W. Cawood and H. S. Patterson. *Chem Soc J* p619-24 Je '33

- Heat capacity curves of the simpler gases; heat capacity, entropy and free energy of gaseous nitric oxide from near zero absolute to 5000°K. H. L. Johnston and A. T. Chapman. *bibliog Am Chem Soc J* 55:153-72 Ja '33

- Interaction of carbon monoxide and nitric oxide. F. F. Musgrave and C. N. Hinshelwood. *Chem Soc J* p56-9 Ja '33

- Investigation of nitric oxide in works gas. V. Porazzo. *il Gas Age* 72:123-4+ Ag 5 '33

- Liberation of iodine from alkali iodides by means of oxygen of the air through the intervention of nitrous gases. R. L. Datta. *Soc Chem Ind J* 52:350T O 20 '33

- Recent developments in the gum problem. W. H. Fulweiler. *Gas Age* 72:411-13+ O 28 '33

**NITROGEN peroxide**

- Bicentenary of Joseph Priestley; Priestley's work on nitrogen peroxide. A. N. Meldrum. *Chem Soc J* p905-15 J1 '33

- Contribution à la théorie des tours d'absorption; cas particulier: absorption de NO<sub>2</sub> dans les solutions de carbonate de soude. W. Hennel. *Chimie & Ind* 29:1042-4 My '33

**NITROGLYCERIN****Analysis**

- Volumetric determination of nitroglycerol and of nitroglycerol and dinitrotoluene in admixture. W. W. Becker. *bibliog Ind & Eng Chem Anal ed* 5:152-4 My 15 '33

**NITROGUANIDINE**

- Alkyl-nitroguanidines; dearrangement and preparation by nitration. T. L. Davis and R. C. Elderfield. *Am Chem Soc J* 55:731-40 F '33

**NITROMETHANE**

- Mobilities of gaseous ions in CH<sub>3</sub>NO<sub>2</sub>-H<sub>2</sub> and CH<sub>3</sub>CN-H<sub>2</sub> mixtures. E. A. Higley and C. C. Thorsen. *J Fr Inst* 215:69-70 Ja '33

**NITRONAPHTHYLAMINES**

Nitration of aceto- $\alpha$ -naphthalide, and the preparation of 2- and 4-nitro-1-naphthylamines. H. H. Hodgson and J. Walker. Chem Soc J p1205-7 S '33

**NITROPHENETOLE**

Reduction and hydrolysis of *o*-, *m*-, and *p*-nitrophenetoles. D. H. Richardson and F. W. Smith. Chem Soc J p2955-8 D '32

**NITROPHENOLS**

Condensation of formaldehyde with *p*-nitrophenol. F. D. Chattaway and R. M. Goepp. Chem Soc J p699-700 Je '33

**NITROPHENYLAZOACETOACETATES**

Action of bromine upon nitrophenylazoacetates and related compounds. F. D. Chattaway and D. R. Ashworth. Chem Soc J p475-9 My '33

Action of chlorine upon the nitrophenylazoacetates. F. D. Chattaway and D. R. Ashworth. Chem Soc J p1143-6 S '33

**NITROPYRIDYL pyrazole**

4-Nitro-5-(3-pyridyl)pyrazole, a new oxidation product of nicotine; confirmatory synthetic experiments. G. A. C. Gough and H. King. Chem Soc J p350-1 Ap '33

4-Nitro-5-(3-pyridyl)pyrazole, a new oxidation product of nicotine; methylation products. H. King. Chem Soc J p2768-70 N '32

Pyridylnitropyrazole, an oxidation product of nicotine; the position of the nitro-group. H. Lund. Chem Soc J p686-7 Je '33

**NITROSATION**

Nitrosation of methylaniline. J. C. Earl and N. F. B. Hall. Chem Soc J p510-12 My '33

Nitrosation of phenols; resorcinol mono-*n*-butyl ether. H. H. Hodgson and H. Clay. Chem Soc J p660-1 Je '33

**NITROSOAMINES**

Saponification of diarylnitrosamines and attempts to prepare a salt of aquo-ammononitrous acid. W. C. Fernelius and G. W. Watt. Am Chem Soc J 55:3482-5 Ag '33

**NITROSO compounds**

Catalytic decomposition of nitroso- $\beta$ -alkylamino-ketones; a new method of preparing diazomethane, and evidence of the occurrence of diazotisation in the aliphatic series. E. C. S. Jones and J. Kenner. Chem Soc J p363-8 Ap '33

Existence of aromatic bisnitroso-compounds of the type  $R'N_2O_2R''$ . D. L. Hammick and others. Chem Soc J p671-4 Je '33

Studies in dielectric polarisation; the dipole moments of some nitrosoamines, *p*-nitrosophenol, ethylaniline, hydrazobenzene, and benzaldehydephenylhydrazones. E. G. Cowley and J. R. Partington. Chem Soc J p1255-7 S '33

**NITROSOMETHYL urea**

Zur darstellung und aufbewahrung von nitrosomethylharnstoff. F. Arndt and H. Scholz. Angew Chemie 46:47-8 Ja 14 '33

**NITROSTYRYL phenyl ketone**

Preparation of 2-phenylquinoline from *o*-nitro-styryl phenyl ketone. R. J. W. Le Fèvre and J. Pearson. Chem Soc J p2807-8 N '32

**NITROSYL sulfuric acid**

Zur theorie der kammerreaktion; über die hydrolyse der nitrosylschwefelsäure. W. J. Müller, D. M. Forbes and R. Fort. diag Angew Chemie 45:782-5 D 17 '32

**NITROTOLUENE**

Binary systems of *m*-nitrotoluene and *p*-nitrotoluene with naphthalene, *p*-toluidine, and *o*-nitrophenol. F. Urban and A. Steiner. J Phys Chem 37:259 F '33

Dispersion of the Kerr electro-optic effect in the short infrared spectrum. L. R. Ingersoll and W. R. Winch. diags Phys R 44:399-405 S 1 '33

Monochlorination of *m*-nitrotoluene. W. E. Evison. Soc Chem Ind J 52:275T-6T Ag 25 '33

**Analysis**

Determination of *o*-nitrotoluene in nitrocellulose powder by the immersion refractometer. J. A. O'Callaghan and S. G. Cook. Ind & Eng Chem Anal ed 5:333-4 S 15 '33

**NITROUS acid**

Action of nitrous acid on the oxytocic principle of the pituitary gland; abstract. J. M. Guland. Soc Chem Ind J (Chem & Ind) 52:160 F 24 '33

**NOBEL, Alfred Bernhard, 1833-1896**

Centenary. Soc Chem Ind J (Chem & Ind) 52: 828 O 20 '33; Can Eng 65:20 N 7 '33

**NOISE**

Acoustics laboratory of the Metropolitan-Vickers electrical company's research department. B. G. Churcher. il plan Engineering 135:563-6 My 26 '33

Decibel. S. J. Zand. il Aviation Eng 8:19-22 F '33

Dr Vern O. Knudsen's noise deadening experiments. il Management Methods 62:12 Ja '33

Effects of noise upon certain psychological and physiological processes. F. L. Harmon. 81p [bibliog p80-1] Columbia univ. press '33

Elastic supports prevent machine noise transmission. C. C. Clymer. il diags Power 76: 288-90 D '32

Engineering acoustics; reduction of noise in photographic recording. Electrician 109:842-3 D 30 '32

Influence of noise on production and fatigue, as related to pitch, sensation level, and steadiness of the noise; abstract. D. A. Laird. Management R 22:276 S '33

Das lärmproblem vom standpunkt des ingenieurs. K. W. Wagner. il diags Zeit Ver Deutsch Ing 77:1-9 Ja 7 '33

Measurement of noise. G. W. Stubbings. Elec R (Lond) 111:919-20 D 23 '32

Measurement of noises segregated from din of confusion, marks important step to quieter cars. J. Geschelin. il diags Automotive Ind 67:676-81, 712-17 N 26-D 3 '32

New acoustic noise meter. il Elec R (Lond) 113:315 S 8 '33

Noise in heating and air conditioning. S. R. Lewis. diag Heating-Piping 5:198-9 Ap '33

Noise in power transformers. E. T. Norris. il Engineer 155:446-8, 452 My 5 '33

Portable noise meter. C. H. S. Tupholme. Ind & Eng Chem News ed 11:159 My 20 '33

Progress in noise measurement standards; abstract. H. Fletcher. Elec Eng 52:199 Mr '33

Progress in noise measurements. P. L. Alger. Elec Eng 52:741-4 N '33

Proposed standards for noise measurements. H. Fletcher. Elec Eng 52:744-6 N '33

Proposed standards for the measurement of noise. V. O. Knudsen. Industrial Standardization 4:147-9 S '33

Quiet electrical machinery. J. A. Jackson. Gen Elec R 36:385-8 S '33

Radio and acoustics. I. J. Saxl. il diags Radio N 15:79-81+ Ag '33

Radio-noise meter and its application to the measurement of radio interference. C. R. Barhydt. il diags Gen Elec R 36:201-5 Ap '33

Reduction of aircraft noise. R. S. Capon. Engineering 136:475-7, 503-4 O 27-N 3 '33; Abstract. Engineer 156:255 S 15 '33; Discussion. Engineering 136:312-13 S 15 '33; Engineer 156:255 S 15 '33

Research on noise abatement in industrial gas burners. H. W. Smith, jr. Gas Age 70: 643-8 D 17 '32

Research points way to silent industrial gas utilization. D. W. Chapman. Am Gas Assn Mo 15:467 N '33

Silencing exhaust noises of Diesel engines. J. M. Drabelle. Power Pl Eng 36:826-7 D '32

Sound control in buildings of the future. P. E. Sabine. Civil Eng 3:436-9 Ag '33

Study of the frequencies of fuel knock noises. W. H. Paul and A. L. Albert. il Nat Pet N 25:24+ Ag 9 '33

Two studies in the psychological effects of noise. K. G. Pollock and others. 70p Great Britain. Industrial health research board, London '32



**NOISE—Continued**

Why use soundmeters? advantages and limitations of these instruments. E. J. Abbott. il diag Mech Eng 55:231-4 My '33  
 Das zahnrad als lärmquelle. A. Soden. il diags Zeit Ver Deutsch Ing 77:231-8 Mr 4 '33

**See also**

Airplanes—Noise  
 Automobiles—Noise  
 Electric motors—Noise  
 Radio receiving apparatus—Noise  
 Sound absorbent materials  
 Soundproofing  
 Street cars—Noise  
 Subways—Noise

**Bibliography**

Bibliography on noise; from material found in the John Crerar library. (Reference list no 18) 21p The John Crerar library, Chicago '32 (typew)

**NOMOGRAPHY**

Chart saves time in estimating underground costs. H. T. Sexton. Elec W 101:334-5 Mr 11 '33  
 Nomogram aids mixing of raw meal where composition varies. F. Wenzel. Concrete (mill sec) 41:33 S '33  
 Nomograph for rapid calculation of sulfate-carbonate ratios. R. T. Sheen. Ind & Eng Chem Anal ed 5:276-7 Jl 15 '33  
 Nomographic chart for determining heating unit design. T. C. Patton. Chem & Met Eng 40:150-1 Mr '33  
 Nomographs for the calculation of air and gas velocity. A. Alison. Chem & Met Eng 39:623-4 N '32  
 Short cut to the ultimate analysis of coal. L. E. Bragg. charts Gas Age 71:514-16 My 20 '33  
 Slide nomograms applied to gas-works routine calculations. T. H. Blakeley. il Gas J (Lond) 200:860-1 D 28 '32

**NONANE**

Chemical examination of the volatile oil of sarothra gentianoides L. and the detection therein of normal nonane. M. T. Bogert and S. J. Marion. bibliog il Am Chem Soc J 55:4187-94 O '33

**NONFERROUS foundry association**

Organization. Foundry 61:23+ Ag '33

**NON-FERROUS metals. See Metals, Non-ferrous****NORDIC race**

Nordic—superior or inferior? W. P. Hartman. map Sci Am 149:74-5 Ag '33

**NORFOLK and western railway**

Annual report, 37th, for year ended Dec. 31, 1932. Ry Age 94:533-5 Ap 8 '33  
 Another strong soft-coaler. D. Hovey. il map Barron's 13:6-7+ My 1 '33  
 Higher coal output helps N. & W. Econostat 1:12, 23 Jl 29 '33  
 Maintaining a railroad tradition. il Ry Age 93:sup170-1 D 3 '32  
 N. & W. in 1932. Ry Age 94:593-4 Ap 22 '33

**NORMAL curve of errors. See Frequency distribution****NORMAN, Montague Collet**

Don Quixote in world finance. J. W. Newbold. por Barron's 13:11 Ag 28 '33

**NORNICOTINE**

New synthesis of nornicotine and nicotine. L. C. Craig. Am Chem Soc J 55:2854-7 Jl '33

**NORTH AMERICA**

Triangulating the continent of North America. W. Bowie. maps Eng N 110:405-6 Mr 30 '33

**NORTH AMERICAN aviation, incorporated**

Attractive low-priced speculations. Mag of Wall St 53:33 O 28 '33

**NORTH AMERICAN company**

Report for 1932. Barron's 13:13 Mr 13 '33  
 Steady progress. Barron's 12:18 N 28 '32

**NORTH AMERICAN council on fishery investigations**

Annual meeting, 20th, St Andrews, New Brunswick, Sept. 13-14. Science 78:380 O 27 '33

**NORTH AMERICAN inter-insurers**

Statement of condition of New York reciprocal. Weekly Underw 127:976 N 19 '32

**NORTH CAROLINA academy of science**

Annual meeting, 32d, Davidson, N. C. May 5-6. Science 78:125-6 Ag 11 '33

**NORTH PLATTE river**

Power and irrigation work financed by PWA. diags map Eng N 111:251-3 Ag 31 '33

**NORTHEASTERN university, Boston**

Study of grades and grading practices at Northeastern university. W. C. White. bibliog J Eng Educ 23:550-60 Mr '33

**NORTHERN natural gas company**

Exceeds bond interest. Barron's 13:17 F 6 '33

**NORTHERN Pacific railway**

Prospects for the Hill roads; Great Northern, Northern Pacific, and Burlington. D. Hovey. il Barron's 13:8-9, 11 Ag 7 '33

**NORTHERN states life insurance company**

Now in hands of receiver. Nat Underw (Life ed) 36:6 D 16 '32; Spectator 129:16 D 15 '32

Reinsured by Lincoln national life insurance company. Spectator 130:17 Mr 30 '33

**NORTHWEST bancorporation**

Announces operating plan adjusted to the times. Rand McNally Bankers Mo 50:489 S '33

**NORTHWEST electric light and power association**

Annual meeting, 26th, Portland, Ore. July 28. Elec West 71:32-3 S '33  
 Committee reports. Elec West 70:229-69 Je '33

**NORTHWEST research foundation**

Industry joins Minnesota university to study natural resources. Business Week p19 N 11 '33

Northwest research foundation and the University of Minnesota. Science 78:329-30 O 13 '33

**NORTHWEST scientific association**

Annual meeting, 9th, Spokane, Wash. Dec. 28-29. Science 77:193-4 F 17 '33

**NORTHWESTERN mutual life insurance company**

Annual convention, Milwaukee. East Underw 34:1, 3-4, 6-7 Jl 28 '33  
 Assets gain \$18,738,000. East Underw 34:8 F 3 '33; Weekly Underw 128:267 F 4 '33

**NORTHWESTERN national life insurance company**

Annual statement, 48th. Spectator 130:20 Ja 5 '33; Ins Field (Life ed) 62:5 Ja 6 '33

**NORTHWESTERN university****Library**

Charles Deering library at Northwestern university. T. W. Koch. il Lib J 58:189-96 Mr 1 '33

**Scientific crime detection laboratory**

University departments in the field of criminology. O. T. Schultz. Nat Research Council Bul 87:117-23 '32

**NORVELL, Saunders**

From E. C. Simmons' stockroom to leadership in an industry—a brief sketch of Mr Norvell. Sales Management 32:247 Mr 15 '33

**NORWALK tire and rubber company**

Annual report, year ended September 30. Rubber Age 32:204 D 25 '32

**NORWOOD engineering company**

Receivership. Paper Tr J 96:33 Je 8 '33

**NOTARIES**

Bank cannot retain employee's notarial fees; suit. Bankers M 127:65-7 Jl '33

**NOTCHED bar testing**

Die beurteilung von kesselblechen durch die kerbiegeprobe. A. Thum and H. Holdt. Stahl & Eisen 53:505-8, pl 1-2 My 11 '33  
 Effect of cold working on the Izod notched-bar impact value of monel metal. N. B. Pilling. diags Am Soc T M Proc 32 pt 2: 576-83 '32

Impact values of weld metal; abstract. J. C. Hodge. Iron Age 132:23 O 12 '33

**NOTE taking**

Symposium on laboratory notebooks, records, and reports. W. Segerblom and others. J Chem Educ 10:403-14 J1 '33

**NOVOCAINE**

Test for the presence of novocaine in nervous tissue. M. Grodinsky, M. Beber and C. P. Baker. Science 77:450 My 12 '33

See also

Anesthetics, Local

**NOVOLAK**. See Resinous products**NOZZLES**

Effect of nozzle design and operating conditions on the atomization and distribution of fuel sprays. D. W. Lee. bibliog il diags U S Nat Advisory Com for Aeronautics 1932:505-21 '33

New test data aid quality control of gunite; relining reservoirs for Syracuse, N.Y. provide basic data on nozzle velocities, size and shape of test specimens, cement ratio, etc. E. P. Stewart. diags Eng N 111: 558-61 N 9 '33

Nozzles to measure turbine performance; abstract and discussion. S. A. Moss and W. W. Johnson. diag Power 76:336-7 Mid-D '32

Some characteristics of sprays obtained from pintle-type injection nozzles. E. T. Marsh and C. D. Waldron. diag Automotive Ind 69:420 O 7 '33

Spray nozzle devised by O. B. Lindquist. diag Eng & Min J 134:202 My '33

**NUCLEAR spin**

Anomalies in hyperfine structure. S. Goudsmit and R. F. Bacher. Phys R 43:894-9 Je 1 '33

Nuclear spin and magnetic moment of sodium from hyperfine structure. C. M. Van Atta and L. P. Granath. Phys R 44:60-1 J1 1 '33

Nuclear spin of  $\text{Li}^7$  from hyperfine structure data. N. M. Gray. Phys R 44:570-4 O 1 '33

Nuclear spin of sodium. I. I. Rabi and V. W. Cohen. Phys R 43:582-3 Ap 1 '33

Partial resolution of the Be I line  $\lambda 4572.69$  and probable spin of the  $\text{Be}^9$  nucleus. A. E. Parker. Phys R 43:1035-6 Je 15 '33

Spin of the sodium nucleus. J. Joffe and H. C. Urey. Phys R 43:761 My 1 '33

**NUCLEOSIDES**

Constitution of the purine nucleosides. J. M. Gulland and T. F. Macrae. Chem Soc J p662-9 Je '33

**NUISANCES**

Abatement of public nuisance by local board of health; California decision. Pub Health Rep 48:1020-1 Ag 18 '33

Coke plant held not a nuisance. Gas Age 71:18 Ja 7 '33

See also

Air pollution

Noise

Public health

Smoke prevention

**NUMBER concept**

Number, the language of science. T. Dantzig. 2d rev ed 262p \$2.50 Macmillan '33

**NUMBER plates**. See Telephone—Number plates**NUMBERING machines**

Machine for rolling numbers in graduated cylindrical parts. A. E. Granville. il Am Mach 77:410 Je 21 '33

Noble & Westbrook serial number marking machine. il Mach 39:551 Ap '33

**NUMBERS**

See also

Numerals

**NUMERALS**

Our common numerals. G. A. Miller. Science 78:236-7 S 15 '33

**NURSERIES (horticulture)**

Employees

Nursery employee held to be a farm laborer. Monthly Labor R 35:1091 N '32

**NURSES and nursing, Public health**

Handbook on records and statistics in the field of public-health nursing. 30p U S Children's bureau, Washington '32

Minimum qualifications for those appointed to positions in public health nursing. Pub Health Rep 48:247-50 Mr 10 '33

Objectives in public health nursing. Pub Health Rep 48:243-7 Mr 10 '33

Public health nursing in industry. D. Deming. Nat Safety N 27:54 Ja '33

Public health nursing in industry. V. H. Hodgson. 249p [bibliog p241-4] \$1.75 Macmillan '33

**NURSES in industry**. See Medical service, Industrial

**NUT oils**

See also

Hazelnut oil

**NUTRITION**

Chemistry and nutrition. W. R. Sibbald. Soc Chem Ind J (Chem & Ind) 52:173-8 Mr 3 '33

Future research on food and digestion. L. B. Mendel. Science 77:sup8 Ap 28 '33

Good housing versus food. G. C. M. McGonigle. Monthly Labor R 37:912-13 O '33

Law of maximum normal nutritive value. E. B. Forbes. Science 77:306-7 Mr 24 '33

Malnutrition in the Amazon basin. E. Hanson. Science 78:36-8 J1 14 '33

Nutrition. G. Lusk. 142p [bibliog p125-9] P. B. Hoeber, inc, New York '33

Nutrition in relation to expectation of life; abstract. H. C. Sherman. Science 78:sup8 S 15 '33

Outlook in the science of nutrition. L. B. Mendel. Science 78:317-22 O 13 '33

Reinforcing a weak spot in our diet. H. V. Moss. il Sci Am 148:90-1 F '33

See also

Diet

Food

Metabolism

Vitamins

**NUTS**

Display idea that solved a turnover problem; Kelling nut company. il Ptr Ink 161:32-3 D 1 '32

See also

Peanuts

Pecans

Statistics

Peanuts, walnuts, and other nuts, processed or shelled, 1929 and 1931. Food Ind 5:51 F '33

**NUTS (machinery)**. See Bolts and nuts

**NYSTAGMUS**, Miners'. See Miners' nystagmus

**O****OAKLEY, A. W.**

Portrait. Refrig Eng 25:8 Ja '33

**OATMEAL**

History of the Quaker oats company. H. J. Thornton. 279p [bibliog p258-67] \$3 Univ. of Chicago press '33

**OATS**

Oat crop plus carryover is less than depression consumption, yet prices are low. Business Week p15-16 S 16 '33

**OBSERVATION cars**

Pullman all-aluminum compartment, observation-lounge car. il plan Ry Age 94:823-6 Je 10 '33

Pullman aluminum cars mark new era in car construction. il plan Ry Age 94:789-93 Je 3 '33

Two aluminum passenger cars on exhibit at Chicago. il diags Ry Mech Eng 107:185-91+ Je '33

**OBSCOLESCENCE**

Are industrial practices in step with the times? H. V. Coes. Manuf Rec 102:15 My '33

Business must get up to date. R. Willoughby. il Nation's Business 21:23-5+ Mr '33

Few obsolete plants according to producers themselves. Rock Prod 35:54-5 D 31 '32

New tools for the war against decay. R. Willoughby. il Nation's Business 21:20-2+ My '33

Obsolescence. H. W. Ralph. Nat Pet N 24: 29-30+ D 28 '32; 25:27-8+ Ja 4; 27:8+ Ja 11 '33



**OBsolescence**—*Continued*

Obsolescence of electric drives in the rock products industry. R. H. Rogers. *il* Rock Prod 35:65-70 D 31 '32

Obsolescence of refrigerating machinery. R. M. Fischer. *Refrig Eng* 25:92-3+ F '33

When is a cement plant obsolete? A. Moore. *Rock Prod* 35:42-4 D 31 '32

*See also*

Depreciation Machinery, Replacement of  
Insurance, Obsolescence

**OCCIDENTAL** life insurance company

Report for 1932. *Spectator* 130:21 Mr 16 '33

**OCCUPATIONAL** diseases. *See* Diseases, Industrial**OCCUPATIONS**

Beyond the school; a textbook on work and living. F. A. Rexford and others. 409p [bibliog p391-403] Holt '33

Careers ahead. J. Cottler and H. Brecht. 312p \$2.50 Little '33

Easy way to earn money. A. N. Peters. 48p A. N. Peters, Cleveland '32

Further contributions to the prestige value of public employment. L. D. White. 88p \$1.50 Univ. of Chicago press '32

Occupational trends in New York city; changes in the distribution of gainful workers, 1900-1930. (Adjustment service. Publications no. 1) 15p Personnel research federation, New York '33; Abstract. Management R 22:175 Je '33

Our changing occupations. J. D. Beatty and H. L. Grau. 26p Pittsburgh personnel assn, Pittsburgh '33

Vocations. W. M. Proctor. rev & enl ed 390p [bibliog p375-80] Houghton '33

*See also*

Ability tests Woman—Occupations  
Job analysis  
Vocational guidance

**Bibliography**

Reader's guide to occupations. *Lib J* 58:735-41 S 15 '33

**Statistics**

Fifteenth census of the United States, 1930: occupation statistics, gainful workers by industry and occupation. 185p Census bureau, Washington '33

Fifteenth census of United States, 1930; occupation statistics, children in gainful occupations. 61p Census bureau, Washington, D. C. '33

Industrial classes in the United States in 1930. T. M. Sogge. *Am Statist Assn J* 28:199-203 Je '33

Occupational grouping of gainful workers, 1910 to 1930. *Monthly Labor R* 35:1303-4 D '32

Occupational trends in Minnesota. A. H. Hansen and T. M. Sogge. Univ of Minnesota Employment Stabilization Research Institute Bul v 2, no 4:1-29 '33 (pa 50c)

**Terminology**

Wages and hours of labor in the dyeing and finishing of textiles, 1932; factory occupational terms, and definitions and classification by Bureau of labor statistics. U S Bur Labor Statistics Bul 588:47-72 '33

**OCCUPATIONS**, Choice of

Book of opportunities. R. Platt. rev ed 479p \$3 Putnam '33

Choosing an occupation; vocational civics. S. H. Ziegler and H. J. Wildes. 344p J. C. Winston co, Philadelphia '33

Do college students choose vocations wisely? E. J. Sparling. 110p [bibliog p106-10] \$1.50 Teachers college '33

Find yourself. I. D. Cohen. 299p \$2 Sears pub. co, inc, New York '32

New professions in business. 62p Peirce school of business administration, Philadelphia '33

*See also*

Vocational guidance

**OCCUPATIONS**, Dangerous

Dangerous jobs. G. M. Burnham. 23p pa 5c International pamphlets, 799 Broadway, N.Y. '33

Report of advisory committee on employment of minors in hazardous occupations. *Monthly Labor R* 35:1315-22 D '32

*See also*

Accidents, Industrial Diseases, Industrial  
Coal miners Hygiene, Industrial  
Miners

**OCEAN**

L'emploi de l'ondo-pompe Cattaneo pour utiliser les mouvements de la mer. J. Richard. *diag Génie Civil* 102:21 Ja 7 '33

Light penetration in the waters of southern Alaska. C. L. Utterback. *Opt Soc Am J* 23:339-41 O '33

Light penetration in the waters of the San Juan Archipelago. C. L. Utterback and J. W. Boyle. *diag map Opt Soc Am J* 23:333-8 O '33

Variations in visible solar light during submarine measurements. C. L. Utterback. *Science* 77:118-19 Ja 27 '33

*See also*

Concrete, Effect of Marine deposits  
sea water on Marine structures  
Continental shelf Navigation  
Hydrographic surveying Ocean bottom  
Marine biology Sea water  
Tidal power

**OCEAN** bottom

Geological misconceptions concerning the oceans. F. P. Shepard. *Science* 78:406-8 N 3 '33

Investigations of modern marine sediments in California. T. W. Vaughan. *Nat Research Council Bul* 89:74-9 '32

Origin of petroleum. P. D. Trask. *Science* 77:supl2 My 26 '33

Radium content of ocean-bottom sediments. C. S. Piggot. *il map Am J Sci* 5th ser 25:229-38 Mr '33

Results of the American petroleum institute research project on origin and environment of source sediments. P. D. Trask. *il diag Am Pet Inst Proc* 14M(4):19-30; Discussion. 30-1 My '33

**OCEAN** currents

Are there cyclonic whirls in the ocean? H. P. Gillette. *Water Works & Sewerage* 80:344 S '33

**OCEAN GROVE**, New Jersey**Sewerage**

Safeguarding health by sewage disposal; three New Jersey communities reduce water bills by recirculating effluent. C. H. Vivian. *il diag Comp Air M* 38:4218-22 S '33

**OCEAN** travel

Deck sports. M. H. Feddersen. 144p Hale, Cushman & Flint, Boston, New York '33

Fewer voyagers; reduced ocean fares failed to win more traffic. *Business Week* p21 Ja 25 '33

*See also*

Steamboat lines  
Steamboats

**OCHER**

Ocher and barytes processing methods. J. K. Dellinger. *Eng & Min J* 134:194 My '33

**OCTAHYDROPYRROCOLINE**

Octahydropyrrocoline. G. R. Clemons and G. R. Ramage. *Chem Soc J* p2969-73 D '32

**OCTANOL**. *See* Octyl alcohol**OCTOPUS**

Molecular weight of the hemocyanin of octopus vulgaris. T. Svedberg and I. B. Eriksson. *il Am Chem Soc J* 54:4730-8 D '32

**OCTYL** alcohol

Dehydration of capryl alcohol. F. C. Whitmore and J. M. Herndon. *Am Chem Soc J* 55:3428-30 Ag '33

Studies in solvent action; optical rotatory powers of  $\beta$ -octanol,  $d$ -amyl alcohol, and their derivatives. H. G. Rule, E. E. Smith and J. Harrower. *Chem Soc J* p376-87 Ap '33

**O'DEA, Mark**

Most interesting advertising job I ever did.  
por *Ptr Ink* 162:33-5 F 16 '33

**ODER river, Germany**

Improving the Oder river. J. B. Drisko. il  
map *Civil Eng* 3:314-18 Je '33  
Das staubecken Ottmachau; ein erster schritt  
zur verbesserung der Oderschiffahrtsstrasse.  
E. Krieg. il *diags map Zeit Ver Deutsch*  
*Ing* 77:1057-60 S 30 '33

**ODLUM, Floyd Bostwick**

He made the depression work for him. G. H.  
Allen. pors *Forbes* 32:12-14+ JI 15 '33  
Investment trust collector. por *Business Week*  
p20 My 10 '33

**O'DONNELL, Eugene E. 1893-1933**

Sketch. por *Marine R* 63:23 My '33

**ODORS**

Aromatics find increasing use for reodorizing  
textiles. *Textile World* 82:1173 D '32  
Deodorizing textiles. R. A. Engel. *Melliand*  
5:106-7 Je-JI '33

Odor filter applicable to industrial systems.  
il *Iron Age* 132:28 JI 27 '33

Odorants in rubber. M. A. Foley. *India Rub-*  
*ber W* 88:30+ Je '33

Public is ready for better smelling rubber  
raincoats. D. A. Laird. il *Rubber Age* 33:  
153-4+ JI '33

Scented paper for business use; Miami valley  
coated paper co. *Management Methods* 62:  
213 My '33

*See also*

Deodorization	Sewage disposal—
Gas, Natural—Odor-	Odor removal
izing	Water purification—
	Odor removal

**Measurement**

Determination of odors and tastes in water;  
abstracts. G. M. Fair. *Eng N* 111:385-6 S 28  
'33; *Water Works & Sewerage* 80:360 O '33

Procedure for making odor determinations.  
O. Gullans. *Am Water Works Assn J* 25:  
974-81 JI '33

**OENSLAGER, George, 1873-**

Accomplishments of the medalist. H. L.  
Trumbull. por *Ind & Eng Chem* 25:230-2 F  
'33; Same. *Soc Chem Ind J* (Chem & Ind)  
52:95-8 F 3 '33

Perkin medal for 1933 awarded to Oenslager.  
por *Oil Paint & Drug Rep* 122:15 D 26 '32;  
123:15+ Ja 9 '33; *Science* 77:14-15 Ja 6 '33

**OERSTED (term)**

Oersted. *J Fr Inst* 215:100 Ja '33

**OESTRIN. See Estrin****OFFICE appliances**

Adapting machines to preparation of field or-  
ders. T. J. Perry. *Am Gas Assn Mo* 15:257-  
9 Je '33

Banks will use more machines. E. C. Mack.  
Rand *McNally Bankers Mo* 50:588+ N '33

Business machines herald revival. L. Dale.  
*Comm & Fin* 22:929-30 O 25 '33

Devises ingenious mechanical aids; D. A. Mc-  
Intire, supervisor, the Prudential insurance  
company. *Management Methods* 61:618 N '32

In the modern office. Published in monthly  
numbers of Credit and financial manage-  
ment

Mammoth filing machine of insurance depart-  
ment files 4½ million vouchers a year in  
Prague. il *Management Methods* 61:609-10  
N '32

Mechanical office equipment; A.G.A. commit-  
tee report. il *Am Gas Assn Proc* 1932:201-63;  
Discussion. 263-4

Office work goes modern. R. Willoughby. il  
*Nation's Business* 21:20-2+ S '33

Untersuchungen über die ausrüstung der  
eisenhüttenmännischen verwaltungsbetriebe  
mit büromaschinen. A. Störmann. *Stahl &*  
*Eisen* 53:908-9, 935-6, 961, 989-90 Ag 31-S  
21 '33

Wrinkles; compiled by the 1931-32 A.G.A. com-  
mittee on mechanical office equipment. il  
*Am Gas Assn Proc* 1932:315-73; Discussion.  
374-9

*See also*

Accounting—Me- chanical aids	Dictagraph
Calculating machines	Dictaphone
Cash registers	Sorting devices
Counting machines and devices	Telautograph
	Typewriters

**Directories**

Directory of mechanical office equipment and  
manufacturers. *Am Gas Assn Proc* 1932:240-  
63

**Exhibitions**

World's Fair to show office equipment.  
*Management Methods* 62:70 F '33

**Repair**

Office handyman. *Management Methods* 62:11  
Ja '33

**OFFICE buildings**

Empire State building, New York city. F. W.  
Skinner. il *diags plans Engineering* 134:525-  
6, 527, 586-9, 641-4, 703-5, 706, 756-8, pl 24  
N 4, 18, D 2, 16, 30 '32

Head office building of the Toronto hydro-  
electric system. I. Ilsley. il *Can Eng* 64:5-8  
My 16 '33

Lincoln-Liberty building, Philadelphia; views  
and plans. *Arch Rec* 72:369-74 D '32

Philadelphia's fancy turns to thoughts of  
architecture; Philadelphia saving fund so-  
ciety building. il *Fortune* 6:65-9+ D '32

RCA building, Rockefeller Center, New York;  
views and plans. *Arch Forum* 59:273-8 O '33

Tokyo office building for Truscon steel co;  
views. *Arch Rec* 73:54-6 Ja '33

*See also*

Empire State building	Newspaper offices
Employment agency buildings	Office lighting
High buildings	Offices
Insurance company buildings	Printing offices
Medical buildings	Steel construction
	Telephone company buildings

**Electric equipment**

Brettenham house; electrical equipment in  
one of London's latest buildings. il *Elec R*  
(Lond) 112:304 Mr 3 '33

Electrical distribution in a modern skyscraper;  
Gulf building, Pittsburgh. J. C. Runyon. il  
*diags Elec J* 30:245-9 Je '33

Shell-Mex house; electricity in a great London  
building. il *Elec R* (Lond) 112:147-8 F 3 '33

South Africa house. il *Elec R* (Lond) 112:938,  
944 Je 30 '33

Unilever house. il *Electrician* 109:635-6 N 18  
'32

*See also*

Elevators, Electric

Office lighting

**Equipment**

Cooling small stores with ice. J. N. Liver-  
more, C. M. Clemens and P. S. Hosman.  
il *diags layout Heat & Ven* 30:22-7 Mr; 40-2  
Ap '33

Meters guide operations at Rockefeller Center.  
il *Power* 77:572-4 N '33

**Heating and ventilation**

Air conditioning a small office building; Ditz-  
ler color company. J. J. Murray. il *diags*  
*plan Heat & Ven* 30:28-30 JI '33

Air conditioning and ventilating a 31-story  
office building; Metropolitan life insurance  
company, New York. E. C. Parker. il *diags*  
*Heat & Ven* 30:14-19 Ag '33

Air conditioning costs analyzed; office building  
of the San Joaquin light & power corp. at  
Fresno, Calif. G. E. Zelhart. *Elec West* 70:  
119-21 Ap '33; *Abstract. Heat & Ven* 30:45-6  
Je '33

Conditions air for six-floor tenant; 22 East  
40th St. building of the New York trust  
company. M. O'Connell. il *Heating-Piping*  
5:463-5+ S '33



**OFFICE buildings—Heating and ventilation—***Continued*

Empire State building, New York city. F. W. Skinner. *il* diags Engineering 134:703-5, 706 D 16 '32

Flexibility a feature of the completely conditioned Philadelphia saving fund society building. J. M. Dowling. *il* plans Heating-Piping 5:409-12 Ag '33

Gas furnishes heat, light and power in big office building of the Dallas gas company. J. B. Nealey. *il* plan Am Gas Assn Mo 15:374-5 S '33

Gas-heated Atlanta building gives unit fuel data for southern climate; W. W. Orr doctors' building. R. C. Broach. Heat & Ven 30:32-5 S '33

Here manufactured weather attracts new tenants; Philadelphia saving fund society building. *il* System 62:492-3 N '33

Hot-water heating for skyscrapers; Sixty Wall Tower. T. S. Tenney. *il* diag Heating-Piping 5:82-6 F '33

Ideal office environment available in new Radio City buildings. *il* Management Methods 62:62 F '33

Office comfort at 6½ cents a day. *il* Dom Eng 141:62+ My '33

Radio City air conditioning includes some steam-jet refrigeration. A. Merle. *il* diags Power 77:449-52 S '33

Radio City's British Empire building completely air conditioned. A. Merle. *il* diags Heating-Piping 5:239-41+ My '33

17-year-old office building meets competition by air conditioning; Heard building, Phoenix, Arizona. R. E. Phillips. *il* Heating-Piping 5:250-1+ My '33

These two jobs show application of electric heating to office buildings. L. P. Hynes. *il* Heating-Piping 5:358-60 JI '33

Unit conditioners heat, cool and filter air in General Electric building, New York. *il* Heat & Ven 30:19-21 S '33

**Lighting**

See Office lighting

**Power**

Costs down 2/3, kw.-hr. load up 1/3—the record at Deshler-Wallick. Power 77:230-1 My '33

Famine in the land of plenty; power plant problems in office buildings. L. E. Habben. *il* Power 77:582-4 N '33

Gas furnishes heat, light and power in big office building of the Dallas gas company. J. B. Nealey. *il* plan Am Gas Assn Mo 15:374-5 S '33

Power potent; Chicago pneumatic tool company installs automatic Diesel plant at No. 1 Park Avenue building, New York. Business Week p7 F 1 '33

Private plant in London; Diesels replace steam at the Prudential headquarters. *il* Elec R (Lond) 112:479, 486 Ap 7 '33

This 200-kw. steam plant cut costs \$8,000 per year; St. James bldg, New York city. Power 77:236-7 My '33

**Remodeling**

After 25 years one of Oregon's pioneer buildings was modernized; schedule of costs. *il* diags Arch Forum 58:441-3 My '33

How elevator modernization pays. *il* Am Bld 55:44 O '33

Modernization restores earnings of buildings approaching obsolescence. C. A. McCaleb. *il* Rand McNally Bankers Mo 50:542-4 O '33

Notes on office buildings. *il* Arch Forum 58:41-4 Ja '33

**OFFICE costs**

This form cuts office costs. *il* Management Methods 61:664 D '32

**OFFICE lighting**

Lighting a modern office. *il* Elec R (Lond) 112:895, 900 Je 23 '33

Lighting for office buildings; with cost data. W. E. Malm. Elec W 101:587-9 My 6 '33

Lighting of commercial buildings. H. C. Wheat. Electrician 110:220 F 17 '33

Office lighting; W. H. Botsford and co, ltd. *il* Electrician 110:810 Je 16 '33

Relighting a banking room; American trust company, Charlotte, N.C. R. A. Palmer. *il* Elec W 101:297-8 Mr 4 '33

Some examples of modern office lighting. *il* Illum Engr 26:200-1 Ag '33

**OFFICE management**

Collaboration between office and technical staff; abstract. F. J. Power. Management R 22:111-12 Ap '33

Cost saving by revision of clerical details is possible when volume falls. F. Klein. Iron Age 132:23 S 7 '33

\$5,000 annual saving; Jewel tea company; handling branch orders. Management Methods 61:668 D '32

Fraud and embezzlement, including the use of office machinery, statistics, etc. as preventive measures. I. H. Dearnley. 175p \$2.25 Pitman '33

Handling a million contest entries. *il* Management Methods 61:661-2 D '32

How good times can start. L. C. Walker. Management Methods 62:127 Mr '33

How simplified procedure reduced Westinghouse operating costs; handling orders, standardizing forms, etc. G. L. Harris. *il* System 62:494-5+ N '33

How using factory methods reduces office moving time; lowers office costs. *il* Management Methods 62:172-3 Ap '33

In the modern office. Published in monthly numbers of Credit and financial management

Many aim at lower office costs; few have effective staff plans. Management Methods 61:607-8 N '32

Office economist. Published monthly by the Art metal construction co., New York

Office management series. Published by American management assn, 20 Vesey st, New York '33

Peak loads. Management Methods 62:26 Ja '33

Profitable employment of idle time. N. L. McLaren. J Account 54:433-47 D '32

Regulating employment in the offices; A.G.A. committee report. Am Gas Assn Proc 1932: 192-3

Rigid financial control reduces transcribing department expense. J. F. O'Keefe. *il* System and Management Methods 62:394-5 S '33

Scheduling accounting work to facilitate preparation of monthly balance sheet and income account. Am Gas Assn Mo 15:384-5 S '33

What price system? F. Klein. Chem Markets 33:25-6 JI '33

Wrinkles; compiled by the 1931-32 A.G.A. committee on mechanical office equipment. *il* Am Gas Assn Proc 1932:315-73; Discussion. 374-9

See also

Accounting  
Accounting departments  
Advertising departments  
Billing  
Business management  
Commercial correspondence  
Credit departments  
Executives  
Files and filing (documents, etc.)

Mail  
Mailing  
Mailing lists  
Messengers  
Office workers  
Orders  
Payrolls  
Printing offices—  
Management  
Railroads—Office  
management  
Secretaries, Private  
Telephone in business

**Bibliography**

Office management. Published in monthly numbers of Management review

**Caller records**

Caller record worthwhile; Houston lighting & power company. Management Methods 61:615 N '32

**OFFICE supplies**

Purchasing office supplies. W. Fathers. p1-11; Discussion. p11-20 American management assn, New York '33

Small savings for large totals; Swift and company. Management Methods 62:70-1 F '33

**OFFICE supplies—Continued**

Stationery costs reduced; Libby, McNeill & Libby. Management Methods 62:220-2 My '33

**OFFICE workers**

American business enlists under Blue Eagle banner; office worker codes suggested. System and Management Methods 62:347 Ag '33

Application of incentive wage payment plans to office work; abstract. W. H. Leffingwell. Management R 22:113 Ap '33

Earnings of office workers in New York state factories, October, 1932. Monthly Labor R 36:179-80 Ja '33

Piece rates solve problem; Stewart-Warner corporation. Management Methods 61:613 N '32

Spread work movement gains momentum. Management Methods 61:611-12 N '32

See also

Bank employees

**Rating**

Rating tests shown at business show. il Management Methods 61:612-13 N '32

**OFFICES**

Architecture and real estate under one roof; an old stable now used for office space and living quarters. New York city. il plans Arch Rec 74:386-7 N '33

Business offices of executives; views. Architecture 66:343-6 D '32

Corporation's offices; Johns-Manville. il diags plans Arch Forum 59:247-62 O '33

What is a model office for advertising work? il Ptd Salesmanship 61:33 Mr '33

See also

Architects' offices  
Drafting rooms  
Newspaper offices

Physicians' offices  
Printing offices  
Sales rooms

**Layout**

And for the plant office layout motion economy; Link-Belt company. W. Conroy. il Factory Management 91:153-4 Ap '33

Sensible new desk for a sales office. il diags Arch Forum 59:sup31 Jl '33

**OFFSET printing.** See Printing, Offset**OGDEN, Utah**

Courts disapprove loan by R.F.C. to city of Ogden. Eng N 110:480 Ap 13 '33

**OHIO**

See also

Coal—Ohio  
Labor and laboring classes—Ohio

Retail trade—Ohio

**Commerce**

Aid for analyzing markets in Ohio. 20p U. S. Bur. of foreign and domestic commerce. Domestic regional division, Washington '32

**OHIO academy of science**

Annual meeting, 43d. Athens, April 14-15. Science 77:539-40 Je 2 '33

**OHIO association of insurance agents, inc.**

Annual meeting, Marion, Ohio. Nat Underw (Extra ed) 37:3-11 Ag 25 '33

**OHIO national life insurance company**

Absorbs Bankers Reserve of Omaha. Nat Underw (Life ed) 37:4 Ap 28 '33; Ins Field (Life ed) 62:13 Ap 28 '33

**OHIO river**

Ohio floods recede and none expected in Mississippi river. Eng N 110:418-19 Mr 30 '33

Studies of the pollution and natural purification of streams; resurvey of the Ohio river between Cincinnati and Louisville. Pub Health Rep 48:976-9 Ag 11 '33

**OHMMETERS**

Extending meter ranges by means of multipliers and shunts. G. A. Eaton. diags Radio N 14:592-3+ Ap '33

Multi-range direct-reading ohmmeter. M. G. Scroggie. il diags Wireless Eng 10:606-8 N '33

Resistors for voltmeter, ammeter and ohmmeter circuits. Z. Bouck. il diags Radio N 14:554-5 Mr '33

Two ohmmeter circuits. diags Radio N 15:170 S '33

**OHM'S law**

Ohm's law charts. R. C. Hitchcock. Elec J 30:435 O '33

**OIL.** See Oils and fats; Petroleum**OIL, Insulating**

Cable developments discussed by committee. W. A. Del Mar. Elec Eng 52:100-1 F '33

Electrical breakdown of liquid dielectrics. F. M. Clark. bibliog J Fr Inst 216:429-58 O '33

Foreign practice on insulating oils in transformers and oil circuit breakers; committee report. Edison Elec Inst Bul 1:185-8+ [bibliog p188] S '33

Oil purification plant. H. E. Hutter. il diag Elec R (Lond) 112:737 My 26 '33

Oil under pressure used in 16.5-33-kv. changeover. G. H. Logan. diags Elec W 102:318 S 2 '33

Piping systems for oil-filled equipment. W. B. Morton and B. Payne. il diags Elec W 101:552-4 Ap 29 '33

Portable oil-conditioning unit saves three times its cost. W. G. Copeland. il Elec W 100:751 D 3 '32

Power station oils; the need for further research. E. A. Evans. Elec R (Lond) 112:79 Ja 20 '33

Summary of year's insulation research. J. B. Whitehead. Elec Eng 52:99-100 F '33

Thermal transients and oil demands in cables. K. W. Miller and F. O. Wollaston. Elec Eng 51:858-63 D '32

**Air content**

Rôle of dissolved gases in determining the behavior of mineral insulating oils. F. M. Clark. bibliog diag J Fr Inst 215:39-67 Ja '33

**Testing**

Further studies and tests on the problems involved in high precision power factor measurements of small oil samples; abstract. J. C. Balsbaugh. Elec Eng 52:103-4 F '33

Life of impregnated paper as related to the impregnating oil; abstract. J. B. Whitehead. Elec Eng 52:105-6 F '33

Progress report on deterioration of oils and papers under corona discharge; abstract. K. S. Wyatt. Elec Eng 52:102-3 F '33

Rôle of dissolved gases in determining the behavior of mineral insulating oils. F. M. Clark. bibliog diag J Fr Inst 215:39-67 Ja '33

**OIL, Transformer**

Transformer oil. J. P. Murrough. Elec R (Lond) 112:698 My 19 '33

**Testing**

Performance of insulating oils in transformers. Edison Elec Inst Bul 1:38-47 My '33

**OIL analysis**

Analysis of hydrocarbon oils. R. H. Griffith and H. Hollings. Inst Pet Tech J 19:701-12 Ag '33

Analysis of mineral lubricating oils by fractionation with acetone. M. Nottage. Inst Pet Tech J 18:943-52 N '32

Analysis of oils and fatty acid mixtures by use of the thiocyanate number and other values. W. H. Hoback. Oil Paint & Drug Rep 123:25+ Je 12; 38, 44 [bibliog p44] Jl 17 '33

Composition of commercial palm oils; some characteristic differences between the component acids of oils from Liberia or the Ivory coast and those of native or plantation palm oils from other localities. H. K. Dean and T. P. Hilditch. Soc Chem Ind J 52:165T-9T Je 16 '33

Determination of lead in grease and oil containing lead soap. A. D. Bauer and C. S. Ford. Nat Pet N 25:37 S 13 '33

Determination of moisture in sulphonated oils. R. Hart. bibliog il diags Am Dyestuff Rep 21:667-75 N 21 '32



**OIL analysis—Continued**

Determination of unsaponifiable matter in oils and fats; abstract. Soc Dyers & Col J 49:274 Ag '33  
 Relation of carcinogenicity of mineral oils to certain physical and chemical characteristics of these oils. R. Lyth. J Ind Hygiene 15: 226-37 Jl '33

*See also*

Gasoline—Analysis  
 Petroleum—Analysis

Sulfonated oils—  
 Analysis

**OIL and colour chemists' association**

Annual dinner, London, March 24. Chem Age (Lond) 28:288 Ap 1 '33  
 Annual general meeting, 15th, London, May 11. Chem Age (Lond) 28:455-6 My 20 '33

**OIL bulk stations**

Derby reduces farm delivery costs with way-station bulk plants. W. F. Lowe. il Nat Pet N 25:46-7+ Ap 5 '33  
 Good engineering and simplicity mark modern bulk plant; Continental oil co, Des Moines, Iowa. W. F. Lowe. il plan Nat Pet N 25: 42-4 Ja 18 '33  
 How to paint your bulk stations. H. Johnson. il Pet Age 27:27-8 Ap '33  
 Simple and inexpensive bulk plant built by Skelly at Topeka. il plan Nat Pet N 25:26-7 F 1 '33

**Equipment**

All products metered at Kansas City suburban bulk and service station. W. F. Lowe. il Nat Pet N 25:42+ F 15 '33  
 Efficiency of modern equipment shown in new Phillips bulk plant. W. F. Lowe. il plan Nat Pet N 24:33-5 D 21 '32  
 Gasoline storage tanks buried at Magnolia's Oklahoma City bulk plant. W. F. Lowe. il plan Nat Pet N 25:32-4, 36 Ap 19 '33  
 Light oil meters pay out quickly in rural Kansas; Johnson oil co. il Nat Pet N 25: 38-9 F 15 '33  
 Modern pumps with proper settings aid bulk plant operation. W. Lewis. il Nat Pet N 25:39-40+ My 3 '33  
 Monthly saving of 3000 gallons thru bulk plant meters. il Nat Pet N 25:41+ S 13 '33

**Fire protection**

Handling and storage of inflammable liquids. G. W. Smith. Safety Eng 66:137-8+ O '33 (to be cont)

**Layout**

Bulk plant expansion difficult on small triangular lot. il Nat Pet N 25:35 Ap 12 '33

**Management**

Inlet and outlet losses checked by proper use of meters. il Nat Pet N 25:32-4 Ag 9; 39-40 Ag 16 '33  
 Light oil meters pay out quickly in rural Kansas; Johnson oil co. il Nat Pet N 25: 38-9 F 15 '33

**OIL bunkering**

Oil-tank calibration. R. W. Morrell. Marine Eng 38:168-72, 219-22 My-Je '33

**OIL burner industry**

Burner distribution by oil companies not coming—it's already here! Pet Age 27:40-1 Mr '33  
 Burner manufacturers condemn practice of oil companies giving free service. Oil & Gas J 32:21+ Je 29 '33  
 Cabinet oil heaters big feature of burner trade. Pet Age 27:31 My '33  
 Contractor uses customers to sell others. il Dom Eng 141:55-6+ My '33  
 Dealer sales increase under Timken consignment plan. W. C. Wood and E. V. Walsh. Sales Management 32:57+ Ja 15 '33  
 Distillate-power oil burners look to new markets. Gas Age 71:157 F 11 '33  
 40,000 domestic oil burners in Chicago with steady increase in prospect. R. C. Conine. Oil & Gas J 31:27+ D 1 '32  
 Free servicing eliminated in oil burner code. Nat Pet N 25:16 Je 21 '33  
 Go out and tell the story—a dealer's maxim. il Dom Eng 142:67+ S '33

Good market for oil burners and burner oils. Pet Age 27:43 Ja '33

How many prospects should a salesman be allowed? il Dom Eng 142:63-4 S '33

How oil jobbers are selling oil burners. il Pet Age 27:23-5 F '33

In defense of salesmen; Timken automatic company. E. V. Walsh. Adv & Sell 21:26+ Jl 6 '33

Is he a prospect? E. V. Walsh. Dom Eng 140: 93-5 D '32

Lashes "tear-down" competition in oil burner field. A. K. Perego. il Dom Eng 142:55-6+ Jl '33

Off-season drive for better sales; Williams oil-o-matic. il Ptr Ink 165:76 N 2 '33

Oil burner industry code; text. Heat & Ven 30:24-7 O '33; Excerpts. Dom Eng 142:62-7 N '33

Oil men, burner men, in greater cooperation; American oil burner association annual convention. Pet Age 27:35+ Je '33

Opportunities in air conditioning for the oil burner dealer. V. S. Day. il Dom Eng 140: 89-91+ D '32

Reading fuel engineers sold six hundred oil burners from scratch. il Dom Eng 142:53-5+ N '33

Reference lists of oil burning equipment. Heat & Ven 30:15-26 Ap '33

Sell oil burners at gasoline stations. il Pet Age 27:25 Ag '33

Selling oil burners at a profit. J. H. McIlvaine. il Dom Eng 142:56+ Ag '33

Selling policies that have succeeded in weathering the depression; Timken silent automatic company. E. V. Walsh. Ptd Salesmanship 61:242-3+ Je '33

Servicing domestic oil burners hot issue in Washington. Nat Pet N 24:52 N 23 '32

Standard of New Jersey sees expanding market for oil burner distillates. Oil & Gas J 31:28+ Ja 12 '33

Star salesmen the depression couldn't lick; Harry Groomman. Sales Management 33: 110-11 Ag 1 '33

Surveys that sell automatic heating jobs. il Dom Eng 141:68+ F '33

They step-up oil burner sales; interview with H. Lent. il Dom Eng 141:84-5+ Je '33

Where new burner sales come from. Pet Age 27:39-40 Mr '33

**Advertising**

Delco features air diet. Ptr Ink 164:16 Ag 3 '33

How this advertiser finds and controls dealers; Century engineering corporation. E. J. Lattner. Ptr Ink 162:17-20 Ja 26 '33

1932 oil burner advertising discards old ideas and strips for action. D. M. Frank. il Ptd Salesmanship 60:201-3+ N '32

Wayne adds 100 dealers in three bad months—and helps them sell. Sales Management 32: 451 Ap 20 '33

**Statistics**

Facts about the industry. Heat & Ven 30: 28-9 Ap '33

**OIL burners**

Adapting oil burners to pulverized coal boilers. E. F. Walsh. diags Elec W 101:522-3 Ap 22 '33

Babcock & Wilcox new wide-range oil burner. diag Marine Eng 38:283 Ag '33

Burner for creosote oil by Bretts patent lifter co. il diags Engineer 156:144 Ag 11 '33; Same cond. Mech Eng 55:633-4 O '33

Controlling motors for temperature control systems, compressors, oil burners, stokers. S. R. Lewis. il diag Heating-Piping 5:102-3 F '33

Diamonds in oil burners. diag Sci Am 149: 34 Jl '33

Economic development of furnace oils and effect on burner design. S. B. Eckert and A. E. Pew, jr. Am Pet Inst Proc p17-20 sec 3 D '32; Excerpt. Oil & Gas J 31:27+ N 24 '32; Abstract. Nat Pet N 24:24-5 N 23 '32

How to select the right oil burners. H. J. Klotz. Power 77:212 Ap '33

**OIL burners—Continued**

Ice and oil; Kelvinator's new oil burner has a variable flame that burns continuously. *il Business Week* p13 Je 10 '33

Oil flow problem was solved. *W. M. Stevens. il Dom Eng* 142:65 O '33

Part electric motors play in the oil burner picture. *R. N. Jessop. Heat & Ven* 30:33 Ap '33

Points on operating mechanical oil burners. *H. M. Spring. Power* 77:575 N '33

Range oil burner—creator of a new oil market. *L. F. Speare and C. B. Cooley. Am Pet Inst Proc* 14M(3):82-7 My '33; Same. *Oil & Gas J* 32:54+ My 25 '33; Excerpts. *Nat Pet N* 25:33-5 My 17 '33; Discussion. *Am Pet Inst Proc* 14M(3):87-8 My '33

Range oil burners make great headway. *Pet Age* 27:36-7+ Je '33

Range oil burners require kerosene or highly refined distillate as fuel. *Oil & Gas J* 32: 25 Jl 27 '33

*See also*

Oil stoves

**Maintenance and repair**

How to service oil burners in summer. *Pet Age* 27:32 My '33

**Manufacture**

Half a million inches of welding a week; manufacture of oil burning equipment by the General electric co. *C. O. Herb. il Mach* 39: 433-6 Mr '33

**Testing**

Air supply and its effect on performance of oil burners and heating boilers. *L. E. Seeley, J. H. Powers and E. J. Tavanlar. Heating-Piping* 4:823-6 D '32; Excerpts. *Heat & Ven* 30:46-7 F '33; *Dom Eng* 141:28-30 Mr '33

**OIL burning equipment**

Cabinet oil heaters big feature of burner trade. *Pet Age* 27:31 My '33

Developments in the electrical industry during 1932; oil furnace. *J. Liston. il Gen Elec R* 36:34-5 Ja '33

Gasifier returns to threaten industrial load. *W. W. Young, jr. Gas Age* 71:19-20 Ja 7 '33

Oil fuel firing and combustion equipment. *E. G. Peterson. il Power Pl Eng* 37:169-71 Ap '33

Reference lists of oil burning equipment. *Heat & Ven* 30:15-26 Ap '33

Technical features of the new General Electric oil furnace. *R. S. Thurston. il diag Gen Elec R* 35:602-8 D '32

*See also*

Boilers—Oil firing  
Oil water heaters

**Safety devices and measures**

List of inspected gas, oil, and miscellaneous appliances. January, 1933. 98p National board of fire underwriters, 207 East Ohio st., Chicago '33 [revised semiannually]

**OIL-coal fuel.** *See* Fuel, Colloidal

**OIL companies**

Burner distribution by oil companies not coming—it's already here! *Pet Age* 27:40-1 Mr '33

Colonial Beacon oil, youngster among majors, has good record. *il Pet Age* 27:22-3+ Mr '33

Dealer station accounts make up loss on sales to farm trade. *Nat Pet N* 25:38-9 Ja 18 '33

How oil jobbers are selling oil burners. *il Pet Age* 27:23-5 F '33

Wholesaling of automotive accessories followed by some oil companies. *il Nat Pet N* 24: 11-12+ D 28 '32

*See also*

Gasoline industry  
Gasoline service stations  
Lubricating oil industry

Oil bulk stations  
Oil fuel industry  
Oil industries  
Petroleum industry and trade

**Accounting**

Obsolescence. *H. W. Ralph. Nat Pet N* 24:29-30+ D 28 '32; 25:27-8+ Ja 4; 27-8+ Ja 11 '33

*See also*

Petroleum industry and trade—Accounting

**Advertising**

Family of products featured by Standard Oil. *il Ptr Ink* 162:70-1 F 16 '33

**Finance**

Earnings of oil companies during 1932 reflect improvement in situation. *A. E. Mockler. Oil & Gas J* 31:78 My 18 '33

Four major companies report gain in net earnings in 1932. *Nat Pet N* 25:17-18 Mr 8 '33

Oil jobber management; discounts and turn-overs. *H. Felker. Pet Age* 27:22 Je '33

Oil profits slump for half-year. *Barron's* 13:8 Ag 21 '33

**Management**

Analyzing stock losses. *W. W. Brown. Nat Pet N* 25:37-8 Je 7 '33

Grain and livestock taken by farm belt jobbers to close accounts. *Nat Pet N* 24:16 N 30 '32

Jobber keeps accessory stock to week's supply by regular re-ordering system. *E. L. Barringer. il Nat Pet N* 25:34-5 Ja 11 '33

Local oil companies barter oil for corn, potatoes. *Nat Pet N* 25:38-9 F 8 '33

Marketer's plan benefits cash customers. *Nat Pet N* 25:10 F 1 '33

Nebraska marketer, S. A. Wassum, keeps his business profitable by personal contact. *E. L. Barringer. il Nat Pet N* 25:36-7 Ja 18 '33

Oil jobber's set-up—a survey. *Pet Age* 26:19+ D '32

Reducing station sales expense; revision of present policies in selecting outlets. *F. A. Bean. Nat Pet N* 24:83-4 N 16; 39-40+ N 30 '32

Why not let agents, dealers help get better gasoline prices? evils of cents per gallon commissions. *E. L. Meece. Nat Pet N* 25:36-8 F 8 '33

**Records**

Not a battery missing! perpetual check on inventory. *F. W. Koerber. Pet Age* 27:32-3+ Mr '33

**OIL delivery**

Derby reduces farm delivery costs with way-station bulk plants. *W. F. Lowe. il Nat Pet N* 25:46-7+ Ap 5 '33

Expediting truck fuel oil deliveries by motorized pump on trailer. *R. H. Beattie, jr. il Nat Pet N* 24:38 D 28 '32

New restrictions and tax on trucks threaten oil company deliveries. *R. B. Stafford. Nat Pet N* 24:11-12 N 30 '32

Old trucks reconditioned to deliver fuel oils and distillates. *il Nat Pet N* 25:40-1 F 15 '33

Refinery executive explains importance of trucks in aiding business recovery. *E. S. Rule. Oil & Gas J* 31:32 F 9 '33

*See also*

Tank trucks

**OIL distillation**

Cracking Alaskan fur-seal oil. *G. Egloff and E. F. Nelson. Ind & Eng Chem* 25:386-7 Ap '33

Cracking of cottonseed oil. *G. Egloff and J. C. Morrell. Ind & Eng Chem* 24:1426-7 D '32

*See also*

Oil shale—Distillation  
Petroleum distillation

**OIL engines.** *See* Diesel engines; Gas and oil engines



**OIL films**

Oil film pressure in a complete cylindrical bearing. Y. Yavitch. diags Sibley J 46:207-11+ D '32

See also

Films Lubrication and lubricants  
Lubricating oils

**OIL filters**

Auto-Klean Lolos strainer for engine fuel oil. il diags Engineer 156:225 S 8 '33

Briggs clarifier cleans the crankcase oil. il Automotive Ind 69:463 O 14 '33

Filtering oil with stone element. il Elec Traction 29:181-2 Je '33

Filtration of waste oils from the engine room; Wells patent filter. diags Chem Age (Lond) 29:301 S 30 '33

Further developments in the use of meta-filters. J. A. Pickard. il Chem Age (Lond) 29:304-6 S 30 '33

Is the time coming when we'll never drain the crankcase? W. J. Cumming. Bus Transportation 12:240-1 Je '33

Oil conditioner; H-W filtering principle, developed by Michiana products corp. il Sci Am 148:101-2 F '33

Quest for finer finishes turns spotlight on coolant cleaning. J. Geschelin. il diags Automotive Ind 68:364-7 Mr 25 '33

Stream-line filter company oil filters. il diags Engineering 136:260 S 8 '33

Zwicky oil filter. il diags Engineer 156:328 O 6 '33

**OIL fires**

Lubricating oil fire damages Jersey station. Elec W 101:115 Ja 28 '33

One engineer's opinions on turbine-oil fires. C. R. Soderberg. Elec W 102:537 O 21 '33

Tulsa's flying oil well fire fighter puts out blaze in South American field. L. G. E. Bignell. Oil & Gas J 31:46 My 18 '33

What actually happens when well fires are shot out? il diags Oil & Gas J 32:72 Je 15 '33

See also

Petroleum refineries—  
Fires and fire protection

**OIL flow**

Flow in oil-engine injection systems; abstracts. S. J. Davies and E. Giffen. Engineer 155:219-20 Mr 3 '33; Automotive Ind 68:610-14 My 20 '33; Engineering 135:715-17 Je 30 '33

Flow of fluids in closed conduits. R. J. S. Pigott. Mech Eng 55:497-501+ Ag '33

Flow of petroleum lubricating greases; abstract. M. H. Arveson. Oil & Gas J 32:34 S 14 '33

Flow of simple fluids through porous materials. G. H. Fancher and J. A. Lewis. bibliog il diags Ind & Eng Chem 25:1139-47 O '33

Hydrodynamics of reservoir drainage and its relation to well spacing. H. D. Wilde, jr. and T. V. Moore. bibliog Am Pet Inst Proc p83-90 sec 4 D '32

**OIL fuel**

Carbonizing coal in fuel oil; abstract. Mech Eng 55:443 Jl '33

Coal-oil mixtures. W. R. Ormandy and J. Burns. Engineer 156:390 O 20 '33

Colonial fuel oils. Engineer 155:74-5 Ja 20 '33

Combustion of solid, liquid, and gaseous industrial fuels. H. L. Pirie. Gas J (Lond) 201:88 Ja 11 '33

Economic development of furnace oils and effect on burner design. S. B. Eckert and A. E. Pew, jr. Am Pet Inst Proc p17-20 sec 3 D '32; Excerpt. Oil & Gas J 31:27+ N 24 '32; Abstract. Nat Pet N 24:24-5 N 23 '32

Estimating oil requirements. B. E. Shaw. charts Heat & Ven 30:37-9 Ap '33

For lower steam costs—coal or oil? D. M. Myers. il diags Factory Management 91:142-5 Ap '33

Fuel oil; some methods for utilization. R. P. Russell and W. V. Hanks. Am Pet Inst Proc p21-5 sec 3 D '32; Same. Oil & Gas J 31:14+ D 1 '32; Discussion. Am Pet Inst Proc p25-7 sec 3 D '32

Fuel-oil supply ample for wide Diesel use. J. Geschelin. S A E J 33:304 S '33

Gas-works fuels for omnibus engines; creosote oil and compressed coal gas; abstract. D. E. Bell. Gas J (Lond) 202:809; Discussion. 809-10 Je 14 '33

Gasifier returns to threaten industrial load. W. W. Young, jr. Gas Age 71:19-20 Ja 7 '33

Handling costs of fuel oil. N E L A Bul 20:98 F '33

Hazards of oil used for fuel present many opportunities to sell insurance. C. T. Hubbard. Weekly Underw 128:644+ Ap 1 '33

Improving open-hearth furnace design; open-hearth furnace lines. W. C. Buell, jr. diags Steel 92:40+ Je 5 '33

Indice d'isooctane pour les carburants et indice de cétène pour les huiles combustibles. A. Grebel. Soc Ing Civils Bul 86:41-71 Ja '33; Abstract. Génie Civil 102:207-8 Mr 4 '33

Oil and motor spirit from coal. C. H. Lander. Gas J (Lond) 201:691 Mr 15 '33

Oil fuel firing and combustion equipment. E. G. Peterson. Power Pl Eng 37:73-4 F '33

Oil furnace capacity. G. P. Pearce. Am Mach 76:1157 N 23 '32

Place of oil in the world of fuel; abstracts. J. Cadman. Chem Age (Lond) 29:343-4 O 14 '33; Gas J (Lond) 204:208-9 O 18 '33

Progress of naphthology, 1932; gas oil, Diesel fuel oil, and fuel oil. F. H. Garner. bibliog Inst Pet Tech J 19:592-9 Jl '33

Public utility consumption of fuel in 1929. W. H. Young. maps Coal Age 39:19-21 Ja '33

Pulverized coal and colloidal fuel; abstracts. H. D. Tollemache. Mech Eng 55:379 Je '33; Engineering 136:202-3 Ag 25 '33; Coal Age 38:344 O '33

Railway traction in relation to the oil industry. G. M. Barrett. il Inst Pet Tech J 19:725-32 Ag '33

Range oil burners require kerosene or highly refined distillate as fuel. Oil & Gas J 32:25 Jl 27 '33

Standard of New Jersey sees expanding market for oil burner distillates. Oil & Gas J 31:28+ Ja 12 '33

See also

Automobile engines—	Gasoline
Fuel	Kerosene
Boilers—Oil firing	Liquid fuel
Boilers, Heating—Oil firing	Locomotives, Gas and oil
Boilers, Marine—Oil firing	Oil bulk stations
Diesel engines—Fuel	Oil bunkering
Fuel, Colloidal	Oil burners
Gas and oil engines—	Oil burning equipment
Fuel	Oil fuel industry
	Oil water heaters

**Specifications**

Fuel oil specifications. A. J. Kraemer. bibliog Dom Eng 141:60+ Mr; 63-4+ Ap '33

New burner oil specifications. Pet Age 27:31-2 Ap '33; Oil & Gas J 32:23+ Je 1 '33

**Standards**

Recommended changes in standards for fuel oils are distributed for study. Oil & Gas J 31:21 Ja 5 '33; Excerpt. Oil Paint & Drug Rep 122:22 D 12 '32

**Tables, calculations, etc.**

Oil measurement table at 60 deg. F; data sheet. Power 77:474 S '33

**Taxation**

Make additional rulings to cover excise tax on lubricating and Diesel oils. C. E. Kern. Oil & Gas J 31:27 D 15 '32

**OIL fuel—Continued****Testing**

Correlation between calorific value and density of fuel oils; abstract. L. Smith. *Mech Eng* 55:577 S '33

Engine method favored for testing Diesel fuels. P. H. Schweitzer, C. H. Dickinson and M. J. Reed. *Automotive Ind* 69:217-20 Ag 19 '33

Ignition quality of engine fuels. G. D. Boerlage. *diags Engineer* 155:482 My 12 '33

**OIL fuel industry**

Atlantic Coast prices were higher last year for light products and lower for heavy oils. A. E. Mockler. *Oil & Gas J* 31:113-14 Ja 26 '33

Getting the salesman to tell the whole story; the Petroleum heat & power company designs a dealer's portfolio. *il Ptr Ink* 163:36-8 Je 1 '33

Good market for oil burners and burner oils. *Pet Age* 27:43 Ja '33

Jobbers in oil heating. *Pet Age* 27:24 Jl '33

Oil companies displaying more interest in burner oils. H. F. Tapp. *Oil & Gas J* 32:27 Je 15 '33

Range oil burner—creator of a new oil market. L. F. Speare and C. B. Cooley. *Am Pet Inst Proc* 14M(3):82-7 My '33; Same. *Oil & Gas J* 32:54+ My 25 '33; Excerpts. *Nat Pet N* 25:33-5 My 17 '33; Discussion. *Am Pet Inst Proc* 14M(3):87-8 My '33

**Service**

Servicing domestic oil burners hot issue in Washington. *Nat Pet N* 24:52 N 23 '32

**Statistics**

First six months' imports limited to crude and fuel oil as tariff shuts out gasoline. A. E. Mockler. *Oil & Gas J* 32:87-8 Jl 27 '33

Fuel oil deliveries, 1931. *Oil Paint & Drug Rep* 122:33 D 5 '32

Gas and fuel oils, monthly, 1930-1932. *Survey of Cur Business* 13:20 F '33

Government data show general decline in demand for fuel and gas oils. *Oil & Gas J* 31:28 N 24 '32

**OIL gages****Manufacture**

We give them what they want—but standardize just the same; AC spark plug company, Flint, Mich. M. Spear. *il Factory Management* 91:259-62 Jl '33

**OIL gas. See Gas, Oil****OIL handling**

Gasoline storage tanks buried at Magnolia's Oklahoma City bulk plant. W. F. Lowe. *il plan Nat Pet N* 25:32-4, 36 Ap 19 '33

Handling costs of fuel oil. *N E L A Bul* 20:98 F '33

**See also**

Oil bunkering

**OIL heaters**

Case of carbon monoxide poisoning from an oil stove. L. F. Barker. *J Ind Hygiene* 15: 238-42 [bibliog p242] Jl '33

**See also**

Oil water heaters

**OIL heating**

Coen outside-joint oil heater. *il Marine Eng* 38:92 Mr '33

Continuous flow water heaters in unusual installations; heating oil, distilling water, etc. J. A. Johnson. *il Gas Age* 71:69-70 Ja 21 '33

Davis Paracoil fuel-oil heater. *diag Marine Eng* 38:148 Ap '33

Modern chemical plant. J. A. Reavell. *il diags Soc Chem Ind J* 52:133T-9T My 19 '33

Special cast iron heaters and heat exchangers will lower cost of treating oil emulsions. L. N. Hunter. *il diag Oil & Gas J* 32:8+ Ag 17 '33

**OIL industries****See also**

Cottonseed oil

Fish oil

Gasoline industry

Gasoline service stations

Kerosene

Linseed oil

Lubricating oil industry

Oil bulk stations

Oil companies

Oil fuel industry

Oils and fats

Olive oil

Petroleum industry

and trade

Road oils

Tariff—United States

—Oils and fats

Textile oils

**Statistics**

Animal, vegetable, and fish oils. Published in weekly numbers of Oil, paint and drug reporter

Factory consumption of primary animal and vegetable fats and oils, by classes of products, 1932; tabulation. *Food Ind* 5:281 Jl '33

Outlook for fats and oils. *Food Ind* 5:56-7 F '33

Shortenings (not lard), vegetable cooking oils and salad oils, 1929 and 1931. *Food Ind* 5: 51 F '33

Values for vegetable oils make new low records. *Chem & Met Eng* 40:50 Ja '33

Vegetable oils and oilseeds, 1932. *Economist* 116:sup48 F 18 '33

**Great Britain**

Empire oilseeds and vegetable oils. *Chem Age (Lond)* 27:477-8 N 19 '32

**OIL lands**

Must sign code to obtain Osage lease. *Oil & Gas J* 32:31 O 19 '33

Osage county lease sale disappointing; thirty-three tracts brought \$8,750. *Oil & Gas J* 31: 45 D 29 '32

Osage leases average 31c per acre at sale. *Oil & Gas J* 31:90 Mr 30 '33

Royalty oil levy idea of Wilbur is opposed. *Oil Paint & Drug Rep* 123:49 F 6 '33

Skelly oil co. and Lewis production co. buy favored oil leases in Osage. *Oil & Gas J* 32:32 N 2 '33

**See also**

Petroleum

**OIL measurement**

All products metered at Kansas City suburban bulk and service station. W. F. Lowe. *il Nat Pet N* 25:42+ F 15 '33

**OIL pipe lines****See also**

Gasoline pipe lines

Petroleum pipe lines

**OIL pipes**

Molded coating halts oil pipe corrosion; Somatic asphalt mixture. A. J. Swank. *il Elec W* 101:134-6 Ja 28 '33

Piping systems for oil-filled equipment. W. B. Morton and B. Payne. *il diags Elec W* 101: 552-4 Ap 29 '33

**See also**

Petroleum—Well tubing

**OIL pumps**

De Laval-IMO rotary displacement pumps for oil burners. *il Marine Eng* 38:182 My '33

Harmain centrifugal pump handles oil heated to 800 deg. F. *Oil & Gas J* 32:77 Ag 10 '33

Steam jacketed rotary fuel oil pump. *il Engineer* 155:357 Ap 7 '33

**See also**

Diesel engines—Fuel feeding

Gasoline pumps

Petroleum—Pump-

ing

Pumps, Fuel

**OIL purification**

Explain means of improving spray oils in order to minimize the injury to growing plants. J. H. Green. *il Oil & Gas J* 31:8 F 2 '33

**See also**

Oil filters

Oil reclamation

Oil refining

Petroleum refining

**OIL reclamation**

Chemical mechanism of lubrication; abstract. W. F. Parish and L. Cammen. *Oil & Gas J* 31:28+; Discussion. 30 D 15 '32



**OIL reclamation—Continued**

- Crankcase oil reclaiming; more than ordinary oil burner hazard. W. H. Rodda. plan Weekly Underw 128:641-2 Ap 1 '33
- Filtration of waste oils from the engine room; Wells patent filter. diags Chem Age (Lond) 29:301 S 30 '33
- Michiana oil conditioner. diag Automobile Eng 23:179 My '33
- Oil purification plant. H. E. Hutter. il diag Elec R (Lond) 112:737 My 26 '33
- Oil-reclamation economics. G. T. Hook. S A E J 32:sup20-1 Ja '33
- Portable oil-conditioning unit saves three times its cost. W. G. Copeland. il Elec W 100:751 D 3 '32
- Quest for finer finishes turns spotlight on coolant cleaning. J. Geschelin. il diags Automotive Ind 68:364-7 Mr 25 '33
- Reclaiming oil with motor in operation. il Elec Traction 29:293 S '33
- Refining used automobile lubrication oil. E. C. Pattee. bibliog Nat Pet N 25:29-31 J1 12 '33; Abstract. Mech Eng 55:638 O '33
- Rerefining of crankcase oil not a simple process. Oil & Gas J 31:22+ My 11 '33
- Safe-Harbor plant has a dual oil-purifying system. J. B. Cutler. il diag Power 77:464-6 S '33
- Stone-Empson oil-purification plant. il diag Engineering 136:328-9 S 22 '33; Engineer 156:276-7 S 22 '33; Elec R (Lond) 113:422 S 29 '33
- Tolhurst solid-curb chip wringer with V-belt drive. il Metal Ind 31:317 S '33

**OIL refining**

- Extraction of oil and fat in spent bleaching clay; Buss process. Chemicals 38:7 N 13 '33
- Wide variety of bleaching clays in United States to satisfy the needs of petroleum refiners. P. G. Nutting. Oil & Gas J 31:14 Ja 26 '33

*See also*

- |                   |                    |
|-------------------|--------------------|
| Cottonseed oil    | Oil reclamation    |
| Lubricating oils— | Petroleum refining |
| Manufacture       |                    |

**OIL separators**

- How to find excessive oil in steam-engine exhaust. Power 77:272-3 My '33
- Removal of oil from water. F. J. Matthews. Mech Eng 55:128-9 F '33

*See also*

- Oil filters
- Oil reclamation

**OIL shales****Distillation**

- L'exploitation des pyroschistes liasiques de Créveney (Haute-Saône). V. Charrin. il map Génie Civil 102:327-9 Ap 8 '33
- High quality motor fuels and other products are obtainable from Estonian shale oils. G. Egloff and E. F. Nelson. Oil & Gas J 31:14 Ja 12 '33
- Motor fuel from coal and oil shales. A. Fisher and J. C. Morrell. Soc Chem Ind J 52:228T-30T J1 28 '33
- La pyrogénéation des schistes bitumineux du Jura franc-comtois. J. Barlot. Génie Civil 103:434-5 O 28 '33

**Estonia**

- Occurrence, nature and origin of asphaltites in limestone and oil shale deposits in Estonia. P. N. Kogerman. pls Inst Pet Tech J 19:215-22 Mr '33

**France**

- L'exploitation des pyroschistes liasiques de Créveney (Haute-Saône). V. Charrin. il map Génie Civil 102:327-9 Ap 8 '33
- Les schistes bitumineux ou pyroschistes en France. V. Charrin. il maps Chimie & Ind 30:967-83 O '33

**OIL storage**

- Barrel rack reduces oil storage floor space; machine shop of the Ingersoll milling machine co. il Iron Age 131:853 Je 1 '33
- L'emploi du béton pervibré pour la construction des cuves à mazout. M. Pinot. il diag Génie Civil 101:613-14 D 17 '32

*See also*

- Oil tanks

**OIL stoves**

- Oil vs. gas-burning ranges for commercial cooking. C. H. French. Gas Age 71:442+ Ap 29 '33; Same. Am Gas Assn Mo 15:210-11 My '33
- Range oil burner—creator of a new oil market. L. F. Speare and C. B. Cooley. Am Pet Inst Proc 14M(3):82-7 My '33; Same. Oil & Gas J 32:54+ My 25 '33; Excerpts. Nat Pet N 25:33-5 My 17 '33; Discussion. Am Pet Inst Proc 14M(3):87-8 My '33
- Range oil burners make great headway. Pet Age 27:36-7+ Je '33
- Range oil burners require kerosene or highly refined distillate as fuel. Oil & Gas J 32:25 J1 27 '33

*See also*

- Oil heaters

**Advertising**

- Dealers to help formulate 1934 campaign; Florence stove company. Ptr Ink 165:28-9 O 26 '33

**OIL tankers. See Tank ships****OIL tanks**

- Method outlined for welding plates in field to construct oil storage tanks at low cost. C. W. Hines. diags Oil & Gas J 31:14+ D 15 '32

*See also*

- |                |             |
|----------------|-------------|
| Gasoline tanks | Tank ships  |
| Tank cars      | Tank trucks |

**Cleaning**

- Large storage tanks cleaned out by quick and safe method. W. F. Lowe. diag Nat Pet N 25:24-5 Ja 4 '33

**Measurement**

- Oil-tank calibration. R. W. Morrell. Marine Eng 38:168-72, 219-22 My-Je '33

**Roofs**

- Report of the Underwriters laboratories approves Wiggins floating roofs. Oil & Gas J 31:30-1 F 23 '33
- Use of thiokol for floating roofs of oil tanks. J. P. Bushnell. il Rubber Age 33:107-8 Je '33

**OIL testing**

- Stability of fats and oils; applications of the methylene blue test. H. D. Royce. bibliog diag Ind & Eng Chem Anal ed 5:244-7 J1 15 '33

*See also*

- |                   |                  |
|-------------------|------------------|
| Lubricating oils— | Oil, Insulating— |
| Testing           | Testing          |
|                   | Oil fuel—Testing |

**OIL water heaters**

- How to meet competition in domestic water heating. H. M. Henry. Gas Age 71:113-18 F 4 '33

**OILCLOTH**

- How to widen distribution for a staple product; free rack for display of Columbus Coated Fabrics. G. Johnston. il Ptr Ink Mo 26:34-5 F '33
- Plastics in the paint industry; abstract. L. A. Jordan. Chem Age (Lond) 28:522 Je 10 '33

**OILINESS**

- Logic of oil'ness. M. D. Hersey. bibliog Mech Eng 55:561-6 S '33

**OILS, Sulfonated. See Sulfonated oils****OILS and fats**

- Action of light on fats. C. H. Lea. Soc Chem Ind J 52:146T-9T My 26 '33
- Analysis of mixtures of fats and waxes. H. D. Murray. Soc Chem Ind J 51:393T-4T D 9 '32
- Animal and plant fats; chemical and structural problems. T. P. Hilditch. Chem Age (Lond) 28:265 Mr 25 '33
- Avoidance of emulsification in defatting operations. A. E. Rheineck and O. Gisvold. diag Science 78:215-16 S 8 '33
- Catalytic effect of caustic alkali on the alcoholysis and hydrolysis of fats. G. K. Rowe. Soc Chem Ind J 52:49T-52T F 24 '33
- Certain general features common to most fruit-coat fats. T. P. Hilditch. bibliog Soc Chem Ind J 52:169T-71T Je 16 '33

**OILS and fats—Continued**

Chemistry of fats and oils from the standpoints of the investigator and technologist. G. S. Jamieson. *Can Chem & Met* 17:75 Ap '33

Colonial fuel oils. *Engineer* 155:74-5 Ja 20 '33

Determination of molecular weight of linseed oil and its polymericides. P. J. Gay. *Soc Chem Ind J (Chem & Ind)* 52:703-5 S 1 '33

Gewinnung von pflanzenölen durch extraktion. A. Thieme. *il diags Zeit Ver Deutsch Ing* 77:45-7 Ja 14 '33

Hochdruckhydrierung und fettchemie. W. Schrauth. *Angew Chemie* 46:459-61 J1 8 '33

Industrial oils and fats. T. A. Faust. *Can Chem & Met* 17:106, 132 My-Je '33

Mozambique oils and oilseeds. *Chem Age (Lond)* 28:458 My 20 '33

New method for the determination of the saponification value of waxes and fats. J. M. F. Leaper. *Textile Col* 55:601-2+ S '33

Shortening value of plastic fats. J. D. Fisher. *Ind & Eng Chem* 25:1171-3 O '33

Spreading of liquids on solid surfaces; the anomalous behavior of fatty oils and fatty acids with experiments leading to a tentative explanation. R. Bulkeley and G. H. S. Snyder. *il Am Chem Soc J* 55:194-208 Ja '33

Stability of fats and oils; applications of the methylene blue test. H. D. Royce. *bibliog diag Ind & Eng Chem Anal ed* 5:244-7 J1 15 '33

Studies on the nature of antioxygens present in natural fats; further observations on the removal of antioxygens from olive and linseed oils. A. Banks and T. P. Hilditch. *Soc Chem Ind J (Chem & Ind)* 51:411T-14T D 23 '32

Study of some Indian seed fats; mowha (*bassia latifolia*) and tamal (*garcinia morilla*) fats. D. R. Dhingra, G. L. Seth and P. C. Speers. *bibliog Soc Chem Ind J* 52:116T-18T Ap 28 '33

Taffel and Revis method for estimating the rancidity of oils and fats. J. K. Giles. *Soc Chem Ind J (Chem & Ind)* 52:816-17 O 13 '33; Reply. A. Taffel and C. Revis. 52:880 O 27 '33

Wetting, spreading, and emulsifying agents for use with spray fluids; miscible oils. R. M. Woodman. *Soc Chem Ind J* 52:4T-6T Ja 13 '33

Wetting, spreading, and emulsifying agents for use with spray fluids; the effect of varying proportions of water and aid to dissolution on miscible oil formation and on the character of the emulsions. R. M. Woodman. *Soc Chem Ind J* 52:351T-2T O 27 '33

*See also*

Acids, Fatty

Bay oil

Cacao butter

Coconut oil

Cod liver oil

Cottonseed oil

Creosote

Drying oils

Emulsification

Emulsions

Essential oils

Fat

Fish oil

Gas and oil engines—

Fuel

Gas oil

Gasoline

Hazelnut oil

Linseed oil

Lubricating greases

Lubricating oils

Lubrication and lubricants

Oil, Insulating

Olive oil

Palm oil

Peppermint oil

Petroleum

Pilchard oil

Pine oil

Rancidity

Rapeseed oil

Road oils

Seal oil

Shortening (cooking)

Soy bean oil

Sulfonated oils

Tariff—United States

—Oils and fats

Textile oils

Tung oil

Viscosity

Whale oil

Wood oil

Wool fat

Wool oiling

**Statistics**

*See Oil industries—Statistics*

**OINTMENTS**

Eine schnellmethode zur prüfung von salben und chemikalien auf quecksilber. E. Tornow. *Angew Chemie* 45:707-8 N 5 '32

**OKLAHOMA***See also*

Geology—Oklahoma

Petroleum—Oklahoma

Petroleum industry and trade—Oklahoma

**Antiquities**

Geologic relations of deposits reported to contain artifacts at Frederick, Oklahoma. E. H. Sellards. *maps Geol Soc Bul* 43:783-96, pl 13 S '32

**OKLAHOMA academy of science**

Annual meeting, 21st, Norman, Nov. 25-26. *Science* 77:55 Ja 13 '33

**OKLAHOMA CITY, Oklahoma****Railroads**

Santa Fe elevates its tracks in Oklahoma City. H. W. Wagner. *il map Eng N* 111:563-5 N 9 '33

**Sewerage**

Sewers and water mains laid by relief labor in Oklahoma City; cost data. L. M. Bush. *Eng N* 110:332-3 Je 29 '33

**OKLAHOMA university**

Natural gas engineering course at the University of Oklahoma. *Am Gas Assn Mo* 15:108 Mr '33; Excerpt. *Gas Age* 71:262 Mr 11 '33

Oklahoma university first to have natural gas course. E. F. McKay. *il Pub Serv M* 54:85 Mr '33

**OLD age**

Old age. W. R. Miles. *Science* 78:sup 7 S 8 '33

Old-age dependency in Maryland counties. E. S. Bellman. *Monthly Labor R* 37:856-7 O '33

Old age dependency; nation-wide survey of unemployment emphasizes virtues of thrift and weakness of pension system. D. B. Luten. *Spectator* 130:6-7+ Ap 13 '33

Old age security seen as vital need to social stability; New York state commission finds system of unemployment insurance inevitable. D. Holbrook. *East Underw* 34:3 Je 23 '33

Problem of old age dependency analyzed in the light of American political, economic and social concepts. *Weekly Underw* 128:313-14 F 11 '33

Sweeping the cobwebs. L. J. Martin and C. DeGruchy. 183p \$1.50 Macmillan '33

*See also*

Age

Pensions, Industrial

**OLD age pensions**

American state old age pension system in operation. A. Epstein. *Ann Am Acad* 170:107-11 N '33

Developments in old-age pension movement in the United States, 1932. *Monthly Labor R* 36:96 Ja '33

Do we need state old age pensions? No. W. E. Odom. *Ann Am Acad* 170:103-6 N '33

Do we need state old age pensions? Yes. C. Denby, jr. *Ann Am Acad* 170:93-102 N '33

Experience under state old-age pension laws in 1932. *Monthly Labor R* 37:251-62 Ag '33

French social insurance act. P. H. Douglas. *Ann Am Acad* 164:231-4 N '32

New Zealand national provident fund. *Monthly Labor R* 35:1301-2 D '32

Occupational distribution of old-age pensioners in New York. *Monthly Labor R* 36:247-55 F '33

Old-age and invalidity pensions and maternity allowances in Australia. *Monthly Labor R* 37:291-3 Ag '33

Old-age and invalidity pensions in Australia. *Monthly Labor R* 36:315 F '33

Old age dependency; nation-wide survey of unemployment emphasizes virtues of thrift and weakness of pension system. D. B. Luten. *Spectator* 130:6-7+ Ap 13 '33

Old age pension bill law seems sure in Indiana. *Spectator* 130:31+ F 16 '33

Old-age pension legislation in the Irish Free State. *Monthly Labor R* 36:104-5 Ja '33



**OLD age pensions—Continued**

Problem of old age dependency. 47p Metropolitan life insurance co, New York '32  
Recent legislation on public old-age pensions in the United States. Monthly Labor R 37:352-5 O '33

Recommendations of Connecticut old-age pension commission. Monthly Labor R 36:311-12 F '33

Report on old age relief. 125p Connecticut. Commission on old age pensions, Hartford '32

Situation as regards old-age pensions in Uruguay. Monthly Labor R 37:40-1 JI '33

Social security in the United States 1933. 123p American. assn. for social security, inc, New York '33

Trade union pension systems, and other superannuation and permanent and total disability benefits in the United States and Canada. M. W. Latimer. 205p Industrial relations counselors, inc, New York '32

See also

Pensions, Industrial

**OLD colony life insurance company**

Life & Casualty of Chicago gets Old Colony business. Nat Underw (Life ed) 36:9 N 18 '32; Ins Field (Life ed) 61:6 N 18 '32

**OLD line insurance company, Lincoln, Nebraska**

Reinsured by Lincoln national life insurance company. Spectator 130:17 Mr 30 '33

**OLD line life insurance company of America**

Annual statement, 1932. Spectator 130:23 Mr 9 '33

**O'LEARY, John W. 1875-**

President, Machinery and allied products institute. por Steel 93:21 O 2 '33

**OLEFINS**

Aliphatic tertiary alcohols and chlorides containing the normal amyl group and the related olefins and their ozonolysis. F. C. Whitmore and F. E. Williams. Am Chem Soc J 55:406-11 Ja '33

Dehalogenation of aliphatic bromo acids; the bromo and dibromo olefins. G. B. Bachman. Am Chem Soc J 55:4279-84 O '33

Diene synthesis of Diels and Alder. C. F. H. Allen. bibliog J Chem Educ 10:494-7 Ag '33

Hydrolysis and rearrangement of certain olefin dibromides containing a tertiary bromine. W. L. Evers and others. Am Chem Soc J 55:1136-40 Mr '33

Influence of poles and polar linkings on the course pursued by elimination reactions; dynamics of the elimination of olefins from quaternary ammonium compounds. E. D. Hughes and C. K. Ingold. Chem Soc J p523-6 My '33

Investigations of the olefinic acids; discussed by R. P. Linstead. Soc Chem Ind J (Chem & Ind) 52:218-20 Mr 10 '33

Investigations of the olefinic acids. parts VII-XI. R. P. Linstead and others. Chem Soc J p557-86 Je '33

Number of structurally isomeric hydrocarbons of the ethylene series. H. R. Henze and C. M. Blair. Am Chem Soc J 55:680-6 F '33

Polymerization of diolefins with olefins; function of pentene-2 in the polymerization of isoprene. C. A. Thomas and W. H. Carmody. Am Chem Soc J 55:3854-6 S '33

Preparation and estimation of nitriles of  $\Delta\alpha$ - and  $\Delta\beta$ -olefinic acids. R. A. Letch and R. P. Linstead. Chem Soc J p612-14 Je '33

Pyrolysis of alpha unsaturated hydrocarbons. C. D. Hurd and H. T. Bollman. Am Chem Soc J 55:699-702 F '33

Reactions of olefinic compounds; the orienting influence of the carboxyl group. G. F. Bloomfield, E. H. Farmer and C. G. E. Hose. Chem Soc J p800-6 JI '33

Resistance to sludging, extreme long life of new synthetic oils. D. P. Barnard. Nat Pet N 24:62+ N 16 '32

Syntheses in the olefin series; the heptenes. F. J. Soday and C. E. Boord. Am Chem Soc J 55:3293-302 Ag '33

Tertiary aliphatic alcohols containing an adjacent tertiary hydrogen, the related, chlorides and dehydration products. F. C. Whitmore and W. L. Evers. Am Chem Soc J 55:812-16 F '33

See also

Ethylene

Propylene

**OLEIC acid**

Conductivity in the three-component system oleic acid-potassium oleate-water. J. W. McBain and A. Stewart. Chem Soc J p928-32 Ag '33

Constitution of fatty substances; abstract. R. Vidal. Soc Dyers & Col J 49:26 Ja '33

Phase-rule equilibria of acid soaps; anhydrous acid potassium oleate. J. W. McBain and A. Stewart. Chem Soc J p924-8 Ag '33

**OLEODISTEARIN**

Examination of certain azelao-glycerides obtained during the oxidation of some simple synthetic and natural glycerides. T. P. Hilditch and S. A. Saletore. Soc Chem Ind J 52:101T-5T Ap 21 '33

**OLEOMARGARINE**

Margarine rift; meat packers' support of Buy American movement rouses ire of importers. Business Week p13-14 Mr 22 '33

National cottonseed products association discusses cotton oil margarin sales. Oil Paint & Drug Rep 123:17+ My 22 '33

Oleomargarine wins decision; Kentucky tax unconstitutional. Ptr Ink 163:93 My 11 '33

Restrictions on coconut oil in oleomargarine protested. Chemicals 38:9 O 2 '33

Vitamin A content of naturally colored nut margarines. C. F. Poe and H. A. Fehlmann. Ind & Eng Chem 25:402-3 Ap '33

**OLEYL alcohol**

Isomeric 9:10-dihydroxyoctadecyl alcohols produced by oxidation of *cis*- and *trans*- $\Delta^9$ : $\Delta^{10}$ -octadecenyl (oleyl and elaidyl) alcohols. G. Collin and T. P. Hilditch. Chem Soc J p246-8 Mr '33

**OLIVE oil**

Catalytic effect of caustic alkali on the alcoholysis and hydrolysis of fats. G. K. Rowe. Soc Chem Ind J 52:49T-52T F 24 '33

Studies on the nature of antioxidants present in natural fats; further observations on the removal of antioxidants from olive and linseed oils. A. Banks and T. P. Hilditch. Soc Chem Ind J (Chem & Ind) 51:411T-14T D 23 '32

Über fluoreszenz von olivenölen. G. Lunde and F. Stiebel. diag Angew Chemie 46:243-7 Ap 29 '33

**OLYMPIA, Washington****Harbor**

Ports of Olympia and Port Angeles, Washington. (Port ser. 23) 125p diag plans U.S. Engineer dept. Board of engineers for rivers and harbors, Washington '32

**ONIONS**

Historical facts pertaining to the use of onion skins in the art of dyeing. C. D. Mell. Textile Col 55:626-7 S '33

Onion powder; a new use for cull onions. C. R. Fellers. il Food Ind 5:397+ O '33

**ONIUM compounds**

Basis for the physiological activity of -onium compounds; aryl ethers of choline. R. R. Renshaw and C. Y. Hopkins. Am Chem Soc J 55:1524-8 Ap '33

**ONTARIO**

See also

Gold mines and mining—Ontario

Mines and mineral resources—Ontario

Hydroelectric plants—Ontario

**Hydroelectric power commission**

Distribution of electricity in Ontario rural and urban municipalities. il Can Eng 65: 3-8 S 26 '33

**ONTARIO—Hydroelectric power commission**  
—Continued

Generation and distribution of power in the Province of Ontario with special reference to the work of the Hydro-electric power commission of Ontario. F. A. Gaby. *Inst Mech Eng Proc* 123:15-47 '32; Same cond. *Engineering* 134:399-402 S 30 '32; Abstract. *Can Eng* 63:7-12 D 27 '32; Discussion. *Inst Mech Eng Proc* 123:48-56 '32

Ontario hydro commission; report for 1932. *il Electrician* 111:140-2 Ag 4 '33

Water heating installation free; profitable business developed by Hydro-electric power commission of Ontario. *diag Elec W* 102: 60-1 J1 8 '33

**ONTARIO good roads association**  
Annual meeting, 31st, Toronto, Feb. 22-23. *Can Eng* 64:25-46 Mr 7 '33

**ONTARIO paper company, limited**  
Ontario paper company, limited, *il diag plan Pulp & Pa of Can* 34:359-404 Je '33

**OPACIFIERS**

X-ray investigation of the opacifying compounds present in sheet-iron cover enamels. A. I. Andrews and J. P. Breen. *Am Cer Soc J* 16:325-7 J1 '33

**OPACIMETER**

Dynamic photoelectric relative opacimeter for the measurement of transmittancies of paper. O. Maass and R. Richardson. *il diag Pulp & Pa of Can* 34:457-60 J1 '33

Simple and reliable photo-electric opacity tester. M. N. Davis. *il diag Paper Tr J* 96: 38-40 My 11 '33

**OPACITY**

Determination by X-ray methods of crystalline compounds causing opacity in enamels. A. I. Andrews, G. L. Clark and H. W. Alexander. *bibliog Am Cer Soc J* 16:385-92 Ag '33

See also

Paper—Opacity

**OPAL glass.** See Glass, Opal

**OPEN and closed shop**

Can makers and farm equipment manufacturers insist on open shop. *Iron Age* 132: 51C S 28 '33

Steel code attitude toward the open shop. L. W. Moffett. *Automotive Ind* 69:103+ J1 22 '33

**OPEN door**

Changing economic emphases and "the open door." H. K. Norton. *Ann Am Acad* 168: 41-5 J1 '33

Japan and the open door in Manchukuo. R. H. Akagi. *Ann Am Acad* 168:54-63 J1 '33

Open door policy as intervention. T. Dennett. *Ann Am Acad* 168:78-83 J1 '33

**OPEN hearth furnaces**

Anwendung schräger rückwände bei Siemens-Martin-öfen. *diags Stahl & Eisen* 53:77-8 Ja 19 '33

Cars scrapped in giant baling press, melted in huge open-hearth. *il Iron Age* 131:352-3+ Mr 2 '33

Cost of steel cut by furnace control and insulation. *Steel* 92:87+ Ja 2 '33

Heat transfers in the open-hearth furnace; abstracts. W. C. Buell, jr. *Iron Age* 132: 42-3 O 26 '33; *Steel* 93:28 O 30 '33

Improved open-hearth furnace. F. Giolitti. *Metal Prog* 24:52-3 O '33

Improving open-hearth furnace design. W. C. Buell, jr. *il diags Steel* 91:23-6+ O 3; 23-6 O 10; 24-6+ O 17; 29-31 O 24; 24-6 O 31; 36-7 N 7; 28-9+ N 14; 26+ N 21; 28-9 N 28; 29-30+ D 5; 29-31 D 12; 26+ D 19; 22+ D 26 '32; 92:21-2 Ja 9; 20-1 Ja 16; 21-2 Ja 23; 28-9 Ja 30; 36-7 F 6; 24-5 F 13; 27-8 F 20; 24+ F 27; 25-6 Mr 6; 31-2 Mr 13; 29-31 Mr 20; 28-30 Mr 27; 29-30+ Ap 3; 25-6 Ap 10; 27-8 Ap 17; 29-30 Ap 24; 35+ My 1; 32-3 My 8; 29-30 My 15; 32-3 My 22; 34; 37-8 My 29; 40+ Je 5; 29-30 Je 12; 31-2+ Je 19; 39-40+ Je 26; 93:31-4 J1 3; 32-3 J1 10; 28-30 J1 17; 29-30 J1 24; 32; 34 J1 31; 30+ Ag 7; 36-7, 39 Ag 14 '33

Insulation of open hearth furnaces. E. F. Entwisle. *Blast F & Steel Pl* 21:308-11 Je '33; Excerpts. *Steel* 92:27-9 My 29 '33; *Iron Age* 131:862-3 Je 1 '33; *Brick & Clay Rec* 83:17-18+ J1 '33

Luminous versus non-luminous flame for the open-hearth. V. Balabanov. *diags Blast F & Steel Pl* 21:362-3+, 424-5, 476-7+ J1-S '33

New steel furnaces of the English steel corporation, ltd. *il diags plan Engineer* 156: 230-2, 234 S 8 '33; *Engineering* 136:235-8, 248 S 8 '33

Strömungsvorgänge im herdraum von Siemens-Martin-öfen. F. Kofler and G. Scheffels. *il diags Stahl & Eisen* 53:162-7; Discussion. 167 F 16 '33

**Control**

Controlling combustion in the open-hearth furnace. H. J. Williams. *il diag Iron Age* 132:13-15 S 21 '33

**Fuel**

Improving open-hearth furnace design. W. C. Buell, jr. *diags Steel* 92:32-3 My 8; 29-30 My 15; 32-3 My 22; 34; 37-8 My 29; 40+ Je 5; 29-30 Je 12 '33

Der koksofengaszusatz bei Siemens-Martin-öfen mit generatorgasbeheizung. F. Wesemann. *Stahl & Eisen* 53:185-9; Discussion. 189-91 F 23 '33

Open-hearth furnaces with natural gas firing. H. J. Williams. *il Iron Age* 132:11-13 Ag 31; 14-17 S 7; 20-2 S 14; 13-15 S 21; 36-7+ S 28 '33

**OPEN hearth process**

Die abscheidung von phosphor, schwefel und sauerstoff bei der qualitätsstahlerzeugung im Siemens-Martin-öfen. F. Beitter. *il diags Stahl & Eisen* 53:369-75, 398-401; Discussion. 401-4 Ap 13-20 '33

Basic open-hearth carbon steel for cold heading—ingot to wire; abstract. A. B. Arganbright. *Iron Age* 132:30 O 12 '33

Bauxit als zuschlag im basischen Siemens-Martin-öfen. F. H. Schönwälder. *il Stahl & Eisen* 53:949-51; Discussion. 951-2 S 14 '33

Entwicklungslinien im bau amerikanischer Siemens-Martin-werke. H. Bleibtreu. *il diags Stahl & Eisen* 53:1123-21 F 2 '33; Abstract. *Génie Civil* 103:39-41 J1 8 '33

La gazification des Gelsenkirchener gussstahlwerke, à Gelsenkirchen (Allemagne). *diags Génie Civil* 102:94 Ja 28 '33

Nozzle and stopper rod assemblies. H. V. Beasley. *il diags Blast F & Steel Pl* 21: 527-9, 551-6 O-N '33

Open hearth committee of the A.I.M.M.E. 16th semi-annual meeting, Chicago, June 29. *Steel* 93:28-9+ J1 10 '33; *Iron Age* 132: 29-30 J1 6 '33

Open-hearth metallurgy in 1932. C. H. Hertly, jr. *Blast F & Steel Pl* 21:25-7 Ja '33

Le procédé Martin basique. L. Baclé. *Soc Ing Civils Bul* 85:1240-4 N '32

Ueber die metallurgischen vorgänge beim Siemens-Martin verfahren. P. Bardenheuer. *il Stahl & Eisen* 53:488-96 My 11 '33; Abstract. *Génie Civil* 103:455-6 N 4 '33

Ueber stahl- und schlackentemperaturen bei basischen Siemens-Martin-schmelzungen. E. Schröder. *Stahl & Eisen* 53:873-81; Discussion. 881-4 Ag 24 '33

Verfahren zur mittelbaren schnellbestimmung des im flüssigen Siemens-Martinstahl gelösten eisenoxyduls. H. Schenck. *Stahl & Eisen* 53:1049-51; Discussion. 1051-2 O 12 '33

See also

Open hearth furnaces

**OPERA**

Forgotten markets; Chicago opera company at the New York hippodrome. *Ptr Ink* 164:68 Ag 3 '33

**OPERATING rooms.** See Hospitals

**OPERATING statements.** See Financial statements

**OPIUM**

Chemistry of the opium alkaloids. L. F. Small. 375p U.S. public health service, Washington '32

Turkey ratifies opium treaties. *Oil Paint & Drug Rep* 123:15+ Ja 23 '33



**OPTICAL instruments**

- Boiler house instruments. W. G. Marskell. il diags Electrician 111:509-10 O 27 '33
- British industries fair; British optical instrument manufacturers' association, ltd. Soc Chem Ind J 52:sup S8, 10 F 17 '33
- Introduction to applied optics. v 2, Theory and construction of instruments. L. C. Martin. 289p \$6 Pitman '32
- Luminex magnifier. il Engineer 156:169 Ag 18 '33
- Les méthodes de travail et de vérification dans l'industrie de l'optique. C. Fabry. il diags Soc Ing Civils Bul 85:1086-1108 S '32
- Parsons and company water-gauge projector. il diags Engineering 136:305-6, 307 S 15 '33; Elec R (Lond) 113:427 S 29 '33
- Projector type light flux generator for testing light sensitive devices. E. B. Kurtz and J. L. Potter. il Inst Radio Eng Proc 21: 1599-1602 N '33
- Slide rule magnifying attachment. il Engineer 156:342 O 6 '33
- See also*
- |                                |                          |
|--------------------------------|--------------------------|
| Interferometer                 | Reflectometer            |
| Lenses                         | Spectrograph             |
| Measuring instruments, Optical | Spectrometer             |
| Microscope and microscopy      | Spectroscope             |
| Photometers                    | Stroboscopic instruments |
| Polariscope                    | Telescope                |
|                                | Tyndallmeter             |

**Exhibitions**

- Physical society's exhibition. il Engineer 155: 37 Ja 13 '33

**OPTICAL methods**

- Application of interference fringes to stress analysis. M. M. Frocht. il diags J Fr Inst 216:73-89 JI '33

**OPTICAL properties**

- High-temperature preparation and the optical properties of sodium aluminate. K. Kammermeyer and A. B. Peck. Am Cer Soc J 16:363-6 Ag '33
- Optical crystallography of acetaldehyde 2, 4-dinitrophenylhydrazones. W. M. D. Bryant. Am Chem Soc J 55:3201-7 Ag '33
- Optical properties, densities, and solubilities of the normal formates of some metals of group II of the periodic system. F. W. Ashton, D. F. Houston and C. P. Saylor. diags U S Bur Stand J Research 11:233-53 [bibliog p252-3] Ag '33
- Optical properties of metallic and crystalline powders. A. H. Pfund. diag Opt Soc Am J 23:375-8 O '33
- Optical properties of the double salt  $(\text{NH}_4)_2\text{SO}_4 \cdot \text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ . A. R. Merz, J. O. Hardesty and S. B. Hendricks. Am Chem Soc J 55:3571-3 S '33
- Remarkable optical properties of the alkali metals. R. W. Wood. il diags Phys R 44: 353-60 S 1 '33; Discussion. E. L. Hill. R Sci Instr 4:525-6 O '33

**OPTICAL rotation**

- Asymmetric syntheses; the action of optically active nitrates on  $\alpha$ -tetralone. W. H. Horne and R. L. Shriner. Am Chem Soc J 55:4652-4 N '33
- Asymmetric syntheses; the action of optically active nitrates on cyclic ketones. R. L. Shriner and E. A. Parker. Am Chem Soc J 55:766-70 F '33
- Asymmetric syntheses; the action of optically active nitrites on cyclic ketones. M. Pezold and R. L. Shriner. bibliog Am Chem Soc J 54:4707-11 D '32
- Complete optical resolution of chloroiodomethanesulphonic acid. J. Read and A. M. McMath. Chem Soc J p2723-7 N '32
- Complex metallic salts of sulphamide; an optically active inorganic salt. F. G. Mann. Chem Soc J p412-19 Ap '33
- Influence of branched chains on optical activity; the configuration of methyl-tertiarybutylcarbinol. P. G. Stevens. Am Chem Soc J 55:4237-40 O '33
- Influence of solvents and of other factors on the rotation of optically active compounds; the rotation dispersion of the nitrobenzyl tartrates. T. S. Patterson and D. McCreath. Chem Soc J p760-8 JI '33

- Isomeric (-)-menthyl  $\alpha$ -naphthylglycolates. A. McKenzie and E. R. L. Gow. Chem Soc J p32-7 Ja '33

- Molecular rearrangements involving optically active radicals; the Hofmann rearrangement of the amide of an optically active 2,2'-disubstituted 6-carboxy diphenyl. E. S. Wallis and W. W. Moyer. bibliog Am Chem Soc J 55:2598-603 Je '33

- Molecular rearrangements involving optically active radicals; the Lossen rearrangement of optically active hydroxamic acids. E. S. Wallis and R. D. Dripps. Am Chem Soc J 55:1701-5 Ap '33

- Optically active 5,5'-disubstituted hydantoins. H. Sobotka, M. F. Holzman and J. Kahn. Am Chem Soc J 54:4697-702 D '32

- Preparation and optical resolution of ammonium di- $\alpha$ -bromocamphor- $\pi$ -sulfonate. A. W. Ingersoll and S. H. Babcock. Am Chem Soc J 55:341-5 Ja '33

- Researches in the menthone series; the complete optical resolution of *di-neomenthol* by means of *l*-menthol. J. Read and W. J. Grubb. Chem Soc J p167-70 F '33

- Rotatory powers of the chlorides produced by heating certain chloroformates in solvents. M. B. Harford, J. Kenyon and H. Phillips. Chem Soc J p179-81 F '33

- Salt-forming characteristics of doubly- and singly-linked elements of the oxygen group; the rotation of camphor in strong mineral acids. J. W. Baker. Chem Soc J p2923-7 D '33

- Studies in solvent action; optical rotatory powers of  $\beta$ -octanol, *d*-amyl alcohol, and their derivatives. H. G. Rule, E. B. Smith and J. Harrower. Chem Soc J p376-87 Ap '33

- Studies in solvent action; rotatory power of ethyl tartrate in relation to the solvent, concentration, degree of association, and temperature. H. G. Rule, M. M. Barnett and J. P. Cunningham. Chem Soc J p1217-23 S '33

- Study of certain analogs of resolvable diphenyls. M. E. Maclean and R. Adams. bibliog Am Chem Soc J 55:4683-8 N '33

*See also***Walden inversion****OPTICAL society of America**

- Proceedings of the seventeenth annual meeting. Opt Soc Am J 23:114-21 Mr '33

- Proposed by-laws. Opt Soc Am J 23:151-5 Ap '33

**OPTICAL superposition**

- Optical superposition and the 4:6-benzylidenemethylglucosides. D. S. Mathers and G. J. Robertson. Chem Soc J p696-8 Je '33

**OPTICAL trade****Advertising**

- Book that batters prejudice; Better vision institute's character book. A. Bradbury. il Ptr Ink 163:55-6 Ap 27 '33
- Foremost artists illustrate character types for optical book; the Better vision institute. il Ptd Salesmanship 61:228-35 Je '33
- Six optical jobbers join hands in fight for quality. S. E. Rosenbacher. il Ptd Salesmanship 61:149-51 My '33
- Triple-duty book; supplying sales helps to two distinct types of dealers; Bausch & Lomb optical company. il Ptr Ink 162:77-9 Ja 12 '33

**OPTICS**

- Elements of optics. J. Valasek. 2d ed 254p \$2.25 McGraw-Hill '32
- Experimental optics. A. F. Collins. 318p \$2 Appleton '33
- Method of projecting star images having coma and astigmatism. R. Kingslake and A. B. Simmons. il diags Opt Soc Am J 23: 282-8 Ag '33
- New optical experiment and the use of a single lens for high magnification; observation of entoptic and diffraction phenomena. J. G. Winans. diags Opt Soc Am J 23:289-92 Ag '33

**OPTICS—Continued**

Principles of optics. A. C. Hardy and F. H. Perrin. 645p \$6 McGraw-Hill '32

*See also*

Aberration	Photomicrography
Absorption of rays	Polarization of rays
Color	Radiation
Depolarization (light)	Rainbow
Fluorescence	Reflection (optics)
Light	Refraction
Luminescence	Sight
Photochemistry	Spectrum
Photoelasticity	Visibility
Photometry	

**Bibliography**

Library and museum catalogue. J. H. Sutcliffe, comp. 335p British optical assn, London '32

**History**

Sidelights on the era of Young and Fresnel. E. L. Nichols. Opt Soc Am J 23:1-6 Ja '33

**Study and teaching**

Novel optical screen for classroom demonstrations. J. H. Howey. Il diag R Sci Instr 3: 777-81 D '32

**OPTICS, Geometrical**

Mirrors, prisms and lenses. J. P. C. Southall. 3d ed 806p Macmillan '33

**OPTICS, Physiological**

Analytical treatment of the longitudinal horopter; its measurement and application to related phenomena, especially to the relative size and shape of the ocular images. K. N. Ogle. diags Opt Soc Am J 22:665-728 D '32  
Chromaticity sensibility to wave-length difference as a function of purity. E. P. T. Tyndall. Il diag Opt Soc Am J 23:15-24 Ja '33  
Stroboscopy by means of impressed eye movements or mirror vibration. M. Mettlesel. Il Science 78:416-17 N 3 '33

*See also*

Color sense	Sight
Eye	Visibility

**ORANGE II**

Alumina lakes. W. D. Bancroft and E. C. Farnham. J Phys Chem 36:3127-37 D '32

**ORANGE juice**

Effect of carbon dioxide and sodium benzoate on vitamin C content of orange juice. A. F. Morgan, C. I. Langston and A. Field. bibliog Ind & Eng Chem 25:1174-6 O '33  
Possibilities and limitations in canning orange juice. M. A. Joslyn and C. L. Marsh. bibliog Il Food Ind 5:172-3 My '33

**ORANGE juice, Frozen**

Stability of vitamin C in frozen orange juice during prolonged storage. H. H. Buskirk and others. Ind & Eng Chem 25:808-10 Jl '33  
Vitamin C content of frozen orange and grapefruit juices. L. W. Conn and A. H. Johnson. Ind & Eng Chem 25:218-21 F '33  
Vitamin C content of frozen orange juice. E. M. Nelson and H. H. Mottern. Ind & Eng Chem 25:216-18 F '33

**ORANGE seeds**

Isoelectric point of orange seed globulin. D. C. Carpenter and F. E. Lovelace. Il Am Chem Soc J 55:3738-40 S '33

**ORANGES**

Coast orange growers meet Florida challenge on open mesh cotton bags. Forbes 32:13 S 1 '33  
Electric sweating cuts orange curing costs. W. R. Chawner. Il Elec West 70:126 Ap '33

**Transportation**

Oranges leave rails; Florida citrus growers are shipping by water and highway. Business Week p5 F 1 '33

**ORBITS**

Perihelion of mercury. T. Merriman. Science 77:371-2 Ap 14 '33; Discussion. H. N. Russell. 77:412 Ap 28 '33

**ORCHIDS**

Distribution of serapias helleborine in central New York. V. A. Young. Science 77:560-1 Je 9 '33

**ORDER blanks**

Correlated order forms. N. W. McCombs. Lib J 58:285-9 Ap 1 '33  
Form for NKA orders. System 62:507 N '33

**ORDER of railroad telegraphers**

Order of railroad telegraphers. A. M. McIsaac. 284p [bibliog p271-7] Princeton university press, Princeton, N.J. '33

**ORDERS**

Block scheduling moves orders, minimizes inventories; Bauer & Black. Factory & Ind Management 83:471-3 D '32  
Faster, cheaper, order service; Todd dry dock corp. uses teletype. Management Methods 62:174 Ap '33

\$5,000 annual saving; Jewel tea company; handling branch orders. Management Methods 61:668 D '32

How simplified procedures reduced Westinghouse operating costs; handling orders, standardizing forms, etc. G. L. Harris. Il System 62:494-5+ N '33

Order routine that reduced costs and errors; Jewel food stores. C. B. Allyn. Il Management Methods 62:258-60+ Je '33

Order speaks; quantity, price, and amount method for analyzing business conditions. W. Hutchinson. Credit & Fin Management 35:10-11 Mr '33

Routing hosiery orders. M. G. Berg. Melliand 5:104-5, 153-4 Je-Jl—Ag-S '33

Speeds order writing. Il Management Methods 61:662 D '32

*See also*

Mail orders  
Sales policies—  
Small orders

**ORDNANCE***See also*

Gun carriages

**ORE analysis.** See Metallurgical analysis

**ORE bins**

Automatic sealing of ore bins. diag Eng & Min J 133:632 D '32

**ORE deposits**

Cape Smith sulphide deposits. W. B. Airth. Il map Can Min J 54:53-5 F '33

Cartography for mining geology. H. Schmitt. bibliog Econ Geol 27:716-36 D '32

Chalcocite and native copper types of ore deposits. E. S. Bastin. maps Econ Geol 28:407-46 [bibliog p444-6] Ag '33

Chemical migration; post-mine phenomena in New Guinea. R. Blanchard. Il map Eng & Min J 134:365-8, 425-8 S-O '33

Depth-zones in ore deposition. L. C. Gratton. Econ Geol 28:513-55 S '33

Determination of oreshoot bottoms. H. Schmitt. bibliog diags Eng & Min J 134:52-4 F '33

Geology applied to mining in the Ducktown district. H. F. Kendall and J. H. Ffolliott. map Min & Met 14:175-9 Ap '33

Geophysics applied to geology. H. Lundberg and F. Kihlstedt. diags Can Min J 54:337-42 S '33

Gold in northern British Columbia. F. A. Kerr. Il Can Min J 54:175-7 My '33

Ilmenite-apatite deposits of west-central Virginia. C. W. Ryan. diag Econ Geol 28:266-75 My '33

Influence of Basin Range faulting in mines at Bingham, Utah. E. Farmin. diags Econ Geol 28:601-6 S '33

Interpretation of fault movements from mineral fractures. D. M. Fraser. Il diags plan Eng & Min J 133:621-4 D '32

Iron ore deposits at Cornwall, Pennsylvania. W. O. Hickok. Il maps Econ Geol 28:193-255 My '33

Kramer borax deposit in California and the development of other borate ores. R. G. Mead. bibliog maps Min & Met 14:405-9 O '33

Limitations of economic geology. C. A. Porter Eng & Min J 133:609-10 D '32

Lode deposits in the Boise basin, Idaho. C. P. Ross. map Econ Geol 28:329-43 Je '33

Magnetite ores of northern New Jersey. L. L. Smith. Il Econ Geol 28:658-77 N '33



**ORE deposits—Continued**

- Manganese deposits of Postmasburg, South Africa.** A. L. Du Toit. bibliog il diags map Econ Geol 28:95-122 Mr '33
- Metamorphism and hydrothermal alteration of the Homestake gold-bearing formation.** J. K. Gustafson. il map Econ Geol 28:123-62 Mr '33
- Miami-Picher zinc-lead district.** W. A. Tarr. Econ Geol 28:463-79 Ag '33
- Mineral deposits.** W. Lindgren. 4th ed 930p \$6.50 McGraw-Hill '33
- Mineral zoning in the New Jersey-Pennsylvania-Virginia Triassic area.** W. H. Newhouse. bibliog map Econ Geol 28:613-33 N '33
- Ore deposits of Socorro county, New Mexico.** S. G. Lasky. New Mexico State Bur of Mines and Mineral Resources Bul 8:1-133 '32
- Ore deposits of the United States in their relation to geologic cycles.** B. S. Butler. maps Econ Geol 28:301-28 Je '33
- Origin of the Frood ore deposit.** B. C. Freeman. il map Econ Geol 28:276-88 My '33
- Structures of the Wisconsin and Tri-state lead and zinc deposits.** C. K. Leith. bibliog Econ Geol 27:405-18 Ag '32; Discussion. G. M. Fowler and J. P. Lyden. 28:75-81 Ja '33
- Treating high-acid gold ore in Cyprus.** C. A. Rose. Eng & Min J 134:160 Ap '33
- Ymir-Sheep Creek goldfield of British Columbia.** H. G. Nichols. il map Can Min J 54:259-64 Jl '33
- See also*
- |             |                             |
|-------------|-----------------------------|
| Cinnabar    | Iron ores                   |
| Copper ores | Mines and mineral resources |
| Geology     |                             |
| Gold ores   | Silver ores                 |

**ORE docks**

- New ore dock built entirely of reinforced concrete; facility completed by D.S.S.&A. at Marquette, Mich.** il diags plan Ry Age 94:326-8 Mr 4 '33

**ORE handling**

- Application of shovel-type electric drive to other types of materials-handling equipment at Pedro de Valdivia.** R. W. Barr. il diags Gen Elec R 36:478-81 N '33
- Conveying manganiferous ore; comprehensive grading, shipping and conveying plant at Abu Zenina, Egypt.** il diags plan Mech Handling 19:393-7 D '32
- Novel ore-pass gate has safety and efficiency features.** il Eng & Min J 134:187 My '33
- Portable mine loader for use in close quarters.** A. M. Hoffmann. il Comp Air M 38:4064-5 F '33
- Stetige erzbunkerbeschickung im erzbecken von Briey.** K. Wicke. il diags Zeit Ver Deutsch Ing 76:991-2 O 8 '32; Abstract (Continuous ore bunkering plant at Briey iron ore mine). Mech Handling 20:6-7 Ja '33

**ORE sampling**

- Centrifugal concentration of placer gravel; plant at Oro Blanco, Arizona.** J. B. Girard. il diag Eng & Min J 134:110-11 Mr '33
- Chemical migration: post-mine phenomena in New Guinea.** R. Blanchard. il map Eng & Min J 134:365-8, 425-8 S-O '33
- Diamond-drill sampling practice.** W. R. Storms. il diag Eng & Min J 134:58-60 F '33
- Engineering and geology: the quest for gold and the outcome; McIntyre Porcupine mines.** H. G. Skavlem. Eng & Min J 134:457-8 N '33
- Evaluating gold in certain placers by microcopy.** A. L. Crawford. il Min & Met 14:372-4 S '33

**ORE testing**

- Microscopical determination of ore-treatment methods.** A. S. Hecht. Eng & Min J 134:14-16 Ja '33
- Screen testing ores by hand.** Eng & Min J 134:149-50 Ap '33

**ORE treatment**

- Centrifugal separator for recovery of placer gold.** J. B. Girard. Min Cong J 19:23-4 F '33
- Le développement de l'industrie des mines d'or, en Roumanie.** C. Berthelot. il diags map Génie Civil 103:373-7 O 14 '33

- Dust control an economy measure; Roan antelope copper company.** G. E. Lynch. il diags Eng & Min J 133:606-8 D '32
- Explosive shattering of minerals.** R. S. Dean and J. Gross. U S Bur Mines Rep of Invest 3201:1-19 '33
- Ferrovanadium from 0.1% ore.** B. M. Suslov. Metal Prog 23:47 Je '33
- Heavy fluid separation.** C. E. Wuensch. Eng & Min J 134:320-1 Ag '33
- Manganese mining and milling in the Cartersville district of Georgia.** G. W. Crickmay. Eng & Min J 134:205 My '33
- Metallurgical practice at Broken Hill, New South Wales.** flow sheets il Eng & Min J 134:61-4 F '33
- Microscope reveals influence of mill grinding on floatability of gold.** G. L. Oldright and R. E. Head. bibliog il Eng & Min J 134:228-32 Je '33; Discussion. J. W. Neill. 134:349 Ag '33
- Microscopical determination of ore-treatment methods.** A. S. Hecht. Eng & Min J 134:14-16 Ja '33
- Milling methods and costs at the Golden Cycle mill, Colorado Springs, Colo.** L. S. Harner. flow sheets U S Bur Mines Information Circ 6739:1-18 '33; Excerpts. Min Cong J 19:19 N '33
- Milling methods and costs at the San Guillermo concentrator of the Compania industrial El Potosi, S.A., San Guillermo, Chihuahua, Mexico.** C. A. Mehrling, F. G. Bacon and O. Wiser. flow sheet U S Bur Mines Information Circ 6706:1-22 '33
- Needless transportation in steel industry; ore and coal treatment urged to reduce transportation costs.** R. H. Sweetser. Iron Age 131:506+ Mr 30 '33
- Ocher and barytes processing methods.** J. R. Dellinger. Eng & Min J 134:194 My '33
- Operating results obtained with Hadsel mill indicate economical reduction.** H. Hardinge. il diag Eng & Min J 134:82-4 F '33
- Ore dressing; some progress even with curtailed operations.** C. E. Locke. Min & Met 14:32-3 Ja '33
- Processing witherite; an uncommon barium mineral.** H. C. Meyer. il Eng & Min J 134:283-4 Jl '33
- Progress in concentrating Tintic Standard silver-lead ore; flotation and gravity concentration.** C. A. Schempp. Min & Met 14:291-2 Jl '33
- Recent developments in American blast-furnace design and practice.** W. A. Haven. Iron & Steel Inst J 127:64-8 no 1 '33; Same. Blast F & Steel Pl 21:415-17 Ag '33
- Scope for gold-ore flotation.** C. F. Jackson and J. B. Knaebel. Eng & Min J 134:100 Mr '33
- Theory and practice covered in milling sessions of A.I.M.E.** Min & Met 14:133-4 Mr '33
- Treatment at Treadwell-Yukon Bussieres mine in north western Quebec.** Can Min J 54:180 My '33
- Underground crushing at Noranda.** diags Can Min J 54:180 My '33
- Untersuchungsergebnisse an einer neuartigen stauchsieb-setzmaschine.** T. Kopp. diags Zeit Ver Deutsch Ing 77:149-51 F 11 '33
- Use of the microscope in ore dressing.** G. A. Burgener. Can Min J 54:58 F '33
- See also*
- |                    |                             |
|--------------------|-----------------------------|
| Classifiers        | Lead metallurgy             |
| Copper metallurgy  | Magnetic separation of ores |
| Crushing           |                             |
| Crushing machinery | Metallurgical plants        |
| Cyanide process    | Metallurgy                  |
| Electrometallurgy  | Sintering                   |
| Flotation process  | Smelting                    |
| Gold metallurgy    | Tube mills                  |
| Iron metallurgy    |                             |

**OREGON**

- Coast-survey work in Oregon.** R. S. Patton. Eng N 110:256 F 23 '33
- Diatomaceous earth in Oregon.** W. D. Smith. il map Econ Geol 27:704-15 D '32

**Commerce**

- Facilities, commerce and resources of Oregon's coast ports.** A. L. Lomax. Oregon Univ Studies in Business 14:1-53 '32

**OREGON—Continued****Sanitary affairs**

Willamette Valley sanitary program outlined in report. Eng N 111:322-3 S 14 '33

**OREGON CITY, Oregon****Bridges**

Gunite retains integrity on Oregon road bridges. C. B. McCullough. il Eng N 111: 259-60 Ag 31 '33

**OREODONTIA**

Three oreodont skeletons from the lower miocene of the Great Plains. F. B. Loomis. il Geol Soc Bul 44:723-33 Ag '33

**ORES**

Sources of ores of the ferroalloy metals. E. F. Burchard. bibliog il J Chem Educ 10: 359-68 Je '33

*See also*

Copper ores	Mines and mineral
Geology	resources
Gold ores	Ore deposits
Iron ores	Ore sampling
Metallurgy	Ore treatment
Metals	Silver ores
Mineralogy	

**ORGANIC acids.** See Acids, Organic

**ORGANIC chemistry.** See Chemistry, Organic

**ORGANIZATION in industry**

Applied scientific management; organization and classification. K. Hathaway. Taylor Soc Bul 17:229-34 D '32

Co-ordination of executive offices for effective and economical management of refineries. S. P. Keator. Oil & Gas J 32:11-14 Jl 6 '33

Do ideas flow freely through your organization? M. C. Hale. il Nat Safety N 28:11-14 N '33

Don't blame the depression! F. B. Calhoun. Factory & Ind Management 84:16-18 Ja '33  
Managerial centralization vs. decentralization under present conditions. E. H. Schell. Management R 22:227-32 Ag '33

Many aim at lower office costs; few have effective staff plans. Management Methods 61: 607-8 N '32

Merchandise manager's job. Ptr Ink 161:52-3 D 22 '32

Modern industrial organization. H. von Beck-erath. 385p \$4 McGraw-Hill '33

L'organisation scientifique dans les services d'études et de recherches techniques. G. Brunerie. plan Chimie & Ind 29:978-87 Ap '33

Present-day department-store organization. M. Kaufman. Harvard Business R 11:244-52 Ja '33

Relationship in organization. V. A. Graicunas. Int Management Inst Bul 7:39-42 Mr '33

Today's path to profits—tested, planned selling; General foods corp. C. Francis. il Management Methods 62:163-5+ Ap '33

*See also*

Accounting department-	Engineering department-
ments	ments
Advertising department-	Factory management
ments	Industrial management
Controllers	ment
Credit departments	Purchasing department-
Efficiency, Industrial	ments
Employment management	Safety organization
	Sales departments

**ORGANS**

Pipe organs down; Aeolian-Skinner designs a compact and lower-priced instrument. Business Week p6-7 F 1 '33

**ORIENTATION (architecture)**

Chicago housing project; orientation so as to attain the utmost advantage of sunlight. G. F. Keck and R. P. Schweikher. il Arch Rec 73:162-3 Mr '33

**ORIENTATION (chemistry)**

Absolute method for establishing orientation in the furan series. M. G. Van Campen, Jr. and J. R. Johnson. Am Chem Soc J 55: 430-1 Ja '33

Orientation in the furan nucleus; 5-methyl-3-furoic acid. H. Gilman, R. R. Burtner and E. W. Smith. Am Chem Soc J 55:403-6 Ja '33

Possibility of dipole rotation in certain crystalline solids. S. E. Kamerling and C. P. Smyth. Am Chem Soc J 55:462-5 F '33

Reaction of olefinic compounds; the orienting influence of the phenyl group. E. H. Farmer and C. G. B. Hose. Chem Soc J p962-8 Ag '33

Reactions of olefinic compounds; the orienting influence of the carboxyl group. G. F. Bloomfield, E. H. Farmer and C. G. B. Hose. Chem Soc J p800-6 Jl '33

**ORIENTATION courses**

Orientation for engineering freshmen. D. E. Whelan, Jr. J Eng Educ 23:766-9 Je '33

**ORIFICES**

Bailey adjustable orifice; a hundred orifices in one. il Water Works & Sewerage 80:273-4 Jl '33

Effect of orifice length-diameter ratio on fuel sprays for compression-ignition engines. A. G. Gelalles. il diag U S Nat Advisory Com for Aeronautics 1932:79-90 [bibliog p90] '33

Expansion correction of contraction coefficient of orifices. A. Busemann. Am Gas Assn Mo 15:476-7 N '33

Integration and pulsation errors in measurement of quantities of gas flowing through an orifice. D. Gilmour. Inst Pet Tech J 19:25-68 Ja '33; Abstract. Mech Eng 55:260-1 Ap '33

Pipe sizer for determining the sizes of pipes and of restricting orifices in a hot-water heating system. L. A. Cherry. diags Heating-Piping 5:381-8 Jl '33

**ORIGIN, Indication of**

Imported electrical accessories; application for a marking order. Elec R (Lond) 112:570 Ap 21 '33; Electrician 110:522 Ap 21 '33

Imported valves; application for marking order under the merchandise act. Electrician 110:834 Je 23 '33

Marking of imported clocks. Elec R (Lond) 113:158 Ag 4 '33; Electrician 111:159 Ag 4 '33

**ORPHANAGES**

Soldiers and sailors children's home, Normal, Ill.; views and plans. Arch Forum 59:103-8 Ag '33

Survey of the Ohio soldiers' and sailors' orphan's home. T. C. Holy, W. E. Arnold and W. W. Charters. Ohio State Univ Bur of Educational Research Monographs 18:1-178 '33 [\$2; pa \$1.50]

**ORTHOFORMATES**

Radical interchange on the part of certain alkyl orthoformates. H. W. Post and E. R. Erickson. Am Chem Soc J 55:3351-4 S '33

Reaction between aliphatic orthoformates and acetone. H. W. Post. Am Chem Soc J 55:4176-7 O '33

**OSAGE CITY, Kansas****Sewerage**

Salvage of existing structures permits economical rehabilitation of obsolete sewage works. F. M. Veatch. il plan Pub Works 64:9-10 Ap '33

**OSAKA, Japan****Sewerage**

Osaka, Japan's great industrial center, includes modern sewage disposal in vast development program. I. W. Mendelsohn. il Pub Works 64:18-19 N '33

**OSCILLATIONS, Electric**

Electronic oscillations. E. C. S. Megaw. diags Inst E E J 72:313-25 [bibliog p324-5] Ap '33; Abstract. Wireless Eng 10:142-3, 144 Mr '33; Discussion. Inst E E J 72:348-52 Ap '33

Non-unilateral oscillations; governor-controlled engine-driven generators. M. Stone. diags J Fr Inst 214:633-46 D '32

Production of ultra-short-wave oscillations with cold-cathode discharge tubes. K. Okabe. diags Inst Radio Eng Proc 21:1593-8 N '33



**OSCILLATIONS, Electric—Continued**

Vacuum tube electronics at ultra-high frequencies. F. B. Llewellyn. *Inst Radio Eng Proc* 21:1532-73 N '33

**OSCILLATORS**

A.c.-d.c. line operated test oscillator. K. Clough. *il diag Radio N* 15:14-15+ J1 '33  
Applications of the dynatron. M. G. Scroggie. *diags Wireless Eng* 10:527-40 [bibliog p539-40] O '33

Beat frequency oscillator; a mains-operated instrument primarily designed for testing talking picture-recording apparatus and commercial amplifier equipment. M. F. Cooper and L. G. Page. *bibliog il diags Wireless Eng* 10:469-76 S '33

Interdependence of frequency variation and harmonic content, and the problem of constant-frequency oscillators. J. Groszkowski. *bibliog diags Inst Radio Eng Proc* 21:958-81 J1 '33

Investigation of the magnetron short-wave oscillator. E. C. S. Megaw. *bibliog diag Inst E E J* 72:326-48 Ap '33; Abstracts. *Wireless Eng* 10:143 Mr '33; *Elec R (Lond)* 112:12-13 Ja 6 '33; Excerpt (Summary). *Electrician* 110:11 Ja 6 '33; Discussion. *Inst E E J* 72:348-52 Ap '33

Magnetostatic oscillator for the generation of 1 to 3 cm waves. C. E. Cleeton and N. H. Williams. *Phys R* 44:421 S 1 '33

Magnetostriction oscillators. I. J. Saxl. *il diags Radio N* 15:275-6+, 336-7+ N-D '33

Magnetron oscillator for ultra-short wavelengths. E. C. S. Megaw. *il diags Wireless Eng* 10:197-202 Ap '33

Neon tube oscillators. D. Pollack. *bibliog diag Radio N* 14:342-3+, 409-10 D '32-Ja '33

Oscillator having a linear operating characteristic. L. B. Arguimbau. *il diags Inst Radio Eng Proc* 21:14-28 Ja '33

Radiation resistance of concentric conductor transmission lines. R. Whitmer. *Inst Radio Eng Proc* 21:1343-53 S '33

Simple vacuum tube oscillator for conductivity experiments. J. H. Saylor and J. M. A. Debruyne. *diag J Chem Educ* 10:703-4 N '33

Standard heterodyne oscillator. *il Electrician* 110:20-1 Ja 6 '33

Theory of the magnetron oscillator. J. B. Hoag. *Inst Radio Eng Proc* 21:1132-3 Ag '33; Discussion. E. C. S. Megaw. 21:1749-51 D '33

Ultra short waves; 60 cm. zero-shunt circuit—new methods for measurement—control by radiometric condensers and inductances. G. G. Blake. *bibliog diags Electrician* 111:279-80 S 8 '33

Vacuum tube oscillator for Chladni plates. R. C. Colwell. *il Science* 76:547-8 D 9 '32

**OSCILLATORS, Crystal**

Simplified frequency dividing circuit. V. J. Andrew. *diag Inst Radio Eng Proc* 21:982-3 J1 '33

200-kilocycle piezo oscillator. E. G. Lapham. *pl diags U S Bur Stand J Research* 11:59-64 J1 '33

X-ray reflections from a quartz piezoelectric oscillator in a Bragg spectrograph. M. Y. Colby and S. Harris. *Phys R* 42:733-4 D 1 '32

**OSCILLOGRAPHS**

Amplifier oscillograph has many applications. S. K. Waldorf. *Elec Eng* 52:189-90 Mr '33  
Applications of the cathode ray oscillograph. R. R. Batchelor. *bibliog il Inst Radio Eng Proc* 20:1878-91 D '32

Automatic oscilloscope supplies the proof; almost simultaneous lightning strokes on two sides of paired circuit. G. W. Gerrell. *diags Elec W* 102:594 N 4 '33

Cathode-ray oscillograph for television. R. Hardy. *il diags Electrician* 110:854-6 Je 30 '33

Cathode ray oscillograph in radio research. R. A. W. Watt, J. F. Herd and L. H. B. Bell. 290p H.M. Stationery office, London '33; Review. *Wireless Eng* 10:351-3 J1 '33

Cathode ray oscillography. R. A. W. Watt. *Electrician* 110:160 F 3 '33

Compensated divider needed for time surge measurement. C. M. Foust. *il diag Elec W* 101:70-1 Ja 14 '33

Continuous-drive record paper holder for oscillographs. C. F. Fischer. *il Gen Elec R* 36:328-9 J1 '33

Control panel for an oscillograph laboratory. R. T. Pennoyer and S. O. Evans. *il diags Gen Elec R* 36:339-93 S '33

Developments in the electrical industry during 1932. J. Liston. *il Gen Elec R* 36:63-4 Ja '33

Dynamische dehnungsmesser und oszillographen zur untersuchung des walzvorganges. H. Hoff and T. Dahl. *il diags Stahl & Eisen* 53:593-8; Discussion. 598-604 Je 8 '33

Fast and economical type of photographic oscillograph. C. S. Draper and D. G. C. Luck. *il diag R Sci Instr* 4:440-3 Ag '33

How to build a cathode ray oscillograph. J. M. Hollywood and M. P. Wilder. *il diags Radio N* 15:338-40+ D '33

Investigation of various electrode structures of cathode ray tubes suitable for television reception. A. B. Du Mont. *il diags Inst Radio Eng Proc* 20:1863-77 D '32

Lightning transients; measurement by cathode-ray oscillograph. J. J. Miller. *il Electrician* 109:805-7 D 23 '32

Linear timing axis for cathode-ray oscillographs. C. E. Haller. *diags R Sci Instr* 4:385-6 J1 '33

New high efficiency cathode-ray tube; applications as a projecting oscillograph. M. von Ardenne. *il diags Wireless Eng* 10:592-5 N '33

New portable multi-purpose oscillograph. K. A. Oplinger. *il diag Elec W* 102:16-17 J1 '33

Oscillograph for ten thousand cycles. A. M. Curtis. *il diags Bell System Tech J* 12:76-90 Ja '33; Abstract. *Elec Eng* 52:623-5 S '33

Special oscillograph equipment. *il Elec R (Lond)* 113:52 J1 14 '33

Technique of the high-speed cathode-ray oscillograph. F. P. Burch and R. V. Whelpton. *bibliog il diags Inst E E J* 71:380-3 Ag '32; Abstract. *Elec R (Lond)* 111:816 D 2 '32; Discussion. *Inst E E J* 71:832-4; 72:353-7 N '32, Ap '33

Use of the cathode-ray oscillograph. L. A. Wood. *il diag Sibley J* 47:70-2+ Ap '33

Use of the cathode-ray oscillograph at ultra-high frequencies. H. E. Hollmann. *Wireless Eng* 10:430-3, 484-6 Ag-S '33

Vacuum tube characteristics in the positive grid region by an oscillographic method. H. N. Kozanowski and I. E. Mouromtseff. *diags Inst Radio Eng Proc* 21:1082-96 Ag '33

**OSMIUM**

Refining platinum metals. M. Schwitter. *diag Brass W* 28:229, 247 N-D '32

**OSMIUM oxides**

Reaction between osmium tetroxide and hydrobromic acid; equilibrium study. H. D. Kirschman and W. R. Crowell. *Am Chem Soc J* 55:488-95 F '33

Toxicity of osmium tetroxide (osmic acid). F. R. Brunot. *il J Ind Hygiene* 15:136-43 My '33; Abstract. *Monthly Labor R* 37:67-8 J1 '33

**OSMIUM poisoning**

Toxicity of osmium tetroxide (osmic acid). F. R. Brunot. *il J Ind Hygiene* 15:136-43 My '33; Abstract. *Monthly Labor R* 37:67-8 J1 '33

**OSMOSIS**

Copper membrane gas-molecule sieve; Callendar's theory of osmosis. D. L. Warrick and E. Mack, jr. *Am Chem Soc J* 55:1324-32 Ap '33

Removal of positive ions by electroösmose apparatus. E. Bartow and M. A. Fry. *Ind & Eng Chem* 25:336-8 Mr '33

**OSMOTIC pressure**

Freezing points and osmotic pressures of lactose solutions. E. O. Whittier. *J Phys Chem* 37:847-9 O '33

**OSTWALD, Wilhelm, 1853-1932**

Ostwald memorial lecture. F. G. Donnan. *por Chem Soc J* p316-32 Mr '33; Abstract. *Soc Chem Ind J (Chem & Ind)* 52:128-9 F 10 '33

**OSTWALD, Wilhelm—Continued**

Wilhelm Ostwald, the great protagonist. W. D. Bancroft. *pers J Chem Educ* 10:539-42, 609-13 S-O '33

**OSWEGO, New York**

Busy season is expected at the port of Oswego. A. J. Owen. *il Marine R* 63:35 Mr '33

**OTIS elevator company**

What is the investment outlook for these companies? Mag of Wall St 51:161 N 26 '32

**OTTAWA, Kansas**

Kansas town which was surprised to find itself drawn into the depression. *il Arch Forum* 58:527-8, sup29-30 Je '33

**OTTAWA, Ontario**

Ottawa town planning program. *Can Eng* 64: 27 F 28 '33

Quebec, Montreal, and Ottawa. T. M. Longstreth. 318p [bibliog p313] \$3 Century co. '33

**Water supply**

Operating results at the Ottawa water purification plant. *Can Eng* 65:11-12 O 31 '33

Ottawa plant. H. P. Stockwell. *Am Water Works Assn J* 25:1088-96 Ag '33; Same. *Can Eng* 64:67-70 Mr 28 '33

**OTTOMAN bank**

Annual general meeting of shareholders. *Economist* 117:93-5 Jl 8 '33

**OUTDOOR advertising association of America**

Annual convention, 43d, Louisville. *Ptr Ink* 165:65-6+ N 9 '33

**OVENS**

Improves wire baker economy with refractory combustion chamber formed from silicon carbide tile. *diag Steel* 93:32 S 18 '33

**See also**

Coke ovens	Gas ovens
Core ovens	Japanning
Electric ovens	Kilns

**OVENS, Bakery**

Externally fired bake ovens give flexibility in choice of fuels. H. Carlton. *il diags Food Ind* 5:445-7 N '33

**OVERALLS****Advertising**

Letters help increase Oshkosh profits for 1932, 53 per cent over '31. J. L. Scott. *il Ptd Salesmanship* 60:426-7 F '33

Mail-order copy that sells overalls, seeds and prunes. J. L. Scott. *il Ptd Salesmanship* 60:226-9+ N '32

**OVERDRAFTS**

Bank's right to apply broker's deposit to overdraft; suit. *Bankers M* 126:165-8 F '33

**OVERHEAD expense**

Chemical engineering overhead charges. S. H. Withey. *Chem Age (Lond)* 28:328 Ap 15 '33

Cost finding to assure profits. C. H. Hatch. *Am Mach* 77:689-92, 716-19 O 25-N 8 '33

Cost saving by revision of clerical details is possible when volume falls. F. Klein. *Iron Age* 132:23 S 7 '33

Cutting overhead at reduced outputs. D. Dresden. *Mech Eng* 55:61-2 Ja '33

Does it ever pay to sell at a loss to absorb overhead? W. E. Curley. *il Sales Management* 32:431-2+ Ap 20 '33

Down with overhead—\$600,000 down! Consolidated steel corporation. P. B. Ross. *Factory & Ind Management* 83:459-60 D '32

Facts about overhead. *Rock Prod* 35:57 D 31 '32

Soundness and necessity of overhead write-downs. J. Geschelin. *Automotive Ind* 69:146-9 Ag 5 '33

**See also**

Cost accounting

**OVERMANTELS. See Mantels****OVERPRODUCTION**

Menace of over-production. *Ry Age* 93:935-7 D 24 '32

Technical progress and unemployment. M. Bouniatian. *Int Labour R* 27:327-48 Mr '33

**See also**

Production, Limita-	Stabilization in industry
Production and sales,	Supply and demand
Coordination of	

**OVERTIME**

That payless overtime. R. Foxcraft. *Nation's Business* 21:57 Ja '33

**OVERVOLTAGE**

Studies on overvoltage; the mechanism of the transfer of electrolytic hydrogen and oxygen through thin sheets of platinum and palladium. A. L. Ferguson and G. Dubernell. *bibliog il diag Electrochem Soc Trans* 64 (preprint 22):253-79 S '33

**OWENS, J. F. 1878-**

Business beacons; trade associations are beacons to lead industry from depression; interview. C. H. McCall. *por Credit & Fin Management* 35:18-20+ Ja '33

**OWENS-Illinois glass company**

Beer boosts Owens-Illinois net. *Econostat* 1: 14-15 S 23 '33  
850,000,000 bottles for beer. *il Fortune* 8:48-51+ Jl '33

**OXALATES**

Heat capacity and entropy of calcium oxalate from 19 to 300° absolute; the entropy and free energy of oxalate ion. W. M. Latimer, P. W. Schutz and J. F. G. Hicks, jr. *Am Chem Soc J* 55:971-5 Mr '33  
Role of gaseous oxygen in the thermal reaction between manganic ion and oxalate ion. H. F. Launer. *Am Chem Soc J* 55: 865-74 Mr '33

**OXALIC acid**

Adsorption of oxalic acid by alumina. P. H. Dewey. *J Phys Chem* 36:3187-8 D '32  
Condensation of oxalic esters with benzyl cyanide. G. S. Skinner. *Am Chem Soc J* 55:2036-9 My '33

**OXFORD university**

Botany at the University of Oxford. *Science* 78:303 O 6 '33

**Ashmolean museum**

Old Ashmolean museum, Oxford; early instruments. *il Engineering* 135:533-6 My 19 '33

**OXIDATION**

Aldehyde oxidation of tolueneearsonic acids. H. M. Parmelee and C. S. Hamilton. *Am Chem Soc J* 55:1463-9 Ap '33

Beneficial effect of oxidation on the lubricating properties of oil. R. O. King. *Automotive Ind* 68:493-4 Ap 22 '33

Catalysis of air oxidations by iron salts, phosphates and pyrophosphates. E. J. Theriault, C. T. Butterfield and P. D. McNamee. *bibliog Am Chem Soc J* 55:2012-24 My '33

Catalytic activity of chromites for the oxidation of carbon monoxide. E. C. Lory. *J Phys Chem* 37:685-92 Je '33

Catalytic oxidation of ethylbenzene in the liquid phase with manganese dioxide. C. E. Senseman and J. J. Stubbs. *Ind & Eng Chem* 25:1286-7 N '33

Catalytic oxidation of organic compounds in the vapor phase. L. F. Marek and D. A. Hahn. 486p *Chemical catalog co.* '32

Catalytic partial oxidation of ethyl alcohol in the vapor phase; use of a liquid salt bath for temperature control. D. B. Keyes and W. L. Faith. *Ill U Eng Exp Sta Bul* 252:1-12 '32

Catalytic vapor-phase oxidation of tetraalkyl methanes. W. L. Faith, S. Swann, jr. and D. B. Keyes. *Ind & Eng Chem* 25:224 F '33  
Demonstrating the oxidation of ammonia. T. H. Hazlehurst, jr. *diag J Chem Educ* 10:639 O '33

Effect of gaseous impurities on the radiochemical combination of carbon monoxide and oxygen. C. Rosenblum. *Am Chem Soc J* 55:220-3 Ja '33

Equilibrium in the oxidation of liquid iron by steam and the free energy of ferrous oxide in liquid steel. J. Chipman. *diag Am Chem Soc J* 55:3131-9 Ag '33



**OXIDATION—Continued**

- Examination of certain azelao-glycerides obtained during the oxidation of some simple synthetic and natural glycerides. T. P. Hilditch and S. A. Saleore. *Soc Chem Ind J* 52:101T-5T Ap 21 '33
- Formation of sodium thiosulfate from the oxidation of sodium sulfides by means of an aromatic nitro compound. J. L. Bullock and G. S. Forbes. *Am Chem Soc J* 55:232-8 Ja '33
- Fundamentals in the problem of resistance to deterioration. H. S. Taylor. *Am Soc T M Proc* 32 pt 2:9-42 '32
- Induced oxidation of anthracene in the autoxidation of benzaldehyde. G. E. K. Branch, H. J. Almquist and E. C. Goldsworthy. *Am Chem Soc J* 55:4052-62 O '33
- Influence of acid concentration on the oxidation-reduction potential of mixtures of ferric and ferrous sulphates in sulphuric acid solution. T. J. Glover. *Chem Soc J* p10-15 Ja '33
- Inhibitors in cracked gasoline; correlation of inhibiting action and oxidation-reduction potential. C. D. Lowry, jr. and others. *bibliog il Ind & Eng Chem* 25:804-8 Jl '33
- Interaction of ethyl alcohol and oxygen photosensitized by hydrogen peroxide; a contribution to the Haber-Willstätter mechanism of enzyme reactions. H. S. Taylor and A. J. Gould. *bibliog J Phys Chem* 37:367-74 Mr '33
- Measurement of oxidation-reduction potentials in glacial acetic acid solutions. J. B. Conant and B. F. Chow. *Am Chem Soc J* 55:3745-51 S '33
- New method for the preparation of oxide catalysts for the carbon monoxide oxidation. C. M. Loane. *bibliog diag J Phys Chem* 37:615-22 My '33
- On the mechanism of oxidation. H. Wieland. 124p \$2.50 Yale univ. press, New Haven '32
- Oxidation of alpha and beta glucose and a study of the isomeric forms of the sugar in solution. H. S. Isbell and W. Pigman. *U S Bur Stand J Research* 10:337-56 Mr '33
- Oxidation of carbonyl sulphide. C. E. H. Bawn. *Chem Soc J* p145-51 F '33
- Oxidation of carbonyl sulphide. H. W. Thompson, F. L. Hovde and A. C. H. Cairns. *Chem Soc J* p208-16 F '33
- Oxidation of citric acid. A. C. Kuyper. *Am Chem Soc J* 55:1722-7 Ap '33
- Oxidation of diethylzinc. H. W. Thompson and N. S. Kelland. *Chem Soc J* p756-7 Jl '33
- Oxidation of dimethylzinc. H. W. Thompson and N. S. Kelland. *Chem Soc J* p746-56 Jl '33
- Oxidation of 5-keto-gluconic acid with nitric acid in the presence of vanadium. W. E. Barch. *Am Chem Soc J* 55:3653-8 S '33
- Oxidation of Grignard reagents. M. T. Goebel and C. S. Marvel. *Am Chem Soc J* 55:1693-6 Ap '33
- Oxidation of jamesonite, sphalerite, and tetrahydroite. A. L. Anderson. *il Econ Geol* 27:687-703 D '32
- Oxidation of sym-triiodophenol. W. H. Hunter and M. L. Morse. *Am Chem Soc J* 55:3701-5 S '33
- Oxidation of triethylphosphine. H. W. Thompson and N. S. Kelland. *Chem Soc J* p1231-6 S '33
- Oxidation potential concept of chlorination. F. C. Schmelkes. *bibliog Am Water Works Assn J* 25:695-703 My '33
- Die oxydation des methans durch metall-oxyde. B. Neumann and Hsias-Hai Wang. *Angew Chemie* 46:57-61 Ja 21 '33
- Phenanthroline-ferrous ion; a reversible oxidation-reduction indicator of high potential and its use in oxidimetric titrations. G. H. Walden, jr., L. P. Hammett and R. P. Chapman. *Am Chem Soc J* 55:2649-54 Jl '33
- Phosgene-sensitized oxidation of carbon monoxide. G. K. Rollefson and C. W. Montgomery. *Am Chem Soc J* 55:4036-43 O '33
- Photochemical oxidation of phosgene. G. K. Rollefson and C. W. Montgomery. *Am Chem Soc J* 55:142-7 Ja '33
- Photo-oxidation of gaseous hydrogen iodide. J. R. Bates and G. I. Lavin. *bibliog Am Chem Soc J* 55:81-9 Ja '33
- Platinized silica gel as an oxidation catalyst in gas analysis; oxidation of hydrogen and carbon monoxide. K. A. Kobe and E. J. Arveson. *Ind & Eng Chem Anal ed* 5:110-12 Mr 15 '33
- Potential of free radicals of the triphenylmethyl type in glacial acetic acid solutions. J. B. Conant and B. F. Chow. *Am Chem Soc J* 55:3752-8 S '33
- Potentiometric studies on semiquinones. L. Michaelis and E. S. Hill. *Am Chem Soc J* 55:1481-94 Ap '33
- Preparation of *l*-arabinose and *l*-ribose by the oxidation of *l*-arabinal with benzoic peracid. F. C. Austin and F. L. Humoller. *Am Chem Soc J* 54:4749-50 D '32
- Selenium dioxide, a new oxidising agent; its reaction with some alcohols and esters. S. Astin, A. C. C. Newmann and H. L. Riley. *Chem Soc J* p391-4 Ap '33
- Simultaneous reduction of vanadic acid and oxygen by iodide; induced catalysis of oxygen reactions. W. C. Bray and J. B. Ramsey. *bibliog Am Chem Soc J* 55:2279-88 Je '33
- Studies in electrolytic oxidation; further experiments on the electrolytic oxidation of sodium thiosulphate. S. Glasstone and A. Hickling. *Chem Soc J* p2800-7 N '32; Discussion. *Soc Chem Ind J (Chem & Ind)* 51:944-5 N 11 '32
- Studies in electrolytic oxidation; the formation of dithionate by the electrolytic oxidation of potassium sulphite. S. Glasstone and A. Hickling. *Chem Soc J* p829-36 Jl '33
- Studies on oxidation-reduction; aposafranines. R. D. Stiehler and W. M. Clark. *Am Chem Soc J* 55:4097-109 O '33
- Studies on oxidation-reduction; simple safranines. R. D. Stiehler, Tung-Tou Chen and W. M. Clark. *Am Chem Soc J* 55:891-907 Mr '33
- Tensile strength and fluidity in cuprammonium hydroxide solution of chemically modified rayon and cotton yarns; oxidation by hypochlorite solutions. B. P. Ridge and H. Bowden. *bibliog diag tables Textile Inst J* 23: T319-66 D '32
- Trypanocidal action and chemical constitution; the relative velocity of oxidation of arylarsenoxides. A. Cohen, H. King and W. I. Strangeways. *Chem Soc J* p2866-72 D '32
- Über den einfluss der korngrosse auf die oxydation und selbstentzündung von steinkohlen. K. Peters and W. Picker. *bibliog Angew Chemie* 46:498-503 Jl 29 '33
- Untersuchung über die entphosphorung von eisen durch oxydation. E. Diepschlag and H. Schürmann. *Angew Chemie* 46:61-2 Ja 21 '33

**See also****Combustion**

Corrosion and anti-corrosives  
Deoxidizers

**Peroxides**

Spontaneous combustion

**Autoxidation**

- Autoxidation of certain ethylene oxides. E. P. Kohler and E. M. Nygaard. *Am Chem Soc J* 55:310-14 Ja '33
- Autoxidation of stannous chloride; a survey of certain factors affecting this reaction. R. C. Haring and J. H. Walton. *bibliog J Phys Chem* 37:133-45 Ja '33
- Autoxidation of stannous chloride; the photochemical reaction. R. C. Haring and J. H. Walton. *J Phys Chem* 37:375-80 Mr '33
- Die autoxydation des tetralins. L. Piatti. *Angew Chemie* 46:638-9 O 7 '33
- Comparison of organic inhibitors in chain reactions; photo-polymerization of vinyl acetate; the autoxidation of sodium sulfite; photolysis of hydrogen peroxide. K. Jau and H. N. Alyea. *Am Chem Soc J* 55:575-88 F '33

**OXIDATION—Autoxidation—Continued**

Photochemical oxidation of cottonseed oil. G. R. Greenbank and G. E. Holm. *Ind & Eng Chem* 25:167-8 F '33

Studies in auto-oxidation. H. N. Stephens. *bibliog J Phys Chem* 37:209-17 F '33

**OXIDATION, Physiological**

Action of heavy metals on cysteine and on sulphhydryl groups of proteins. S. M. Rosenthal and C. Voegtlin. *bibliog Pub Health Rep* 48:347-64 Ap 7 '33

**OXIDES**

New method for the preparation of oxide catalysts for the carbon monoxide oxidation. C. M. Loane. *bibliog diag J Phys Chem* 37:615-22 My '33

Die oxydation des methans durch metall-oxys. B. Neumann and Hsiao-Hai Wang. *Angew Chemie* 46:57-61 Ja 21 '33

Reduction of oxides in the graphite vacuum fusion method of analysis for oxygen. N. A. Ziegler. *Min & Met* 14:260 Je '33

Refractory oxides for crucible manufacture. *Chem Age (Lond)* 28:sup29-30 My 6 '33

X-ray studies on the hydrous oxides. H. B. Weiser and W. O. Milligan. *J Phys Chem* 36:3010-45 D '32

See also

Alumina	Magnesia
Anhydrides	Peroxides
Ethers	Silica

**OXIMES**

Co-ordination compounds of oximes; compounds of 4-isonitroso-1-phenyl-3-methyl-5-pyrazolone with the alkali metals, nickel, and thallium. O. L. Brady and M. D. Porter. *Chem Soc J* p840-2 Jl '33

Isomerism of the oximes; the constitution of the acetyl derivatives of  $\alpha$ - and  $\beta$ -aldoximes. O. L. Brady and H. J. Grayson. *Chem Soc J* p1037-8 Ag '33

Studies of the Beckmann change; the spontaneous rearrangement of oxime picryl ethers. A. W. Chapman and C. C. Howis. *Chem Soc J* p806-11 Jl '33

See also

Aldoximes

**OXONIUM compounds**

Salt-forming characteristics of doubly- and singly-linked elements of the oxygen group; oxonium phosphates of the carbonyl group, and investigations with derivatives of the type  $\text{CH}_2\text{Ph-COR}$ . J. W. Baker and L. Hey. *Chem Soc J* p2917-23 D '32

Salt-forming characteristics of doubly- and singly-linked elements of the oxygen group; the rotation of camphor in strong mineral acids. J. W. Baker. *Chem Soc J* p2923-7 D '32

**OXYACETYLENE apparatus**

Air reduction sales co.'s portable machine cuts and bevels pipe by oxy-acetylene process. *il Iron Age* 130:965 D 22 '32

Air reduction; the company whose stock everybody bought, whose business nobody understood. *il Fortune* 8:24-9, 108-4 Jl '33

Linde air products blowpipe has convenient valve arrangement. *il Ry Mech Eng* 107:30-1 Ja '33

Linde air products co.'s truck for welding equipment. *il Ry Mech Eng* 107:70 F '33

Oxy-acetylene welding installation at L.G.O.C. works. *il diags Engineering* 135:353-5, 358 Mr 31 '33

Preisaußschreiben für die konstruktion von sicherheitsvorlagen für niederdruckazetylen-entwickler. H. Friedrich. *Zeit Ver Deutsch Ing* 77:623-4 Je 10 '33

Torch hardening of gear teeth. N. E. Woldman. *il diags Mach* 39:379-82 F '33; *Abstract. Mech Eng* 55:257 Ap '33

**Repair**

Welding and cutting tips repaired. *il Ry Mech Eng* 106:472 N '32

**OXYACETYLENE cutting**

Advances made in the field of gas welding and cutting. *il Mach* 39:386-7 F '33

Cutting risers from chrome-nickel steel castings. R. B. Aitchison. *Mach* 39:479 Mr '33

Efficient oxyacetylene cutting machine installed. *il Ry Mech Eng* 107:31-2 Ja '33

Flame cuts series of 208 holes in  $\frac{1}{2}$ -in. steel plate. *il Iron Age* 132:19 Ag 10 '33

Flame cutting and machining gaining wide acceptance; developments reported to the International acetylene association. *Steel* 93:17 O 2 '33

Lindeweld process of welding; oxyacetylene cutting. D. S. Lloyd. *Can Eng* 64:8 My 16 '33

Machining with oxyacetylene. H. H. Moss. *il diags Am Mach* 76:1217-19; 77:14-16 D 21 '32-Ja 4 '33

Oxy-acetylene welding and cutting. G. C. Comstock. *il Blast F & Steel Pl* 21:374-5 Jl '33

Oxy-acetylene welding and metal cutting; how it is serving the chemical industries. *Chem Age (Lond)* 28:239 Mr 18 '33

Tilting arrangement for torch-cutting machine prevents pitting in starting cut. J. G. Weber, jr. *il Mach* 39:318 Ja '33

Welding and cutting advance with better apparatus and supplies. R. E. Miller. *Iron Age* 131:56-7 Ja 5 '33

**OXYACETYLENE flame**

Flame temperatures of combustible gas-oxygen mixtures. H. H. Lurie and G. W. Sherman. *bibliog il diag Ind & Eng Chem* 25:404-9 Ap '33

**OXYACETYLENE welding**

Advances made in the field of gas welding and cutting. *il Mach* 39:386-7 F '33

Advantages of welded piping in home heating systems. F. J. Maeurer. *il diags Heat & Ven* 30:35-7 Ja '33

Chart of oxy-acetylene welding applications. *Iron Age* 130:sup18 D 22 '32

Controlling expansion and contraction in gas-welding sheet metals. *il Sheet Metal Worker* 23:488 N '32

First all welded pipe lines installed at Montreal, Canada, by Shell oil co. V. Forgett. *il diag Oil & Gas J* 31:30 D 22 '32

Flame cutting and machining gaining wide acceptance; developments reported to the International acetylene association. *Steel* 93:17 O 2 '33

How we adopted welding as a tool in heating work. R. D. Williams. *il Dom Eng* 140:43-4+ D '32

Lead welding. A. J. T. Eyles. *il Elec R (Lond)* 112:628 My 5 '33

Lindeweld process of welding; oxyacetylene cutting. D. S. Lloyd. *Can Eng* 64:8 My 16 '33

Milk station tanks, oxyacetylene welded, are of 18-8 steel. *il Steel* 93:25 Jl 10 '33

Oxy-acetylene today and tomorrow. J. H. Critchett. *Chem Markets* 31:508-9 D '32; *Excerpts. Iron Age* 130:809 N 24 '32; *Mech Eng* 55:132 F '33

Oxy-acetylene welding and cutting. G. C. Comstock. *il Blast F & Steel Pl* 21:374-5 Jl '33

Oxy-acetylene welding and metal cutting; how it is serving the chemical industries. *Chem Age (Lond)* 28:239 Mr 18 '33

Pipe welding technique and fabrication. *diags Heat & Ven* 30:15-17 O '33

Recent developments in welding building piping. S. C. Clark. *il Heat & Ven* 30:28-31 F '33

Some economic aspects of welding aluminum; comparison of the merits of oxy-acetylene and oxy-hydrogen welding. D. E. Roberts. *Metal Ind* 31:61-2 F '33

Usefulness of jigs in welding high nickel alloys. *il diags Sheet Metal Worker* 24:260-1 Ag '33

Welded boiler plant piping; illustrations. *Power Pl Eng* 37:480 N '33

Welded piping on freight and passenger cars. *diags Ry Mech Eng* 106:462-3 N '32

Welding a stainless steel vat. *il Sheet Metal Worker* 24:53 F '33

Welding and cutting advance with better apparatus and supplies. R. E. Miller. *Iron Age* 131:56-7 Ja 5 '33

Welding as a maintenance tool. E. L. Quinn. *il Blast F & Steel Pl* 21:161-4 Mr '33



**OXYACETYLENE welding**—*Continued*

- Welding cast iron; Barimar low temperature process. *Automobile Eng* 23:331 S '33  
 Welding cracked boiler sections. *Il Heat & Ven* 30:32-4 F '33  
 Welding galvanized piping. *diags Heating-Piping* 5:413+ Ag '33  
 Welding high manganese steel. *Rock Prod* 36:66-7 Ag '33  
 Welding in the construction of naval aircraft; abstract. E. W. Cloxton. *Automotive Ind* 67: 669+ N 26 '32  
 Welding of locomotive frames. *Il Iron Age* 132:24 S 14 '33  
 Welding of nickel and nickel alloys. H. Herrmann. *Engineer* 155:sup[Metallurgist] 30-2 Ap 28 '33; Same abr. *Iron Age* 132:25-6+ S 14 '33  
 Welds thumb on iron statue of Vulcan. *Il Foundry* 61:34 Mr '33

**Testing**

- Strength of welds high in oxygen. H. Diergarten. *diag Metal Prog* 23:45, 47+ My '33

**OXYCELLULOSE**

- Action of potassium permanganate solutions of graded hydrogen ion concentration on cotton cellulose. C. Doré and A. C. Healey. *Soc Dyers & Col J* 49:290-5 S '33  
 Oxycellulose and hydrocellulose; their detection, properties, and probable differences in constitution. H. A. Thomas. *Soc Chem Ind J* 52:79T-86T Mr 31 '33; Same. *Am Dyestuff Rep* 22:355-6, 371-7 Je 5 '33; Abstract. *Textile Col* 55:547+ Ag '33

**OXYELECTRIC torch**. See **Electric cutting****OXYGEN**

- Activation of molecular oxygen by electron impact. G. Glockler and J. L. Wilson. *il diag Am Chem Soc J* 54:454-58 D '32  
 Adsorption of gases on palladium oxide. P. V. McKinney. *Am Chem Soc J* 55:3626-32 S '33  
 Calorimetric determination of the intrinsic energy of gases as a function of the pressure; data on oxygen and its mixtures with carbon dioxide to 40 atmospheres at 28° C. F. D. Rossini and M. Frandsen. *diags U S Bur Stand J Research* 9:733-47 D '32  
 Comparison of the densities of carbon monoxide and oxygen, and the atomic weight of carbon. M. Woodhead and R. Whytlaw-Gray. *diag Chem Soc J* p846-54 Jl '33  
 Continuous absorption of oxygen between 1750 and 1300A and its bearing upon the dispersion. R. Ladenburg and C. C. Van Voorhis. *il diags Phys R* 43:315-21 Mr 1 '33  
 Contribution to the study of the hydrogen-oxygen reaction; the adsorption of hydrogen on pyrex and quartz. A. T. Williamson. *Am Chem Soc J* 55:1437-41 Ap '33  
 Coronal lines caused by oxygen. *Science* 78: sup6 N 3 '33  
 Discovery of oxygen. *Soc Chem Ind J (Chem & Ind)* 51:936 N 11 '32  
 Dissociation of oxygen to 5000°K; the free energy of atomic oxygen. H. L. Johnston and M. K. Walker. *bibliog Am Chem Soc J* 55:187-93 Ja '33  
 Effect of oxygen and water on polymerization of chloroprene. I. Williams and H. W. Walker. *diag Ind & Eng Chem* 25:199-202 F '33  
 Heat capacity curves of the simpler gases; heat capacity, entropy and free energy of gaseous oxygen from near zero absolute to 5000°K. H. L. Johnston and M. K. Walker. *bibliog Am Chem Soc J* 55:172-86 Ja '33  
 Heavy water. G. N. Lewis. *Science* 78:sup8 S 1 '33  
 Investigation of the effects of hydrogen and oxygen on the unsoundness of copper-nickel alloys; abstracts and discussion. N. P. Allen and A. C. Street. *Engineer* 155:294 Mr 24 '33; *Engineering* 135:363 Mr 31 '33  
 Kinetics of the hydrogen-oxygen low pressure explosion. A. A. Frost and H. N. Alvey. *Am Chem Soc J* 55:3227-33 Ag '33  
 Kinetics of the mercury sensitized reaction between hydrogen and oxygen. J. R. Bates. *Am Chem Soc J* 55:426-7 Ja '33

- Liberation of iodine from alkali iodides by means of oxygen of the air through the intervention of nitrous gases. R. L. Datta. *Soc Chem Ind J* 52:350T O 20 '33  
 Loss of oxygen in cyanide solutions. H. V. Wallace. *Min & Met* 13:522-3 D '32  
 Low pressure hydrogen-oxygen reaction on platinum. E. O. Wiig. *diag Am Chem Soc J* 55:2673-9 Jl '33  
 Multiplets in the spectra of O III, O IV, O V and C III. P. G. Kruger and W. E. Shoupp. *Phys R* 44:105-8 Jl 15 '33  
 Photochemistry of mixtures of chlorine, oxygen and carbon monoxide. G. K. Rollefson. *Am Chem Soc J* 55:148-52 Ja '33  
 Production of hydrogen peroxide in the mercury sensitized hydrogen-oxygen reaction. J. R. Bates and D. J. Salley. *Am Chem Soc J* 55:110-23 Ja '33  
 Rapid elimination of oxygen from water or aqueous solutions. K. B. Mears and U. R. Evans. *Soc Chem Ind J* 52:349T-50T O 20 '33  
 Rates of detonation in carbon monoxide-oxygen mixtures. C. Campbell, C. Whitworth and D. W. Woodhead. *Chem Soc J* p59-62 Ja '33  
 Reactivity of cokes at low temperatures to oxygen and carbon dioxide. C. B. Bolland and J. W. Cobb. *diag Soc Chem Ind J* 52: 153T-9T Je 2 '33  
 Relation between oxygen tension and protein synthesis in certain tissue extracts. C. Voegtlin, M. E. Maver and J. M. Johnson. *Science* 77:92-3 Ja 20 '33  
 Role of gaseous oxygen in the thermal reaction between manganic ion and oxalate ion. H. F. Launer. *Am Chem Soc J* 55:865-74 Mr '33  
 Solubility of oxygen in gold and in certain silver-gold alloys. F. J. Toole and F. M. G. Johnson. *bibliog J Phys Chem* 37:331-46 Mr '33  
 Sorption of oxygen by nickel catalysts. W. W. Russell and L. G. Ghering. *diag Am Chem Soc J* 55:4468-74 N '33  
 Specific heat of oxygen at high temperatures from ozone explosions and the energy of the <sup>1</sup>A level of the neutral oxygen molecule. B. Lewis and G. von Elbe. *Am Chem Soc J* 55:511-19 F '33  
 Studies on overvoltage; the mechanism of the transfer of electrolytic hydrogen and oxygen through thin sheets of platinum and palladium. A. L. Ferguson and G. Dubernell. *bibliog il diag Electrochem Soc Trans* 64 (preprint 22):253-79 S '33  
 Temperature coefficient of the photosensitized hydrogen-oxygen reaction. H. S. Taylor and D. J. Salley. *bibliog Am Chem Soc J* 55:96-109 Ja '33  
 Theory of continuous absorption of oxygen at 1450A. E. C. G. Stueckelberg. *Phys R* 42: 518-24 N 15 '32  
 Thermal equilibrium between oxygen molecules and atoms. G. von Elbe and B. Lewis. *Am Chem Soc J* 55:507-11 F '33  
 Thermal reaction between acetaldehyde vapor and oxygen. R. N. Pease. *Am Chem Soc J* 55:2753-61 Jl '33

*See also*

- |           |                      |
|-----------|----------------------|
| Oxidation | Steel—Oxygen content |
| Oxides    |                      |
| Ozone     |                      |

**Analysis**

- Apparatus for the rapid estimation of oxygen or other gases dissolved in water. R. C. Hoather. *diag Soc Chem Ind J Chem & Ind* 52:689-90 Ag 25 '33  
 Bestimmung eines geringen sauerstoffgehaltes in gasen. M. Mugdan and J. Sixt. *diag Angew Chemie* 46:90-1 F 4 '33  
 Reduction of oxides in the graphite vacuum fusion method of analysis for oxygen. N. A. Ziegler. *Min & Met* 14:260 Je '33

**Manufacture**

- Air reduction; the company whose stock everybody bought, whose business nobody understood. *Il Fortune* 8:24-9, 108+ Jl '33

**OXYGEN—Manufacture—Continued**

Electrolytes for hydrogen-oxygen cells. W. S. Kirkpatrick, B. P. Sutherland and C. H. Wright. *Electrochem Soc Trans* 63 (preprint 25):251-9 My '33; Abstract. *Elec W* 102:59 J1 8 '33

Les progrès dans la fabrication de l'oxygène industriel. G. Claude. *Génie Civil* 101:589-90 D 10 '32

**OXYGEN, Liquid**

Liquid-oxygen explosives. *Engineering* 135:18 Ja 6 '33

Progress in blasting with LOX at Chuquicamata. W. D. B. Motter, jr. *il diag Min & Met* 14:367-72 S '33

**OXYGEN apparatus**

Oxygen therapy; danger from the standpoint of fire underwriting. *il Weekly Underw* 129:15-17 J1 1 '33

**OXYGEN cutting**

Chalumeau pour l'oxy-coupage sous l'eau, système Töpper, fonctionnant avec les combustibles liquides. *il diag Génie Civil* 101:612 D 17 '32

Qualities of coal gas for welding; cutting of steel by oxygen machines. C. G. Bainbridge. *Gas Age* 71:211 F 25 '33

**OXYGEN demand tests.** See *Sewage—Testing*

**OXYHYDROGEN cutting**

Cutting steel under water by using oxygen-hydrogen torch. C. Kandel. *il Mach* 39:369-73 F '33

**OXYHYDROGEN flame**

Flame temperatures of combustible gas-oxygen mixtures. H. H. Lurie and G. W. Sherman. *bibliog il diag Ind & Eng Chem* 25:404-9 Ap '33

**OYSTERS**

Lamellibranch leucocytes as living material for classroom demonstration. C. M. Breder, jr. and R. F. Nigrelli. *Science* 78:128 Ag 11 '33

Oysters R; aquacultural harvest season opens. *Business Week* p20-1 S 9 '33  
Those of the largest size; British oyster trade. *Economist* 117:487-8 S 9 '33

**OZITE****Advertising**

Time is ripe for trading up, believes Clinton Carpet. *il Ptr Ink* 162:51-2 Mr 23 '33  
Tricky direct mail that didn't do the trick; Ozite rug cushions. R. A. Phelps. *il Ptr Ink* Mo 26:23-4 Ap '33

**Testing**

Fair crowds see tests; learn value of laboratory endorsement. *il Sales Management* 33:226 S 1 '33

**OZOCERITE**

Ozokerite and paraffin; abstract. L. Ivanovsky. *Inst Pet Tech J* 18:465A-466A D '32

**OZONE**

Anomalous decomposition of ozone in the presence of chlorine. L. J. Heidt, G. B. Kistiakowsky and G. S. Forbes. *bibliog diag Am Chem Soc J* 55:223-31 Ja '33

Bleaching with ozone; abstract. W. Bauer. *Am Dyestuff Rep* 22:460 J1 17 '33

Commercial applications of ozone. *Chem Age (Lond)* 28:325 Ap 15 '33

Decomposition of ozone. A. W. Ewell. *Refrig Eng* 26:68-9+ Ag '33

Decomposition of ozone by alpha particles and by thermal means. R. Livingston and L. H. Reyerson. *J Phys Chem* 37:533-5 Ap '33

Electrical water sterilisation; French experience with electrically produced ozone. T. Rich. *diags Elec R (Lond)* 111:918 D 23 '32

Formation of ozone in the alternating current corona discharge with tubes coated with paraffin, stearic acid and platinum. H. G. Thode and A. C. Grubb. *bibliog diag Electrochem Soc Trans* 63 (preprint 29):297-314 My '33

Infrared absorption spectrum and the molecular structure of ozone. S. L. Gerhard. *Phys R* 42:622-31 D 1 '32

Infrared spectrum and the molecular structure of ozone and sulfur dioxide. R. M. Badger and L. G. Bonner. *Phys R* 43:305-6 F 15 '33

Kinetics of gas explosions; ozone explosions induced by hydrogen. B. Lewis. *bibliog Am Chem Soc J* 55:4001-6 O '33

Making of ozone as a laboratory exercise. G. M. Lisk. *diags J Chem Educ* 9:2099 D '32

Molecular structure of ozone. W. S. Benedict. *Phys R* 43:580-1 Ap 1 '33

Ozone, knock-inducer extraordinary. D. B. Brooks. *diag Inst Pet Tech J* 19:835-44 O '33

Ozone to aid in study of fuel knocking. *Nat Pet N* 25:37 O 18 '33

Specific heat of oxygen at high temperatures from ozone explosions and the energy of the  $\Delta$  level of the neutral oxygen molecule. B. Lewis and G. von Elbe. *Am Chem Soc J* 55:511-19 F '33

Thermal equilibrium between oxygen molecules and atoms. G. von Elbe and B. Lewis. *Am Chem Soc J* 55:507-11 F '33

**OZONIDES**

Catalysis of polymerization by ozonides. R. C. Houtz and H. Adkins. *Am Chem Soc J* 55:1609-17 Ap '33

**OZONIZERS**

Improved laboratory ozonizer. L. I. Smith and G. E. Ullyot. *Am Chem Soc J* 55:4327-8 O '33

## P

**PACIFIC advertising clubs association**

Convention, Sacramento, Calif. *Ptr Ink* 163:60 Je 29 '33

**PACIFIC coast**

Why Fifth Avenue strategy won't sell the Far West. *il Sales Management* 31:426-8+ N 15 '32

See also

California

**Economic conditions**

Pacific coast likes NRA. *Business Week* p9-10 S 16 '33

**PACIFIC coast electrical association**

Convention in print. *Elec West* 70:181-217 Je '33

**PACIFIC coast electrical bureau**

Commercial section work for year outlined; officers and committee personnel, 1932-33. *Elec West* 69:248-52 D '32

**PACIFIC coast gas association**

Annual convention, 40th, Los Angeles, Sept. 13-16. *Gas Age* 72:315-16 S 30 '33

Annual Northwest conference, Seattle, June 22-23. *Gas Age* 72:38+ J1 8 '33

**PACIFIC Mills**

Code jumps Pacific Mills profits. *Econostat* 1:14-15 N 4 '33

**PACIFIC mutual life insurance company**

Annual statement, 65th. *Spectator* 130:24 Mr 2 '33

**PACIFIC Northwest public service company (Pepco)**

Central Public Service restores stock and control of Pepco to Oregon investors. *Elec West* 70:28 Ja '33

**PACIFIC science congress.** See *Pan Pacific science congress*

**PACKAGE goods**

A & P sells packaged celery. *il Ptr Ink* 162:108 Ja 19 '33

Better packages; new market; Garlock packing company. *Ptr Ink* 161:82-3 D 8 '32

Canfield markets motor oil in cans like food. *il Nat Pet N* 24:24 O 26 '32; *Pet Age* 26:47 N '32

Designing to sell. R. S. McFadden, ed. *il Sales Management* 32:218-19 Mr 1 '33

Display ideas that sell. F. D. Gonda. *il Sales Management* 32:438-9+ Ap 20 '33

Economy of improved package design. *il Ptr Ink* Mo 26:50-2+ Ja '33

Every package a showcase for fresh foods. F. K. Lawler. *il Food Ind* 5:91 Mr '33



**PACKAGE goods—Continued**

Eye appeal sells the product; cellophane wrapping. O. F. Benz. *il* Manuf Rec 102:50 N '33

Go slowly with the dual-use package. C. B. Larrabee. *Ptr Ink* 161:56-7 D 22 '32

How the Wolf award package competition got its start. I. D. Wolf. *il* *Ptr Ink Mo* 26:73-80 Mr '33

How to squeeze extra profits out of the package; give it a dual use. H. W. Marks. *il* *Ptr Ink Mo* 25:26-7+ D '32

How will it look in the window. H. Deutsch. *il* *Adv & Sell* 20:sup [*Adv Arts*] 23-5 Mr '33

Limitations of dual-use package. M. Weill. *Ptr Ink* 162:82 Ja 19 '33

Look out for twins in a packaged family! *Ptr Ink Mo* 26:52+ F '33

Merchandising requirements of the drug store package. W. Alderson and B. B. Aiken. *U S Bur For & Dom Com Domestic Commerce Ser* 73:1-36 '32

Modern package design must affect both advertising and sales. P. T. Haagen. *il* *Ptd Salesmanship* 60:294-7+ D '32

More convenience in the home; Sno Sheen cake flour. *il* *Ptr Ink* 163:54 My 18 '33

New ideas to meet 1933 conditions feature package show. *Ptr Ink* 162:65-6+ Mr 16 '33

New packages of interest. *il* *Adv Arts* p30-1 J1 '33

New trends in product packaging. H. F. Merrill. *il* *Forbes* 31:9-10 My 1 '33

Novelty packing lifts quality goods above price; how a hairpin company got capacity outlet. G. N. Bolinger. *il* *Ptr Ink* 164:10+ J1 27 '33

Package parade. R. Sheldon. *il* *Adv & Sell* 20:sup [*Adv Arts*] 12-16 Mr '33

Packaged vegetables. *il* *Business Week* p8-9 F 15 '33

Packages prove best, after all. *Ptr Ink* 162:20 Ja 5 '33

Packages that make the mouth water. D. Gridley. *il* *Ptr Ink Mo* 26:41-2 Ap '33

Packages with a second use have added sales value. *Ptr Ink* 162:40 F 16 '33

Packaging the lily. *il* *Ptr Ink* 164:32 Ag 24 '33

Packaging the product to bring repeat orders. H. A. Toulmin, Jr. *Ptr Ink* 163:10-12 Je 1 '33

Passing of the scoop; Melorol. *il* *Ptr Ink* 164:85-6 Ag 17 '33

Photographic packaging. J. Von Miklos. *il* *Adv Arts* p18-22 S '33

Private-brand packages catch up. C. B. Larrabee. *il* *Ptr Ink Mo* 26:22-3 Je '33

Prize packages; illustrations. *Factory Management* 91:126 Ap '33

Sinclair method of eliminating boot-legging with motor oils in sealed cans is successful. R. C. Conine. *il* *Oil & Gas J* 31:12-13 Mr 2 '33

Six companies package quality oil in sealed metal containers. E. L. Barringer. *Nat Pet* N 25:13 Ap 19 '33

Store buyers hail improved pack for baby togs. R. S. McFadden. *il* *Sales Management* 32:254+ Mr 15 '33

20 mule team borax in modern dress. *il* *Ptr Ink* 162:76 Ja 5 '33

Two new designs for carbon paper. *Adv & Sell* 21:sup [*Adv Arts*] 33 My '33

Watch your package! L. Dale. *Comm & Fin* 21:1393-4 N 30 '32

Why Columbia candles are now a preferred line with big buyers. R. S. McFadden. *il* *Sales Management* 32:160-1 F 15 '33

Why packaging? O. F. Rost. *il* *Food Ind* 5:83-5 Mr '33

*See also*

Bottled goods	Cigars
Candy trade	Containers
Canned food	Sales units
Canned goods	Toilet goods
Cigarettes	

**Advertising**

Kraft's largest campaign; new product, processes and packages to be featured in newspapers and magazines. *il* *Ptr Ink* 162:54 F 9 '33

**Color**

Finding best color combination for a package. *Ptr Ink* 164:33-4 Ag 31 '33

Many colors may spoil the package. M. Ullman. *il* *Ptr Ink Mo* 27:18-19 J1 '33

Simple package change—sales up 60 per cent; Glad Rag polishing cloth. *il* *Ptr Ink* 163:40 Je 15 '33

**Combination packages**

One combination deal that can't be split; Coty advertises the package to consumers. *il* *Ptr Ink* 162:10-11 F 23 '33

Premium and sampling value in combination deals. *Ptr Ink* 161:44 D 1 '32

Socony advertises household pack. *il* *Ptr Ink* 163:27 Ap 20 '33

**New packages**

A & P's new coffee packages. *il* *Ptr Ink Mo* 27:17+ O '33

Designing to sell; La Choy food products, inc. R. S. McFadden. *il* *Sales Management* 32:440-1 Ap 20 '33

Disposing of dealer stocks when new package is marketed. *Ptr Ink* 163:72-3 Je 29 '33

How Borden unified a family of packages. L. G. Stevens. *il* *Ptr Ink Mo* 26:32+ My '33

How Texlin chalked up a 357 per cent increase in sales. R. S. McFadden. *il* *Sales Management* 32:327+ Ap 1 '33

Kleenex goes convenience. *il* *Ptr Ink* 161:58-9 D 22 '32

New A & P packages. *il* *Ptr Ink* 164:75 S 28 '33

New packages. *Business Week* p14, 16 Mr 1 '33

Oldtimers in new garb. *il* *Ptr Ink* 161:36 D 1 '32

Package changes combat substitution. *il* *Ptr Ink* 162:61 F 16 '33

Sixteen checking points for the new package. *Ptr Ink* 163:52 My 18 '33

Two full pints idea doubles unit of sale; Clicquot club company. H. E. Kimball. *il* *Ptr Ink* 161:10+ N 17 '32

Veteran label passes; after three-year test in England, Libby, McNeill & Libby pack corned beef in modern package. *il* *Ptr Ink* 164:10-11 J1 20 '33

**Sampler packages**

This combination betters boom time sales records; fool-proof package does a sampling job for Bourjois, inc. R. Aronson. *il* *Ptr Ink* 163:28-9 Je 22 '33

**Size**

Display idea that increases sales 50 per cent; Miracul wax company displays two sizes of cans. *il* *Ptr Ink* 162:32 F 16 '33

**Small packages**

How 10-cent package has created a place for itself. *il* *Ptr Ink* 161:60-3 D 15 '32

Simplicity is essential in small packages. K. B. White. *il* *Ptr Ink Mo* 27:22-3 Ag '33

**PACKAGE inserts**

Those old-time picture cards. *Ptr Ink* 161:92-3 D 8 '32

**PACKAGE libraries**

Extension work by means of package libraries. L. Dimmitt. *il* *Lib J* 57:984-6 D 1 '32

**PACKAGING**

Changing trends in packaging. D. E. A. Charlton and others. 56p American management assn. New York '33

Knitted-in identification lifts pioneer product's sales; Nelson Rockford socks. *il* *Ptr Ink* 162:33-4 Ja 19 '33

Many types of conveyors are available to meet lubricating oil canning requirement. E. F. Morgan. *il* *Nat Pet* N 25:47-8+ S 20 '33

Modern packaging for ground steel hobs. *il* *Iron Age* 132:25 Ag 24 '33

Packaging, packing and shipping exposition, New York, March 7-10. *il* *Food Ind* 5:143 Ap '33

**PACKAGING—Continued**

- Sales manager's dream became the production manager's nightmare; Sun-maid raisin growers' association. W. K. Hines. *il Food Ind* 5:387-9 O '33
- Suggested standard packages for overhead lines material. Edison Elec Inst Bul 1:148-9 Ag '33
- Trends in packaging and merchandising. Index 13:96-100 My '33
- Watch your package! L. Dale. *Comm & Fin* 21:1393-4 N 30 '32
- When everyone's on the flying squadron, it costs less to package; Jewel tea co. F. C. Fleming. *il Factory Management* 91:393 O '33
- Where carton packaging of foods stands today. E. S. Steteler. *Food Ind* 5:94-9+ Mr '33
- Why packaging? O. F. Rost. *il Food Ind* 5:83-5 Mr '33

**PACKAGING machinery**

- How to make machine to fill paper cups. B. Burgan. *il diags Food Ind* 5:259 JI '33
- Toledo vibrator filling machine. *il Am Mach* 77:95 F 1 '33
- Type of equipment and methods used in canning lubricating oils. A. L. Foster. *il plan Nat Pet N* 25:36+ S 20 '33
- You can make a machine that will open paper sacks. B. Burgan. *il diags Food Ind* 5:105 Mr '33

*See also***Wrapping machines****PACKAGING machinery manufacturers institute**

- Packaging machinery industry organizes institute. *Ptr Ink* 164:77 Ag 31 '33; *Iron Age* 132:35 S 7 '33; *Am Mach* 77:564e Ag 30 '33

**PACKAGING materials**

- How materials are helping advertisers to merchandise packages. C. B. Larrabee. *il Ptr Ink Mo* 27:64+ N '33
- How to find the best material for the package. B. Nash. *il Ptr Ink Mo* 27:62-4 N '33
- New materials in products and packages. *il Adv & Sell* 20:sup [Adv Arts] 28-30 Mr '33
- Technical phase of packaging materials. F. Chilson. *il Ptr Ink Mo* 27:74-5+ N '33
- Why manufacturers must study package materials. G. Switzer. *il Ptr Ink Mo* 27:69-70+ N '33

*See also***Wrapping materials****Wrapping paper****PACKARD motor company**

- Low-priced speculations of merit. *Mag of Wall St* 53:81 N 11 '33

**PACKING**

- Better packages; new market; Garlock packing company. *Ptr Ink* 161:82-3 D 8 '32
- Effective packing gland of standard pipe and fittings. G. B. Thom. *Power* 77:86-7 F '33
- High-pressure hydraulic gland packing. H. Sondermann. *diags Engineering* 136:325-6 S 22 '33
- Packing boxes require lubrication. R. Trautschold. *diags Power Pl Eng* 37:127-8 Mr '33
- Spring-fitted oil sealing ring. *diag Engineering* 135:30 Ja 6 '33
- Stuffing boxes packed under pressure; Gunpakt. *il Power Pl Eng* 36:814-15 D '32

**PACKING for shipment**

- Good packing actually costs less than a slapdash, get-it-out-of-here job! C. White. *il Factory & Ind Management* 83:454-5 D '32
- Many packing and loading innovations effective. A. L. Green. *Ry Age* 94:863-4 Je 17 '33
- New packing rules for rubber in effect. *Rubber Age* 33:264 S '33; *Same*. *India Rubber W* 89:52 O '33
- Packing material imports placed under prohibition. *Oil Paint & Drug Rep* 124:38 Ag 28 '33
- Packs 30% more! Abbott laboratories. *Factory Management* 91:91 Mr '33

*See also*

- Barrels** Crates  
**Containers (for shipping)** Shipment of goods

**PACKING houses****Employees**

- Labor productivity and displacement in the slaughtering and meat-packing industry. *Monthly Labor R* 35:1018-25 N '32
- Wages and hours of labor in the slaughtering and meat-packing industry, 1931. U S Bur Labor Statistics Bul 576:1-165 '33

**Equipment**

- Mass production of meat needs thousands of tons of cooling. R. F. Wheaton. *il Refrig Eng* 25:316-18 Je '33

**Power**

- New deal in industrial power supply; Jacob E. Decker & sons. flow sheet *il diags plan Power Pl Eng* 37:282-8 JI '33

**Waste**

- Stabilization of paunch manures and packing-house screenings. C. S. Boruff. *biolog diag Ind & Eng Chem* 25:703-6 Je '33

**PACKING industry**

- Customer turnover experience of meat packing companies. H. C. Greer. *J of Business* 6:1-34 pt 2 Ap '33

*See also*

- Beech-nut packing company Meat industry and  
Canned food trade

**United States**

- Packers believe prices will not go lower. *Barron's* 13:16 Ja 16 '33
- Packers look to fair profit in 1933. *Barron's* 13:14 F 6 '33
- Prospects brighten for packers. R. Colston. *Mag of Wall St* 52:120-1+ My 27 '33

**PAGEANTS**

- Engineering features of a pageant. *il diag Engineer* 155:630-2 Je 23 '33

**PAIS**

- Another dark corner product earns its bit of limelight; Robeson Rochester corporation. C. W. Silcox. *il Sales Management* 32:164 F 15 '33

**PAINT**

- Accurate gloss measurement by a practical means. *Oil Paint & Drug Rep Extra* ed 122:39-40 N 29 '32
- American chemical society Washington meeting; abstracts of papers. *Oil Paint & Drug Rep* 123:24, 26 Ap 3; 30D Ap 17 '33
- Chemistry course for painters and decorators. P. F. R. Venables and H. C. Utley. 121p Pitman '33
- Colloidal behaviour in paint and varnish systems. W. E. Wornum. *Chem Age (Lond)* 28:453 My 20 '33
- Finishes for hot surfaces. H. Chase. *Factory Management* 91:156 Ap '33
- Fish oils in paint and varnish production; abstract. O. F. Denstedt and H. N. Brocklesby. *Soc Chem Ind J* 52:sup836 O 20 '33
- Further research on the production of carbon monoxide from paint in sealed compartments. S. F. Dudley, F. G. Edmed and R. C. Frederick. *J Ind Hygiene* 15:1-7 Ja '33
- Historical survey of coatings. B. S. Covell. *il Plastic Prod* 9:56-8, 137-8 Ap. Je '33
- Newer chemistry of coatings. C. Ellis. *biolog il Ind & Eng Chem* 25:125-32 F '33
- Oberflächenmikroskopie. H. Wagner and M. Zipfel. *il Chemische Fabrik* 5:421-3 N 9 '32
- Paint in the stratosphere; Dulux. *il Sci Am* 148:231 Ap '33
- Painting on concrete surfaces. *Concrete* 40:13-14 D '32
- Paints for water works and sewage treatment plants. *Water Works & Sewerage* 80:16 Ja '33
- Les peintures silicatées et caséinées. L. Sorgues. *Génie Civil* 103:308 S 23 '33
- Petroleum as a source of paint materials; solvents, diluents and thinners. C. I. Kelly. *Chem Age (Lond)* 28:240; *Discussion*. 240-1 Mr 18 '33



**PAINT—Continued**

Plasticity of paints; some observations on the effect of storage. S. A. de Lacey. *Chem Age (Lond)* 28:333; Discussion. 333-4 Ap 15 '33

Problems in the application of paint to plaster and cement. H. M. Llewellyn. *Chem Age (Lond)* 27:595; Discussion. 595-6 D 24 '32

Quick-drying and enduring finishes. H. Chase. *Am Mach* 77:241 Ap 12 '33

Red lead paint. *J Fr Inst* 215:101 Ja '33

Relation between radiant energy and paint. F. C. Atwood. *Oil Paint & Drug Rep Extra* ed 122:44-5 N 29 '32

Surface absorption of heat from solar radiation. F. G. Hechler and E. R. Queer. *il diag Refrig Eng* 25:86-91 F '33; Abstract. *Heat & Ven* 30:39 Mr '33; Discussion. *Refring Eng* 25:91+ F '33

Synthetic coatings at the Century of progress. C. E. Fawkes. *il Plastic Prod* 9:222-7 Ag '33

Thixotropy and plasticity. E. L. McMillen. 195p [bibliog p93-4] Univ. of Minnesota '32

Ultraviolet reflection factors. *il Management Methods* 61:662 D '32

Vereins deutscher chemiker in Würzburg; fachgruppe für chemie der körperfarben und anstrichstoffe. *Angew Chemie* 46:411-14 Je 24 '33

Les vernis et peintures nitrocellulosiques et leurs dérivés. A. Antoni. *il Génie Civil* 103: 133-7, 149-55 Ag 5-12 '33

**See also**

Drying agents	Pigments
Lacquer and lacquer- ing	Tung oil
Linseed oil	Varnish and varnish- ing
Paint materials	

**Drying**

Effect of synthetic resins and pigments on drier absorption and viscosity. *Oil Paint & Drug Rep Extra* ed 122:37-8 N 29 '32

Effects of driers on durability. *Oil Paint & Drug Rep Extra* ed 122:38-9 N 29 '32

Metallic driers. bibliog *Oil Paint & Drug Rep Extra* ed 122:47-9 N 29 '32

Studies in the drying oils; influence of several factors on the mechanism of drying of oil films. J. S. Long, A. E. Rheineck and G. L. Ball, jr. *il diag Ind & Eng Chem* 25:1086-91 O '33

**Manufacture**

Compounding latex paints. *India Rubber W* 88:40 My '33

Country's leadership in the manufacture of paint is largely traceable to petroleum industry. M. B. Chittick. *Oil & Gas J* 31:20 Ap 6 '33

Effect of synthetic resins and pigments on drier absorption and viscosity. *Oil Paint & Drug Rep Extra* ed 122:37-8 N 29 '32

**See also**

Paint materials

**Specifications**

Dry color specifications. *Oil Paint & Drug Rep Extra* ed 122:36-7 N 29 '32

Lead paints in state highway specifications. *Oil Paint & Drug Rep* 122:27 N 21 '32

**Standards**

International standardization in the field of paints. C. P. A. Kappelmeier. *Ind Standardization* 4:135-7 Ag '33

**Testing**

Accelerated tests for the settling of pigments in paints. S. Werthan, R. H. Wien and E. A. Fatzinger. *il diag Ind & Eng Chem* 25:1288-92 N '33

Accelerated weathering of paints and varnishes. V. G. Jolly. *il Soc Chem Ind J* 52: 329T-36T O 13 '33; Abstract. *Soc Chem Ind J (Chem & Ind)* 52:264-6 Mr 24 '33; Same. *Chem Age (Lond)* 28:214-15 Mr 11 '33

Glycerol phthalate resins in quick-drying house paints. *Oil Paint & Drug Rep Extra* ed 122: 40-1 N 29 '32

Influence of the reflecting characteristics of wall paints upon the intensity and distribution of artificial and natural illumination. D. L. Gamble. bibliog *il diag Illum Eng Soc Trans* 28:326-45 Ap '33; Excerpt. *Elec W* 102:93 Jl 15 '33; Discussion. *Illum Eng Soc Trans* 28:345-6 Ap '33

Light reflecting properties of paint. *Foundry* 61:38 Ap '33

Physical tests on paints, varnishes and lacquers. G. F. New. *Chem Age (Lond)* 28: 137-8 F 18 '33

Study of the relative merits of spray and brush painting. *Oil Paint & Drug Rep Extra* ed 122:38 N 29 '32

Testing house paints for durability. F. L. Browne. bibliog *il J Chem Educ* 10:529-38 S '33

**Transportation**

Traffic achievement; N.O.P. & V.A. report. *Oil Paint & Drug Rep Extra* ed 122:20-2 N 29 '32

**Weathering**

Accelerated weathering of paints and varnishes; effects of the absorption of ultraviolet light. V. G. Jolly. *Chem Age (Lond)* 28:214-15 Mr 11 '33; Same. *Soc Chem Ind J (Chem & Ind)* 52:264-6 Mr 24 '33

Effect of weathering on the reflection factor of surfacing materials for light wells. M. R. Paul. *il Illum Eng Soc Trans* 28:315-24; Discussion. 324-5 Ap '33

**PAINT, Luminous**

Health aspects of radium dial painting. L. Schwartz, F. L. Knowles and others. bibliog *il J Ind Hygiene* 15:362-82, 433-55 S, N '33

Ultraviolet luminescent effects and their uses. A. Strobl and R. L. Zahour. *il Illum Eng Soc Trans* 28:612-18 Jl '33

**PAINT, Protective**

L'adhérence des peintures sur les constructions métalliques. F. Chaudy. *il Génie Civil* 102:428 My 6 '33

Aircraft finishing. M. R. Whitmore. *il Ind & Eng Chem* 25:19-23 Ja '33

Anstrich und oberflächenschutz. Scheifele. *Zeit Ver Deutsch Ing* 76:1226-7 D 10 '32

Anstrichtechnik; zusammenarbeit von wissenschaft, handwerk und betrieb. W. Adrian. *il diag Zeit Ver Deutsch Ing* 77:998-1000 S 16 '33

Applications of chlorinated rubber; Tornosit and anti-corrosion paints. J. H. Frydlander. *Chem Age (Lond)* 28:352 Ap 22 '33

Die aufgaben des chemikers bei der bekämpfung des schiffsbewuchses. W. Neu. bibliog *Angew Chemie* 46:227-9 Ap 22 '33

Compositions for the protection of ships. H. W. Keenan. *Chem Age (Lond)* 28:99; Discussion. 99-100 F 4 '33

Corrosion destroys, paint protects. J. C. Gehant. *Nat Safety N* 28:25+ S '33

Effect of organic coatings in preventing damage to metal subjected to stress and corrosion. F. N. Speller and I. B. McCorkle. *il Oil & Gas J* 32:73-4 O 26 '33

Fighting rust with sublimed blue lead. 87p [bibliog p14-17] Eagle-Picher lead co, Cincinnati '32

Getting real value in paint protection. F. A. Mann. *Pulp & Pa* of Can 34:295-6+ Ap '33

Improved bituminous paint. *Chem Age (Lond)* 28:147-8 F 18 '33

Insulations; enamels, paints, etc. H. Warren. *Electrician* 111:281-2 S 8 '33

Metallic zinc paint effective. *Steel* 91:26-7 N 28 '32

Paint as a wood preservative. L. A. Jordan. *Chem Age (Lond)* 28:191 Mr 4 '33

Painting aluminum. J. D. Edwards and R. I. Wray. *il Ind & Eng Chem* 25:23-6 Ja '33

Painting standpipes and elevated tanks. H. E. Newell. *Pub Works* 64:12 S '33

Peacetime activities of the Chemical warfare service. R. E. Sadler. *Chem Ind* 33:301-2 O '33

Practical problems of corrosion; some tests on protective painting. S. C. Britton and U. R. Evans. *Electrician* 109:622 N 11 '32

**PAINT, Protective—Continued**

- Protection of iron and steel structures; red lead paint as a protective medium. *Chem Age (Lond)* 28:359 Ap 22 '33
- Protective action of lead pigments against rust. M. Ragz. *Electrochem Soc Trans* 64 (preprint 24):293-300 S '33
- Protective coatings. A. R. Moir. *il Refrig W* 68:12-14 Ag '33
- Rust! the enemy of the ice plant. A. R. Moir. *Refrig W* 68:21-2 Ja '33
- Scientific study of protective painting. S. C. Britton and U. R. Evans. *Electrochem Soc Trans* 64 (preprint 2):9-21 S '33; Same. *Can Chem & Met* 17:180-3+ S '33; Same cond. *Iron Age* 132:23+ O 5 '33; Abstract. *Food Ind* 5:392-3 O '33
- Search for synthetic rubber also yields drying oil; S-D-O. *Comp Air M* 38:4053 F '33
- Some observations on the corrosion of iron structures; abstract. J. G. Vear. *Chem Age (Lond)* 27:503 N 26 '32
- Les substituts du minium et les peintures industrielles. A. Villa. *il Chimie & Ind* 29:527-40 Mr '33
- Turning war gases to useful purposes. C. Moran. *il Comp Air M* 38:4199-201 Ag '33
- Water tank protection. *Electrician* 109:790 D 16 '32

*See also*

Corrosion and anti-corrosives  
Metal protection

**Testing**

- Arbeiten und erfolge der Deutschen reichsbahn auf dem gebiete des korrosionsschutzes durch anstriche. O. Lindermayer. *il map Zeit Ver Deutsch Ing* 77:385-92 Ap 15 '33
- Effect of composition and pre-treatment of steels upon the life of protective coatings. K. Daevs. *il Electrochem Soc Trans* 64 (preprint 16):161-72 S '33; Abstract. *Iron Age* 132:43 S 14 '33
- Effectiveness of paints in retarding moisture absorption by wood. F. L. Browne. *bibliog il Ind & Eng Chem* 25:835-42 Ag '33
- Interpretation of moisture permeability measurements. J. D. Edwards. *Ind & Eng Chem* 25:846-7 Ag '33
- Metallic transformer paints cut capacity in winter. E. A. Church. *Elec W* 102:188-9 Ag 5 '33
- Permeability of paint films to moisture. R. I. Wray and A. R. Van Vorst. *bibliog il Ind & Eng Chem* 25:842-6 Ag '33

**PAINT and varnish production clubs, Federation of.** See Federation of paint and varnish production clubs

**PAINT brushes**

- Bromak pneumatic paint brush. *il diag Engineering* 136:104 Jl 28 '33

**PAINT factories****Equipment**

- Combining group and unit drives for greatest economy. V. A. Hanson. *Chem & Met Eng* 39:612-13 N '32

**PAINT industry and trade**

- Commercial and scientific activities of the paint industry's organisation in England and Germany. W. Krumhaar. *Chem Age (Lond)* 29:81-2 Jl 22 '33
- Credit situation; N.P.O. & V.A. report. *Oil Paint & Drug Rep Extra* ed 122:19-20 N 29 '32
- Paint federation has approved N.Y. report; practices of some raw material manufacturers held to be injuring industry. *Oil Paint & Drug Rep* 123:16 Mr 13 '33
- Paint is a profitable side-line for the retail lumber dealer; Peter Kuntz co, Dayton, O. H. C. Diefenbach. *il Am Bld* 54:60-1 Ja '33
- Paint, oil and varnish associations meet. *Oil Paint & Drug Rep Extra* ed 122:3-50 N 29 '32
- Paint-varnish trade rules are suggested. *Oil Paint & Drug Rep* 123:22 My 29 '33
- Paints and varnishes. *Chemicals* 37:11 O 17 '32
- Potentialities of the clean up and paint up campaign. R. A. Plumb. *Oil Paint & Drug Rep Extra* ed 122:17-18 N 29 '32

Profits from cost analysis in paint distribution. S. L. Kedzierski. *diags U S Bur For & Dom Com Domestic Commerce Ser* 79:1-21 '32

Returned goods; A.P. & V.M.A. report. *Oil Paint & Drug Rep Extra* ed 122:32 N 29 '32

Suggests national paint up for prosperity. R. A. Plumb. *Oil Paint & Drug Rep* 123:17 F 13 '33

Trade opportunities in New Zealand. *Chem Age (Lond)* 27:507 N 26 '32

Unfair competition; N.P.O. & V.A. report. *Oil Paint & Drug Rep Extra* ed 122:26-7 N 29 '32

**Accounting**

Cost accounting; A.P. & V.M.A. report. *Oil Paint & Drug Rep Extra* ed 122:34-5 N 29 '32

**Advertising**

- Book that paid for itself the first month; Tropical paint and oil company of Cleveland. *il Ptd Salesmanship* 61:289 Jl '33
- How direct mail de luxe sold paint jobs for trucks; Canadian industries, ltd. W. R. Atwood. *il Ptr Ink Mo* 27:24-5+ S '33
- Save the surface; N.P.O. & V.A. report. *Oil Paint & Drug Rep Extra* ed 122:28-9 N 29 '32
- This story to dealers is told with still film; Devco & Raynolds co. *il Ptr Ink* 163:32-4 Je 15 '33
- Three dolls lift this trade campaign out of the rut; New Jersey zinc company talks to the painter. *il Ptr Ink Mo* 26:24+ Ja '33

**Exhibitions**

First paint industries show, Washington, Nov. 11-13. *il Oil Paint & Drug Rep Extra* ed 122:35+ N 29 '32

**Statistics**

Post-war progress in various industries. O. Wilson. *Ind & Eng Chem* 25:104-9 Ja '33

**United States**

- Good season in prospect for the paint trade. Dun & Bradstreet 41:17-19 Je '33
- Paint code hearing shows industry maintained its wages and employment above general U.S. average. *Oil Paint & Drug Rep* 124:17-18+ O 2 '33
- Paint code revised; hearing September 26. *Oil Paint & Drug Rep* 124:16A+ S 18; 17 S 25 '33
- Paint industry code submitted to N.R.A.; text of tentative code. *Oil Paint & Drug Rep* 124:18-20 Ag 7 '33
- Paint industry discusses code; with text of dry color code. *Oil Paint & Drug Rep* 124:15-16+ Jl 31 '33
- Paint trade holding up better than last year. R. Brennan. *Dun's R* 40:2-4 D 31 '32
- Paint, varnish and lacquer sales; 1932. *Oil Paint & Drug Rep* 123:31 Mr 6 '33
- Paint-varnish-lacquer code effective Nov. 15; text of part 2 covering trade practices. *Oil Paint & Drug Rep* 124:30A-30B N 13 '33
- Wholesale trade in paints and varnishes analyzed. *Credit & Fin Management* 35:30 My '33

**PAINT materials**

- Aluminum stearate in paint and varnish. F. J. Licata. *Oil Paint & Drug Rep* 123:29 My 22 '33
- Comparison of high solvent value petroleum solvents. *Oil Paint & Drug Rep Extra* ed 122:39 N 29 '32
- Petroleum as a source of paint materials; solvents, diluents and thinners. C. I. Kelly. *Chem Age (Lond)* 28:240 Mr 18 '33; Same. *Chem Markets* 32:417-18 My '33; Discussion. *Chem Age (Lond)* 28:240-1 Mr 18 '33
- Standardization of kauri butanol test for paint and lacquer thinners. L. C. Beard, V. L. Shipp and W. E. Spelshouse. *bibliog Ind & Eng Chem Anal* ed 5:307-9 S 15 '33

*See also*

Driers	Varnish and varnish-
Linseed oil	ing
Pigments	White lead
Tung oil	



## PAINT materials—Continued

## Advertising

Adds new products, simplifies dealer's stock problems; National Lead. *il* *Ptr Ink* 163:86-7 My 11 '33

## Statistics

Paint, varnish, lacquer chemicals. Published in weekly numbers of Oil, paint and drug reporter

## PAINT research

Federation of paint and varnish production clubs 11th annual convention, Washington, Nov. 11-12. *Oil Paint & Drug Rep Extra* ed 122:36-49 N 29 '32

Paint research station, Teddington. *Chem Age (Lond)* 28:504 Je 3 '33; *Soc Chem Ind J (Chem & Ind)* 52:465 Je 2 '33

Les substituts du minium et les peintures industrielles. A. Vila. *il* *Chimie & Ind* 29: 527-40 Mr '33

## See also

Paint—Testing

## PAINT spraying

Aeroelectric spray-paint equipment. *Electrician* 109:692 N 25 '32

Cellulose finishing; its applications in the electrical manufacturing industry. W. A. Wood. *plan Elec R (Lond)* 112:8 Ja 6 '33

Compressed-air equipment for finishing; abstract. J. A. Paasche. *Automotive Ind* 69:12 Jl 1 '33

DeVilbiss and gun. *il* *diags Fortune* 7:44-8, 114 Mr '33

Leistungsbewertung von farbspritzverfahren und -pistolen. R. Klose. *Zeit Ver Deutsch Ing* 76:1133 N 12 '32

Modern equipment facilitates painting at Baltimore. *il* *Transit J* 77:185 Je '33

New Milburn paint spray gun. *il* *Eng & Contr* 71:279-80 D '32

Paascke airbrush co.'s air-painting machine operates automatically. *il* *Iron Age* 131:546 Ap 6 '33

Spray painting; N.P.O. & V.A. report. *Oil Paint & Drug Rep Extra* ed 122:24 N 29 '32

Study of the relative merits of spray and brush painting. *Oil Paint & Drug Rep Extra* ed 122:38 N 29 '32

## Safety devices and measures

Paint spray hoods at Burnside shop. *il* *Ry Mech Eng* 107:137-8 Ap '33

Small size paint spray booth. F. H. Stebbins. *plan Sheet Metal Worker* 23:521+ D '32

## PAINT storage

Accelerated tests for the settling of pigments in paints. S. Werthan, R. H. Wien and E. A. Fatzinger. *il* *diag Ind & Eng Chem* 25: 1288-92 N '33

Plasticity of paints; some observations on the effect of storage. S. A. de Lacey. *Chem Age (Lond)* 28:333; Discussion. 333-4 Ap 15 '33

## PAINTERS, Industrial

## Accounting

Good accounting as move to cut dealer failures; National Lead. *Ptr Ink* 162:42-3 F 9 '33

## PAINTING, Industrial

Anstrichtechnik; zusammenarbeit von wissenschaft, handwerk und betrieb. W. Adrian. *il* *diags Zeit Ver Deutsch Ing* 77: 998-1000 S 16 '33

Application of finishing materials on zinc. M. H. Corbin. *il* *Ind & Eng Chem* 25:32-4 Ja '33

Causes of and remedies for paint failure on plaster surfaces. *Oil Paint & Drug Rep Extra* ed 122:41-4 N 29 '32

Dilemma of the painter. H. W. Rambusch. *Architecture* 68:171-2 S '33

Effectiveness of paints in retarding moisture absorption by wood. F. L. Browne. *bibliog il* *Ind & Eng Chem* 25:835-42 Ag '33

Facts about letting a painting contract. C. L. Frye. *Am Gas J* 138:35-7 Ja '33

Getting real value in paint protection. F. A. Mann. *Pulp & Pa of Can* 34:295-6+ Ap '33

How to paint your bulk stations. H. Johnson. *il* *Pet Age* 27:27-8 Ap '33

It pays to paint. *il* *Pulp & Pa of Can* 34:267-71 Ap '33

Maintenance painting. A. L. Bardwell. *Pulp & Pa of Can* 34:298 Ap '33

Paint can be the printer's friend; press-room walls and ceiling should be painted white. N. M. Collart. *il* *Inland Ptr* 91:50-2 Ap '33

Painting on concrete surfaces. *Concrete* 40: 13-14 D '32

Painting the exposition buildings. O. Teegen. *il* *Arch Rec* 73:366-9 My '33

Preparation of zinc and zinc-alloy surfaces for coating. H. A. Nelson and W. W. Kittelberger. *il* *Ind & Eng Chem* 25:27-32 Ja '33

Problems in the application of paint to plaster and cement. H. M. Llewellyn. *Chem Age (Lond)* 27:595; Discussion. 595-6 D 24 '32

Some observations on the corrosion of iron structures; abstract. J. G. Vear. *Chem Age (Lond)* 27:503 N 26 '32

## See also

Automobiles—Paint-

ing

Car painting and

finishing

Lacquer and lacquer-

ing

Paint

Paint, Protective

Paint spraying

Ships—Painting

Varnish and varnish-

ing

## PAINTINGS

Application of the three-color principle to oil painting; abstract. H. E. Ives. *Science* 77: 459 My 12 '33

Gardens; a portfolio of paintings by George Stonehill; with notes on the 1933 scene. *il* *Fortune* 8:67-74 Ag '33

## See also

Mural painting and

decoration

## Identification

Modern methods of examining pictures. A. P. Laurie. *Soc Chem Ind J (Chem & Ind)* 52: 327-9; Discussion. 329 Ap 14 '33

Underneath the artist's paint. *il* *Sci Am* 148: 84-5 F '33

## Protection

La prévention des réflexions parasites dans les tableaux sous verre. *Génie Civil* 102:524-5 Je 3 '33

## PALEOBOTANY

## See also

Trees, Fossil

## Bolivia

Carboniferous plants interbedded in the marine section of Bolivia. E. W. Berry. *il* *Am J Sci* 5th ser 25:49-54 Ja '33

## Colorado

Grasses and other plants from the Tertiary rocks of Kansas and Colorado. M. K. Elias. *Univ of Kansas Science Bul v* 20, no 20: 333-67 '32

## Illinois

Some features of flowers and fruit of a new cordaites; abstract. D. White. *Science* 77: 460 My 12 '33

## Kansas

Grasses and other plants from the Tertiary rocks of Kansas and Colorado. M. K. Elias. *Univ of Kansas Science Bul v* 20, no 20: 333-67 '32

## Washington (state)

Miocene flora from Grand Coulee, Washington. E. W. Berry. *U S Geol S Professional Pa* 170:31-42, pl 11-13 '32

## PALEOCLIMATOLOGY

## Japan

Climate of the pleistocene age in Japan. S. Endo. *Am J Sci* 5th ser 25:179-80 F '33

Climate change in Japan. P. B. Sears. *bibliog Science* 78:312 O 6 '33

## PALEOGEOGRAPHY

Gondwana land bridges. C. Schuchert. *pl maps Geol Soc Bul* 43:875-915 [bibliog p913-15] D '32

Isthmian links. B. Willis. *Geol Soc Bul* 43: 917-53, pl 25-29 D '32

Paleogeographic wall maps. L. T. Patton. *Science* 76:474-5 N 18 '32

**PALEONTOLOGICAL society**

- Officers, correspondents, fellows, and members. *Geol Soc Bul* 44:221-33 F '33  
 Proceedings of the twenty-fourth annual meeting, Cambridge, Mass. Dec. 28-30, 1932. *Geol Soc Bul* 44:181-220 F '33

**PALEONTOLOGY**

- Early man and the associated faunas in the Old World. A. S. Woodward. *Science* 78:89-92 Ag 4 '33  
 Introduction to the study of fossils (plants and animals). H. W. Shimer. rev ed 496p \$4 Macmillan '33  
 Method for the preparation of fossils. G. A. Cooper. *Science* 77:394 Ap 21 '33  
 Proceedings of the twenty-fourth annual meeting of the Paleontological society, Cambridge, Mass. Dec. 28-30, 1932. *Geol Soc Bul* 44:181-220 F '33  
 Survival of the fittest. H. S. Williams. 321p R. M. McBride & co, New York '32  
 World of fossils. C. L. Fenton. 183p \$2 Appleton-Century '33

*See also*

- |                     |                      |
|---------------------|----------------------|
| Ammonoidea          | Foraminifera, Fossil |
| Cephalopoda, Fossil | Graptolites          |
| Fishes, Fossil      | Vertebrates, Fossil  |
| Footprints, Fossil  |                      |

**Bibliography**

- Development of invertebrate paleontology in America. R. S. Bassler. *Geol Soc Bul* 44:271-4 Ap '33

**Alaska**

- Fauna of the Poul and Yakataga formations (upper Oligocene) of southern Alaska. B. L. Clark. fold map *Geol Soc Bul* 43:797-846, pl 14-21 S '32

**Australia**

- Metalegoceras jacksoni of the Irwin River coalfield, western Australia. A. K. Miller. bibliog *il Am J Sci* 5th ser 24:433-42 D '32

**British Columbia**

- Propinacoceras from North America. A. K. Miller and P. S. Warren. bibliog *il Am J Sci* 5th ser 26:295-9 S '33

**California**

- Additions to the fauna of the Tehama upper pliocene of northern California. V. L. Vander Hoof. *Am J Sci* 5th ser 25:382-4 My '33  
 Geology and paleontology of a portion of Los Angeles, California. E. K. Soper and U. S. Grant. *il map Geol Soc Bul* 43:1041-67 D '32  
 Lepidocyclus in California. N. L. Taliaferro and H. G. Schenck. bibliog *il map Am J Sci* 5th ser 25:74-80 Ja '33  
 Mount Jura investigation. C. H. Crickmay. *Geol Soc Bul* 44:895-926, pl 23-34 O '33  
 Some of Alpheus Hyatt's unfigured types from the Jurassic of California. C. H. Crickmay. *U S Geol S Professional Pa* 175-B:51-8, pl 14-18 '33  
 Vaqueros formation, lower miocene of California; paleontology. W. Loel and W. H. Corey. maps 65pl *Univ of Calif Pub Geological Sciences* v 22, no 3:31-410 '32

**China**

- New conquest of central Asia; a narrative of the explorations of the Central Asiatic expeditions in Mongolia and China, 1921-1930. R. C. Andrews and others. 678p [bibliog p615-24] American museum of natural history, New York '32  
 Peking man. *Science* 78:sup8 Ag 4 '33

**Colorado**

- New species of the amblypod titanoides from western Colorado. B. Patterson. bibliog *il Am J Sci* 5th ser 25:415-25 My '33

**Connecticut**

- Littorina irrorata, a post-pleistocene fossil in Connecticut. J. B. Knight. bibliog *Am J Sci* 5th ser 26:130-3 Ag '33

**Florida**

- Miocene vertebrates from Florida. G. G. Simpson, A. E. Wood and E. H. Colbert. *il Florida Geol S Bul* 10:1-58 '32  
 Second contribution to the Neogene paleontology of south Florida. H. I. Tucker and D. Wilson. 20p Harris co, Ithaca, N.Y. '33

**Gulf Coast region**

- Try to iron out differences of opinion on paleontology in Gulf Coast area. N. Williams. *Oil & Gas J* 32:14+ Je 8 '33

**India**

- Yale North India expedition. *Science* 77:301 Mr 24 '33

**Indiana**

- Marine fossils from the top of the New Albany shale of Indiana. J. H. Huddle. *il Am J Sci* 5th ser 25:303-14 Ap '33

**Iowa**

- Mixochaoanitic cephalopod from Iowa. A. K. Miller. *il Am J Sci* 5th ser 26:178-82 Ag '33  
 Stratigraphy and paleontology of the Gilmore City formation of Iowa. L. R. Laudon. *il Iowa Univ Studies in Natural History* v 15, no 2:1-74 [bibliog p73-4], pl 1-7 '33

**Japan**

- Climate of the pleistocene age in Japan. S. Endo. *Am J Sci* 5th ser 25:179-80 F '33

**Louisiana**

- Caddo Parish well finds skull of unknown animal. *Oil & Gas J* 31:30 N 24 '32

**Missouri**

- Location and areal extent of the Saint Louis Pennsylvanian outlier. J. B. Knight. maps *Am J Sci* 5th ser 25:25-48, 166-78 [bibliog p174-5] Ja-F '33

**Mongolia**

- New conquest of central Asia; a narrative of the explorations of the Central Asiatic expeditions in Mongolia and China, 1921-1930. R. C. Andrews and others. 678p [bibliog p 615-24] American museum of natural history, New York '32

**North America**

- Attempt to zone the North American Jurassic on the basis of its brachiopods. C. H. Crickmay. *Geol Soc Bul* 44:871-93, pl 19-22 O '33  
 Development of invertebrate paleontology in America. R. S. Bassler. *Geol Soc Bul* 44:265-86 Ap '33

**Nova Scotia**

- Carboniferous tracks from Nova Scotia. C. M. Sternberg. bibliog *diag Geol Soc Bul* 44:951-64, pl 35-7 O '33

**Oklahoma**

- New Pennsylvanian conodonts from Oklahoma. R. W. Harris and R. V. Hollingsworth. pl *Am J Sci* 5th ser 25:193-204 Mr '33

**Oregon**

- New evidence of the age of the John Day formation. E. T. Hodge. *Geol Soc Bul* 43:695-702 S '32

**Palestine**

- Neandertal skeletons in Palestine. G. G. MacCurdy. *Science* 76:sup8 D 23 '32

**Pennsylvania**

- Hamilton group of eastern Pennsylvania. B. Willard and A. R. Cleaves. map *Geol Soc Bul* 44:757-82 Ag '33

**Siberia**

- Age of the paleozoic insect-bearing deposits of the Kuznetzk basin. A. B. Martynov. bibliog *Am J Sci* 5th ser 26:447-51 O '33

**Sicily**

- Age of the Permian limestones of Sicily. A. K. Miller. *Am J Sci* 5th ser 26:409-27 [bibliog p426-7] O '33



## PALEONTOLOGY—Continued

## Texas

Faunal correlation of the Ellenburger limestone of Texas. C. L. Dake and J. Bridge. fold map Geol Soc Bul 43:725-41, pl 12 S '32

## Utah

Eocene lagomorphs. J. J. Burke. Science 77: 191 F 17 '33

## Washington (state)

Fauna of the type Blakeley upper Oligocene of Washington. N. M. Tegland. maps Univ of Calif Pub Geological Sciences v 23, no 3:81-174, pl 2-15 '33

## Western states

Papers concerning the palaeontology of California, Oregon and the northern Great basin province. 113p Carnegie institution of Washington, Washington '32

## Wisconsin

Sponge spicules from the lower Ordovician of Wisconsin. C. E. Needham. Science 77:450-1 My 12 '33

## PALESTINE

Palestine; a decade of development. H. Viteles and K. Totah, eds. Ann Am Acad 164:1-208 N '32

## See also

Cooperation—Palestine      Engineering—Palestine  
Electricity supply—Palestine

## Antiquities

Palestine in the light of archaeology. W. F. Albright. Ann Am Acad 164:184-9 N '32

## Bibliography

Selected list of books on modern Palestine. F. S. Hellman, comp. Ann Am Acad 164: 190-7 N '32

## Commerce

Commerce, industry, and banking. A. P. S. Clark. Ann Am Acad 164:95-107 N '32

## Industries and resources

Commerce, industry, and banking. A. P. S. Clark. Ann Am Acad 164:95-107 N '32  
Industrial development in Palestine. Soc Chem Ind J (Chem & Ind) 52:485 Je 9 '33

## PALLADIUM

Studies on overvoltage; the mechanism of the transfer of electrolytic hydrogen and oxygen through thin sheets of platinum and palladium. A. L. Ferguson and G. Dubernell. bibliog il diag Electrochem Soc Trans 64 (preprint 22):253-79 S '33

## Analysis

Quantitative determination of palladium by means of ethylene. S. C. Ogburn, jr. and W. C. Brastow. Am Chem Soc J 55:1307-10 Ap '33

## PALLADIUM compounds

Ignition of palladium compounds. J Fr Inst 216:399 S '33  
Molecular structure of some co-ordination compounds of platinum and palladium. E. G. Cox and G. H. Preston. Chem Soc J p1089-93 Ag '33

## PALLADIUM oxide

Adsorption of gases on palladium oxide. P. V. McKinney. Am Chem Soc J 55:3626-32 S '33  
Reduction of palladium oxide by carbon monoxide. P. V. McKinney. diag Am Chem Soc J 54:4498-504 D '32

## PALM BEACH cloth

## Advertising

50-50 newspaper advertising doubles Palm Beach '33 sales. il Sales Management 33: 174 Ag 15 '33

## PALM oil

Certain general features common to most fruit-coat fats. T. P. Hilditch. bibliog Soc Chem Ind J 52:169T-71T Je 16 '33

Composition of commercial palm oils; some characteristic differences between the component acids of oils from Liberia or the Ivory coast and those of native or plantation palm oils from other localities. H. K. Dean and T. P. Hilditch. Soc Chem Ind J 52:165T-9T Je 16 '33

Vitamin A content of naturally colored nut margarines. C. F. Poe and H. A. Fehlmann. Ind & Eng Chem 25:402-3 Ap '33

## PALMER, Theodore Sherman

Retirement of investigators of the U.S. Biological survey. Science 78:96-7 Ag 4 '33

## PALMER blankets

Care of Palmer blankets. Textile World 83: 1634 S '33

## PALMITIC acid

Phase-rule equilibria of acid soaps; anhydrous acid sodium palmitates. J. W. McBain and M. C. Field. pl Chem Soc J p920-4 Ag '33

Structure of unimolecular films; surface potentials of films of long chain compounds. R. J. Fossbinder and A. E. Lessig. diag J Fr Inst 215:425-33 Ap '33

Ternary system: palmitic, margaric and stearic acids. R. L. Shriner, J. M. Fulton and D. Burks, jr. Am Chem Soc J 55:1494-9 Ap '33

## PALO ALTO, California

## Sewerage

Clarification of sewage with ferric chloride. R. A. Stevenson. il Water Works & Sewerage 80:89-91 Mr '33

## PANAMA canal

More water for the Panama canal. E. S. Randolph. il plan Sci Am 149:206-8 N '33

Panama canal crossed by ferry; details of ferry ramp construction. E. M. Browder, jr. il diags map Civil Eng 3:61-5 F '33

## Power

Panama canal uses supervisory power-system control. Power 77:571 N '33

## Traffic

Annual report, 1932. Ry Age 93:870 D 10 '32

## PANAMA Canal Zone

Supervisory control at the Panama canal. C. C. Lehman. il map Elec J 30:371-5 S '33

## PAN AMERICAN airways corporation

New travel lanes widen outlook for Pan American airways. Econostat 1:11, 32 S 23 '33

Pan-American in Asia. map Sci Am 149:30 JI '33

Safety on the tropical airways. il map Nat Safety N 28:27-9+ O '33

## PAN AMERICAN companies

Suit claims S. O. Indiana officials profited on Pan-Am. deal. Nat Pet N 25:20 S 20; 13 S 27 '33

## PAN AMERICAN railroad

Le Chemin de fer intercontinental panaméricain. S. Marin y Icauna. map Soc Ing Civils Bul 86:616-28 My '33

## PANCREAS

Effect of galactose feeding upon depancreatized dogs. J. H. Roe and R. F. Cahoon. Science 77:331-3 Mr 31 '33

Frequency-distribution of volume of islands of Langerhans in the pancreas of man, monkey and dog. W. R. Thompson, R. Tennant and R. Hussey. Science 78:270 S 22 '33

In vitro experiments on the metabolism of the pancreas; abstract. E. U. Still. Science 76:544 D 9 '32

Protein nature of enzymes; an investigation of pancreatic lipase. D. Glick and C. G. King. Am Chem Soc J 55:2445-9 Je '33

PANEL system of heating. See Electric heating—Panel system; Hot water heating—Panel system

## PANEL work

Dry construction achieved in lumber industries' "sunlight house"; Century of progress home shows advantages of all-wood interiors. il plans Am Bld 55:34-6 Je '33

Grid-wood; Rezo panels. il Business Week p11 Ja 18 '33

**PANEL work—Continued**

Phenol resin gives new tool to marine engineers; S. S. Washington. F. E. Brill. il Plastic Prod 9:189-90 J1 '33

T. S. S. Washington features new fire-resistant paneling. J. R. Fitzpatrick. il Marine Eng 38:208-13 Je '33

**PANGBORN, Thomas W. 1880-**

Vice president, National founders' association. Por Steel 91:16 D 5 '32

**PANICS**

Financial panics in the past. Guaranty Survey 12:7-10 Mr '33

Gas industry increased sales 10% in money panic of 1907. Am Gas Assn Mo 15:144-5 Ap '33

New York banks and the bank stock market. J. F. Barry. Bankers M 125:591-8 D '32

We have recovered before! W. W. Price. 102p \$1.50 Harper '33

*See also*

Business cycles  
Business depression

**PANORAMAS**

*See also*

Cycloramas

**PAN PACIFIC science congress**

Meeting, 5th, Vancouver. Science 77:sup6 Je 16 '33

**PANTOGRAPH**

Profile grinding machine for tools and gages. O. P. van Steewen. il Mach 39:411-13 F '33

Profiling operations on pantograph machines; illustrations. Mach 39:446-8 Mr '33

**PANTOGRAPH, Current collecting**

Pantograph pan lubrication. F. W. Bellinger. il Elec Traction 29:139-40 My '33

**PANTONE**

Inventor of pantone shifts interest to the off-set-printing processes. S. H. Horgan. Inland Ptr 90:42 Ja '33

**PANTOTHENIC acid**

Pantothenic acid, a growth determinant of universal biological occurrence. R. J. Williams and others. bibliog Am Chem Soc J 55:2912-27 J1 '33

Pantothenic acid as stimulus to growth. R. J. Williams and C. M. Lyman. Science 78:sup4-5 S 22 '33

**PAPAIN**

Relation between the cyanide activation of papain and its inactivation by heavy metal salts; abstract. D. R. P. Murray. Soc Chem Ind J (Chem & Ind) 51:979 N 25 '32

**PAPER**

Book paper trade customs. Paper Tr J 95:39-40+ D 15 '32

Paper for forms. System and Management Methods 62:310-11 J1 '33

Passing buck to paper often costly. Inland Ptr 91:49-50 S '33

Records; fitting the paper to the purpose. il Am Bankers Assn J 26:90-3 S '33

Scented paper for business use; Miami valley coated paper co. Management Methods 62:213 My '33

Static electricity in paper. M. W. Black. Paper Tr J 95:30 N 17 '32

*See also*

Crepe paper	Photographic paper
Dyes and dyeing—	Stationery
Paper	Toilet paper
Envelopes	Tracing paper
Filter paper	Wall board
Mimeograph paper	Waste paper
Mulch paper	Watermarks
Newsprint paper	Wood pulp
Paper board	Wrapping paper
Parchment paper	

**Analysis**

Chemical paper testing methods. Paper Tr J 96:30 My 18 '33

Determination of zinc sulphide pigments in paper. F. A. Steele. Paper Tr J 97:27-8 Ag 31 '33

Rapid method for distinguishing bleached sulfate from bleached sulfite. R. W. Shaffer. Ind & Eng Chem Anal ed 5:35-6 Ja 15 '33

Recherches sur la détermination du degré d'acidité et de l'indice de cuivre du papier, en particulier du papier suédois pour archives; abstract. S. Köhler. Chimie & Ind 29:411-12 F '33

**Bibliography**

At the Forest products laboratories; books and pamphlets added to the Library of the Pulp and paper division, Montreal. Published in monthly numbers of Pulp and paper of Canada

**Color**

Colouring in a fine paper mill. H. G. McNeil. Pulp & Pa of Can 34:407-9 Je '33

Properties of paper pigmented with zinc sulphide. H. M. Cyr. Paper Tr J 96:31-3 Je 15 '33

Surroundings can fool you on colors of paper or ink samples. E. K. Hunt. il Inland Ptr 90:23-5 F '33

*See also*

Dyes and dyeing—  
Paper

**Curling**

Curling and waving of papers. D. Roberts. Pulp & Pa of Can 34:461-3 J1 '33

**Dirt content**

Estimation of dirt and shives in pulp and paper. J. d'A. Clark, R. S. von Hazmburg and R. J. Knoll. Paper Tr J 96:40-2 F 2 '33

Method of estimating the dirt in pulp and paper. J. d'A. Clark. Paper Tr J 96:27-8 Je 29 '33

Proposed methods for the dirt count of pulp and paper. F. A. Simmonds, P. S. Billington and P. K. Baird. Paper Tr J 97:40-2 J1 27 '33; Same. Pulp & Pa of Can 34:598-600 O '33

*See also*

Paper making—Dirt  
problem

**Durability**

Brief study of some old papers. W. V. Torrey and E. Sutermeister. Paper Tr J 96:45-6 My 25 '33

Preservation of printed materials and manuscripts; report of a subcommittee of the International institute of intellectual co-operation of the League of nations. Paper Tr J 97:32-5 J1 20 '33

Preservation of records in libraries. Paper Tr J 97:45 N 9 '33

Relative stabilities of bleached rag half stocks and bleached purified sulphite pulps to degradation by calcium hypochlorite solutions. H. F. Lewis. Paper Tr J 96:41-6 My 11 '33

Relative stabilities of rag and purified sulphite pulps. H. F. Lewis. Paper Tr J 95:29-42 N 24 '32

Report of the committee on permanence and durability of paper. Paper Tr J 97:33-6 J1 27 '33

Study of the deterioration of book papers in libraries. A. E. Kimberly and A. L. Emley. U S Bur Stand Misc Pub 140:1-7 '33

*See also*

Records. Preserva-  
tion of

**Bibliography**

Bibliography on permanence and durability of paper, 1932. Paper Tr J 96:44 Je 8 '33

**Dyeing**

*See* Dyes and dyeing—Paper

**Folding**

Pliable fibers assure good folding. E. K. Hunt. diags Inland Ptr 91:27-8 My '33

Study of the M. I. T. paper folding tester. L. W. Snyder and F. T. Carson. il Paper Tr J 96:40-4 Je 1 '33

**Moisture absorption**

Capillary rise of water in fibrous sheets and possible applications. F. A. Simmonds. Paper Tr J 97:40-2 S 7 '33



## PAPER—Continued

## Moisture content

- Curling and waving of papers. D. Roberts. Pulp & Pa of Can 34:461-3 Jl '33
- Effect of relative humidity on the moisture content and bursting strength of four container boards. C. O. Seborg, R. H. Doughty and P. K. Baird. bibliog Paper Tr J 97:37-42 O 12 '33
- Moisture content measurements. T. E. Heppenstall and H. A. Hauff. il Paper Tr J 96:43-5 My 25 '33
- New process for the moisture control of paper. R. H. McKee and J. S. G. Shotwell. bibliog diags Paper Tr J 97:33-42 Ag 10 '33
- Siccometer; device for recording moisture content in paper during manufacture. il diag Electrician 110:486 Ap 14 '33; Elec R (Lond) 112:650 My 5 '33; Elec W 102:540 O 21 '33

## Opacity

- Base choice on these points when solids demand opaque paper. E. K. Hunt. il Inland Ptr 91:49-50 Jl '33
- Dynamic photoelectric relative opacimeter for the measurement of transmittancies of paper. O. Maass and E. Richardson. il diags Pulp & Pa of Can 34:457-60 Jl '33
- Opacifying of paper by means of titanium pigments. W. R. Willets. Paper Tr J 97:35-8 S 21 '33
- Opacity and whiteness test for paper coating pigments. H. R. Rafton. bibliog Paper Tr J 96:30-2 Je 29 '33
- Properties of paper pigmented with zinc sulphide. H. M. Cyr. Paper Tr J 96:31-3 Je 15 '33
- Simple and reliable photo-electric opacity tester. M. N. Davis. il diag Paper Tr J 96:38-40 My 11 '33
- Use of zinc pigments in the paper industry. O. Kress and H. M. Cyr. il diags Paper Tr J 96:35-8 Mr 9 '33
- Zinc paper cuts postage; zinc pigment makes thin paper more opaque. Business Week p14 Mr 8 '33; Inland Ptr 91:33-4 Ap '33

## Permeability

- Air permeability of paper. J Fr Inst 215:747-8 Je '33

## Prices

- How high are paper prices going to go? J. C. Aspley. il Ptd Salesmanship 61:237-8+ Je '33
- Market quotations. Published in weekly numbers of Paper trade journal

## Smoothness measurement

- Bekk smoothness tester as an aid in studying the printing quality of paper. B. L. Wehmhoff, R. H. Simmons and D. H. Boyce. bibliog il diags Paper Tr J 96:36-40 Ja 26 '33
- Surface porosity of paper as a measure of finish. J. Campbell and R. A. Masten. il Paper Tr J 96:39-40 Je 8 '33

## Specifications

- Establishment of paper specifications. C. C. Heritage. Paper Tr J 97:24, 26+ N 9 '33

## Standards

- Proposed standard instrument for classification of papermaking fibers according to length. G. D. O. Jones and others. il diag Paper Tr J 96:29-36 Ap 27 '33; Same abr. with appendix. Pulp & Pa of Can (Convention no) 34:117-24; Discussion. H. B. McAdam. 124-6 [F] '33

## Strength

- Study of some factors influencing the strength and stability of experimental papers made from two different sulphite pulps. R. H. Rasch, M. B. Shaw and G. W. Bicking. pl U S Bur Stand J Research 11:7-23 Jl '33

## Testing

- Bekk smoothness tester as an aid in studying the printing quality of paper. B. L. Wehmhoff, R. H. Simmons and D. H. Boyce. bibliog il diags Paper Tr J 96:36-40 Ja 26 '33

- Brief study of some old papers. W. V. Torrey and E. Sutermeister. Paper Tr J 96:45-6 My 25 '33

- Capillary rise of water in fibrous sheets and possible applications. F. A. Simmonds. Paper Tr J 97:40-2 S 7 '33

- Characterization of pulps and stuffs. P. K. Baird and R. H. Doughty. Paper Tr J 95:30-4 D 15 '32

- Comparison between flint pebbles and porcelain balls as a means of hydrating in the pebble mill test. F. C. Peterson and D. C. Beyer. Paper Tr J 97:37-40 Jl 27 '33

- Developments in the microscopy of paper. J. B. Calkin. bibliog Paper Tr J 96:37-8 Ja 19 '33

- Estimation of dirt and shives in pulp and paper. J. d'A. Clark, R. S. von Hazmburg and R. J. Knoll. Paper Tr J 96:40-2 F 2 '33

- Flexometer, an instrument for evaluating the flexural properties of cloth and similar materials. H. F. Schiefer. pl U S Bur Stand J Research 10:647-57 My '33

- Influence of stock temperature and hydrogen-ion concentration on a kraft paper sized with a special starch. W. A. Chilson and others. Paper Tr J 97:39-43 O 5 '33

- Judge paper surface by this method and obtain better printed results. E. K. Hunt. il Inland Ptr 90:23-5 Mr '33

- Method of estimating the dirt in pulp and paper. J. d'A. Clark. Paper Tr J 96:27-8 Je 29 '33

- Moisture content measurements. T. E. Heppenstall and H. A. Hauff. il Paper Tr J 96:43-5 My 25 '33

- New procedure for testing water resistance of paper products. Paper Tr J 97:30 Jl 20 '33

- New process for the moisture control of paper. R. H. McKee and J. S. G. Shotwell. bibliog diags Paper Tr J 97:33-42 Ag 10 '33

- Newsprint paper; printing quality and physical tests, and manufacturing control. W. G. MacNaughton. il Pulp & Pa of Can 34:169-73 F '33

- Paper testing committee report. Paper Tr J 96:37-8 Ap 6 '33

- Papermaker's tear test protects you against inferior quality. E. K. Hunt. il Inland Ptr 90:29-31 Ja '33

- Physical tests for paper sub-committee report. Paper Tr J 96:35-6 Ap 20 '33

- Proposed methods for the dirt count of pulp and paper. F. A. Simmonds, P. S. Billington and P. K. Baird. Paper Tr J 97:40-2 Jl 27 '33; Same. Pulp & Pa of Can 34:598-600 O '33

- Routine control testing; the British standard method of sheet making applied to mill work. F. W. Bradshaw. il diags Pulp & Pa of Can 33:481-4+ D '32

- Simple and reliable photo-electric opacity tester. M. N. Davis. il diag Paper Tr J 96:38-40 My 11 '33

- Soap wrap paper testing report. Paper Tr J 96:35 Ja 19 '33

- Some factors affecting interweb adherence of single plies used in laminated sheets. R. H. Doughty and P. K. Baird. Paper Tr J 97:38-9 S 7 '33

- Study of some factors influencing the strength and stability of experimental papers made from two different sulphite pulps. R. H. Rasch, M. B. Shaw and G. W. Bicking. pl U S Bur Stand J Research 11:7-23 Jl '33

- Study of the M. I. T. paper folding tester. L. W. Snyder and F. T. Carson. il Paper Tr J 96:40-4 Je 1 '33

- Surface porosity of paper as a measure of finish. J. Campbell and R. A. Masten. il Paper Tr J 96:39-40 Je 8 '33

- Value of a paper stiffness test. F. W. Adams and J. Bellows. il diag Paper Tr J 96:37-40 Mr 2 '33

## See also

- Paper, Coated—Testing  
Paper, Insulating—Testing  
Paper sizing—Testing

**PAPER—Continued****Transportation**

To Thorold and Chicago by boat. H. L. Beauvais. *il Pulp & Pa of Can* 34:403-4 Je '33

**PAPER, Coated**

See also

Paper coating

**Testing**

Opacity and whiteness test for paper coating pigments. H. R. Rafton. *bibliog Paper Tr J* 96:30-2 Je 29 '33

Pliable fibers assure good folding. E. K. Hunt. *diags Inland Ptr* 91:27-8 My '33

**PAPER, Filter. See Filter paper****PAPER, Government**

Annual bids opened for government paper. *Paper Tr J* 96:15-25 F 2; 9 F 9 '33

Asks bids on 42,000,000 pounds of paper. *Paper Tr J* 95:11+, 46 D 15; 25 D 22 '32

**PAPER, Insulating**

Capacitance and loss in oil impregnated paper; abstract. H. H. Race. *Elec Eng* 52:105 F '33

Dielectric losses in impregnated paper; abstract. J. B. Whitehead. *Elec Eng* 52:51-2 Ja '33

Insulation manufacture; *Tufnol. il Elec R (Lond)* 112:363 Mr 10 '33

Manufacture of pulp insulated wire. J. S. Little. *il Paper Tr J* 96:29-32 F 23 '33

**Testing**

Life of impregnated paper as related to the impregnating oil; abstract. J. B. Whitehead. *Elec Eng* 52:105-6 F '33

Progress report on deterioration of oils and papers under corona discharge; abstract. K. S. Wyatt. *Elec Eng* 52:102-3 F '33

Time-lag in the breakdown of paper at constant potential; abstract. E. J. Murphy and G. T. Kohman. *Elec Eng* 52:104 F '33

**PAPER, Lithographic**

Effect of temperature on lithographic papers. *J Fr Inst* 215:746-7 Je '33

Lithographic papers sensitive to atmospheric humidity. *J Fr Inst* 215:192-3 F '33; Same. *Paper Tr J* 96:40 Mr 23 '33

Research on lithographic papers. *Paper Tr J* 95:16 D 29 '32

**PAPER, Newsprint. See Newsprint paper****PAPER, Photographic. See Photographic paper****PAPER, Tracing. See Tracing paper****PAPER, Waxed**

Code of fair competition for waxed paper; text. *Paper Tr J* 97:45-7 S 7 '33

**PAPER bags**

Bag filler; new machine developed to promote use of paper bags. *Business Week* p20 Mr 22 '33

Code of fair competition for the paper bag manufacturers of the United States; and, Fair trade customs of grocery bag group. *Paper Tr J* 97:22-5 Ag 10 '33

Paper bags carry flour into North woods. *il Pulp & Pa of Can* 34:326 My '33

You can make a machine that will open paper sacks. B. Burgan. *il diags Food Ind* 5:105 Mr '33

**PAPER board**

Surface treatment of acoustic tile. H. J. Plagge, L. K. Arnold and E. R. Whittemore. *Paper Tr J* 96:27-9 F 9 '33

See also

Wall board

**Manufacture**

Handling devices used in manufacture of British board. *il Mech Handling* 20:175-80 Je '33

165-inch paperboard machine at the Thames board mills. *il Engineer* 156:70-1 Jl 21 '33

**Testing**

Effect of relative humidity on the moisture content and bursting strength of four container boards. C. O. Seborg, R. H. Doughty and P. K. Baird. *bibliog Paper Tr J* 97:37-42 O 12 '33

Some factors affecting interweb adherence of single plies used in laminated sheets. R. H. Doughty and P. K. Baird. *Paper Tr J* 97:38-9 S 7 '33

Study of physical properties of binders board. B. W. Scribner and L. W. Snyder. *il diags Paper Tr J* 95:29-33 O 20 '32; Discussion. F. R. Blaylock. 96:20-1 Ap 6 '33

**PAPER board industries association. See National paper board association**

**PAPER board industry**

Board men present plan for promoting employment and industry stabilization. *Paper Tr J* 96:24-5 My 11 '33

Board mill acquisition plan progressing. *Paper Tr J* 96:11 My 25 '33

New development in the boxboard situation; Hinde and Dauch paper company of Canada, ltd. to manufacture boxboards. *il Pulp & Pa of Can* 33:421-2 N '32

**Statistics**

Paper and paper board census for 1931. *Paper Tr J* 95:13+ D 22 '32

**Canada**

Difficult time for Canadian board mills stock and board men. *Pulp & Pa of Can* 34:446-7 Jl '33

**United States**

Code of fair competition for the paperboard manufacturing industry. *Paper Tr J* 97:22, '24, 39-42 Ag 3; 25+ Ag 10 '33

National paperboard association's plan for industrial stabilization. *Factory Management* 91:251-3+ Jl '33

Paper board industry review for 1932. G. Whiting. *Paper Tr J* 96:23-6 F 16 '33

Production of paper and paper and board making machines in use, 1932. *Paper Tr J* 97:27 Jl 20 '33

**PAPER board mills**

World's largest board mill just installed at the Thames board mills, Purfleet, London, Eng. *il Paper Tr J* 96:47-9 F 2 '33

**Equipment**

Handling devices used in manufacture of British board. *il Mech Handling* 20:175-80 Je '33

**PAPER box factories**

Improved handling methods in a container plant; economies effected in paper mill operations; Philadelphia plant of the Container corporation of America. H. N. Macdonald. *plans Mech Handling* 20:49-54 F '33

**PAPER box industry**

Folding paper box industry code hearing. *Paper Tr J* 97:22 N 2 '33

Steady demand for paper boxes. *Dun & Bradstreet* 41:37-9 Ap '33

Strong revival in demand for paper boxes. *Dun & Bradstreet* 41:12-14 O '33

**Statistics**

Census of paper boxes, 1931. *Paper Tr J* 96:24 Ja 5 '33

**PAPER clips****Manufacture**

Automatic wire-forming machine. *il diags Engineer* 155:60-3, 70 Ja 20 '33; Abstract. *Génie Civil* 103:235-7 S 2 '33

**PAPER coating**

Casein for paper coating. *Paper Tr J* 96:27 Ja 26 '33; *Oil Paint & Drug Rep* 123:15+ Ja 23 '33

Clay-casein slips for paper coating; causes and prevention of foaming. E. O. Whittier, S. P. Gould and S. A. Hall. *il Ind & Eng Chem* 25:1213-16 N '33

Coating committee annual report. *bibliog Paper Tr J* 96:40-1 Je 8 '33

Commercial casein; relationship between laboratory tests and coating quality. E. O. Whittier and others. *bibliog il Ind & Eng Chem* 25:904-8 Ag '33

Control of seconds and waste in the manufacture of coated paper. C. W. Richards. *Paper Tr J* 96:36-8 My 11 '33



**PAPER coating—Continued**

- Development of method for determining foaming tendency of casein. C. W. Richards and L. W. McFail. Paper Tr J 97:29-30 JI 6 '33
- Improved wax test for measuring coated paper sizing. H. M. Annis. Paper Tr J 96:32-4 Ja 12 '33
- Influence of particle size distribution in clays on hand sheet and coating characteristics. R. D. McCarron and B. W. Rowland. bibliog. il Paper Tr J 96:36-9 Je 1 '33
- Opacity and whiteness test for paper coating pigments. H. R. Rafton. bibliog Paper Tr J 96:30-2 Je 29 '33
- Use of titanium pigments in the paper industry. W. R. Willets. Paper Tr J 97:28, 30 S 7 '33
- Why of foamy casein. Paper Tr J 96:11 Mr 9 '33

**PAPER containers**

- Paper ice cream cans have certain advantages. Food Ind 5:144-5 Ap '33

See also

Paper bags

**PAPER cutting**

- Seybold automatic spacing cutter. il Paper Tr J 96:26 Mr 9 '33
- Seybold quick-space cutter and trimmer. Paper Tr J 97:18 S 28 '33

**PAPER drying**

- Drying of paper and felts; removal of water vapour by means of warm air. R. Schulze. diags Pulp & Pa of Can 33:433-6, 485-7 N-D '32
- Drying rate for kraft paper. A. E. Montgomery. Paper Tr J 96:32-5 Mr 16 '33
- Steam plant rehabilitation and paper drying. F. C. Farnsworth. Paper Tr J 96:23-4 Je 8 '33
- Survey of the drying of paper and cellulosic papermaking materials. F. A. Simmonds. bibliog Paper Tr J 96:31-5 My 18 '33
- Water removal factors on the news print paper machine. G. D. Bearce. Paper Tr J 96:33-5 Ja 19 '33

**PAPER felt. See Felt, Roofing****PAPER handling**

- Economies effected by skid shipments point way to other savings. H. E. Stocker. Marine R 63:46-7 Ap '33
- Handling plant at a paper warehouse. il Engineer 155:433 Ap 28 '33
- Paper finishing and shipping department; Ontario paper co. L. J. Walz and A. Wilson. il Pulp & Pa of Can 34:395-6 Je '33

**PAPER hats**

- Creation of fad jumps production 50 per cent; Dennison lifts crepe paper sales by fostering the making of hats. il Ptr Ink 164:40-2 Ag 3 '33

**PAPER industry and trade**

- Book paper trade customs. Paper Tr J 95:39-40+ D 15 '32
- How can the cotton rag industry best co-operate with the writing paper manufacturers in increasing the use of rag papers? H. R. Knott. Paper Tr J 97:17-18 Ag 17 '33
- Measure of the paper market. Paper Tr J 97:38-41 Ag 31 '33
- Paper and pulp in 1932. S. L. Willson. Pulp & Pa of Can (Convention no) 34:145 [F] '33
- Paper men hold annual meetings in New York. Paper Tr J 96:37-53 F 16 '33
- Pulp markets upset by currency depreciation; European low-cost products dumped in United States injures Canadian trade. Pulp & Pa of Can 33:428-9 N '32

See also

Newsprint paper Paper box industry  
Paper board industry Toilet paper

**Advertising**

- Calendar is basis of paper merchandising plan. il Sales Management 32:608+ Je 15 '33
- Paper demonstrator. il Paper Tr J 97:21 Ag 17 '33

**Directories**

- Paper makers' directory of all nations. \$7.50  
Lockwood trade journal co, New York '33

**Exhibitions**

- Paper at the Century of progress. A. Abrams. Paper Tr J 95:26 D 29 '32
- Paper displayed at sixth annual exhibition of Canadian manufactures. Pulp & Pa of Can 34:175+ F '33
- Preliminary work of the Paper foundation. Paper Tr J 96:15 Ja 12 '33
- Support for paper palace at Chicago's 1933 Century of progress exposition. W. B. Wheelright. Paper Tr J 95:18, 26+ D 8 '32

**Exhibits**

- Convention news of paper, type, printing and exhibits. il Ptd Salesmanship 60:218-21, 265-6+ N '32
- See also Chicago—World's fair, 1933—  
Paper exhibits

**Finance**

- Pulp and paper puzzle. T. J. Burke. Paper Tr J 96:21-2+ Mr 2 '33

**Securities**

- Paper companies, 1930-1932. Mag of Wall St Manual p53 Mr 6 '33

**Statistics**

- Imports of paper and paper stock. Published in weekly numbers of Paper trade journal
- Paper and paper board census for 1931. Paper Tr J 95:13+ D 22 '32

**Canada**

- Canada must compete in world markets. R. A. McInnis. Pulp & Pa of Can 34:261-2+ Ap '33
- Canada's paper industry has stormy year. C. L. Sibley. Paper Tr J 96:33-5 F 16 '33
- Canadian newsprint. Economist 115:1184-5 D 24 '32
- Canadian printers spent \$12,000,000 for paper. Pulp & Pa of Can 34:226-7 Mr '33
- Canadian pulp and paper association 20th annual convention, Montreal. Paper Tr J 96:26-9 F 2 '33
- Canadian pulp and paper industry in the twentieth century. C. Wilson. il Pulp & Pa of Can (Convention no) 34:58-68+ [F] '33
- Confidence and stability are essential. H. Crabtree. Pulp & Pa of Can (Convention no) 34:53-4 [F] '33
- Could seven governments agree? Pulp & Pa of Can 34:167-8 F '33
- Critical analysis of the paper situation. H. H. Stevens. Pulp & Pa of Can (Convention no) 34:91-4+ [F] '33
- In the wake of the Imperial economic conference; tariff changes and intra-Empire trade agreements affect pulp and paper. H. Crabtree. Pulp & Pa of Can 33:419-21 N '32
- Miscellaneous paper goods industry, 1929-1930. Pulp & Pa of Can 33:445 N '32
- Newsprint and the publisher. Pulp & Pa of Can 34:229-30 Mr '33
- Newsprint war may force fundamental issues to a showdown. Business Week p19+ N 23 '32
- Paper business in 1932. Pulp & Pa of Can 34:25-6 Ja '33
- Pulp and paper industry, 1931. 111p Canada. Dominion bureau of statistics, Forestry branch, Ottawa '32
- Roofing paper industry in Canada. R. H. Coats and R. G. Lewis. Pulp & Pa of Can 34:596 O '33
- Spreading employment in the paper industry. A. R. Randall-Jones. Pulp & Pa of Can 33:470-2+ D '32
- U. S. ownership of Canadian paper industry. Paper Tr J 96:9 Mr 9 '33

See also Newsprint export manufacturers association of Canada; Price brothers and company, Ltd.

**Finland**

- Wages in Finnish paper and woodpulp industries. Pulp & Pa of Can 34:628 O '33

PAPER industry and trade—*Continued*

## Georgia

Paper makers from North visit Savannah principally for the purpose of inspecting experimental pulp and paper mill. Paper Tr J 96:15+ My 11 '33

## Great Britain

Wiggins, Teape. Economist 116:1086 My 20 '33

## Japan

Chemical process industries in Japan. C. E. Mullin. Chem Markets 32:129-31 F '33

## Netherlands

Holland's paper industry in 1932. Pulp & Pa of Can (Convention no) 34:147 [F] '33

## Philadelphia

Credit plan as adopted by the united fine paper industry of Philadelphia. Paper Tr J 97:17 S 28; 16 N 9 '33

## Southern states

Regional competition in pulpwood with special reference to the South. C. W. Boyce. Paper Tr J 96:18, 21-3 My 25 '33

South organizes for forestry benefits. W. T. White. il Manuf Rec 102:18-19+ N '33

## Sweden

Paper manufacture in Sweden. Chem Age (Lond) 28:363 Ap 22 '33

## United States

Book paper mills anticipate better conditions. Paper Tr J 96:27-8 F 16 '33

Code of fair competition for the paper distributing trade; text. Paper Tr J 97:14-16 Ag 31 '33; Amended code. 97:20+ O 5 '33

Codes of fair competition for the glazed and fancy paper industry and for waxed paper industry; texts. Paper Tr J 97:43-7 S 7 '33

Converted paper products, 1931. Paper Tr J 96:48 Ap 13 '33

Expected gains in paper trade not realized. R. Brennan. Dun's R 41:2-4 Ja 14 '33

Fine paper market conditions during 1932. E. H. Naylor. Paper Tr J 96:21-2 F 16 '33

Foreign competition under the National recovery act. Paper Tr J 97:26-7 O 19 '33

Foreign paper trade in 1932. Paper Tr J 96:26 F 23 '33

General code of fair competition for the paper and pulp industry, revised as of August 15, with subordinate codes for the Writing paper manufacturers association division and the Cover paper manufacturers association division; texts. Paper Tr J 97:17-22 Ag 24 '33

General code of fair competition for the paper and pulp industry; revised text as presented for hearing. Paper Tr J 97:22-4+ S 14 '33

General code of fair competition for the paper and pulp industry; text as revised for submission to the administrator. Paper Tr J 97:17-21 O 19 '33

General paper, book paper, paperboard codes; text. Paper Tr J 97:13, 18-22, 24, 39-44 Ag 3; 11 Ag 17; 29 Ag 24 '33

General paper code hearing. Paper Tr J 97:15, 20-6 S 21 '33

Glazed and fancy paper hearing. Paper Tr J 97:13 O 19 '33

Improvement spreading in the paper industry. Dun & Bradstreet 41:17-19 Jl '33

NRA hearing on newsprint code completed; with text of new code. Paper Tr J 97:15, 21-2+ S 7 '33

New business era. C. W. Boyce. Paper Tr J 96:18-20 My 4 '33

Newsprint manufacturers file shortened code; text. Paper Tr J 97:19-20 Ag 17 '33; Same. Pulp & Pa of Can 34:537-8 S '33

Paper bag manufacturing industry and other paper code hearings. Paper Tr J 97:31-2 N 9 '33; Correction. 97:22 D 7 '33

Paper; changing trends in a basic industry. Index 13:203-8 N '33

Paper groups preparing for industrial control. Paper Tr J 96:11+ Je 15 '33

Paper imports and exports of the United States, 1932. Paper Tr J 96:24 Mr 16 '33

Paper industry is in the best position in two years. Paper Tr J 97:30-1 N 2 '33

Paper men oppose tariff on wood pulp; letter to President Hoover. H. P. Christian. Paper Tr J 95:13, 42-4 N 3 '32; Discussion. K. Shibly. 95:23-4+ D 8 '32

Production of paper and paper and board making machines in use 1932. Paper Tr J 97:27 Jl 20 '33

Submits draft of general code for paper. S. L. Willson. Paper Tr J 97:13, 20+ Jl 6 '33

Subordinate codes of fair competition for the sulphate pulp and board division; Kraft paper division; Pulp division; Book paper division; Sulphite papers division; Glassine and greaseproof division; texts. Paper Tr J 97:16-17, 20-3 Ag 31 '33

Temporary committee opposing tariff on wood pulp presents brief at Washington. H. P. Christian. Paper Tr J 96:14-16+ F 9 '33

Total paper production, consumption and shipments, monthly 1921-1933. Survey of Cur Business 13:20 N '33

U. S. newsprint manufacturers submit code; text. Paper Tr J 97:11, 22-5 Jl 20 '33; Same cond. Pulp & Pa of Can 34:501-3 Ag '33

U.S. paper men adopt rules; general code. Pulp & Pa of Can 34:493-5+ Ag '33

United States paper review for 1932. J. A. C. Kavanaugh. Paper Tr J 96:11+ Ja 19 '33

## PAPER making

Care of felts for fine paper manufacture. F. C. Ladd. Paper Tr J 97:35-8 Jl 20 '33

Caustic soda and the pulp and paper industry. Paper Tr J 95:21-3 D 29 '32

Cellulose-water relationship in papermaking. W. B. Campbell. 52p il diags Canada. Dept. of the interior, Forest service, Ottawa '33

Champion Fibre adapts itself to changing conditions. H. R. Murdock. il diag Chem & Met Eng 40:244-7 My '33

Chemist offers proofs of need for starch in papermaking. W. A. Nivling. Inland Ptr 90:38 Mr '33

Chile's new cellulose plant. U. Pomilio. il Ind & Eng Chem News ed 10:303-4 D 20 '32

Continuous control of pulp cooking by means of the photo-electric cell. A. Papineau-Couture. Pulp & Pa of Can 33:443 N '32

Control over lime recovery operations. M. B. Mount. Paper Tr J 97:31-3 O 5 '33

Cooking process; cooking wood with sodium sulfate. S. I. Aronovsky and R. A. Gortner. il Ind & Eng Chem 25:305-10 Mr '33

Cooking process; cooking wood with sodium thiosulfate. S. I. Aronovsky and R. A. Gortner. il Ind & Eng Chem 25:1260-5 N '33

Fibre strength aspects of newsprint manufacture. G. D. O. Jones, T. W. Ross and H. W. Johnston. Pulp & Pa of Can 34:331-6 My '33

Groundwood studies at the Forest products laboratories of Canada. H. W. Johnston. Pulp & Pa of Can 34:555-9 S '33

Life of paper is lengthened by use of new chemical-control tests. E. K. Hunt. Inland Ptr 91:48-9 Je '33

Manufacture of cellulose acetate foils. Chem Age (Lond) 28:361 Ap 22 '33; Same abr. Chem Markets 33:135 Ag '33

New process for the moisture control of paper. R. H. McKee and J. S. G. Shotwell. bibliog diags Paper Tr J 97:33-42 Ag 10 '33

Newsprint paper; pressroom performance, printing quality and manufacturing control. W. G. MacNaughton. Pulp & Pa of Can 34:17-19, 169-73 Ja-F '33

Observations relative to the physical and chemical changes taking place in the cooking of new white rags. E. R. Laughlin. Paper Tr J 97:39-52 [bibliog p52] O 26 '33

Old papermaking in China and Japan. D. Hunter. 71p Mountain house press, Chilli-cothe, O. '32

Operating division development report. F. C. Clark. Paper Tr J 97:31 Jl 6 '33

Paper in the making. J. Campbell. il Adv Arts p10-15 N '33

Paper, its history, sources, and manufacture. H. A. Maddox. 4th ed 172p Pitman '33



PAPER making—*Continued*

- Process control during thirty years. W. G. MacNaughton. *il Pulp & Pa of Can* (Convention no) 34:71-3 [F] '33
- Progress in the manufacture of mechanical pulp. L. E. Kendall. *il Pulp & Pa of Can* (Convention no) 34:79-81+ [F] '33
- Recent developments in standards; standard methods. Pulp & Pa of Can (Convention no) 34:122-4 [bibliog p124] [F] '33
- Routine control testing; the British standard method of sheet making applied to mill work. F. W. Bradshaw. *il diags Pulp & Pa of Can* 33:481-4+ D '32
- Sedimentation; paper making industry. J. Strachan. *Chem Age* (Lond) 29:347 O 14 '33
- Sodium hydrosulphite rag cooking process. S. Lenher. *Paper Tr J* 96:28-32 Ja 19 '33
- Transparent paper manufacture from scrap celluloid. J. Eggert. *Chem Age* (Lond) 28:575 Je 24 '33
- Use of latex in the beater. A. R. Melker. *Paper Tr J* 96:23 Ap 13 '33
- Use of white water in fine paper mills. A. Jackson. *diags Paper Tr J* 95:44-6 D 8 '32
- Verein der zellstoff- und papier-chemiker und -ingenieure, Berlin, 2. und 3. Dezember, 1932. *Angew Chemie* 46:93-6 F 4 '33
- White paper from young southern pines. C. H. Herty. *il Paper Tr J* 96:23-7 Mr 30 '33
- White water eccentricities. C. M. Baker. *diags Paper Tr J* 96:31-4 Mr 30 '33
- White water surveys in a fine paper mill. S. Hellberg. *Paper Tr J* 95:46-8 D 8 '32

*See also*

- |                          |                             |
|--------------------------|-----------------------------|
| Cellulose                | Paper making materials      |
| Digesters (paper making) | Paper mills                 |
| Dyes and dyeing—Paper    | Paper research              |
| Paper board              | Paper sizing                |
| Paper coating            | Parchment paper—Manufacture |
| Paper drying             | Sulfit liquor               |
| Paper making machinery   | Watermarks                  |
|                          | Wood pulp                   |

**Beating**

- Appleton vortex beater. *il Paper Tr J* 97:18 N 9 '33
- Attritional versus beater and Jordan refining. R. B. Brown. *Paper Tr J* 96:42-4 Je 8 '33
- Effects of beating on fibrous cellulose. J. H. B. Bell. *bibliog il diags Soc Chem Ind J* 52:109T-16T, 119T-30T Ap 28-My 5 '33
- Most economical way to prepare stock for the paper machine. M. C. Osborne. *Paper Tr J* 97:19-20 N 9 '33
- Reducing beater room costs. L. H. Jacobson. *il Paper Tr J* 96:25-6 Mr 9 '33
- Study of some factors influencing the strength and stability of experimental papers made from two different sulphite pulps. R. H. Rasch, M. B. Shaw and G. W. Bicking. *pl U S Bur Stand J Research* 11:7-23 Jl '33
- Two-stage continuous batch beating and automatic beater room operation. C. W. Morden. *il diags Paper Tr J* 96:39-41 My 25 '33

**Bibliography**

- Abstracts and bibliography committee report for 1932. *Paper Tr J* 96:40 Ap 6 '33
- Pulp and paper industry literature review. Published in weekly numbers of *Paper trade journal*

**Bleaching**

- Alkaline process for obtaining high yields of pulp from aspen wood. R. L. Davis. *bibliog Paper Tr J* 97:33-46 Ag 24 '33
- Bleaching of ground wood. W. Hirschkind. *Paper Tr J* 95:31-2 N 10 '32; Same. *Pulp & Pa of Can* 33:489-90 D '32
- Modern pulp bleaching; abstract. C. K. Boyer. *Paper Tr J* 95:23 D 29 '32
- Study of the factors influencing the chlorination of Mitscherlich sulphite pulp. O. Kress and E. H. Voigtman. *bibliog diags Paper Tr J* 97:29-44 Ag 17 '33
- White papers from southern pines; pulping longleaf pine for strong, easy-bleaching pulp. M. W. Bray and C. E. Curran. *bibliog il Paper Tr J* 96:30-4 F 9 '33

**By-products**

- Dry distillation of residue of waste sulfit liquor. M. Phillips. *bibliog Ind & Eng Chem* 25:991-3 S '33
- Utilization of sulphite waste liquor. H. K. Benson. *bibliog Paper Tr J* 95:31-4 N 17 '32

**Dirt problem**

- Dirt content of chips. W. W. Osborne. *Paper Tr J* 97:40 Jl 6 '33
- New dirt removal methods in stuff preparation. F. K. Becker. *Paper Tr J* 97:43-6 Jl 13 '33

*See also*

- Paper—Dirt content

**Fillers**

- Influence of particle size distribution in clays on hand sheet and coating characteristics. R. D. McCarron and B. W. Rowland. *bibliog il Paper Tr J* 96:36-9 Je 1 '33
- Opacifying of paper by means of titanium pigments. W. R. Willets. *Paper Tr J* 97:35-8 S 21 '33
- Properties of paper pigmented with zinc sulphide. H. M. Cyr. *Paper Tr J* 96:31-3 Je 15 '33
- Use of titanium pigments in the paper industry. W. R. Willets. *Paper Tr J* 97:26, 30 S 7 '33
- Use of zinc pigments in the paper industry. O. Kress and H. M. Cyr. *il diags Paper Tr J* 96:35-8 Mr 9 '33
- Zinc paper cuts postage; zinc pigment makes thin paper more opaque. *Business Week* p14 Mr 8 '33; *Inland Ptr* 91:33-4 Ap '33

**Fish process**

- Newsprint from boiled wood; Fish process. A. E. Parrett. *diag Pulp & Pa of Can* 34:515-16+ Ag '33

**Freeness testing**

- Effect of pebble weight variation in the strength testing of wood pulp. F. C. Peterson and J. Kolesinskas. *Paper Tr J* 96:26-8 My 18 '33
- Measuring drainage time with the British sheet machine. W. B. Campbell. *Pulp & Pa of Can* (Convention no) 34:95-7 [F] '33
- Trimbey-Witham, Jr., consistency regulator and freeness recorder. *Paper Tr J* 97:23 O 12 '33

**History**

- Old papermaking in China and Japan. D. Hunter. 71p. Mountain House press, Chillicothe, Ohio '33; Review by H. Elliott. *Paper Tr J* 96:22 F 23 '33

**Patents**

- Process engineers vs. Container corp. *Paper Tr J* 96:39 Je 1 '33
- United States patents on papermaking, fourth quarter, 1932. C. J. West, comp. *Paper Tr J* 96:36-8 F 9 '33
- United States patents on paper making, first quarter, 1933. C. J. West, comp. *Paper Tr J* 96:25-7 Ap 20 '33
- United States patents on paper making, second quarter, 1933. C. J. West, comp. *Paper Tr J* 97:35-7 Ag 3 '33

**Screening**

- Installation of pulsators on Bird pulp screens. A. E. Parrett. *Pulp & Pa of Can* 34:32 Ja '33
- Tentative standardization of a fractionating screen for coniferous mechanical pulp. J. L. Somerville. *Pulp & Pa of Can* 34:514+ Ag '33

**Slime problem**

- Formation of semi-transparent membranes from cultures of slime-producing microorganisms. J. R. Sanborn. *Science* 77:290 Mr 17 '33
- Production of parchment-like membranes from cultures of slime-forming microorganisms. J. R. Sanborn. *Ind & Eng Chem* 25:288 Mr '33

## PAPER making—Continued

## Soda process

- Alkaline process for obtaining high yields of pulp from aspen wood. R. L. Davis. bibliog Paper Tr J 97:33-46 Ag 24 '33
- Improved method for the analysis of spent black liquors from the soda and the sulphate pulping processes. M. A. Heath. diag Paper Tr J 96:33-6 F 23 '33
- Influence of chemical concentration in the alkaline pulping processes. M. N. Bray and C. E. Curran. Paper Tr J 97:30-5 Ag 3 '33
- Penetration in alkaline pulping. H. R. Murock. Paper Tr J 96:28-30 My 18 '33
- Recent developments in kraft and soda pulp manufacture. G. H. Tomlinson. il Pulp & Pa of Can (Convention no) 34:77-9 [F] '33

## Study and teaching

- Report of committee on education, Canadian pulp and paper association. Pulp & Pa of Can (Convention no) 34:97-9 [F] '33

## Sulfate process

- Analysis of salt cake. Paper Tr J 97:33-5 N 2 '33
- Improved method for the analysis of spent black liquors from the soda and the sulphate pulping processes. M. A. Heath. diag Paper Tr J 96:33-6 F 23 '33
- Influence of chemical concentration in the alkaline pulping processes. M. N. Bray and C. E. Curran. Paper Tr J 97:30-5 Ag 3 '33
- Influence of sulphidity on the physical and chemical characteristics of kraft pulp. O. Kress and G. H. McGregor. Paper Tr J 96:40-2 Je 15 '33; Conclusions. Pulp & Pa of Can 34:465-6 Jl '33
- Recent developments in kraft and soda pulp manufacture. G. H. Tomlinson. il Pulp & Pa of Can (Convention no) 34:77-9 [F] '33
- White papers from southern pines; pulping longleaf pine for strong, easy-bleaching pulp. M. W. Bray and C. E. Curran. bibliog il Paper Tr J 96:30-4 F 9 '33

## Sulfite process

- Acid penetration in sulphite pulping. R. B. Hansen and S. Hazelquist. Paper Tr J 95:27-9 N 17 '32
- Acid resisting steels in the sulphite industry. C. M. Carmichael and G. S. Shaw. il diags Pulp & Pa of Can 34:177-86+ F '33
- Action of salt solutions on wood cellulose. E. Richter. Ind & Eng Chem 25:316-18 Mr '33
- B&W-K-C circulating and indirect heating system for the sulphite pulping process. L. Lang. il Paper Tr J 95:26-36 D 1 '32
- Chromium-nickel-iron castings for sulphite pulp processing equipment. Paper Tr J 97:38 Ag 3 '33
- Chromium-nickel-iron castings from sulphite service. G. L. Cox and F. L. LaQue. bibliog il Paper Tr J 96:30-6 My 4 '33
- Comments upon digester circulation methods. G. L. M. Hellstrom. il diags Pulp & Pa of Can 33:491-3 D '32
- F. M. P. method of sulphite pulping. A. Christensen. il diags Paper Tr J 96:39-42 Mr 9 '33
- Flow of paper pulps in pipe lines. C. A. Brautlecht and J. R. Sethi. il Ind & Eng Chem 25:283-8 Mr '33
- Georgia pine sulphite and ground wood for news print. W. G. MacNaughton and W. F. Allen. Paper Tr J 97:36-40 Jl 13 '33
- Georgia pines for sulphite pulp and newsprint. G. M. Rommel. il Chem & Met Eng 40:197-200 Ap '33
- Morterud circulation system for sulphite digesters. H. S. Kiaer. diag Paper Tr J 96:32-4 Mr 2 '33
- New method of sulphite digester cooking control reduces cooking time. A. H. Stanton and L. H. Brendel. diag Paper Tr J 96:24-5 My 25 '33
- Penetration in sulphite cooking. R. De Montigny. Pulp & Pa of Can (Convention no) 34:109-11 [F] '33

Study of some factors influencing the strength and stability of experimental papers made from two different sulphite pulps. R. H. Rasch, M. E. Shaw and G. W. Bickings. pl U S Bur Stand J Research 11:7-23 Jl '33

Study of the factors influencing the chlorination of Mitscherlich sulphite pulp. O. Kress and E. H. Voigtman. bibliog diags Paper Tr J 97:29-44 Ag 17 '33

Sulphite mill is not what it used to be, thirty long years ago. V. P. Edwardes. il Pulp & Pa of Can (Convention no) 34:74-7 [F] '33

Sulphite pulp mill; Ontario paper co. W. T. Anderson and J. B. Jones. il Pulp & Pa of Can 34:380-1 Je '33

Variations in yield and quality of sulphite pulp made of spruce from different sources. B. Johnsen and C. H. Reese. Paper Tr J 97:36-8 Jl 6 '33

## PAPER making machinery

- Anticipating maintenance expense by proper inspection. E. E. Berry. Paper Tr J 96:25-8 Je 22 '33
- Appleton vortex beater. il Paper Tr J 97:18 N 9 '33
- Attritional versus beater and Jordan refining. R. B. Brown. Paper Tr J 96:42-4 Je 8 '33
- Bogalusa paper co. installs new paper machine designed and built by the Black-Clawson co. il Paper Tr J 97:15-18 O 26 '33
- Centrifugal screen for paper pulp. il Engineering 134:780-1 D 30 '32
- Developments in design of modern fourdrinier paper machines. J. E. Goodwillie. Paper Tr J 96:37-8 Je 8 '33
- Dilts new type refiner. Paper Tr J 96:15 Ap 20 '33
- Forest products laboratory research on paper machine variables. W. A. Chilson and P. K. Baird. il diag Paper Tr J 97:43-6 O 5 '33
- Hazards of inrunning nips on paper machines. Paper Tr J 96:41-4+ Ja 12 '33
- Helpful hints on pulp mill problems. S. E. Smith. diag Pulp & Pa of Can 34:236 Mr '33
- McDonnell fourdrinier. F. S. McDonnell. Paper Tr J 96:27-8 Ap 27 '33
- 165-inch paperboard machine at the Thames board mills. il Engineer 156:70-1 Jl 21 '33
- Paper machine builders industry code heard. Paper Tr J 97:11+ O 19 '33
- Problems in the operation of a Yankee machine. W. Fogarty. Paper Tr J 96:35-6 Ja 12 '33
- Recent improvements in paper-making machines and equipment. A. N. Russell. il Pulp & Pa of Can (Convention no) 34:82-5+ [F] '33
- Serviceability and processing effects of oval cast iron and circular steel rods in a rod mill. C. E. Hrubesky, P. S. Billington and P. K. Baird. il Paper Tr J 97:34-8 O 19 '33
- Stiffness constants as an aid to matching press rolls. H. E. Wright. il Paper Tr J 96:42-4 F 2 '33
- Tinting of newsprint by the Trimbley machine. Pulp & Pa of Can 34:192 F '33
- Two-stage continuous batch beating and automatic beater room operation. C. W. Morden. il diags Paper Tr J 96:39-41 My 25 '33
- Water removal factors on the news print paper machine. G. D. Bearce. Paper Tr J 96:33-5 Ja 19 '33
- World's largest board mill just installed at the Thames board mills, Purfleet, London, Eng. il Paper Tr J 96:47-9 F 2 '33
- See also
- |                      |                         |
|----------------------|-------------------------|
| Electric driving—    | Paper winders           |
| Paper mills          | Rolls (paper machinery) |
| Felts (paper making) |                         |
| Paper drying         | Wood grinders           |
| Paper making—Beating |                         |

## Control

- Automatic digester control. J. Rogers. Paper Tr J 96:38-40 Ap 6 '33
- Paper machine modernized by electronic speed regulator; Cherry River paper company. D. F. Cronin and C. W. Drake. il diag Elec W 102:538-40 O 21 '33



**PAPER making materials**

- Cameron-Dockery proposal for utilization of the whole cotton plant as a source of cellulose for papermaking. H. R. Murdock. bibliog Paper Tr J 96:41-2 Ap 6 '33
- Caustic soda and the pulp and paper industry. Paper Tr J 95:21-3 D 29 '32
- Fibrous raw materials committee development report. Paper Tr J 96:25-7 Je 29 '33
- Fibrous raw materials testing report. Paper Tr J 96:35 Je 29 '33
- Georgia pines for sulphite pulp and newsprint. G. M. Rommel. *il Chem & Met Eng* 40:197-200 Ap '33
- How can the cotton rag industry best co-operate with the writing paper manufacturers in increasing the use of rag papers? H. R. Knott. Paper Tr J 97:17-18 Ag 17 '33
- Materials used in the manufacture of tracing paper. H. L. Vincent. bibliog Paper Tr J 95:24-6 D 29 '32
- Non-fibrous raw materials testing committee report. Paper Tr J 96:36 F 23 '33
- Paper stock industry has very trying year. W. R. Hicks. Paper Tr J 96:31 F 16 '33
- Proposed standard instrument for classification of papermaking fibers according to length. G. D. O. Jones and others. *il diag Paper Tr J* 96:29-36 Ap 27 '33; Same abr. with appendix. Pulp & Pa of Can (Convention no) 34:117-24; Discussion. H. B. McAdam. 124-6 [F] '33
- Relative stabilities of bleached rag half stocks and bleached purified sulphite pulps to degradation by calcium hypochlorite solutions. H. F. Lewis. Paper Tr J 96:41-6 My 11 '33
- Relative stabilities of rag and purified sulphite pulps. H. F. Lewis. Paper Tr J 95:29-42 N 24 '32
- Study of the deterioration of book papers in libraries. A. E. Kimberly and A. L. Emley. *U S Bur Stand Misc Pub* 140:1-7 '33
- Technical and economic developments in the field of non-fibrous paper-making raw materials, 1932. Paper Tr J 96:34-6 Je 22 '33

*See also*

Cellulose	Pine
Paper making—Fillers	Rags
Paper pulp	Straw
Paper sizing	Wood pulp

**Prices**

Market quotations. Published in weekly numbers of Paper trade journal

**Testing**

Characterization of pulps and stuffs. P. K. Baird and R. H. Doughty. Paper Tr J 95:30-4 D 15 '32

**PAPER mills**

- Analysis of the Paulson process of evaporation and combustion of sulphite waste liquor. H. S. Kimball. flow diags Paper Tr J 96:34-6 Mr 23 '33
- Champion Fibre adapts itself to changing conditions. H. R. Murdock. *il diag Chem & Met Eng* 40:244-7 My '33
- Getting real value in paint protection. F. A. Mann. Pulp & Pa of Can 34:295-6+ Ap '33
- It pays to paint. *il Pulp & Pa of Can* 34:267-71 Ap '33
- Maintenance painting. A. L. Bardwell. Pulp & Pa of Can 34:298 Ap '33
- Modernizing a newsprint mill; Ontario paper co. J. T. Jaeger. *il plan Pulp & Pa of Can* 34:367-9+ Je '33
- Ontario paper company, limited. *il diag plan Pulp & Pa of Can* 34:359-402 Je '33
- Thirty years development in design of paper mills. J. Stadler. *il chart Pulp & Pa of Can* 34:215-18 Mr '33

*See also*

Electric driving—	Water supply for pa-
Paper mills	per mills
Paper making	

**Accidents**

Lessons learned from near accidents. W. H. Brydges. Pulp & Pa of Can 34:239 Mr '33

**Accounting**

- Accounting for wood-pulp paper industry. C. H. Aveyard. *l'aper Tr J* 96:16-21 Ap 20 '33; Same. *J Account* 55:171-87 Mr '33
- Cost determination and cost analysis; Ontario paper co. K. F. McGrann. Pulp & Pa of Can 34:402 Je '33
- Cost reports for a news print company. H. E. Tucker. Paper Tr J 95:37-41 D 1 '32
- Obtaining costs in a paper mill; reprint of an article published June, 1912. H. E. Fletcher. Paper Tr J 97:15-16, 18+ S 14 '33

**Electric equipment**

- Constant tension regulator on reels and unwinding stands. R. H. Smith. Paper Tr J 96:31-3 Je 22 '33
- Electrical department; Ontario paper co. W. L. Ellason. *il Pulp & Pa of Can* 34:385-7 Je '33
- G-E variable voltage winder drive with regenerative braking of the unwinding reel installed at the Bogalusa paper co, Bogalusa, La. D. R. Shoults. *il diag Paper Tr J* 96:21-2 Je 8 '33
- Synchronous motor control. D. R. Shoults. *il diag Paper Tr J* 96:34-7 Ap 6 '33
- Use of metal enclosed switchgear in paper mill electrification. M. H. Hobbs. bibliog *il diags Paper Tr J* 96:37-42 Mr 16 '33

**Employees**

- Employment department; Ontario paper co. J. N. May. Pulp & Pa of Can 34:401-2 Je '33
- Many paper mills advance employees wages. Paper Tr J 97:12 J 20; 12 J 27; 14 Ag 3; 14-15 Ag 10; 12+ Ag 17; 12 Ag 24 '33
- Spreading employment in the paper industry. A. R. Randall-Jones. Pulp & Pa of Can 33:470-2+ D '32
- Wages and hours of union pulp, sulphite, and paper mill workers. Monthly Labor R 37:941-2 O '33

**Equipment**

- Acid resisting steels in the sulphite industry. C. M. Carmichael and G. S. Shaw. *il diags Pulp & Pa of Can* 34:177-86+ F '33
- Agitated stock chest. W. L. Ketchen. diags Pulp & Pa of Can 34:235 Mr '33
- Automatic titrating devices. K. Hickman and C. R. Sanford. *il diags Ind & Eng Chem Anal ed* 5:65-8 Ja 15 '33
- B&W-K-C circulating and indirect heating system for the sulphite pulping process. L. Lang. *il Paper Tr J* 95:26-36 D 1 '32
- Chromium-nickel-iron castings from sulphite service. G. L. Cox and F. L. LaQue. bibliog *il Paper Tr J* 96:30-6 My 4 '33
- Chromium plated screen plates and suction box covers. A. F. Francis. Paper Tr J 96:35-6 Je 8 '33
- Effect of sulphur dioxide gas on alloys; chrome-nickel steels compared with brass, bronze, cast iron, and soft steel. G. H. McGregor and J. W. Stevens. Paper Tr J 97:40-1 N 2 '33
- Elliptical blowpit. H. W. French. plan Paper Tr J 96:29-31 Ja 12 '33
- Favors electric heat for fusing caustic. J. Hedalen. *Elec W* 101:792 Je 17 '33
- F. M. P. method of sulphite pulping. A. Christensen. *il diags Paper Tr J* 96:39-42 Mr 9 '33
- Flow of paper pulps in pipe lines. C. A. Brautlecht and J. R. Sethi. *il Ind & Eng Chem* 25:283-8 Mr '33
- Handling granulated salt cake. E. P. Gleason. plan Chem Ind 33:327 O '33
- Hard rubber equipment for the paper industry. C. K. McLeod. *il Pulp & Pa of Can* 34:617-19 O '33
- Hose as used in the pulp and paper industry. H. S. Buchanan. *il Pulp & Pa of Can* 34:621-2+ O '33
- Improved DeZurik regulator. *il Paper Tr J* 96:24 Ja 5 '33
- Improved handling methods in a container plant; economies effected in paper mill operations; Philadelphia plant of the Container corporation of America. H. N. MacDonald. plans Mech Handling 20:49-54 F '33

**PAPER mills—Equipment—Continued**

Improvements in the paper mill; Ontario paper company. J. A. Devine and J. F. Kilawee. *il Pulp & Pa of Can* 34:370-1 *Je '33*

Leading fine paper company; Provincial paper, ltd. A. R. Randall-Jones. *il Pulp & Pa of Can* 34:7-11 *Ja '33*

Maintenance of conveyors. *il Pulp & Pa of Can* 34:323 *My '33*

Mill eliminates pump trouble. W. A. T. Gil-mour. *il Pulp & Pa of Can* 34:292-3 *Ap '33*

Mill improvements made by International paper co. *il Paper Tr J* 97:20 *O 26 '33*

New dirt removal methods in stuff preparation. F. K. Becker. *Paper Tr J* 97:43-6 *JI 13 '33*

Recent improvements in paper-making machines and equipment. A. N. Russell. *il Pulp & Pa of Can (Convention no)* 34:82-5+ *[F] '33*

Speed reducers in the pulp and paper industry. J. A. Porter. *Paper Tr J* 95:31-4 *D 22 '32*

Stainless clad steel readily formed into tanks; Marsene corp. S. L. Ingersoll. *il Iron Age* 130:998+ *D 29 '32*

Tests of regular and stabilized 18-8 alloy welds in sulphite liquor. bibliog *il Paper Tr J* 97:29-34 *Ag 31 '33*

Transportation and mill handling of pulp-wood. G. D. Bearce. *Paper Tr J* 97:29-30 *JI 20 '33*

Use of Texrope drives in paper mills. N. Hollefreund. *il Pulp & Pa of Can* 34:616-17 *O '33*

**See also**

Digesters (paper making)	Paper winders
Paper making machinery	Wood grinders

**Heating and ventilation**

Windowless paper mill; Blandin paper co. Grand Rapids, Minn. A. E. Montgomery. *Paper Tr J* 96:38-9 *Je 15 '33*

Windowless paper mill heated with ventilation exhaust. A. J. Kull. *il Power* 77:520 *O '33*

**Layout**

Improved handling methods in a container plant; economies effected in paper mill operations; Philadelphia plant of the Con-tainer corporation of America. H. N. Mac-donald. *Mech Handling* 20:49-54 *F '33*

**Lighting**

Paper mill illumination. R. G. Morison. *il diag plan Paper Tr J* 96:37-40 *F 23 '33*

Windowless paper mill; Blandin paper co. Grand Rapids, Minn. A. E. Montgomery. *Paper Tr J* 96:38-9 *Je 15 '33*

**Management**

Accounting for wood-pulp paper industry. C. H. Aveyard. *Paper Tr J* 96:16-21 *Ap 20 '33*; Same. *J Account* 55:171-87 *Mr '33*

Anticipating maintenance expense by proper inspection. E. E. Berry. *Paper Tr J* 96:25-8 *Je 22 '33*

Control of seconds and waste in the manu-facture of coated paper. C. W. Richards. *Paper Tr J* 96:36-8 *My 11 '33*

Maintenance and construction department; Ontario paper co. M. H. Jones and J. V. Fahey. *il Pulp & Pa of Can* 34:396-8 *Je '33*

Management of a newsprint mill in depres-sion times; Ontario paper company. A. A. Schmon. *il Pulp & Pa of Can* 34:363-5 *Je '33*

Mill control at Thorold, Ontario paper co. L. C. Anderson. *il Pulp & Pa of Can* 34:393-4 *Je '33*

Organization at Thorold; Ontario paper co. D. L. McLeod. *Pulp & Pa of Can* 34:366-7 *Je '33*

Pulpwood holdings, a company asset. G. Ostrander. *Paper Tr J* 96:28-9 *Je 29 '33*

**Power**

Bennis stokers at a paper mill. *il diag Engi-neer* 155:573-4 *Je 9 '33*

Blandin paper modernizes power plant to meet price cut. A. J. Kull. *il Power* 77:414-15 *Ag '33*

Cooperative energy generation. H. A. Lynette. *Paper Tr J* 96:31-3 *Mr 23 '33*

Development of power as a by-product; some economic characteristics of the problem as it affects a newsprint plant. *diags Pulp & Pa of Can* 34:507-13 *Ag '33*

Electric steam plant started; Ontario hydro power for Ontario paper co. Thorold, Ont. *Pulp & Pa of Can* 34:275-6 *Ap '33*

Electrical department; Ontario paper co. W. L. Eliason. *il Pulp & Pa of Can* 34:385-7 *Je '33*

Fox paper co. spends \$100,000 to bring plant up to last word in power design. *il Paper Tr J* 97:21 *O 26 '33*

Heat and power committee annual report. *Paper Tr J* 96:35-6 *My 18 '33*

Industrial power and steam supply for in-dustrial establishments. G. Keeth. *Power Pl Eng* 37:381-2 *S '33*

Large economies effected by new paper mill drives. *il Elec J* 30:28 *Ja '33*

Making steam economically and using it ef-ficiently; power plant of the Restigouche company, limited, Atholville, New Bruns-wick. L. C. Kelley. *il diags Pulp & Pa of Can* 33:423-7, 460+ *N '32*

New paper mill power plant; Dartford paper mills, Kent. *il Engineer* 156:110, 114 *Ag 4 '33*; *Electrician* 111:170-1 *Ag 11 '33*; *Elec R (Lond)* 113:185 *Ag 11 '33*

Paper machine modernized by electronic speed regulator; Cherry River paper company. D. F. Cronin and C. W. Drake. *il diag Elec W* 102:538-40 *O 21 '33*

Process steam plants need carefully-designed piping. E. C. Gaston. *il diags Heating-Piping* 4:779-83 *D '32*

Progress in the production and transmission of heat and power. *il diags Paper Tr J* 96:59-61+ *F 16 '33*

Scandinavian sectional meeting of the World power conference. *Engineering* 136:232-4 *S 1 '33*

Steam; its generation and use at the mill of the Ontario paper company, Thorold. A. Johnson and E. J. Calnan. *il plan charts Pulp & Pa of Can* 34:388-92+ *Je '33*

Steam turbine plants in the paper industry. S. M. Green. *Paper Tr J* 96:40-2 *Mr 2 '33*

Surplus power in the pulp and paper indus-try. A. G. Christie. *Paper Tr J* 96:34-6 *Mr 2 '33*

TAPPI power plant reports. *Paper Tr J* 96:28-30 *Je 22 '33*

Three 30,000-kw. electric-steam generators in paper mill; Ontario paper company. V. R. Young. *il Elec W* 102:317-18 *S 2 '33*

Turbines to fit the plant. S. H. Hemenway. *il diags Chem & Met Eng* 40:189-92 *Ap '33*; Same cond. *Paper Tr J* 96:28-31 *Mr 30 '33*

Wisconsin paper mills water power problem. *Paper Tr J* 96:14 *Je 8 '33*

**Safety devices and measures**

Control of man failure. C. P. Waite. *Pulp & Pa of Can* 34:467-8 *JI '33*

Hazards of intrunning nips on paper machines. *Paper Tr J* 96:41-4+ *Ja 12 '33*

Intensive accident prevention effort required; Ontario pulp and paper makers' safety as-sociation meeting. *Pulp & Pa of Can* 34:321-2 *My '33*

Laurentide mill gets safety trophy awarded by Pulp and paper of Canada. *Pulp & Pa of Can* 34:320 *My '33*

Safest mill in Canada contest; July 1st—December 31st; rules of competition. *Pulp & Pa of Can* 34:464 *JI '33*

Safety work in the industry. A. T. Brown. *Pulp & Pa of Can* 34:11-12 *Ja '33*

**Waste**

Control over lime recovery operations. M. B. Mount. *Paper Tr J* 97:31-3 *O 5 '33*

Effluents of pulp mills. W. F. Silfversparre. *il Pulp & Pa of Can* 34:27-30 *Ja '33*



**PAPER mills—Waste—Continued**

Evaporation by submerged combustion; sulfite waste liquor. K. A. Kobe, F. H. Conrad and E. W. Jackson. *bibliog Ind & Eng Chem* 25:987-9 S '33

Improved method for the analysis of spent black liquors from the soda and the sulphate pulping processes. M. A. Heath. *diag Paper Tr J* 96:33-6 F 23 '33

New investigations of pulp mill wastes. *Paper Tr J* 96:24 F 9 '33

Studies of pulp and paper mill wastes; Wisconsin, 1932. J. M. Holderby. *Paper Tr J* 96:17-19 Ap 6 '33

Use of white water in fine paper mills. A. Jackson. *diags Paper Tr J* 95:44-6 D 8 '32

Wastes and pollution vs. recovery for profit. C. M. Baker. *flow diag il Water Works & Sewerage* 80:296-8 Ag '33

White water eccentricities. C. M. Baker. *diags Paper Tr J* 96:31-4 Mr 30 '33

White water surveys in a fine paper mill. S. Hellberg. *Paper Tr J* 95:46-8 D 8 '32

*See also*

Sulfite liquor

**British Columbia**

British Columbia's first paper mill. J. A. Lundie. *il Pulp & Pa of Can* 33:473-5 D '32

Pacific mills starts new unit. *il Pulp & Pa of Can* 34:276-7 Ap '33

**Chile**

Chile's new cellulose plant. U. Pomilio. *il Ind & Eng Chem News ed* 10:303-4 D 20 '32

**Ontario**

Alliance paper mills, limited. A. R. Randall-Jones. *il Pulp & Pa of Can* 34:317-20 My '33

Historic mill is efficient producer; the Don Valley paper company. A. R. Randall-Jones. *il Pulp & Pa of Can* 34:539-42 S '33

Leading fine paper company; Provincial paper, ltd. A. R. Randall-Jones. *il Pulp & Pa of Can* 34:7-11 Ja '33

Leading paper specialty concern; Interlake tissue mills co. ltd. A. R. Randall-Jones. *Pulp & Pa of Can* 34:443-6 Jl '33

*See also*

Ontario paper company

**Wisconsin**

TAPPI to visit the Fox River valley. *il Paper Tr J* 97:23-6 Ag 24 '33

Wisconsin paper mills water power problem. *Paper Tr J* 96:14 Je 8 '33

**PAPER money**

Blue points for greenbacks; oyster shell money of Raymond, Wash. C. M. Littelljohn. *Credit & Fin Management* 34:43 D '32

Dated currency—a safe substitute for inflation. F. Rider. 2d ed 28p Anvil press, 424 W. 33d st, New York '33

Story of assignats and greenbacks. *Nat City Bank pl* 74-9 N '33

*See also*

Bank notes

**Engraving and printing**

Psychological monopoly; American bank note co. *il Fortune* 7:44-7+ My '33

**United States**

Trans-Atlantic movements of U. S. currency; the ebb and flow reflect developments here and abroad. S. I. Posner. *Am Bankers Assn J* 25:32-3+ Ja '33

**PAPER napkins**

Paper napkin goes modern; treated with ultra-violet rays and ozone. *Paper Tr J* 96:16 Ja 12 '33

**Manufacture**

New embossing napkin machine. *il Paper Tr J* 97:30 O 26 '33

**PAPER products**

Nine forms of paper premiums that are finding popular approval. G. E. Mitchell. *il Ptd Salesmanship* 62:54-7+ S '33

*See also*

Blotters Paper bags and other headings beginning  
Envelopes Paper

**PAPER pulp**

Characterization of pulps and stuffs. P. K. Baird and R. H. Doughty. *Paper Tr J* 95:30-4 D 15 '32

Flow of paper pulps in pipe lines. C. A. Braudecht and J. R. Sethi. *il Ind & Eng Chem* 25:283-8 Mr '33

Problem of classification of chemical pulps. C. C. Heritage. *Paper Tr J* 95:41-4 D 8 '32

Pulp insulation for telephone cables. H. G. Walker and L. S. Ford. *il Bell System Tech J* 12:1-21 Ja '33; *Abstract. Elec Eng* 51:838-43 D '32

Tentative standardization of a fractionating screen for coniferous mechanical pulp. J. L. Somerville. *Pulp & Pa of Can* 34:514+ Ag '33

*See also*

Wood pulp

**Analysis**

Alpha cellulose in pulp; comments on the official TAPPI standard testing method. W. R. Willets. *Paper Tr J* 96:35-6 Mr 16 '33

One per cent caustic soda solubility of pulp; tentative standard method of TAPPI. *Paper Tr J* 96:35 Je 29 '33

**Specifications**

Pulp classification and specifications; symposium. *Paper Tr J* 96:37-50 Ja 5 '33

**Testing**

Characterization of pulps and stuffs. P. K. Baird and R. H. Doughty. *Paper Tr J* 95:30-4 D 15 '32

Design and care of pulp strength testing equipment. P. Boronow. *Paper Tr J* 95:27-9 D 15 '32

Estimation of dirt and shives in pulp and paper. J. d'A. Clark, R. S. von Hazmburg and R. J. Knoll. *Paper Tr J* 96:40-2 F 2 '33

Influence of sulphidity on the physical and chemical characteristics of kraft pulp. O. Kress and G. H. McGregor. *Paper Tr J* 96:40-2 Je 15 '33

Observations relative to the physical and chemical changes taking place in the cooking of new white rags. E. R. Laughlin. *Paper Tr J* 97:39-52 [bibliog p52] O 26 '33

Proposed methods for the dirt count of pulp and paper. F. A. Simmonds, P. S. Billington and P. K. Baird. *Paper Tr J* 97:40-2 Jl 27 '33; Same. *Pulp & Pa of Can* 34:598-600 O '33

Proposed standard instrument for classification of papermaking fibers according to length. G. D. O. Jones and others. *il diag Paper Tr J* 96:29-36 Ap 27 '33; Same abr. with appendix. *Pulp & Pa of Can (Convention no)* 34:117-24; *Discussion. H. B. McAdam. 124-6 [F] '33*

Pulp testing and specification investigation. H. C. Schwalbe. *Paper Tr J* 97:33-42 S 14 '33

Pulp testing committee annual report. *Paper Tr J* 96:31-3 Ap 6 '33

Relative stabilities of bleached rag half stocks and bleached purified sulphite pulps to degradation by calcium hypochlorite solutions. H. F. Lewis. *Paper Tr J* 96:41-6 My 11 '33; *Correction. 96:38 Je 8 '33*

Relative stabilities of rag and purified sulphite pulps. H. F. Lewis. *Paper Tr J* 95:29-42 N 24 '32

Serviceability and processing effects of oval cast iron and circular steel rods in a rod mill. C. E. Hrubesky, P. S. Billington and P. K. Baird. *il Paper Tr J* 97:34-8 O 19 '33

**Bibliography**

Pulp testing developments in 1932. D. E. Cable. *Paper Tr J* 97:32-6 Jl 6 '33

**PAPER research**

Activities of the Pulp and paper division Forest products laboratories of Canada. J. H. Ross. Pulp & Pa of Can 34:231-4+ Mr '33

Forest products laboratories studies affecting groundwood manufacture. W. B. Campbell. Pulp & Pa of Can 34:504-6 Ag '33

Groundwood studies at the Forest products laboratories of Canada. H. W. Johnston. Pulp & Pa of Can 34:555-9 S '33

Observations relative to the physical and chemical changes taking place in the cooking of new white rags. E. R. Laughlin. Paper Tr J 97:39-52 [bibliog p52] O 26 '33

Outline of research problems. O. Maass. Pulp & Pa of Can (Convention no) 34:111-13 [bibliog p113] [F] '33

Pulp and paper problems attacked; Pulp and paper division of the Forest products laboratories of Canada. Pulp & Pa of Can 33:431-2 N '32

Relative stabilities of bleached rag half stocks and bleached purified sulphite pulps to degradation by calcium hypochlorite solutions. H. F. Lewis. Paper Tr J 96:41-6 My 11 '33; Correction. 96:38 Je 8 '33

Relative stabilities of rag and purified sulphite pulps. H. F. Lewis. Paper Tr J 95:29-42 N 24 '32

Report of the committee on permanence and durability of paper. Paper Tr J 97:33-6 Jl 27 '33

White paper from young southern pines. C. H. Herty. il Paper Tr J 96:23-7 Mr 30 '33

**PAPER sizing**

Aluminate size. J. J. Healy, jr. and C. P. Dyer. Paper Tr J 96:29-31 Mr 23 '33

Case for rosin-wax sizes. R. B. Ladoo. Chem & Met Eng 40:89-90 F '33

Emulsified paraffin wax sizes. R. M. Cobb, D. S. Chamberlin and B. A. Dombrow. bibliog il Paper Tr J 97:35-8 S 7 '33

Influence of stock temperature and hydrogen-ion concentration on a kraft paper sized with a special starch. W. A. Chilson and others. Paper Tr J 97:39-43 O 5 '33

Process engineers vs. Container corp. Paper Tr J 96:39 Je 1 '33

Sizing up the making of fine paper. E. K. Hunt. il Inland Ptr 91:31-3 Ap '33

**Bibliography**

Review of the literature of sizing. E. Sutermeister. Paper Tr J 97:18, 21-5 Jl 27; 26-8+ N 23 '33 (to be cont)

**Testing**

Contribution to the knowledge of rosin sizing. H. W. Bialkowsky. bibliog diag Paper Tr J 97:29-46 S 28 '33

Currier size tester. il Paper Tr J 97:20 Jl 20 '33

Improved wax test for measuring coated paper sizing. H. M. Annis. Paper Tr J 96:32-4 Ja 12 '33

Sizing up the making of fine paper. E. K. Hunt. il Inland Ptr 91:31-3 Ap '33

Study of some factors influencing the strength and stability of experimental papers made from two different sulphite pulps. R. H. Rasch, M. B. Shaw and G. W. Bicking. pl U S Bur Stand J Research 11:7-23 Jl '33

Testing the blood resistance of butchers' wrapping paper. C. E. Libby and L. Parkinson. il Paper Tr J 96:37-40 My 4 '33

**PAPER using industries**

See also  
Bookbinding  
Printing trade

**PAPER winders**

Constant tension regulator on reels and unwinding stands. R. H. Smith. Paper Tr J 96:31-3 Je 22 '33

G-E variable voltage winder drive with regenerative braking of the unwinding reel installed at the Bogalusa paper co, Bogalusa, La. D. R. Shoults. il diag Paper Tr J 96:21-2 Je 8 '33

**PAPIER mâché**

New medium for bas-relief molds; Nu Tex D. F. M. Brown and R. W. Willis. Science 76: 573-4 D 16 '32

**PARACHOR**

Parachor of rhenium. H. V. A. Briscoe, P. L. Robinson and A. J. Rudge. diags Chem Soc J p2673-6 N '32

**PARACHUTES**

Parachute chair for transport planes. il Sci Am 149:30-1 Jl '33

Switlik parachute chair for transport planes. W. Selikoff. il Aviation Eng 8:30 Mr '33

PARADES, Street. See Street parades

**PARAFFIN**

Chlorinated paraffin. F. T. Gardner. bibliog Ind & Eng Chem 25:1211-12 N '33

Determination of paraffin and naphthene content of gasolines. C. C. Minter. Nat Pet N 25:25+ F 22 '33

Formation of ozone in the alternating current corona discharge with tubes coated with paraffin, stearic acid and platinum. H. G. Thode and A. C. Grubb. bibliog diag Electrochem Soc Trans 63 (preprint 29):297-314 My '33

Laboratory control of the quality of paraffin distillate. L. L. Davis and D. S. Campbell. bibliog il Am Pet Inst Proc 14M(3):32-9 My '33; Same. Oil & Gas J 32:49-50+ My 25 '33; Discussion. Am Pet Inst Proc 14M(3): 39-42 My '33

New paraffin embedding mixture. R. T. Hance. Science 77:353 Ap 7 '33

Ozokerite and paraffin; abstract. L. Ivanovsky. Inst Pet Tech J 18:465A-466A D '32

Resistance to sludging, extreme long life of new synthetic oils. D. P. Barnard. Nat Pet N 24:62+ N 16 '32

**PARAFFINS**

Analysis of hydrocarbon oils. R. H. Griffith and H. Hollings. Inst Pet Tech J 19:701-12 Ag '33

Diffusion as an aid in the analysis of gaseous paraffin hydrocarbon mixtures. R. A. Baxter and L. J. Beckham. bibliog Am Chem Soc J 55:3926-36 O '33

Equilibrium dehydrogenation of ethane, propane, and the butanes. F. E. Frey and W. F. Huppke. bibliog diag Ind & Eng Chem 25: 54-9 Ja '33

Higher aliphatic compounds; the preparation of paraffins. P. C. Carey and J. C. Smith. Chem Soc J p346-7 Ap '33

Preparation of paraffins from Carnuba wax by means of catalytic hydrogenation. H. I. Waterman, P. de Kok and A. J. Tulleners. Inst Pet Tech J 18:1007-9 D '32

Thermal decomposition of organic compounds from the standpoint of free radicals; the calculation of the products formed from paraffin hydrocarbons. F. O. Rice. Am Chem Soc J 55:3035-40 Jl '33

Thermal decomposition of organic compounds from the standpoint of free radicals; the dehydrogenation of paraffin hydrocarbons and the strength of the C-C bond. F. O. Rice and M. D. Dooley. Am Chem Soc J 55:4245-7 O '33

Thermal decomposition of simple paraffins. F. E. Frey and H. J. Hepp. bibliog il diag Ind & Eng Chem 25:441-9 Ap '33

Vapor pressure of low-boiling paraffin hydrocarbons in absorber oil. G. L. Matheson and L. W. T. Cummings. diag Ind & Eng Chem 25:723-5 Jl '33

See also

Butane	Methane
Ethane	Propane
Heptane	

**PARAFLOW**

Effect of paraflow on wax crystal structure. G. H. B. Davis. il Nat Pet N 24:32+ D 28 '32

**PARALYSIS**

Further studies on the pharmacology and neuropathology of certain phenol esters. Pub Health Rep 48:137-8 F 10 '33



**PARALYSIS—Continued**

Mosquito glands in treatment of general paralysis. *Sci Am* 149:76-7 Ag '33

*See also*

Infantile paralysis

**PARAMOUNT publix corporation**

May seek new funds. *Barron's* 13:9 F 13 '33

Paramount Publix in receivership. *Barron's* 13:25 Ja 30 '33

Talkie money. *Business Week* p22 S 23 '33

**PARANITRANILINE red**

Structure of para red and related dyestuffs. F. A. Mason. *Soc Dyers & Col J* 48:293-5 N '32

**PARASITES**

Your internal menagerie. R. Hegner. *diags Sci Am* 147:346-8 D '32

*See also*

Bacteria

Insects, Injurious and

beneficial

**PARCEL post**

Postoffice in business; tax first-class mail patrons to pay for propaganda to extend Uncle Sam's competition. W. R. Lence. *Pub Serv Management* 54:9-10 Ja '33

Sackförderanlage im Nürnberger paketpostamt. H. Schwaighofer. *diags Zeit Ver Deutsch Ing* 76:1204-5 D 3 '32

Uncle Sam's express business. *Ry Age* 93:824-6 D 3 '32

**PARCHEMENT paper**

Vegetable parchment for food wrapping. C. J. J. Fox; J. Strachan. *Soc Chem Ind J (Chem & Ind)* 52:780-1 S 29 '33

**Manufacture**

British vegetable parchment mills, ltd. *il Soc Chem Ind J (Chem & Ind)* 52:137-8 F 17 '33

**PARIS, France**

La construction des agrandissements des magasins aux Galeries Lafayette, à Paris; particularités présentées par les fondations. R. L'Hermite. *il diags plans Génie Civil* 102:101-8 F 4 '33

*See also* École de physique et de chimie industrielles

**Lighting**

L'éclairage des voies publiques. R. Boutteville. *il diags Soc Ing Civils Bul* 85:1291-1378 N '32

Street lighting of Paris. J. W. Partridge. *il Illum Engr* 26:240-3 O '33; Excerpts. *Electrician* 111:285-6 S 8 '33; *Gas J (Lond)* 204:219-20 O 18 '33; Discussion. *Illum Engr* 26:243 O '33

**Maison de la chimie**

Maison de la chimie. W. L. Middleton. *il Soc Chem Ind J (Chem & Ind)* 52:118-19 F 10 '33

**Rapid transit**

Essais de rupture d'une voûte mince conoïde en béton armé, aux ateliers de Fontenay-sous-Bois du chemin de fer Métropolitain de Paris. M. Fauconnier. *il diags plan Génie Civil* 102:533-8 Je 10 '33

**Streets**

Les passages souterrains pour voitures, des Portes Dauphine et de la Villette, à Paris. J. Thomas. *il diags plans Génie Civil* 102:516-19 Je 3 '33

Le problème de la circulation à Paris. J. Thomas. *maps Génie Civil* 103:36-9, 63-5 Jl 8-15 '33

**Subways**

Development of the Paris Metropolitan railway. T. Rich. *il diags map Engineering* 135:61-3, 64, 121, 122-3, 319-21, 371-2, 428-30 Ja 20, F 3, Mr 24, Ap 7, 21 '33

**PARK buildings**

Buildings for Westchester County park system, New York; views. *Arch Forum* 59:219 S '33

Johnson memorial park pavilion, Racine, Wisconsin, made from stable. *il plan Arch Forum* 58:50-1 Ja '33

**PARKERIZING. See Metal protection****PARKS**

Emergency conservation program. *Science* 78:52 Jl 21 '33

Grade separation project in St Louis. L. R. Bowen. *il plan Civil Eng* 3:623-5 N '33

Marine park proposed for Brooklyn. front *il Arch Rec* 73:4-8 Ja '33

Report on parks and playgrounds in metropolitan Chicago. W Soc E J 38:47-51 F '33

Sewage treatment for obtaining park irrigating water. F. McQueen. *il Pub Works* 64:16-17 O '33

*See also*

Camps, Tourist	National parks and reserves
Landscape gardening	Parkways

**PARKWAYS**

Beauty of design sought in Queens parkway bridges. C. U. Powell. *il diags Eng N* 110:316-19 Mr 9 '33

Grade separation project in St Louis. L. R. Bowen. *il plan Civil Eng* 3:623-5 N '33

Intricate intersections on Queens parkway system, New York. C. U. Powell. *maps Eng N* 110:251-5 F 23 '33

Super-roads to serve a pleasure-land; super-highways in Queens, Long Island, N.Y. C. U. Powell. *il maps Eng N* 110:209-12 F 16 '33

Wide boulevard; its design and control. J. R. Bibbins. *diags Eng N* 110:808-10 Je 22 '33

**PARLIAMENTARY practice**

Hughes' manual of United States parliamentary practice. E. W. Hughes. 373p F. J. Heer ptg. co, Columbus, Ohio '32

Parliamentary procedure at a glance. O. G. Jones. 26p \$1 Appleton-Century '33

**PAROLE**

Tests of significance in applying Westergaard's method of expected cases to sociological data; violations of parole. S. A. Stouffer and C. Tibbitts. *Am Statis Assn J* 28:293-302 S '33

**PARSHALL, Horace Field, 1865-1932**

Sketch. *Engineering* 134:744-5 D 23 '32; *Engineer* 154:637 D 23 '32

**PARSONS, C. A., company**

Works of Messrs. C. A. Parsons and company, limited. *il diags Engineering* 134:645-9, 654, 673, 674-6, 728-32, 740 D 2-9, 23 '32

**PART-TIME employment**

Idle time—what shall we do with it? an individual's reply; machine tool designer found employment. F. H. Bryant. *Am Mach* 77:267 Ap 26 '33

Share-the-work programs. L. M. Ayres. *Am Gas Assn Mo* 15:205-6 My '33

Some questions as to ascertainment of what is an average weekly wage under present conditions; its relation to premium rates and insurance problems. W. O. Stack. *U S Bur Labor Statistics Bul* 577:61-8; Discussion. 68-85 '33

*See also*

Unemployment—Relief measures—

Work spreading

**PARTHENOGENESIS**

Apparent parthenogenesis in nature, in a form of fish of hybrid origin. C. L. Hubbs and L. C. Hubbs. *Science* 76:628-30 D 30 '32; Discussion. A. B. Howell. 77:389-90 Ap 21 '33

**PARTICLES**

Available devices for determining particle size distribution. J. C. Pearson. *Concrete (mill sec)* 41:28 Je '33

Colloid correlation principle. S. C. Blacktin. *Soc Chem Ind J (Chem & Ind)* 52:372-3, 544-5 Ap 28, Je 30 '33

Determination of average particle size from the screen-analysis of non-uniform particulate substances. T. Hatch. *J Fr Inst* 215:27-37 Ja '33

Determines sub-sieve fineness of Portland cement. E. W. Reed-Lewis. *il diag Concrete* 41:14-16 F '33

Effect of particle size on capacity of zeolites. P. Bird, F. Colburn and F. Smith. *Ind & Eng Chem* 25:564 My '33

**PARTICLES—Continued**

- Effect of particle size on flotation of sphalerite. R. L. Kidd and W. A. Wall. *Min & Met* 14:421-2 O '33
- Effect of particle size upon intensity in X-ray spectroscopic analysis. G. R. Fonda. *Am Chem Soc J* 55:123-7 Ja '33
- Effects of particle interference in mortars and concretes. C. A. G. Weymouth. *diags Rock Prod* 36:26-30 F '33
- Effects of particle size of a potter's flint and a feldspar in whiteware. R. F. Geller, D. N. Evans and A. S. Creamer. *U S Bur Stand J Research* 11:327-40 S '33
- Effects of varying particle size in whiteware. *J Fr Inst* 215:740-1 Je '33
- Experimental determination of void content of close-packed mineral powders; effect of particle size, shape, and texture. R. N. Traxler, L. A. H. Baum and C. U. Pittman. *bibliog Ind & Eng Chem Anal ed* 5: 165-8 My 15 '33
- Formation, size, and stability of emulsion particles. C. G. Sumner. *bibliog diag J Phys Chem* 37:279-302 Mr '33
- Infrared radiations from small particles. A. H. Pfund. *diag Opt Soc Am J* 23:270-3 Ag '33
- Kinetic elutriator speeds division of subsieve particles. A. L. Curtis. *diag Concrete (mill sec)* 41:31-3 O '33
- Die korngroßensatzung als kenngröße staubförmigen arbeitsgutes. H. W. Gonell. *bibliog il diags Chemische Fabrik* 6:227-33 My 31 '33
- Measurement of particle size with an accurate air analyzer; the fineness and particle size distribution of Portland cement. P. S. Roller. *il diags Am Soc T M Proc* 32 pt 2: 607-25 '32; Excerpts. *Concrete (mill sec)* 40: 42-4 S '32; Abstract. *Rock Prod* 35:29 O 8 '32; Discussion. *Am Soc T M Proc* 32 pt 2: 626-8 '32
- Mechanism of development of pigment value in zinc sulfide. L. T. Work and I. H. Odel. *bibliog il Ind & Eng Chem* 25:411-16, 543-9 Ap-May '33
- Particle size of biological units. J. H. Ferguson. *J Phys Chem* 36:2849-61 [bibliog p2860-1] D '32
- Physikalische eigenschaften von industriestauben insbesondere von lagernden staubschichten. R. Meldau. *il diags Zeit Ver Deutsch Ing* 76:1189-95 D 3 '32
- Die prüfung von pigmenten und feinkörnigen stoffen auf teilchenfeinheit nach mechanischen und optischen verfahren. F. Schmid. *il Chemische Fabrik* 6:349-52 Ag 23 '33
- Rational expression for fineness of Portland cement. E. W. Reed-Lewis. *Concrete* 41:11-12 Mr '33
- Special features of fine gold from Snake river, Idaho. T. H. Hite. *il Econ Geol* 28: 686-91 N '33
- Über die grundlegenden berechnungen bei der schwerkraftaufbereitung. L. Schiller and A. Naumann. *Zeit Ver Deutsch Ing* 77:318-20 Mr 25 '33
- Über mahlung und mahlmaschinen. P. Rosin and E. Rammner. *bibliog Chemische Fabrik* 6:395-9, 403-5 S 20-27 '33
- Uncertainty theory and the electric field of a particle. G. Lemaitre. *Science* 77:sup6 F 10 '33

*See also*

- Brownian movements      Sedimentation apparatus  
Colloids  
Powders

**PARTITIONS**

- Corporation's offices; Johns-Manville. *il diags plans Arch Forum* 59:247-61 O '33

**PARTITIONS, Steel**

- Steel partitions; present and future possibilities. J. G. Mapes. *il Metal Prog* 23:20-2 Je '33

**PARTNERSHIP**

- Cases and materials on law of partnership. L. Prashker. 530p Louis Prashker, Brooklyn, N.Y. '33
- Commercial law cases. H. W. Babb. 352p pa \$2.50 Blanchard printing co, 27 Beach st, Boston '33
- Liability of special partner. Bradstreet's 61: 330 F 11 '33

Why not change to a partnership? partnership and corporation comparison of total federal taxes payable. J. K. Lasser. *System* 62:498-9 N '33

*See also*

- Corporation law  
**PASADENA, California**

**Junior college**

- Engineering and technical education at the Pasadena junior college. A. G. Gehrig. *J Eng Educ* 23:458-62 F '33

**Water supply**

- Pasadena builds Pine Canyon dam; domestic water supply and storage project on the San Gabriel river. S. B. Morris. *il diag plan map Civil Eng* 3:309-13 Je '33

**PASCHEN-BACK effect**

- Paschen-Back effect of hyperfine structure and polarization of resonance radiation; cadmium ( $6P_{1/2}$ — $5^2S_{1/2}$ ). N. P. Heydenburg. *Phys R* 43:640-7 Ap 15 '33

**PASSIVITY**

- Demonstration of the periodic passivity of iron. R. Dubois and W. A. Kaye. *bibliog diag J Chem Educ* 10:108 F '33
- Relation of hydrogen to nickel with special reference to the catalytic power of the latter. H. N. Huntzicker and L. Kahlenberg. *bibliog Electrochem Soc Trans* 63 (preprint '33):335-53 My '33
- Theories of passivity and of corrosion. E. S. Hedges. *Engineer* 154:sup[Metallurgist] 188-90 D 30 '32
- Überblick über die ergebnisse der kinetischen untersuchung der passivitätsercheinungen. W. J. Müller. *Angew Chemie* 46:197-8 Ap 8 '33

**PASTEL drawings**

- San Francisco; portfolio of pastels by Zdzislaw Czernanski. *Fortune* 7:22-6 Ja '33

**PASTEUR, Louis, 1822-1895**

- On the death of Louis Pasteur; commemorative ballad. H. W. Moseley. *J Chem Educ* 10:342-3 Je '33

**PASTEURIZATION of milk. See Milk—Pasteurization****PASTURES**

- Causes qui déterminent la valeur des prairies naturelles non fumées. *Génie Civil* 102:427-8 My 6 '33
- Close grazing scheme of pasture management. F. T. Shutt and S. N. Hamilton. *Can Chem & Met* 17:5-6 Ja '33
- Comparison of the yields and composition of pasture grass under intensive and non-intensive manurial treatment. B. Thomas and F. J. Elliott. *Soc Chem Ind J* 52:182T-5T Je 23 '33

**PATCHELL, William Henry, 1862-1932**

- Sketch. *por Engineer* 154:566 D 2 '32; *Engineering* 134:657-9 D 2 '32

**PATENT insurance. See Insurance, Patent****PATENT laws and legislation***See also*

- |                   |                       |
|-------------------|-----------------------|
| Copyright         | Intellectual property |
| Design—Protection | —Protection           |
|                   | Trade marks           |

**Employees' inventions**

- Assignment of patent; case relating to a soluble background for lace fabrics. Melland 5:172 Ag-S '33
- New Jersey zinc co. wins patent suit on rayon pigment. *Oil Paint & Drug Rep* 123:26 Ap 10 '33; Same. *Rubber Age* 33:24 Ap '33
- Patent relations of employers and employees. K. Fenning. *Ind & Eng Chem* 25:343-5 Mr '33
- Patent rights. *Business Week* p21-2 Ap 19 '33
- Rights of employers under patents for inventions made by employees. F. H. Rhodes. *Sibley J* 47:85-7+ My '33

**Government employees' Inventions**

- Patent rights. *Business Week* p21-2 Ap 19 '33
- Patent rights of government employees. L. W. Wallace. *Chem Markets* 32:30-2 Ja '33



PATENT laws and legislation—*Continued*

## Germany

- Die entwicklung des patentanwaltschaftsstandes und seine bedeutung für die technik. R. Cohn. *Chemische Fabrik* 6:71-2 F 8 '33
- Erteilung und vernichtung des patents und die geltendmachung des rechts aus dem patent. A. Ullrich. *Angew Chemie* 46:537-8 Ag 19 '33
- Lebensmittelgesetzgebung und patentrecht. E. Merres. *bibliog Angew Chemie* 46:651-2 O 14 '33

## Great Britain

- Changes in British patent law. E. L. Francis. *Automobile Eng* 22:553-4 N 32
- New patents and designs act. Soc Dyers & Col J 48:301-2 N '32
- Patents and designs act, 1932. *Engineering* 134:600 N 18 '32
- Patents and designs act, 1932, and chemical industry. C. Hollins. *Soc Chem Ind J (Chem & Ind)* 52:31-6; Discussion. 36 Ja 13 '33; Abstract. *Chem Age (Lond)* 28:21-2 Ja 14 '33
- Patents as industrial property. *Chem Age (Lond)* 29:145-6 Ag 12 '33
- Zur reform des englischen patentrechts. R. Cohn. *Angew Chemie* 45:704-5 N 5 '32

## United States

- Concerning the nature of a just monopoly under our patent laws. P. Bakewell. 97p St Louis law ptg. co. St Louis '33
- Contributory infringement. H. A. Toulmin, jr. *Am Mach* 76:1227 D 21 '32
- Interference practice. C. W. Rivise. 252p Michie co. Charlottesville, Va. '32
- Patent relations of employers and employees. K. Fenning. *Ind & Eng Chem* 25:343-5 Mr '33
- Patent royalty contract. M. W. Zabel. 262p Prentice-Hall, Inc. '33
- Patents developments in 1932. C. W. Rivise. *Paper Tr J* 97:42 J1 27 '33
- Protection of industrial designs. T. H. Anderson. *Sci Am* 148:124 F '33
- Technical associations and the patent situation. C. W. Rivise. *Paper Tr J* 96:33-5 Ja 26 '33
- What constitutes invention? *Paper Tr J* 96:35 Ap 13 '33
- What is patentable in chemistry? R. E. Sadtler. *Chem Markets* 32:120-3 F '33
- PATENT office.** See United States—Patent office
- PATENTS**
- Chemical engineers in Washington talk patents and economics. *Chem & Met Eng* 39:676-7 D '32; *Oil Paint & Drug Rep* 122:17+ D 12 '32
- House patent department. Dow chemical company. T. Griswold, jr. *Ind & Eng Chem* 25:346-8; Discussion. 348-9 Mr '33
- Patents and how they are procured. K. Fenning. *Am Mach* 77:19-20 Ja 4 '33
- Preserving proof of invention. *Sci Am* 148:219 Ap '33
- Scope of a patent. *Paper Tr J* 96:31-2 Mr 9 '33
- University patents. A. Gregg. *Science* 77:257-9 Mr 10 '33
- University patents are ethical. Y. Henderson. *Science* 77:324-5 Mr 31 '33
- What is wrong with our patent system? W. A. Hamor. *Ind & Eng Chem* 25:342 Mr '33
- Wise engineer-inventor. S. P. Buck. *Manuf Rec* 102:54 N '33

## See also

- Chemical patents
- Chromium plating—  
Patents
- Dye patents
- Electric welding—  
Patents
- Inventions
- Medical patents
- Paper making—  
Patents
- Patent laws and  
legislation

- Petroleum refining—  
Patents
- Radio apparatus—  
Patents
- Refrigeration and  
refrigerating ma-  
chinery—Patents
- Rubber—Patents
- Silk, Artificial—  
Patents
- Trade marks

## Licensing

- Co-operative plan of pooling patents proposed to refining industry. *Nat Pet N* 25:23 My 3 '33
- Decision defines license rights of United under Steckel patent. *Iron Age* 131:138 Ja 19 '33
- From scratch to 200,000,000 yards in four years; Cluett, Peabody is advertising and selling its Sanforized process to the industry and consumers. J. C. Turrell. *Il Ptr Ink* 162:17-20 Mr 30 '33
- Radio anti-trust case settled; text of consent decree. *Sci Am* 148:188-9 Mr '33

## Valuation

- Valuation of patents. G. H. Morse. 20p pa 25c George Hart Morse, P.O. box 271, Washington, D.C. '33

## PATINA

- Green patina on copper; examples from Elan Valley (Wales) and Dundalk (Ireland); abstract and discussion. W. H. J. Vernon. *Engineering* 136:392-3 O 6 '33

## PATINO mines and enterprises consolidated, inc.

- Romance of Patino mines. *Econostat* 1:11, 32 S 9 '33

## PATON, Thomas Bugard, 1861-1933

- Sketch. *por Am Bankers Assn J* 25:42+ My '33

## PATRIOTISM

- Sociological analysis of certain types of patriotism. E. L. Hunter. 263p [bibliog p252-63] Columbia univ. library, New York '32

## PATTEN, Francis Bartlett

- Late Francis Bartlett Patten. S. Davis. *East Underw* 34:10+ Ag 25 '33

## PATTEN, William, 1861-1932

- Sketch. J. H. Gerould. *Science* 76:481-2 N 25 '32

## PATTERN making

- Changes adapt patterns to other jobs. *Foundry* 60:50 D '32
- Pattern making. J. Ritchey. rev ed 223p, 3p American technical society, Chicago '33
- Uses linoleum to build up patterns. *Il Foundry* 60:45 D '32

## See also

- Sheet metal work—  
Pattern making

## PATTERN storage

- Complete record is aid to efficiency. O. S. Pine. *Foundry* 60:48 D '32

## PATTERSON, J. Ralph

- General sales manager, Mackintosh-Hemphill company. *por Steel* 93:21 N 6 '33

## PAULI exclusion principle

- Vector model and the Pauli principle. M. H. Johnson, jr. *Phys R* 43:627-31 Ap 15 '33

## PAULLIN, Charles O.

- Award of the Loubat prizes. *Science* 77:421-2 My 5 '33

## PAULSON process

- Analysis of the Paulson process of evaporation and combustion of sulphite waste liquor. H. S. Kimball. *flow diag* *Paper Tr J* 96:34-6 Mr 23 '33

## PAVEMENTS

- Low-cost residential streets; report of A.R.B.A. committee. *Eng N* 110:114-15 Ja 26 '33

- Die neuzeitlichen strassenbauverfahren. J. Kluge. *il Zeit Ver Deutsch Ing* 77:1039-43 S 23 '33

## See also

- |                   |                   |
|-------------------|-------------------|
| Airports—Surfaces | Street railroads— |
| Bridges—Floors    | Track pavement    |
| Curbs             | Streets           |
| Roads             |                   |

## Fillers

- Design and testing of asphalt paving mixtures. N. H. Taylor. *Il Soc Chem Ind J* 51:415T-32T; Discussion. 432T-3T D 30 '32

## See also

- Pavements, Brick—  
Fillers

## PAVEMENTS—Continued

## Finance

Montreal paving law criticized. *Can Eng* 63:33 N 15 '32

## Foundations

Pavement base strengthened to keep horizontal plane. H. F. Clemmer. *diag Eng N* 110:471-2 Ap 13 '33

## History

Early street pavements in England. *Roads & Sts* 76:368 O '33

## Maintenance and repair

Control of pavement cuts; practice in New York city. R. A. MacGregor. *Civil Eng* 3: 161-3 Mr '33

Control of pavement cuts; practice in Washington, D.C. H. C. Whitehurst. *diags Civil Eng* 3:163-4 Mr '33

## Resurfacing

Resurfacing Newnan streets with brick. J. E. Gilbert. *il Pub Works* 64:11-12 Mr '33  
Widening and resurfacing West Tenth street, Topeka, Kansas. W. A. Lawson. *il Roads & Sts* 75:499-500 D '32

## PAVEMENTS, Asphalt

Asphalt for runways and loading ramps. C. W. Short, Jr. *Aero Digest* 22:27 F '33

Asphalt-plank bridge-floor construction; discussion of its adaptability for extending the period of usefulness of old bridges. W. C. Brockway. *il Can Eng* 64:9-12 Ja 10 '33

Design and testing of asphalt paving mixtures. N. H. Taylor. *il Soc Chem Ind J* 51:415T-32T; Discussion. 432T-3T D 30 '32

Examination and testing of asphalt mixture for road pavements; abstract. M. G. Clements. *Chem Age (Lond)* 27:457 N 12 '32  
Paving Victoria bridge at Montreal; sheet asphalt and expansion steel mesh. F. J. Leduc. *il Can Eng* 63:16-17 D 6 '32

Widening and resurfacing West Tenth street, Topeka, Kansas. W. A. Lawson. *il Roads & Sts* 75:499-500 D '32

## See also

Roads, Asphalt

## Cost

Asphalt airport runways, New Orleans; contract let. *Eng N* 110:793 Je 15 '33

## Testing

Design and testing of asphalt paving mixtures. N. H. Taylor. *il Soc Chem Ind J* 51:415T-32T; Discussion. 432T-3T D 30 '32  
Report on the causes of cracking in asphaltic mixtures. F. J. Leduc. *Can Eng* 64:13-16 Ja 10 '33

## PAVEMENTS, Bituminous

Bituminous surface treatments for roads and streets. B. E. Gray. *il Pub Works* 64:21-2 My '33

Pavement base strengthened to keep horizontal plane. H. F. Clemmer. *diag Eng N* 110:471-2 Ap 13 '33

## See also

Roads, Bituminous

## PAVEMENTS, Brick

Dependable highways. gratis Published by National paving brick assn, National press bldg, Washington, D.C.

National paving brick association annual meeting; abstracts of papers. *Eng N* 110: 120-1 Ja 26 '33

Paving brick men face future with enthusiasm and determination. *Brick & Clay Rec* 82:53-4 F '33

Resurfacing Newnan streets with brick. J. E. Gilbert. *il Pub Works* 64:11-12 Mr '33

Track rehabilitation at low cost; El Paso electric co. F. S. Bryars. *il Elec Traction* 29: 45 F '33

X-ray study of the toughness of paving brick. G. E. Stong. *Am Cer Soc J* 16:598-600 N '33

## See also

Roads, Brick

## Fillers

Asphalt overflow removed by luting brick. *il Eng N* 109:651 D 1 '32

Fillers for brick roads; report of A.R.B.A. committee. *Eng N* 110:113-14 Ja 26 '33

Method of removing surplus filler in brick pavement construction. O. W. Merrell. *Roads & Sts* 76:299-300 Ag '33

Ohio tests brick pavement construction methods. H. H. Wyss. *diags Pub Works* 64: 13 Ja '33

Research on fillers for brick pavements. J. S. Crandell. *Roads & Sts* 76:158-60 Ap '33

## PAVEMENTS, Concrete

Batching plant economics for separate aggregates. T. C. Thee and O. K. Normann. *il diags Eng N* 110:52-4 Ja 12 '33; Same. *Roads & Sts* 76:97-100 Mr '33

Concrete street and highway construction. J. M. Portugais. *Can Eng* 65:9-10 JI 11 '33

Construction of a concrete pavement at Sorel, Quebec. D. O. Robinson. *il Can Eng* 63:11-12 D 6 '32

Handling concrete for best results. N. R. Love. *il Elec Traction* 29:76-7 Mr '33

How concrete improved airports in 1932. E. K. Smith. *il Concrete* 41:12 Ja '33

Modern practices in bridge re-decking. W. F. Carson. *il diags Eng N* 110:86-9 Ja 19 '33

Mortar voids method of designing concrete mixtures. M. Morris. *Am Concrete Inst J* 4:9-26 S '32; Discussion. F. J. Jackson; B. Tremper. 4:241-5 Ja '33; Same (Jackson). *Concrete* 41:14-15 My '33

Practical details of concrete construction. W. E. Barker. *il Pub Works* 64:23-4 Mr '33  
Showing how a very low bid does not always mean a heavy loss; use of broken concrete on highway 42, Milwaukee county. *il Roads & Sts* 76:324-6 S '33

Vibration in pavement finishing. V. L. Glover. *Am Concrete Inst J* 4:sup[News letter]10 D '32

Vibratory finishing machine for concrete pavements. F. V. Reagel. *Am Concrete Inst J* 4:391-6 Je '33

Winter paving provided work in Ohio village. L. Brannon. *il Eng N* 110:472-3 Ap 13 '33

## See also

Floors, Concrete  
Roads, Concrete

## Joints

Practical details of concrete construction. W. E. Barker. *il Pub Works* 64:17 Ja; 22 F '33

Tests of aggregate interlock at joints and cracks. A. C. Benkelman. *il diag Eng N* 111:227-32 Ag 24 '33

## Maintenance and repair

Maintenance cost of concrete streets. A. L. Boley. *Concrete* 40:12 D '32

Permanency of mud-jack pavement raising. A. C. Benkelman. *Pub Works* 64:22 F '33

## Reinforcement

Concrete roads; use of steel meshwork. *il Engineer* 155:202-3 F 24 '33

Purpose of reinforcing steel in cement concrete pavements. R. D. Bradbury. *il diags Can Eng* 65:5-9 JI 25 '33

## Specifications

Trend of mixes and specifications for concrete street construction. E. K. Smith. *Pub Works* 64:29, 31 F '33

## Testing

Effect of vibration and delayed finishing on pavement slabs. F. H. Jackson and W. F. Kellermann. *il Pub Roads* 14:129-54 O '33; Summary. *Concrete* 41:8-9 Ag '33

Ohms of resistance measure concrete curing. S. B. Slack. *il Eng N* 111:169-70 Ag 10 '33  
Tests of aggregate interlock at joints and cracks. A. C. Benkelman. *il diag Eng N* 111:227-32 Ag 24 '33

## PAVEMENTS, Iron

Cast iron roads. *il Engineer* 154:571 D 2 '32  
Hard-stud road-sections; Stanton company's new process. *diags Gas J (Lond)* 202:154 Ap 19 '33

Stanton cast-iron paving. *il Engineering* 135: 174 F 10 '33



**PAVEMENTS, Steel**

- First Ohio battledeck bridge at Port Clinton dedicated. *il Steel* 93:20 Ag 14 '33  
 Irving open-mesh bridge decking. *il Engineering* 135:636 Je 9 '33  
 Modern practices in bridge re-decking. W. F. Carson. *il diags Eng* N 110:86-9 Ja 19 '33  
 Open-mesh steel deck for Seattle bascule. *diags Eng* N 109:624 N 24 '32  
 Road material of steel developed in Austria. *Steel* 92:20 Ja 9 '33  
 Die stahlroststrasse, eine neue strassendecke. H. Fey. *il Stahl & Eisen* 52:1274 D 22 '32  
 Steel in European highways. *il Iron Age* 132:29 N 2 '33  
 University bridge, Seattle. *il Engineering* 136:231 S 1 '33  
 Widened bascule bridge in Seattle has decking of steel mesh. R. C. Hill. *il Steel* 92:26+ My 22 '33

**PAVEMENTS, Stone**

- Paving side ditches for hilly roads. D. M. Norton. *il diags Eng* N 111:351-2 S 21 '33

**PAVEMENTS, Wood**

- Types of wood block paving used by transit companies. *Transit J* 77:93 Mr '33

**PAVING machines**

- Arc-melted soil proposed as road pavement. *Elec W* 102:354 S 16 '33; *Business Week* p22 S 23 '33  
 Bituminous paver spreads and finishes coarse aggregate type plant mix. A. R. Erskine. *il Roads & Sts* 76:137-41 Ap '33  
 Mixed-in place construction job in Michigan. *il Roads & Sts* 76:313-14 Ag '33  
 Twin pavers make progress records on concrete paving projects. J. S. Burch. *il diags Roads & Sts* 76:213-17 Je '33

**PAYMENT**

- Abrogation of gold clauses. *Fed Res Bul* 19:333-8 Je '33  
 Bonds and the gold clause. J. U. Grissinger. *Barron's* 13:10 Ap 24 '33  
 Disregard for bond contracts. *Bankers M* 127:448-9 O '33  
 Drafts, replacing checks, are sent by postcard. *il Management Methods* 62:261 Je '33  
 Dropping the golden ballast. *Econostat* 1:5 Je 3 '33  
 Fixed income or guaranteed purchasing power? C. F. Hoyden. *Mag of Wall St* 52:61+ My 13 '33  
 Giro system in Germany; a method of handling checks that has great possibilities for American banks. O. Schoele. *Bankers M* 127:44-7 Jl '33  
 Gold clause. *Business Week* p6-7 Je 7 '33  
 Gold clause; until the courts decide otherwise, the answer seems to be "try and get it." *Business Week* p8 My 10 '33  
 Legal aspects of proposed legislation affecting the value of the dollar. A. W. Fribourg. *Annalist* 41:597 Ap 28 '33  
 Payable in gold coin; constitutionality of legislation defeating the intent of the gold clause in private obligations. J. D. Du Bois. *Barron's* 13:3+ My 15 '33  
 Repeal of the gold clause. *il Burroughs Clearing House* 17:9+ Jl '33  
 Repeal of the gold clause. S. C. Badger. *Barron's* 13:15 My 29 '33

*See also*

- |                        |                     |
|------------------------|---------------------|
| Acceptances, Trade     | Debtor and creditor |
| Checks                 | Instalment plan     |
| Collecting of accounts | Wage payment plans  |

**PAYNE, Frederick Huff**

- Coffin and Payne approach textile industry with open minds; Southeastern cottons, inc. *por Textile World* 83:565 Mr '33

**PAYROLLS**

- Bookkeeping machines solve payroll problem. *il Management Methods* 61:614-15 N '32  
 Cost-accounting short cut; Stewart Warner corporation. *Management Methods* 62:14 Ja '33  
 Machines prevent errors. *Management Methods* 62:124-5 Mr '33  
*See also*  
 Insurance, Paymaster Time keeping  
 robbery Wage payment plans

**PEABODY, Stuart**

- Manager of sales and distribution analysis for the Borden company. *por Adv & Sell* 21:20-1+ S 14 '33

**PEACE**

- Appraisal of American industry; international peace, coordination and control of industry, and debt cancellation. T. F. Woodlock. *Management R* 22:99-103 Ap '33  
 Chemists and the next war. H. G. Corr. *Chem Age (Lond)* 28:161 F 25 '33  
 Fight against war. A. Lief, ed. 64p pa 25c John Day co, New York '33  
 Peace and war. G. Ferrero. 244p \$3.25 Macmillan '33  
 Peace is impossible under capitalism. (In University debaters' annual, 1932-1933). E. M. Phelps, ed. p330-53 [bibliog p350-5] Wilson, H. W. '33

*See also*

- |                         |     |
|-------------------------|-----|
| Disarmament             | War |
| International relations |     |

**PEACHES, Frozen**

- How to get better quality in frozen peaches; frozen-pack method. J. S. Caldwell, J. M. Lutz and H. H. Moon. *bibliog il Food Ind* 4:402-5 D '32  
 Peach crop must be saved! It was—but what to do with it? C. C. Street. *il Food Ind* 5:163-5 My '33  
 Tests reveal peach varieties best suited for frozen pack. *Refrig Eng* 26:269 N '33; *Same. Food Ind* 5:404 O '33

**PEANUTS**

- Importance of the peanut crop in the nation's food supply. B. Barry. *Manuf Rec* 102:42 Je '33  
 Le port à arachides de Kaolack (Sénégal). E. Jacquier. *il diags map Génie Civil* 102:1-6 Ja 7 '33  
 Prices and competition among peanut mills. 78p U.S. Federal trade commission, Washington '32

**PEARL assurance company, limited**

- Annual general meeting, 69th, London. *Economist* 116:428-9 F 25 '33  
 Valuation results of the last three years. *Economist* 116:346-7 F 18 '33

**PEARLITE. See Steel—Metallography****PEARLS**

- Foster mother of pearls; City bank farmers trust company of New York. *Trust Companies* 57:188 Ag '33

**PEARS****Diseases and pests**

- Exanthema in pears and its relation to copper deficiency. J. Osierowsky and H. E. Thomas. *Science* 78:315-16 O 6 '33  
**PEARSON, Andrew Cameron, 1873-1933**  
 Sketch. *por Automotive Ind* 68:427 Ap 8 '33; *Ptr Ink* 163:70-1 Ap 6 '33; *Spectator* 130:29 Ap 6 '33  
 Tribute. A. I. Findley. *por Adv & Sell* 20:32 Ap 13 '33  
**PEARSON, George E.**  
 Sketch. *por Soc Chem Ind J (Chem & Ind)* 51:974-5 N 25 '32

**PEAS**

- Mechanical handling processes in the canning industry. *il diags Mech Handling* 20:73-6 Mr '33  
 New vascular fusarium disease of peas. W. C. Snyder. *Science* 77:327 Mr 31 '33

**Analysis**

- Isolation and identification of the organic nitrogenous and non-nitrogenous compounds occurring in the Alaska pea; the presence of citric acid in the Alaska pea. S. L. Jodidi. *Am Chem Soc J* 55:4663-4 N '33

**PEAS, Frozen**

- Lactobacilli in frozen pack peas. J. A. Berry. *Science* 77:350-1 Ap 7 '33

**PEAT**

- Ammoniated peat as fertilizer material. *Oil Paint & Drug Rep* 123:53 Ja 16 '33; *Same. Chemicals* 38:9 F 20 '33; *Same. Chem Age (Lond)* 28:192 Mr 4 '33; *Excerpt. Sci Am* 148:230 Ap '33

**PEAT—Continued**

- Ammoniation of peat for fertilizers. R. O. E. Davis and W. Scholl. *Science* 77:330-1 Mr 31 '33
- Ammoniation of peat for fertilizers. W. Scholl and R. O. E. Davis. bibliog *il Ind & Eng Chem* 25:1074-8 O '33
- Künstliche torfbildung: inkohlung von sphagnummoos. C. G. Schwalbe and K. E. Neumann. *Angew Chemie* 46:177-9 Mr 25 '33
- Peat mats for germination tests of forest tree seeds. P. C. Wakeley. *Science* 76:627-8 D 30 '32
- Recent advances in the study of peat. W. E. Powers. *Nat Research Council Bul* 89:53-60 [bibliog p58-60] '32
- Role of water conditions in the formation and differentiation of common (banded) coals. D. White. bibliog *Econ Geol* 23:556-70 S '33
- Use of peat moss to protect a stopping. C. H. Leeds. *il Coal Age* 37:444 D '32

**PEBBLE mills.** See Ball mills

**PECANS**

- Economic study of the pecan industry. S. A. Jones and others. *U S Agric Tech Bul* 324: 1-91 '32
- Pecan in Texas. J. H. Burkett. *il maps Texas Dept of Agric Bul* 111:1-239 '32

**PECTASE**

- Esterase character of pectase (pectin-demethoxylase) Z. I. Kertesz. *Am Chem Soc J* 55:2605 Je '33

**PECTIC acid**

- Decomposition of polyuronides by fungi and bacteria; decomposition of pectin and pectic acid by fungi and formation of pectolytic enzymes. S. A. Waksman and M. C. Allen. *Am Chem Soc J* 55:3408-18 Ag '33

**PECTINS**

- Composition of lemon albedo pectin. C. M. Bridgham and C. G. King. *Am Chem Soc J* 55:3319-22 Ag '33
- Cranberry jelly; how it is made; the natural quick-setting pectin is replaced by prepared slow-setting pectin. R. E. Cox. bibliog *il Food Ind* 5:348-9 S '33
- Decomposition of polyuronides by fungi and bacteria; decomposition of pectin and pectic acid by fungi and formation of pectolytic enzymes. S. A. Waksman and M. C. Allen. *Am Chem Soc J* 55:3408-18 Ag '33
- Neuere untersuchungen auf dem gebiete des pektins. F. Ehrlich. *Angew Chemie* 46:221 Ap 15 '33
- Pectin studies. A. G. Olsen. bibliog *Ind & Eng Chem* 25:699-703 Je '33

**PEDDLERS and peddling**

- Traveling salesmen required to secure peddler's license under Arkansas city ordinance. *Monthly Labor R* 35:1352-3 D '32

**PEDESTRIAN tunnels.** See Tunnels and tunneling—Pedestrian tunnels

**PEDESTRIANS**

- Have pedestrians legal rights? court decisions. A. H. Blanchard. *il Civil Eng* 3:269-71 My '33
- Killing the pedestrian. J. R. Craig. *Nat Safety* N 26:34+ D '32
- Pedestrian accidents. R. E. Simpson. *Safety Eng* 64:260 D '32

Piétons et passages cloutés. A. Mestre. *Génie Civil* 102:451 My 13 '33

**PEEK, Frank Williams, Jr. 1881-1933**

- Tribute. J. W. Hammond. front (por) *Gen Elec R* 36:383-4 S '33

**PEEK, George Nelson**

- Farm reliever. *por Business Week* p18 My 24 '33

**PEG-boards**

- Distribution and photo strip accounting. J. M. Kramarsik. *il Am Gas Assn Proc* 1932: 306-313; Discussion. 314-15
- Peg-board showing comparative statements of affiliated banks. *il Bankers M* 125:652-4 D '32

**PEGMATITE**

- Genesis of the mica pegmatite deposits of Latah county, Ohio. A. L. Anderson. *il Econ Geol* 28:41-58 Ja '33

Pegmatites. F. L. Hess. bibliog *Econ Geol* 28:447-62 Ag '33

See also

Cyrtolite

**PELICANS**

- Protection of white pelicans. B. H. Thompson. *Science* 78:sup5-6 Ag 25 '33

**PELLAGRA**

- Decrease in pellagra. W. DeKleine. *Science* 76:sup8 D 16 '32
- Food supply and pellagra incidence in 73 South Carolina farm families. H. K. Stiebeling and H. E. Munsell. *U S Agric Tech Bul* 333:1-36 [bibliog p34-5] '32
- Pellagra-preventive value of autoclaved dried yeast, canned flaked haddock, and canned green peas. G. A. Wheeler. bibliog *Pub Health Rep* 48:67-77 Ja 20 '33
- Pellagra-preventive value of green cabbage, collards, mustard greens, and kale. G. A. Wheeler and D. J. Hunt. *Pub Health Rep* 48:754-8 Je 30 '33

**PELTIER effect**

- Concerning the existence of the so-called heats of transfer ( $Q^*$  values) in Peltier heats. E. Lange and T. Hesse. *Am Chem Soc J* 55:853-5 F '33

**PELTON wheels.** See Turbines

**PENDULUM**

See also

Foucault pendulum

Herbert pendulum

**PENEPLAINS**

- Chambersburg (Harrisburg) peneplain in the Piedmont of Maryland and Pennsylvania. M. R. Campbell. *Geol Soc Bul* 44:553-73 Je '33

**PENICILLIUM**

- Metabolic products of penicillium charlesii G. Smith; abstract. P. W. Clutterbuck and others. *Soc Chem Ind J (Chem & Ind)* 52: 843-4 O 20 '33
- Molecular structure of a polysaccharide produced from glucose by a new species of penicillium and containing units of glucose, galactose, and an unusual hexose; abstract. W. N. Haworth, H. Raistrick and M. Stacey. *Soc Chem Ind J (Chem & Ind)* 51:980 N 25 '32
- Production of dimethyl selenide by penicillium brevicaulis (scopulariopsis brevicaulis); abstract. F. Challenger and H. E. North. *Soc Chem Ind J (Chem & Ind)* 52:505 Je 16 '33

**PENICK and Ford, Ltd.**

- What is the investment outlook for these companies? *Mag of Wall St* 51:390 Ja 21 '33

**PENINSULAR and Oriental steam navigation company**

- Annual meeting, 92d, London. *Economist* 115: 1105-6 D 10 '32

P. and O. *Economist* 115:1199-1200 D 24 '32

Report. *Economist* 115:1038-9 D 3 '32

**PENN, William**

- William Penn as a business man; the business background in England, 1680-1682. C. L. Chandler. *J Fr Inst* 215:445-54 Ap '33

**PENN general casualty company**

- Annual financial statement, 1932. *Spectator* 130:33 My 18 '33

**PENN mutual life insurance company**

- Annual report, 85th. *Ins Field (Life ed)* 62: 17 F 10 '33

**PENNEY, J. C., company**

- Among the first to benefit from improvement in merchandising. A. L. Van Horne. *Mag of Wall St* 51:155 N 26 '32

J. C. Penney's fortified position. *Barron's* 13: 15 Ja 16 '33

Stocks I would buy to hold. A. T. Miller. *Mag of Wall St* 51:631 Ap 1 '33

**PENNSYLVANIA**

See also

Coal mines and mining—Pennsylvania

Geology—Pennsylvania



## PENNSYLVANIA—Continued

## Insurance department

Pennsylvania insurance department to be investigated. E. S. Banks. *Spectator* 130:31+ Je 1 '33

Pennsylvania votes for investigation of insurance department. East Underw 34:1+ My 12 '33

## PENNSYLVANIA bankers surety company

Surety company promoted by Pennsylvania bankers to handle bank business. Nat Underw 36:27 D 1 '32

## PENNSYLVANIA grade crude oil association

Annual meeting, 10th, State College, Pa. June 29. Nat Pet N 25:26-8 J1 5 '33; Oil & Gas J 32:36 J1 6 '33

New program helps refiners and marketers. P. Truesdell. Nat Pet N 25:33-4+ Mr 15 '33

## PENNSYLVANIA railroad

Factors in strength in Pennsylvania R.R. Barron's 13:7 Ja 16 '33

Government offers loans for rails and equipment. Ry Age 95:695-7 N 11 '33

Initial operation of the Pennsylvania railroad electrification. W. D. Bearce. il map Gen Elec R 36:258-61 Je '33

Low price stocks that can be purchased now for later appreciation. Mag of Wall St 51:234 D 10 '32

Pennsylvania and Reading lines combined in South Jersey. map Eng N 110:823 Je 22 '33

Pennsylvania earns 2 per cent on stock. Ry Age 94:558 Ap 15 '33

Pennsylvania electrification links Philadelphia and New York city. il map plan Ry Age 94:268-302 F 25 '33

Pennsylvania electrifies. J. V. B. Duer. il Sci Am 149:170-1 O '33

Pennsylvania looks ahead. D. Hovey. il Barron's 13:5, 7 My 8 '33

Pennsylvania pays 50-cent dividend. Barron's 13:10 Ja 30 '33

Pennsylvania's outlook improves. *Econostat* 1:11+ Je 3 '33

Power supply for the Pennsylvania railroad. J. V. B. Duer. il diags map Elec Eng 52: 111-15 F '33

Stocks I would buy to hold. A. T. Miller. Mag of Wall St 51:626 Ap 1 '33

Why did Union Pacific buy into Pennsylvania? P. H. Fulton. Mag of Wall St 51:332-3+ Ja 7 '33

## PENNSYLVANIA salt manufacturing company

Report for fiscal year ended June 30. Oil Paint & Drug Rep 124:20 O 9 '33

## PENNSYLVANIA state college

Broad research program at Pennsylvania state college furthers refining technology. A. L. Foster. il Nat Pet N 25:59-62+ Mr 15 '33

## Priestley lectures

Priestley lectures at the Pennsylvania state college. Science 77:252 Mr 10 '33

## PENNSYLVANIA university

Morris arboretum and the University of Pennsylvania. Science 76:459 N 18 '32

Morris arboretum of the University of Pennsylvania; dedication program. Science 77: 503-4 My 26 '33

Morris arboretum of the University of Pennsylvania will share in a collection of more than 30,000 mounted botanical specimens from eastern Asia. Science 77:404-5 Ap 28 '33

## Edgar Fahs Smith memorial library

Some incidents in the collection of the Edgar Fahs Smith memorial library. E. V. Armstrong. il J Chem Educ 10:356-8 Je '33

## PENS

## See also

Fountain pens

## PENSACOLA, Florida

## Harbor

Steel sheetpile jetty at Pensacola. E. K. Foster and D. E. Young. il diags map Eng N 111:489-91 O 26 '33

## PENSACOLA Bay, Florida

Steel sheetpile jetty at Pensacola. E. K. Foster and D. E. Young. il diags map Eng N 111:489-91 O 26 '33

## PENSIONS

Contributory pensions in Great Britain during 1932-33. Monthly Labor R 37:858-9 O '33  
Old-age and invalidity pensions in Australia. Monthly Labor R 36:315 F '33

## See also

Civil service pensions Pensions, Industrial  
Firemen—Pensions Pensions, Military  
Old age pensions

## PENSIONS, Industrial

Central Hudson gas & electric corp. insurance-pension plan. Gas Age 71:152 F 11 '33;  
Same. Am Gas J 138:31 F '33

Comments on pension survey by Industrial relations counselors group. H. Kaplan. East Underw 34:16 Ap 7 '33

Deplore rate cuts in group pensions. Nat Underw (Life ed) 37:3+ F 3 '33

Group pension is going ahead fast. Nat Underw (Life ed) 36:3+ D 23 '32

Industrial pension plans in the depression, United States and Canada. Monthly Labor R 36:1062-4 My '33

Industrial pension systems. M. L. Stecker. 16p Am. management assn, 20 Vesey st, New York '33

Industrial pension systems in the United States and Canada. M. W. Latimer. 2v 1195p [bibliog p1173-51] Industrial relations counselors, inc, New York '32

Industrial pensions. R. W. Stone. J of Business 6:240-6 J1 '33

Industrial pensions in the depression. Comm & Fin 22:500 Je 7 '33

Operations of salaried employees' old-age insurance system in Germany. Monthly Labor R 37:293-4 Ag '33

Pension for water works employees. J. S. Dunwoody. Am Water Works Assn J 24:1937-46; Discussion. 1947-52 D '32

Pension plans tried by different industrial organizations analyzed from life insurance angle. Weekly Underw 128:697-9 Ap 8 '33

Pipe lines' pensions placed with Equitable. East Underw 34:15 My 12 '33

Practical pension plan for employes. C. S. Dixon, jr. East Underw 34:19 Mr 3 '33

Present trends in industrial pension systems. East Underw 34:3 Mr 31 '33

Prudential of London pension plan valid. East Underw 34:4 Ag 4 '33

Railroad pension legislation hearings. Ry Age 94:80-3, 111-14 Ja 21-28 '33

Railway employees ask retirement insurance; hearings on the rival bills to provide for the establishment of a uniform retirement insurance-pension system. Ry Age 94:46-7 Ja 14 '33

Results of old age pension plans for employees are analyzed by Industrial relations counselors. Management Methods 62:212+ My '33

Staff insurance and superannuation schemes. Mech Handling 20:260 Ag '33

Standard Oil of Ohio takes insurance plan; Prudential will cover 5,000 employees under group annuity contract. Weekly Underw 127:982 N 19 '32

Suggests pension reserves be moveable from one company to other. L. C. Ashton. East Underw 34:4 O 6 '33

Supplementary unemployment insurance and pension schemes in English industry. Monthly Labor R 35:1299-1301 D '32

## See also

Pensions, Trade union

## PENSIONS, Military

Famous ancestor of the bonus. Am Bankers Assn J 25:68 D '32

Pushing the fight against wasteful spending by government. A. I. Findley. Iron Age 130: 833-4+ D 1 '32

Tattered banners. T. Powell. 299p [bibliog p289-94] \$2.50 Harcourt '33

Veterans' relief. il Fortune 7:34-41, 96-103 Ja '33

What has been done to veterans. Nation's Business 21:21-2+ Ag '33

**PENSIONS, Military—Continued**

World war veterans and the federal Treasury. 77p \$2 National industrial conference board, inc, New York '32

*See also*

Soldiers' bonus

**PENSIONS, Old age.** See Old age pensions**PENSIONS, Trade union**

Trade union pension systems and other superannuation and permanent and total disability benefits in the United States and Canada. M. W. Latimer. 205p Industrial relations counselors, inc, New York '32

**PENSTOCKS**

Arch-welded steel penstock. C. M. Allen. diag Power P1 Eng 37:182-3 Ap '33

Construction of the Hoover dam. R. C. Fleming. il diag plan Comp Air M 38:4171-6 Jl '33

First all-welded penstock completed; San Francisquito plant no. 2 of the Los Angeles bureau of power & light. C. M. Allen. il Elec West 70:84-7 Mr '33

Giant bending roll aids construction at Hoover dam. il Am Mach 77:156-7 Mr 1 '33

Giant welded penstocks take form at Boulder Canyon field plant. il Iron Age 132:22-3 N 9 '33

High head penstock design; abstract. A. W. K. Billings and others. Am Water Works Assn J 25:881-2 Je '33

Hoover Dam penstocks to be X-ray inspected. il Iron Age 131:639 Ap 20 '33; Same. Elec Eng 52:349 My '33

Penstock costs at Fifteen-Mile Falls. Elec W 101:258 F 25 '33

Permeability of concrete under high water pressure. C. C. Vermeule. il diags Civil Eng 3:611-14 N '33

**PENTAERYTHRIT**

La tétranitropentaérythrite ou penthrite. L. Desvergnes. diag Chimie & Ind 29:1263-77 Je '33

**PENTAMETHOXYFLAVAN**

Experiments on the synthesis of cyanomacclurin and its derivatives; 3:5:7:2':4'-pentamethoxyflavan. A. L. Bhalla and J. N. Ray. Chem Soc J p288-90 Mr '33

**PENTAMETHYLBENZENE**

Some heat capacity data for dibene, pentamethylbenzene, stilbene, and dibenzyl. J. D. Ferry and S. B. Thomas. J Phys Chem 37:253-5 F '33

**PENTAMETHYLENE sulfide**

Successful syntheses of thiophanes will aid in study of objectionable sulphur compounds. R. W. Bost and M. W. Conn. Oil & Gas J 32:17 Je 8 '33

**PENTANE**

High-pressure rectification; *N*-pentane-*N*-heptane system. L. W. T. Cummings, F. W. Stones and M. A. Volante. bibliog diags Ind & Eng Chem 25:728-32 Jl '33

Über katalytische einflüsse bei selbstzündungsvorgängen. C. Zerbe, F. Eckert and H. Jentzsch. Angew Chemie 46:659-62 O 21 '33

**PENTANONE**

New laboratory preparations for the course in organic chemistry. G. R. Yohe, H. U. Louder and G. A. Smith. J Chem Educ 10: 374-5 Je '33

**PENTAPHENYLETHANE**

Relative stability of penta-arylethanes; the preparation of penta-arylethanes. W. E. Bachmann. bibliog Am Chem Soc J 55:2135-9 My '33

**PENTENE**

Polymerization of diolefins with olefins; function of pentene-2 in the polymerization of isoprene. C. A. Thomas and W. H. Carmody. Am Chem Soc J 55:3854-6 S '33

**PENTENOPHENANTHRENE**

Synthesis of compounds related to the sterols, bile acids, and oestrus-producing hormones; 1:2-cyclopentenophenanthrene. J. W. Cook and C. L. Hewett. Chem Soc J p1098-1111 Ag '33

**PENTHRITE.** See Tetranitropentaerythrite

**PENTOSANS**

Relation between hydration capacity and pentosan content of soft wood pulps. G. H. Young and B. N. Rowland. bibliog Paper Tr J 97:44-6 O 12 '33

**PENTOSE**

Pentose reactions; xylan. C. D. Hurd and N. R. Currie. Am Chem Soc J 55:1521-3 Ap '33

**PEOPLES life insurance company**

Annual statement, 1932. Spectator 130:19 Mr 23 '33

**PEOPLES natural gas company of Pittsburgh**

John B. Tonkin elected president and J. French Robinson, vice president. Oil & Gas J 32:33 Je 29 '33

**PEPPERMINT oil**

Peppermint oil in 1932. Oil Paint & Drug Rep 123:38 Mr 13 '33

**PEPPERS**

Vitamin A in the pimiento pepper. L. Ascham. Science 77:351 Ap 7 '33

**PEPSIN**

Low temperature absorption spectrum of pepsin. G. I. Lavin, J. H. Northrop and H. S. Taylor. diag Am Chem Soc J 55:3497-8 Ag '33

**PEPTIDES**

Dielectric constant of solutions of amino acids and peptides. J. Wyman, jr. and T. L. McMeekin. Am Chem Soc J 55:908-14 Mr '33

Dipole moments of esters of amino acids and peptides. J. Wyman, jr. and T. L. McMeekin. diag Am Chem Soc J 55:915-22 Mr '33

**PERACIDS**

Studies in organic peroxides; the use of camphoric acid peracid for the estimation of unsaturation. N. A. Milas and I. S. Cliff. Am Chem Soc J 55:352-5 Ja '33

**PERBENZOIC acid**

Preparation of *l*-arabinose and *l*-ribose by the oxidation of *l*-arabinal with benzoic peracid. F. C. Austin and F. L. Humoller. Am Chem Soc J 54:4749-50 D '32

**PERCENTAGE leases.** See Store buildings—Renting**PERCHLORIC acid**

Activity coefficients of hydrochloric acid in aqueous solutions containing either sodium dithionate or perchloric acid. P. G. Murdoch and R. C. Barton. Am Chem Soc J 55:4074-9 O '33

Effect of the presence of perchloric acid in the proximate analysis of limestone. F. H. Fish and F. M. Taylor. J Chem Educ 10: 246-7 Ap '33

Separation and determination of the alkali metals using perchloric acid; perchloric acid and chloroplatinic acid in the determination of small amounts of potassium in the presence of large amounts of sodium. G. F. Smith and J. L. Gring. Am Chem Soc J 55:3957-61 O '33

Vapor pressures and activity coefficients of aqueous solutions of perchloric acid at 25°. J. N. Pearce and A. F. Nelson. Am Chem Soc J 55:3075-81 Ag '33

**PERCIVAL, Thomas, 1740-1804**

Manchester scientists of former days; chemists. J. R. Partington. Soc Chem Ind J (Chem & Ind) 52:478 Je 9 '33

**PERCOLATORS**

Pfaudler glass lined percolator. il Chem Age (Lond) 27:484 N 19 '32

**PEREGAL O**

Peregal O, a dispersing agent for vat dyes. A. J. Hall. Textile Col 55:188-9 Mr '33

**PERFORATED metals.** See Metals, Perforated**PERFUMERY**

Coty pushes perfume racket war; claim dealers aid fraud. Sales Management 33:176 Ag 15 '33

**PERFUMERY and cosmetics institute**

Organized to meet Recovery law. Oil Paint & Drug Rep 123:16+ Je 19 '33

**PERINI, Louis Robert, 1903-**

Sketch. por Explosives Eng 11:260-1 S '33



**PERIODIC phenomena**

- Demonstration of the periodic passivity of iron. R. Dubois and W. A. Kaye. bibliog diag J Chem Educ 10:108 F '33  
 Periodic precipitation of ferrous carbonate. R. J. Hartman, E. W. Kanning and F. J. Gallion. il J Phys Chem 37:229-32 F '33  
 Problem of twisted trees. M. Copisarow. Science 77:581-3 Je 16 '33

**PERIODIC system**

- New periodic chart. J. D. Clark. J Chem Educ 10:675-7 N '33

**PERIODICAL publishers' institute**

- Elects directors. Ptr Ink 164:61 Ag 10 '33

**PERIODICALS**

- Four magazines show the way; Collier's weekly, Saturday evening post, McClure's and Everybody's. R. Frothingham. Adv & Sell 20:26 N 24 '32  
 Old magazines in branch libraries. Q. D. McClung. Lib J 58:268 Mr 15 '33  
 Periodical and newspaper publishers submit codes. Adv & Sell 21:26+ Ag 17 '33  
 Periodical subscriptions in the reduced budget of the college library. M. M. Helm. Lib J 58:245-7 Mr 15 '33  
 Pulp to pulp; suspension of Fiction house, inc. Business Week p16-17 Ja 18 '33  
 Trend towards realism in magazine making. M. Cole. il Adv & Sell 21:20-1+ Ag 31 '33

**See also**

- |                               |                       |
|-------------------------------|-----------------------|
| Advertising mediums           | House organs          |
| —Periodicals                  | Insurance—Periodicals |
| Audit bureau of circulations  | Journalism            |
| Banks and banking—Periodicals | Newspapers            |
| Business periodicals          | Science—Periodicals   |
| Employees' magazines          | Technical periodicals |
| Engineering periodicals       | Trade journals        |

**Advertising service**

- Companion shopping plan wins store co-operation. il Sales Management 33:280+ S 15 '33

**Bibliography**

- Births and deaths; a record of new titles, changed titles, and deaths in the periodical world. Published in Bulletin of bibliography  
 List of current periodical publications, including transactions of learned societies. T. Murgatroyd, comp. 71p Manchester university press, England '32  
 New periodicals. Published in monthly numbers of New York public library bulletin  
 Periodicals currently received in Army medical library. 53 numb 1 U S Surgeon-general's office, library, Washington '33

**Union lists**

- Union list in the making. K. Brown. Lib J 58:31-2 Ja 1 '33  
 Union list of serials in libraries of the United States and Canada, supplement, July 1931-December 1932. G. E. Malikoff, ed. 331p Wilson, H. W. '33

**Circulation**

- Magazine circulation study. Ptr Ink 165:86 N 9 '33

**Cost**

- Comparative costs to subscribers of some journals much read by chemists. E. J. Crane. Ind & Eng Chem News ed 11:141 My 10 '33  
 German booksellers association has taken action concerning the prices of scientific periodicals. Science 78:383-4 O 27 '33  
 German periodicals in American libraries: deflation or extinction? C. H. Brown. Lib J 58:525-8 Je 15 '33  
 High cost of German medical and scientific periodicals. E. R. Cunningham. Science 77:409-10 Ap 28 '33  
 Medical library association; report of committee, etc. Lib J 58:704-5 S 1 '33; Excerpt. Science 78:139-40 Ag 18 '33

**Covers**

- Cover contest in nip and tuck end. il Inland Ptr 91:46-52 My; 39-42 Je; 32, 45 Jl '33  
 World's fair weekly interprets spirit of a Century of progress. E. W. Jones. il Ptd Salesmanship 61:220-3 Je '33

**Directories**

- Bacon's publicity manual. 88p \$3 R. H. Bacon & co, Chicago '33  
 Directory of periodicals of special interest to the blind in braille and inkprint. H. Lende, comp. 58p pa 25c American foundation for the blind, inc, 125 E. 46th st, New York '33

**Format**

- Format of the Physical review; advantages. Science 77:109-10 Ja 27 '33

**Indexes**

- International index to periodicals; twentieth annual cumulation, July 1932-June 1933. 947p Wilson, H. W. '33  
 Journal of the Institution of electrical engineers; Index to vols. 60 to 69, 1922-1931. 263p Spon '33  
 List of cumulated indexes; research of Daniel C. Haskell. K. Brown. Lib J 58:172-3 F 15 '33  
 Readers' guide to periodical literature, July 1932 to June 1933. 890p Wilson, H.W. '33  
 Six-year index to Printed Salesmanship articles, October, 1927-August, 1933. Ptd Salesmanship 61:350-76 Ag '33  
 Systematic subject indexes to periodical volumes. A. F. C. Pollard and S. C. Bradford. Assn of Sp Lib & Inf Bur Proc 1932:20-38; Discussion. 39-40

**Typography**

- World's fair weekly interprets spirit of a Century of progress. E. W. Jones. il Ptd Salesmanship 61:220-3 Je '33

**Germany**

- German booksellers association has taken action concerning the prices of scientific periodicals. Science 78:383-4 O 27 '33  
 German periodicals in American libraries: deflation or extinction? C. H. Brown. Lib J 58:525-8 Je 15 '33  
 High cost of German medical and scientific periodicals. E. R. Cunningham. Science 77:409-10 Ap 28 '33  
 Medical library association; report of committee, etc. Lib J 58:704-5 S 1 '33; Excerpt. Science 78:139-40 Ag 18 '33

**Great Britain**

- George Newnes, limited. Economist 117:39 Jl 1 '33

**PERKIN medal**

- Perkin medal awards, 1906-1933. Ind & Eng Chem 25:229 F '33  
 Perkin medal for 1933 awarded to Oenslager. Oil Paint & Drug Rep 122:15 D 26 '32; 123: 15+ Ja 9 '33; Science 77:14-15 Ja 6 '33  
 Perkin medal for 1934 is awarded to Dr. Fink. Oil Paint & Drug Rep 124:22 O 30 '33

**PERKIN reaction**

- Interaction of ketene with aromatic aldehydes and its bearing on the Perkin reaction. C. D. Hurd and C. L. Thomas. bibliog Am Chem Soc J 55:275-83 Ja '33

**PERKINS, Frances, 1882-**

- Labor's leading lady. por Business Week p12+ Mr 1 '33

**PERMANENT court of international justice**

- Permanent court of international justice, its constitution, procedure and work. A. P. Fachiri. 2d ed 416p \$4.75 Oxford '32

- Supreme court and the World court, 1832 and 1932. C. Warren. 39p Carnegie endowment for international peace, Worcester, Mass. '33

**PERMEABILITY**

- Comparative tests of permeability of five cement mortars. W. A. Carlson. diag Concrete 40:5-7 D '32

**PERMEABILITY**—*Continued*

Measurement of the permeability of porous media for homogeneous fluids. R. D. Wyck-off and others. *il diag R Sci Instr* 4:394-405 J1 '33

*See also*

Concrete—Permeability      Paper—Permeability  
bility      Wood—Permeability

**PERMEABILITY**, Magnetic. *See* Magnetic permeability

**PERNICIOUS** anemia. *See* Anemia

**PEROXIDASES**

Rôle of peroxidase in the deterioration of frozen fruits and vegetables. M. A. Joslyn and G. L. Marsh. *Science* 78:174-5 Ag '25 '33

**PEROXIDES**

Bleaching with peroxides. P. W. Hargreaves. *Textile Col* 54:842-4; 55:43-4 D '32-Ja '33

Studies in organic peroxides; peroxides in the camphoric acid series. N. A. Milas and A. McAlevy. *Am Chem Soc J* 55:349-52 Ja '33

Studies in organic peroxides; the use of camphoric acid peracid for the estimation of unsaturation. N. A. Milas and I. S. Cliff. *Am Chem Soc J* 55:352-5 Ja '33

*See also*

Hydrogen peroxide  
Sodium peroxide

**PERPETUITIES**

Avoiding dangers and waste of long-term private and charitable trusts. H. McLean. *Trust Companies* 56:309-12 Mr '33

**PERRY, J. Lester**

Vice president, American steel & wire co. por *Steel* 91:10 D 26 '32

**PERSIA**

*See also*

Banks and banking— Petroleum industry  
Persia      and trade—Persia  
Labor and laboring      Water supply—Persia  
classes—Persia

**Antiquities**

Glory of Persian art; sculptures discovered in Persepolis. *il Sci Am* 148:220-1 Ap '33  
Latest photographs from Persepolis. *Sci Am* 149:100, 104 S '33

**Defenses**

Peaceful Persia; orders for gunboats, bombing planes, harbor improvement disturb diplomats in the Near East. *Business Week* p20+ Ja 18 '33

**PERSIL**

Evaluation of washing agents containing oxygen. K. Brauer. *Melliand* 5:111-14, 160-1, 246-7 Je-Jl—Ag-S, N '33

**PERSONAL** finance companies. *See* Loans, Small

**PERSONALITY**

General principles of human reflexology. V. M. Bechterev. 467p [bibliog p443-52] \$5 International publishers, New York '33

How to study men by types to improve banking relations. C. O. Lee. *il Bankers Mo* 50:84-6+ F '33

**PERSORPTION**

New method for obtaining data for the sorption of vapors by solids. J. L. Porter. *bibliog diag J Phys Chem* 37:361-6 Mr '33

**PERSPECTIVE**

Nouvelle méthode de dessin perspectif. L. Melot. *diags Génie Civil* 101:629-32 D 24 '32

**PERSPIRATION**

Where is the perspiration line? A. E. Beals. *Heating-Piping* 5:224-7 Ap '33

**PERTURBATION** theory

Calculation of statistical averages for perturbed systems. R. Serber. *Phys R* 43:1011-21 Je 15 '33

**PERU**

South American countries. S. Bell. *Comm & Fin* 21:1395-6 N 30 '32

**Sanitary affairs**

Epidemiological study of plague in Peru; with observations on the antiplague campaign and laboratory work. C. R. Eskey. *map Pub Health Rep* 47:2191-207, pl 1-2 N 18 '32

**PETERSEN** earth coil

Experience with arcing ground suppressors. E. M. K. Sommer. *il diag Elec W* 101:730-3 Je 3 '33

Overhead line protection. D. Bryan. *diags Elec R (Lond)* 113:180-1 Ag 11 '33

**PETRIFIED** forests

Petrification in the Yellowstone national park. *Science* 77:sup9 Mr 17 '33

**PETROLATUM**

Protecting finished surfaces from rust. F. D. Hartford. *Maintenance Eng* 91:54 F '33

**PETROLEUM**

Conversion of fatty and waxy substances into petroleum hydrocarbons. W. F. Seyer. *Inst Pet Tech J* 19:773-83 S '33

Crude oil as a carbureting material for water gas. M. F. B. Hyde. *Gas Age* 71:301+ Mr 25 '33

Earth oil. G. Egloff. 158p Williams & Wilkins '33

High-pressure tricks with petroleum. *il Sci Am* 148:168 Mr '33

Influence of oil in soil corrosion. W. F. Rogers. *il Am Pet Inst Proc* p131-5 sec 4 D '32

Measurement of viscosities of liquids saturated with gases at high pressures. B. H. Sage. *il diags Ind & Eng Chem Anal* ed 5: 261-3 J1 15 '33

Oil production; new reserves are about equal to depletion. H. J. Wasson. *Min & Met* 14: 25-6 Ja '33

La part du charbon et du pétrole dans l'économie moderne. R. Brunschwig. *Génie Civil* 103:212-14 Ag 26 '33

Progress of naphthology, 1932; crude oil. W. H. Thomas. *bibliog Inst Pet Tech J* 19: 554-6 J1 '33

Surface tension, specific gravity of oil in place; abstract. D. T. Jones. *Oil & Gas J* 32:16 Ag 10 '33

Toxicity of creosote petroleum mixtures; abstract. H. Schmitz. *Ry Age* 94:106 Ja 28 '33

Welt-erdditagung, London, South Kensington, 19. bis 25. Juli 1933. *Chemische Fabrik* 6:366-70 Ag 30 '33; *Angew Chemie* 46:566-9 S 2 '33

*See also*

Bituminous materials	Liquid fuel
Bituminous sand	Oil flow
Fuel, Colloidal	Oil lands
Gas, Natural	Oil shales
Gas, Oil	Petroleum distillation and other
Gasoline	headings beginning
Kerosene	Petroroleum
Liquefied petroleum gas	

**Analysis**

Analyses of crude oils from the Oklahoma City field, Oklahoma. E. L. Garton. *U S Bur Mines Rep of Invest* 3180:1-29 '32

Analysis of hydrocarbon oils. R. H. Griffith and H. Hollings. *Inst Pet Tech J* 19:701-12 Ag '33

Apparatus and methods for precise fractional-distillation analysis; precise high-temperature fractionation of complex liquid mixtures. W. J. Podbielniak. *bibliog il diags Ind & Eng Chem Anal* ed 5:135-42 Mr 15 '33

1,1-Dimethylcyclopentane and 2-methylhexane in a Midcontinent petroleum. J. H. Bruun and M. M. Hicks-Bruun. *bibliog U S Bur Stand J Research* 10:465-73 Ap '33

Isolation of ethylbenzene from an Oklahoma petroleum. J. D. White and F. W. Rose, jr. *U S Bur Stand J Research* 10:639-45 My '33

Isolation of the three xylenes from an Oklahoma petroleum. J. D. White and F. W. Rose, jr. *U S Bur Stand J Research* 9:711-20 D '32

Loading combustion tube in carbon and hydrogen determination on liquids. J. R. Bailey. *diags Ind & Eng Chem Anal* ed 5: 171 My 15 '33

Nitrogen compounds in petroleum distillates. T. S. Perrin, J. R. Bailey and others. *bibliog Am Chem Soc J* 53:4136-49 O '33



**PETROLEUM—Analysis—Continued**

Progress of naphthology, 1932; analysis and testing. W. H. Thomas. bibliog Inst Pet Tech J 19:636-51 J1 '33

Purification of hydrocarbons by crystallization from liquid methane; isolation of 2-methylheptane from petroleum. R. T. Leslie. diags U S Bur Stand J Research 10:609-18 My '33

**Bibliography**

Abstracts. Published in monthly numbers of Journal of the Institution of petroleum technologists

Recent articles on petroleum and allied substances. M. Speer, comp. U.S. Bur. of mines, 506 Custom House, San Francisco, Calif. [published monthly thru April 1933]

**Chemistry**

American chemical society Washington meeting; abstracts of papers. Oil Paint & Drug Rep 123:16 My 8 '33

Chemical uses of petroleum. F. B. Thole and S. F. Birch. Chem Ind 33:310-12 O '33

Contribution à l'étude de la réaction des formolites. V. Cercez and I. Ionescu-Muscel. Chimie & Ind 29:781-5 Ap '33

Ionization constants of a number of methylated quinolines and of certain saturated bases isolated from petroleum distillates. W. A. Felsing and E. S. Biggs. Am Chem Soc J 55:3624-5 S '33

Nitrogen compounds in petroleum distillates. T. S. Perrin, J. R. Bailey and others. bibliog Am Chem Soc J 55:4136-49 O '33

Origin and environment of petroleum source sediments. M. E. Kelly. Inst Pet Tech J 19:117-41 [bibliog p141] F '33

Petroleum as a chemical raw material; abstracts of papers at World petroleum congress. Nat Pet N 25:24 Ag 30 '33

Pressure-temperature and low pressure total heat relationships of petroleum fractions. E. G. Ragatz, E. R. McCartney and R. E. Haylett. il diags Ind & Eng Chem 25:975-9 S '33

Progress of naphthology, 1932; chemistry of petroleum. D. A. Howes. bibliog Inst Pet Tech J 19:655-72 J1 '33

Properties of hydrocarbon mixtures as related to some production engineering problems. W. K. Lewis. Oil & Gas J 32:14-15+ O 19; 20 O 26; 18, 20 N 2 '33

Successful syntheses of thiophanes will aid in study of objectionable sulphur compounds. R. W. Bost and M. W. Conn. Oil & Gas J 32:17 Je 8 '33

Symposium on physical properties of hydrocarbon mixtures. G. L. Matheson, L. W. T. Cummings and others. diags Ind & Eng Chem 25:723-35, 880-98 J1-Ag '33

Über die reaktionsfähigkeit von aliphatischen und alicyclischen kohlenwasserstoffen. A. Schaarschmidt and M. Marder. Angew Chemie 46:151-4 Mr 11 '33

**Conservation**

Conservation of petroleum; hearings before the Com. on ways and means, House of representatives, Seventy-third Congress, first session, June 1-2, 1933. 215p U.S. govt. ptg. office, Washington '33

New Texas conservation act provides for wide alteration of former statute. Am Gas J 138: 37 Ja '33

Oil conservation program should include wild-cattings. C. B. Ames. Nat Pet N 25:20 Ja 18 '33

Oil conservation through interstate agreement. N. Ely. 398p [bibliog p397-8] U.S. Federal oil conservation board, Washington '33

Report of the committee on production practice to the board of directors of the American petroleum institute. Am Pet Inst Proc p107-8 sec 4 D '32; Same. Oil & Gas J 31:11+ Ja 12 '33

Review of laws affecting production in the principal producing states; Oklahoma, California, Kansas, and Texas. J. E. Kilgore. Am Pet Inst Proc (Production div) p9-11 Je '32

True conservation of oil and gas will follow application of bottom hole data to problem. J. O. Lewis and H. F. Wright. Oil & Gas J 31:14+ Ap 27 '33

See also  
Petroleum—Proration

**Dehydration**

Methods of treating crude oil emulsions; abstract. J. L. Van Der Minne. Oil & Gas J 32:43 Ag 10 '33

Special cast iron heaters and heat exchangers will lower cost of treating oil emulsions. L. N. Hunter. il diag Oil & Gas J 32:8+ Ag 17 '33

**Emulsions**

Methods of treating crude oil emulsions; abstract. J. L. Van Der Minne. Oil & Gas J 32:43 Ag 10 '33

Special cast iron heaters and heat exchangers will lower cost of treating oil emulsions. L. N. Hunter. il diag Oil & Gas J 32:8+ Ag 17 '33

**Evaporation losses**

Vapor gathering systems with steel balloons reduce evaporation and corrosion losses. L. G. E. Bignell. il diags Oil & Gas J 32:8+ O 12 '33

**Gas solubility**

Practical benefits of pressure maintenance in petroleum production. W. N. Lacey. il Am Pet Inst Proc p16-26 sec 4 D '32; Same cond. Oil & Gas J 31:49+ N 17 '32; Discussion. Am Pet Inst Proc p26-8 sec 4 D '32

Study of bottom hole samples of east Texas crude oil. B. E. Lindsly. bibliog diag Am Pet Inst Proc 14M(4):40-52 My '33; Same. U S Bur Mines Rep of Invest 3212:1-22 '33; Same. Oil & Gas J 32:13-16+ Je 1 '33

**Geology**

Analysis and composition of fatty material produced by the decomposition of herring in sea water; theory of origin of petroleum in sedimentary deposits. R. C. Wells and E. T. Erickson. Am Chem Soc J 55:338-41 Ja '33

L'association des silices fossiles et des pétroles dans leurs gisements. V. Charrin. maps Génie Civil 101:451-3 N 5 '32

Careful study of geology of eastern Colorado indicates many oil and gas possibilities. R. M. Van Tuyl and B. H. Parker. map Oil & Gas J 31:12-13+ Mr 9 '33

Causes géologiques qui ont déterminé la formation des gisements pétrolières. Génie Civil 102:69-70 Ja 21 '33

Conroe field presents many interesting unusual physical and geological characteristics. N. Williams. Oil & Gas J 31:11+ F 9 '33

Contribution to the knowledge of sedimentary volcanism in Trinidad. H. G. Kugler. pls Inst Pet Tech J 19:743-60 [bibliog p760]; Discussion. 760-72 S '33

Contributions of petroleum geology to pure geology in the southern Mid-continent area. F. H. Lahee. maps Geol Soc Bul 43:953-64 [bibliog p962-4] D '32

Cosmic genesis of petroleum; abstract. W. H. Jeffery. Inst Pet Tech J 19:116A-17A Ap '33

Facts and figures on the Wilcox sand at Oklahoma City. D. R. Knowlton, H. C. Charles and D. A. McGee. maps Am Pet Inst Proc (Production div) p84-90 Je '32

Geological records show percentage decrease in oil wells to recent years' completions. F. H. Lahee. Oil & Gas J 31:33-4 Ap 6 '33

Geological report on Cut Bank field, Montana, outlines many interesting points of area. E. S. Perry. map Oil & Gas J 32:15+ J1 13 '33

Geology and oil possibilities of the Moab district, Grand and San Juan counties, Utah. A. A. Baker. fold maps U S Geol S Bul 841: 1-95, pl 1-11 '33

Geology and possibilities of oil in large area northeast of the defined east Texas field. L. Decker. diag map Oil & Gas J 31:12-13+ Ja 5 '33

**PETROLEUM—Geology—Continued**

- Geology and the new conception in pool development. F. H. Lahee. diags Am Pet Inst Proc (Production div) p5-7; Discussion. 7-8 Je '32
- Many interesting facts about oil accumulation revealed by examination of sands in place. L. G. E. Bignell. Oil & Gas J 31:33-4+ Ja 5 '33
- Migration of oil and natural gas. V. C. Illing. Inst Pet Tech J 19:229-60 [bibliog p258-60]; Discussion. 260-74 Ap '33
- Mud flow. C. C. Wilson. Inst Pet Tech J 19: 878-80; Discussion. 880-4 O '33
- Neues zur entstehung von kohle und erdöl. R. Potonié and C. Wicher. Angew Chem 45:802-3 D 31 '32
- Origin and environment of petroleum source sediments. M. E. Kelly. Inst Pet Tech J 19:117-41 [bibliog p141] F '33
- Origin and environment of source sediments of petroleum. P. D. Trask, H. E. Hammar and C. C. Wu. 323p [bibliog p309-10] \$6 Gulf pub. co, Houston, Texas '32
- Origin of petroleum. P. D. Trask. Science 77: sup12 My 26 '33
- Origin of the asphalt deposits of western Kentucky. W. L. Russell. map Econ Geol 28:571-86 S '33
- Progress of naphthology, 1932; geology of petroleum. V. C. Illing. bibliog Inst Pet Tech J 19:427-36 Je '33
- Recent studies with reference to the rôle of microorganisms in sediments. G. A. Thiel. Nat Research Council Bul 89:139-41 '32
- Report on survey of old Oil City district in Alberta. E. H. C. Craig. Oil & Gas J 32: 32 Jl 13 '33
- Results of the American petroleum institute research project on origin and environment of source sediments. P. D. Trask. il diag Am Pet Inst Proc 14M(4):19-30; Discussion. 30-1 My '33
- Some observations on the study of an oilfield. J. W. Weil. Inst Pet Tech J 18:881-9 N '32; Discussion. 18:890-7; 19:142-8, 223-6 N '32; F-Mr '33
- Studies of recent marine sediments conducted by the American petroleum institute. P. D. Trask. bibliog Nat Research Council Bul 89: 60-7 '32
- Study of overhanging salt on various domes of coastal Texas and Louisiana areas. S. A. Judson and R. A. Stamey. diag map Oil & Gas J 32:16, 30 O 12; 18, 22 O 19; 16+ N 9; 18-19 N 23 '33
- Try to iron out differences of opinion on paleontology in Gulf Coast area. N. Williams. Oil & Gas J 32:14+ Je 8 '33

**Mining process**

- Mining petroleum by underground methods. G. S. Rice. il diags U S Bur Mines Bul 351: 1-159 '32

**Mud fluids**

- Amorphous iron oxide is well suited for conditioning rotary drilling muds. L. G. E. Bignell. Oil & Gas J 32:42 Jl 13 '33
- Both geologists and drillers will be benefited by use of properly prepared rotary mud. L. G. E. Bignell. Oil & Gas J 31:16+ Mr 2 '33
- Chemical treatment of rotary drilling fluids; stabilization of weighted dispersions; effect of pH value. H. A. Ambrose and A. G. Loomis. bibliog il Ind & Eng Chem 25:1019-22 S '33
- Control of drilling fluid is an important factor in eliminating troubles from gas in Gulf coast. J. W. Graybeal. Oil & Gas J 31:28+ Ap 13 '33
- Formulas for calculating weight of drilling mud and application of gas cutting theory. E. J. Maust. Oil & Gas J 32:35 Ag 10 '33
- Good mud fluid and proper control devices aid in the safe drilling of rotary wells. E. P. Hubbard. Oil & Gas J 32:86-8 O 26 '33
- Patent covering the use of weighting materials in drilling mud upheld. Oil & Gas J 31:82 N 17 '32
- Rotary drilling mud. A. Reid. Inst Pet Tech J 19:455-8 Je '33

- Study of rotary drilling fluids. A. C. Rubel and others. bibliog Am Pet Inst Proc (Production div) p33-64 Je '32
- Use of lime in rotary mud. L. G. E. Bignell. Oil & Gas J 31:33 Mr 16 '33

**Paraffin problem**

- By following practices developed in other pools paraffin troubles minimized in east Texas. J. M. McQuarrie. Oil & Gas J 32:60+ Je 22 '33

**Patents**

- New patents. Published in National petroleum news

See also

- Petroleum refining—  
Patents

**Physiological effect**

- Relation of carcinogenicity of mineral oils to certain physical and chemical characteristics of these oils. R. Lyth. J Ind Hygiene 15:226-37 Jl '33

**Pressure measurement**

- Comparative data on bottom hole pressures and diameter of flow strings in Seminole pool. S. F. Shaw. Oil & Gas J 32:20+ Je 8 '33
- Method of prorating old oil fields by pressure control; Oklahoma City pool as an example. J. O. Lewis and H. F. Wright. Oil & Gas J 31:26+ Ap 13 '33
- New method of prorating east Texas forward step; may extend plan to cover all fields. L. G. E. Bignell. map Oil & Gas J 31:8-9 D 8 '32
- Pressure maintenance in east Texas. J. A. Ritter. maps Am Pet Inst Proc p29-37 sec 4 D '32; Same cond. Oil & Gas J 31:12-13 D 8 '32; Discussion. Am Pet Inst Proc p37-8 sec 4 D '32
- Proration as based upon bottom hole pressures and acreage most equitable and practical. J. O. Lewis and H. F. Wright. Oil & Gas J 31:45-6+ F 23 '33
- Rapid advance made in perfecting instruments for exact recording of subsurface pressure. D. G. Hawthorn. diags Oil & Gas J 31:16-17+ Ap 20 '33
- Reservoir conditions of gas saturated crude oil; abstract. D. Comins. Oil & Gas J 32: 42-3 Ag 10 '33
- Study of bottom hole samples of east Texas crude oil. B. E. Lindsly. bibliog diag Am Pet Inst Proc 14M(4):40-52 My '33; Same. U S Bur Mines Rep of Invest 3212:1-22 '33; Same. Oil & Gas J 32:13-16+ Je 1 '33
- Study of subsurface pressures and temperatures in flowing wells in the east Texas field and the application of these data to reservoir and vertical-flow problems. C. E. Reistle, jr. and E. P. Hayes. U S Bur Mines Rep of Invest 3211:1-17, 14 graphs '33; Same. Oil & Gas J 32:14, 16, 38-40 My 25 '33; Same. Am Pet Inst Proc 14M(4):53-64; Discussion. 64-9 My '33
- True conservation of oil and gas will follow application of bottom hole data to problem. J. O. Lewis and H. F. Wright. Oil & Gas J 31:14+ Ap 27 '33
- Why measure bottom hole pressures? H. D. Wilde, jr. diags Am Pet Inst Proc (Production div) p77-82; Discussion. 82-3 Je '32

**Prices**

- Continental oil co. leads in an effort to find satisfactory compromise price for crude. J. McIntyre. Oil & Gas J 32:8+ Jl 13 '33
- Cost recovery suggested in lieu of price-fixing, in code. Nat Pet N 25:20-1 Ag 23 '33
- Crude oil price changes first six months 1933. Oil & Gas J 32:91, 93-4 Jl 27 '33
- Crude produced in disregard of proration pulled down Mid-continent prices. L. E. Smith. Nat Pet N 25:19-20+ Ja 25 '33
- Debate on price fixing in oil code carries on in New York papers. Nat Pet N 25:9-12 Ag 30 '33
- Dollar oil dead. il Business Week p8-9 D 23 '32
- Downward revision of crude prices made in all fields excepting California and East. Oil & Gas J 31:14 D 22 '32



**PETROLEUM—Prices—Continued**

- Every division east of California given deep cuts in recent price changes. Oil & Gas J 31:16 Ja 26 '33
- Excessive gasoline tax a handicap to industry in effort to effect recovery under the code. W. T. Ziegenhain. Oil & Gas J 32:7-8 Ag 31 '33
- Five sets of crude oil prices prevail in Mid-continent. L. E. Smith. Nat Pet N 25:17-18 Jl 12 '33
- General crude price advance is on in Mid-continent and Texas. L. E. Smith. Nat Pet N 25:21 Jl 5 '33
- Government use of group 3 as basis for prices in code follows usual practice of industry. C. O. Willson. map Oil & Gas J 32:6+ Ag 31 '33
- New cuts carry Mid-continent crude to lowest level for 1932. Nat Pet N 24:20 D 21 '32
- Petroleum price inquiry to be made by F.T.C. Oil Paint & Drug Rep 123:30 Mr 6 '33
- Petroleum prices are set by administrator. Oil Paint & Drug Rep 124:16+ O 23 '33
- Price-fixing under the oil code; some new problems which must be solved. W. W. Hay. Annalist 42:339-40 S 15 '33
- Price sections of code continue recent refinery losses. Nat Pet N 25:17-18 Ag 23 '33
- Senator Thomas asks inquiry of price cuts and other phases of business. C. E. Kern. Oil & Gas J 31:12 Ja 26 '33
- Stanolind cuts crude 25 cents per bbl. in Kansas, Oklahoma and north Texas. Oil & Gas J 31:32 Ja 19 '33
- Statement on effects of marginal crude prices. H. Bennette. Nat Pet N 25:9-11 Ja 4 '33
- Summary of changes in crude oil prices during year 1932. Oil & Gas J 31:115-16 Ja 26 '33
- Text of Ickes' order fixing oil prices. Nat Pet N 25:13-17 O 18 '33
- When the independent refiner made the crude oil market with generous premium prices. J. McIntyre. Oil & Gas J 32:18+ Je 8 '33
- Wilcox plan of basing crude oil prices defended. A. L. Derby. Nat Pet N 25:23-4 F 8 '33

**Production costs**

- Comparative costs of co-operative and competitive development of pools. Oil & Gas J 31:78 Ap 6 '33

**Production estimates**

- Determination of permeability from field data. T. V. Moore, R. J. Schilthuis and W. Hurst. bibliog Am Pet Inst Proc 14M(4): 4-11 My '33; Same. Oil & Gas J 32:58+ My 25 '33; Discussion. Am Pet Inst Proc 14M(4):11-13 My '33
- Effect of well spacing on ultimate recovery in the Santa Fe Springs field. A. S. Hayes. Am Pet Inst Proc (Production div) p19 Je '32
- First approximation of comparative ultimate yields of oil with varied well spacing. F. E. Wood. Am Pet Inst Proc 14M(4):14-18 My '33
- Relation of oil recovery to well spacing. R. W. Phelps. Am Pet Inst Proc p93-8; Discussion. 98-100 sec 4 D '32

**Production methods**

- Behaviour of restricted wells; discussion. Inst Pet Tech J 19:863-77 O '33
- Big Lake oil field, Reagan county, Texas. E. V. Foran. diags Am Pet Inst Proc p61-4 sec 4 D '32; Abstract. Oil & Gas J 31:11 N 24 '32; Discussion. Am Pet Inst Proc p64-6 sec 4 D '32
- Changed conditions in the Oklahoma City field create new problems for production men. L. G. E. Bignell. Oil & Gas J 32:8-9+ Jl 27 '33
- Changing conditions in Oklahoma City oil field will necessitate mechanical lifting soon. S. F. Shaw. Oil & Gas J 31:8 D 1 '32
- Characteristics of edgewater encroachment in California oil fields. V. H. Wilhelm, E. L. Davis and W. A. Clark. bibliog Min & Met 14:423-5 O '33

- Comparative data on bottom hole pressures and diameter of flow strings in Seminole pool. S. F. Shaw. Oil & Gas J 32:20+ Je 8 '33
- Coring should be a part of regular production practice and not be viewed as a luxury. Oil & Gas J 32:29-30 Jl 27 '33
- Development of acid treatment of oil wells involves careful study of problems of each. S. W. Putnam. Oil & Gas J 31:8+ F 23 '33
- Discussion of the merits of tapered flow columns. J. T. Hayward. diags Am Pet Inst Proc p67-72 sec 4 D '32; Same. Oil & Gas J 31:78+ N 17 '32
- Dow chemical co. forms oil well treating unit, Dowell incorporated. Oil Paint & Drug Rep 122:17 D 5 '32
- Dowell process to increase oil production. S. Putnam. Ind & Eng Chem News ed 11: 51-2 F 20 '33
- East Texas field now entering transition period from natural flow to mechanical production. L. G. E. Bignell. Oil & Gas J 32: 11+ Je 15 '33
- East Texas field will be the proving ground for many different types of equipment. L. G. E. Bignell and others. il Oil & Gas J 32:37+ Je 22 '33
- Effect of past production practice and waste of gas now apparent in Oklahoma City pool. L. G. E. Bignell. diags Oil & Gas J 32:22+ Ag 31 '33
- Effect of ratable production on ultimate recovery. E. V. Foran. map Am Pet Inst Proc (Production div) p72-6 Je '32
- Equipment of east Texas wells for mechanical production now regarded as wise policy. L. G. E. Bignell. diags Oil & Gas J 32: 11-12 Ag 3 '33
- Gas-air repressuring in eastern field solves the sand problem which banned flooding. R. C. Conine. Oil & Gas J 32:13 N 2 '33
- Importance of free-gas control in maximum oil recovery. J. R. McWilliams. Am Pet Inst Proc p11-13 sec 4 D '32; Same. Oil & Gas J 31:12-13 N 24 '32; Discussion. Am Pet Inst Proc p13-15 sec 4 D '32
- Improved demand for crude oil and its products stimulating work of reconditioning wells. L. G. E. Bignell. Oil & Gas J 32:8 N 2 '33
- Intermittent application of pressure for drive is suggested as means of efficient operation. E. G. Woodruff. Oil & Gas J 32:13 Je 8 '33
- Kettleman Hills development and production problems. E. G. Gaylord. Am Pet Inst Proc p40-5; Discussion. 45 sec 4 D '32
- Loose sand fields require different procedure in proration than the fields of tight sand. J. O. Lewis and H. F. Wright. bibliog Oil & Gas J 32:15+ Je 15 '33
- Modern developments in the raising of oil; abstract. S. F. Shaw. Oil & Gas J 32:43 Ag 10 '33
- New production methods have been applied to wells in Government Wells field, Texas. S. F. Shaw. il diags Oil & Gas J 32:71-2 Je 22 '33
- New production methods insure adequate supply of Pennsylvania crude. L. E. Smith. il Nat Pet N 25:45-6+ Mr 15 '33
- Oklahoma City field will afford opportunity for many types of pumping equipment. L. G. E. Bignell. Oil & Gas J 31:10+ F 9 '33
- Operation of small wells in California. C. L. Moore. bibliog il diags Am Pet Inst Proc (Production div) p91-108; Discussion. 109-10 Je '32
- Operators in Oklahoma City field are engaged in running tubing and installing compressors. L. G. E. Bignell. Oil & Gas J 32:31 Ag 31 '33
- Practical benefits of pressure maintenance in petroleum production. W. N. Lacey. il Am Pet Inst Proc p16-26 sec 4 D '32; Same cond. Oil & Gas J 31:49+ N 17 '32; Discussion. Am Pet Inst Proc p26-8 sec 4 D '32
- Present tendency in the development of new methods in the production of crude oil. R. M. Carr. diags Oil & Gas J 31:33-5 F 23 '33; Abstract. Mech Eng 55:313-14 My '33
- Production engineering; progress reported in many directions. E. A. Stephenson. Min & Met 14:28 Ja '33

**PETROLEUM**—Production methods—*Continued*  
 Progress of naphthology, 1932; production. L. W. Rogers and others. *Inst Pet Tech J* 19:467-79 Je '33  
 Rejuvenation of oil fields by water flooding methods; abstract. K. B. Nowels. *Oil & Gas J* 32:16 Ag 10 '33  
 Remarkable example of shallow production in backyard wells at Blackwell, Oklahoma. L. G. E. Bignell. *Oil & Gas J* 32:13+ Ag 24 '33  
 Report of the committee on production practice to the board of directors of the American petroleum institute. *Am Pet Inst Proc* p107-8 sec 4 D '32; Same. *Oil & Gas J* 31:11+ Ja 12 '33  
 Repressuring wells with air and gases is proved successful in Pennsylvania field. H. Little. *Oil & Gas J* 32:9+ O 12 '33  
 Some observations on the study of an oil-field. J. W. Weil. *Inst Pet Tech J* 18:881-9 N '32; Discussion. 18:890-7; 19:142-8, 223-6 N '32, F-Mr '33  
 Some of the theoretical and practical aspects of the acid treatment of limestone wells. M. E. Chapman. *Oil & Gas J* 32:10+ O 12 '33  
 Source of energy involved in driving oil to well; abstract. J. Versluys. *Oil & Gas J* 32:16 Ag 10 '33  
 Study of subsurface pressures and temperatures in flowing wells in the east Texas field and the application of these data to reservoir and vertical-flow problems. C. E. Reistle, Jr. and E. P. Hayes. *U S Bur Mines Rep of Invest* 3211:1-17, 14 graphs '33; Same. *Oil & Gas J* 32:14, 16, 38-40 My 25 '33; Same. *Am Pet Inst Proc* 14M(4):53-64; Discussion. 64-9 My '33  
 System of power lines will make electricity available to all Oklahoma City operators. *map Oil & Gas J* 32:36 Ag 31 '33  
 Trucks obsolete for transport use serve on lease pulling wells. W. F. Lowe. *Oil & Gas J* 32:24 D 7 '32  
 Value of gas conservation and efficient use of a natural water-drive as demonstrated by laboratory models. H. D. Wilde, Jr. *Am Pet Inst Proc* p4-10 sec 4 D '32  
 Water flooding. L. G. E. Bignell. *Oil & Gas J* 32:43 Jl 13 '33  
 Well spacing, proration and production practice formed the major part of A.P.I. program. *Oil & Gas J* 32:13 My 25 '33  
*See also*  
**Petroleum—Mining process**  
**Petroleum—Mud fluids**  
**Petroleum—Pumping**  
**Petroleum—Unit operation of pools**  
**Petroleum—Well boring**

**Production rate**  
 Working-barrel capacity chart of advantage in making estimates of operating conditions. *Oil & Gas J* 32:51 Je 22 '33

**Proration**  
 A.I.M.E. stabilization forum; prime requisites for a proration system. J. O. Lewis. *Oil & Gas J* 32:9-10 Jl 13 '33  
 Crude produced in disregard of proration pulled down Mid-continent prices. L. E. Smith. *Nat Pet N* 25:19-20+ Ja 25 '33  
 Directors of Institute stand by proration policy and urge strict compliance with the law. *Oil & Gas J* 31:8+ F 16 '33  
 Economics of proration. E. H. Griswold. *Am Pet Inst Proc* 14M(4):72-5 My '33; Same. *Oil & Gas J* 32:14+ Jl 20 '33; Conclusions. *Nat Pet N* 25:20 My 24 '33; Discussion. *Am Pet Inst Proc* 14M(4):75-6 My '33  
 Fines and imprisonment for violators provided in proposed proration law in Oklahoma. *Oil & Gas J* 31:10+ F 23 '33  
 Heavy fines and imprisonment for violators of proration law now in effect in Oklahoma. *Oil & Gas J* 31:24+ Ap 13 '33  
 Industry is called on to support enforcement of proration. *Nat Pet N* 25:21-2 F 15 '33  
 Labor proration in California; abstract. A. C. Rubel. *Nat Pet N* 25:20 My 24 '33

Loose sand fields require different procedure in proration than the fields of tight sand. J. O. Lewis and H. F. Wright. *Oil & Gas J* 32:15+ Je 15 '33  
 Method of proration old oil fields by pressure control; Oklahoma City pool as an example. J. O. Lewis and H. F. Wright. *Oil & Gas J* 31:26+ Ap 13 '33  
 New east Texas proration plans heard by State commission; Oklahoma proration. *Nat Pet N* 25:20-4 Mr 1 '33  
 New method of proration east Texas forward step; may extend plan to cover all fields. L. G. E. Bignell. *map Oil & Gas J* 31:8-9 D 8 '32  
 Oil control; prorationing weakened by dropping demand, obvious evasion, and legislative uncertainty. *Business Week* p10 Ja 25 '33  
 Oil proration; an analysis and evaluation. G. W. Stocking. *J Land & Pub Util Econ* 9:135-44 My '33  
 Policies discussed to aid states in enforcing proration. *Nat Pet N* 25:20+ Mr 15 '33  
 Present east Texas order furnishes basis for proration on capacity per well. L. G. E. Bignell. *Oil & Gas J* 31:28 Mr 23 '33  
 Procedure in enforcing proration clarified by court decision. L. E. Smith. *Nat Pet N* 25:23-4 F 15 '33  
 Proration administration attacked in court and by legislature. *Nat Pet N* 25:4+ F 1 '33  
 Proration as based upon bottom hole pressures and acreage most equitable and practical. J. O. Lewis and H. F. Wright. *Oil & Gas J* 31:45-6+ F 23 '33  
 Proration enforcement improved in east Texas field. P. Wagner. *Nat Pet N* 25:17-18 F 8 '33  
 Proration, for or against, pay your money and take your choice. L. E. Smith. *Nat Pet N* 25:13-14 Ja 11 '33  
 Proration plan works in Pennsylvania. *Nat Pet N* 25:50 Mr 15 '33  
 Proration under attack in east Texas, Oklahoma City. L. E. Smith. *Nat Pet N* 24:17-18 D 21 '32  
 Purpose of monopoly in proration. J. E. Jones. 23p J. Edward Jones, 342 Madison av, New York '33  
 Question of continuing proration now agitating many oil men dissatisfied with conditions. A. M. Rowley. *Oil & Gas J* 31:7 F 2 '33  
 Recommend policies to oil buyers to aid proration enforcement. *Nat Pet N* 25:10-11 Mr 22 '33  
 Review of petroleum problems in 1932; the industry's proration program is vigorously criticized. J. E. Jones. *Il Bradstreet's* 61:205-6 Ja 28 '33  
 Seek scientific proration method in supplemental Calif. code. *Nat Pet N* 25:13-14 O 11 '33  
 True conservation of oil and gas will follow application of bottom hole data to problem. J. O. Lewis and H. F. Wright. *Oil & Gas J* 31:14+ Ap 27 '33

**Prospecting**  
 Aircraft in relation to petroleum technology; use for survey and transport. H. Hemming. *Il maps Inst Pet Tech J* 19:73-90 F '33; Same. *Roy Aeronautical Soc J* 37:864-81 O '33; Discussion. *Inst Pet Tech J* 19:97-116 F '33; Same. *Roy Aeronautical Soc J* 37:886-99 O '33  
 Geophysical work in the oil fields. P. Weaver. *Min & Met* 14:29-30 Ja '33  
 Sixty-three discoveries of pools on Gulf Coast are credited to the use of geophysics. N. Williams. *maps Oil & Gas J* 32:10-11+ O 5 '33  
 Use of modern engineering methods will solve many of the problems of unit operation. L. G. E. Bignell. *Oil & Gas J* 31:28+ N 17 '32

**Pumping**  
 Air-gas lifts will find ready application to production conditions in east Texas pool. *Il Oil & Gas J* 32:55 Je 22 '33



**PETROLEUM—Pumping—Continued**

- Anticipating pumping conditions in east Texas permits the careful selection of equipment. L. G. E. Bignell. *il Oil & Gas J* 31:10-11 Ja 26 '33
- Application of the jet pump to oil-well pumping. M. P. O'Brien and J. E. Gosline. *diags Am Pet Inst Proc* 14M(4):34-8 My '33; Same. *Oil & Gas J* 32:57+ My 25 '33; Discussion. *Am Pet Inst Proc* 14M(4):38-9 My '33
- Best of equipment available will be necessary to secure future oil from east Texas wells. *Oil & Gas J* 32:16+ JI 27 '33
- Central powers, pumping units and steel fronts will be extensively used in east Texas. *il Oil & Gas J* 32:41+ Je 22 '33
- Company in east Texas installs central electric power generating plants on various leases. L. G. E. Bignell. *Oil & Gas J* 32:14+ JI 27 '33
- Conditions under which gas and liquid mixtures rise. J. Versluys. *il Inst Pet Tech J* 19:694-700 Ag '33
- Development in pumping wells; abstract. H. N. Marsh. *Oil & Gas J* 32:32+ Ag 31 '33
- Developments in the electrical industry during 1932; oil wells. J. Liston. *il Gen Elec R* 36:28-9 Ja '33
- Economies effected by the chemical treatment of cooling waters used for pumping engines. H. M. McClain. *Oil & Gas J* 31:37+ F 23 '33
- Erdölförderung durch strahlapparat. P. Schmidt. *diag Zeit Ver Deutsch Ing* 76:1301 D 31 '32
- Further application of pneumatic cylinders to pumping wells being made in east Texas. H. B. Thomson. *il diag Oil & Gas J* 32:68+ Je 22 '33
- Gas lift to be applied to Oklahoma City wells as the natural formation pressures decline. S. F. Shaw. *il Oil & Gas J* 32:27-8 Ag 31 '33
- Many types of rodless pumping units available for producing wells in the east Texas field. *il Oil & Gas J* 32:74+ Je 22 '33
- Modern practice of engineering has simplified design of air-gas lift compressor plants. L. G. E. Bignell. *il Oil & Gas J* 32:49+ O 12 '33
- Operation of small wells in California. C. L. Moore. *bibliog il diags Am Pet Inst Proc (Production div)* p91-103; Discussion. 109-10 Je '32
- Present tendency in the development of new methods in the production of crude oil. R. M. Carr. *diags Oil & Gas J* 31:33-5 F 23 '33; Abstract. *Mech Eng* 55:313-14 My '33
- Principles of gaslift. J. Versluys. *diags Inst Pet Tech J* 19:687-93 Ag '33
- Proper diameter pump for oil well and rough method to use to determine the diameter. A. Allen, jr. *Oil & Gas J* 31:40-1+ F 23 '33
- Pump outfits will operate better if equipped with properly designed counterbalances. *Oil & Gas J* 32:58 Je 22 '33
- Pumping east Texas will handicap the shoe-string operators. W. F. Lowe. *il Nat Pet N* 25:31-2 Je 14 '33
- Selection and rating of oil well pumping units. B. Thomas. *il Am Pet Inst Proc* p73-9 sec 4 D '32
- Stationary-spindle design for oilbath geared powers suitable for east Texas conditions. K. Chickering. *Oil & Gas J* 32:98 JI 27 '33
- Steel front walking beam and self contained pumping units find favor in east Texas. *il plan Oil & Gas J* 32:44+ Je 22 '33
- Sucker and pull rods will play important part in pumping and careful selection necessary. C. L. Shirley. *Oil & Gas J* 32:49+ Je 22 '33
- Topography and well conditions in east Texas permit use of central pumping power units. *il Oil & Gas J* 32:52 Je 22 '33
- Use of kick-off couplings in deep gas-lift oil wells. *Oil & Gas J* 32:38 Ag 31 '33

**Statistics**

- Crude oil production in United States in 1932 falls to 6-year low of 785,304,403 bbls. J. McIntyre. *Oil & Gas J* 31:62-3+ Ja 26 '33
- Progress of naphthology, 1932; statistics. G. Sell. *Inst Pet Tech J* 19:673-7 JI '33

World's proven oil reserves are far from impressive compared to other products. V. R. Garfias. *Oil & Gas J* 31:31 F 23 '33

**Sulfur content**

- Refining of Playa Del Rey crude oil presents unusual problems due to sulphur content. O. C. Smith and H. H. Spangler. *Oil & Gas J* 31:75-6 Mr 30 '33
- Removal of sulphur compounds from petroleum distillates. H. N. Holmes, A. L. Elder and N. Beeman. *diags J Phys Chem* 36:2981-93 D '32

**Testing**

- Progress of naphthology, 1932; analysis and testing. W. H. Thomas. *bibliog Inst Pet Tech J* 19:636-51 JI '33
- Progress of naphthology, 1932; standard methods of testing petroleum and its products. J. S. S. Brame. *Inst Pet Tech J* 19:652-4 JI '33

**Tideland development**

- Steel island for offshore oil drilling. W. A. Sawdon. *il diags Eng N* 110:400-1 Mr 30 '33
- Unique features in steel island constructed for drilling in the Pacific 2,700 feet from shore. L. P. Stockman. *il Oil & Gas J* 31:13+ D 1 '32

**Transportation**

- I.C.C. investigating demurrage dodge of hot oil shippers. *Nat Pet N* 25:24B O 18 '33
- Possible changes in unfavorable tanker situation in 1933. *Oil & Gas J* 31:26+ F 2 '33
- Proposal for pooling of tankers causes protest; plan is to make vessels common carriers. C. E. Kern. *Oil & Gas J* 31:10 D 8 '32
- Summary of agreement on new tanker pool; essential features of plan are outlined. C. E. Kern. *Oil & Gas J* 31:10+ D 8 '32

**See also**

- |                      |             |
|----------------------|-------------|
| Petroleum pipe lines | Tank cars   |
| Petroleum shipping   | Tank ships  |
| terminals            | Tank trucks |

**Unit operation of pools**

- Comparative costs of co-operative and competitive development of pools. *Oil & Gas J* 31:78 Ap 6 '33
- Complete Kettleman Middle Dome unit operation plan. *Nat Pet N* 25:20 Ag 9 '33
- Oil's well? C. S. Trumbull. *il Credit & Fin Management* 35:10-11+ F '33
- Use of modern engineering methods will solve many of the problems of unit operation. L. G. E. Bignell. *Oil & Gas J* 31:28+ N 17 '32

**Water problem**

- Characteristics of edgewater encroachment in California oil fields. V. H. Wilhelm, E. L. Davis and W. A. Clark. *bibliog Min & Met* 14:423-5 O '33
- Contribution to the study of oil-field water analysis. A. H. K. Radjy and C. E. Wood. *Inst Pet Tech J* 19:845-62 O '33
- East Texas field now entering transition period from natural flow to mechanical production. L. G. E. Bignell. *Oil & Gas J* 32:11+ Je 15 '33
- Equipment of east Texas wells for mechanical production now regarded as wise policy. L. G. E. Bignell. *diags Oil & Gas J* 32:11-12 Ag 3 '33
- Inequalities of east Texas proration orders are made apparent by study of field section. L. G. E. Bignell. *Oil & Gas J* 32:9+ Je 8 '33
- Some methods in oilfield water analysis. W. A. Macfadyen. *Inst Pet Tech J* 19:679-86 Ag '33
- Study of water problem in east Texas indicates best solution is not to produce the water. N. Williams. *Oil & Gas J* 32:15 Ag 24 '33

**Well boring**

- Amorphous iron oxide is well suited for conditioning rotary drilling muds. L. G. E. Bignell. *Oil & Gas J* 32:42 JI 13 '33
- Both geologists and drillers will be benefited by use of properly prepared rotary mud. L. G. E. Bignell. *Oil & Gas J* 31:16+ Mr 2 '33

**PETROLEUM—Well boring—Continued**

California well breaks world's depth record; still drilling and may go to 11,000 feet. L. P. Stockman. *il Oil & Gas J* 31:35-6+ My 4 '33

Chemical treatment of rotary drilling fluids; stabilization of weighted dispersions; effect of pH value. H. A. Ambrose and A. G. Loomis, bibliog *il Ind & Eng Chem* 25:1019-22 S '33

Cleaning and deepening wells in Yates pool by use of special small rotary outfit. L. G. E. Bignell. *il Oil & Gas J* 32:10+ S 14 '33

Control of drilling fluid is an important factor in eliminating troubles from gas in Gulf coast. J. W. Graybeal. *Oil & Gas J* 31:28+ Ap 13 '33

Coring should be a part of regular production practice and not be viewed as a luxury. *Oil & Gas J* 32:29-30 Jl 27 '33

Deepening Persian wells through producing zones; abstract. L. D. Scott. *Oil & Gas J* 32:43 Ag 10 '33

Deepest well in the United States; Western gulf oil co.'s Bradley 1. *il Elec J* 30:23 Ja '33

Diesel engine for slush-pump drive. *il diag Engineering* 135:594-5 Je 2 '33

Drilling and control of high pressure wells; abstract. M. C. Seamark. *Oil & Gas J* 32:42 Ag 10 '33

Drilling practices and economies in the Oklahoma City field. K. A. Covell and C. P. Parsons. *Am Pet Inst Proc* p46-50 sec 4 D '32; Same. *Oil & Gas J* 31:48+ N 17 '32; Discussion. *Am Pet Inst Proc* p50-2 sec 4 D '32

Fluid friction principle is successfully applied to brakes for drawworks and sand reels. L. G. E. Bignell. *il Oil & Gas J* 31:33+ My 18 '33

Formulas for calculating weight of drilling mud and application of gas cutting theory. E. J. Maust. *Oil & Gas J* 32:35 Ag 10 '33

Good mud fluid and proper control devices aid in the safe drilling of rotary wells. E. P. Hubbard. *Oil & Gas J* 32:86-8 O 26 '33

Interesting rotary core-barrel record is made in Montebello deep test. *il Oil & Gas J* 32:71 Ag 24 '33

Kettleman Hills development and production problems solved by modern engineering. E. G. Gaylor. *Oil & Gas J* 31:61+ N 17 '32

Mass wildcat drilling plant in Wharton county; eight simultaneous tests by one company. N. Williams. map *Oil & Gas J* 32:10, 12 Ag 31 '33

Patent has been granted to Erle P. Halliburton for method of testing drilled formations. *diags Oil & Gas J* 32:16 O 19 '33

Rotary drilling. R. Harcus. *Inst Pet Tech J* 19:459-61 Je '33

Safety precautions in drilling wells for gas and oil. C. F. Huff. *Am Gas Assn Mo* 15:388-9 S '33

Special precautions needed in drilling to prevent drainage to water supply. W. A. Spinnery. *il Oil & Gas J* 31:52 F 23 '33

Statistical analysis of the relationship between recovery and characteristics of well cores. R. W. Brauchli. *Oil & Gas J* 32:12+ Je 1 '33

Study of rotary drilling fluids. A. C. Rubel and others. bibliog *Am Pet Inst Proc* (Production div) p33-64 Je '32

Sub-surface economies in drilling. B. Barkis and R. D. Copley. *il Am Pet Inst Proc* p53-9 sec 4 D '32; Same. *Oil & Gas J* 31:53-4+ N 17 '32; Discussion. *Am Pet Inst Proc* p59-60 sec 4 D '32

Variable-voltage oil drilling equipment. A. H. Albrecht. *il diags Elec Eng* 52:617-21 S '33

Yount Lee test breaks Gulf Coast depth record with remarkable equipment performance. N. Williams. *il Oil & Gas J* 32:36+ Ag 10 '33

**Fire hazard**

Oil well drilling may be extended in Oklahoma City area. *East Underw* 34:1+ Je 30 '33

See also  
Oil fires

**Well casing**

Well equipment. W. Wade. *Inst Pet Tech J* 19:459-61 Je '33

**Well cementing**

Cement. A. Reid. *Inst Pet Tech J* 19:461-2 Je '33

**Well cleaning**

Cleaning and deepening wells in Yates pool by use of special small rotary outfit. L. G. E. Bignell. *il Oil & Gas J* 32:10+ S 14 '33

Cleaning out wells will be one of the early problems confronting east Texas operators. *Oil & Gas J* 32:60+ Je 22 '33

Modern cleaning out methods will improve ultimate oil recovery of east Texas field; discussion of materials found in well cores. L. G. E. Bignell. map *Oil & Gas J* 32:15+ S 7 '33

Modern cleanout methods available for deep wells. *Oil & Gas J* 32:35+ Ag 31 '33

Production engineers will be next concerned with cleaning and reconditioning wells. L. G. E. Bignell. *Oil & Gas J* 31:11-12 Ja 12 '33

**Well control**

Drilling and control of high pressure wells; abstract. M. C. Seamark. *Oil & Gas J* 32:42 Ag 10 '33

Engineers testing skill against wild well which has flowed unrestrained at Conroe for months. N. Williams. *il Oil & Gas J* 32:12+ N 2 '33

Rapid succession of gas blowouts and craters following increase in coastal wildcatting. N. Williams. *il Oil & Gas J* 32:8+ Jl 6 '33

**Well spacing**

Determination of permeability from field data. T. V. Moore, R. J. Schilthuis and W. Hurst. bibliog *Am Pet Inst Proc* 14M(4):4-11 My '33; Same. *Oil & Gas J* 32:58+ My 25 '33; Discussion. *Am Pet Inst Proc* 14M(4):11-13 My '33

Effect of additional wells on ultimate yield. J. J. Zorichak. *Am Pet Inst Proc* p91-2 sec 4 D '32

First approximation of comparative ultimate yields of oil with varied well spacing. F. E. Wood. *Am Pet Inst Proc* 14M(4):14-18 My '33

Hydrodynamics of reservoir drainage and its relation to well spacing. H. D. Wilde, jr. and T. V. Moore. bibliog *Am Pet Inst Proc* p83-90 sec 4 D '32

Principles governing well locations on structures; abstract. J. Versluys. *Oil & Gas J* 32:16 Ag 10 '33

Relation of oil recovery to well spacing. R. W. Phelps. *Am Pet Inst Proc* p93-8; Discussion. 98-100 sec 4 D '32

Symposium on well spacing. F. E. Wood and others. *Am Pet Inst Proc* (Production div) p14-29 Je '32

Well spacing in the Bradford field. K. B. Nowels and N. E. Maxwell. *Am Pet Inst Proc* p101-2; Discussion. 102-3 sec 4 D '32

Well spacing, proration and production practice formed the major part of A.P.I. program. *Oil & Gas J* 32:13 My 25 '33

**Well surveying**

Well surveying. P. Evans. *Inst Pet Tech J* 19:463-6 Je '33

**Well testing**

Patent has been granted to Erle P. Halliburton for method of testing drilled formations. *diags Oil & Gas J* 32:16 O 19 '33

**Well tubing**

Corrosion of oil-well tubing. W. F. Rogers. *il Am Pet Inst Proc* 14M(4):86-90 My '33; Same. *Oil & Gas J* 32:61+ My 25 '33; Discussion. *Am Pet Inst Proc* 14M(4):90-2 My '33

Deep well in Oklahoma City brought in through tubing by application of new method. L. G. E. Bignell. *il Oil & Gas J* 31:50+ F 23 '33

Effect of past production practice and waste of gas now apparent in Oklahoma City pool. L. G. E. Bignell. *diag Oil & Gas J* 32:22+ Ag 31 '33



## PETROLEUM—Continued

## Alberta, Canada

- Report on survey of old Oil City district in Alberta. E. H. C. Craig. Oil & Gas J 32: 32 J1 13 '33  
 Service on new fields; Turner Valley, Alberta, Canada. Oil & Gas J 31:27+ Ap 27 '33

## Austria

- Austrians rejoicing over discovery of oil and gas near Vienna. Oil & Gas J 31:31 Ja 5 '33

## California

- California well breaks world's depth record; still drilling and may go to 11,000 feet. L. P. Stockman. Oil & Gas J 31:35-6+ My 4 '33  
 Characteristics of edgewater encroachment in California oil fields. V. H. Wilhelm, E. L. Davis and W. A. Clark. bibliog Min & Met 14:423-5 O '33  
 Effect of well spacing on ultimate recovery in the Santa Fe Springs field. A. S. Hayes. Am Pet Inst Proc (Production div) p19 Je '32  
 Refining of Playa Del Rey crude oil presents unusual problems due to sulphur content. O. C. Smith and H. H. Spangler. Oil & Gas J 31:75-6 Mr 30 '33  
 Service on new fields; Kettleman Hills, Fresno, Kings and Kern counties, California. Oil & Gas J 31:33, 35 N 24; 35+ D 8 '32  
 Several angles to problem of securing quality kerosenes from crude oils in California. G. H. Van Senden. Oil & Gas J 32:14+ Ag 3 '33

## Chile

- Possibilities for oil in Chile. C. M. Hardman. Oil & Gas J 31:16 Mr 30 '33

## Colorado

- Careful study of geology of eastern Colorado indicates many oil and gas possibilities. R. M. Van Tuyl and B. H. Parker. map Oil & Gas J 31:12-13+ Mr 9 '33

## Estonia

- High quality motor fuels and other products are obtainable from Estonian shale oils. G. Egloff and E. F. Nelson. Oil & Gas J 31:14 Ja 12 '33

## France

- Mining petroleum by underground methods. G. S. Rice. il diags U S Bur Mines Bul 351: 1-159 '32

See also

- Oil shales—France

## France (colonies)

- La pétrole dans les colonies françaises et dans les pays de protectorat. C. Berthelot. bibliog il diags map Chimie & Ind 29:1222-33 My '33

## Germany

- Deutschlands versorgung mit mineralölen und bituminösen strassenbaustoffen. C. Walther. Zeit Ver Deutsch Ing 77:1153-6 O 28 '33  
 Gründung der Deutschen gesellschaft für erdölforschung in Berlin. Angew Chemie 46: 328-31 Je 3 '33  
 Mining petroleum by underground methods. G. S. Rice. il diags U S Bur Mines Bul 351: 1-159 '32  
 Nationale gemeinschaftsarbeit in der deutschen mineralölwirtschaft. diags Zeit Ver Deutsch Ing 77:118-19 J1 1 '33  
 Physikalische und chemische eigenschaften norddeutscher erdöle; abstract. G. Keppeler. Angew Chemie 46:405 Je 24 '33

## Gulf Coast region

- Sealing effect of rotary mud on productive sands in the Southwestern district. S. Gill. Am Pet Inst Proc (Production div) p42-51; Discussion. 59-64 Je '32  
 Sixty-three discoveries of pools on Gulf Coast are credited to the use of geophysics. N. Williams. maps Oil & Gas J 32:10-11+ O 5 '33

## Illinois

- Illinois petroleum. Published about twice a year by Illinois state geological survey, Urbana

## Japan

- Japan strikes oil; experts turn Manchurian coal into the long-sought essential. Business Week p20-1 D 7 '32

## Kansas

- Potential of Kansas fields drops 27 per cent in six months. Nat Pet N 25:16 Ap 19 '33

## Kentucky

- Next oil pool. W. R. Jilison. 116p [bibliog p97-103] Transylvania ptg. co, Lexington, Ky. '32

- Southwestern Kentucky counties are studied for their oil and natural gas possibilities. D. Hager. map Oil & Gas J 32:18+ Ag 24 '33

## Louisiana

- Study of overhanging salt on various domes of coastal Texas and Louisiana areas. S. A. Judson and R. A. Stamey. diag map Oil & Gas J 32:16, 30 O 12; 18, 22 O 19; 16+ N 9; 18-19 N 23 '33

## Mexico

- Varying properties of Mexican crudes reflected in processing methods of refinery operators. E. F. Nelson and G. Egloff. Oil & Gas J 31:16+ Mr 9 '33

## Michigan

- Michigan railroads can lease right of way for oil. Oil & Gas J 32:31 Je 29 '33  
 Oil and natural gas situation in Michigan. Am Gas J 138:11 Mr '33  
 Service on new fields; Mount Pleasant field of central Michigan. Oil & Gas J 32:55+ J1 20 '33

## Mid-continent field

- Contributions of petroleum geology to pure geology in the southern Mid-continent area. F. H. Lahee. maps Geol Soc Bul 43:953-64 [bibliog p962-4] D '32  
 Effect of ratable production on ultimate recovery. E. V. Foran. map Am Pet Inst Proc (Production div) p72-6 Je '32  
 Sealing effect of rotary mud on productive sands in the Mid continent district. C. P. Parsons. il Am Pet Inst Proc (Production div) p52-8 Je '32

## Montana

- Geological report on Cut Bank field, Montana, outlines many interesting points of area. E. S. Perry. map Oil & Gas J 32:15+ J1 13 '33

## New Mexico

- Oil and gas resources of New Mexico. D. E. Winchester. diags pls maps New Mexico School of Mines State Bur of Mines and Mineral Resources Bul 9:1-223 [bibliog p216-18] '33

## Oklahoma

- Analyses of crude oils from the Oklahoma City field, Oklahoma. E. L. Garton. U S Bur Mines Rep of Invest 3180:1-29 '32  
 Facts and figures on the Wilcox sand at Oklahoma City. D. R. Knowlton, H. C. Charles and D. A. McGee. maps Am Pet Inst Proc (Production div) p84-90 Je '32  
 Oklahoma City potentials cut in half by new flow tests. W. F. Lowe. Nat Pet N 25:19 Ap 26 '33  
 Remarkable example of shallow production in backyard wells at Blackwell, Oklahoma. L. G. E. Bignell. il Oil & Gas J 32:13+ Ag 24 '33  
 Service on new fields; Crescent field, Logan county, Oklahoma. Oil & Gas J 32:67, 69-70 Ag 3 '33  
 Wildcat gives promise of opening new oil field in Oklahoma. map Nat Pet N 25:22 J1 19 '33

## Pennsylvania

- Pennsylvania fields good for fifty years of present conditions; abstract. K. B. Nowels. Nat Pet N 25:23 J1 5 '33

## PETROLEUM—Continued

## Rocky Mountain region

Analysis of Rocky Mountain well spacing. J. J. Zorichak. Am Pet Inst Proc (Production div) p22-9 Je '32

## Rumania

Quality of Rumanian petroleum; abstract. E. Severin. Inst Pet Tech J 19:354A S '33  
La Roumanie minière. C. Berthelot. bibliog 11 diags map Soc Ing Civils Bul 86:477-519 Mr '33

## Russia

Russians report proving oil fields in the Urals. C. E. Kern. Oil & Gas J 31:30 Mr 2 '33

Veritable flood of oil in Russia; gusher in the Lok-Batan oil field. il Oil & Gas J 32:31 Jl 13 '33

## Texas

Big Lake oil field, Reagan county, Texas. E. V. Foran. diags Am Pet Inst Proc p61-4 sec 4 D '32; Abstract. Oil & Gas J 31:11 N 24 '32; Discussion. Am Pet Inst Proc p64-6 sec 4 D '32

Comparative data on bottom hole pressures and diameter of flow strings in Seminole pool. S. F. Shaw. Oil & Gas J 32:20+ Je 8 '33

Conroe assures refiners large supply of desirable high gravity crude oil. Oil & Gas J 31:24 F 23 '33

Conroe field presents many interesting unusual physical and geological characteristics. N. Williams. Oil & Gas J 31:11+ F 9 '33

Drainage radii of wells in east Texas. R. S. Christie. Am Pet Inst Proc (Production div) p20; Discussion. 20-1 Je '32

East Texas crude analyses show little variation in refining properties. Oil & Gas J 32:21 Je 22 '33

Engineering report on east Texas field. E. Botts. Nat Pet N 25:34-5 Je 14 '33

Geology and possibilities of oil in large area northeast of the defined east Texas field. L. Decker. diag map Oil & Gas J 31:12-13+ Ja 5 '33

Pressure maintenance in east Texas. J. A. Ritter. maps Am Pet Inst Proc p29-37 sec 4 D '32; Same cond. Oil & Gas J 31:12-13 D 8 '32; Discussion. Am Pet Inst Proc p87-8 sec 4 D '32

Service on new fields; Greta, Refugio county, Texas Gulf coast. Oil & Gas J 32:37+ S 28 '33

Study of bottom hole samples of east Texas crude oil. B. E. Lindly. bibliog diag Am Pet Inst Proc 14M(4):40-52 My '33; Same. U S Bur Mines Rep of Invest 3212:1-22 '33; Same. Oil & Gas J 32:13-16+ Je 1 '33

Study of overhanging salt on various domes of coastal Texas and Louisiana areas. S. A. Judson and R. A. Stamey. diag map Oil & Gas J 32:16, 30 O 12; 18, 22 O 19; 16+ N 9; 13-19 N 23 '33

Study of subsurface pressures and temperatures in flowing wells in the east Texas field and the application of these data to reservoir and vertical-flow problems. C. E. Reistle, Jr. and E. P. Hayes. U S Bur Mines Rep of Invest 3211:1-17, 14 graphs '33; Same. Oil & Gas J 32:14, 16, 38-40 My 25 '33; Same. Am Pet Inst Proc 14M(4):53-64; Discussion. 64-9 My '33

## Trinidad

Crudes of paraffin, naphthene and mixed base available for refining in Trinidad fields. E. F. Nelson and G. Egloff. Oil & Gas J 31:12 F 2 '33

## United States

Competitive relationship of coal and petroleum in the United States forecast to year 1950. W. S. Hutchinson and A. J. Breitenstein. Oil & Gas J 31:30-1 F 23 '33

## Utah

Geology and oil possibilities of the Moab district, Grand and San Juan counties, Utah. A. A. Baker. fold maps U S Geol S Bul 841:1-95, pl 1-11 '33

Prospects of oil in Utah. G. T. Hansen. Min & Met 14:298-9 Jl '33

## PETROLEUM coke

Expanding markets for petroleum coke in eastern states. Oil & Gas J 31:27 N 24 '32  
Knowles ovens solve residuum disposal problem, pay satisfactory profit. A. L. Foster. il diag Nat Pet N 25:26+ Mr 8 '33

Petroleum coke as a furnace fuel; abstract. G. Vandenburg. Inst Pet Tech J 19:197A My '33

Use of petroleum coke as boiler-plant fuel. O. F. Campbell. il diags Am Pet Inst Proc p28-43 sec 3 D '32; Same abr. Oil & Gas J 31:85-6 N 17 '32; Abstract. Nat Pet N 24:72 N 16 '32

Use of pulverized petroleum coke at Michigan City. Power Pl Eng 37:75 F '33

## PETROLEUM distillation

Analytical steam distillation for measuring the volatility range of lubricating oils and other high-boiling petroleum fractions. R. N. J. Saal and C. G. Verver. il diag Inst Pet Tech J 19:336-54 My '33; Abstract. Nat Pet N 25:29-30 S 6 '33; Discussion. Inst Pet Tech J 19:354-63 My '33

Combination cracking unit may perform wide variety of duties in modern refining plant. G. Armistead, Jr. plans Oil & Gas J 32:11+ N 2 '33

Comparison of steam and hydrocarbon gas as distillation media in petroleum industry. G. Allen and F. T. Gardner. diag Oil & Gas J 31:12 My 4 '33

Computation of distillation apparatus for hydrocarbon mixtures. E. W. Thiele and R. L. Geddes. bibliog il diags Ind & Eng Chem 25:289-95 Mr '33

Cracking light and heavy oils. G. Egloff and E. F. Nelson. tables Am Pet Inst Proc 14M(3):73-80 My '33; Abstract. Nat Pet N 25:22+ My 24 '33

Cracking of Mid continent virgin gas oil over a wide range of temperatures and pressures. P. C. Keith, Jr., J. T. Ward and L. C. Rubin. flow diag tables Am Pet Inst Proc 14M(3):49-66; Discussion. 67 My '33

Cut-back asphalts; their characteristics and use. P. Hubbard. Roads & Sts 76:19-20 Ja '33

1, 1-Dimethylcyclopentane and 2-methylhexane in a Midcontinent petroleum. J. H. Bruun and M. M. Hicks-Bruun. bibliog U S Bur Stand J Research 10:465-73 Ap '33

Equilibrium conditions in continuous recycle system. R. B. Smith. Ind & Eng Chem 25:692-3 Je '33

Fortschritte in der erdöl-industrie 1929-1932. C. Walther. bibliog diags Chemische Fabrik 6:261-5 Je 14 '33

Fractionation of petroleum into its constituent hydrocarbons. E. W. Washburn. bibliog Ind & Eng Chem 25:891-4 Ag '33

From cheese-box to vacuum tower; history of refining progress in Pennsylvania district. A. L. Foster. il Nat Pet N 25:71+ Mr 15 '33

Gain in demand for petroleum asphalts offers refiners opportunity for substantial profit. G. Abson. diags Oil & Gas J 31:69-70+ Mr 30 '33

Globe oil & refining company has introduced many features in new McPherson plant. W. T. Ziegenhain. flow sheet il Oil & Gas J 32:14-15, 34+ Je 29 '33

Improved methods for approximating critical and thermal properties of petroleum fractions. K. M. Watson and E. F. Nelson. bibliog Ind & Eng Chem 25:880-7 Ag '33

Lachman treating and multi-coil cracking at new Globe plant. A. L. Foster. flow diag il Nat Pet N 25:26-8+ Je 7 '33

Manufacture of asphalt from cracking process residues. F. M. H. Taylor. diags Inst Chem Eng Trans 9:158-71; Discussion. 171-3 '31

Modern experimental cracking unit. W. W. Gary and J. T. Ward. flow diag plan Am Pet Inst Proc 14M(3):44-8 My '33; Same. Oil & Gas J 32:53+ My 25 '33

New Bradford refinery gives close fractionation, high yields. P. Truesdell. il Nat Pet N 25:25-6+ Jl 12 '33

New Dubbs unit at Shell plant has two heaters and cracks wide range of charging stocks. W. T. Ziegenhain. il Oil & Gas J 31:22-3 Ja 19 '33



**PETROLEUM distillation—Continued**

New furnaces in Magnolia refinery enable cross units to handle most any type of stock. W. T. Ziegenhain. flow sheet *il Oil & Gas J* 31:11+ D 22 '32

Overall comparison of various methods of refinery fractionation; abstract. T. B. Leech. *Inst Pet Tech J* 19:373A-5A S '33

Petroleum cracking in Germany; modern processes reviewed. *Chem Age (Lond)* 29:367 O 21 '33

Pressure-temperature and low pressure total heat relationships of petroleum fractions. E. G. Ragatz, E. R. McCartney and R. E. Haylett. *il diags Ind & Eng Chem* 25:975-9 S '33

Preventing fog entrainment in continuous distillation. A. E. Birch and H. M. Weir. *il diags Chem & Met Eng* 40:366-8 J1 '33

Principles of rectification. G. A. Burrell and N. C. Turner. *Nat Pet N* 25:26, 28-31 Mr 22; 25-6+ Ap 19; 23-4+ My 31; 35-6+ Je 14 '33

Progress of naphthology; cracking art in 1932. G. Egloff and B. L. Levinson. *Inst Pet Tech J* 19:504-28 Je '33

Refinery group hears symposium on cracking during American chemical society meeting. *Oil & Gas J* 32:16+ S 14 '33; *Nat Pet N* 25:68+ S 20 '33

La Roumanie minière. C. Berthelot. *diag Soc Ing Civils Bul* 86:502-12 Mr '33

Several angles to problem of securing quality kerosenes from crude oils in California. G. H. Van Senden. *Oil & Gas J* 32:14+ Ag 3 '33

Some aspects of fractional distillation. G. O. Thacker. *Inst Chem Eng Trans* 9:191-2 '31

Study of the refining of a Burmah crude oil with special regard to the colour reversion characteristics of the lubricating oil distillates. A. R. Bowen. *bibliog Inst Pet Tech J* 19:364-75 My '33

Survey of cracking plants, January 1, 1932. G. R. Hopkins. *U S Bur Mines Information Circ* 6648:1-15 '32

Theoretical comparison of petroleum distillation systems. P. Meyer. *Inst Pet Tech J* 19:819-34 O '33

Thermodynamics and heat flow in the typical modern skimming and cracking operation. G. Vandenberg. *diags Oil & Gas J* 32:13-14+ Ag 10 '33

Vacuum distillation test for high boiling petroleum products. A. L. Davis and C. V. Hornberg. *diag Nat Pet N* 25:65-6 S 20 '33

Vapor-liquid equilibria for *N*-hexane-benzene mixtures. C. O. Tongberg and F. Johnston. *bibliog Ind & Eng Chem* 25:733-5 J1 '33

Vapor-phase cracking. H. P. A. Groll. *bibliog il diags Ind & Eng Chem* 25:784-98 J1 '33

Wolverine-Empire refining company has begun operation of completely modernized plant. R. C. Conine. flow charts *il Oil & Gas J* 32:13+ N 9 '33

*See also*

Gasoline—Manufacture  
Petroleum refining

**Residuum**

Fuel oil; some methods for utilization. R. P. Russell and W. V. Hanks. *Am Pet Inst Proc* p21-5 sec 3 D '32; Same. *Oil & Gas J* 31:14+ D 1 '32; Discussion. *Am Pet Inst Proc* p25-7 sec 3 D '32

Knowles solves residuum disposal problem, pay satisfactory profit. A. L. Foster. *il diags Nat Pet N* 25:26+ Mr 8 '33

**Tables, calculations, etc.**

Design calculations for vapor-recovery and rectifying units. G. G. Brown and M. Souders, Jr. *Am Pet Inst Proc (Refining div)* p9-22 Je '32

Estimation of tower temperatures by equilibrium vaporization data. W. L. Nelson. *Nat Pet N* 24:25+ D 14 '32

Refinery and natural gasoline technology; calculation of refinery vaporization and condensation requirements. G. A. Burrell and N. C. Turner. *Nat Pet N* 25:18-21 N 8 '33

**PETROLEUM engineering**

Coring should be a part of regular production practice and not be viewed as a luxury. *Oil & Gas J* 32:29-30 J1 27 '33

Engineering research; light thrown on three major problems. H. C. Fowler. *Min & Met* 14:27 Ja '33

Geological records show percentage decrease in oil wells to recent years' completions. F. H. Lahee. *Oil & Gas J* 31:33-4 Ap 6 '33

Kettleman Hills development and production problems solved by modern engineering. E. G. Gaylord. *Oil & Gas J* 31:61+ N 17 '32

Low land, swamps and sandy soil in east Texas add many problems to work of engineers. D. T. Ross. *map Oil & Gas J* 32:80H Je 22 '33

Many interesting facts about oil accumulation revealed by examination of sands in place. L. G. E. Bignell. *Oil & Gas J* 31:33-4+ Ja 5 '33

New method of proring east Texas forward step; may extend plan to cover all fields. L. G. E. Bignell. *map Oil & Gas J* 31:8-9 D 8 '32

Planned development of oil fields as units discussed in Russia; first congress of the All-Union (Russian) petroleum scientific engineering society. L. C. Uren. *Nat Pet N* 25:23-4 O 11 '33

Pressure maintenance in east Texas. J. A. Ritter. *maps Am Pet Inst Proc* p29-37 sec 4 D '32; Same cond. *Oil & Gas J* 31:12-13 D 8 '32; Discussion. *Am Pet Inst Proc* p37-8 sec 4 D '32

Production engineering; progress reported in many directions. E. A. Stephenson. *Min & Met* 14:23 Ja '33

Production engineers will be next concerned with cleaning and reconditioning wells. L. G. E. Bignell. *Oil & Gas J* 31:11-12 Ja 12 '33

Progress of naphthology, 1932; field technology. E. J. Ellis, ed. *Inst Pet Tech J* 19:448-96 Je '33

Properties of hydrocarbon mixtures as related to some production engineering problems. W. K. Lewis. *Oil & Gas J* 32:14-15+ O 19; 20 O 26; 18, 20 N 2 '33

La Roumanie minière. C. Berthelot. *bibliog il diags maps Soc Ing Civils Bul* 86:477-519 Mr '33

Study of bottom hole samples of east Texas crude oil. B. E. Lindsly. *bibliog diag Am Pet Inst Proc* 14M(4):40-52 My '33; Same. *U S Bur Mines Rep of Invest* 3212:1-22 '33; Same. *Oil & Gas J* 32:13-16+ Je 1 '33

Subjects of importance in operating practices discussed at A.P.I. meeting at Houston. *Oil & Gas J* 31:39 Ap 13 '33

Unique features in steel island constructed for drilling in the Pacific 2,700 feet from shore. L. P. Stockman. *il Oil & Gas J* 31:13+ D 1 '32

Use of modern engineering methods will solve many of the problems of unit operation. L. G. E. Bignell. *Oil & Gas J* 31:28+ N 17 '32

*See also*

Petroleum—Production methods	Petroleum distillation
Petroleum—Prospecting	Petroleum pipe lines
Petroleum—Pumping	Petroleum refining
Petroleum—Well boring	Water supply for petroleum industry
	World petroleum congress

**Power**

Company in east Texas installs central electric power generating plants on various leases. L. G. E. Bignell. *Oil & Gas J* 32:14+ J1 27 '33

Diesel engine for slush-pump drive. *il diags Engineering* 135:594-5 Je 2 '33

East Texas operators will have opportunity to secure improved design prime movers. *il Oil & Gas J* 32:56+ Je 22 '33

Mid-Kansas installs a modern central power plant in the east Texas field. *il Oil & Gas J* 31:30 Mr 23 '33

**PETROLEUM engineering—Power—Continued**

Modern practice of engineering has simplified design of air-gas lift compressor plants. L. G. E. Bignell. *Oil & Gas J* 32:49+ O 12 '33

Ready availability of electrical power points to its wide adoption in east Texas territory. *map Oil & Gas J* 32:66 Je 22 '33

Stationary-spindle design for oilbath geared powers suitable for east Texas conditions. K. Chickering. *Oil & Gas J* 32:98 Jl 27 '33

Steel front walking beam and self contained pumping units find favor in east Texas. *Il plan Oil & Gas J* 32:44+ Je 22 '33

Topography and well conditions in east Texas permit use of central pumping power units. *il Oil & Gas J* 32:52 Je 22 '33

Variable-voltage oil drilling equipment. A. H. Albrecht. *il diags Elec Eng* 52:617-21 S '33

**Study and teaching**

Petroleum engineering educational problems. H. C. George. *J Eng Educ* 23:610-14; Discussion. 614-17 Ap '33

**Tables, calculations, etc.**

Densities of hydrocarbon mixtures. E. W. Thiele and W. B. Kay. *bibliog Ind & Eng Chem* 25:894-8 Ag '33

Determination of permeability from field data. T. V. Moore, R. J. Schilthuis and W. Hurst. *bibliog Am Pet Inst Proc* 14M(4):4-11 My '33; Same. *Oil & Gas J* 32:58+ My 25 '33; Discussion. *Am Pet Inst Proc* 14M(4):11-13 My '33

Formulas for calculating weight of drilling mud and application of gas cutting theory. E. J. Maust. *Oil & Gas J* 32:35 Ag 10 '33

Oil and gas journal's allowable production chart. *Oil & Gas J* 31:33 D 8 '32

Proper diameter pump for oil well and rough method to use to determine the diameter. A. Allen, Jr. *Oil & Gas J* 31:40-1+ F 23 '33

Statistical analysis of the relationship between recovery and characteristics of well cores. R. W. Brauchli. *Oil & Gas J* 32:12+ Je 1 '33

Working-barrel capacity chart of advantage in making estimates of operating conditions. *Oil & Gas J* 32:61 Je 22 '33

**Terminology**

Key to abbreviations of terms commonly used in oil field. *Oil & Gas J* 31:77 Mr 23 '33

**PETROLEUM industry and trade**

La chimie et l'industrie du pétrole. J. B. A. Kessler. *Chimie & Ind* 28:1217-19 N '32

Earth oil. G. Egloff. 158p \$1 Century co. '33

Effect of improper use of credits in the petroleum industry. C. E. Votrian. *Am Pet Inst Proc* p53-6 sec 2 D '32; Same cond. *Credit & Fin Management* 35:8-9+ F '33

Fortschritte in der erdöl-industrie 1929-1932. C. Walther. *bibliog diags Chemische Fabrik* 6:249-53, 261-5, 274-7 Je 7-21 '33

New deal credit; study in oil credits. W. C. Wenzel. *Credit & Fin Management* 35:18 Jl '33

Oil outlook. *Economist* 116:866-7 Ap 22 '33

Petroleum division, A.I.M.E. studies all phases of the industry. *Min & Met* 14:155-7 Mr '33

Proceedings of the second Petroleum and Natural gas conference held at the Pennsylvania state college, May 20-21, 1932. Pennsylvania State College Mineral Industries Exp Sta Bul 11:1-105 '32

Ratable takings from a common source in field is suggested as a remedy. M. Lee. *Oil & Gas J* 31:32 Ja 19 '33

Social stake in the oil industry. P. Molyneux. *Am Pet Inst Proc* p24-7 sec 1 D '32

**See also**

Gas oil  
Gasoline industry  
Lubricating oil industry

Oil fuel industry  
Oil industries

also American petroleum institute; Burmah oil company; Royal Dutch-Shell group; Shell union oil corporation; Venezuelan oil concessions

Petroleum—Prices  
Petroleum laws and regulations  
Petroleum storage  
Petroleum supply

**Accidents**

Accidents in the petroleum industry, 1932. *Monthly Labor R* 37:582-3 S '33

Review of fatalities in the California petroleum industry during the calendar year 1932. R. L. Marek. *U S Bur Mines Rep of Invest* 3208:1-21 '33

**See also**

Petroleum refineries  
—Accidents

**Accounting**

Accounts of an oil company. H. G. Humphreys. *J Account* 55:92-6, 188-95, 345-59; 56:31-46, 109-32, 271-82, 365-75 F-Mr, Jl-Ag, O-N '33

Concealed earnings in oil-depreciation accounts. L. Beech. *Barron's* 13:16-17 Ja 9; 20-1 Ja 16 '33

Petroleum distribution accounts. J. Johnson. 126p, 16p Gee & co. ltd, London '32

Uniform cost accounting is sought as aid toward stabilization in petroleum industry. *Nat Pet N* 25:25-6 Mr 15 '33

**See also**

Petroleum refineries  
—Accounting

**Advertising**

Why oil association will enlarge its advertising program; Pennsylvania grade crude oil association. T. O. Grisell. *il Ptr Ink* 162:32-3+ Mr 30 '33

**Code (marketers')**

The code. *Pet Age* 27:17-19 Jl '33

Commission men in service stations held to be inside salesmen. *Nat Pet N* 25:23 Ag 23 '33

Complete revised text of oil marketing code adopted by the conference at Chicago. *Oil & Gas J* 32:7-10 Je 29 '33; Same abr. *Nat Pet N* 25:24-8 Je 28 '33; Summary. *Oil Paint & Drug Rep* 124:15+ Jl 3 '33

First interpretations of oil code; marketing sections. *Nat Pet N* 25:16a-16d S 27 '33; Same. *Oil & Gas J* 32:15+ S 28 '33

Labor rules apply to commission stations, marketers hold. *Nat Pet N* 25:17 S 6 '33

Labor seeks more pay, shorter hours, free hand in organizing. V. B. Guthrie. *Nat Pet N* 25:16-18 Jl 26 '33

Marketers at Chicago unanimous for new code; alternative rules on lease and agency. R. C. Conine. *Oil & Gas J* 32:6 Je 29 '33

New oil industry code; text. *Nat Pet N* 25:11-13 Ag 2 '33

Oil code interpreted. P. E. Hadlick. *Pet Age* 27:16-17, 29-32 S '33

Oil industry leaders split on price regulation under NRA code. R. E. Stafford. *Nat Pet N* 25:11-12 Ag 9 '33

Questions and answers on the code. *Nat Pet N* 25:16 Ag 16 '33

Recent changes in merchandising policies give sound basis for marketing practice code. C. O. Willson. *Oil & Gas J* 32:9+ Je 22 '33

Trackage operators organize; offer ideas for code. *Nat Pet N* 25:15-16 Jl 12 '33

Wage and work hour details perplex industry in NRA adjustment. *Nat Pet N* 25:11-12+ Ag 16 '33

What the code will mean. M. L. Tennerstedt. *Pet Age* 27:22, 24-5 Ag '33

Will oil code force jobbers to choose between lubricant and garage equipment distribution? *Automotive Ind* 69:259+ Ag 26 '33

**Code committees**

Code gets going. *Pet Age* 27:18-19 O '33

Regional oil code committees appointed. *Nat Pet N* 25:16d-16h, 61 S 27 '33; Same. *Oil & Gas J* 32:16, 32-3, 36 S 28 '33

State code marketing committees. *Nat Pet N* 25:18-19, 32-3 O 4; 16-18, 71 O 11; 47 O 25; 53 N 1 '33

Work of planning and co-ordinating committee. W. Franklin. *Oil & Gas J* 32:25-6+ O 26 '33



## PETROLEUM industry and trade—Continued

## Codes

- Administration and effect of the Recovery act on petroleum industry from legal viewpoint. P. Q. Nyce. Oil & Gas J 32:18+ S 7 '33
- A.I.M.E. stabilization forum; will the petroleum code stabilize output? N. Ely. Oil & Gas J 32:11-13 JI 27 '33
- Code fails without price fixing, say cost recovery advocates. Nat Pet N 25:14-15 Ag 9 '33
- Code of fair competition for the petroleum industry. Nat Pet N 25:22, 24-5 Je 21 '33; Same. Oil & Gas J 32:6-7 Je 22 '33; Same. Oil Paint & Drug Rep 123:17+ Je 26 '33
- Crude production control essential to operation of oil code. A. J. Byles. Nat Pet N 25:27-8 JI 26 '33
- Debate on price fixing in oil code carries on in New York papers. Nat Pet N 25:9-12 Ag 30 '33
- Federal allocation of production stipulated in government's code for petroleum industry; text of producers' and marketers' codes. C. E. Kern. Oil & Gas J 32:6-9 Ag 3 '33
- Federal regulation of production provided in new oil code. R. B. Stafford. Nat Pet N 25:7-8 Ag 2 '33
- Federal-state agreements to help work under Industrial recovery act urged. C. B. Ames. Oil & Gas J 32:8 JI 13 '33
- General Johnson at work on revised oil code following stormy hearings at Washington. C. E. Kern. Oil & Gas J 32:9-10+ Ag 10 '33
- Government use of group 3 as basis for prices in code follows usual practice of industry. C. O. Willson. map Oil & Gas J 32:6+ Ag 31 '33
- Government's purpose in the oil code. H. L. Ickes. Oil & Gas J 32:23-4+ O 26 '33
- Insurgents submit code differing radically from Chicago draft. A. E. Heiss. Nat Pet N 25:21-2 JI 26 '33
- Labor provisions prove troublesome at hearings on oil industry's code for fair competition. C. E. Kern. Oil & Gas J 32:7 JI 27 '33
- Labor seeks more pay, shorter hours, free hand in organizing. V. B. Guthrie. Nat Pet N 25:11-16 JI 26 '33
- Oil code as amended September 13; complete text. Nat Pet N 25:25-32 S 20 '33; Excerpts. Oil & Gas J 32:10+ S 21 '33; Excerpt (Maximum credit terms). Pet Age 27:25 S '33
- Oil code hearing set at Washington Monday; statement by the Recovery administration. C. E. Kern. Oil & Gas J 32:6+ JI 20 '33
- Oil code is effective as signed price fixing postponed. J. C. Chatfield. Nat Pet N 25:7-8+ S 6 '33
- Oil code signed by Roosevelt; complete text of the code as signed August 19. Nat Pet N 25:25-32 Ag 23 '33; Same. Oil & Gas J 32:9-12+ Ag 24 '33; Same cond. Pet Age 27:14-19, 34 Ag '33
- Oil industry leaders split on price regulation under NRA code. R. B. Stafford. Nat Pet N 25:7-8+ Ag 9 '33
- Overlord for oil. Business Week p9 Ag 26 '33
- Petroleum code again amended by President. Oil Paint & Drug Rep 124:41 S 18 '33
- Petroleum code drafting is taken directly in hand by N.R.A. officials. Oil Paint & Drug Rep 124:15, 28A-28B JI 31; 17, 32C Ag 7 '33
- Petroleum NRA code presented to industry. Oil Paint & Drug Rep 124:14+ Ag 21; 17+ Ag 28 '33
- Price fixing, licensing of operators provided in producers' code. L. E. Smith. Nat Pet N 25:7-8+ Je 21 '33
- Price-fixing section brings most debate in the approved oil code. Nat Pet N 25:11-12, 14-16 Ag 23 '33
- Price-fixing under the oil code; some new problems which must be solved. W. W. Hay. Annalist 42:339-40 S 15 '33
- Seek scientific proration method in supplemental Calif. code. Nat Pet N 25:13-14 O 11 '33

Supplemental California code provides quota formulae. Nat Pet N 25:15-16 O 25 '33

What an oil code may mean to the natural gas industry. G. B. Ruddick. Gas Age 72: 145-6 Ag 12 '33

Will Johnson's code solve our problems, asks wilted crowd in Washington. W. C. Platt. Nat Pet N 25:3-4+ Ag 2 '33

## Emergency national committee

Eight named as executive committee to govern industry under code. Nat Pet N 25:23-5 JI 26 '33

Name representatives of associations to Emergency national committee. Oil & Gas J 32:30+ Je 29 '33

## Equipment and supplies

- Aircraft in relation to petroleum technology; use for survey and transport. H. Hemming. bibliog il maps Inst Pet Tech J 19:73-97 F '33; Same. Roy Aeronautical Soc J 37:864-86 O '33; Discussion. Inst Pet Tech J 19: 97-116 F '33; Same. Roy Aeronautical Soc J 37:886-99 O '33
- Anticipating pumping conditions in east Texas permits the careful selection of equipment. L. G. E. Bignell. il Oil & Gas J 31:10-11 Ja 26 '33
- Buyers' guide; listing various types of equipment required for lifting oil and the leading manufacturers and supply companies that handle such equipment, grouped under their classification. Oil & Gas J 32: 98-103 Je 22 '33
- Copper, with its alloys, has many important uses in every branch of petroleum industry. L. G. E. Bignell. Oil & Gas J 32:14+ N 9 '33
- East Texas field will be the proving ground for many different types of equipment. L. G. E. Bignell and others. il Oil & Gas J 32:37+ Je 22 '33
- Electric oil-well equipment; contactor control gear for Burma. il Elec R (Lond) 112:412 Mr 24 '33
- Field and laboratory data covering tests upon special alloys for barrels, balls and seats for oil well pumps. W. F. Rogers. il Oil & Gas J 32:54, 57-8 O 26 '33
- Fluid friction principle is successfully applied to brakes for drawworks and sand reels. L. G. E. Bignell. il Oil & Gas J 31:33+ My 18 '33
- Industry facing new equipment needs; recovery will expose obsolescence. Oil & Gas J 32:31 JI 6 '33
- Oil industries exhibition. London, July 19-25. il Engineering 136:71-3, 79-80 JI 21-28 '33; Engineer 156:82-3 JI 23 '33
- Proper selection of wire rope for rotary rig can be made a relatively easy problem. A. S. Rairden. il diags Oil & Gas J 31:33-5 D 1 '32
- Recent improvements in oil field boiler designs. H. M. Harris. diags Am Pet Inst Proc (Production div) p65-9; Discussion. 69-70 Je '32
- Rubber in many forms plays an important part in every department of petroleum industry. L. G. E. Bignell. Oil & Gas J 32: 16+ O 5 '33
- Starting with three men and an idea, W-K-M now is an important equipment company. T. F. Smiley. Oil & Gas J 32:18 JI 13 '33
- Trucks obsolete for transport use serve on lease pulling wells. W. F. Lowe. il Nat Pet N 24:34 D 7 '32
- Wire line ties for bottom hole instruments are studied by U. S. Bureau of mines engineers. B. E. Lindsly, L. D. Jones and R. C. Lisk. diags Oil & Gas J 32:9-11 Ag 17 '33
- See also
- Petroleum refineries—  
Equipment
- Exhibitions
- Demonstrating geophysical science and petroleum engineering to the public; exhibits at the World's fair, Chicago. C. A. Heiland. Min & Met 14:455 N '33
- Oil at the World's fair. il Pet Age 27:22+ S '33

**PETROLEUM industry and trade—Exhibitions**

—Continued

Oil industries exhibition, London, July 19-25.  
 Il Engineering 136:71-3, 79-80 JI 21-28 '33;  
 Engineer 156:82-3 JI 28 '33

**Finance**

Concealed earnings in oil-depreciation accounts. L. Beech. Barron's 13:16-17 Ja 9; 20-1 Ja 16 '33

Financial condition of the oil industry justifies better prices for crude oil and its products. C. O. Willson. Oil & Gas J 32:11+ O 19 '33

Mexican and Canadian Eagle. Economist 117: 186 JI 22 '33

Report of I.B.A. oil and natural gas securities committee. Inv Banking 3:97-106 N 25 '32

**Fires and fire protection**

Rapid succession of gas blowouts and craters following increase in coastal wildcatting. N. Williams. Il Oil & Gas J 32:8+ JI 6 '33

Tulsa's flying oil well fire fighter puts out blaze in South American field. L. G. E. Bigneil. Oil & Gas J 31:46 My 18 '33

What actually happens when well fires are shot out? Il diags Oil & Gas J 32:72 Je 15 '33

**See also**

Oil fires

Petroleum—Well boring—Fire hazard

**International aspects**

Concessions for the Mosul-Haifa pipe line. A. Bonné. map Ann Am Acad 164:116-26 N '32

Paris oil conference extends accord. Nat Pet N 25:18 Ap 12 '33

Petroleum and policy. J. Cadman. Am Pet Inst Proc p28-31 sec 1 D '32; Same. Oil & Gas J 31:25-6 N 17 '32; Excerpts. Nat Pet N 24:25 N 23 '32

World conference resumes its meetings at London with Russians absent. Oil & Gas J 31:30 Mr 2 '33

World leaders may drop drive for compact including Russia in price stabilization plan. A. E. Mockler. Oil & Gas J 31:34 D 29 '32

**Regulation**

A.P.I. directors debate proposals for federal oil dictatorship. Nat Pet N 25:7-9 My 10 '33

Federal curb on bootleg crude shipment is recommended by Roosevelt. V. B. Guthrie. Nat Pet N 25:7-8+ Ap 5 '33

Ickes issues rules covering crude oil withdrawals. Nat Pet N 25:9 O 25 '33

New deal for the petroleum industry. J. E. Pogue. Nat Pet N 25:17-18 S 27 '33; Same. Oil & Gas J 32:14+ S 28 '33

New four-point program for regulating the oil industry. N. Ely. Pub Util 11:100-5 Ja 19 '33

No separate control for the petroleum industry left in the new Industrial recovery law. C. E. Kern. Oil & Gas J 32:9+ Je 15 '33

Oil administrator Ickes issues orders on production and stock figures. Oil & Gas J 32:26+ O 26 '33

Oil and gas; production has dropped, under the administrator's threat; price-fixing uncertain. Business Week p11 N 11 '33

Oil conservation through interstate agreement. N. Ely. bibliog 398p Federal oil conservation board, Washington, D.C.; \$1 Supt. of doc. '33

Oil control; Washington considers an emergency bill which is the height of government control. Business Week p8+ My 17 '33

Oil to come within provisions of general recovery bill. Nat Pet N 25:11-12 Je 7 '33

Oil under the code. Business Week p9 S 9 '33

\$1 crude again; federal regulation stiffens production quotas. Business Week p10-11 O 7 '33

Petroleum committee named by President. Oil Paint & Drug Rep 124:18+ S 4 '33

Petroleum conservation problems up to states; President Roosevelt declines to ask shut-down. Oil Paint & Drug Rep 123:46 Ap 10 '33

Petroleum industry asks for a czar; Washington conference. Oil Paint & Drug Rep 123:16+ Ap 3 '33; Oil & Gas J 31:11+ Mr 30 '33

Petroleum production is limited by Ickes. Oil Paint & Drug Rep 124:23 S 11 '33

Political appraisers are puzzled over who will regulate oil. Nat Pet N 25:18 JI 5 '33

Roosevelt asks for oil control as section of Recovery bill; chronology of oil control. R. B. Stafford. Nat Pet N 25:7-8+ Je 7 '33

Roosevelt hopes states will aid oil industry; favors divorcement of interstate pipe lines. C. E. Kern. Oil & Gas J 31:9 Ap 6 '33

Statement on President Roosevelt's letter to states. C. B. Ames. Oil & Gas J 31:17 Ap 6 '33

Texas suits aimed at federal regulation of petroleum. L. E. Smith. Nat Pet N 25:15-16 N 8 '33

U. S. orders crude output reduced 72,200 barrels in October. Nat Pet N 25:16 O 4 '33

Washington oil well. Business Week p8-9 Je 17 '33

**See also**

Petroleum industry and trade—Codes  
 Petroleum laws and regulations

Petroleum pipe lines  
 —Regulation

**Safety devices and measures**

Oil safety engineers reduce accidents below those of four other important industries. R. C. Conine. Oil & Gas J 32:12 O 5 '33

Report shows disabling accident costs oil industry \$300; meeting of the A.P.I. committees on accident prevention. Nat Pet N 25:21-2 O 11 '33

Safety precautions in drilling wells for gas and oil. C. F. Huff. Am Gas Assn Mo 15: 388-9 S '33

Safety progress in the petroleum industry. H. C. Fowler and G. B. Shea. Min & Met 14: 83-5 F '33

Suggested means for detecting harmful gases and protecting workers in oil industry. J. L. Risinger. Il Oil & Gas J 31:14-15 F 9 '33; Same cond. Nat Safety N 27:30-2 Mr '33

**Securities**

Devastating possibilities in pipe line proposal in its effects on oil bonds and stockholdings. Oil & Gas J 31:18 Ap 13 '33

Market quotations on oil securities closed 1932 at prices well over year's lows. A. E. Mockler. Oil & Gas J 31:114 Ja 26 '33

Market record of oil securities. A. E. Mockler. Published in weekly numbers of the Oil and gas journal

Oil companies, 1930-1932. Mag of Wall St Manual p43-4 Mr 6 '33

Position of leading petroleum stocks. Mag of Wall St 51:489; 52:428 F 18, Ag 19 '33

**Statistics**

Administrator Ickes makes first report on interstate shipments of crude oil. C. E. Kern. Oil & Gas J 32:9+ N 9 '33

Crude oil and refinery situation summarized, first six months, 1933-1932. C. O. Willson. Oil & Gas J 32:6 Ag 17 '33

Crude oil production. Published in weekly numbers of Econostat

Crude oil production in the United States, monthly, 1919-1932. Bradstreet's 61:207 Ja 28 '33

Fifty-six per cent of oil produced in United States came from 44 fields. Oil & Gas J 31:50 Ap 6 '33

Government report shows oil exports in 1932 more than \$200,000,000. C. E. Kern. Oil & Gas J 31:25 F 2 '33

New orders demand operating data from oil companies. Nat Pet N 25:14-15 O 4 '33

1933 crude production in U.S. estimated to be 722,000,000 bbls. S. F. Shaw. Oil & Gas J 31:11+ F 16 '33

Oil industry, 1932. Economist 116:sup41-2 F 18 '33



# **PETROLEUM industry and trade—Statistics** —Continued

Operating schedule for production of crude oil is 2,162,000 barrels daily for rest of year. J. E. Pogue. Oil & Gas J 32:10-12 Je 22 '33

Petroleum output; monthly data. Published in Oil, paint and drug reporter

Petroleum production, 1932. Oil Paint & Drug Rep 123:46 Mr 20 '33

Petroleum production, 1932. Domestic, 67p; Foreign, 58p A.I.M.E. '33

La production mondiale du pétrole en 1931. Génie Civil 101:635-6 D 24 '32

Production of single pools in U. S. exceeds oil output of whole foreign countries. J. McIntyre. Oil & Gas J 31:34 Ap 6 '33

Refined petroleum output and crude petroleum output in 1932. Oil Paint & Drug Rep 124:47 O 9 '33

Reports show trend toward lower inventories in crude oil and plant products continues. C. O. Willson. Oil & Gas J 31:11+ D 15 '32

Texas gross production report for first quarter of 1933; tabulation. Oil & Gas J 32:72-8 Jl 6 '33

Weekly refinery statistics for the United States. Published in weekly numbers of American petroleum institute Statistical bulletin

See also

Petroleum products—Petroleum refineries  
Statistics —Statistics

## **Taxation**

Ad valorem tax in proposed gross production bill would ruin many Oklahoma oil men. J. McIntyre. Oil & Gas J 31:33 Mr 16 '33

Exposes excessive taxation and reports work of industries committee. B. H. Markham. Oil & Gas J 32:14+ S 28 '33

Industry protests against proposed 3 cents per bbl. minimum tax on Oklahoma production. Oil & Gas J 31:12-13 F 16 '33

Squawk from the petroleum goose. J. H. Pew. Nation's Business 20:20-1+ O '32; Discussion. 20:18-20 D '32

Stripper well oil producers organize to combat destructive legislation. Oil & Gas J 31:10+ Mr 9 '33

Stripper well owners organize to fight new tax measures. Nat Pet N 25:20 Mr 22 '33

Tax rulings are issued on gasoline and oils. Oil Paint & Drug Rep 122:17 D 5; 44 D 12 '32

Taxability of pipe line oil being transported. C. E. Kern. Oil & Gas J 32:33 Je 29 '33

Taxes, either directly or indirectly, are cause of present low prices in petroleum industry. E. R. Filley. Oil & Gas J 31:37-8 F 23 '33

See also

Gasoline—Taxation  
Lubricating oils—  
Taxation

## **Trade practice code**

As a state secretary sees the code. J. R. Atchison. Am Pet Inst Proc (Marketing div) p16-18 Je '32

Has the code accomplished its purpose? W. H. Ferguson. Am Pet Inst Proc 14M(2):32-6 My '33

Practical workings of the code. H. A. Coffin. Am Pet Inst Proc p58-60 sec 2 D '32

## **Valuation of property**

Evaluation of foreign producing oil properties requires consideration of many factors. F. A. Herald. Oil & Gas J 31:12-13+ Ja 26 '33

## **Arabia**

Standard of California in Arabian oil fight. Oil Paint & Drug Rep 124:28B Jl 24 '33

## **Arkansas**

North Louisiana activity increased during 1932; open pool in Miller county, Arkansas. D. H. Bancroft. Oil & Gas J 31:105, 107 Ja 26 '33

## **Belgium**

Belgian government fostering development of refining industry to meet nation's needs. il Oil & Gas J 31:73 Mr 30 '33

## **California**

California crude production still exceeds goal by wide margin. Nat Pet N 25:24 Mr 1 '33

California oil leaders struggle to reduce overproduction. Nat Pet N 25:7 F 1 '33

California producers organize to function under code. Nat Pet N 25:16 Jl 5 '33

Committee pleads with California producers to cut output. Nat Pet N 24:23 N 16 '32

Complete Kettleman Middle Dome unit operation plan. Nat Pet N 25:20 Ag 9 '33

Continued California crude surplus threatens market stability. Nat Pet N 24:23 D 7 '32

Earthquake and fire protection; a consolidated report of six California companies. G. F. Prussing. il Am Pet Inst Proc 14M(1):25-32 My '33

Earthquake causes temporary shutdown at Signal Hill, damage small. Nat Pet N 25:23-4 Mr 15 '33

15-day producing holiday proposed for all California fields. Nat Pet N 25:19-20 Mr 22 '33

Five California wells shut in by federal authorities. Nat Pet N 25:21 Ag 9 '33

Gasoline price cutters on Pacific coast caused low crude oil prices and bad half year. L. P. Stockman. Oil & Gas J 32:51+ Jl 27 '33

Kettleman Hills development and production problems. E. G. Gaylord. Am Pet Inst Proc p40-5; Discussion. 45 sec 4 D '32

Kettleman Hills development and production problems solved by modern engineering. E. G. Gaylord. Oil & Gas J 31:61+ N 17 '32

Labor proration in California. Am Pet Inst Proc 14M(4):77-84 My '33; Abstract. Nat Pet N 25:20 My 24 '33; Discussion. Am Pet Inst Proc 14M(4):84-5 My '33

New proration committee selected to control California output. Nat Pet N 25:30 Je 21 '33

Next three months will be the hump for proration in California. Nat Pet N 25:16 Ja 11 '33

No new fields in California in 1932 but deeper drilling uncovered important production. L. P. Stockman. Oil & Gas J 31:78-80 Ja 26 '33

Oil curtailment in California. J. Jensen. Min & Met 13:521-2 D '32

Operation of small wells in California. C. L. Moore. bibliog il diags Am Pet Inst Proc (Production div) p91-108; Discussion. 109-10 Je '32

Progress made in production control in Los Angeles basin fields. Nat Pet N 25:22 F 8 '33

Seek scientific proration method in supplemental Calif. code. Nat Pet N 25:13-14 O 11 '33

Storage problem acute as California production returns to normal. Nat Pet N 25:15 Mr 29 '33

Supplemental California code provides quota formulae. Nat Pet N 25:15-16 O 25 '33

Supplemental code on oil production methods being submitted to operators in California. L. P. Stockman. Oil & Gas J 32:112-14 O 26 '33

Tideland drilling and excess production under NRA hold interest of California operators. L. P. Stockman. Oil & Gas J 32:49-50 O 5 '33

## **Canada**

Canada's crude production declined in 1932 because of lack of new wells in West. V. Lauriston. Oil & Gas J 31:101 Ja 26 '33

New wells drilled in west Canada could not offset the decline in crude oil production. V. Lauriston. Oil & Gas J 32:84 Jl 27 '33

Value of Canada's refinery production continued to decline during 1932. Oil & Gas J 31:36 My 11 '33

## **Eastern states**

Eastern field was dull in 1932 but new gas areas were found in two states. Oil & Gas J 31:87 Ja 26 '33

## PETROLEUM industry and trade—Continued

## France

French refineries are handicapped by limited local market for fuel oil, gas and coke. F. T. Kapcevitich. Oil & Gas J 31:16 Ja 12 '33  
 New French petroleum monopoly bill has been temporarily sidetracked. A. E. Mockler. Oil & Gas J 31:46 Ap 6 '33  
 New Port Jerome refinery in France a triumph of construction and of engineering ability. il Oil & Gas J 31:10+ D 29 '32  
 Les raffineries françaises de pétrole de Petit-Couronne, près Rouen, et de Pauillac (Gironde). A. Grebel. il diags plans Génie Civil 102:77-83 Ja 28 '33

## Germany

German petroleum imports drop as domestic production and refining increase supply. Oil & Gas J 31:39 D 29 '32  
 Petroleum cracking in Germany; modern processes reviewed. Chem Age (Lond) 29:367 O 21 '33

## Great Britain

British oil refining industry; a review of operations in 1932. Chem Age (Lond) 29:7 J1 1 '33

## Gulf Coast region

Conroe pool was most important of many pools opened last year in the Gulf Coast area. N. Williams. Oil & Gas J 31:74-7 Ja 26 '33  
 Developing commercial oil production on Gulf Coast salt domes is long, costly undertaking. N. Williams. Oil & Gas J 31:12+ Mr 16 '33  
 Development throughout the Gulf Coastal area shows the stimulus of recent discoveries. N. Williams. map Oil & Gas J 31:10+ D 22 '32  
 Great changes in developments on Gulf coast; different types of fields and oil found. N. Williams. Oil & Gas J 31:13+ My 4 '33  
 Important discoveries in Gulf Coast area mark first six months' work in that big region. N. Williams. Oil & Gas J 32:57+ J1 27 '33  
 Many hazards and uncertainties in Gulf Coast operations but rewards especially good. N. Williams. il Oil & Gas J 31:6+ Ja 19 '33  
 Terminals have come to be among important features of Gulf Coast oil development. T. F. Smiley. il Oil & Gas J 32:16 S 21 '33  
 Yount Lee test breaks Gulf Coast depth record with remarkable equipment performance. N. Williams. il Oil & Gas J 32:36+ Ag 10 '33

## Iraq

Concessions for the Mosul-Haifa pipe line. A. Bonné. map Ann Am Acad 164:116-26 N '32  
 Iraq pipe line construction proceeds favorably under exceptionally difficult conditions. A. E. Mockler. Oil & Gas J 32:38-9 S 21 '33  
 Persian government is concerned over Iraq oil as menacing competition at low price. C. E. Kern. map Oil & Gas J 31:14 Mr 2 '33  
 Politics of Irak oil. Economist 115:1229-30 D 31 '32  
 Sales of U.S. pipe line equipment for Iraq line tribute to efficiency of American material. Oil & Gas J 31:39 D 29 '32

## Japan

Japan plans oil monopoly. Business Week p22-3 My 17 '33

## Kansas

First half year in Kansas saw more completions and production than same period in 1932. W. A. Spinney. Oil & Gas J 32:69+ J1 27 '33  
 Pressure of shut-in crude brings Kansas increase in refining capacity. Nat Pet N 25:11-12 Ja 11 '33  
 Seven pools opened in Kansas in 1932, but five of these were held by lack of demand. W. A. Spinney. Oil & Gas J 31:88, 90-1 Ja 26 '33

## Kentucky

Completed oil wells in Kentucky last year exceeded 1931 record by 100. Oil & Gas J 31:116 Ja 26 '33

## Louisiana

North Louisiana activity increased during 1932. D. H. Bancroft. Oil & Gas J 31:105, 107 Ja 26 '33

## Michigan

Greatest production year in Michigan due to many big wells in Mt Pleasant field. P. A. Elliott. Oil & Gas J 31:97 Ja 26 '33  
 Michigan field more active in first half of 1933 than in past years; prospects good. P. A. Elliott. Oil & Gas J 32:68 J1 27 '33

## Mid-continent field

Crude produced in disregard of proration pulled down Mid-continent prices. L. E. Smith. Nat Pet N 25:19-20+ Ja 25 '33  
 Low priced crude has not caused refiners in Mid-continent to adopt higher schedules. W. T. Ziegenhain. Oil & Gas J 31:8 Ja 12 '33  
 Mid-continent crude oil reserves total four billion barrels. L. E. Smith. map Nat Pet N 25:63+ My 17 '33  
 Mid-continent crude price increase halts strike of producers. L. E. Smith. Nat Pet N 25:31-2 Je 28 '33  
 Mid-continent refiners shop for crude with Kansas-Okla. wells shut in. L. E. Smith. Nat Pet N 25:17-18 Je 7 '33  
 More effective control of proration in Mid-continent is prospect. Nat Pet N 25:11-12+ F 22 '33  
 Plants in east Texas account for the increased refinery crude schedules during April. W. T. Ziegenhain. Oil & Gas J 31:18 Ap 20 '33  
 War's demand speeded development of Mid-continent refining industry. L. E. Smith. il Nat Pet N 25:45+ My 17 '33

## Middle East

Oil concessions in the Middle East. F. G. Clapp. map Min & Met 14:89-92 F '33

## Middle Western states

Central West field had unusually quiet year; abandoned many old wells. G. A. Whitney. Oil & Gas J 31:111-12 Ja 26 '33

## Mississippi

North Louisiana activity increased during 1932. D. H. Bancroft. Oil & Gas J 31:105, 107 Ja 26 '33

## Newfoundland

Minor changes in gasoline demand in Newfoundland area. Oil & Gas J 32:29 Je 29 '33

## Oklahoma

Ad valorem tax in proposed gross production bill would ruin many Oklahoma oil men. J. McIntyre. Oil & Gas J 31:33 Mr 16 '33  
 Changed conditions in the Oklahoma City field create new problems for production men. L. G. E. Bignell. Oil & Gas J 32:8-9+ J1 27 '33  
 Changing conditions in Oklahoma City oil field will necessitate mechanical lifting soon. S. F. Shaw. Oil & Gas J 31:8 D 1 '32  
 Changing conditions in semi-flush major pools create greater demand for stripper oil. L. G. E. Bignell. Oil & Gas J 32:46 O 26 '33  
 Close Oklahoma City wells wasting billion feet of gas daily. Nat Pet N 25:19 Ap 5 '33  
 Drilling practices and economies in the Oklahoma City field. K. A. Covell and C. P. Parsons. Am Pet Inst Proc p46-50 sec 4 D '32; Same. Oil & Gas J 31:48+ N 17 '32; Discussion. Am Pet Inst Proc p50-2 sec 4 D '32  
 Effect of past production practice and waste of gas now apparent in Oklahoma City pool. L. G. E. Bignell. diag Oil & Gas J 32:22+ Ag 31 '33  
 Evidence of big overproduction and of sales of overproduced oil in Oklahoma City. Oil & Gas J 31:11 F 2 '33  
 Fixing for illegal production told in Oklahoma hearing. Nat Pet N 25:22-3 F 15 '33



**PETROLEUM industry and trade—Oklahoma***—Continued*

Institute committee studies proration in Oklahoma. Nat Pet N 25:12 Mr 22 '33

Late sessions of proration investigators yield little important testimony. Oil & Gas J 31:35 Mr 9 '33

Murray shuts in Oklahoma City field to await new proration law. L. E. Smith. Nat Pet N 25:21-2 Mr 8 '33

No hot trails are uncovered yet in Oklahoma investigation. Nat Pet N 25:7-8 F 1 '33

Oklahoma City field will afford opportunity for many types of pumping equipment. L. G. E. Bignell. Oil & Gas J 31:10+ F 9 '33

Oklahoma City producer strike forces buyers to scramble for crude. L. E. Smith. Nat Pet N 25:25-6 Je 14 '33

Oklahoma operators squaring away for long hearing on proration. L. E. Smith. Nat Pet N 24:20-1 D 7 '32

Oklahoma proration. Nat Pet N 25:21-4 Mr 1 '33

Oklahoma Senate committee investigates proration. Nat Pet N 25:23 Ja 18 '33

Oklahoma Senate follows devious trail in hot oil search. L. E. Smith. Nat Pet N 25:19-21 F 8 '33

Operators in Oklahoma City field are engaged in running tubing and installing compressors. L. G. E. Bignell. Oil & Gas J 32:31 Ag 31 '33

Producer relates how he shipped 180,000 bbls. of oil and paid \$18,000 for protection. Oil & Gas J 31:11 F 16 '33

Several new pools opened in Oklahoma in first half of year, one a major development. W. A. Spinney. Oil & Gas J 32:65-6+ JI 27 '33

Stripper well oil producers organize to combat destructive legislation. Oil & Gas J 31:10+ Mr 9 '33

Stripper well owners organize to fight new tax measures. Nat Pet N 25:20 Mr 22 '33

System of power lines will make electricity available to all Oklahoma City operators. map Oil & Gas J 32:36 Ag 31 '33

Ten pools were opened in Oklahoma in 1932; two were regarded as of major importance. W. A. Spinney. Oil & Gas J 31:82-3, 86-7 Ja 26 '33

Threat of military shutdown brings proration order in Oklahoma. L. E. Smith. Nat Pet N 25:17 Ja 4 '33

Witnesses at state Senate's oil investigation at Oklahoma City make serious charges. Oil & Gas J 31:9+ F 9 '33

**Pennsylvania**

From cheese-box to vacuum tower; history of refining progress in Pennsylvania district. A. L. Foster. il Nat Pet N 25:71+ Mr 15 '33

New program of Pennsylvania grade crude oil association helps refiners and marketers. P. Truesdell. Nat Pet N 25:33-4+ Mr 15 '33

Well spacing in the Bradford field. K. B. Nowels and N. E. Maxwell. Am Pet Inst Proc p101-2; Discussion. 102-3 sec 4 D '32

**Persia**

Amicable adjustment of Anglo-Persian Oil's D'Arcy concession foreseen; interview with Sir John Cadman. A. E. Mockler. Oil & Gas J 31:8-10 D 15 '32

Anglo-Persian agreement. Economist 116:951-2 My 6 '33; Excerpt. Oil & Gas J 31:18 My 11 '33

Britain and Persia. Economist 115:1125-6 D 17 '32

Details of new Anglo-Persian oil concession are announced. Nat Pet N 25:30 My 31 '33

Discussion in the Persian Parliament preceded attempted cancellation of concession. Oil & Gas J 31:9+ D 15 '32

Oil concessions in the Middle East. F. G. Clapp. map Min & Met 14:89-92 F '33

Persian government is concerned over Iraq oil as menacing competition at low price. C. E. Kern. map Oil & Gas J 31:14 Mr 2 '33

Persian oil. Economist 115:1019-20 D 3 '32

Trouble in paradise; Britain's government-controlled oil concession in Persia is threatened by the Shah. Business Week p21-2 D 14; 22 D 21 '32

World market unaffected by Persia's cancelling concession to British. Nat Pet N 24:16-17 D 14 '32

**Rocky Mountain region**

New Mexico is Rocky Mountain's busiest area; Montana reports important discoveries. T. R. Ingram. Oil & Gas J 31:92, 94-5+ Ja 26 '33

Rocky Mountain fields accomplished little in new discoveries in the first half of 1933. T. R. Ingram. Oil & Gas J 32:78+ JI 27 '33

**Rumania**

Look for stabilization of Rumanian production and export operations during new year. Oil & Gas J 31:38 D 29 '32

Petroleum industry of Rumania. J. L. Chaillet and others. Inst Pet Tech J 19:733-9 Ag '33

Roumania and oil. Economist 117:268-9 Ag 5 '33

**Russia**

Expect sharp decline in Russia's oil exports as its domestic needs overtake production. il Oil & Gas J 31:35-6 D 29 '32

Internal troubles, smaller demand, hamper Soviet oil exports. Nat Pet N 24:19 N 16 '32

Planned development of oil fields as units discussed in Russia; first congress of the All-Union (Russian) petroleum scientific engineering society. L. C. Uren. Nat Pet N 25:23-4 O 11 '33

Plant expansion program now under way in Russia. Oil & Gas J 31:28 N 24 '32

Recognition of Soviet expected to involve major sales of equipment for expansion of industry. C. O. Willson. il Oil & Gas J 32:11-12 N 9 '33

Soviet is now building world's largest vacuum distillation unit in its enlarged Baku refinery. il Oil & Gas J 31:8 D 29 '32

Soviet Russia rapidly entering world's markets for refined oil products. Oil & Gas J 31:28 D 22 '32

World leaders may drop drive for compact including Russia in price stabilization plan. A. E. Mockler. Oil & Gas J 31:34 D 29 '32

**Shreveport area**

Shreveport district operators show confidence in the big territory by their preparations. D. H. Bancroft. Oil & Gas J 32:81+ JI 27 '33

**Texas**

Anticipating pumping conditions in east Texas permits the careful selection of equipment. L. G. E. Bignell. il Oil & Gas J 31:10-11 Ja 26 '33

Best of equipment available will be necessary to secure future oil from east Texas wells. Oil & Gas J 32:16+ JI 27 '33

Busy year in southwest Texas resulted in many new pools some of which are important. B. D. Stevenson. Oil & Gas J 31:98-9+ Ja 26 '33

Buying of east Texas crude by majors probed by railroad commission. L. E. Smith. Nat Pet N 25:21-4 Ja 18 '33

Cleaning and deepening wells in Yates pool by use of special small rotary outfit. L. G. E. Bignell. il Oil & Gas J 32:10+ S 14 '33

Company in east Texas installs central electric power generating plants on various leases. L. G. E. Bignell. Oil & Gas J 32:14+ JI 27 '33

Conroe pool attains first rank on Gulf coast although it is slightly less than year old. N. Williams. map Oil & Gas J 31:13+ D 15 '32

Cratering area in the Conroe field now covers leases totalling 213 acres. N. Williams. Oil & Gas J 31:16 Mr 2 '33

Crude oil producers and number of wells they own in east Texas fields. Oil & Gas J 32:95-7 JI 27 '33

Driscoll pool in Duval county, Texas, presents possibilities of deeper sand production. I. R. Sheldon. Oil & Gas J 31:116-17 Mr 30 '33

East Texas crisis is rapidly approaching climax; must either cut production or price of oil. L. E. Bredberg. Oil & Gas J 31:9+ Mr 16 '33

# **PETROLEUM industry and trade—Texas**

- Continued
- East Texas field now entering transition period from natural flow to mechanical production. L. G. E. Bignell. Oil & Gas J 32:11+ Je 15 '33
- East Texas field will be the proving ground for many different types of equipment. L. G. E. Bignell and others. il Oil & Gas J 32:37+ Je 22 '33
- East Texas hot oil shipments drop as "feds" enter field. L. E. Smith. Nat Pet N 25:31-2 Jl 26 '33
- East Texas maximum 325,000 barrels under new proration order. Nat Pet N 24:15 N 30 '32
- East Texas situation. C. B. Ames. Oil & Gas J 31:9+ Ja 12 '33
- Extension of pools, new producing methods and deep tests feature north and west Texas. L. E. Bredberg. Oil & Gas J 31:108, 110-11 Ja 26 '33
- Federal questionnaire demands data from all east Texas operators. L. E. Smith. Nat Pet N 25:14 Ag 2 '33
- Federal regulations banning transportation of hot oil put into effect promptly in east Texas. Oil & Gas J 32:7+ Jl 20 '33
- Hot oil regulations attacked in court by Texas operators. Nat Pet N 25:15-16 Ag 9 '33
- Intensive play in progress on the old Hull dome; production in Jackson sand stimulates work. N. Williams. il map Oil & Gas J 32:21-2 N 9 '33
- Lion and lamb lie down together at Texas proration hearing. L. E. Smith. Nat Pet N 25:21-2 S 20 '33
- Mass wildcat drilling plan in Wharton county; eight simultaneous tests by one company. N. Williams. map Oil & Gas J 32:10, 12 Ag 31 '33
- Modern cleaning out methods will improve ultimate oil recovery of east Texas field; discussion of materials found in well cores. L. G. E. Bignell. map Oil & Gas J 32:15+ S 7 '33
- More east Texas operators for proration as they figure pumping costs. L. E. Smith. il Nat Pet N 25:18-20 My 31 '33
- New east Texas proration plans heard by State commission; Oklahoma proration. Nat Pet N 25:20-4 Mr 1 '33
- New method of prorating east Texas forward step; may extend plan to cover all fields. L. G. E. Bignell. map Oil & Gas J 31:8-9 D 8 '32
- Nominations of Texas crude oil purchasers for months of January, February and March. Oil & Gas J 31:9-10 Ja 5 '33
- North central, west Texas and Panhandle fields held back by the east Texas flood of oil. L. E. Bredberg. Oil & Gas J 32:75+ Jl 27 '33
- Oil brightens outlook of Conroe, which once depended on diminishing lumber industry. T. F. Smiley. il Oil & Gas J 32:11+ My 25 '33
- Oil in Texas from a commissioner's viewpoint. E. O. Thompson. Oil & Gas J 31:9+ Ja 12 '33
- Panhandle operations in 1932 affected by big production in other districts. Oil & Gas J 31:117 Ja 26 '33
- Possibilities of Cockfield horizon and of Conroe trend in new Livingston district, Polk county. N. Williams. il map Oil & Gas J 31:12-13+ My 11 '33
- Pumping east Texas will handicap the shoe-string operators. W. F. Lowe. il Nat Pet N 25:31-2 Je 14 '33
- Roosevelt's hot oil order expected to curb east Texas output. L. E. Smith. Nat Pet N 25:17-18 Jl 19 '33
- Serpentine pools featured discoveries in first six months of 1933 in southwest Texas. B. D. Stevenson. Oil & Gas J 32:72+ Jl 27 '33
- Service on new fields; east Texas field, Upshur, Gregg, Rusk, Smith and Cherokee counties. Oil & Gas J 31:61+ Mr 23 '33
- Strake couldn't convince folk there was oil at Conroe, so he drilled a well himself. T. F. Smiley. Oil & Gas J 31:15+ My 18 '33

Texas gross production report for third quarter, 1932; tabulation. Oil & Gas J 31:72-8 Ja 5 '33

Texas gross production report for first quarter of 1933; tabulation. Oil & Gas J 32:72-8 Jl 6 '33

Tomball being written down as disappointing; millions spent in hope of another Conroe. N. Williams. map Oil & Gas J 32:11-12 S 14 '33

Tomball field, in Texas, is ideally situated for development and immediate crude market. N. Williams. il Oil & Gas J 32:17-18 Je 15 '33

Traditional oil boom scenery absent at Greta; development proceeding in orderly fashion. N. Williams. il Oil & Gas J 32:13+ O 19 '33

Well at Arriola, southeastern Hardin county, increases interest in development there. N. Williams. Oil & Gas J 32:13 O 12 '33

World's largest oil field suffered six months of overproduction and low crude prices. L. E. Bredberg. Oil & Gas J 32:62-3 Jl 27 '33

Year of turmoil in world's largest oil field in effort to keep down the flood of crude. L. E. Bredberg. Oil & Gas J 31:102, 103 Ja 26 '33

See also

Petroleum laws and regulations—Texas

## **United States**

- A.I.M.M.E. stabilization forum. E. Oliver and others. Oil & Gas J 31:10-11 My 11; 16-17 My 18; 32:10 Je 1; 11-12 Je 8; 14-15 Je 15; 11-13 Je 29; 9-10 Jl 13; 8-10 Jl 20; 11-13 Jl 27; 11-12 Ag 10; 12-14 S 7; 13-14 S 14 '33
- Are oil difficulties at an end? N. O. Fanning. Mag of Wall St 52:221-2+ Je 24 '33
- Bureau of mines monthly statistics. Published in Oil and gas journal
- Completed wells in 1932 surpassed 1931 record with new oil wells greatly on increase. J. McIntyre. Oil & Gas J 31:61+ Ja 26 '33
- Crude oil production in United States in 1932 falls to 6-year low of 785,304,403 bbls. J. McIntyre. Oil & Gas J 31:62-3+ Ja 26 '33
- Details of loan to Mexican government by three exporting oil companies. C. E. Kern. Oil & Gas J 31:32 Ja 5 '33
- Divorced lines could not transport oil as cheaply; ratable taking law would also be nullified. J. F. Wolters. Oil & Gas J 31:21 Ap 13 '33
- Eastern refiners condemn appeal to prejudices by minority groups as harmful to industry; semi-annual meeting of American petroleum association. Oil & Gas J 31:10+ Ap 27 '33
- Economic problems of the new deal discussed at N. P. A. meeting. Nat Pet N 25:24-8 Ap 26 '33
- Factors affecting the demand for gasoline and crude oil over the next few years. S. A. Swensrud. Oil & Gas J 31:14+ Mr 16 '33
- Failure of production control overshadows oil outlook; what course should be followed in petroleum investments? R. P. Hartwell. Mag of Wall St 51:483+ F 18 '33
- Federal trade commission ordered to investigate oil industry. Nat Pet N 25:19 Mr 1 '33
- First six months' imports limited to crude and fuel oil as tariff shuts out gasoline. A. E. Mockler. Oil & Gas J 32:87-8 Jl 27 '33
- Flush fields and illegal oil runs responsible for increased crude production in United States. J. McIntyre. Oil & Gas J 32:35 Jl 27 '33
- Industry headed in right direction. A. L. Beaty. Nat Pet N 24:15-16 N 16 '32
- Industry is prepared for showdown on proration enforcement measures. R. C. Holmes. Oil & Gas J 31:13+ Ap 27 '33
- Neither reasons nor facts offered in support of recommendation against pipe lines. W. T. Anderson. Oil & Gas J 31:8-10 Ap 13 '33
- New day dawns for oils. N. O. Fanning. Mag of Wall St 52:519-20+ S 16 '33



**PETROLEUM industry and trade—United States—Continued**

New steel market, in relation to needs of the oil industry. W. F. Lowe. Nat Pet N 25:22+ J1 12 '33

Oil control; Washington considers an emergency bill which is the height of government control. Business Week p8+ My 17 '33

Oil industry looks ahead. N. Robinson. il Bradstreet's 61:208-9+ Ja 28 '33

Oil industry ponders its problems. Forbes 31: 7-8 Ap 15 '33

Oil, very crude; administration would like to do something, but hesitates. Business Week p7-8 Ap 19; 12+ My 3 '33

Oil's well? C. S. Trumbull. il Credit & Fin Management 35:10-11+ F '33

Order and profit in oil. Econostat 1:6-7 J1 1 '33

Our present position and future course. A. L. Beaty. Am Pet Inst Proc (Gen sess) p5-10 Je '32

Outstanding men on A.I.M.E. stabilization committee to consider industry's problems. E. Oliver. Oil & Gas J 31:8-9 Mr 2 '33

Petroleum. Bradstreet's 60:1518+, 1662+; 61: 84+, 316+ N 19, D 17 '32, Ja 21, F 11 '33

Petroleum economics; conditions better than in 1931. H. J. Struth. Min & Met 14:26-7 Ja '33

Petroleum under the code. N. O. Fanning. Barron's 13:18 N 13 '33

Pipe line severance plan threatens continuance in the refining industry by independents. C. O. Willson. Oil & Gas J 31:14-15 Ap 13 '33

Pools were opened in several states in first half of year; drilling was greatly curtailed. J. McIntyre. Oil & Gas J 32:34+ J1 27 '33

Possible application of Appalachian decision to the oil industry. W. J. Donovan. Oil & Gas J 31:8+ Ap 20 '33

Posted price abandonment; no lines extended and curtailment of wildcatting probable. A. M. Rowley. map Oil & Gas J 31:11-13 Ap 13 '33

Production from settled field shows constant decline. Nat Pet N 25:25 Mr 22 '33

Recovery act won't freeze trade. H. Bennette. Nat Pet N 25:13 J1 12 '33

Report of I.B.A. oil and natural gas securities committee. Inv Banking 3:97-106 N 25 '32

Senator Thomas asks inquiry of price cuts and other phases of business. C. E. Kern. Oil & Gas J 31:12 Ja 26 '33

Sound conservation with co-operation by states will bring stabilization. C. B. Ames. Oil & Gas J 31:8 Ja 26 '33

Sound operating is possible, with minimum of supervision by the government. W. C. Platt. Nat Pet N 25:13-15 Je 14 '33

S.O.N.J. suggests plan to ban crude drafts from storage until the markets improve. A. E. Mockler. Oil & Gas J 31:13 Mr 2 '33

Tentative plans for new pipe lines and storage involve outlay of large sums of money. A. M. Rowley. Oil & Gas J 31:9 Ja 26 '33

Unrestricted production of big oil fields soon removes them from their prominent place. J. McIntyre. Oil & Gas J 31:6 F 2 '33

Valuable work of Petroleum and natural gas division of the U.S. Bureau of mines. H. C. Fowler. il Oil & Gas J 31:33-4+ Mr 2 '33

View of the oil industry from the sidelines. W. C. Platt. Nat Pet N 25:24-5 O 25 '33

What the oil industry needs. J. Backman and A. L. Jackson. Barron's 13:8 Ag 21 '33

**Overproduction problems**

Conservation and the producer. C. F. Roeser. Am Pet Inst Proc (Gen sess) p11-12 Je '32

Enforcement of proper quotas will bring NRA success in oil. A. J. Byles. Nat Pet N 25: 18+ O 25 '33; Same cond. Oil & Gas J 32: 100 O 26 '33

Governors of oil-producing states are invited to attend business restoration conference. C. E. Kern. Oil & Gas J 31:8 Mr 23 '33

Ickes summons oil state governors to discuss overproduction. Nat Pet N 25:11-12 Mr 22 '33

Law of supply and demand long ago upset in the interests of industry and of labor. T. J. Leahy. Oil & Gas J 32:30 Ag 24 '33

Oil control; prorationing weakened by dropping demand, obvious evasion, and legislative uncertainty. Business Week p10 Ja 25 '33

Petroleum conservation problems up to states; President Roosevelt declines to ask shut-down. Oil Paint & Drug Rep 123:46 Ap 10 '33

Petroleum industry asks for a czar; Washington conference. Oil Paint & Drug Rep 123: 16+ Ap 3 '33; Oil & Gas J 31:11+ Mr 30 '33

Petroleum industry still fighting the bug-bear of excess supply. Pet Age 27:26-7 Mr '33

Proration has failed, says Sinclair; other leaders see improvement. Nat Pet N 25:13-14 Ja 4 '33

Unselfish, patriotic approach will solve oil industry problem. H. L. Ickes. Nat Pet N 25:6-7 Mr 29 '33

**Venezuela**

See also  
Venezuelan oil concessions, limited

**Wyoming**

Wyoming officials start gasoline and crude price probes. Oil & Gas J 32:28+ Je 15 '33

**PETROLEUM laboratories**

U. S. Bureau of mines field laboratory established in Oklahoma City area. il Oil & Gas J 32:28 Ag 31 '33

**PETROLEUM laws and regulations**

Oil and gas conservation statutes. N. Ely, comp. 432p U. S. Federal oil conservation board, Washington '33

Oil conservation program should include wildcatting. C. B. Ames. Nat Pet N 25:20 Ja 18 '33

See also  
Oil lands  
Petroleum pipe lines—  
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**California**

California unit operation law becomes effective. Nat Pet N 25:31 Je 21 '33

Hot oil run law not yet effective in California proration. Nat Pet N 25:30 J1 26 '33

**Oklahoma**

Authority to enforce proration in new Oklahoma law. Nat Pet N 25:17-18 Ap 12 '33

Fines and imprisonment for violators provided in proposed proration law in Oklahoma. Oil & Gas J 31:10+ F 23 '33

Heavy fines and imprisonment for violators of proration law now in effect in Oklahoma. Oil & Gas J 31:24+ Ap 13 '33

Oklahoma corporation commission hampered by court decision calling its orders void. W. A. Spinney. Oil & Gas J 31:64 F 23 '33

Procedure in enforcing proration clarified by court decision. L. E. Smith. Nat Pet N 25:23-4 F 15 '33

Text of opinion of Supreme court of Oklahoma in case of the Russell petroleum company. Oil & Gas J 31:33-4 F 16 '33

Tight rules in Oklahoma City field to prevent marketing of illegal oil. J. McIntyre. Oil & Gas J 32:14 Ag 31 '33

**Texas**

Allocating allowable to all wells equally held invalid. Nat Pet N 25:13 Mr 22 '33

Allred protests entertaining hearsay testimony before the Texas legislative investigation. Oil & Gas J 31:10+ F 16 '33

Commission cuts Texas allowable under federal allocation. Nat Pet N 25:11 O 25 '33

Commission opens case by statement criticizing tactics of obstruction. Oil & Gas J 31:8 Ja 5 '33

Commission opens east Texas hearing at Tyler by questioning purchasers and pipe lines. L. E. Bredberg. Oil & Gas J 31:7+ Ja 19 '33

Court action is taken to back up commission's proration orders. Nat Pet N 25:15-16 Ja 11 '33

East Texas crude production and shipments. Oil & Gas J 31:32 F 23 '33 [cont weekly]

## PETROLEUM laws and regulations—Texas

—Continued

East Texas hearing before federal court ends, three judges withholding their decision. N. Williams. Oil & Gas J 31:6+ F 2 '33

East Texas hearing called for November 25 following passage of conservation law. Oil & Gas J 31:26 N 17 '32

Federal court in Texas asks producers to stop wrangling and go to U.S. Supreme court. Oil & Gas J 32:9+ Je 1 '33

Federal court upsets old rules of east Texas; approves Oklahoma system as model. Oil & Gas J 31:8+ Mr 23 '33

Historic decision on martial law in east Texas defines the power of governor and courts. Oil & Gas J 31:13-14+ D 22 '32

Inequalities of east Texas proration orders are made apparent by study of field section. L. G. E. Bignell. Oil & Gas J 32:9+ Je 8 '33

Method of applying proration is issue in Texas. Nat Pet N 24:15-16 D 23 '32

New method of fixing allowables in the east Texas order. Nat Pet N 24:16 D 7 '32

New Texas conservation act provides for wide alteration of former statute. Am Gas J 133:37 Ja '33

Now actually putting lid on east Texas field; enforcement at last being made effective. L. E. Bredberg. Oil & Gas J 31:9 F 9 '33

Oil law; Supreme court decision won't affect the principle or practice of prorationing. Business Week p10-11 D 21 '32

Order reducing east Texas allowable issued by Texas railroad commission. Oil & Gas J 32:32 Je 15 '33

Petroleum production proration threatened; U.S. Supreme court upholds an injunction against Texas militia control. Oil Paint & Drug Rep 122:14 D 19 '32

Petroleum's progress; new Texas oil law strengthens the power of proration. Business Week p9 N 23 '32

Present east Texas order furnishes basis for proration on capacity per well. L. G. E. Bignell. Oil & Gas J 31:23 Mr 23 '33

Proration administration attacked in court and by legislature. Nat Pet N 25:4+ F 1 '33

Proration enforcement improved in east Texas field. P. Wagner. Nat Pet N 25:17-18 F 8 '33

Proration under attack in east Texas, Oklahoma City. L. E. Smith. Nat Pet N 24:17-19 D 21 '32

Prospects for new Texas oil board brighter. Nat Pet N 25:8+ Mr 22 '33

Railroad commission again to tinker with east Texas proration. P. Wagner. Nat Pet N 25:13 My 10 '33

Repeal of new Texas conservation act asked of legislature. Nat Pet N 25:23 Ja 25 '33

Sinclair enjoined from opening wells in east Texas. Nat Pet N 25:22-3 Mr 8 '33

State proration hearing is called and increase in allowable for east Texas ordered. Oil & Gas J 31:11 Mr 16 '33

Statewide proration in Texas is up for consideration before commissioners. Oil & Gas J 31:8+ D 29 '32

Supreme court of the United States sets aside the orders of Governor Sterling of Texas. Oil & Gas J 31:10+ D 15 '32

Texas adopts market demand law with emergency clause. P. Wagner. Nat Pet N 24:17 N 16 '32

Texas petroleum council organized at Houston to support enforcement of proration orders. N. Williams. Oil & Gas J 32:12+ JI 13 '33

Texas suits aimed at federal regulation of petroleum. L. E. Smith. Nat Pet N 25:15-16 N 8 '33

Text of the new production regulations are announced for east Texas field. Oil & Gas J 32:31 Je 22 '33

U.S. charges hot oil violation as two attack Texas control. P. Wagner. Nat Pet N 25:24C O 18 '33

Use of troops to enforce proration held invalid by high court. Nat Pet N 24:14 D 14 '32

## United States

Administration and effect of the Recovery act on petroleum industry from legal viewpoint. P. Q. Nyce. Oil & Gas J 32:18+ S 7 '33

A.I.M.M.E. stabilization forum. J. O. Lewis; J. H. Marshall and N. L. Meyers. Oil & Gas J 32:14-15 Je 15; 11-13 Je 29; 9-10 JI 13; 8-10 JI 20; 11-13 JI 27; 11-12 Ag 10; 13-14 S 14 '33

A.P.I. executive committee appoints committee on state enforcement. Oil & Gas J 31:30 Mr 16 '33

Bill forbidding commerce in hot oil is before House committee. A. E. Heiss. Nat Pet N 25:15-17 Ap 26 '33

Capper bill provides heavy penalty for interstate shipment of "hot" oil. Oil & Gas J 31:24 Ap 13 '33

Directors of Institute stand by proration policy and urge strict compliance with the law. Oil & Gas J 31:8+ F 16 '33

Federal regulations banning transportation of hot oil put into effect promptly in east Texas. Oil & Gas J 32:7+ JI 20 '33

Hearings on oil control proposals carried to House ways and means committee. R. B. Stafford. Nat Pet N 25:9-11 My 31 '33

Hot oil regulations amended to simplify procedure. Nat Pet N 25:16 Ag 2 '33

Hot oil regulations attacked in court by Texas operators. Nat Pet N 25:15-16 Ag 9 '33

Licensing clause in oil bill rejected and later approved by Senate finance committee. C. E. Kern. Oil & Gas J 32:10+ Je 8 '33

Oil and gas conservation statutes [annotated]. 432p Federal oil conservation board, Washington; \$1.25 Supt. of doc. '33

Oil control bill gives dictatorial power to Secretary of interior. Nat Pet N 25:7-8 My 24 '33

Oil dictatorship bill sidetracked by committee; industry recovery bill being pushed instead. C. E. Kern. Oil & Gas J 32:7+ My 25 '33

Oil industry's program embodied in bills introduced in House and Senate. A. E. Heiss. Nat Pet N 25:7-8+ Ap 19 '33

Oil men, associations and representative of the railroads agree on text of hot oil bill. C. E. Kern. Oil & Gas J 31:9+ Ap 20 '33

Oil stabilization to be sought early; how the act will be applied. R. B. Stafford. Nat Pet N 25:16-19 Je 14 '33

Petroleum regulations issued by Ickes to enforce decree against hot oil; text. Oil Paint & Drug Rep 124:17+ JI 24 '33

Petroleum regulations on illegal output amended. Oil Paint & Drug Rep 124:46 JI 31 '33

Policies discussed to aid states in enforcing proration. Nat Pet N 25:20+ Mr 15 '33

President's address at A. P. I. 13th annual meeting. A. L. Beaty. Am Pet Inst Proc p18-23 sec 1 D '32; Same cond. Oil & Gas J 31:24+ N 17 '32

Review of laws affecting production in the principal producing states; Oklahoma, California, Kansas, and Texas. J. E. Kilgore. Am Pet Inst Proc (Production div) p9-11 Je '32

Roosevelt asked to prohibit commerce in illegally produced oil. Nat Pet N 25:7-8 JI 12 '33

Secretary Ickes amends hot oil ban, designating only certain districts. Oil & Gas J 32:10 Ag 10 '33

Senate finance committee holds oil hearing on industry recovery and Marland-Ickes bills. C. E. Kern. Oil & Gas J 32:9+ Je 1 '33

Text of the proposed federal oil control bill. Oil & Gas J 31:8 My 11 '33

U.S. may halt interstate shipments of illegally produced oil. V. B. Guthrie. Nat Pet N 25:3-5 Mr 29 '33

U. S. order against hot oil shipments reaches down to individual wells. Nat Pet N 25:15-16 JI 19 '33

See also  
Petroleum industry  
and trade—Regulation



**PETROLEUM pipe lines**

- Associated oil co. lays new submarine pipeline at Monterey terminal. Nat Pet N 25:22 Ap 19 '33
- Concessions for the Mosul-Haifa pipe line. A. Bonné. map Ann Am Acad 164:116-26 N '32
- Deduction for losses in transportation argued before railroad commission. Oil & Gas J 31:7 F 2 '33
- Devastating possibilities in pipe line proposal in its effects on oil bonds and stockholdings. Oil & Gas J 31:18 Ap 13 '33
- Development of oil pipe line systems. Baron's 13:15 Ap 17 '33
- Divorced lines could not transport oil as cheaply; ratable taking law would also be nullified. J. F. Wolters. Oil & Gas J 31:21 Ap 13 '33
- Divorcing the oil pipelines would not help producers. L. E. Smith. Nat Pet N 25:19-20 Ap 12 '33
- First all welded pipe lines installed at Montreal, Canada, by Shell oil co. V. Forgett. il diag Oil & Gas J 31:30 D 22 '32
- Investigation by the House interstate committee found no reason for divorcing pipe lines. C. E. Kern. Oil & Gas J 31:19-20 Ap 13 '33
- Iraq pipe line construction proceeds favorably under exceptionally difficult conditions. A. E. Mockler. Oil & Gas J 32:38-9 S 21 '33
- Neither reasons nor facts offered in support of recommendation against pipe lines. W. T. Anderson. Oil & Gas J 31:8-10 Ap 13 '33
- New pipe lines in Texas, Oklahoma, Kansas and other oil states in first half of the year. Oil & Gas J 32:90+ JI 27 '33
- Oil pipe line construction in United States the past year was principally on short lines. Oil & Gas J 31:70+ Ja 26 '33
- Ownership and use of storage provided under present system. Oil & Gas J 31:20 Ap 13 '33
- Pennsylvania grade crude oil moves entirely by pipeline. map Nat Pet N 25:57 Mr 15 '33
- Pipe line severance plan threatens continuance in the refining industry by independents. C. O. Willson. Oil & Gas J 31:14-15 Ap 13 '33
- Pipe lines. A. C. Hartley. Inst Pet Tech J 19:479-90 Je '33
- Posted price abandonment; no lines extended and curtailment of wildcatting probable. A. M. Rowley. map Oil & Gas J 31:11-13 Ap 13 '33
- Report on pipe lines. (72d Cong. 2d sess. House Rep. 2192) 2v U. S. Gov't. ptg. office, Washington '33
- Roosevelt hopes states will aid oil industry; favors divorce of interstate pipe lines. C. E. Kern. Oil & Gas J 31:9 Ap 6 '33
- Sales of U.S. pipe line equipment for Iraq line tribute to efficiency of American material. Oil & Gas J 31:39 D 29 '32
- Some important points in the pipe line situation that have been too frequently overlooked by critics. Oil & Gas J 31:13 Ap 13 '33
- State railroad commission announces reduction of pipe line rates in Texas. Oil & Gas J 31:12 F 9 '33
- Taxability of pipe line oil being transported. C. E. Kern. Oil & Gas J 32:33 Je 29 '33
- Tentative plans for new pipe lines and storage involve outlay of large sums of money. A. M. Rowley. Oil & Gas J 31:9 Ja 26 '33
- Text of the bill introduced in Congress to compel divorce of pipe lines from oil companies. C. E. Kern. Oil & Gas J 31:10 Ap 13 '33

**Corrosion**

- Influence of oil in soil corrosion. W. F. Rogers. il Am Pet Inst Proc p131-5 sec 4 D '32

**Maintenance and repair**

- Survey of advances made in the maintenance and repair of crude oil pipe line systems. W. G. Heltzel. il diags Oil & Gas J 32:27-30, 89-92 O 26 '33

**Pumping stations**

- Capacity of eastern pipe line is doubled after oil flow is reversed from East to West. E. H. Fortmann. il map Oil & Gas J 31:11-12 D 1 '32
- New type large capacity pipe line pump for outdoor service revolutionary in design. il Oil & Gas J 31:12-13 S 29 '32; Abstract. Mech Eng 55:129-30 F '33
- Pipe line pumping and automatic control. J. Fies. il diags Elec Eng 52:29-34 Ja '33

**Regulation**

- House committee makes report on pipe lines; would regulate the transportation of gas. C. E. Kern. Oil & Gas J 31:14+ Mr 9 '33
- New and hazardous venture in pipe-line regulation. K. L. Hyder. Pub Util 11:343-51 Mr 16 '33
- U.S. should control the oil pipelines. E. W. Marland. Nat Pet N 25:21-2 Ap 19 '33

**PETROLEUM products**

- Expanding outlets for heavier products draw attention of marketers at A.P.I. meeting. Oil & Gas J 32:9+ My 25 '33
- Highly specialized petroleum naphthas replace coal tar products in paint and lacquer. R. C. Conine. Oil & Gas J 31:66-7 Mr 30 '33
- Insecticidal studies of Midcontinent distillates as bases for pyrethrum extracts. H. H. Richardson. bibliog Ind & Eng Chem 24:1394-7 D '32
- Many and varied specialty products as well as gasoline, motor oil, etc. produced at Midcontinent refineries. A. L. Foster. il Nat Pet N 25:111-12, 114-17 My 17 '33
- Method of determining solvent properties of volatile thinners in varnishes. M. Frandsen. Ind & Eng Chem Anal 5:184-5 My 15 '33
- Montana Supreme court rules against classifying oil as a public utility. Oil & Gas J 32:23 JI 13 '33
- New material for the prevention of naphthalene deposits in mains; abstracts. W. v. Piotrowski and J. Winkler. Gas J (Lond) 202:912-13 Je 28 '33; Am Gas J 139:29 Ag '33
- Newer products from petroleum. G. Egloff. il J Chem Educ 10:524-8 S '33
- Petroleum as a source of paint materials; solvents, diluents and thinners. C. I. Kelly. Chem Age (Lond) 28:240 Mr 18 '33; Same. Chem Markets 32:417-18 My '33; Discussion. Chem Age (Lond) 28:240-1 Mr 18 '33
- Petroleum products. 80p Texas co, New York '33
- Photoelectric colorimeter for measuring color intensities of liquid petroleum products. B. W. Story and V. A. Kalchevsky. diag Ind & Eng Chem Anal 5:214-17 My 15 '33; Abstract. Oil & Gas J 31:18 Ap 6 '33
- Progress of naphthology, 1932; special products. E. B. Evans. bibliog Inst Pet Tech J 19:628-35 JI '33
- Refiners discuss papers on research at Houston; new methods and tests win attention. W. T. Ziegenhain. Oil & Gas J 31:10 N 24 '32
- Solubility of hydrogen and natural gas in oils at high operating temperature and pressure. V. Ipatieff, jr, V. P. Teodorovitch and I. M. Levine. diag Oil & Gas J 32:14+ O 5 '33
- Synthetic petroleum products. G. Egloff. Oil Paint & Drug Rep 123:23 My 22 '33; Same. Soc Chem Ind J (Chem & Ind) 52:486 Je 9 '33

**See also**

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|-------------------------|------------------------|
| Benzine                 | Lubricating oils       |
| Gas oil                 | Oil fuel               |
| Gasoline                | Paraffin               |
| Hydrocarbons            | Petroleum coke         |
| Kerosene                | Petroleum distillation |
| Liquefied petroleum gas | Petroleum refining     |
| Lubricating greases     |                        |

**Prices**

- Atlantic Coast prices were higher last year for light products and lower for heavy oils. A. E. Mockler. Oil & Gas J 31:113-14 Ja 26 '33

**PETROLEUM products—Prices—Continued**

New lows in average prices for refined products established in the first six months of 1933. C. O. Willson. Oil & Gas J 32:36+ JI 27 '33

1932 average prices on many refined products show increases from low levels of 1931. C. O. Willson. Oil & Gas J 31:64+ Ja 26 '33

Oil and gas journal's table showing low average prices for 1932, 1931 and 1930 on representative refinery products. Oil & Gas J 31:66-7 Ja 26 '33

Prices fixed! Pet Age 27:12-13 O '33

Text of Ickes' order fixing oil prices. Nat Pet N 25:13-17 O 18 '33

**Statistics**

A.P.I. committee on refinery statistics estimates requirements. Oil & Gas J 31:23 N 17 '32

Exports of 11 refined oil products from port of New York dropped very seriously in 1932. A. E. Mockler. Oil & Gas J 31:112 Ja 26 '33

Gasoline exports rank second in 1932. Nat Pet N 25:62 My 31 '33

Petroleum solvents, lubricants, fuels. Published in weekly numbers of Oil, paint and drug reporter

Refined petroleum output substantially less in 1932. Oil Paint & Drug Rep 124:47 O 9 '33

Refined products exports from New York show recovery during first six months of 1933. A. E. Mockler. Oil & Gas J 32:86 JI 27 '33

Statistical survey and economic forecast of the refining situation; reports of A.P.I. committee. A. J. McIntosh; J. W. Frey. tables Am Pet Inst Proc (Gen sess) p13-27 Je '32; p6-17 sec 1 D '32

World survey shows decline of 4 per cent in petroleum products demand. V. R. Garfias and R. V. Whetsel. Oil & Gas J 32:25 Je 22 '33; Same. Nat Pet N 25:60 JI 19 '33

**Testing**

Advocates international standardization in testing of petroleum products. R. P. Anderson. Oil & Gas J 31:62 Mr 30 '33

Progress of naphthology, 1932; standard methods of testing petroleum and its products. J. S. S. Brame. Inst Pet Tech J 19: 652-4 JI '33

Vacuum distillation test for high boiling petroleum products. A. L. Davis and C. V. Hornberg. diag Nat Pet N 25:65-6 S 20 '33

**Transportation**

Proposal for pooling of tankers causes protest; plan is to make vessels common carriers. C. E. Kern. Oil & Gas J 31:10 D 8 '32

Summary of agreement on new tanker pool; essential features of plan are outlined. C. E. Kern. Oil & Gas J 31:10+ D 8 '32

**PETROLEUM refineries**

Belgian government fostering development of refining industry to meet nation's needs. il Oil & Gas J 31:73 Mr 30 '33

French refinery expansion programs. il Oil & Gas J 31:13 D 29 '32

From cheese-box to vacuum tower; history of refining progress in Pennsylvania district. A. L. Foster. il Nat Pet N 25:71+ Mr 15 '33

Host of small topping plants operating in Northwest. Nat Pet N 25:28 My 10 '33

Kansas strengthens refinery position with new plants and several improvement programs. C. O. Willson. il Oil & Gas J 31: 15-16 F 16 '33

New Port Jerome refinery in France a triumph of construction and of engineering ability. il Oil & Gas J 31:10+ D 29 '32

Pipe line severance plan threatens continuance in the refining industry by independents. C. O. Willson. Oil & Gas J 31:14-15 Ap 13 '33

Problems involved in providing safe and adequate water supplies for oil refinery uses. S. T. Powell. il diags Water Works & Sewerage 80:211-15 Je '33

Provide varied accommodations for employees in building modern refineries in France. il Oil & Gas J 31:8 Ap 6 '33

Les raffineries françaises de pétrole de Petit-Couronne, près Rouen, et de Pauillac (Gironde). A. Grebel. il diags plans Génie Civil 102:77-83 Ja 28 '33

Refinery modernizing and its financing is a big problem of 1933. A. L. Foster. Nat Pet N 25:7-8+ Ja 4 '33

Refining plants facing modernization when oil industry is stabilized. A. L. Foster. Nat Pet N 25:19-20 JI 19 '33

Reinforced brick masonry for industrial use; Standard oil company (Indiana) refinery, Wood River, Ill. H. S. Haworth. il plan Civil Eng 3:204-6 Ap '33

Shell oil company opens new Montreal refinery. il Can Chem & Met 17:151-2 JI '33

Small refiners in Mid-continent modernizing plants rapidly. Nat Pet N 25:21-2 Je 7 '33

Survey of cracking plants, January 1, 1932. G. R. Hopkins. U S Bur Mines Information Circ 6648:1-15 '32

Vacuum Oil subsidiary completing 5,000 barrel refinery in Port Jerome district of France. A. E. Mockler. il Oil & Gas J 31:8 Ja 26 '33

*See also*

Gasoline—Manufac-  
ture

Petroleum distilla-  
tion  
Petroleum refining

**Accidents**

Accident experience of four Louisiana petroleum refineries. F. E. Cash. U S Bur Mines Information Circ 6721:1-6 '33

**Accounting**

Accounts of an oil company. H. G. Humphreys. J Account 56:109-32, 271-82, 365-75 Ag, O-N '33

Cost accounting and the chemical engineer. A. G. Peterkin and H. W. Jones. Chem & Met Eng 40:133-5 Mr '33

Fundamentals of yields in cost accounting for refined products. H. T. Zimmerman. Nat Pet N 25:27-8+ F 8; 31-2+ F 15 '33

Obsolescence. H. W. Ralph. Nat Pet N 24: 29-30+ D 28 '32; 25:27-8+ Ja 4 '33

**Directories**

Petroleum refineries, including cracking plants, in the United States, January 1, 1933. G. R. Hopkins and E. W. Cochrane. U S Bur Mines Information Circ 6728:1-28 '33

**Electric equipment**

Continental installs ultra-modern electric power switching equipment at Ponca City refinery. W. T. Ziegenhain. il diag Oil & Gas J 31:49+ Mr 30 '33

Synchronous motors in oil refinery service. il Elec West 70:159-60 My '33

**Employees**

Man-hour productivity in the petroleum-refining industry in 1929. Monthly Labor R 35: 1233-92 D '32

Occupational cancer. Int Labour R 26:854-6 D '32

Refinery managers make plans to apply maximum hours of employment plan. Oil & Gas J 32:27 JI 27 '33

**Equipment**

Analysis and control of water supply at Baytown refinery of Humble company. P. A. Washer. diags Oil & Gas J 31:84-8 Mr 30 '33

Bell oil and gas company has modernized and added to capacity of Dubbs cracking unit. W. T. Ziegenhain. il Oil & Gas J 32:14+ Ag 24 '33

Calculations for the design of bubble tower foundations. W. C. Edmister. diag chart Nat Pet N 25:35-6 F 15; 27-8+ F 22; 35-6 Mr 1 '33

Chemical engineering achievements in petroleum refining. il Chem & Met Eng 40:288-90 Je '33



PETROLEUM refineries—Equipment—*Cont.*

Combination cracking unit may perform wide variety of duties in modern refining plant. G. Armistead, jr. plans Oil & Gas J 32:11+ N 2 '33

Common reflux system gives great flexibility in new Marathon cracking units. J. C. Chatfield. flow sheet il Nat Pet N 25:32-4+ O 18 '33

Continuous clay method of treating gasolines assures products of high color stability. C. O. Willson. il diag Oil & Gas J 31:61-2 Mr 30 '33

Corrosion in non-pressure refining equipment. S. S. Shaffer and J. E. Pollock. il diag Am Pet Inst Proc p63-8 sec 3 D '32; Same. Oil & Gas J 31:88-90 N 17 '32; Discussion. E. S. Dixon. Am Pet Inst Proc p68-70 sec 3 D '32

Design and power innovations in new Pennsylvania re-forming unit. A. L. Foster. flow diag il Nat Pet N 25:35-6+ Ap 26 '33

Design calculations for vapor-recovery and rectifying units. G. G. Brown and M. Souders, jr. Am Pet Inst Proc (Refining div) p9-22 Je '32

Develop gage for indicating internal wear of cracking still tubes. J. A. McMonagle, C. A. Pines and J. F. Williams. diag Nat Pet N 24:49 N 16 '32

Development and trend in ferrous alloys for high-temperature service. F. N. Speller. bibliog il Am Pet Inst Proc p102-12 sec 3 D '32; Same. Oil & Gas J 31:74-8 F 16 '33; Discussion. Am Pet Inst Proc p112-13 sec 3 D '32

Dickey plant at McPherson combines topping and cracking in one continuous operation. C. O. Willson. il Oil & Gas J 31:10 Mr 9 '33

Economical method of removing sludge from light oils offered by packed coagulator. H. G. Vesper. diags Oil & Gas J 31:44+ Mr 30 '33

Effect of corrosive agents on admiralty metal. S. Born and W. L. Nelson. bibliog Nat Pet N 25:27-8, 30-1 Jl 19 '33

Fortschritte in der erdol-industrie 1929-1932. C. Walther. bibliog diags Chemische Fabrik 6:249-53, 261-5, 274-7 Je 7-21 '33

Fuel oil flashing unit added to cracking plant at the Anderson-Prichard refinery in Cyril, Okla. W. T. Ziegenhain. flow chart il Oil & Gas J 32:14 O 12 '33

Globe oil & refining company has introduced many features in new McPherson plant. W. T. Ziegenhain. flow sheet il Oil & Gas J 32:14-15, 34+ Je 29 '33

High pressure equipment in the petroleum industry. G. L. MacPherson. il Can Chem & Met 17:159-62+ Ag '33

How \$24,000 was saved in replacing corroded bubble tower sections. W. Samans. diags Nat Pet N 24:25 N 16 '32; Same. Oil & Gas J 31:77 N 17 '32

Inspection of refinery equipment. T. D. Tift. Am Pet Inst Proc p47-50 sec 3 D '32

Knowles ovens solve residuum disposal problem, pay satisfactory profit. A. L. Foster. il diag Nat Pet N 25:26+ Mr 8 '33

Lachman treating and multi-coil cracking at new Globe plant. A. L. Foster. flow diag il Nat Pet N 25:26-8+ Je 7 '33

Low chrome steels with molybdenum and tungsten solving worst refinery problems. G. W. Johnson. Nat Pet N 24:29+ N 16 '32

Many types of conveyors are available to meet lubricating oil canning requirement. E. F. Morgan. il Nat Pet N 25:47-8+ S 20 '33

Modern alloys; their application to the solution of refinery problems. A. L. Foster. il Nat Pet N 24:45-6+ N 16; 27-8+ D 7 '32

New Bradford refinery gives close fractionation, high yields. P. Truesdell. il Nat Pet N 25:25-6+ Jl 12 '33

New distillation unit increases yield of lubricating oils. P. Truesdell. il Chem & Met Eng 40:517-19 O '33

New Dubbs unit at Shell plant has two heaters and cracks wide range of charging stocks. W. T. Ziegenhain. il Oil & Gas J 31:22-3 Ja 19 '33

New furnaces in Magnolia refinery enable cross units to handle most any type of stock. W. T. Ziegenhain. flow sheet il Oil & Gas J 31:11+ D 22 '32

New German telescope permits study of inside tube walls. il Nat Pet N 24:24 N 16 '32

New rectifying plant at Union company refinery incorporates unusual construction features. flow sheet il Oil & Gas J 32:8 Je 22 '33

New reforming unit enables Pennzoil to refine gasoline of uniformly high octane rating. P. M. Robinson. il diags Oil & Gas J 31:56+ Mr 30 '33

Normandy plant of French company incorporates modern trends in design of new equipment. flow sheet diag Oil & Gas J 32:12-13+ Je 15 '33

Progress of naphthology, 1932; distillation and fractionation equipment. R. K. Fischer. pls Inst Pet Tech J 19:529-38 Je '33; Excerpts. Chem Age (Lond) 29:185-6, 187 Ag 26 '33

Refinery gadgets. F. B. Gilliams and others. il diags Am Pet Inst Proc p71-80 sec 3 D '32

Refinery smoke nuisance abated by photonic cell. J. A. Murphy. Oil & Gas J 31:32 My 4 '33

Revamping adds 66% to gasoline yield from Coutts refinery. A. L. Foster. il Nat Pet N 25:32-4 Jl 19 '33

72-in. hollow-forged reaction chamber. il diags Engineering 134:559-61, pl 21 N 11 '32

Simrall refinery in Canada is designed to give flexibility in operation. il Oil & Gas J 31:28 D 1 '32

Soviet is now building world's largest vacuum distillation unit in its enlarged Baku refinery. il Oil & Gas J 31:8 D 29 '32

Truck loading dock at refinery meters all bulk deliveries. W. F. Lowe. il Nat Pet N 25:36-7 Mr 22 '33

Type of equipment and methods used in canning lubricating oils. A. L. Foster. il plan Nat Pet N 25:36+ S 20 '33

Unique installation at Canadian refinery provides for the refrigerated storage of gasolines. C. O. Willson. il Oil & Gas J 31:9 F 23 '33

Use of phenol as a selective solvent in refining lubricating oils. R. K. Stratford, H. H. Moor and O. S. Pokorny. il plan Nat Pet N 25:17-20+ Mr 29 '33; Same. Oil & Gas J 31:8-9+ Mr 30 '33

Vapor gathering systems with steel balloons reduce evaporation and corrosion losses. L. G. E. Bignell. il diags Oil & Gas J 32:8+ O 12 '33

Wolverine-Empire refining company has begun operation of completely modernized plant. R. C. Conine. flow charts il Oil & Gas J 32:13+ N 9 '33

World's largest hollow forging; reaction chamber for cracking unit. il Chem Age (Lond) 27:sup33 D 3 '32

## Fires and fire protection

Fire and safety marshals association of the National petroleum association annual meeting, Bradford, Pa. June 2-3. Nat Pet N 25:19-20 Je 7 '33

Fire prevention more important in depression. Fire marshals assn. meeting. Nat Pet N 25:25 Ja 18 '33

## Fuel

Survey of fuel consumption at refineries in 1931. G. R. Hopkins. U S Bur Mines Rep of Invest 3198:1-9 '32; Abstract. Nat Pet N 24:22 D 14 '32

Use of petroleum coke as boiler-plant fuel. O. F. Campbell. il diags Am Pet Inst Proc p28-43 sec 3 D '32; Same abr. Oil & Gas J 31:85-6 N 17 '32

## Gas production

See Petroleum refining—By-products

## Laboratories

Continuous acid treating of light oils in the laboratory. E. V. Zublin. diags Am Pet Inst Proc p79-80 sec 3 D '32; Same. Oil & Gas J 31:74 N 17 '32

**PETROLEUM refineries—Laboratories—Cont.**

- Laboratory apparatus for continuous acid treatment of light oils. E. W. Zublin. *diag* Nat Pet N 24:37+ N 16 '32
- Some developments in test methods for petroleum products. G. B. Murphy and C. Wirth. *il diag* Nat Pet N 25:16-18, 20 Ag '30 '33
- Variety of gadgets perfected by operators contribute to the efficiency of refineries. *diags* Oil & Gas J 31:74+ N 17 '32

**Management**

- Co-ordination of executive offices for effective and economical management of refineries. S. P. Keator. *Oil & Gas J* 32:11-14 Jl 6 '33

**Models**

- Oil refining process and piping explained by World's fair model. *il Heating-Piping* 5:340-1 Jl '33

**Power**

- Continental installs ultra-modern electric power switching equipment at Ponca City refinery. W. T. Ziegenhain. *il diag* Oil & Gas J 31:49+ Mr 30 '33
- Refinery plant modernized. E. B. Severs. *Power Pl Eng* 37:90 F '33

**Safety devices and measures**

- Continental safety program cuts out banquets, oratory and the like, but it gets results. T. F. Smiley. *il Oil & Gas J* 31:13+ Ja 12 '33
- Safe operation of pressure stills; methods employed in eastern refinery. W. B. Murphy. *il Oil & Gas J* 31:11-13 D 29 '32

**Statistics**

- Man-hour productivity in the petroleum-refining industry in 1929. *Monthly Labor R* 35: 1283-92 D '32
- 1933 survey of petroleum refineries in United States. *Oil & Gas J* 31:41+ Mr 30 '33
- Petroleum refineries, including cracking plants, in the United States, January 1, 1933. G. R. Hopkins and E. W. Cochrane. *U S Bur Mines Information Circ* 6728:1-28 '33
- Record number of operating refineries in United States despite reductions in runs to stills. C. O. Willson. *Oil & Gas J* 31:40-1 Mr 30 '33
- Survey of operating refineries in Canada. *Oil & Gas J* 31:47 Mr 30 '33
- War's demand speeded development of Mid-continent refining industry. L. E. Smith. *Nat Pet N* 25:56, 61-2 My 17 '33

**Vapor recovery**

- Bell oil and gas company has modernized and added to capacity of Dubbs cracking unit. W. T. Ziegenhain. *il Oil & Gas J* 32:14+ Ag 24 '33
- Design calculations for vapor-recovery and rectifying units. G. G. Brown and M. Souders, jr. *Am Pet Inst Proc (Refining div)* p9-22 Je '32
- Freezing-out method for gasoline analysis of refinery gases. J. L. Oberseider. *Nat Pet N* 25:35 S 13 '33
- Refinery and natural gasoline technology; oil circulation, plate requirements, in an absorption process. G. A. Burrell and N. C. Turner. *Nat Pet N* 25:24+ S 27 '33

**Waste**

- Economical method of removing sludge from light oils offered by packed coagulator. H. G. Vesper. *diags* Oil & Gas J 31:44+ Mr 30 '33
- Elimination of sulfur-dioxide nuisance in light-oil sludge separation. J. B. Rather. *Am Pet Inst Proc (Refining div)* p59 Je '32
- Preventing escape of mercaptans in reclaiming caustic soda used in washing gasoline recovered from refinery gases. W. Mendius. *Am Pet Inst Proc (Refining div)* p38 Je '32
- Sulphuric acid produced from heavy refinery sludge by use of improved contact process. S. F. Spangler. *diag* Oil & Gas J 32:76-7 O 26 '33

**PETROLEUM refining**

- Accounts of an oil company. H. G. Humphreys. *J Account* 56:109-32, 271-82 Ag, O '33

- Broad research program at Pennsylvania state college furthers refining technology. A. L. Foster. *il Nat Pet N* 25:59-62+ Mr 15 '33

- Caustic soda still indispensable in petroleum refining. J. F. Middleton. *Nat Pet N* 25: 29-30+ Ja 18 '33

- Centrifuge dewaxing with trichlorethylene. C. F. Pester. *Am Pet Inst Proc* 14M(3):4-6 My '33; Same. *Oil & Gas J* 32:52+ My 25 '33; Abstract. *Nat Pet N* 25:36-7 My 17 '33

- Chemical engineering achievements in petroleum refining. *il Chem & Met Eng* 40:288-90 Je '33

- Chemical refining of petroleum. V. A. Katichevsy and B. A. Stagner. 451p *Chemical catalog* co. '33

- Chemistry and engineering bring rapid developments in refining industry. A. L. Foster. *il Nat Pet N* 24:26-8 N 16 '32

- Dewaxing oils in propane solution with self-refrigeration. W. H. Bahlke, R. N. Giles and C. E. Adams. *flow diag* *il diag* *Am Pet Inst Proc* 14M(3):16-23 My '33

- Economical method of removing sludge from light oils offered by packed coagulator. H. G. Vesper. *diags* Oil & Gas J 31:44+ Mr 30 '33

- Filtering wax from petroleum oils with filter aid. W. P. Gee. *plans* *Am Pet Inst Proc* 14M(3):24-31 My '33

- Fortschritte in der erdöl-industrie 1929-1932. C. Walther. *bibliog* *diags* *Chemische Fabrik* 6:274-7 Je 21 '33

- From cheese-box to vacuum tower; history of refining progress in Pennsylvania district. A. L. Foster. *il Nat Pet N* 25:71+ Mr 15 '33

- Fundamental data and practical suggestions to refiners presented at American chemical society meeting. *Oil & Gas J* 31:18-19 Ap 6 '33

- Hydrogenated diluents. A. M. Platow. *Chem Markets* 32:310 Ap '33

- L'hydrogénation industrielle du pétrole par le procédé Standard I.G. A. Grebel. *Génie Civil* 102:442-6 My 13 '33

- Laboratory control of the quality of paraffin distillate. L. L. Davis and D. S. Campbell. *bibliog* *il Am Pet Inst Proc* 14M(3):32-9 My '33; Same. *Oil & Gas J* 32:49-50+ My 25 '33; Abstract. *Nat Pet N* 25:39+ My 17 '33; Discussion. *Am Pet Inst Proc* 14M(3): 39-42 My '33

- Many and varied specialty products as well as gasoline, motor oil, etc. produced at Mid-continent refineries. A. L. Foster. *il Nat Pet N* 25:111-12, 114-17 My 17 '33

- Mineral oil sulphonic acids; abstract. S. von Pilat, J. Sereda and W. Szankowski. *Soc Chem Ind J* 52:sup211 Mr 17 '33

- Modern refining methods. A. L. Foster. *Nat Pet N* 25:34-5 Ja 18; 60+ Ja 25; 22+ F 1 '33

- New methods of dewaxing and acid refining mineral oils. N. O. Backlund. *Inst Pet Tech J* 19:1-15 Ja '33; Abstract. *Chem Age (Lond)* 27:575-6 D 17 '32; Discussion. *Inst Pet Tech J* 19:15-24 Ja '33

- Newer developments in the refining and utilization of petroleum products. R. K. Stratford. *Soc Chem Ind J (Chem & Ind)* 52:266-7; Discussion. 267-8 Mr 24 '33

- Oil refinery refrigeration. *diag* *Power Pl Eng* 37:386 S '33

- Progress of naphthology, 1932; chemical and physical refining. B. C. Allibone. *Inst Pet Tech J* 19:539-48 Je '33

- Progress of naphthology, 1932; refining. W. J. Wilson. *Inst Pet Tech J* 19:497-503 Je '33

- Quantitative mercaptan determination with cupric chloride solution. W. A. Schulze and L. V. Chaney. *il Nat Pet N* 25:37-8, 40 Ag 23 '33

- Rapid strides in refining research disclosed at A.P.I. meeting. *diag* *Nat Pet N* 25:21-2 My 24 '33

- Refiners discuss papers on research at Houston; new methods and tests win attention. W. T. Ziegenhain. *Oil & Gas J* 31:10 N 24 '32

- Refinery engineering. W. Miller. *Min & Met* 14:28-9 Ja '33



**PETROLEUM refining—Continued**

Refining of Playa Del Rey crude oil presents unusual problems due to sulphur content. O. C. Smith and H. H. Spangler. *Oil & Gas J* 31:75-6 Mr 30 '33

Removal of sulphur compounds from petroleum distillates. H. N. Holmes, A. L. Elder and N. Beeman. *diags J Phys Chem* 36:2981-93 D '32

Science replacing empirical methods in oil refining. A. E. Dunstan. *Nat Pet N* 25:22-3 O 25 '33

Solvent dewaxing of oils with benzol and acetone. F. X. Govers and G. R. Bryant. *flow diag il Am Pet Inst Proc* 14M(3):7-15 My '33

Solvent treatment of distillates is now applied with success to the heavier oil fractions. A. W. Nash. *diags Oil & Gas J* 31:52-4 Mr 30 '33

Some newer developments in the refining of petroleum products. R. K. Stratford. *Can Chem & Met* 17:54 Mr '33

Synthetic petroleum products. G. Egloff. *Oil Paint & Drug Rep* 123:23 My 22 '33

Technologists from 33 nations join in World petroleum congress. L. C. Uren. *Nat Pet N* 25:21-4 Ag 16; 23-4 Ag 30 '33

Varying properties of Mexican crudes reflected in processing methods of refinery operators. E. F. Nelson and G. Egloff. *Oil & Gas J* 31:16+ Mr 9 '33

**See also**

Gasoline—Manu- facture	Petroleum distillation
Lubricating oils— Manufacture	Petroleum refineries

**Bibliography**

Semi-annual index of technical and semi-technical refinery articles, July-December, 1932. *Nat Pet N* 24:35-7 D 28 '32

Semi-annual index of technical and semi-technical refinery articles, January-June, 1933. *Nat Pet N* 25:40-2 Je 28 '33

**By-products**

By-products obtained in manufacturing volatile gasolines basis for important new market. C. K. Francis. *Oil & Gas J* 31:18+ Ja 19 '33

Gas-cracking and reforming processes. G. G. Oberfell and J. A. Guyer. *Am Pet Inst Proc* (Refining div) p32-5 Je '32

Mid-continent brine yields salt, bromine, calcium chloride, and epsom salt. *il Chem & Met Eng* 40:414-16 Ag '33

Petroleum refinery gas for city supply in Brooklyn. R. S. McBride. *il diags Chem & Met Eng* 40:508-11 O '33

Recovery of sulfur dioxide as dilute sulfuric acid. R. L. Copson and J. W. Payne. *diag Ind & Eng Chem* 25:909-16 Ag '33

Sulfur compounds derived from petroleum. P. J. Wiezevich, L. B. Turner and P. K. Frolich. *Ind & Eng Chem* 25:295-6 Mr '33

Sulphuric acid produced from heavy refinery sludge by use of improved contact process. S. F. Spangler. *diag Oil & Gas J* 32:76-7 O 26 '33

**Edeleanu process**

Recent developments in the Edeleanu process. O. P. Cottrell. *Am Pet Inst Proc* p94-101 sec 3 D '32; Same cond. *Oil & Gas J* 31:10+ D 1 '32; Discussion. *Am Pet Inst Proc* p101 D '32

Refining process with liquid sulphur dioxide. L. Edeleanu. *diags Inst Pet Tech J* 18:900-17 [bibliog p916-17]; Discussion. 918-20 N '32

Selective solvent applications widen in refining products of petroleum. E. H. J. Rosenberg. *Oil & Gas J* 32:27 Ag 10 '33

**Patents**

Co-operative plan of pooling patents proposed to refining industry. *Nat Pet N* 25:23 My 3 '33

Cracking patent controversies settled by Sinclair. *Nat Pet N* 25:24 Mr 15 '33; *Oil & Gas J* 31:26 Mr 16 '33

Doherty research co. acquires Dr Forward's patents. *Nat Pet N* 25:33-4 Ap 12 '33

Dubbs awarded two oil cracking patents. *Oil Paint & Drug Rep* 123:19 Je 12 '33

Patents on cracking; abstract. H. Dreyfus. *Inst Pet Tech J* 19:149A-50A Ap '33

Proposal for deciding status of patents on refinery distillation equipment. *Oil & Gas J* 31:16 My 4 '33

**PETROLEUM research**

Broad research program at Pennsylvania state college furthers refining technology. A. L. Foster. *il Nat Pet N* 25:59-62+ Mr 15 '33

Chemistry and engineering bring rapid developments in refining industry. A. L. Foster. *il Nat Pet N* 24:26-8 N 16 '32

Cracking light and heavy oils. G. Egloff and E. F. Nelson. *tables Am Pet Inst Proc* 14M(3):73-80 My '33; Abstract. *Nat Pet N* 25:22+ My 24 '33

Oil research station, Anglo-Persian oil company, il Automobile Eng 22:571-4 D '32

Petroleum and natural-gas studies of the United States Bureau of mines. H. C. Fowler. *U S Bur Mines Information Circ* 6737:1-50 '33

Results of the American petroleum institute research project on origin and environment of source sediments. P. D. Trask. *il diag Am Pet Inst Proc* 14M(4):19-30; Discussion. 30-1 My '33

Study of bottom hole samples of east Texas crude oil. B. E. Lindsly. *bibliog diag Am Pet Inst Proc* 14M(4):40-52 My '33; Same. *U S Bur Mines Rep of Invest* 3212:1-22 '33; Same. *Oil & Gas J* 32:13-16+ Je 1 '33

Successful syntheses of thiophanes will aid in study of objectionable sulphur compounds. R. W. Bost and M. W. Conn. *Oil & Gas J* 32:17 Je 8 '33

**PETROLEUM shipping terminals**

Construction of a marine oil-loading station. T. F. Davey. *il diags Engineering* 136:27-9 Jl 14 '33

Port of Havre. *il diags Engineer* 155:642-5 Je 30 '33

Terminals have come to be among important features of Gulf Coast oil development. T. F. Smiley. *il Oil & Gas J* 32:16 S 21 '33

**PETROLEUM storage**

Ownership and use of storage provided under present system. *Oil & Gas J* 31:20 Ap 13 '33

Vapor gathering systems with steel balloons reduce evaporation and corrosion losses. L. G. E. Bignell. *il diags Oil & Gas J* 32:8+ O 12 '33

**See also**

Oil tanks

**PETROLEUM supply**

Production of single pools in U.S. exceeds oil output of whole foreign countries. J. McIntyre. *Oil & Gas J* 31:34 Ap 6 '33

Proven world reserves provide 20-odd years oil supply. V. R. Garfias. *Nat Pet N* 25:23-4 F 22 '33; Abstract. *Engineering* 135:664 Je 16 '33

World's crude oil balance sheet for year 1932. V. R. Garfias and R. V. Whetsel. *Oil & Gas J* 31:32 My 18 '33

World's oil supplies. J. B. C. Kershaw. *Engineer* 156:353 O 13 '33

**PETROLEUM workers**

Compensation insurance problem. C. L. Hightower. *Am Pet Inst Proc* 14M(1):19-24 My '33

Labor proration in California. *Am Pet Inst Proc* 14M(4):77-84 My '33; Abstract. *Nat Pet N* 25:20 My 24 '33; Discussion. *Am Pet Inst Proc* 14M(4):84-5 My '33

Labor seeks more pay, shorter hours, free hand in organizing. V. B. Guthrie. *Nat Pet N* 25:11-15 Jl 26 '33

Oil industry to add 240,000 men under proposed 40-hour week. H. F. Sinclair. *Nat Pet N* 25:26-7 Jl 26 '33

Petroleum industry; summary of code. *Monthly Labor R* 37:539-41 S '33

Petroleum industry wage schedule is set by NRA. *Oil Paint & Drug Rep* 124:18 Ag 14 '33

**PETROLEUM workers—Continued.**

Workers being organized in active refining and producing districts. *Nat Pet N* 25:18-19 S 6 '33

*See also*

Petroleum refineries—  
Employees

**PEWS**

Portfolio of pew ends. *il Architecture* 68: 237-52 O '33

**PEWTER**

Pewter down the ages from mediæval times to the present day, with notes on evolution. H. H. Cotterell. 237p \$7 Houghton '32

**PHANOTRON**

Phanotron. A. W. Hull. *J Fr Inst* 215:226-7 F '33

Phanotron rectifier for power and lighting service. P. M. Currier and C. F. Whitney. *il diag Gen Elec R* 36:312-14 J1 '33

**PHARMACEUTICAL laboratories**

Academic and industrial research in the field of therapeutics. H. H. Dale. *Science* 77:521-7 Je 2 '33

Merck new research laboratory at Rahway, N. J. dedicated. *Oil Paint & Drug Rep* 123: 17+ My 1 '33

**PHARMACOGNOSY**

Text book of pharmacognosy. H. G. Greenish. 6th ed 564p J. & A. Churchill, London '33

**PHARMACOPOEIAS**

British pharmacopoeia 1932. 713p \$6.50 Chicago medical book co, 435 South Honore st, Chicago '32

*See also*

United States pharmacopoeia

**PHARMACY**

Industrial pharmacy; abstracts. F. O. Taylor. *Soc Chem Ind J (Chem & Ind)* 51:1032 D 16 '32; *Can Chem & Met* 16:295 D '32

*See also*

Botany, Medical	Drugs
Chemistry, Medical	Pharmaceutical laboratories
and pharmaceutical	

**PHASE advancers**

Power factor correction; the B.T.-H. shunt phase advancer in a brick works. *il diag Elec R (Lond)* 111:920 D 23 '32

**PHASE rule**

Compilation of phase-rule diagrams of interest to the ceramist and silicate technologist. F. P. Hall and H. Insley. *diags bibliog Am Cer Soc J* 16:459-567 O '33

Phase-rule equilibria of acid soaps. J. W. McBain, M. C. Field and A. Stewart. *pl Chem Soc J* p920-8 Ag '33

Phase rule studies. J. E. W. Rhodes. 131p [bibliog p128] \$2.25 Oxford '33

Phase rule study of mixed derivatives of alcohols. W. E. Caldwell and K. R. MacLean. *Am Chem Soc J* 55:3458-60 Ag '33

Phasentheoretisch interessante wässrige salzsyste; die gewinnung des rubidiums aus carnallit. J. D'Ans. *Angew Chemie* 46:491-3 J1 22 '33

**PHELPS Dodge corporation**

Phelps Dodge's domestic position. *Econostat* 1:12+ J1 1 '33

**PHENACYLPYRIDINIUM halides**

Cleavage of carbonyl compounds by alkalies; phenacylpyridinium salts. S. H. Babcock and R. C. Fuson. *Am Chem Soc J* 55:2946-8 J1 '33

**PHENANTHRENE**

New process for the synthesis of phenanthrene and of phenanthrene derivatives. M. T. Bogert. *Science* 77:289 Mr 17 '33

Studies in the phenanthrene series; 9-acetylphenanthrene; reduction products of 2-, 3- and 9-acetylphenanthrenes. E. Mosettig and J. van de Kamp. *Am Chem Soc J* 55:3442-8 Ag '33

Studies in the phenanthrene series;  $\omega$ -aminoacetylphenanthrenes and aminomethylphenanthrylcarbinols. E. Mosettig and J. van de Kamp. *Am Chem Soc J* 55:3448-53 Ag '33

Studies in the phenanthrene series; hydroxy aldehydes and hydroxy ketones. E. Mosettig and A. Burger. *Am Chem Soc J* 55:2981-9 J1 '33

Studies in the phenanthrene series; phenanthrene-2-, 3- and 9-aldehydes. E. Mosettig and J. van de Kamp. *Am Chem Soc J* 55: 2995-9 J1 '33

Synthesis of alkylphenanthrenes; 9-methyl-, 1:9-dimethyl-, and 1:2:8-trimethylphenanthrenes. R. D. Haworth and C. R. Mavin. *Chem Soc J* p2720-3 N '32

Synthesis of alkylphenanthrenes; 7-methyl-1-ethyl- and 1-ethyl-7-isopropylphenanthrenes; constitution of abietic and *d*-pimaric acids. R. D. Haworth. *Chem Soc J* p2717-20 N '32

System anthracene-phenanthrene. G. Bradley and J. K. Marsh. *Chem Soc J* p650-2 Je '33

**PHENANTHROLINE**

Phenanthroline-ferrous ion; a reversible oxidation-reduction indicator of high potential and its use in oxidimetric titrations. G. H. Walden, Jr., L. P. Hammett and R. F. Chapman. *Am Chem Soc J* 55:2649-54 J1 '33

**PHENOBARBITAL**

Arsenated derivatives of phenobarbital. M. T. Bush and J. R. Johnson. *Am Chem Soc J* 55:3394-5 S '33

Chemical studies of the mechanism of the narcosis induced by hypnotics; the synthesis of colored derivatives of phenobarbital. M. M. Rising, J. H. Shroyer and J. Stieglitz. *Am Chem Soc J* 55:2817-20 J1 '33

**PHENOL**

Action of aromatic alcohols on aromatic compounds in the presence of aluminum chloride; condensation of phenylpropylcarbinol and  $\alpha$ -chlorobutylbenzene with phenol. R. C. Huston and H. W. Strickler. *Am Chem Soc J* 55:4317-18 O '33

Action of chlorosulphonic acid on phenol and *p*-cresol at low temperatures. G. N. Burkhardt. *Chem Soc J* p337-8 Ap '33

Electrical conductivities of liquid mixtures of phenol-aniline, phenol-*p*-toluidine, and phenol-*m*-cresol. O. R. Howell and H. G. B. Robinson. *Chem Soc J* p1032-7 Ag '33

Iodination of phenol under anhydrous conditions. W. H. Hunter and T. T. Budrow. *Am Chem Soc J* 55:2122-5 My '33

Phenol from crude ammonia liquor; abstract. F. Sierp. *diag Am Gas J* 135:37-8 Ap '33

Phenol supplies and cellulose. H. Levinstein. *Soc Chem Ind J (Chem & Ind)* 52:650-4. Ag 11 '33; *Abstract. Chem Age (Lond)* 29: 50-1 J1 15 '33; *Discussion. Soc Chem Ind J (Chem & Ind)* 52:654-5 Ag 11 '33

Possibility of dipole rotation in certain crystalline solids. S. E. Kamerling and C. P. Smyth. *Am Chem Soc J* 55:462-5 F '33

Use of phenol as a selective solvent in refining lubricating oils. R. K. Stratford, H. H. Moor and O. S. Pokorny. *il plan Nat Pet N* 25:17-20+ Mr 29 '33; *Same. Oil & Gas J* 31: 8-9+ Mr 30 '33

Utilization of pyridine-quinolines for removal of phenol from coke-plant effluents. L. Kosachkov. *Ind & Eng Chem News* ed 11: 284 S 20 '33

Wetting, spreading, and emulsifying agents for use with spray fluids; a partial phase rule investigation of the miscible oil system phenol-water-sodium oleate-toluene. R. M. Woodman. *Soc Chem Ind J* 52:185T-8T Je 23 '33

**PHENOL condensation products**

Application of low-temperature tar in the production of phenol-formaldehyde resins. G. T. Morgan, N. J. L. Megson and E. L. Holmes. *diag Soc Chem Ind J* 52:277T-80T S 8 '33

Der aufbau der phenoplaste. M. Koeberner. *Angew Chemie* 46:251-6 My 6 '33

Plastics; the phenolic type and their uses. G. Dring. *Soc Chem Ind J (Chem & Ind)* 52: 671-5 Ag 18 '33

*See also*

Bakelite



**PHENOLPHTHALEIN**

New methods of standardizing acids and alkalies. A. H. Pettinger. *Textile Col* 55: 93-4 F '33

**PHENOLPHTHALEIN benzoate**

Sorption of organic vapors by resinous and cellulosic materials. C. H. Winning and J. W. Williams. *Am Chem Soc J* 55:3560-9 S '33

**PHENOLS**

Addition of phenols to the ethylenic linkage; the action of phenols on alkylene halides. R. A. Smith and J. B. Niederl. *Am Chem Soc J* 55:4151-3 O '33

Alkyl derivatives of halogen phenols and their bactericidal action; bromophenols. E. Klarman and others. *Am Chem Soc J* 55: 4657-62 N '33

Alkyl derivatives of halogen phenols and their bactericidal action; chlorophenols. E. Klarman, V. A. Shternov and L. W. Gates. *bibliog Am Chem Soc J* 55:2576-89 Je '33

Application of phenolic constituents of tars as wetting agents. G. T. Morgan, D. D. Pratt and A. E. J. Pettet. *Soc Dyers & Col J* 49:125-7 My '33

Behavior of mixed halogenated phenols in the Zincke method of nitration. L. C. Raiford and G. R. Miller. *bibliog Am Chem Soc J* 55:2125-31 My '33

Bromo derivatives of benzylphenols; some monobromo, dibromo and tribromo derivatives of ortho and para benzylphenols. R. C. Huston and others. *Am Chem Soc J* 55: 2146-9 My '33

Chlorination of iodophenols; *m*-iodophenol. S. Buchan and H. McCombie. *Chem Soc J* p2857-60 D '32

Chloro derivatives of benzyl phenols; some monochloro, dichloro and trichloro derivatives of ortho and para benzyl phenols. R. C. Huston and others. *Am Chem Soc J* 55: 4639-43 N '33

Decomposition of certain iodophenols. G. H. Woollett and others. *Am Chem Soc J* 55: 2909-11 JI '33

Depside esters of dihydric phenols and some polydepsides. T. Currie and A. Russell. *Chem Soc J* p140-2 F '33

Emulsion systems containing phenols, water, and gelatin. R. M. Woodman. *Soc Chem Ind J* 52:44T-6T F 10 '33

Extraction of phenols from caustic solutions. E. B. Kester. *diag Ind & Eng Chem* 24: 1121-5; 25:1148-50 O '32, O '33

Further studies on the pharmacology of certain phenol esters with special reference to relation of chemical constitution and physiologic action. U S National Institute of Health Bul 160:1-69 '32

Higher chlorinated phenols as antiseptics and as wood preservatives. W. Iwanowski and J. S. Turske. *Chem Markets* 32:327 Ap '33

Hydrolysis of the phenyl and cresyl phosphoric and phosphorous acid esters in alcoholic and aqueous systems. M. I. Smith and E. F. Stohman. *Pub Health Rep* 48: 734-9 Je 23 '33

Inhibitors in cracked gasoline; relation of structure to inhibiting effectiveness. G. Egloff and others. *bibliog li diags Ind & Eng Chem* 24:1375-82 D '32

Nitrosation of phenols; resorcinol mono-*n*-butyl ether. H. H. Hodgson and H. Clay. *Chem Soc J* p660-1 Je '33

Preparation of certain cryptophenols. L. H. Farinholt, W. C. Harden and D. Twiss. *Am Chem Soc J* 55:3383-7 Ag '33

Rearrangement of alkenyl phenyl and cresyl ethers and the syntheses of isopropenyl phenols and their reduction products. J. B. Niederl and E. A. Storch. *bibliog Am Chem Soc J* 55:284-94 Ja '33

Recovery of phenols at Partington. A. L. Holton. *Gas J (Lond)* 200:687-90; Discussion. 690-1 D '32

Studies in the reactivity of aromatic hydroxyl groups. H. L. Bassett and A. O'Leary. *Chem Soc J* p2945-6 D '32

Synthesis of diisobutyl mono-, di- and tri-hydroxyphenols. J. B. Niederl, S. Natelson and E. M. Beekman. *bibliog Am Chem Soc J* 55:2571-5 Je '33

Synthesis of phenolic long chain fatty acids. J. B. Niederl and C. Liotta. *Am Chem Soc J* 55:3025-6 JI '33

Tricresyl phosphate as solvent for phenol recovery from gas-plant effluents. C. H. S. Tupholme. *Ind & Eng Chem* 25:303-4 Mr '33

See also

Naphthols

Phenol

Reimer-Tiemann

reaction

Xylenol

**Analysis**

Aryl *p*-bromobenzenesulfonates as derivatives for the identification of phenols. V. C. Sekera. *Am Chem Soc J* 55:421 Ja '33

Über die bestimmung sehr kleiner phenolmengen in wässriger lösung. S. Hilpert and R. Gille. *Angew Chemie* 46:326-8 Je '33

**PHENOSAFRANINE**

Studies on oxidation-reduction; simple safranines. E. D. Stiehler, Tung-Tou Chen and W. M. Clark. *Am Chem Soc J* 55:891-907 Mr '33

Use of phenosafranin for staining fungi on culture media or in host tissue. E. J. Moore. *Science* 77:23-4 Ja 6 '33

**PHENOXIN**. See Carbon tetrachloride**PHENOXYPHENYLDICHLOROPHOSPHINE**

*p*-Phenoxyphenyldichlorophosphine. W. C. Davies and C. J. O. R. Morris. *Chem Soc J* p2880-3 D '32

**PHENYLACETALDEHYDE**

Researches on pyrimidines; the reaction of phenylacetaldehyde and acetophenone with urea. K. Folkers and T. B. Johnson. *Am Chem Soc J* 55:3361-8 Ag '33

**PHENYLACETIC anhydride**

Preparation and pyrolysis of dibenzyl ketone, phenylacetic anhydride and diphenylacetic anhydride. C. D. Hurd, R. Christ and C. L. Thomas. *bibliog Am Chem Soc J* 55:2589-92 Je '33

**PHENYLACETONITRILE**

Preparation of some alkyl substituted phenylacetone nitriles in liquid ammonia. L. H. Baidinger and J. A. Nieuwland. *Am Chem Soc J* 55:2851-3 JI '33

**PHENYLANTHRANILIC acid**

Anhydrides of *N*-arylanthranilic acids. M. Goodman, N. Arbiter and G. Powell. *Am Chem Soc J* 55:4294-9 O '33

**PHENYLARSINE**

Diarsyls; the interaction of diphenyldiiododiarsyl with alkali, with phenylarsine and with diphenylarsine. F. F. Blicke and L. D. Powers. *bibliog Am Chem Soc J* 55:315-18 Ja '33

Study of phenyl- and diphenylarsine. F. F. Blicke and L. D. Powers. *Am Chem Soc J* 55:1161-7 Mr 33

**PHENYLARSONIC acid**. See Benzenearsonic acid**PHENYLAZOBENZOYLACETONE**

Action of bromine upon arylazobenzoylacetones. F. D. Chattaway and R. J. Lye. *Chem Soc J* p480-2 My '33

**PHENYL benzalacetomesitylene**

Reaction between alpha, beta-unsaturated ketones and organic magnesium compounds; unsaturated mesitylenic ketones. E. P. Kohler and C. E. Barnes. *Am Chem Soc J* 55:690-5 F '33

**PHENYLBORIC acid**

Addition compounds of phenylboric acid with bases. D. L. Yabroff and G. E. K. Branch. *Am Chem Soc J* 55:1663-5 Ap '33

**PHENYLBROMOBUTADIENE**

Studies of conjugated systems; the preparation and properties of 1-phenyl-4-bromobutadiene. I. E. Muskat and L. B. Grimsley. *Am Chem Soc J* 55:2860-7 JI '33

**PHENYLCYTOSINE**

Researches on pyrimidines; synthesis of 5-phenylcytosine. Yuoh-Fong Chi and Yu-Lin Tien. *Am Chem Soc J* 55:4185-6 O '33

**PHENYL ether**

Intramolecular rearrangement of phenyl ethers with the aid of aluminum chloride. R. A. Smith. *Am Chem Soc J* 55:849 F '33

*p*-Phenoxyphenyldichlorophosphine. W. C. Davies and C. J. O. R. Morris. *Chem Soc J* p2880-3 D '32

Rearrangement of alkenyl phenyl and cresyl ethers and the syntheses of isopropenyl phenols and their reduction products. J. B. Niederl and E. A. Storch. *bibliog Am Chem Soc J* 55:284-94 Ja '33

Studies in the rearrangements of phenyl ethers; the action of aluminum chloride on butyl phenyl ethers. R. A. Smith. *Am Chem Soc J* 55:3718-21 S '33

**PHENYLETHYL alcohol**

Densities of mixtures of benzene with phenylethyl alcohol and with methyl salicylate. R. C. Glowaski and C. C. Lynch, jr. *Am Chem Soc J* 55:4051-2 O '33

**PHENYLETHYLAMINE**

Solubility relationships among optically isomeric salts; the mandelates and alpha-bromocamphor- $\pi$ -sulfonates of alpha-phenylethylamine and alpha-para-tolyethylamine. A. W. Ingersoll, S. H. Babcock and F. B. Burns. *Am Chem Soc J* 55:411-16 Ja '33

**PHENYLETHYLHYDANTOIN**. See Nirvanol**PHENYLETHYLPYRIDINE**

Nitration of  $\beta$ -phenylethylpyridines and related compounds. B. D. Shaw and E. A. Wagstaff. *Chem Soc J* p79-83 Ja '33

**PHENYLHYDRAZINE**

Electric moments of hydrazine and its derivatives. L. F. Audieth, W. Nespital and H. Ulich. *Am Chem Soc J* 55:673-8 F '33

**PHENYLHYDROXYLAMINE**

Beiträge zur kenntnis des  $\beta$ -phenylhydroxylamins. E. Müller and E. Lindemann. *Angew Chemie* 46:681-5 O 28 '33

**PHENYL isothiocyanate**

Course of addition of sodium enol alkylmalonic esters to phenyl isothiocyanate. J. Koss. *Am Chem Soc J* 55:3672-7 S '33

Mechanism of reaction of phenyl-sodium and phenyl-lithium with phenyl isothiocyanate. H. Gilman and F. Breuer. *Am Chem Soc J* 55:1262-4 Mr '33

**PHENYL lithium**

Mechanism of reaction of phenyl-sodium and phenyl-lithium with phenyl isothiocyanate. H. Gilman and F. Breuer. *Am Chem Soc J* 55:1262-4 Mr '33

**PHENYLMAGNESIUM bromide**

Reaction between alpha, beta-unsaturated ketones and organic magnesium compounds; unsaturated mesitylenic ketones. E. P. Kohler and C. E. Barnes. *Am Chem Soc J* 55:690-5 F '33

**PHENYL mercaptan**

Studies in dielectric polarisation; benzene solutions of *n*-propyl mercaptan, *n*-butyl mercaptan, thiophenol, and acetonitrile. E. C. E. Hunter and J. R. Partington. *diag Chem Soc J* p2812-19 D '32

Studies in thiophenol chemistry; a condensation reaction between thiophenols and condensed aldehyde-ammonias. G. Dougherty and W. H. Taylor. *bibliog Am Chem Soc J* 55:4588-93 N '33

**PHENYLMETHYLCARBINOL**

Some Walden inversion reactions of the *p*-toluenesulphonic and *p*-toluenesulphinic esters of *l*-phenylmethylcarbinol. J. Kenyon, H. Phillips and F. M. H. Taylor. *Chem Soc J* p173-8 F '33

**PHENYLPENTENOIC acid**

Reactions of olefinic compounds; the orienting influence of the phenyl group. E. H. Farmer and C. G. B. Hose. *Chem Soc J* p962-8 Ag '33

**PHENYLPYPERIDINOPROPYL benzoates**

Piperidine derivatives; phenyl and phenylalkyl substituted piperidinopropyl benzoates. L. A. Walters and S. M. McElvain. *Am Chem Soc J* 55:4625-9 N '33

**PHENYLPROPIOLIC acid**

Kinetics of the addition of iodine to  $\beta$ -phenylpropionic acid. E. A. Moelywyn-Hughes and A. R. Legard. *Chem Soc J* p424-9 Ap '33

**PHENYLPROPYLCARBINOL**

Action of aromatic alcohols on aromatic compounds in the presence of aluminum chloride; condensation of phenylpropylcarbinol and  $\alpha$ -chlorobutylbenzene with phenol. R. C. Huston and H. W. Strickler. *Am Chem Soc J* 55:4317-18 O '33

**PHENYLPYRROLES**

Stereochemistry of *N*-phenylpyrroles; preparation and properties of *o*-*N*-carbazylyl- and *o*-*N*-(3-nitrocarbazylyl)-benzoic acid. W. I. Patterson and R. Adams. *Am Chem Soc J* 55:1069-72 Mr '33

**PHENYLPYRYLIUM perchlorates**

Comparison of the directive powers of elements having consecutive atomic numbers; nitration of 2:4:6-triphenylpyrylium perchlorate. C. G. Le Fèvre and R. J. W. Le Fèvre. *Chem Soc J* p2894-9 D '32

Nitration of di-*p*-tolyl- and di-*p*-chlorophenylpyrylium perchlorates. H. E. Johnston and R. J. W. Le Fèvre. *Chem Soc J* p2900-2 D '32

**PHENYLQUINOLINE**

Preparation of 2-phenylquinoline from *o*-nitrostyryl phenyl ketone. R. J. W. Le Fèvre and J. Pearson. *Chem Soc J* p2807-8 N '32

**PHENYL selenium tribromide**

Organic selenium compounds; a new type of aromatic selenium halide. D. G. Foster. *Am Chem Soc J* 55:822-9 F '33

**PHENYL selenium trichloride**

Organic selenium compounds; a new type of aromatic selenium halide. D. G. Foster. *Am Chem Soc J* 55:822-9 F '33

**PHENYL sodium**

Mechanism of reaction of phenyl-sodium and phenyl-lithium with phenyl isothiocyanate. H. Gilman and F. Breuer. *Am Chem Soc J* 55:1262-4 Mr '33

**PHENYL thiazolidione**

Polymorphism in the substituted thiazole, 3-phenyl-2,4-thiazolidione. R. E. Gibson and K. S. Markley. *bibliog il diag Am Chem Soc J* 55:2399-406 Je '33

**PHENYL vinyl ether**

Thermal decomposition of phenyl vinyl ether. W. M. Lauer and M. A. Spielman. *Am Chem Soc J* 55:1572-4 Ap '33

**PHENYLYXANTHYLIUM perchlorate**

Comparison of the directive powers of elements having consecutive atomic numbers; the nitration of 9-phenylxanthylum perchlorate. R. J. W. Le Fèvre and J. Pearson. *Chem Soc J* p482-4 My '33

**PHENYLENE diamine**

Character of the diazonium group; the tetrazotization of para-phenylenediamines. H. A. J. Schoutissen. *Am Chem Soc J* 55:4535-41 N '33

Detection of *p*-phenylenediamine and other diamines in hair dyes; abstract. C. Griebel and F. Weiss. *Soc Dyers & Col J* 49:341-2 O '33

**PHENYLENE dihydrazine hydrochloride**

Preparation of para-phenylene dihydrazine hydrochloride. H. A. J. Schoutissen. *Am Chem Soc J* 55:4545-6 N '33

**PHILADELPHIA**

See also

Unemployment—  
Philadelphia

**Harbor**

Ports of Philadelphia, Pa., Camden, N. J., and Wilmington, Del. (Port ser. no. 4) 2v U.S. Engineer dept, Board of engineers for rivers and harbors, Washington '32

**Railroads**

Large grade separation project completed on the Reading. il map Ry Age 95:688-91 N 11 '33



**PHILADELPHIA—Railroads—Continued**

New passenger station facilities for New York-Philadelphia electrified line. *il plan Ry Age* 94:271-2 F 25 '33

**Rapid transit**

Advertising for rides and friends; Philadelphia rapid transit company. D. N. Phillips. *il Transit J* 77:78-81 Mr '33

Operating efficiency improved at Philadelphia. *il Transit J* 77:173-5 Je '33

**Suburban traffic**

Reading company's Philadelphia suburban electrification. G. I. Wright. *bibliog il diags map Elec Eng* 52:155-61 Mr '33

**Water department**

Fire hydrants assembled in Philadelphia water department shop. S. M. Van Loan. *il Eng N* 110:413-14 Mr 30 '33

**Water supply**

Lactose fermenting organisms in Philadelphia's drinking water. G. G. Schaut. *Am Water Works Assn J* 25:1287-94 S '33

**PHILADELPHIA college of pharmacy and science**

One hundred and twelfth anniversary. *Science* 77:301-2 Mr 24 '33

**PHILADELPHIA saving fund society**

New shelter for savings. *il front plans Arch Forum* 57:483-98, 543-50 D '32

Philadelphia's fancy turns to thoughts of architecture. *il Fortune* 6:65-9+ D '32

**PHILADELPHIA Tri-state district**

Regional plan for the Philadelphia Tri-state district. S. P. Wetherill, Jr., and others. *il maps Civil Eng* 2:721-30 D '32

**PHILANTHROPY***See also*

Charities	Foundations, Charitable and educational
Community chests	
Community trusts	

**PHILATELY.** *See* Postage stamps**PHILIP, James Charles, 1873-**

Sketch. *por Soc Chem Ind J (Chem & Ind)* 51:1055-6 D 23 '32

**PHILIPPINE ISLANDS**

Effects of independence on the Philippines. N. W. Gilbert. *Ann Am Acad* 168:162-5 J1 '33

Filipinos; if Manila refuses the first offer of independence, the next one is likely to be less liberal. *Business Week* p21 Ja 25 '33

Philippine charter of liberty. C. Osias and M. Baradi. 225p French-Bray printing co, Candler bldg. Baltimore '33

Philippine independence act. H. B. Hawes. *Ann Am Acad* 168:142-55 J1 '33

Philippines grow up. *Bradstreet's* 61:77 Ja 21 '33

Philippines under United States rule. W. C. Forbes. *Ann Am Acad* 168:156-61 J1 '33

**Commerce**

Trade of the Philippine Islands. *Engineering* 135:637 Je 9 '33

**PHLORHIZIN**

Natural glycosides: the hexose residue of phloridzin. A. Müller and A. Robertson. *Chem Soc J* p1170-2 S '33

**PHLORIDZIN.** *See* Phlorhizin**PHOENIX mutual life insurance company**

Had favorable year in 1932. *Ins Field (Life ed)* 62:13 F 24 '33

**PHONETICS***See also*

Vowels

**PHONOGRAPH**

Electric and musical industries. *Economist* 117:873 N 4 '33

Gramophone and wireless shares. *Economist* 115:887-8 N 12 '32

**Advertising**

RCA lures in 1,600,000 prospects by free voice test invitation. *Sales Management* 31:433 N 15 '32

**Radio pick-up**

Equipment and technique for home recording. W. H. Wenstrom. *il diags Radio N* 14:336-7+ 466-7+ D '32, F '33

Three months' test on a new console receiver; Scott Imperial. *il diags Radio N* 14:744+ Je '33

**PHONOGRAPH records**

Engineering acoustics; magnetic recording. *Electrician* 110:193-4 F 10 '33

Some types of unbreakable records. H. C. Bryson. *Soc Chem Ind J (Chem & Ind)* 52:495-9 Je 16 '33; Abstract. *Chem Age (Lond)* 27:546 D 10 '32; Discussion. *Soc Chem Ind J (Chem & Ind)* 51:1022-3 D 9 '32; *Chem Age (Lond)* 27:546-7 D 10 '32

Sound recording and reproduction. W. W. Simons. *il diags W Soc E J* 38:243-9 O '33

Vertically cut sound records. H. A. Frederick and H. C. Harrison. *il diags Elec Eng* 52:183-8 Mr '33

*See also*

**Libraries—Phonograph records**

**PHOSGENE**

Formation of phosgene in thermal decomposition of carbon tetrachloride. A. Hamilton. *bibliog Ind & Eng Chem* 25:539-41; Discussion. J. C. Olsen. 541-2 My '33

Phosgene. K. E. Jackson. *bibliog J Chem Educ* 10:622-6 O '33

Phosgene-sensitized oxidation of carbon monoxide. G. K. Rollefson and C. W. Montgomery. *Am Chem Soc J* 55:4036-43 O '33

Photochemical oxidation of phosgene. G. K. Rollefson and C. W. Montgomery. *Am Chem Soc J* 55:142-7 Ja '33

Photochemistry of mixtures of chlorine, oxygen and carbon monoxide. G. K. Rollefson. *Am Chem Soc J* 55:148-52 Ja '33

Quantum yields of the photochemical reactions of phosgene. C. W. Montgomery and G. K. Rollefson. *Am Chem Soc J* 55:4025-35 O '33

**PHOSPHATE rock**

Factors affecting the phosphoric acid-phosphate rock reaction; double superphosphate. H. L. Marshall, L. F. Rader, Jr., and K. D. Jacob. *bibliog diag Ind & Eng Chem* 25:1253-9 N '33

Moroccan phosphate dumped here in 1927. *Oil Paint & Drug Rep* 122:15+ D 26 '32

Phosphate dumped; Washington has come to the aid of the domestic industry. *Business Week* p23 Ja 11 '33

Phosphate rock industry of the United States. W. H. Waggaman. *J Chem Educ* 10:391-5, 476-83 J1-Ag '33

Recent studies with reference to the rôle of microorganisms in sediments. G. A. Thiel. *Nat Research Council Bul* 89:138-42 '32

Rock phosphate industry and outlook. H. D. Ruhm. *Rock Prod* 36:22-3 Ja '33

Russian phosphate rock import inquiry starts. *Oil Paint & Drug Rep* 123:22 Ja 23; 15 Ja 30 '33

Russian phosphates importation assailed. *Oil Paint & Drug Rep* 122:15 D 26 '32

World phosphate rock production 40% below peak reached in 1930. *Chemicals* 38:3 Je 12 '33

**Florida**

Economic results of the new technique in phosphate recovery. C. E. Heinrichs. *Min & Met* 14:329-32; Discussion. 332, 350 Ag '33

Selective oiling and table concentration of phosphatic sands in the land-pebble district of Florida. R. G. O'Meara and J. W. Pampalin. *U S Bur Mines Rep of Invest* 3195:1-6 '32

**Russia**

Metallurgical use of calcium phosphate. B. M. Suslov. *Metal Prog* 24:50+ S '33

**PHOSPHATES**

Die nachenthärtung des speisewassers mit phosphat innerhalb der wasserreinigung. W. Wesly. *Angew Chemie* 46:19-20 Ja 7 '33

Nonmetallic industries in 1932. C. E. Heinrichs. *Min & Met* 14:54 Ja '33

**PHOSPHATES—Continued**

- Phosphate dumping charged at hearing. Oil Paint & Drug Rep 124:41 S 18 '33
- Phosphate entries; two big producers increase their stake in the phosphoric acid market. Business Week p7-8 My 17 '33
- Preparation of acetate and phosphate buffer solutions of known PH and ionic strength. A. A. Green. bibliog Am Chem Soc J 55: 2331-6 Je '33
- Preparation of trialkyl phosphates and their use as alkylating agents. C. R. Noller and G. R. Dutton. Am Chem Soc J 55:424-5 Ja '33
- Reactivity between dolomite and superphosphate components. W. H. MacIntire and W. M. Shaw. Il Ind & Eng Chem 24:1401-9 D '32
- Salt-forming characteristics of doubly- and singly-linked elements of the oxygen group; oxonium phosphates of the carbonyl group, and investigations with derivatives of the type  $\text{CH}_2\text{Ph}\cdot\text{COR}$ . J. W. Baker and L. Hey. Chem Soc J p2917-23 D '32
- Studies of phosphates; ammonium magnesium phosphate and related compounds. H. Bassett and W. L. Bedwell. Chem Soc J p354-71 JI '33
- Studies of phosphates; orthophosphates of the type  $\text{M}_3(\text{PO}_4)_2 \cdot x\text{H}_2\text{O}$ . H. Bassett and W. L. Bedwell. Chem Soc J p871-6 JI '33
- Studies of phosphates; some complex orthophosphates of sodium and a bivalent metal, and some orthophosphate solid solutions. H. Bassett and W. L. Bedwell. Chem Soc J p877-82 JI '33
- Die wichtigsten neuerungen auf dem gebiete der anorganisch-chemischen industrie; die industrie der phosphorsäure und der phosphatdünger. H. Siebeneicher. Angew Chemie 46:596-610 [bibliog p610] S 23 '33

**See also**

- |                     |                   |
|---------------------|-------------------|
| Ammonium phosphates | Phosphate rock    |
| Calcium phosphates  | Sodium phosphates |
|                     | Zymophosphate     |

**Analysis**

- Improved qualitative separation of the iron group in the presence of phosphate. T. B. Smith. Chem Soc J p253-7 Mr '33
- Sources of error in the use in water analysis of Fairchild's method for determination of fluoride in phosphate rock. M. D. Foster. Ind & Eng Chem Anal ed 5:238 JI 15 '33

**Manufacture**

- Economic results of the new technique in phosphate recovery. C. E. Heinrichs. Min & Met 14:329-32; Discussion. 332, 350 Ag '33
- Factors affecting the phosphoric acid-phosphate rock reaction; double superphosphate. H. L. Marshall, L. F. Rader, jr. and K. D. Jacob. bibliog diag Ind & Eng Chem 25: 1253-9 N '33
- Making phosphate fertilizers at Trail. B. C. W. C. Weber. Il diag Chem & Met Eng 40: 72-5 F '33
- Muscle Shoals plans turned to phosphates. Oil Paint & Drug Rep 124:16 O 16 '33
- Phosphate flotation. C. E. Heinrichs. Chem Markets 32:231-2 Mr '33
- Phosphate rock industry of the United States. W. H. Waggaman. flow sheets Il J Chem Educ 10:476-83 Ag '33
- Selective oiling and table concentration of phosphatic sands in the land-pebble district of Florida. R. G. O'Meara and J. W. Pampalin. U S Bur Mines Rep of Invest 3195:1-6 '32

**Statistics**

- International superphosphate trade; statistics for 1930 and 1931. Chem Age (Lond) 28:200 Mr 4 '33
- Phosphate problems dominated by agricultural troubles. Chem & Met Eng 40:39-49 Ja '33
- Superphosphate output; monthly data. Published in Oil, paint and drug reporter
- Superphosphate production, shipments and stocks; 1932 and 1931. Oil Paint & Drug Rep 123:57 Ap 17 '33

**PHOSPHATIDES**

- Selenium in the determination of phosphorus and nitrogen in phospholipides. F. E. Kurtz. Ind & Eng Chem Anal ed 5:260 JI 15 '33

**PHOSPHINE**

- Far infrared absorption spectra of ammonia and phosphine gases under high resolving power. N. Wright and H. M. Randall. Phys R 44:391-8 S 1 '33
- Tertiary phosphines containing secondary alkyl radicals. W. C. Davies. Chem Soc J p1043-4 Ag '33
- Thermal decomposition of phosphine by tungsten and molybdenum. H. W. Melville and H. L. Roxburgh. diags Chem Soc J p586-95 Je '33
- Ultra-violet absorption spectra of phosphine, arsine, and stibine. G. H. Cheesman and H. J. Emeléus. Chem Soc J p2847-8 D '32

**See also**

Triethylphosphine

**PHOSPHOLIPIDES.** See Phosphatides

**PHOSPHONIUM chloride**

- Influence of poles and polar linkings on the course pursued by elimination reactions; thermal decomposition of phosphonium chlorides. G. F. Fenton, L. Hey and C. K. Ingold. Chem Soc J p989-91 Ag '33

**PHOSPHONIUM compounds**

- Influence of poles and polar linkings on the course pursued by elimination reactions; thermal decomposition of phosphonium ethoxides. L. Hey and C. K. Ingold. Chem Soc J p531-3 My '33

**PHOSPHOR bronze.** See Bronze

**PHOSPHORESCENCE.** See Luminescence

**PHOSPHORETTED hydrogen.** See Phosphine

**PHOSPHORIC acid**

- Factors affecting the phosphoric acid-phosphate rock reaction; double superphosphate. H. L. Marshall, L. F. Rader, jr. and K. D. Jacob. bibliog diag Ind & Eng Chem 25: 1253-9 N '33
- Phosphoric acid in organic reactions. W. M. Dehn and K. E. Jackson. bibliog Am Chem Soc J 55:4284-7 O '33
- Salt-forming characteristics of doubly- and singly-linked elements of the oxygen group; the rotation of camphor in strong mineral acids. J. W. Baker. Chem Soc J p2923-7 D '32
- Second dissociation constant of phosphoric acid from 20 to 50°. L. F. Nims. Am Chem Soc J 55:1946-51 My '33

**Manufacture**

- Making phosphoric acid in the blast furnace. H. W. Easterwood. Il Chem & Met Eng 40:283-7 Je '33
- Making strong phosphoric acid at Trail. W. C. Weber. flow diag Il Chem & Met Eng 39:659-62 D '32
- Phosphoric acid and phosphates; manufacturing processes in Germany. Kufferath. Chem Age (Lond) 29:189 Ag 26 '33
- Phosphoric acid from superphosphate. Chem Ind 33:333 O '33
- PHOSPHORIC anhydride.** See Phosphorus pentoxide
- PHOSPHORUS**
- Deoxidizers for brass alloys. C. Vickers. Il Foundry 60:20-1+ D '32
- Discovery of the elements; elements known to the alchemists. M. E. Weeks. J Chem Educ 9:16-20; 10:302-6 [bibliog p306] Ja '32, My '33
- Phosphorus in metallurgy. Chem Age (Lond) 28:sup14 Mr 4 '33

**Analysis**

- Micro estimation of sulfur and phosphorus in organic compounds. A. Elek and D. W. Hill. Am Chem Soc J 55:3479-82 Ag '33
- Selenium in the determination of phosphorus and nitrogen in phospholipides. F. E. Kurtz. Ind & Eng Chem Anal ed 5:260 JI 15 '33
- PHOSPHORUS bromides**
- Mechanism of the reduction of sulfonyl halides by phosphorus trihydride. A. H. Kohlhaase. Am Chem Soc J 55:1291-2 Mr '33



**PHOSPHORUS chlorides**

- Action of phosphorus pentachloride on 1,3-dioxindane. W. H. Hunter and R. E. Jackman. *Am Chem Soc J* 55:2567-70 Je '33
- Action of phosphorus pentachloride with ethers. F. C. Whitmore and D. P. Langlois. *Am Chem Soc J* 55:1518-20 Ap '33

**PHOSPHORUS compounds**

- Constitutions of some phosphorus derivatives of triphenylmethane. H. H. Hatt. *Chem Soc J* p776-86 Jl '33
- Refractivities of liquid compounds of phosphorus. W. J. Jones, W. C. Davies and W. J. C. Dyke. *J Phys Chem* 37:583-96 [bibliog p596] My '33

**PHOSPHORUS fluorochlorides**

- Phosphorus fluorochlorides. H. S. Booth and A. R. Bozarth. *Am Chem Soc J* 55:3890 S '33

**PHOSPHORUS in the body**

- Phosphorus, vitamin D, and tooth decay. R. G. Agnew. *Sci Am* 148:106 F '33
- Reinforcing a weak spot in our diet. H. V. Moss. *il Sci Am* 148:90-1 F '33
- Tricalcium phosphate as a caking inhibitor in salt and sugar. H. V. Moss, T. W. Schilb and W. G. Warning. *bibliog il diags Ind & Eng Chem* 25:142-7 F '33

**PHOSPHORUS oxychloride**

- Action of phosphoryl chloride on the toluene-*p*-sulphonyl derivative of  $\beta$ -anilino-propionic acid. O. G. Backeberg. *Chem Soc J* p618-19 Je '33

**PHOSPHORUS pentoxide**

- Heat capacity, heat of sublimation, and heat of solution of phosphorus pentoxide. M. Frandsen. *diags U S Bur Stand J Research* 10:35-58 Ja '33
- Phosphoric anhydride as drying agent. W. A. Bone. *Soc Chem Ind J (Chem & Ind)* 52:246 Mr 17 '33; Discussion. 52:307-8 Ap 7 '33

**PHOSPHORYL chloride. See Phosphorus oxychloride****PHOTOCHEMISTRY**

- Action of light on fats. C. H. Lea. *Soc Chem Ind J* 52:146T-9T My 26 '33
- Autoxidation of stannous chloride; the photochemical reaction. R. C. Haring and J. H. Walton. *J Phys Chem* 37:375-80 Mr '33
- Formation of sugars in mixtures of tartaric acid and aldehydes in tropical sunlight. V. Gore. *J Phys Chem* 37:745-9 Je '33
- Interaction of ethyl alcohol and oxygen photosensitized by hydrogen peroxide; a contribution to the Haber-Willstätter mechanism of enzyme reactions. H. S. Taylor and A. J. Gould. *bibliog J Phys Chem* 37:367-74 Mr '33
- Kinetics of the mercury sensitized reaction between hydrogen and oxygen. J. R. Bates. *Am Chem Soc J* 55:426-7 Ja '33
- Photochemical nitrification in sea water. C. E. ZoBell. *Science* 77:27-8 Ja 6 '33
- Photochemical oxidation of cottonseed oil. G. R. Greenbank and G. E. Holm. *Ind & Eng Chem* 25:167-8 F '33
- Photochemical oxidation of phosgene. G. K. Rollefson and C. W. Montgomery. *Am Chem Soc J* 55:142-7 Ja '33
- Photochemical polymerization of methylacetylene and allene. S. C. Lind and R. Livingston. *Am Chem Soc J* 55:1036-47 Mr '33
- Photochemical reaction between quinine and dichromic acid; kinetics of the reaction. G. S. Forbes, L. J. Heidt and F. P. Brackett, Jr. *Am Chem Soc J* 55:588-96 F '33
- Photochemical reaction between quinine and dichromic acid; quinine derivatives and utilization of absorbed quanta. G. S. Forbes and L. J. Heidt. *bibliog Am Chem Soc J* 55:2407-13 Je '33
- Photochemical reduction of ketones to hydrols. W. E. Bachmann. *Am Chem Soc J* 55:391-5 Ja '33
- Photochemical studies; a further study of the chlorination of benzene. H. P. Smith, W. A. Noyes, Jr. and E. J. Hart. *bibliog diags Am Chem Soc J* 55:4444-59 N '33

Photochemical union of chlorine and hydrogen in the presence of oxygen, and the relative rates of formation of water and hydrogen chloride in illuminated mixtures of the three gases rich in oxygen. D. L. Chapman and J. S. Watkins. *Chem Soc J* p743-5 Jl '33

Photochemistry of mixtures of chlorine, oxygen and carbon monoxide. G. K. Rollefson. *Am Chem Soc J* 55:148-52 Ja '33

Photochlorination of tetrachloroethylene in carbon tetrachloride solution. J. A. Leermakers and R. G. Dickinson. *diags Am Chem Soc J* 54:4648-57 D '32

Photolysis of gaseous acetone and the influence of water. G. H. Damon and F. Daniels. *bibliog diag Am Chem Soc J* 55:2363-75 Je '33

Photolysis of solutions of alkali metals in liquid ammonia. R. A. Ogg, Jr., P. A. Leighton and F. W. Bergstrom. *bibliog diags Am Chem Soc J* 55:1754-66 My '33

Photolysis of the aliphatic aldehydes; acetaldehyde. P. A. Leighton and F. E. Blacet. *Am Chem Soc J* 55:1766-74 My '33

Photo-oxidation of gaseous hydrogen iodide. J. R. Bates and G. I. Lavin. *bibliog Am Chem Soc J* 55:81-9 Ja '33

Photostationary states of some geometrically isomeric acids. A. R. Olson and F. L. Hudson. *diag Am Chem Soc J* 55:1410-24 Ap '33

Primary photochemical processes; the absorption spectrum and photochemical decomposition of diazomethane. F. W. Kirkbride and R. G. W. Norrish. *diag Chem Soc J* p119-26 F '33

Quantum yields of the photochemical reactions of phosgene. C. W. Montgomery and G. K. Rollefson. *Am Chem Soc J* 55:4025-35 O '33

Simple reversible photochemical experiment. I. W. Grote and J. H. Barnett. *J Chem Educ* 10:43-4 Ja '33

Spektralreine lichtquellen für photochemische und spektroskopische zwecke. H. Alterthum and M. Reger. *il Chemische Fabrik* 6:283-5 Je 28 '33

Temperature coefficient of the photosensitized hydrogen-oxygen reaction. H. S. Taylor and D. J. Salley. *bibliog Am Chem Soc J* 55:96-109, Ja '33

*See also*

Actinometry	Spectrum
Light	Sunlight
Photographic chemistry	Ultra-violet rays
	X rays
Photosynthesis	

**PHOTOCOMPOSING machine**

Step-and-repeat photocomposing machine speeds; platemaking. G. R. Mayer. *Inland Ptr* 90:33-4 Ja '33

**PHOTOELASTICITY**

Application of interference fringes to stress analysis. M. M. Frocht. *il diags J Fr Inst* 216:73-89 Jl '33

Application of photoelasticity to the study of indeterminate truss-stresses. D. L. Pellett. *il diags S A E J* 31:469-74 D '32

Earths and foundations; photo-elastic research; progress report of special committee, American society of civil engineers. *il diags Am Soc C E Proc* 59:814-20 My '33; Discussion. 59:1054-67, 1207-20, 1358-72, 1461-74, 1648-50 Ag-D '33

Optical measurements of stress in transparent bodies; abstract. E. G. Coker. *Soc Chem Ind J (Chem & Ind)* 52:842-3 O 20 '33

Photo-elastic analysis of stresses in composite materials. A. H. Beyer and A. G. Solakian. *il Am Soc C E Proc* 59:1121-32 S '33; Abstract. *Am Concrete Inst J* 5:sup [news letter] 21-2 N '33

Photoelastic study of rubber. *J Fr Inst* 215:745-6 Je '33; Same. *Rubber Age* 33:106 Je '33

Photo-elasticity; a short explanation of the optical principles involved. T. H. Evans. *il diags Civil Eng* 3:570-3 O '33

**PHOTOELECTRIC cells**

Blind can read by ear. *il Sci Am* 148:121 F '33

**PHOTOELECTRIC cells—Continued**

- Cellule autonome photo-électrique Bernheim, fonctionnant sans amplificateur de courant. *Génie Civil* 102:549 Je 10 '33
- Copper-cuprous-oxide rectifier and photoelectric cell. L. O. Grondahl. *il diags Rs Mod Phys* 5:141-68 [bibliog p167-8] Ap '33
- Developments in the electrical industry during 1932; photoelectric control. J. Liston. *il Gen Elec R* 36:25-6 Ja '33
- Electro-physics; a review of progress. N. R. Campbell. *Inst E E J* 72:154-5 F '33
- Equivalent circuit of a blocking-layer photocell. L. A. Wood. *R Sci Instr* 4:434-9 Ag '33
- Extraordinary photoelectric cell. *J Fr Inst* 215:68 Ja '33
- Home-made relays for the pickle bottle photo-cell. M. L. Wendel. *il diags Radio N* 15:144+ S '33
- Integrating photometers; some recently developed visual and photo-electric types. *il diag Electrician* 111:117-18 Jl 28 '33
- New photo-cell brings television nearer practical; iconoscope. *Elec W* 102:2 Jl 1 '33
- Null type of photoelectric photometer. R. Loewe. *Illum Eng Soc Trans* 28:639 S '33
- Photo-electric cells. F. Roberts. *bibliog Inst E E J* 72:546-7 Je '33
- Photo-electric cells; exhibit at the Science museum. *Engineering* 135:387 Ap 7 '33
- Photo-electric counter installed at the Forty-second street entrance of the central building of the New York public library. *il Lib J* 53:317 Ap 1 '33
- Photoelectric emission from different metals. H. C. Rentschler, D. E. Henry and K. O. Smith. *diags R Sci Instr* 3:794-802 D '32
- Photo-electric eye. J. Kunz and J. T. Tykociner. *Science* 78:sup7 Ag 18 '33
- Pickle bottle photo-cell is put to work. M. L. Wendel. *il diag Radio N* 14:407+ Ja '33
- Les piles photovoltaïques et leurs applications. A. Boutaric. *Génie Civil* 102:278-9 Mr 25 '33
- Rating of photoelectric tubes. L. R. Koller. *R Sci Instr* 3:760-1 D '32
- Real electric eye; iconoscope. A. P. Peck. *il diag Sci Am* 149:117 S '33
- Rhamstine electronic cell operates without batteries. *il Iron Age* 131:203 F 2 '33
- Television with cathode-ray tubes. V. K. Zworykin. *il diags Inst E E J* 73:437-51 O '33
- Voice transmission on a beam of light. R. R. Ramsey. *diags Science* 78:105 Ag 4 '33
- Weston photonic photoelectric cell. B. P. Romain. *R Sci Instr* 4:83-5 F '33

See also

Blancometer  
Television apparatus

**Industrial applications**

- Accessories for automatic sheet catchers; photoelectric flag switch. W. B. Snyder. *il Blast F & Steel Pl* 21:602 N '33
- Behavior of eye-controlled street lights satisfactory. A. L. Pierce. *Elec W* 101:142 Ja 28 '33
- Color. R. C. Hitchcock. *il diags Elec J* 30:340-5 Ag '33
- Continuous control of pulp cooking by means of the photo-electric cell. A. Papineau-Couture. *Pulp & Pa of Can* 33:443 N '32
- Detecting organic impurities in sand with photo-electric cell; abstract. H. W. Leavitt and W. S. Evans. *Rock Prod* 36:27 O '33
- Developments in electrical equipment for steel mills in 1932. H. A. Winne. *Blast F & Steel Pl* 21:35-7 Ja '33
- Electric eye. F. A. Firestone and H. B. Vincent. *il Automobile Eng* 23:173-4 My '33
- Electric eye automatically checks hardness of water; Elgin hardimeter. *il Melland* 5:148+ Ag-S '33; Same cond. *Power Pl Eng* 37:404 S '33; Abstract. *Chem & Met Eng* 40:488 S '33
- Electric eye opens Nemaclin doors. *il diags plan Coal Age* 38:77-8+ Mr '33
- Electric eye sorting gives uniform grading at low cost; General bean co. Lowell, Mich. R. G. Silbar. *il Food Ind* 5:454-5 N '33

- Electric eyes watch over the power plant. A. H. Lamb. *diags Power Pl Eng* 37:295-7 Jl '33
- Handling of mail bags under photo-electric control. S. H. L. Bohm. *il Mech Handling* 20:3-6 Ja '33
- Light beam opens mine door. H. S. Littlewood. *il diag Elec J* 30:163-4 Ap '33; Excerpts. *Illum Eng Soc Trans* 28:389-90 My '33
- Light sensitive cells; their use in the development of smoke prevention equipment. *Electrician* 110:335 Mr 10 '33
- Machine makes cuts in 7 minutes! Engrav-O-Graph. *il Inland Ptr* 91:31-2 Jl '33
- Mercury detector sensitive to 100,000,000 to 1 dilution. *Elec W* 102:523 O 21 '33
- New light on ink-intensity problem; photo-electric cell is put to new use in printing industry. E. L. H. Flood. *il Inland Ptr* 91:51-2 Ag '33
- Photo-cell control and electric heat for vitreous enameling. *il Elec W* 100:848 D 24 '32
- Photo-cell control executes predetermined hydro operation. J. Fies. *il diags Elec W* 102:396-8 S 23 '33
- Photo cells control illumination of airways. *Sci Am* 147:360 D '32
- Photoelectric cell applications. R. C. Walker and T. M. C. Lance. 193p \$2.50 Pitman '33
- Photo-electric cell in printing. *il Elec R (Lond)* 112:331 Mr 3 '33
- Photoelectric cell in the printing industry. *Illum Eng Soc Trans* 27:763-4 D '32
- Photo-electric color matcher. *il Textile Col* 55:558 Ag '33
- Photoelectric colorimeter for measuring color intensities of liquid petroleum products. B. W. Story and A. A. Kalichevsky. *diag Ind & Eng Chem Anal* ed 5:214-17 My 15 '33; Abstract. *Oil & Gas J* 31:18 Ap 6 '33
- Photoelectric control prevents tote pans from piling up on conveyor. *il Steel* 91:26 D 26 '32
- Photo-electric ground detector gives remote indication. *Elec W* 101:202 F 11 '33
- Photoelectric relay prevents enamel ware from piling up on conveyor. *Steel* 92:28 Je 19 '33; *Mech Handling* 20:226 Jl '33
- Photo-electric trigger controls sheet catcher. G. A. Caldwell. *il Elec W* 102:152-3 Jl 29 '33
- Photo-eye controls chemical operations. J. V. Alfriend, Jr. *diags Chem Markets* 32:233-6 Mr '33; Same. *Elec Eng* 52:601-4 S '33
- Progress made in development of Howey photoelectric engraving machine. *il Inland Ptr* 90:29 D '32
- Recent developments in electronic devices for industrial control. F. H. Gulliksen. *il diags Elec Eng* 52:106-10 F '33
- 16 money-saving controls. G. A. Van Brunt. *Factory Management* 91:98-9 Mr '33
- Sorting of foods by a photoelectric tube. *Science* 78:sup9 O 20 '33
- Spread of photo-electric tubes throughout industry continues. *il Elec J* 30:35-6 Ja '33
- Waning daylight turns on lights automatically; photolux. *il Automotive Ind* 68:620 My 20 '33
- Weighing operations aided by photocell applications. *Elec W* 101:281 Mr 4 '33

**Measurement uses**

- Application of electric methods of measurement and testing. D. H. Bishop. *Inst E E J* 72:54-5 Ja '33
- Brown smoke density meter. R. D. Bean. *il diag Blast F & Steel Pl* 21:166-7 Mr '33
- Dynamic photoelectric relative opacimeter for the measurement of transmittancies of paper. O. Maass and R. Richardson. *il diags Pulp & Pa of Can* 34:457-60 Jl '33
- Everyday photometry with photo-electric cells. J. W. T. Walsh. *il diags Illum Engr* 26:64-71 Mr '33; Abstract. *Elec R (Lond)* 112:308-9 Mr 3 '33; Discussion. *Illum Engr* 26:72 Mr '33
- Experiments on the suitability of some rectifier photo cells for the measurement of daylight. H. H. Poole and W. R. G. Atkins. *Electrician* 110:737-8 Je 9 '33
- Improved photoelectric recorder. C. W. LaPierre. *il diags Gen Elec R* 36:271-4 Je '33



**PHOTOELECTRIC cells**—Measurement uses

—Continued

Investigation of mitogenetic radiation by means of a photoelectric counter tube. E. Lorenz. bibliog diag Pub Health Rep 48: 1311-18 O 27 '33

Measurement of erythral ultraviolet radiation. A. H. Taylor. il Opt Soc Am J 23: 60-6 F '33

Measuring the counterglow. H. N. Russell. diags Sci Am 148:278-9 My '33

Photoelectric comparator for precise and rapid measurement of reflection and transmission. C. H. Sharp and H. J. Eckweiler. diags Opt Soc Am J 23:246-50 J1 '33

Photoelectric quantum counters for visible and ultraviolet light. G. L. Locher. il diags Phys R 42:525-46 N 15 '32

Photomètre à cellule photo-électrique, système Philips. il diag Génie Civil 101:508-9 N 19 '32

Photronic illumination meter. W. N. Goodwin, jr. il diag illum Eng Soc Trans 27:828-35; Discussion. 835-40 D '32

**Testing**

Projector type light flux generator for testing light sensitive devices. E. B. Kurtz and J. L. Potter. il Inst Radio Eng Proc 21:1599-1602 N '33

Tests on photo-electric cells. D. Hauser. diag Elec R (Lond) 112:562 Ap 21 '33

**PHOTOELECTRIC effect**

Extension of Fowler's theory of photoelectric sensitivity as a function of temperature. A. T. Waterman and C. L. Henshaw. Phys R 44:59-60 J1 1 '33

Photoeffects in semi-conductors. B. Lange. diags Electrochem Soc Trans 63 (preprint 8):69-81 My '33

Photoelectric and metastable atom emission of electrons from surfaces in the rare gases. C. Kenty. diag Phys R 43:181-93 F 1 '33

Photovoltaic effects in Grignard solutions; new observations; a possible theory. R. T. Dufford. J Phys Chem 37:709-21 Je '33

Possibility of the emission of positive electrons from the nucleus by  $\gamma$  rays. A. Bramley. J Fr Inst 216:427-8 O '33

Recent developments in the study of the external photoelectric effect. L. B. Linford. Rs Mod Phys 5:34-61 Ja '33

Standing light waves; repetition of an experiment by Wiener, using a photoelectric probe surface. H. E. Ives and T. C. Fry. diag Opt Soc Am J 23:73-83 Mr '33

Theories of the photoelectric effect. K. K. Darrow. R Sci Instr 4:467-72 S '33

**PHOTOELECTRICITY**

Passage of photoelectrons through mica. N. E. Bradbury and L. A. Young. diag Phys R 43: 84-5 Ja 1 '33

Photoelectric currents in gases between parallel plate electrodes. L. A. Young and N. E. Bradbury. Phys R 43:34-7 Ja 1 '33

Photoelectric sensitivity of magnesium. R. J. Cashman and W. S. Huxford. diag Phys R 43:811-18 My 15 '33

See also

Electric conductivity      Photoelectric cells  
Electric discharges      Photoelectric effect

**PHOTOELECTRONS.** See Electrons**PHOTOENGRAVERS**

Wages in lithographing and photo-engraving trades in Netherlands, January, 1932. Monthly Labor R 35:1168 N '32

**PHOTOENGRAVERS' unions**

Benefits paid by photo-engravers' unions. Monthly Labor R 35:1085 N '32

**PHOTOENGRAVING**

Century of progress in the graphic arts. D. C. McMurtrie. il Ptd Salesmanship 61:219, 247-50 Je '33

Fifty questions and answers on engraving. H. J. Torgesen. Ptr Ink Mo 25:67-70 D '32

Folder that turned salesman's accounts from loss into profit; American nurses corporation. R. F. Irvin. pl Ptd Salesmanship 61: 244 Je '33

Halftone on rough paper shown in Inland printer makes sale. Inland Ptr 91:20 Je '33

Machine makes cuts in 7 minutes! Engrav-O-Graph. il Inland Ptr 91:31-2 J1 '33

Make each order look like new idea and collect your profits. B. Bigelow. il Inland Ptr 90:31-2 Mr '33

Photoelectric cell in the printing industry. illum Eng Soc Trans 27:763-4 D '32

Poor makeready and bad stereotypes spoil halftones in newspapers. S. H. Horgan. Inland Ptr 90:34-5 Mr '33

Progress made in development of Howey photoelectric engraving machine. il Inland Ptr 90:29 D '32

Silk screen methods of reproduction. B. Zahn. 155p \$3 Drake '33

See also

Photomechanical processes

**PHOTOFLASH lamps.** See Electric lamps, Photoflash

**PHOTOGRAPHIC chemistry**

Deutsche gesellschaft für photographische forschung; tagung am 29. Oktober. Angew Chemie 46:26-9 Ja 7 '33

Electrolysis of silver-bearing thiosulfate solutions. K. Hickman, W. Weyerts and O. E. Goehler. bibliog il diags Ind & Eng Chem 25:202-12 F '33

Photographic emulsion; the mechanism of hypersensitization. B. H. Carroll and D. Hubbard. bibliog U S Bur Stand J Research 10:211-28 F '33

Photographic properties of silver sulfide; print-out effect; photographic aspect. K. Hickman and W. Weyerts. il diags J Fr Inst 216:591-627 [bibliog p627] N '33

Response of a photographic emulsion to alpha-rays. T. R. Wilkins and R. N. Wolfe. il diag Opt Soc Am J 23:324-32 S '33

See also

Dyes and dyeing,      Photochemistry  
Photographic      Photography

**PHOTOGRAPHIC lenses.** See Lenses, Photographic

**PHOTOGRAPHIC optics**

Single reading glass used to produce stereoscopic effect in photos. T. A. Hayden. Eng N 111:253 Ag 31 '33

**PHOTOGRAPHIC paper**

Photographic prints in color process; Gaspar-color process. Science 78:sup9 S 1 '33

Positive process in photography. H. Baines. il diags Soc Chem Ind J (Chem & Ind) 52: 443-7 My 26 '33

Sulphur printing. Engineer 155:sup [Metallurgist]43-4 Je 30 '33

Vervielfältigungsfähige Baumann-abdrucke. H. Baars, A. Prill and M. Werner. il Stahl & Eisen 52:1291-2 D 29 '32

**PHOTOGRAPHIC plates.** See Photography—Plates

**PHOTOGRAPHIC records**

Drawer of film replaces room of files; subscribers' record system; Atlantic service co. il Management Methods 61:665-7 D '32

How reels of film replaced accounts receivable ledgers. Management Methods 62:114 Mr '33

Photo duplicates cut costs; Jewel tea company. Management Methods 62:74 F '33

Photographic lists used; Atlantic service co. Management Methods 61:615-16 N '32

Photographic records of heat transfer and their analysis. S. Rupprich. [tr. from German of E. Schmidt] il diags Refrig Eng 26:19-27+ J1 '33

Photography works for industry. F. C. Ellis. il Sci Am 149:70-2 Ag '33

Reel bookkeeping; Strawbridge & Clothier. L. G. Andrews. il Credit & Fin Management 35:22-3+ Mr '33

Use of the motion camera for testing electrical apparatus. W. Wilson. Engineering 136:381-2, pl 12-13 O 6 '33; Abstracts. Engineer 156:255-6 S 15 '33; Elec R (Lond) 113: 349 S 15 '33

**PHOTOGRAPHIC surveying**

See also

Mapping, Aerial  
Surveying, Aerial

## PHOTOGRAPHS

Circus; photographs by Muller of Frederick Bradley, New York. Adv Arts p24a-24d J1 '33

Photograms of the year 1932. F. J. Mortimer, ed. 24p, 64 pls, 40p Iliffe & sons Ltd, London '33

Photographic initials. il Adv Arts p32-3 N '33

See also

Advertisements, Pictorial—Photographs

## PHOTOGRAPHS, Aerial

Airman's world; a book about flying. P. Supf. 224p \$3.50 William Morrow & co, New York '33

Beauty of flight. M. Curry. 12p 100 pl \$5 Day '32

Coast-to-coast; with portfolio of aerial photographs. Fortune 7:30-9 My '33

## PHOTOGRAPHS, Industrial

Photographic compositions showing the metamorphosis of raw materials into finished products, by Arthur Gerlach. il Fortune 7: 50-1 Ap; 64-5 Je; 8:40-1 O '33

Sheep and Shuttleworths, whose corporate expression is the Mohawk carpet mills, inc. il Fortune 7:42-8, 76, 78, 80-1 Ja '33

Single reading glass used to produce stereoscopic effect in photos. T. A. Hayden. Eng N 111:253 Ag 31 '33

## PHOTOGRAPHY

Contemporary photography. P. T. Haagen. il Ptd Salesmanship 62:44-7- S '33

Engineering acoustics. Electrician 100:687-8, 720-1, 754-5 N 25-D 9 '32

High-speed photographic method. il Sci Am 148:40 Ja '33

Infra-red photography. Soc Dyers & Col J 49:79-80 Mr '33

Intermittency effect in photographic exposure. J. M. Blair and M. C. Hylan. bibliog Opt Soc Am J 23:353-8 O '33

Invisible light for pictures in the dark. S. G. Hibben. Sci Am 149:38 J1 '33

Key to impressive photographs—tone contrast. il Ptr Ink Mo 27:28-31+ O '33

Photographic reciprocity law failure for radiations of different wave-length. J. H. Webb. diag Opt Soc Am J 23:316-23 [bibliog p323] S '33

Photographic reversal by desensitizing dyes. B. H. Carroll and C. M. Kretschman. diags pl U S Bur Stand J Research 10:449-64 Ap '33

La photographie en lumière infra-rouge. Génie Civil 103:19-20 J1 1 '33

Photographs made with invisible rays. il Elec Eng 52:642 S '33

Photography without light. R. L. Zahour. Illum Eng Soc Trans 28:632-3 S '33; il Excerpts. Sci Am 149:180-1 O '33; System 62:462-3 O '33

Pictorial composition in photography. A. Hammond. 2d ed rev & enl 212p \$3.50 American photographic pub. co, Boston '32

Positive process in photography. H. Baines. il diags Soc Chem Ind J (Chem & Ind) 52: 443-7 My 26 '33

Recent advances in sensitizers for the photography of the infrared. L. G. S. Brooker, F. M. Hamer and C. E. K. Mees. bibliog il Opt Soc Am J 23:216-22 Je '33

Recent developments in infra-red photography. O. F. Bloch. il Soc Chem Ind J (Chem & Ind) 52:829-37 O 20 '33; Abstract. J Fr Inst 216:812-15 D '33

Relationship between reciprocity law failure and the intermittency effect in photographic exposure. J. H. Webb. bibliog diag Opt Soc Am J 23:157-69 My '33

See also

Astronomical photography  
Cameras  
Color photography  
Dyes and dyeing,  
Photographic  
Lantern slides  
Lenses, Photographic  
Moving picture  
photography

Photographic chemistry  
Photomechanical  
processes  
Photomicrography  
Photostat  
Phototelegraphy  
Radiography

## Apparatus and supplies

Objektivverschlüsse für photographische apparate. W. Lind. diags Zeit Ver Deutsch Ing 77:733-6 J1 8 '33

## Developing and developers

Comparison of several developers and the specification of relative sensitivity. R. Davis and G. K. Neeland. U S Bur Stand J Research 11:379-407 S '33

Improved process for physical development of plates, films, and lantern slides. A. F. Odell. bibliog Ind & Eng Chem 25:877-9 Ag '33; Correction. 25:1079 O '33

## Films

Manufacture of photographic film. H. Baines. Engineer 154:666 D 30 '32; Same. Mech Handling 20:57 F '33

Production of strong, cellulose acetate films. L. Harris and E. A. Johnson. R Sci Instr 4:454-5 Ag '33

Riddle of the roll film; abstract. H. Baines. Soc Chem Ind J (Chem & Ind) 52:303 Ap 7 '33

## Latent image

Application of Blair-Leighton equation to X-rays. J. A. Lester and J. M. Blair. J Phys Chem 37:17-20 Ja '33

Herschel effect as a result of simultaneous forward and reverse reactions. K. M. Joehneck and J. M. Blair. il Opt Soc Am J 23:67-9 F '33

Time lag in the formation of the latent (photographic) image. L. I. Zimmerman. bibliog Opt Soc Am J 23:342-52 O '33

## Plates

Device for reducing grain effects in microphotometer records. F. K. Richtmyer and R. F. Hirsh, jr. diag R Sci Instr 4:353-4 Je '33

Photographic plates for use in spectroscopy and astronomy. C. E. K. Mees. il diag Opt Soc Am J 21:753-75; 22:204-6; 23:229-33 D '31, Ap '32, J1 '33

Special sensitive plate for metallographic work announced by Eastman kodak co. Iron Age 130:sup14 D 29 '32

## Scientific applications

Photographic recording of line tests for vitamin D. A. L. Bacharach and others. il diag Ind & Eng Chem Anal ed 5:12-14 Ja 15 '33

Production of a vacuum in an air tank by means of a steam jet. F. R. B. Watson. il Inst Mech Eng Proc 124:251-8 '33; Same. Engineering 135:262-5 Mr 3 '33

Recent developments in infra-red photography. O. F. Bloch. il Soc Chem Ind J (Chem & Ind) 52:835-7 O 20 '33

See also

Photography of projectiles

## PHOTOGRAPHY, Aerial

Aerial survey in relation to economic geology. D. Gill. Roy Aeronautical Soc J 37:227-64 [bibliog p258-64, 287]; Discussion. 264-86 Mr '33

Air survey. J. S. A. Salt. il diag Roy Aeronautical Soc J 37:209-19 Mr '33; Discussion. 37:219-26, 383-8 Mr-Apr '33

All-seeing eye; multiple lens aerial camera. il diags Aviation 32:211-12 J1 '33

Cold weather photography; training of aerial photographers at the Army air corps technical school, Chanute field, Ill. Aero Digest 22:40 Ap '33

Fairchild five-lens aerial camera. il Aero Digest 22:44 Je '33; Aviation 32:200 Je '33

Mapping from aerial photographs. A. E. Simpson. Can Eng 64:18 Mr 21 '33

Recent developments in infra-red photography. O. F. Bloch. il Soc Chem Ind J (Chem & Ind) 52:832-3 O 20 '33

La topographie par photographies aériennes. J. Dumas. il diags map Génie Civil 101: 503-6 N 19 '32

See also

Mapping, Aerial  
Surveying, Aerial



- PHOTOGRAPHY, Astronomical.** See Astronomical photography
- PHOTOGRAPHY, Flashlight**  
New photographic flashometer developed. Illum Eng Soc Trans 27:764-6 D '32
- PHOTOGRAPHY, Spark**  
Snap-shots of bullets in flight. C. T. Ervin. il diag Sci Am 149:23 J1 '33
- PHOTOGRAPHY in industry**  
Behavior of metals during cutting investigated at length; abstract. F. Schwerd. Iron Age 132:31 J1 6 '33; Mach 39:797 Ag '33  
Photographic packaging. J. Von Miklos. il Adv Arts p18-22 S '33  
Photography works for industry. F. C. Ellis. il Sci Am 149:70-2 Ag '33  
See also  
Advertisements, Pic- Moving pictures in  
torial—Photo- industry  
graphs Photographs, Industrial
- PHOTOGRAPHY of animals**  
Talkie troubles; Arctic blizzards and tropical sun put the talkie cameraman to supreme tests. A. R. Boone. il Sci Am 147:326-9 D '32
- PHOTOGRAPHY of books.** See Books—Photographic reproduction and projection
- PHOTOGRAPHY of documents**  
See also  
Photostat
- PHOTOGRAPHY of explosions**  
Photographic analysis of explosion flames. W. A. Bone. Gas J (Lond) 202:515 My 24 '33; Same cond. Engineering 135:618 Je 9 '33; Same cond. Chem Age (Lond) 28:526 Je 10 '33  
Photographic analysis of explosion flames; abstract. W. A. Bone. Soc Chem Ind J (Chem & Ind) 52:184 Mr 3 '33  
Propagation tests and the photography of the disturbance sent out by the explosion of commercial electric detonators. D. B. Gawthrop. il diags J Fr Inst 214:647-64 D '32
- PHOTOGRAPHY of manuscripts.** See Manuscripts—Reproduction
- PHOTOGRAPHY of plants**  
Nature's architecture; photographs by Professor Karl Blossfeldt. Am Arch 143:33-40 Ja '33
- PHOTOGRAPHY of projectiles**  
Snap-shots of bullets in flight. C. T. Ervin. il diag Sci Am 149:23 J1 '33
- PHOTOGRAPHY of rays**  
Some photographs of the tracks of penetrating radiation; abstract. P. M. S. Blackett and G. P. S. Occhialini. R Sci Instr 4:304 My '33
- PHOTOGRAPHY of textiles**  
Application of infra-red photography to textiles. P. W. Cunliffe. pl table Soc Dyers & Col J 49:73-6 Mr '33  
Device for manipulating sample greatly simplifies production of fabric stereograms. E. R. Schwarz. il diag Textile World 83:1451-3 Ag '33  
Recent developments in infra-red photography. O. F. Bloch. Soc Chem Ind J (Chem & Ind) 52:833-4 O 20 '33
- PHOTOGRAPHURE**  
Planographic and intaglio. G. R. Mayer. Published in monthly numbers of Inland printer  
Use gravure to sell quality buyers. il Inland Ptr 91:60-2 My '33  
See also  
Rotogravure
- PHOTOLITHOGRAPHY**  
Facsimile processes; with special relation to tabular matter. N. Parley. Assn of Sp Lib & Inf Bur Proc 1933:33-44  
See also  
Printing, Offset
- PHOTOMECHANICAL processes**  
Preparation and reproduction of illustrations for technical reports. G. T. Clarkson. Assn of Sp Lib & Inf Bur Proc 1933:45-55
- Printing; reproductive means and materials. C. C. Knights. bibliog 370p Butterworth & co, ltd, London '32  
See also  
Collotype Photogravure  
Photoengraving Rotogravure
- PHOTOMETERS**  
Device for reducing grain effects in microphotometer records. F. K. Richtmyer and R. F. Hirsh, jr. diag R Sci Instr 4:353-4 Je '33  
Integrating photometers; some recently developed visual and photo-electric types. il diag Electrician 111:117-18 J1 28 '33  
Long-range telephotometer. C. H. S. Evans and E. W. Chivers. diags Illum Engr 26:80-1 Mr '33  
Measuring the counter-glow. H. N. Russell. diags Sci Am 148:278-9 My '33  
New instrument makes quantitative analysis of alloys simple; Spencer recording microphotometer. il Iron Age 130:sup14 D 29 '32  
Null type of photoelectric photometer. R. Loewe. Illum Eng Soc Trans 28:639 S '33  
Photomètre à cellule photo-électrique, système Philips. il diag Génie Civil 101:508-9 N 19 '32  
Photronic illumination meter. W. N. Goodwin, jr. il diag Illum Eng Soc Trans 27:828-35; Discussion. 835-40 D '32  
Simplified recording photometer. F. H. Coates and A. B. Macallum. il diag Can Chem & Met 17:167-9 Ag '33
- PHOTOMETRY**  
Characteristic equations of vacuum and gas-filled tungsten-filament lamps. L. E. Barrow and J. F. Meyer. U S Bur Stand J Research 9:721-32 D '32  
Device for measuring intensity of illumination. H. R. Rosen and W. M. Roberds. Science 78:241-2 S 15 '33  
Everyday photometry with photo-electric cells. J. W. T. Walsh. il diags Illum Engr 26:64-71 Mr '33; Abstract. Elec R (Lond) 112:308-9 Mr 3 '33; Discussion. Illum Engr 26:72 Mr '33  
Experiments on the suitability of some rectifier photo cells for the measurement of daylight. H. H. Poole and W. R. G. Atkins. Electrician 110:737-8 Je 9 '33  
Illuminating engineering nomenclature and photometric standards. Illum Eng Soc Trans 28:265-79 Mr '33  
International action on units in electricity and light. J Fr Inst 215:474-6 Ap '33  
International photometric units and standards. diags Illum Eng Soc Trans 27:738-51 N '32  
Iso-candles for amateurs. J. W. T. Walsh. diags Illum Engr 26:169-73 J1 '33  
Iso-candles made easy. J. W. T. Walsh. Gas J (Lond) 203:506-9 S 6 '33  
Light intensity at different depths in lake water. H. A. Erikson. il diag Opt Soc Am J 23:170-7 [bibliog p 177] My '33  
Light penetration in the waters of the San Juan Archipelago. C. L. Utterback and J. W. Boyle. diag map Opt Soc Am J 23:333-8 O '33  
Photoelectric comparator for precise and rapid measurement of reflection and transmission. C. H. Sharp and H. J. Eckweiler. diags Opt Soc Am J 23:246-50 J1 '33  
Photometric determination of camera exposures for motion picture work. A. M. Gundelfinger and J. W. Stafford. J Fr Inst 215:81-92 Ja '33  
Photometry of solar eclipse phenomena. C. H. Sharp and others. Opt Soc Am J 23:234-45 J1 '33  
Proposed scale for use in specifying the chromaticity of incandescent illuminants and various phases of daylight. I. G. Priest. Opt Soc Am J 23:41-5 F '33  
Revision of the international electrical units and photometric standards. Science 77:251-2 Mr 10 '33  
Testing specifications for lighting equipment. Illum Eng Soc Trans 28:479-525 Je '33

**PHOTOMETRY—Continued**

Theory and specification of opal diffusing glasses. J. W. Ryde, B. S. Cooper and W. A. R. Stojle. *bibliog il Illum Engr* 26:33-48; Discussion. 52-3 F '33

See also

Actinometry	Light
Color	Measuring instru-
Color measurement	ments, Optical

**PHOTOMICROGRAPHY**

Greater flatness in microphotographs; Bausch & Lomb Micro-Tessar. *il Automotive Ind* 68:739 Je 17 '33

Photomicrography; an introduction to photography with the microscope, with a section on motion photomicrography. 12th ed 86p [bibliog p83-4] Eastman kodak co, Rochester, N. Y. '32

Precision, high power metallographic apparatus. F. P. Lucas. *il diag Metal Prog* 24:20-5 O '33

Special sensitive plate for metallographic work announced by Eastman kodak co. *Iron Age* 130:sup14 D 29 '32

See also

Microscope and	Photography—Sci-
microscopy	entific applications

**PHOTOMICROGRAPHY in industry**

Improved means of studying plate embrittlement; use of magniscope and photomicrography. J. P. Morrison. *il diag Locomotive* 39:162-6 Ap '33

Laboratory control of the quality of paraffin distillate. L. L. Davis and D. S. Campbell. *bibliog il Am Pet Inst Proc* 14M(3):32-9 My '33; Same. *Oil & Gas J* 32:49-50+ My 25 '33; Abstract. *Nat Pet N* 25:39+ My 17 '33; Discussion. *Am Pet Inst Proc* 14M(3):39-42 My '33

Microscopic study of steel with polarized light. Yap, Chu-Phay. *bibliog il Am Soc Steel Tr Trans* 21:663-72 Jl '33

Photographic investigation of caustic embrittlement. J. P. Morrison. *il diag Locomotive* 39:196-202 Jl '33

**PHOTOMONTAGE**

Blended pictures. *il Ptr Ink* 164:25-6 Ag 24 '33

**PHOTONS**

Free positive electrons resulting from the impact upon atomic nuclei of the photons from Th C'''. C. D. Anderson. *Science* 77:432 My 5 '33

Statistical behavior of photons. R. B. Barnes and M. Czerny. *R Sci Instr* 4:64-5 F '33

**PHOTOPLAY magazine**

Kay Dee. H. Powel. *Adv & Sell* 20:23+ Ap 27 '33

**PHOTOSTAT**

Adapting equipment to the making of an official library order catalog. L. M. Lewis. *il Lib J* 58:302-5 Ap 1 '33

Odd jobs photostatted; Lumberman's mutual casualty co. *Management Methods* 62:118-19 Mr '33

Uses photostats to lower art costs. E. G. Fulton. *il diag Inland Ptr* 91:34-5 My '33

**PHOTOSYNTHESIS**

Carbon dioxide assimilation in a higher plant. W. H. Hoover, E. S. Johnston and F. S. Brackett. *Smithsonian Miscellaneous Collections* v 87, no 16:1-19, pl 1-2 '33

Effect of water on the photosynthesis of hydrogen chloride. G. K. Rollefson and J. C. Potts. *Am Chem Soc J* 55:860-1 F '33

Long and short wave-length limits of photosynthesis. G. R. Burns. *Science* 78:130 Ag 11 '33

Photosynthesis in tropical sunlight; the presence of formaldehyde in rain water. N. R. Dhar and A. Ram. *bibliog J Phys Chem* 37:525-31 Ap '33

Special air-chamber for studying photosynthesis under natural conditions. A. J. Heinicke. *diag Science* 77:516-17 My 26 '33

**PHOTOTELEGRAPHY**

Facsimile transmission to ships at sea. *il Sci Am* 148:57-8 Ja '33

See also

Television

**PHOTOTHERAPY**

Fundamental units and terms for biologically-effective radiation. M. Luckiesh and L. L. Holladay. *Opt Soc Am J* 23:197-205 Je '33

**PHOTOTROPY**

Phototropic and thermotropic anils from 5-bromosalicylaldehyde. C. M. Brewster and L. H. Millam. *Am Chem Soc J* 55:763-6 F '33

**PHTHALAZINE**

New reaction of certain diazosulphonates derived from  $\beta$ -naphthol-1-sulphonic acid; constitution of the phthalazine derivatives. F. M. Rowe and A. T. Peters. *Chem Soc J* p1067-70 Ag '33

**PHTHALIC acid**

Equilibrium in the system, sodium phthalate, phthalic acid and water. S. B. Smith and W. A. Sturm. *Am Chem Soc J* 55:2414-19 Je '33

New group of plasticizers; the esters of phthalic and glycolic acids. T. S. Carswell and A. Kirkpatrick. *Plastic Prod* 9:361-2 N '33

**PHTHALOYLNAPHTHALENE**

Conversion of phthaloylnaphthalenes and naphthoyl-2-benzoic acids into benzanthraquinones. L. F. Fieser and M. Fieser. *Am Chem Soc J* 55:3342-52 Ag '33

**PHTHALOYLNAPHTHOL**

Synthesis of phthaloylnaphthol. L. F. Fieser and M. Fieser. *Am Chem Soc J* 55:3010-18 Jl '33

**PHTHALYL chloride**

Reaction between acid chlorides and ethers in the presence of zinc chloride. L. P. Kyrides. *Am Chem Soc J* 55:1209-12 Mr '33

Reaction between some acid chlorides and esters. L. P. Kyrides and M. N. Dvornikoff. *Am Chem Soc J* 55:4630-2 N '33

**PHTHALYL fluoride**

Phthalyl fluoride. A. T. Dann and others. *Chem Soc J* p15-21 Ja '33

**PHYSICAL apparatus.** See Physical instruments

**PHYSICAL chemistry.** See Chemistry, Physical

and theoretical

**PHYSICAL constants**

See also

Boiling points  
Dielectric constants  
Freezing points

**PHYSICAL education**

Physiological health. J. B. Nash, ed. v4 308p [bibliog p287-308] \$2 A. S. Barnes and co, New York '33

Safety in physical education in secondary schools. F. S. Lloyd. 167p [bibliog p141-3] National bureau of casualty and surety underwriters, New York '33

**PHYSICAL examinations**

Dealing with syphilis and gonorrhea as industrial problems. W. Clarke. *J Ind Hygiene* 15:79-88 Mr '33; Abstract. *Nat Safety N* 27:53 Mr '33

Physical examinations at termination of employment. *Safety Eng* 65:147-9 Ap '33

Physical examinations re: accident prevention. W. C. Mays. *Safety Eng* 66:144 O '33

Physical fitness of employees. H. W. Boggess. *Nat Safety N* 28:50, 52 O '33

See also

Eye—Examination

Insurance, Life—

Medical examinations

**PHYSICAL geography**

See also

Climate	Geophysics
Continents	Meteorology
Earth	Mountains
Earth movements	Ocean
Earthquakes	Rivers
Erosion	Volcanoes
Geology	Water, Underground

**California**

Land forms of San Geronio pass, southern California. R. J. Russell. *il maps Univ of Calif Pub in Geography* v 6, no 2:23-121 '32



**PHYSICAL geography—Continued****Colorado**

Land classification of western Colorado. L. R. Brooks and others. 53 1 U S Geol S, Washington '33

**New York (state)**

New York physiography and glaciology west of the Genesee valley. H. L. Fairchild. maps Rochester Acad of Science Proc v7, no 4: 97-135[bibliog p134-5] pl 27-9 '32

**Western states**

Alpine land forms of western United States. R. J. Russell. il Geol Soc Bul 44:927-49 O '33

**Wisconsin**

Physical geography of Wisconsin. L. Martin. 2d ed il Wisconsin Geol and Natural History S Bul 36, Educational Ser no 4:1-608 '32

**PHYSICAL instruments**

Laboratory instrument for the study of rigidity in twisting. B. A. Wooten. diags R Sci Instr 4:297-8 My '33

*See also*

Balances	Optical instruments
Chemical apparatus	Oscillographs
Electric apparatus	Scientific apparatus
and appliances	and instruments
Electric instruments	Surveying instruments
Measuring instruments	Volumetric apparatus

also names of instruments, e.g. Micrometers

**Exhibitions**

Advances in electrical instruments; apparatus seen at the Physical society's exhibition. A. C. Jolley. Elec R (Lond) 112:9-10 Ja 6 '33  
Physical society's 23d annual exhibition. il Engineer 155:37-9, 64-6, 90-2 Ja 13-27 '33; Engineering 135:49-52, 77-9, 94-7, 166-9 Ja 13-27, F 10 '33; Elec R (Lond) 111:955-60 D 30 '32; Electrician 110:12-15, 61 Ja 6-13 '33; Chem Age (Lond) 28:7-10 Ja 7 '33; Wire-less Eng 10:74-7 F '33

**PHYSICAL laboratories**

Royal society's Mond laboratory at Cambridge. il plan Engineer 155:146-7 F 10 '33; Electrician 110:181-2 F 10 '33; Elec R (Lond) 112:191 F 10 '33

*See also*

Great Britain—National physical laboratory; Massachusetts institute of technology—George Eastman research laboratories

**PHYSICAL measurements**

Method of dimensions. A. W. Porter. 80p [bibliog p75] Methuen & co, ltd, London '33  
Physico-chemical methods. J. Reilly and W. N. Rae. 2d ed rev 822p \$8 Van Nostrand '33

*See also*

Electric measurements	Pressure gages
Magnetic measurements	Radio measurements
	Temperature—Measurement

**PHYSICAL research**

Conquest of the physical world. B. Davis. Science 76:613-17 D 30 '32  
History of the National research council, Division of physical sciences, 1919-1933. F. K. Richtmyer. Science 77:358-60 Ap 14 '33  
Royal society's Mond laboratory at Cambridge. il plan Engineer 155:146-7 F 10 '33; Electrician 110:181-2 F 10 '33; Elec R (Lond) 112:191 F 10 '33

*See also*

Great Britain—National physical laboratory

**PHYSICIANS**

Great doctors. H. E. Sigerist. 436p [bibliog p405-15] \$4 W. W. Norton and co, inc, New York '33

Incomes of physicians. M. Leven. 135p \$2 Univ. of Chicago press '32

Medical secretary. M. G. Morse. 162p [bibliog p155-6] \$1.50 Macmillan '33

*See also*

Medical education	Medical jurisprudence
Medical ethics	Medical service

**Licensing**

Requirements for the license of medical students in New York state. Science 77:277-8 Mr 17 '33

**PHYSICIANS' offices**

Basic considerations in the design of medical office buildings. H. E. Warren. il diags plans Am Arch 143:13-22 Ja '33

Doctors' office building, Baltimore, Md. altered from small two-story church. il plans Arch Forum 58:48 Ja '33

**PHYSICISTS**

Publicity and the physicist. R. D. Potter. R Sci Instr 4:261-3 My '33

*See also*

Rittenhouse, David

**PHYSICS**

Atom and cosmos; the world of modern physics. H. Reichenbach. 300p \$2 Macmillan '33

College physics. A. L. Foley. 759p Blakiston '33

Contemporary advances in physics, the nucleus. K. K. Darrow. il diag Bell System Tech J 12:288-330 Jl '33

Development of physical thought. L. B. Loeb and A. S. Adams. 648p \$3.75 Wiley '33

Experimental atomic physics. G. P. Harnwell and J. J. Livingood. 472p \$5 McGraw-Hill '33

First principles of physics. R. W. Fuller, R. B. Brownlee and D. L. Baker. 799p, 13p Allyn and Bacon, Boston '33

Introduction to theoretical physics. J. C. Slater and N. H. Frank. 576p McGraw-Hill '33

Introductory physics; a book for college students. L. G. Hector. 372p American book co, New York '33

Meeting of physicists at Chicago; summary of papers. Science 76:sup8 D 2 '32

Method of dimensions. A. W. Porter. 80p 2s 6d Methuen & co, ltd, London '33

New background of science. J. Jeans. 301p \$2.50 Macmillan '33

Outline of atomic physics. O. H. Blackwood and others. 348p \$3.50 Wiley '33

Probability and the exponential laws of physics. M. C. Holmes. J Fr Inst 215:281-5 Mr '33

Proceedings of the American physical society; abstracts. Phys R 42:900-15; 43:210-16, 372-85, 773-83, 1040-62; 44:128-31, 315-30 D 15 '32, F 1, Mr 1, My 1, Je 15, Jl 15, Ag 15 '33

Proceedings of the New England section of the American physical society; abstracts. Phys R 43:500-3 Mr 15 '33

Professor Born's reconciliation of old and new physics. Science 78:sup8-9 S 1 '33

Progressive problems in physics. F. R. Miller. rev ed 225p \$1.32 Heath '33

Recent advances in physics. W. F. G. Swann. il Mech Eng 55:75-9+ F '33

Scientific papers from Department of physics for the year 1931-1932. Lehigh U Circ 38:1-32 '33

Some applications of the absolute differential calculus to physics. C. Kaplan. Phys R 43:137-42 Ja 15 '33

Spacetime scale as a quantum coordinate system. W. Bender. diags J Fr Inst 216:157-82 Ag '33

Text book of college physics. C. A. Chant and E. F. Burton. 541p \$3.25 Holt '33

Textbook of physics, by E. Grimsehl, ed. by R. Tomaschek, auth. tr. from the seventh German ed. by L. A. Woodward. v 1 434p 15s Blackie & son ltd, London '32

Time, matter, and values. R. A. Millikan. 99p University of North Carolina press, Chapel Hill '32

Time, space and atoms. R. T. Cox. 154p \$1 Century co. '33

Von der tätigkeit der physikalisch-technischen reichsanstalt im jahre 1932. M. Jakob. Zeit Ver Deutsch Ing 77:932-4 Ag 26 '33

**PHYSICS—Continued**

Where is science going. M. Planck. 221p \$2.75  
W. W. Norton & co, New York '32

*See also*

Aberration  
American institute of physics  
Astrophysics  
Atoms  
Ballistics  
Capillarity  
Chemical elements  
Chemistry  
Chemistry, Physical and theoretical  
Compressibility  
Diffusion  
Elasticity  
Electricity  
Electrons  
Ether (of space)  
Evaporation  
Expansion (heat)  
Fluids  
Force and energy  
Free energy  
Friction  
Gases  
Geophysics  
Gravitation  
Hydraulics  
Hydrodynamics  
Ionization, Electrolytic  
Ionization, Gaseous  
Ions  
Light  
Liquids  
Magnetism  
Matter  
Mechanics  
Meteorology  
Molecules  
Optics  
Particles  
Pauli exclusion principle  
Photoelasticity  
Physical instruments  
Plasticity  
Pressure  
Quantum theory  
Radiation  
Radioactivity  
Reflection (optics)  
Relativity (physics)  
Sound  
Steam  
Strains and stresses  
Temperature  
Thermodynamics  
Thermometers and thermometry  
Vibration  
Viscosity  
Wave mechanics  
Weights and measures

**Bibliography**

Abstracts. Published in monthly numbers of Review of scientific instruments  
Book reviews. Published in monthly numbers of Review of scientific instruments  
Current literature of physics; extracts from the tables of contents of some of our contemporaries. Published in monthly numbers of Review of scientific instruments

**Exhibitions**

Physics—modern genie of the lamp; World's fair exhibits. *il* Power Pl Eng 37:248-51 Je '33

**History**

Development of physical thought. L. B. Loeb and A. S. Adams. 648p Wiley '33

**Laboratory manuals**

Manual of experiments in general physics. W. F. Schulz. 353p Van Nostrand '32  
Textbook of intermediate physics. H. Moore. 3d ed rev 826p Methuen & co, Ltd, London '32

**Philosophy**

New background of science. J. H. Jeans. 301p Macmillan '33  
New type of reasoning and some of its possible consequences. F. Zwicky. Phys R 43 1031-3 Je 15 '33

**Study and teaching**

Sixth annual summer symposium in theoretical physics at the University of Michigan. Science 77:320 Mr 31 '33  
Study outlines in physics. J. W. Clemensen. 154p [bibliog p147-54] \$1.75 Teachers college '33

**Tables, calculations, etc.**

Smithsonian physical tables. F. E. Fowle. 8th rev ed Smithsonian Misc Collections 88:1-682 '33

**Terminology**

Glossary of physical terminology. L. D. Weld. R Sci Instr 4:419-20 Jl '33

**PHYSICS, Biological.** See Biological physics

**PHYSIOLOGICAL apparatus**

Electrically driven contact breaker capable of delivering galvanic shocks ranging from 0.000,01 to 1.0 second duration. R. Gesell. diags Science 78:386-7 O 27 '33

Measurement of steadiness: a new apparatus and results on marksmanship. R. H. Seashore and R. D. Adams. bibliog diag Science 78:285-7 S 29 '33

*See also*

Biological apparatus  
Respiratory apparatus

**PHYSIOLOGICAL chemistry**

Basis for the physiological activity of -onium compounds; aryl ethers of choline. R. R. Renshaw and C. Y. Hopkins. Am Chem Soc J 55:1524-8 Ap '33

Biochemical research reports on histamine, salivary secretion mechanism, blood sera and adrenaline oxidation. Can Chem & Met 17:96 My '33

Chemical mediators of autonomic nerve impulses. W. B. Cannon. bibliog Science 78: 43-8 Jl 21 '33

Chemistry and nutrition. W. R. Sibbald. Soc Chem Ind J (Chem & Ind) 52:173-8 Mr 3 '33

Chemistry of foods. D. L. Thomson. Soc Chem Ind J (Chem & Ind) 52:349-50 Ap 21 '33

Group of chemicals active in increasing tissue permeability and enhancing certain infectious processes. A. Claude. Science 78:151-2 Ag 18 '33

Some contributions of biochemistry to the study of epilepsy. I. McQuarrie. J Chem Educ 10:205-14 [bibliog p214] Ap '33

*See also*

Anesthetics  
Barbituric acid  
Bile acids  
Biological chemistry  
Carbohydrates  
Cells  
Chemistry, Medical and pharmaceutical  
Diastase  
Enzymes  
Hormones  
Insulin  
Lead in the body  
Metabolism  
Oxidation, Physiological  
Poisons  
Proteins  
Vitamins

**Laboratory manuals**

Laboratory manual of physiological chemistry. D. W. Wilson. 2d ed rev 284p \$2.50 Williams & Wilkins co, Baltimore '32

**PHYSIOLOGICAL laboratories**

First American laboratory of physiology. W. B. Cannon. Science 78:365-6 O 20 '33

**PHYSIOLOGICAL optics.** See Optics, Physiological

**PHYSIOLOGY***See also*

Biological physics  
Cells  
Diet  
Electrophysiology  
Fatigue  
Growth  
Metabolism  
Muscles  
Nervous system  
Nutrition  
Physiological chemistry  
Respiration  
Temperature—Physiological effect  
Ultra-violet rays—Physiological effect  
Weight (physiology)

**PHYSOSTIGMINE**

Experiments on the synthesis of physostigmine (eserine). F. E. King and R. Robinson. Chem Soc J p270-3 Mr '33

**PHYTOL**

Electron diffraction by liquids. L. R. Maxwell. *il* Phys R 44:73-6 Jl 15 '33

**PICKARD, Robert H.**

Portrait. Soc Chem Ind J (Chem & Ind) 52: front Ja 6 '33

Presidents, past and present. Chem Age (Lond) 29:52 Jl 15 '33

**PICKLES**

We'll settle this in court. W. H. Grimes. *il* Food Ind 5:442-4 N '33

**PICKLING (metals)**

Concrete tanks lined with asphalted tile found suitable for pickling. *il* Steel 93:29 S 25 '33

Continuous pickling process in a bolt and nut factory. Mech Handling 20:81-2 Mr '33

Embrittlement by pickling not necessarily permanent. I. G. Slater. Iron Age 132:72+ O 12 '33



**PICKLING (metals)—Continued**

Pickling of iron and steel and the action of inhibitors. A. B. Dove, bibliog diag Can Chem & Met 17:192-4 S '33

Pickling of refrigerator parts is made automatic by conveyors. *il* Steel 92:17-19 Ja 16 '33

Scale removal by acid pickling. A. B. Winterbottom and J. P. Reed. *Iron & Steel Inst J* 126:159-85, pl 17-20 no 2 '32; Excerpts. Engineering 134:667-8 D 2 '32; Discussion. *Iron & Steel Inst J* 126:186-204 no 2 '32

**PICOLINE**

Reaction between 2-picoline and aromatic aldehydes. B. D. Shaw and E. A. Wagstaff. *Chem Soc J* p77-9 Ja '33

**PICRALIMA klaineana, Pierre**

Alkaloids of picralima klaineana, Pierre. T. A. Henry. *Chem Soc J* p2759-68 N '32

**PICROLONIC acid**

Crystalline antineuritic vitamin (B<sub>1</sub>) obtained with the aid of picrolonic acid. A. Seidell and M. I. Smith. *Am Chem Soc J* 55:3380-3 Ag '33

**PICRYL ethers**

Studies of the Beckmann change; the spontaneous rearrangement of oxime picryl ethers. A. W. Chapman and C. C. Howis. *Chem Soc J* p806-11 J1 '33

**PICTURES**

Rent-a-picture library promoted by the College art association, New York. *Business Week* p9 S 9 '33

*See also*

Advertisements, Pictorial	Photographs
Drawings	Posters
Paintings	Wood engravings

**PIECE work**

Piece rates solve problem; Stewart-Warner corporation. *Management Methods* 61:613 N '32

*See also*

Bonus system	Wage payment plans
Time study	Wages

**PIERCE-ARROW motor car company**

Back to Buffalo. *Business Week* p13 S 2 '33  
Pierce-Arrow company an independent unit. *Automotive Ind* 69:322 S 9 '33

**PIERS**

New York piers for 1,000-ft. ships. *il* diags plan Eng N 111:123-8 Ag 3 '33

Piers for superliners; new ocean terminal in New York. C. H. Vivian. *il* Comp Air M 38:4048-53 F '33

Le prolongement du quai d'accostage du port de Funchal (île de Madère). R. A. M. Guimaraes. *il* diags plan Génie Civil 103:276-8 S 16 '33

Steel island for offshore oil drilling. W. A. Sawdon. *il* diags Eng N 110:400-1 Mr 30 '33

**Fires and fire protection**

Difficulties which arise in reducing fire hazards of piers. C. H. Fischer. *East Underw* 34:34 Je 9 '33

New specifications to protect pier substructures against fire. *East Underw* 33:20 D 23 '32; Same. *Spectator* 129:31 D 22 '32

**Lighting**

Artificial lighting of 58 large steamship piers in New York. *Marine R* 63:35 Ag '33

**Reconstruction**

Salvaging a burned pier for Cunard line in New York. R. T. Betts. *il* diags plan Civil Eng 3:550-4 O '33

**PIERS, Concrete**

Bordeaux reaches seaward; new steamship terminal supported on concrete piers sunk with the aid of compressed air emulseurs. R. G. Skerrett. *il* diags map Comp Air M 38:4210-13 S '33

Concrete ferry landing at North Vancouver, B.C. G. S. Hanes. *il* Can Eng 64:13-14 Ja 24 '33

Ocean port of Le Verdon. *il* diags plan Engineer 156:203-5, 210 S 1 '33

Port of Havre. *il* diags plan map Engineer 155:566-9, 576 Je 9 '33

**PIERS (foundations)**

Tank piers carried 50 ft. to rock through old coal mine; Zanesville, Ohio. *diag Eng N* 110:190 F 9 '33

*See also*

Bridges—Foundations and piers

**PIEZ, Charles, 1866-1933**

Sketch. *por* Steel 93:21 O 9 '33; *Mech Eng* 55:705-6 N '33

**PIEZO-ELECTRICITY**

Amplifying lever for the measurement of small displacements. G. A. Fink and G. W. Fox. *diags R Sci Instr* 4:276-9 My '33

Effect of etching on the relative intensities of the components of double Laue spots obtained from a quartz crystal. M. Y. Colby and S. Harris. *il* Phys R 43:562-3 Ap 1 '33

How scientists are finding new applications of the relation between electricity and crystals. I. J. Saxl. *il* diags Radio N 15:16-18+ J1 '33

Laue patterns from thick crystals at rest and oscillating piezoelectrically. J. M. Cork. *il* Phys R 42:749-52 D 15 '32

Measurement of X-ray emission wave-lengths by means of the ruled gratings. R. B. Witmer and J. M. Cork. *il* Phys R 42:743-8 D 15 '32

Modes of vibration of piezo-electric crystals. N. H. Williams. *diags Inst Radio Eng Proc* 21:990-5 J1 '33

Multiple interferometer for analyzing the vibrations of a quartz plate. H. Osterberg. *il* Phys R 43:819-29 My 15 '33

Piezo-electric loud speaker for the higher audio frequencies. S. Ballantine. *il* diags Inst Radio Eng Proc 21:1399-1408 O '33

Researches of the late Dr. D. W. Dye on the vibrations of quartz. E. H. Rayner. *diags Inst E E J* 72:519-27, pl 1-4 Je '33; Abstract. *Wireless Eng* 10:205 Ap '33

X-ray examination of the harmonic thickness vibration of piezoelectric quartz plates. S. Nishikawa, Y. Sakisaka and I. Sumoto. *il* Phys R 43:363-4 Mr 1 '33

**PIEZOMETERS. See Pressure gages****PIG iron**

Blast furnace activities in 1932. W. A. Haven and W. C. Buell, Jr, comps. *Blast F & Steel* Pl 21:32-4+ Ja '33

Blast furnace smelting practice. A. J. MacDonald. *Blast F & Steel* Pl 21:215+ Ap '33

Variations in coke ash found to affect analysis of pig iron. H. W. Johnson. *Iron Age* 131:664-5 Ap 27 '33

*See also*

Cast iron  
Iron  
Iron founding

**Prices**

Composite prices of the Iron Age, 1898-1932; graph. *Iron Age* 131:19-20 Ja 5 '33

New basing points and delivered prices of pig iron. *Foundry* 61:46 S '33

Prices tell market history; tabulation. *Steel* 92:106-10 Ja 2 '33

Statistical record of iron and steel; monthly average prices 1916 to 1932. *Iron Age* 131:81-3 Ja 5 '33

**Statistics**

First half pig iron output is below 1932. *Steel* 93:15 S 25 '33

Ohio leads in pig iron production in 1932. *Steel* 92:14 Ap 10 '33

Pig iron and metal products of the United States, calendar years 1923-1931 (1932 estimated). *Metal Ind* 31:45 Ja '33

Pig iron output drops to lowest total since 1896. C. E. Wright. *Iron Age* 131:3-5 Ja 5 '33

Pig iron production; annual statistics, 1856-1911 and monthly statistics, 1912-1932. *Steel* 92:123 Ja 2 '33

Pig iron production of the United States, monthly, 1884-1932. *Iron Age* 131:94 Ja 5 '33

United States imports of pig iron by countries of origin, 1931, 1932. *Iron Age* 130:1004 D 29 '32

**PIG iron—Statistics—Continued**

World production of iron and steel declined less than American. E. F. Cone. *Iron Age* 131:106 Ja 12 '33

World production of pig iron, 1913 and 1924-32. Steel 92:83 Ja 2 '33

**PIGMENTATION**

Why do we persist in talking about the expansion and contraction of chromatophores? F. B. Sumner. *Science* 78:283-4 S 29 '33

**PIGMENTS**

Accelerated tests for the settling of pigments in paints. S. Werthan, R. H. Wien and E. A. Fatzinger. *il diag Ind & Eng Chem* 25: 1288-92 N '33

Application of pigment finishes to light leather. W. D. Brown. *Chem Age (Lond)* 27:502-3 N 26 '32

Chemistry and Grecian archaeology. W. Foster. *il J Chem Educ* 10:274-7 My '33

Chemistry course for painters and decorators. P. F. R. Venables and H. C. Utley. 121p Pitman '33

Chemistry in the service of Egyptology. L. C. Newell. *J Chem Educ* 10:260-1 My '33

Comments on lead pigments. J. A. Schaeffer. *Oil Paint & Drug Rep* 123:14 Mr 20 '33

Effect of synthetic resins and pigments on drier absorption and viscosity. *Oil Paint & Drug Rep Extra ed* 122:37-8 N 29 '32

Iron oxide pigments case gets hearing. *Oil Paint & Drug Rep* 123:17 My 15 '33

Lead and zinc pigments and salts industry drop in 1932. *Chemicals* 38:9 Je 26 '33

Lead pigments. W. J. Murphy. *il Chem Markets* 33:33-6 JI '33

Mechanism of development of pigment value in zinc sulfide. L. T. Work and I. H. Odell. *bibliog il Ind & Eng Chem* 25:411-16, 543-9 Ap-May '33

Modern methods of examining pictures. A. P. Laurie. *Soc Chem Ind J (Chem & Ind)* 52:327-9; Discussion. 329 Ap 14 '33

Observations on dry colors. C. A. Henlein. *Oil Paint & Drug Rep* 123:17+ Ja 16 '33

Opacifying of paper by means of titanium pigments. W. R. Willets. *Paper Tr J* 97:35-8 S 21 '33

Physical tests on paints, varnishes and lacquers. G. F. New. *Chem Age (Lond)* 28: 137-8 F 18 '33

Pigments for plastics. R. W. Boise. *Plastic Prod* 9:134 Je '33

Protective action of lead pigments against rust. M. Ragg. *Electrochem Soc Trans* 64 (preprint 24):293-300 S '33

Die prüfung von pigmenten und feinkörnigen stoffen auf teilchenfeinheit nach mechanischen und optischen verfahren. F. Schmid. *il Chemische Fabrik* 6:349-52 Ag 23 '33

Rapid method of determining the specific gravity of pigments and powders. E. J. Dunn, jr. *il Am Soc T M Proc* 32 pt 2: 659-62; Discussion. 663-5 '32

Die strukturforschung auf dem gebiet der anorganischen pigmente. H. Wagner. *bibliog il Angew Chemie* 46:437-41 JI 1 '33; Abstract (Structure of inorganic pigments). *Soc Dyers & Col J* 49:301-2 S '33

Use of titanium pigments in the paper industry. W. R. Willets. *Paper Tr J* 97:28, 30 S 7 '33

Verein deutscher chemiker in Würzburg; fachgruppe für chemie der körperfarben und anstrichstoffe. *Angew Chemie* 46:411-14 Je 24 '33

What's new in pigments? *Chem & Met Eng* 40:43 Ja '33

White pigments in Italy. *Chem Age (Lond)* 27:554 D 10 '32

Work of Richard Kuhn on the polyenes. C. M. Langkammerer. *bibliog J Chem Educ* 10:343-7 Je '33

*See also*

Chlorophyll	Paint
Coloring matter in food	Titanium oxides
Dyes and dyeing	White lead
Lithopone	Zinc oxide
Ocher	Zinc sulfide

**Manufacture**

Development of the titanium pigment industry; new plant at Luton. *Chem Age (Lond)* 28:435 My 13 '33

**PILCHARD oil**

Sardine and tuna oils as sources of vitamin D. R. W. Truesdail and H. J. Culbertson. *bibliog Ind & Eng Chem* 25:563-4 My '33

Sardine oil and meal output limits raised. *Oil Paint & Drug Rep* 122:40 D 12 '32

**PILE fabrics**

Bleaching of pile fabrics. B. S. Hillman. *diags Meliand* 5:204-6, 242-4 O-N '33 (to be cont)

Dermatitis from chemicals used in removing velvet pile. L. Schwartz and L. Tulipan. *Pub Health Rep* 48:872-5 JI 28 '33

Dyeing of curl-cloth. D. Kermode. *Textile Col* 55:261-2 Ap '33

New developments abroad in rayon and spun rayon fabrics—artificial furs. *il Meliand* 5:75 My '33

Special converting methods used for pile fabrics. B. S. Hillman. *diags Textile Col* 55:521-4+, 598-600 Ag-S '33

Velveteen and corduroy; cotton constructions and some weaves suitable for silk. G. R. Robertshaw. *il diags Textile World* 83:1260-1 JI '33

*See also*

Mohair

**PILES and pile driving**

Le battage de pieux en béton armé dans les terrains hétérogènes; pieux à sabot coupant. M. Lacombe. *il diags Génie Civil* 102:36-8 Ja 14 '33

Bell splice composite pile developed in Texas; concrete approaches to Neuces River crossing. G. G. Wickline. *il diags Eng N* 111:39-40 JI '33

Concrete jackets protect timber piles exposed to sea water; with cost data. J. W. Barnwell, jr. *il diags Concrete* 41:3-5 Je '33

Driving forty miles of pipe piles for one foundation; United States court house, New York. L. F. Looth. *il diag plan Comp Air M* 38:4165-9 JI '33

Foundations for George Eastman laboratory of physics and chemistry, Massachusetts institute of technology. H. E. Sawtell. *diags Boston Soc C E J* 20:155-70 O '33

Friction piles in muck sink evenly under load; construction of the dry-seal waterless gas holder at Syracuse, N.Y. *diags Eng N* 109: 746 D 22 '32

Lake Zurich breakwater built on piles. A. J. Luchinger. *il plan Eng N* 110:80-1 Ja 19 '33

New pile-bearing formula from model-pile tests. L. C. Wilcoxon. *diags Eng N* 109: 524-6 N 3 '32; Discussion. R. M. Harris. 109:787 D 29 '32; Reply. 110:355 Mr 16 '33

Newspaper building floor designed for 2,100-lb. load; Times-Star building in Cincinnati, supported with pipe-pile foundations. W. A. Lensky. *il plans Eng N* 110:586-7 My 11 '33

Ocean port of Le Verdon. *il diags plan Engineer* 156:203-5, 210 S 1 '33

Soil action shown by model. W. S. Housel; F. R. Harris. *il Eng N* 109:626-7 N 24 '32

Sonnette à air comprimé, pour le battage des pieux. *il diags Génie Civil* 102:163-4 F 18 '33

Steel island for offshore oil drilling. W. A. Sawdon. *il diags Eng N* 110:400-1 Mr 30 '33

Studies in the decomposition of timber under industrial conditions; greenheart. E. A. Rudge. *il Soc Chem Ind J* 52:283T-5T S 8 '33

Wave theory applied to the driving of reinforced-concrete piles. D. V. Isaacs. *Engineering* 136:211 S 1 '33

West-Rotinoff shell pile. *il Gas J (Lond)* 201: 43 Ja 4 '33

Wood borers remove piles from building foundations; loft building in St Paul. C. A. P. Turner. *Eng N* 111:159-60 Ag 10 '33

*See also*

Breakwaters	Piers
Cofferdams	Sheet piling
Concrete piling	Wharves
Foundations	



**PILOT reinsurance company**

Annual statement, 1932. *Spectator* 130:27 Mr 23 '33

**PIMARIC acid**

Resin acids of American turpentine gum; the preparation of the pimaric acids from *pinus palustris*. S. Palkin and T. H. Harris. *diags Am Chem Soc J* 55:3677-84 S '33  
Synthesis of alkylphenanthrenes; 7-methyl-1-ethyl- and 1-ethyl-7-isopropyl-phenanthrenes: constitution of abietic and *d*-pimaric acids. R. D. Haworth. *Chem Soc J* p2717-20 N '32

**PIMIENTO pepper.** See **Peppers**

**PINACOLONE**

Some halogenated pinacolones. G. A. Hill and E. L. Kropa. *bibliog Am Chem Soc J* 55:2509-12 Je '33

**PINACOLS**

Action of sodium alcoholate and of sodium amalgam on aromatic pinacols. W. E. Bachmann. *Am Chem Soc J* 55:355-61 Ja '33  
Pinacol-pinacolone rearrangement; the rearrangement of pinacols containing the biphenylene group. W. E. Bachmann and H. R. Sternberger. *Am Chem Soc J* 55:3819-21 S '33

Reaction between aromatic ketones and sodium; reactions of sodium pinacolates. W. E. Bachmann. *Am Chem Soc J* 55:2827-30 Jl '33

**PINACOLYL alcohol**

Dehydration and rearrangement of certain pinacolyl alcohols and related compounds. F. C. Whitmore and P. A. Krueger. *Am Chem Soc J* 55:1528-35 Ap '33  
Studies on the rearrangement of tertiary-butylmethylcarbinol (pinacolyl alcohol). F. C. Whitmore and H. S. Rothrock. *Am Chem Soc J* 55:1106-9 Mr '33  
Studies on the rearrangement of tertiary-butylmethylcarbinol (pinacolyl alcohol); dehydration. F. C. Whitmore and F. L. Meunier. *Am Chem Soc J* 55:3721-2 S '33

**PINE**

Chemical properties of screen fractions of black gum and slash pine ground wood pulps. E. R. Schafer and M. Santaholma. *Paper Tr J* 97:46-7 N 9 '33  
Control of white pine blister rust. *Science* 78:sup9-10 O 27 '33  
Distribution and nature of extractives in longleaf and shortleaf pine. E. F. Kurth. *bibliog Ind & Eng Chem* 25:192-5 F '33  
Extraction of terpene chemicals from waste pine wood. I. W. Humphrey. *il Inst Chem Eng Trans* 9:40-5; Discussion. 45-8 '31  
Georgia pine sulphite and ground wood for news print. W. G. MacNaughton and W. F. Allen. *Paper Tr J* 97:36-40 Jl 13 '33  
Georgia pines for sulphite pulp and newsprint. G. M. Rommel. *il Chem & Met Eng* 40:197-200 Ap '33  
Remarkable growth of pines in Georgia evidenced by an interesting picture. C. H. Herty. *il Paper Tr J* 97:22 O 26 '33  
White paper from young southern pines. C. H. Herty. *il Paper Tr J* 96:23-7 Mr 30 '33  
White papers from southern pines; pulping longleaf pine for strong, easy-bleaching pulp. M. W. Bray and C. E. Curran. *bibliog il Paper Tr J* 96:30-4 F 9 '33  
White pine blister rust. S. B. Detwiler. *Science* 78:sup5 Ag 25 '33

**PINE oil**

Essential oil of white pine (*podocarpus dacydiodes*). G. J. E. Hunter. *Soc Chem Ind J* 51:394T-7T D 9 '32

**PINEAPPLE juice****Advertising**

New campaign aims at three markets. *Ptr Ink* 164:23 S 7 '33  
Pineapple juice goes national. *Ptr Ink* 164:32 S 7 '33

**PINEAPPLES**

Pineapples; last year's overproduction accounts for this year's market drive. *Business Week* p6 D 14 '32

**Advertising**

Million dollar pineapple drive. *Ptr Ink* 161:6 D 1 '32

**PINNACLES national monument**

Pinnacles national monument, California. *Science* 78:232 S 15 '33

**PIPE bending**

Coils; how aluminum tubing is bent to make them. F. V. Hartman. *il Dom Eng* 142:137-8 S '33  
Difficult pipe bends made with special table. *diags Ry Mech Eng* 107:223-4 Je '33  
Pipe bending in short hitches should avoid strain on the part already bent. *Power Pl Eng* 37:174-5 Ap '33  
Pipe for high temperatures and pressures; Pittsburgh piping & equipment co. J. B. Nealey. *il Blast F & Steel Pl* 21:270-1 My '33

**PIPE bends**

Graphic solution of some common pipe bends. S. Kameros. *Heating-Piping* 5:342-6 Jl '33  
High-pressure and high-temperature steam pipe work. J. A. Aiton. *il diags Engineering* 134:720-3 D 16 '32; Excerpts. *Engineer* 154:438-9 O 28 '32  
New adjustable angle sleeve for repairing field bends. *il Gas Age* 71:348 Ap 1 '33; Same. *Oil & Gas J* 31:120 Mr 30 '33  
Pipe bends; diagrams; data sheet. *Factory Management* 91:383 S '33

**See also****Pipe elbows****PIPE coating**

Application of pipe coating and corrosion research to southern soils. S. Ewing. *Am Gas Assn Mo* 15:298-300 Jl '33; Same abr. *Gas J* (Lond) 203:353-4 Ag 16 '33  
Does copper pipe emit heat? M. B. Lowe. *il Dom Eng* 141:40-2+ Ap '33  
Example of long-time service of baked enamel coating on water pipe. A. H. Sabin. *Am Soc T M Proc* 32 pt 2:666-9 '32  
Field application by machine of hot bituminous coatings; Gardiner pipe-coating machine. W. T. Smith. *il Gas Age* 72:339-42+ O 7 '33  
Heat loss from copper piping. R. H. Heilman. *il Heating-Piping* 5:458-62 S '33  
Machine perfected for coating pipe lines in field. *il Gas Age* 72:120 Jl 29 '33  
Molded coating halts oil pipe corrosion; Somastic asphalt mixture. A. J. Swank. *il Elec W* 101:134-6 Ja 28 '33  
Pipe coatings and corrosion; A.G.A. sub-committee report. *Am Gas Assn Proc* 1932:703-4  
Pipe-line protection. S. Gill. *bibliog il Ind & Eng Chem* 25:49-53 Ja '33; Discussion. D. Finley. 25:1061-2 S '33  
Portland cement pipe coatings. F. N. Speller. *Water Works & Sewerage* 80:380 O '33  
Protection of pipes against soil action. K. H. Logan. *il Electrochem Soc Trans* 64 (preprint 13):137-48 S '33; Same cond. *Chem & Met Eng* 40:514-16 O '33; Abstract. *Iron Age* 132:30 S 21 '33  
Soil corrosion survey gives valuable data as aid in selecting proper type of coating. W. Denman. *Oil & Gas J* 31:12 D 22 '32  
Some modern methods of coating and lining pipe; bitumastic enamel lining, cement mortar and other coating. L. Stuart. *Am Water Works Assn J* 25:1431-8; Discussion. L. W. Stocker. 1438-42 O '33

**Testing**

A.P.I. pipe coating tests; progress reports. *Am Pet Inst Proc* p114-30 sec 4 D '32  
Bituminous pipe coatings. W. M. Wallace and J. A. Parks. *Am Water Works Assn J* 25:1387-1411; Discussion. E. Rinehart. 1411-17 O '33

**PIPE coils.** See **Coils, Pipe****PIPE coverings**

Check pipe insulation. *Heating-Piping* 5:41-2 Ja '33

**PIPE cutting machines**

Air reduction sales co.'s portable machine cuts and bevels pipe by oxy-acetylene process. *il Iron Age* 130:965 D 22 '32

**PIPE cutting machines—Continued**

New machine is developed abroad to cut large diameter pipe. *il Gas Age* 70:641 D 10 '32

**PIPE elbows**

Elbows and angles. O. W. Kothe. *diags tables Sheet Metal Worker* 24:242-4+, 285-7, 294, 321-3+ Ag-O '33

**PIPE fitting**

Advantages of welded piping in home heating systems. F. J. Maeurer. *il diags Heat & Ven* 30:35-7 Ja '33

How we adopted welding as a tool in heating work. R. D. Williams. *il Dom Eng* 140:43-4+ D '32

Installing globe and angle valves. W. H. Wilson. *diags Heating-Piping* 4:459-60 Je '32; Discussion. 5:96-9 F '33

Layout charts for pipe cutting and welding are found to be very useful in oil industry. W. A. Stover. *Oil & Gas J* 31:10 Ja 12 '33

New developments extend use of arc welding. E. W. P. Smith. *il Heat & Ven* 30:29-31 Je '33

Pipe design made easy by a new system of charts. E. A. Wert, S. Smith and E. T. Cope. *diags Power* 77:198-9 Ap '33

Pipe welding developments affect engineers and contractors. *il Heat & Ven* 29:13-16 D '32

Practical problems in mathematics; degrees—minutes—seconds—slope. *il diags Dom Eng* 142:39-40+ Ag '33

Proper planning and layout methods cut costs in pipe welding. D. W. Hickey. *il Heat & Ven* 30:24-7 My '33

Recent developments in welding building piping. S. C. Clark. *il Heat & Ven* 30:28-31 F '33

Re-design of high pressure gas metering and pressure regulating stations. W. J. Gray. *diags Oil & Gas J* 31:76 Ja 19 '33

Runs block-tin pipe in steel pipe. G. Hall. *il Heating-Piping* 5:205-6 Ap '33

Several piping tools I've found handy. W. H. Wilson. *diags Heating-Piping* 4:808-9 D '32

Some applications of pipe welding. C. O. Barclay. *il Heat & Ven* 30:44-5 Ja '33

This system stops errors. A. E. Knibb. *il Dom Eng* 142:31-2+ N '33

Welded pipe installations. *diag Arch Rec* 73: sup30 F '33

*See also*

Gas fitting	Plumbing
Hot water heating	Steam fitting
Pipe joints	

**PIPE fittings**

Better piping at lower cost with welding fittings. W. J. Johnston. *Power* 76:284-5 D '32

Cast iron pipe and fittings for sewer connections. H. R. Devilbiss. *Water Works & Sewerage* 80:171-3 My '33

Drafting room symbols for drawings relating to pipe, pipe fittings, and heating and ventilating equipment. *Heat & Ven* 30:42A-42B Je '33

Effective packing gland of standard pipe and fittings. G. B. Thom. *Power* 77:86-7 F '33

Pipe fittings; data sheets. *Factory Management* 91:384-6 S '33

Piping developments are numerous. *il Heating-Piping* 5:34-42 Ja '33

Piping, valves and fittings. *il diags Power* 76:377-80 Mid-D '32

Resistance of fittings; data sheet. W. A. Thomas. *Power* 77:138 Mr '33

Welding and welding fittings. *il Heating-Piping* 5:38-40 Ja '33

*See also*

Furnaces, Warm air	Pipe flanges
—Pipes and fittings	Pipe joints

**Advertising**

When customers pooh-pooh your big sales point; Chase brass & copper company got 12,000 plumbers to convince themselves. D. Masson. *il Ptr Ink Mo* 26:41+ Ja '33

**Standards**

Standardization of cast-iron soil pipe and fittings. *Mech Eng* 54:877-8 D '32

Status of piping standardization today. S. Crocker. *Heating-Piping* 5:455-7 S '33

Steel flanged fittings and companion flanges. 30p American standards assn, 29 W. 39th st, New York '32

30p American standards assn, 29 W. 39th st, New York '32

**PIPE flanges**

Bolts and flanges for tanks and heat exchangers. C. O. Sandstrom. *diags Chem & Met Eng* 40:67-71, 138-41 F-Mr '33; Discussion. 40:314-15 Je '33

Simple die for flanging tubing. W. Simpson. *diag Mach* 39:255 D '32

**Standards**

Status of piping standardization today. S. Crocker. *Heating-Piping* 5:455-7 S '33

**PIPE joints**

Almost five miles of steel gas main is Dresser-coupled for World's fair. *il Oil & Gas J* 32:37 Je 15 '33

Attachment for scarfing pipe. A. L. Hartley. *diags Am Mach* 77:557 Ag 30 '33

Bacteria destroy pipe line in California. T. D. Beckwith and P. F. Bovard. *Chem & Met Eng* 40:530 O '33

Better piping at lower cost with welding fittings. W. J. Johnston. *Power* 76:284-5 D '32

Cast-iron pipe brings natural gas to Quincy, Ill. S. E. Nims. *il diag Gas Age* 71:223-4 Mr '33

Cast-iron pipe joints. M. I. Mix. *il diags Am Gas Assn Proc* 1932:722-57; Discussion. 757-9

Cement-asbestos pipe used for water line. *il diags Eng N* 110:55-6 Ja 12 '33; Abstract. *Can Eng* 65:19-20 O 10 '33

Designing copper gaskets for hydraulic piping. F. E. Wertheim. *diag Heating-Piping* 5:88-9 F '33

Expansion joints of large diameter are made in plant shop with aid of electric weld. G. C. Coombs. *il diag Oil & Gas J* 31:13 F 9 '33

Leak-tight joints—600 to 550,000 lb. F. E. Wertheim. *il diags Heating-Piping* 4:469-73, 546-9 [bibliog p549] Jl-Ag '32; Discussion. 5:247-8 My '33

Leaks sealed and stopped with new method; Antileke pipe joint. *il Gas Age* 71:76 Ja 21 '33

Mechanical joints for cast iron pipe. H. R. Cook. *il diags Pub Works* 64:25-8 Ag '33

Notes on distribution. P. Richbell. *diags Gas J (Lond)* 201:469 F 22 '33

Operating trends in New England. H. G. Taylor. *Am Gas J* 138:22-6 Mr '33

Pipe joint compounds and pipe threads. W. Anderson. *Mach* 39:693 Jl '33

Pipe welding technique and fabrication. *diags Heat & Ven* 30:15-17 O '33

Plain end pipe and specials versus bell and spigot pipe and solid sleeves; discussion. *Am Water Works Assn J* 24:1811-18 D '32

Practical notes on pipe welding. A. E. Christen. *Heating-Piping* 5:146+ Mr '33

Progress report of pipe joint research. K. R. Knapp. *Am Gas Assn Proc* 1932:714-20; Discussion. 720-2

Providing a more efficient joint for vitrified clay pipe; Slipseal joint. *il Brick & Clay Rec* 82:60-1 F '33

Recent developments in gas fitting practice. R. N. LeFevre. *il diags Gas J (Lond)* 200: 749-53; Discussion. 753-5 D 14 '32

Recent studies on jointing compounds; abstract. J. Hannon, Jr. *Water Works & Sewerage* 80:342-3 S '33

Reconditioned gas line in California rebuilt with welded joints. W. A. Sawdon. *il diag Am Gas J* 138:12-13 Mr '33

Rubber joints in gas mains. *il Gas J (Lond)* 201:809-10 Mr 29 '33; Abstract. *Am Gas J* 139:32+ S '33

Schwingungsfestigkeit von stahlrohr-schweissverbindungen. J. Müller. *il Zeit Ver Deutsch Ing* 77:720-1 Jl 1 '33

Staveley pipe joint. *diags Engineer* 155:supp vi F 24 '33



**PIPE JOINTS—Continued**

Transporting steam at 400 lb., 750 deg. F.; steam distribution system between the new mercury vapor power station and works of the General Electric Co. at Schenectady. R. H. Rogers. *il* *diags* *Power Pl Eng* 37:422-5 O '33

Welding galvanized piping. *diags* *Heating-Piping* 5:413+ Ag '33

*See also*

Pipe fittings  
Pipe flanges  
Plumbing

**Testing**

Magnetographic and X-ray tests of pipe welds compared. F. B. Doane. *il* *Iron Age* 131:194-6 F 2 '33

Operating test on a cast iron pipe line under high pressure. J. W. Moore. *il* *diags* *Am Gas J* 137:27-9 D '32

Report of research on mechanical pipe joints; abstract. K. R. Knapp. *Gas Age* 71:406-7 Ap 22 '33

**PIPE Laying**

Cast-iron pipe brings natural gas to Quincy, Ill. S. E. Nims. *il* *diag* *Gas Age* 71:223-4 Mr 4 '33

Completing the longest continuous gravity sewer in the United States. S. S. Ball. *il* *Public Works* 64:9-10+ F '33

Connecting sewer while in service. *Pub Works* 64:16 F '33

First all welded pipe lines installed at Montreal, Canada, by Shell oil co. V. Forgett. *il* *diag* *Oil & Gas J* 31:30 D 22 '32

Jacking corrugated pipe. L. E. Jones. *il* *Can Eng* 65:9-10 O 3 '33

Long cast-iron main taps new well field, Lincoln, Neb. *il* *diags* *Eng N* 110:488-9 Ap 20 '33

New water supply serves Pennsylvania coal towns; Panther valley water co. builds rolled fill dam on tributary of Little Schuylkill. *il* *diag* *Eng N* 110:51-2 Ja 12 '33

Supporting a sewer across unstable ground. *il* *Pub Works* 64:14 F '33

Underground conduit installed with no street excavation; laterals for fire alarm system in Tulsa pushed through the ground. S. J. Kline. *il* *diags* *Elec W* 102:314-16 S 2 '33

Water supply system and sewers at Flin Flon, Man. F. E. Simmons. *il* *diag* *Can Eng* 64:25-7 F 28 '33

Welding a large water pipe-line at Vancouver, B.C. W. H. Powell. *il* *Can Eng* 65:5-9 O 31 '33

*See also*

Culverts  
Gas distribution  
Pipe joints

Pipe lines  
Sewerage  
Water distribution

**Cost**

Cast iron pipe trunk sewers in Washington suburban sanitary district; comparison with concrete sewers. R. B. Morse. *il* *Water Works & Sewerage* 80:192-6 Je '33

Use of non-ferrous service pipes at present prices. G. W. Pracy. *Am Water Works Assn J* 24:1819-21 D '32; *Correction*. 25:444 Mr '33

**Safety devices and measures**

Safe methods of producing and transmitting natural gas. El. J. Egan. *il* *Gas Age* 70:548-51 N 19 '32

**PIPE Laying, Subaqueous**

Construction of a long inlet pipe line, Lausanne water supply. *il* *diags* *Engineer* 154:632-3, 642 D 23 '32

Water works intake at Kincardine, Ont. R. O. Wynne-Roberts. *il* *Can Eng* 64:23-4 Ja 3 '33

**PIPE Lines**

Big improvements made in gas-line operation. A. M. Rowley. *Oil & Gas J* 31:41 S 29 '32; *Excerpts*. *Mech Eng* 55:48-9 Ja '33

Choosing pipe line sizes for maximum economy. M. Punder. *Chem & Met Eng* 39:602-3 N '32

Interesting experiences in locating pipe lines; wireless locator. R. W. Esty. *il* *diags* *Water Works & Sewerage* 80:323-6 S '33

Loads on pipe in wide ditches. W. J. Schlick. *il* *diags* *Iowa State College Eng Exp Sta Bul* 108:1-48 '32

Means of adjustment of soil corrosion pit depth measurements for size of sample examined. G. N. Scott. *Oil & Gas J* 32:69 N 2 '33

Sheet steel caps close pipe line. *il* *Steel* 93:25 O 16 '33

*See also*

Aqueducts  
Electric conduits  
Electrolytic corrosion  
Gas, Natural—Pipe lines  
Gas distribution  
Gas pipes  
Gasoline pipe lines  
Heating from central stations  
Manholes

Petroleum pipe lines  
Pipe laying  
Piping (power plants)  
Railroads—Pipe line competition  
Sewerage  
Steam pipe lines  
Steam pipes  
Water distribution  
Water pipes  
Water supply engineering

**Bridge crossing**

Replacement of brook crossing with bridge crossing on 42-inch pipe line. H. W. Griswold. *il* *N E Water Works Assn J* 47:22-6 Mr '33

Steel mains for bridges. H. V. Williams. *il* *diag* *Gas J (Lond)* 202:170-1; *Discussion*. 171 Ap 19 '33

**Corrosion**

*See* Corrosion and anti-corrosives—Underground corrosion; Water pipes—Corrosion

**Cost**

Most economical size of pipe for transmitting fluids. P. M. Gallo. *Blast F & Steel Pl* 21:326-7, 377-9 Je-Jl '33

**Design**

Le calcul des ouvrages circulaires. R. Lazard. *Génie Civil* 103:296-300, 323-7, 347-51 S 23-O 7 '33

Design of pipe lines. K. R. Kennison. *il* *N E Water Works Assn J* 47:27-39 Mr '33

**Maintenance and repair**

New adjustable angle sleeve for repairing field bends. *il* *Gas Age* 71:348 Ap 1 '33; *Same*. *Oil & Gas J* 31:120 Mr 30 '33

Reconditioned gas line in California rebuilt with welded joints. W. A. Sawdon. *il* *diag* *Am Gas J* 138:12-13 Mr '33

**Protection**

A.P.I. pipe coating tests; progress reports. *Am Pet Inst Proc* p114-30 sec 4 D '32

Cathodic protection of pipe lines. W. R. Schneider. *il* *diags* *Gas Age* 71:355-9+ Ap 8 '33

Field application by machine of hot bituminous coatings; Gardiner pipe-coating machine. W. T. Smith. *il* *Gas Age* 72:339-42+ O 7 '33

Pipe-line protection. S. Gill. *bibliog* *il* *Ind & Eng Chem* 25:49-53 Ja '33; *Discussion*. D. Finley. 25:1061-2 S '33

Protection of pipes against soil action. K. H. Logan. *il* *Electrochem Soc Trans* 64 (preprint 13):137-48 S '33; *Same* *cond. Chem & Met Eng* 40:514-16 O '33; *Abstract*. *Iron Age* 132:30 S 21 '33

Soil corrosion survey gives valuable data as aid in selecting proper type of coating. W. Denman. *Oil & Gas J* 31:12 D 22 '32

**Railroad crossing**

Report of the chairman of the committee on pipe line crossings under railroad tracks. D. S. Bushnell. *Am Pet Inst Proc* p138-40 sec 4 D '32

**PIPE Lines, Subaqueous**

Associated oil co. lays new submarine pipe-line at Monterey terminal. *Nat Pet N* 25:22 Ap 19 '33

Welded pipe line in California carries water under water. *il* *Steel* 93:25 N 13 '33

*See also*

Pipe laying, Subaqueous

**PIPE lines as common carriers**

Deduction for losses in transportation argued before railroad commission. Oil & Gas J 31: 7 F 2 '33

Divorcing the oil pipelines would not help producers. L. E. Smith. Nat Pet N 25:19-20 Ap 12 '33

House committee makes report on pipe lines; would regulate the transportation of gas. C. E. Kern. Oil & Gas J 31:14+ Mr 9 '33

New and hazardous venture in pipe-line regulation. K. L. Hyder. Pub Util 11:343-51 Mr 16 '33

Some important points in the pipe line situation that have been too frequently overlooked by critics. Oil & Gas J 31:13 Ap 13 '33

State railroad commission announces reduction of pipe line rates in Texas. Oil & Gas J 31:12 F 9 '33

Text of the bill introduced in Congress to compel divorce of pipe lines from oil companies. C. E. Kern. Oil & Gas J 31:10 Ap 13 '33

See also

Petroleum pipe lines  
—Regulation

**PIPE lining**

Economic significance of pipe linings. E. T. Killam. Water Works & Sewerage 80:73-6 Mr '33

Friction losses in bitumastic lined water pipes. C. W. Sherman. Am Water Works Assn J 25:244-7 F '33

Pipe linings and friction coefficients; abstract. E. T. Killam. Water Works & Sewerage 80:358; Discussion. 358-9 O '33

Protective treatment of ferrous pipe. T. B. Downer. Am Water Works Assn J 25:605-32 My '33

Some modern methods of coating and lining pipe; bitumastic enamel lining, cement mortar and other coating. L. Stuart. Am Water Works Assn J 25:1431-8; Discussion. L. W. Stocker. 1438-42 O '33

See also

Cement lined pipe

**PIPE organs.** See **Organs****PIPE threads**

Bad threads and their cause. W. H. Wilson. Heating-Piping 5:150-1 Mr '33

National Acme circular chaser taps and dies for oil field casing work. il Iron Age 132: 33 N 2 '33; Steel 93:45 N 20 '33

Pipe joint compounds and pipe threads. W. Anderson. Mach 39:693 Jl '33

Recent developments in gas fitting practice. R. N. LeFevre. il diags Gas J (Lond) 200: 749-53; Discussion. 753-5 D 14 '32

**PIPERAZINE**

Reactivity of groups in substituted acridones; replacement of nitro-groups by piperidyl and piperazyl. H. B. Nisbet and A. B. Goodlet. Chem Soc J p2772-3 N '32

Some new local anesthetics containing the piperazine ring. J. H. Gardner and J. H. Schneider. Am Chem Soc J 55:3823-4 S '33

**PIPERIDINE**

Piperidine derivatives; local anesthetics derived from reduction products of beta-acetylpyridine. F. M. Strong and S. M. McElvain. Am Chem Soc J 55:816-22 F '33

Piperidine derivatives; phenyl and phenyl-alkyl substituted piperidinopropyl benzoates. L. A. Walters and S. M. McElvain. Am Chem Soc J 55:4625-9 N '33

Piperidine held dutiable as a coal tar product. Oil Paint & Drug Rep 124:26 Jl 17 '33

Reaction of organic halides with piperidine; cyclohexyl bromide and the butyl bromides. W. V. Drake and S. M. McElvain. Am Chem Soc J 55:1155-8 Mr '33

Reactivity of groups in substituted acridones; replacement of nitro-groups by piperidyl and piperazyl. H. B. Nisbet and A. B. Goodlet. Chem Soc J p2772-3 N '32

**PIPERIDINOPROPANEDIOL**

Local anesthetics derived from dialkyl-aminopropanediols; esters of piperidinopropanediol. E. W. Scott and T. H. Rider. Am Chem Soc J 55:804-5 F '33

**PIPERONAL**

Behavior of piperonal derivatives toward bromination and nitration. L. C. Raiford and F. W. Oberst. bibliog Am Chem Soc J 55:4288-92 O '33

**PIPES**

Breaks in cast-iron pipes; causes and remedies. T. F. Wolfe. Pub Works 63:21-2 D '32  
Le calcul des ouvrages circulaires. R. Lazard. Génie Civil 103:296-300, 323-7, 347-51 S 23-O 7 '33

Flow of fluids in pipes. E. Kemler. Heating-Piping 5:252-6, 298-301 My-Je '33

Strömungsgesetze in rauen rohren. J. Nikuradse. Zeit Ver Deutsch Ing 77:1075-6 S 30 '33

Using pipe for columns; chart. M. B. Watson. Heating-Piping 4:806-7 D '32

See also

Air pipes	Pipe joints
Culverts	Pipe laying
Electric conduits	Pipe lines
Gas pipes	Piping
Heating pipes	Piping (power plants)
Mechanical equipment of buildings	Plumbing
Oil pipes	Sewer pipes
Penstocks	Steam pipes
Petroleum pipe lines	Tubes
Pipe fittings	Water pipes

**Corrosion**

See Corrosion and anti-corrosives; Water pipes—Corrosion

**Manufacture**

Centrifugal tube casting. W. Saran. diags Engineer 155:sup[Metallurgist] 3-4 F 24 '33

Electric welded pipe patents upheld by U. S. Supreme court. Iron Age 131:143 Ja 19 '33; Ry Age 94:221-2 F 11 '33

Die kalibrierung der schrägwalzen für nahtlose rohre. P. Gorol. diags Stahl & Eisen 53: 422-5 Ap 27 '33

Manufacture of sand-spun pipes; Staveley coal and iron company. Gas J (Lond) 201: 677-8 Mr 15 '33

Ein sonderverfahren zum auswalzen grosser nahtloser rohre. M. Roekner. il diags Stahl & Eisen 53:1101-5 O 26 '33

See also

Tubes—Manufacture

**Prices**

Cast iron pipe, 1915-1932, market history; tabulation. Steel 92:122 Ja 2 '33

Cast iron pipe prices, monthly 1916-1932. Iron Age 131:86 Ja 5 '33

**Standards**

Industrial piping; data sheets. diags Factory Management 91:339-42, 383 Ag-S '33

Status of piping standardization today. S. Crocker. Heating-Piping 5:455-7, 500-4, 552-4 S-N '33

See also

Soil pipes—Standards

**Tables, calculations, etc.**

Charts to simplify flow and pressure-drop calculations for process piping. E. Kemler. Heating-Piping 5:513-16, 554-5 O-N '33

Flow of fluids in closed conduits. R. J. S. Pigott. Mech Eng 55:497-501+ Ag '33

Most economical size of pipe for transmitting fluids. P. M. Gallo. Blast F & Steel Pl 21: 326-7, 377-9 Je-Jl '33

Pipe data; tabulation. Power 77:418 Ag '33

Pipe sizer for determining the sizes of pipes and of restricting orifices in a hotwater heating system. L. A. Cherry. diags Heating-Piping 5:381-8 Jl '33

**Testing**

Testing old pipe. L. G. E. Bignell. Oil & Gas J 31:59 Ap 13 '33

**PIPES, Aluminum**

Newport industries, inc. save time and money by prefabrication of process piping. E. F. Sisson. diags Heating-Piping 5:397-8 Ag '33



**PIPES, Asbestos-cement**

Cement-asbestos pipe used for water line. il diags Eng N 110:55-6 Ja 12 '33; Abstract. Can Eng 65:19-20 O 10 '33

**PIPES, Concrete**

*See also*

Sewer pipes, Concrete  
Water pipes, Concrete

**Manufacture**

Centrifugally spun concrete sewer pipes. F. H. Gibbs. il Can Eng 63:25-30 D 13 '32  
Concrete pipe in a clay products town. G. B. Arthur. Rock Prod 35:44-5 D 10 '32

**PIPES, Copper**

Does copper pipe emit heat? M. B. Lowe. il Dom Eng 141:40-2+ Ap '33  
Heat loss from copper piping. R. H. Heilman. il Heating-Piping 5:458-62 S '33

**PIPES, Flexible**

Testing flexible metallic connectors. A. Skinner. il Ry Mech Eng 107:297 Ag '33

**PIPES, Glass**

Industrial piping of glass. il Comp Air M 38:4029 Ja '33

**PIPES, Lead**

Lead alloys for building applications. Engineering 136:127-8 Ag 4 '33

**PIPES, Steel**

Les canalisations souterraines en tubes d'acier a joints soudés. Berriat. Génie Civil 103:93 Ji 22 '33

Code terms on pipe assure definite profit to jobbers. Iron Age 132:26M-26Q S 21 '33

Conveying cement through steel pipes. il Mech Handling 20:257 Ag '33

High-temperature steam piping. Blast F & Steel Pl 21:165-6 Mr '33

Highway guard of steel pipe deflects runaway cars back onto road. il Steel 93:42 N 6 '33

National tube co. perfects improved type of cement-lined steel pipe. il Steel 92:27-8 My 15 '33

Neuere geschweisste rohrbauten. A. Hilpert and O. Bondy. il diags Zeit Ver Deutsch Ing 77:701-6 Ji 1 '33

Stainless steel smoke pipe. il Sheet Metal Worker 24:148 My '33

Steel mains for bridges. H. V. Williams. il diag Gas J (Lond) 202:170-1; Discussion. 171 Ap 19 '33

*See also*

Tubes, Steel  
Water pipes, Steel

**Manufacture**

Field fabrication of steel pipe for Boulder dam; illustrations. Am Mach 77:504-5 Ag 2 '33; Steel 93:29 Ji 31 '33; Iron Age 132:22 Ji 20; 24 Ag 10 '33

New 3-roll bending machine forms large steel plates into pipe. il Steel 93:34 Ag 7 '33

Stress relieving furnace handles 35-foot pipes. il Steel 93:28 N 6 '33

**Standards**

Piping standardization; wrought-iron and wrought-steel pipe. S. Crocker. Heating-Piping 5:500-4, 552-4 O-N '33

**Testing**

Schwingungsfestigkeit von stahlrohr-schweisverbindungen. J. Müller. il Zeit Ver Deutsch Ing 77:720-1 Ji 1 '33

**PIPES, Terra cotta**

Use of salt glazed bell and spigot terra cotta pipe to facilitate the emptying of overhead purifier boxes. C. O. Schobel. Am Gas Assn Proc 1932:899-900

**PIPES, Tin**

Solving an unusual block tin pipe job; Forest laboratory at Madison, Wis. G. Hall. il diag Dom Eng 141:31-2 Mr '33

**PIPETES**

Automatische pipette mit spülvorrichtung. W. Krzywaneck and J. Brüggemann. diag Chemische Fabrik 6:254 Je 7 '33

Mouth pipette and containers for smaller organisms. E. H. Myers. diag Science 77:609-10 Je 23 '33

Rotette or an apparatus for handling small quantities of liquids with rapidity and precision. E. L. Harrington. diags Science 77:21-3 Ja 6 '33

**PIPING**

Chart simplifies design problem of pipe lines in the natural gasoline plants. W. A. Stover. Oil & Gas J 31:24+ Mr 30 '33

Design of piping for flexibility by the use of graphs. E. A. Wert, S. Smith and E. T. Cope. diag Heating-Piping 5:405-8 Ag '33

Forget expansion; trouble results. B. Kramer. diags Heating-Piping 5:149-50 Mr '33

Industrial piping. 286p Engineering publications, inc. Chicago '33

Industrial piping systems pay modernization dividends. A. W. Moulder. il diags Heating-Piping 5:3-7 Ja '33

Installing waste disposal systems in food plants. F. A. Fielder. il diags Food Ind 5:440-1 N '33

Modern maintenance spots waste in piping. W. H. Wilson. il Heating-Piping 5:19-20 Ja '33

Newport industries, inc. save time and money by prefabrication of process piping. E. F. Sisson. diags Heating-Piping 5:397-8 Ag '33

Pipe welding plays an important part in modernizing breweries. F. W. Rabe. Heating-Piping 5:509 O '33

Piping a sand-water mix; Pinar del Rio Matambre copper mine in Cuba. C. L. Mantell. diag Heating-Piping 5:87 F '33

Piping CO<sub>2</sub> for fire fighting. H. G. Kincaid. il diags Dom Eng 142:34-6 N '33 (to be cont)

Piping developments are numerous. il Heating-Piping 5:34-42 Ja '33

Piping services in a brewery. il Heating-Piping 5:200-2+ Ap '33

Requirements for heating, piping and ventilating work in federal buildings. G. K. Bringham. diags plans Heat & Ven 30:32-5 Mr '33

Welded piping. il plan Arch Forum 58:sup32 My '33

Welded piping on freight and passenger cars. diags Ry Mech Eng 106:462-3 N '32

Welding and welding fittings. il Heating-Piping 5:38-40 Ja '33

*See also*

Air pipes  
Pipes  
Plumbing

**Identification**

Identification of piping systems in pulp and paper mills. Pulp & Pa of Can 34:270 Ap '33

Pipes mapped are pipes found. F. D. Hartford. maps Factory Management 91:106-7 Mr '33

**Repair**

Supervision, proper equipment save time and money in piping maintenance. W. H. Wilson. diag Heating-Piping 5:567-8 N '33

**PIPING (power plants)**

Better piping at lower cost with welding fittings. W. J. Johnston. Power 76:284-5 D '32

Boiler feedwater piping design features and precautions. H. C. Moffett. Power Pl Eng 36:824-5 D '32

Condensate piping, design problems met in the power plant. H. C. Moffett. diag Power Pl Eng 37:122-3 Mr '33

Design of compressed air piping for industrial power plants. H. C. Moffett. Power Pl Eng 37:349-51 Ag '33

Dissertation on non-ferrous metals used for power plant piping. H. C. Moffett. Power Pl Eng 37:208-10 My '33

Economical boiler feedwater piping design; use of surge suppressor may control water hammer. G. F. Campau. Power Pl Eng 37:474-5 N '33

Expansion, set of 400-lb piping are studied. W. P. Palmer. plans Heating-Piping 5:142-3+ Mr '33

**PIPING (power plants)—Continued**

G. E.'s new piping for 400-lb, 750-F service electric arc welded throughout. R. Daniels. *il Heating-Piping* 5:354-7 J1 '33

High-pressure and high-temperature steam pipe work. J. A. Aiton. *il diags Engineering* 134:720-3 D 16 '32; Excerpts. *Engineer* 154: 438-9 O 28 '32

High-temperature steam piping. Blast F & Steel Pl 21:165-6 Mr '33

Industrial piping systems pay modernization dividends. A. W. Moulder. *il diags Heating-Piping* 5:3-7 Ja '33

Insulation for boiler rooms and piping systems. *il Power Pl Eng* 37:211-12 My '33

Pipe design made easy by a new system of charts. E. A. Wert, S. Smith and E. T. Cope. *diags Power* 77:198-9 Ap '33

Process steam plants need carefully-designed piping. E. C. Gaston. *il diags Heating-Piping* 4:779-83 D '32

Welded boiler plant piping; illustrations. *Power Pl Eng* 37:480 N '33

See also

Steam pipes

**PIPING (refrigerating plants)**

Formation of ice on pipe surfaces. F. Rasori. *Refrig Eng* 25:21-6+ Ja '33

How to save by modernizing refrigeration piping. R. C. Doremus. *Heating-Piping* 5: 194-7, 294-5+, 466-9 Ap, Je, S '33

Large refrigeration piping job. R. S. Wheaton. *diag Heating-Piping* 5:341 J1 '33

**PISTOLS**

Selbstlade-pistole ohne zwangsläufige hahnspannung mit revolverspannabzug. *diag Zeit Ver Deutsch Ing* 76:1268 D 24 '32

**PISTON pins**

How to fit a piston pin. M. A. Beckmann. *il Bus Transportation* 12:243 Je '33

Water-cooled piston-rods in two-stroke-cycle double-acting oil engines. S. F. Dorey. *Engineer* 155:453 My 5 '33; Abstract. *Engineering* 135:484 My 5 '33; Discussion. *Engineer* 155:444-5 My 5 '33; *Engineering* 135:484 My 5 '33

**Manufacture**

Replacement demand stabilizes piston pin production; Elgin machine works. *il Iron Age* 131:780-1 My 18 '33

**PISTON rings**

Alloy iron ring carriers reduce cylinder wear and give aluminum pistons longer life. E. Mahle. *il diags Automotive Ind* 68:578-82 My 13 '33

Compression tester breaks all sales records for Hastings piston rings. L. B. Colby. *il Sales Management* 33:311 O 1 '33

Friction losses dissected. L. C. Lichty and G. B. Carson. *Automotive Ind* 69:236 Ag 26 '33; Abstract, with discussion. S A E J 33: sup42-3 O '33

Gold Seal piston rings. *il Marine Eng* 38:143-4 Ap '33

Piston ring gauge; Hepworth & Grandage Ltd. *il Automobile Eng* 23:172 My '33

Piston rings; their influence on oil consumption and cylinder wear. T. R. Twigger. *diags Automobile Eng* 22:585-6 D '32

Thirsty piston rings drink up profit. *il Bus Transportation* 12:244-5 Je '33

**Manufacture**

Electric furnace iron used for piston rings and valve tappets; Eaton-Erb company. F. Erb and E. Bremer. *il Foundry* 61:25-6+ J1 '33

Manufacture of centrifugally cast piston rings; abstract. *Mech Eng* 55:576 S '33

Piston ring production. J. S. Irving. *il Automobile Eng* 23:335-6, 385-7 S-O '33

**Testing**

Testing piston rings for compression; Hastings compression testers. *il Elec Traction* 29:151-2 My '33

**PISTONS**

Alloy iron ring carriers reduce cylinder wear and give aluminum pistons longer life. E. Mahle. *il diags Automotive Ind* 68:578-82 My 13 '33

Lancaster piston. *il diag Automobile Eng* 23: 185-6 My '33

Light alloy pistons; design and materials. J. S. Irving. *il Automobile Eng* 23:19-22, 57-60 Ja-F '33

**Manufacture**

Die-cast pistons; methods employed by the Birmingham aluminium casting (1903) co. *il diags Automobile Eng* 23:161-4 My '33

How electric refrigerators are made noiseless; Westinghouse electric & mfg. co. C. O. Herb. *il Mach* 39:561-4 My '33

Modern motor methods; pistons. F. H. Colvin. *Am Mach* 77:109-10 F 15 '33

Piston manufacture; production of the Sunbeam steel-skirted component. *il Automobile Eng* 22:549-53 N '32

Weighing and marking automobile pistons. A. W. Dilts. *il Mach* 39:279-80 D '32

**Repair**

Piston rivets—in and out. F. C. Hudson. *il diag Am Mach* 77:561 Ag 30 '33

**Testing**

Alloy ring carrier cast in light piston resists wear. Diesel tests show; Mercedes-Benz was tested in Germany. *il Automotive Ind* 67: 747-9 D 10 '32

Cylinder wear; report by the Institution of automobile engineers. *il diag Engineer* 155: 634-6, 660-2 Je 23-30 '33; Same. *Automobile Eng* 23:259-64 J1 '33

Skirt wear not to blame; German tests on light alloy pistons. *Automotive Ind* 68:407-8 Ap 1 '33

**PITCH**

Characteristics and composition of briquetting pitch. H. Broche and H. Nedelmann. *Gas J (Lond)* 202:109 Ap 12 '33

Isolation of a cancer-producing hydrocarbon from coal tar. J. W. Cook, C. L. Hewett and I. Hieger. *pl Chem Soc J* p395-405 Ap '33

Volatile combustible matter of coal-tar pitch. J. M. Weiss. *Am Soc T M Proc* 32 pt 2: 676-81; Discussion. 682-8 '32

**PITCHBLEND. See Uraninite****PITOT tube**

Air-compressor test-bed equipment; abstract. S. Gaymour. *Mech Eng* 55:308 My '33

Improving airspeed accuracy by pitot tube location. G. Tate, jr. *Aviation* 32:339 N '33

Standard pitot-static tube calibration at low air speeds. E. Ower and F. C. Johansen. *diag Engineer* 154:500-2 N 18 '32

**PITTMAN, Key**

Portrait. *Eng & Min J* 134:316 Ag '33

**PITTSBURGH**

Golden triangle; diagram. *Arch Forum* 58:524 Je '33

Serving local community needs through public facilities. C. M. Reppert. *il Eng N* 110: 620-4 My 18 '33

**Population**

Census tract tables of population and families, Pittsburgh: 1930. 130p Federation of social agencies of Pittsburgh and Allegheny county, Bur. of social research, Pittsburgh '32

**PITTSBURGH coal company**

Code for coal; a beneficiary; Pittsburgh coal co. *il Fortune* 8:56-63, 138 O '33

**PITTSBURGH university**

Success of University of Pittsburgh branch junior college students after transfer. F. W. Shockley. *J Eng Educ* 23:438-41 F '33

**PITTSBURGH university. Mellon institute of industrial research**

Activities of Mellon institute during 1932-33. E. R. Weidlein. *Ind & Eng Chem News ed* 11:124-5, 128-9 Ap 20 '33; Excerpts. *Chem Age (Lond)* 28:457 My 20 '33; *Pulp & Pa of Can* 34:406 Je '33

Industrial fellowships of Mellon institute during 1932-33. W. A. Hamor. *Science* 77:503 My 26 '33



**PITTSBURGH university.** Mellon institute of industrial research—*Continued*

**Bibliography**

List of the books, bulletins, journal contributions, and patents by members of Mellon institute of industrial research during the calendar year 1932. (Bibliographic series, sixth supplement to bulletin no. 2 [1911-1927. 80p] L. H. Pugsley. 10p The institute, Pittsburgh '33

**PITUITARY body**

Action of nitrous acid on the oxytocic principle of the pituitary gland; abstract. J. M. Gulland. Soc Chem Ind J (Chem & Ind) 52: 160 F 24 '33

Action of proteolytic enzymes on the oxytocic principle of the pituitary gland; abstract. J. M. Gulland and T. F. Macrae. Soc Chem Ind J (Chem & Ind) 52:160 F 24 '33

New hormones from the pituitary gland. H. M. Evans. Science 77:sup8 My 19 '33

**PIVOTS**

Hard steel pivots and bearings; precision scales require advanced metallurgy. W. J. Burr. Il Metal Prog 23:36-40 F '33

Mechanical factor of merit with respect to electrical instruments. J. H. Goss. diags Gen Elec R 36:188-91 Ap '33

Microscopic inspection aids study of meter jewels. L. H. Kistler. Il Elec W 102:527 O 21 '33

New pivots and bearings for small current meters. R. L. Atkinson. diag Civil Eng 3: 392-3 Jl '33

**PLACER mining.** See Gold mines and mining—Placer mining

**PLAGIOCLASE.** See Feldspar

**PLAGUE**

Epidemiological study of plague in Peru; with observations on the antiplague campaign and laboratory work. C. R. Eskey. map Pub Health Rep 47:2191-207, pl 1-2 N 18 '32

Plague outbreak in Manchuria. Wu Lien-teh. Science 78:sup8-9 O 6 '33

Rat harborage and its relation to the spread of bubonic plague. B. E. Holsendorf. Pub Health Rep 48:535-8 My 19 '33

**PLANCK'S constant**

Theory of the energy distribution of photoelectrons. L. A. DuBridge. Phys R 43:727-41 My 1 '33

**PLANETARIUMS**

Fels planetarium. Science 78:sup6 Jl 21 '33

**PLANETS**

See also

Earth Solar system  
Orbits

**PLANIMETER**

Planimeter. Il diags Engineer 156:84-5 Jl 28 '33

Simple planimeter. diags India Rubber W 87: 32 F '33

Stanley planimeter. Il Engineering 135:419 Ap 14 '33

**PLANING**

Case for milling; a machine-tool engineer looks at the economics of milling versus planing. R. E. W. Harrison. Mech Eng 55: 682-4 N '33; Abstract. Iron Age 132:23 N 30 '33

Case for planing. F. E. Cardullo. Il Mech Eng 55:677-81 N '33

Planing versus milling. A. C. Danekind. Il Mech Eng 55:673-6 N '33

**PLANING machines**

Butler railway axle-box planing machine. Il Engineer 156:168 Ag 18 '33; Engineering 136:177 Ag 18 '33

Case for planing. F. E. Cardullo. Il Mech Eng 55:677-81 N '33

Grosse vereinigte hobel- und fräsmaschine. F. Sipmann and A. Schlegelmilch. Il diag Zeit Ver Deutsch Ing 77:423-4 Ap 22 '33

**PLANISHING**

Brake-drum surfaces made smooth and extremely hard by planishing. Il Mach 39:716 Jl '33

New cold mill facilitates planishing of wide sheets. diags Iron Age 132:25 Ag 10 '33; Steel 93:28-9 Jl 31 '33

**PLANNING**

Planning and budgeting during the depression. F. Klein. Iron Age 131:130-1 Ja 19 '33

Production control. T. M. Landy. Factory Management 91:84-7, 131-4 Mr-Apr '33

Today's need—more planning and less executing. C. F. Kettering. Iron Age 131:733-5 My 11 '33

See also

Advertising—Plan-

ning

City planning

Factory management

Quantities (in pro-

duction)

Sales estimates

Schedules

**PLANNING, Economic.** See Economic planning

**PLANT breeding**

Methods of synthesizing pure-breeding types with predicted characters in the jimson weed; abstract. A. F. Blakeslee and A. D. Bergner. Science 76:571-2 D 16 '32

New strain of barley. Science 77:sup8-9 Mr 17 '33

Recent advances in plant genetics. F. W. Sansome and J. Philip. 414p [bibliog p358-404] Blakiston '32

**PLANT cells and tissues**

Availability of vitamins in plant tissues. J. E. Richardson and H. L. Mayfield. Science 76: 498-500 N 25 '32

New developments in research on cell walls and their value in textile chemistry. M. Lüdtke. Il diag Melland 4:259-62, 310-12, 635-6, 714-17 Jl-Ag '32, Ja, Mr '33

Structure of the anthoceros plastid in reflected light. T. E. Weier. Science 78:264 S 22 '33

**PLANT forms in design.** See Design, Decorative—Plant forms

**PLANT growth**

Chemische und physiologische untersuchungen über auxin, einen wuchsstoff der pflanzen. F. Kögl. Angew Chemie 46:166-7 Mr 18 '33

Die einwirkung verschiedener stimulantien, mit besonderer berücksichtigung der gase, auf pflanzliche organismen. W. Liebisch. Angew Chemie 46:635-8 [bibliog p638] O 7 '33

Model showing a twig's growth. Science 76: sup9 D 23 '32

Sprouting and grafting fractional parts of avocado embryos with attached cotyledonous material. H. P. Traub and E. C. Auchter. Science 78:389 O 27 '33

Über auxine. F. Kögl. Il Angew Chemie 46: 469-73 Jl 15 '33

Vegetation and reproduction in the soybean. S. Austin. Science 78:363-4 O 20 '33

Die wirkung von chlorat, bromat und jodat auf pflanzenwuchs. M. Hessenland, F. Fromm and L. Saalman. Angew Chemie 46:577-9 S 9 '33

See also

Fertilizers

Plants, Effect of

X rays on

**PLANTAINS**

Dyeing and sizing materials from plantains. C. D. Mell. Textile Col 55:415-16 Je '33

**PLANTS**

See also

Botany

Dyes and dyeing—

Natural dyes

Paleobotany

Rubber plants

and planting

Weeds

**Chemical analysis**

Assay of plant material for its rotenone content. H. A. Jones. bibliog Ind & Eng Chem Anal ed 5:23-6 Ja 15 '33

Chemical versus morphological species differences. S. C. Brooks. Science 77:221-2 F 24 '33

Determination of potassium by the cobalt-nitrite method and its application in agricultural analysis. A. H. Lewis and F. E. Marmoy. Soc Chem Ind J 52:177T-82T Je 23 '33

See also

Peas—Analysis

## PLANTS—Continued

## Diseases and pests

- New vascular fusarium disease of peas. W. C. Snyder. Science 77:327 Mr 31 '33  
 Phytophthora disease of snapdragons. M. R. Harris. Science 78:152 Ag 18 '33  
 Science applied to plant diseases. G. H. Berkeley. Can Chem & Met 17:10 Ja '33

See also

Galls (botany)

## Iodine content

- Effect of an iodide fertilizer on iodine content of a food plant. A. B. Beaumont and G. M. Karns. Science 76:567 D 16 '32  
 Goiter prevention with food plants grown on iodized soil. K. G. Zwick. Science 77:627-8 Je 30 '33

## Nutrition

- Bread quality of wheat produced in aqueous culture media. W. F. Gerickes. Science 77:229-32 Mr 3 '33  
 Selective absorption of ions not confined to young rootlets. F. J. Crider. Science 78:169 Ag 25 '33  
 Utilization of adsorbed ions by plants. H. Jenny and E. W. Cowan. Science 77:394-6 Ap 21 '33

## Physiology

- Evaporation, transpiration and oxygen consumption by roots. W. A. Cannon, D. Demaree and E. A. Purer. Science 78:388-9 O 27 '33

## Respiration

- Co-ferments and banana respiration. J. M. Nelson and C. Hemperly. Am Chem Soc J 55:1102-6 Mr '33  
 Determination of carbon dioxide in continuous gas streams. W. M. Martin and J. R. Green. Bibliog diags Ind & Eng Chem Anal ed 5:114-18 Mr 15 '33  
 Large respirometer used in making some studies of the catalase, nitrogen and carbohydrate changes in asparagus roots. W. B. Balch. diag Science 77:116-17 Ja 27 '33

## PLANTS, Effect of gases on

- Accelerating seed germination with gas. C. G. Deuber. il Am Gas Assn Mo 15:313-15 Ag '33  
 Die einwirkung verschiedener stimulantien, mit besonderer berücksichtigung der gase, auf pflanzliche organismen. W. Liebisch. Angew Chemie 46:635-8 [bibliog p638] O 7 '33  
 Grundsätzliches zur technischen abgas- und rauchschadenfrage und zu den aussichten auf ihre lösung. H. Wislicenus. Angew Chemie 46:104-5 F 11 '33  
 Observations of shade trees in the vicinity of gas leaks. C. G. Deuber. il Am Gas Assn Mo 15:465-6 N '33  
 Stimulative effects of gas on small trees. C. G. Deuber. bibliog il Am Gas Assn Mo 15:381-3 S '33

## PLANTS, Effect of light on

- Evaporation, transpiration and oxygen consumption by roots. W. A. Cannon, D. Demaree and E. A. Purer. Science 78:388-9 O 27 '33  
 Functions of radiation in the physiology of plants. F. S. Brackett and E. S. Johnston. 2v (Smithsonian miscellaneous collections v87, no 13-14) Smithsonian institution, Washington, D.C. '32  
 Lighted house plants offer profitable new field. Illum Eng Soc Trans 28:634-5 S '33  
 Photoperiodism and chrysanthemum production. E. J. Starkey. Science 76:594-5 D 23 '32  
 Photoperiodism as a cause of the rest period in strawberries. G. M. Darrow and G. F. Waldo. Science 77:353-4 Ap 7 '33  
 Response of crops to electric light. R. B. Withrow. il Elec W 102:411-12 S 23 '33  
 Tomatoes, berries and other crops under continuous light in Alaska. G. M. Darrow. Science 78:370 O 20 '33

## PLANTS, Effect of oils on

- Explain means of improving spray oils in order to minimize the injury to growing plants. J. H. Green. il Oil & Gas J 31:8 F 2 '33

## PLANTS, Effect of X rays on

- Growth of plants stimulated by X-rays. C. A. Shull. Science 77:sup10 Ja 6 '33

## PLAQUES

- Stainless steel bridge plaque. Can Eng 64:16 Ja 24 '33

## PLASKON

- Air King to offer new plastic radio; will retail at \$25. R. S. McFadden. il Sales Management 32:64 Ja 15 '33  
 New materials in products and packages. il Adv & Sell 20:sup [Adv Arts] 30 Mr '33

## PLASMOCHIN

- Plasmochin in malaria prevention. J. N. Baker and D. G. Gill. bibliog Pub Health Rep 47:2245-50 D 2 '32

## PLASTER and plastering

- Causes of and remedies for paint failure on plaster surfaces. Oil Paint & Drug Rep Extra ed 122:41-4 N 29 '32  
 Effect of age on calcined gypsum. A. M. Turner. Rock Prod 36:20-3 My '33  
 Problems in the application of paint to plaster and cement. H. M. Llewellyn. Chem Age (Lond) 27:595; Discussion. 595-6 D 24 '32

See also

Cement Mortar  
Concrete

## PLASTER of Paris

- Effect of age on calcined gypsum. A. M. Turner. Rock Prod 36:20-3 My '33  
 Gypsum. C. L. Haddon. Soc Chem Ind J (Chem & Ind) 52:24-7 Ja 13 '33  
 Investigations of the setting of plaster of Paris; sodium and potassium borates and their effects on the setting. C. S. Gibson and R. N. Johnson. Soc Chem Ind J 51:399T-403T D 16 '32  
 Metal-plated plaster; platiplate. Sci Am 149:237-8 N '33  
 Setting of plaster of Paris and properties of the hardened product; abstract. R. N. Johnson. Soc Chem Ind J 52:sup671 Ag 25 '33

See also

Gypsum

## Moisture content

- Water content of certain fire-protective media. M. G. Mellon and J. E. Heck. Ind & Eng Chem 25:94-5 Ja '33

## PLASTIC industries

- Abstract of NRA plastics fabricators' code. Plastic Prod 9:335 O '33  
 Plastic a day keeps depression away. Chem & Met Eng 40:248 My '33  
 Plastics group and the Recovery bill. Plastic Prod 9:180-2 Jl '33  
 Plastics made satisfactory record in 1932. Chem & Met Eng 40:42-3 Ja '33

See also

Ceramic industries Molded products  
Clay industries Resinous products

## Directories

- New products in the plastic field and their producers; supplements August 1931 and September 1932 lists. Chem & Met Eng 40:483-4 S '33

## Exhibitions

- Plastics industry exhibition, Science museum. il Soc Chem Ind J 52:supS23-5 My 19 '33

## Great Britain

- Growth of the plastic moulding trade. Chem Age (Lond) 28:285 Ap 1 '33  
 Progress in the plastics industry. F. Sproxton. Soc Chem Ind J (Chem & Ind) 51:1017-19 D 9 '32; Abstract. Plastic Prod 9:62-4 Ap '33

## Russia

- Plastics in Russia. A. C. Blackall. Plastics 8:456 Ja '33



**PLASTIC materials**

Benzyl cellulose—a new plastic. *Sci Am* 147: 371-2 D '32

Benzyl cellulose moulding compositions. *Chem Age (Lond)* 28:529-30 Je 10 '33; Same abr. *Plastic Prod* 9:228 Ag '33

By-products of the carbide industry; the manufacture of ethylidene diacetate and vinyl acetate. G. O. Morrison and T. P. G. Shaw. bibliog diags *Electrochem Soc Trans* 63 (preprint 21):197-219 My '33; Same abr. *Chem & Met Eng* 40:293-7 Je '33

Casein plastics. H. V. Dunham. *Plastic Prod* 9:101-2 My '33

Cellulose acetate plastic improves laminated safety glass; comparison with cellulose nitrate plastics. G. B. Watkins and J. D. Ryan. *Il Ind & Eng Chem* 25:1192-5 N '33

Cellulose nitrate vs. cellulose acetate in plastics. E. C. Atwell. *Plastic Prod* 9:356-9 N '33

Developments in plastics. H. V. Potter. *Chem Age (Lond)* 27:630-1 D 31 '32

Equipment and methods used in molding plastic materials. C. W. Hinman. *Mach* 39: 530-2 Ap '33

Factors affecting rate of vulcanization of chloroprene plastic polymers. E. R. Bridgewater and E. H. Krismann. *Ind & Eng Chem* 25:280-3 Mr '33

Flexible alkyd resins. R. H. Kienle and P. F. Schlingman. bibliog *Il Ind & Eng Chem* 25:971-5 S '33

Insulations; mechanical applications of rubber, cellulose products, synthetic resins, etc. H. Warren. *Il Electrician* 111:442-4 O 13 '33

Laminated safety glass. G. B. Watkins and W. D. Harkins. *Il Ind & Eng Chem* 25:1187-92 N '33

Marking plastic materials by branding. *Mach* 39:496C Mr '33

Mechanical, physical, and electrical properties of the phenol, urea, cellulose, vinyl, styrol, and rubber plastics; tabulation. *Chem & Met Eng* 39:566-7 D '32

Modern plastics; a new—old industry. A. J. Weith and A. V. H. Mory. *Plastic Prod* 9:231-4 Ag '33

New model casting materials; moulage process. *Il Sci Am* 149:123 S '33

New oil-resisting materials; ethanite and thiokol. *Plastic Prod* 9:230 Ag '33

New plastic packages in the toiletries field; illustrations. *Plastic Prod* 9:26 Mr '33

New products in the plastic field and their producers; supplements August 1931 and September 1932 lists. *Chem & Met Eng* 40: 483-4 S '33

New raw material for the plastics industry; research on the utilisation of lignin derived from coal. F. Fischer, O. Horn and H. Küster. *Chem Age (Lond)* 28:196 Mr 4 '33

Phenol supplies and cellulose. H. Levinstein. *Soc Chem Ind J (Chem & Ind)* 52:650-4 Ag 11 '33; Abstract. *Chem Age (Lond)* 29:50-1 Jl 15 '33; Discussion. *Soc Chem Ind J (Chem & Ind)* 52:654-5 Ag 11 '33

Physical properties of molded plastic materials; data sheet. H. Chase. *Mach* 40:88A O '33

Pigments for plastics. R. W. Boise. *Plastic Prod* 9:134 Je '33

Plastic molding. L. F. Rahm. 246p [bibliog p241] \$3 McGraw-Hill '33

Plastics—a new industry comes of age. *Il Iron Age* 131:345-7 Mr 2 '33

Plastics abroad. C. C. Concannon. *Plastic Prod* 9:97-8 My '33

Plastics and the fabricator. H. C. Parker. *Soc Chem Ind J* 52:supS18, S20-1 My 19 '33

Plastics and their genesis. G. T. Morgan. *Chem Age (Lond)* 29:104-6 Jl 29 '33; Same. *Soc Chem Ind J (Chem & Ind)* 52:675-80 Ag 18 '33; Abstract. *Gas J (Lond)* 203:351 Ag 16 '33

Plastics and what they are. H. V. Potter. *Soc Chem Ind J* 52:supS4, S6-8 My 19 '33; Abstracts. *Chem Age (Lond)* 28:354 Ap 29 '33; *Electrician* 110:617 My 12 '33

Plastics as glass; a summary of illumination characteristics. A. Paulus and C. S. Woodside. *Plastic Prod* 9:268-70 S '33; Excerpts. *Chem & Met Eng* 40:469 S '33

Plastics; celluloid and casein types and their uses. F. Sproxtton. *Soc Chem Ind J* 52: supS12+ My 19 '33; Abstract. *Chem Age (Lond)* 28:428 My 13 '33

Plastics—cellulose esters and ethers and their uses. W. J. Jenkins. *Soc Chem Ind J (Chem & Ind)* 52:705-8 S 1 '33; Abstract. *Chem Age (Lond)* 28:567 Je 24 '33

Plastics of the urea-formaldehyde type. K. M. Chance. *Chem Age (Lond)* 29:84 Jl 22 '33

Plastics; their use in dentistry. C. S. Gibson. *Soc Chem Ind J (Chem & Ind)* 52:669-71 Ag 18 '33

Plastics; their use in the electrical industry. K. G. Maxwell. *Il Soc Chem Ind J (Chem & Ind)* 52:755-8 S 22 '33; Abstracts. *Electrician* 111:52-3 Jl 14 '33; *Elec R (Lond)* 113: 16 Jl 7 '33

Plastics with special reference to cellulose materials. W. J. Jenkins. *Soc Chem Ind J (Chem & Ind)* 52:241-5 Mr 17 '33; Excerpt. *Plastic Prod* 9:104-5 My '33; Abstract. *Chem Age (Lond)* 28:212 Mr 11 '33; Discussion. *Soc Chem Ind J (Chem & Ind)* 52:245 Mr 17 '33; *Chem Age (Lond)* 28:212-13 Mr 11 '33

Plastische massen in der technick. W. Röhrs. *Il diags Zeit Ver Deutsch Ing* 76:1233-9 D 17 '32

Progress in the plastics industry. F. Sproxtton. *Soc Chem Ind J (Chem & Ind)* 51:1017-19 D 9 '32; Abstract. *Plastic Prod* 9:62-4 Ap '33

Properties of benzyl cellulose. *Plastic Prod* 9:367+ N '33

Pyroxylin plastics for the dental field. J. H. Clark. *Il Plastic Prod* 9:317-18 O '33

Research by F. Fischer on plastics from lignin. R. D. Hall. *Coal Age* 38:308-9 S '33

Some future uses of plastic materials. H. V. Potter. *Chem Age (Lond)* 29:8 Jl 1 '33; Same. *Plastic Prod* 9:270 S '33

Some types of unbreakable records. H. C. Bryson. *Soc Chem Ind J (Chem & Ind)* 52: 495-9 Je 16 '33; Abstract. *Chem Age (Lond)* 27:546 D 10 '32; Discussion. *Soc Chem Ind J (Chem & Ind)* 51:1022-3 D 9 '32; *Chem Age (Lond)* 27:546-7 D 10 '32

Suggestions for molding synthetic plastic materials. C. W. Hinman. *Mach* 39:593-6 My '33

Synthetic organic chemistry in industry. G. O. Curme, jr. *Ind & Eng Chem* 25:583-4 My '33

Synthetic plastic materials; their characteristics and application. H. Chase. *Il Mach* 40:137-9 N '33

Synthetic plastics solve many problems in materials. *Il Mach* 40:85-8 O '33

Synthetic resins and other plastics from an electrical standpoint. W. H. Nuttall. *Soc Chem Ind J (Chem & Ind)* 52:124 F 10 '33; Same. *Chem Age (Lond)* 28:117 F 11 '33

Use of de-airing for clays and other plastic products. H. R. Straight. *Il Chem & Met Eng* 40:410-13 Ag '33

Wood flour in plastic formulas. P. Bowen. *Il Plastic Prod* 9:99-100 My '33

**See also**

Bakelite	Molded products
Bentonite	Molding
Casein	Papier mâché
Celluloid	Plasticizers
Cellulose	Pyroxylin
Cellulose acetate	Resinous products
Cement	Rubber
Clay	Rubber, Artificial
Duprene	Shellac
Gums and resins	Thiokol
Haveg	

**Manufacture**

Plant and machinery for the plastics industry. W. O. Griffiths. *Chem Age (Lond)* 29: 321-2 O 7 '33; Same abr. *Plastic Prod* 9:359 N '33

**Patents**

Plastic patents, Jan. 3, 1933 to March 14, 1933. *Plastic Prod* 9:71-2 Ap '33 [cont monthly]

**PLASTIC materials, Laminated**

Best for the biggest; plastics in Radio City. F. Settele. *Il Plastics* 8:455-6+ Ja '33

**PLASTIC materials, Laminated—Continued**

Bonded-metal for resin laminating. Steel 93: 33 JI 10 '33

Deformation in laminated. E. E. Halls. diags Plastic Prod 9:15-17 Mr '33

Methods of test for phenolic resin laminated materials. D. Harvey. diags Elec J 30:66-94 F '33

New base for phenolic resin laminating; Robertson bonded-metal. P. W. Jenkins and A. W. Coifman. il Plastic Prod 9:183-6 JI '33

Use of plastics in architecture; abstract. R. McGrath. Chem Age (Lond) 29:80 JI 22 '33

Uses of laminated and why. W. G. Steiner. il Plastic Prod 9:59-61 Ap '33

Uses of phenolic laminated and plastic molded products. H. M. Richardson. il Chem & Met Eng 39:597-8 N '32

See also

Micarta

**PLASTICATORS**

Gordon two-stage plasticator. il Rubber Age 33:158-9 JI '33

**PLASTICITY**

Investigation into the plastic properties of asphaltic bitumen. R. N. J. Saal and G. Koens. diags Inst Pet Tech J 19:176-212 Mr '33

Plastic forming of metals. E. Siebel. Steel 93:23-5 O 16; 37-8+ O 23; 32-4 O 30; 36+N 6; 26, 28 N 13 '33

Plastic properties of coking coals. J. D. Davis and others. Ind & Eng Chem 25:1269-74 N '33

Plasticity control. F. A. Middleton. diag India Rubber W 88:29-30 My '33

Plasticity of crystals. F. Zwicky. Phys R 43: 765-6 My 1 '33

Plasticity of paints; some observations on the effect of storage. S. A. de Lacey. Chem Age (Lond) 28:333; Discussion. 333-4 Ap 15 '33

Plasticity of rocksalt and its dependence upon water. R. B. Barnes. Phys R 43:82-3 Ja 1 '33; Discussion. 43:366-7, 765-6; 44:308-9 Mr 1, My 1, Ag 15 '33

Practical plasticity problems. G. M. Eaton. il Mech Eng 55:557-60 S '33; Discussion. 55:647-9 O '33

Some notes on the nature of clay. F. H. Norton and F. B. Hodgdon. diags Am Cer Soc J 15:191-205; 16:86-92 [bibliog p91-2] Mr '32, F '33

Thermal effects in elastic and plastic deformation. M. F. Sayre. bibliog Am Soc T M Proc 32 pt 2:584-92; Discussion. 593-606 '32

See also

Ceramic materials

Elasticity

Clay

Viscosity

**PLASTICIZERS**

Camphor substitutes; with a check-list of patents. L. Mellon. il Plastic Prod 9:323, 325 O '33

Improved grade of cyclohexanone. Chem Age (Lond) 28:494 My 27 '33

Methylene ether-esters; a promising group of new solvents and plasticizers. F. Walker. Plastic Prod 9:187-8 JI '33

New group of plasticizers; the esters of phthalic and glycollic acids. T. S. Carswell and A. Kirkpatrick. Plastic Prod 9:361-2 N '33

Which plasticizer—for what? B. Gruber. Chem Markets 32:237-9 Mr '33

**Analysis**

Determination of plasticizers in organic celulosic plastics. J. D. Ryan and G. B. Watkins. Ind & Eng Chem Anal ed 5:191-2 My 15 '33

**PLASTOMETERS**

Scott plastometer, low load type. il India Rubber W 87:37 F '33; Rubber Age 32:288 Ja 25 '33

**PLATE glass**

Armour glass; Britain has a new shatter-proof, twistable glass. Business Week p26-7 Ja 11 '33

Notes on toughened plate glass. J. Meikle. Engineering 155:527 My 12 '33; Abstracts. Chem Age (Lond) 28:414 My 6 '33; Soc Chem Ind J (Chem & Ind) 52:422 My 12 '33

See also

Glass, Laminated

**Manufacture**

Vorgespanntes Spiegelglas. L. von Reis. il diag Zeit Ver Deutsch Ing 77:615-18 Je 10 '33

**PLATES**

Über die festigkeit von rippen bei ruhender, wechselnder und stossartiger belastung. A. Thum and S. Berg. Zeit Ver Deutsch Ing 77:281-7 Mr 18 '33

See also

Boiler plates

Printing plates

Ship plates

**PLATES, Steel.** See Steel plates

**PLATING**

See also

Cadmium plating

Nickel plating

Chromium plating

Platinum plating

Copper plating

Rhodium plating

Electroplating

Silver plating

Galvanizing

**PLATING machinery**

Automatic equipment for plating 7,000 pieces of automobile work a day; plating department of the H. H. Franklin mfg. co.; illustrations. Brass W 28:249 D '32

Canning and co.'s plating barrels. il Engineer 156:18-19 JI 7 '33

Udylite process co.'s small plating machine. il Iron Age 131:546 Ap 6 '33

**PLATINUM**

Cathodic disintegration of platinum by mercury ions. J. E. Henderson and E. Gideon. diag Phys R 43:601-4 Ap 15 '33

Coiled filament resistance thermometers. C. H. Meyers. il diags U S Bur Stand J Research 9:807-13 D '32

Decomposition of dimethyl ether on the surface of platinum. E. W. R. Steacie and H. A. Reeve. J Phys Chem 36:3074-84 D '32

Detection of absorbed gas films on heated filaments. G. Van Praagh. Chem Soc J p798-800 JI '33

Effect of ammonia on the positive ion emissivity of iron, nickel and platinum. A. K. Brewer. Am Chem Soc J 54:4588-97 D '32

Energetics of catalysis; the energetic homogeneity of a platinum surface. E. B. Maxted and G. J. Lewis. Chem Soc J p502-4 My '33

Fine gold and platinum of Snake river, Idaho. T. H. Hite. il Econ Geol 28:256-65 [bibliog p264-5] My '33

Half-dozen minerals used in chemical industry. F. L. Hess. J Chem Educ 10:560-4 S '33

Hall mark for platinum. Business Week p23 JI 8 '33

Low pressure hydrogen-oxygen reaction on platinum. E. O. Wiig. diag Am Chem Soc J 55:2673-9 JI '33

Low temperature specific heats; the calibration of the thermometer and the resistance of platinum, platinum-10% rhodium and constantan between -259 and -190°. J. C. Southard and R. T. Milner. Am Chem Soc J 55:4384-91 N '33

March of platinum in industry. E. M. Wise. il Metal Prog 23:36-40 Ap '33

Modes of addition to conjugated unsaturated systems; the hydrogenation of ethyl mucate and sorbic and  $\beta$ -vinylacrylic acids in the presence of platinum. C. K. Ingold and J. D. Shah. Chem Soc J p885-90 JI '33

Platinum in art and industry; abstract. E. M. Wise. Metal Ind 31:86-7 Mr '33

Platinum slips to \$24 an ounce. Business Week p22-3 F 8 '33

Reference tables for platinum to platinum-rhodium thermocouples. W. F. Roeser and H. T. Wensel. U S Bur Stand J Research 10:275-87 F '33

Relative intensities of the  $\text{La}_\alpha$ ,  $\beta_1$ ,  $\beta_2$ , and  $\gamma_1$  lines in tantalum, tungsten, iridium, and platinum. V. J. Andrew. Phys R 42:591-608 D 1 '32



**PLATINUM—Continued**

- Studies on overvoltage; the mechanism of the transfer of electrolytic hydrogen and oxygen through thin sheets of platinum and palladium. A. L. Ferguson and G. Duber-nell. bibliog il diag Electrochem Soc Trans 64 (preprint 22):253-79 S '33
- Study of the catalytic properties of bright platinum and iridium deposits in the activa-tion of hydrogen. L. P. Hammett and A. E. Lorch. diag Am Chem Soc J 55:70-80 Ja '33
- Tantalum and columbium cathodes vs. plat-inum cathodes for electro-analysis. D. F. Calhane and C. M. Alber. Electrochem Soc Trans 63 (preprint 7):61-7 My '33
- Treatment of platinum-iridium scrap; ab-stracts. C. Campbell. Chem Age (Lond) 29:sup9-10 Ag 5 '33; Can Chem & Met 17: 214 O '33
- Variation with angle of emission of the radia-tion from metals bombarded by slow elec-trons. C. Boeckner. U S Bur Stand J Re-search 9:583-91 N '32

**PLATINUM alloys**

- Thermoelectric properties of platinum-rho-dium alloys. F. R. Caldwell. U S Bur Stand J Research 10:373-80 Mr '33

**PLATINUM as money**

- World problems and proposed remedies; sug-gested platinum coinage for Russia. L. D. Edie. Bankers M 126:222-6 Mr '33

**PLATINUM chlorides**

- Structure of some amines of platinous chlo-ride. F. W. Pinkard, H. Saenger and W. Wardlaw. Chem Soc J p1056-60 Ag '33

**PLATINUM compounds**

- Amino-compounds of the platonic chloro-ammines. B. E. Dixon. Chem Soc J p2948-55 D '32
- Molecular structure of some co-ordination compounds of platinum and palladium. E. G. Cox and G. H. Preston. Chem Soc J p1089-93 Ag '33
- Supposed anomaly among the plato-tetram-mines. H. D. K. Drew and G. H. Wyatt. Chem Soc J p2975-6 D '32

**PLATINUM metals**

- Die adsorption von platinmetallen durch A-kohle. H. Wölbling. Angew Chemie 45:720-1 N 12 '32; Abstract (Recovery of platinum). Chem Age (Lond) 27:603 D 24 '32
- March of platinum in industry. E. M. Wise. il Metal Prog 23:36-40 Ap '33
- Platinum in 1932. C. Engelhard. Metal Ind 31: 134 Ap '33

*See also*

- |           |           |
|-----------|-----------|
| Iridium   | Rhodium   |
| Osmium    | Ruthenium |
| Palladium |           |

**PLATINUM oxide**

- Platinum oxide and carbon monoxide. P. V. McKinney and E. F. Morfit. Am Chem Soc J 55:3050 JI '33

**PLATINUM plating**

- New platinum plating process. G. A. Makin-son. Brass W 28:250 D '32; Same. Metal Ind 31:14 Ja '33

**PLATT, Charles Adams, 1861-1933**

- Appreciation. S. M. Clement. por Arch Rec 74:338 N '33
- Appreciation. R. Cortissoz. por Architecture 68:271 N '33; Same cond. Arch Forum 59: sup17 O '33

**PLAYGROUNDS**

- Community playgrounds; plans. Arch Rec 73: 8-9 Ja '33
- Playfield space requirements. Arch Rec 73:15 Ja '33
- Report on parks and playgrounds in metro-politan Chicago. W Soc E J 38:47-51 F '33

*See also*

- Athletic fields  
Tennis courts

**PLAYHOUSES**

- Victor Schertzing builds real Red Seal play-house. il Elec West 70:133 Ap '33

**PLESIOSAURIA**

- Australian fossils for the Harvard museum. Science 77:232-3 Mr 3 '33

**PLIOTRON**

- Application of the FP-54 pliotron to atomic disintegration-studies. L. R. Hafstad. diags Phys R 44:201-13 Ag 1 '33
- Electronics and electron tubes; pliotron and screen-grid tube applications. E. D. Mc-Arthur. diags Gen Elec R 36:330-6 JI '33
- Measurement of X-ray absorption coefficients by the use of the FP-54 pliotron. L. M. Heil and J. E. Edwards. diags Phys R 43: 1-4 Ja 1 '33
- New vacuum valves and their applications. A. W. Hull. il diags Gen Elec R 35:622-9 D '32; Excerpt. J Fr Inst 215:223-5 F '33

- PLOTZ foundation.** See Ella Sachs Plotz founda-tion for the advancement of scientific investigation

**PLOWS**

- Les façons aratoires profondes et les sous-solages; charrue sous-seuleuse, système Fon-deur. G. Coupau. il diags Génie Civil 102: 64-7 Ja 21 '33
- Plow for reforestation. il Sci Am 149:230 N '33

**PLUMBERS**

- Plumber in Hollywood. il Dom Eng 141:38-9 Ap '33

**PLUMBING**

- Better practice. W. F. Bartels. diags Archi-tecture 68:219-22, 285-8 O-N '33
- Domestic Engineering beer equipment sec-tion. il diags plans Dom Eng 142:101-40 JI: 97-132 Ag; 121-56 S; 123-58 O; 113-48 N; 101-32 D '33
- Good plumbing as cheap as the inferior type. J. L. Murphy. plans Dom Eng 141:39-41+ Mr '33
- How one contractor reorganized to meet 1933 conditions; plumbing and heating work at Forest products laboratory. G. Hall. il Dom Eng 141:32-5+ F '33
- How plumbing makes for efficiency in institu-tional kitchen. R. M. Starbuck. il plan Dom Eng 141:50-1 Ja '33
- How to supply the country home with modern city conveniences. il diags Am Bld 55:18-19 My '33
- Installing waste disposal systems in food plants. F. A. Fielder. il diags Food Ind 5:440-1 N '33
- Need for cooperation between architect, plumber and water department; discussion. Am Water Works Assn J 24:1828-37 D '32
- Plumbing job is influenced by air condition-ing. L. Cutler. il plans Dom Eng 140:32-6+ D '32

- Sanitation of the country house. il Arch Forum 58:249-52 Mr '33

- Skyscraper plumbing in the RCA building. C. M. Wilson. il diags Eng N 109:593-7 N 17 '32

- Solving an unusual block tin pipe job, Forest laboratory at Madison, Wis. G. Hall. il diag Dom Eng 141:31-2 Mr '33

- Some pointers on water systems. R. M. Star-buck. il Dom Eng 141:39-41 Je '33

- Swimming pools—reader inquiries show active interest. W. W. Stevens. il plans Dom Eng 141:22-5+ Mr '33

- What government jobs require; information, relating to plumbing and drainage. G. K. Bringham. il plans Dom Eng 142:30-2+ Ag '33

*See also*

- Bathrooms  
Drinking fountains  
Drinking water sys-tems  
Gas fitting  
Heating  
Hot water supply  
Mechanical equip-ment of buildings  
Pipe fitting  
Pipe fittings  
Pipes

- Plumbing fixtures  
Plumbing shops  
Plumbing trade  
Sanitary engineer-ing  
Sewer pipes  
Sewerage  
Solder and soldering  
Steam pipes  
Swimming pools  
Water distribution  
Water pipes

**Estimates**

- How to make estimates that lead to a profit G. Hall. il Dom Eng 142:33-5 O '33

**PLUMBING—Continued****Tables, calculations, etc.**

Practical problems in mathematics; degrees—minutes—seconds—slope. *il* *diags* Dom Eng 142:39-40+ Ag '33

**Traps**

Services for the completely equipped bar. *il* Dom Eng 142:128-30 N '33

**Ventilation**

Comfort station fixtures require adequate venting. W. W. Stevens. *il* plans Dom Eng 141:33-4 My '33

How to vent lavatories in center of room. R. M. Starbuck. *il* Dom Eng 141:39-40 F '33; Discussion. 141:36-7 Mr '33

Views on a half century of plumbing progress. J. L. Murphy; W. W. Hughes. *il* Dom Eng 140:45-7+ D '32

What is difference between circuit and loop vents. R. M. Starbuck. *il* *diags* Dom Eng 140:50-2 D '32

**PLUMBING contracts**

How one contractor reorganized to meet 1933 conditions; plumbing and heating work at Forest products laboratory. G. Hall. *il* Dom Eng 141:32-5+ F '33

How to make estimates that lead to a profit. G. Hall. *il* Dom Eng 142:33-5 O '33

**PLUMBING fixtures**

Cross-connection and plumbing-fixture studies. H. L. White. *diags* Am Water Works Assn J 25:922-30 Jl '33

Cross connections with public water supplies. S. B. Morris. *diag* Am Water Works Assn J 24:1750-7; Discussion. 1757-61 N '32

**See also**

Bathroom fixtures      Sinks  
Bathrooms              Toilet rooms

**PLUMBING laws and regulations**

A.S.S.E. adopts measures for plumbing. Dom Eng 142:111-12+ S '33

City ordinance requiring water closets where sewer connections were possible upheld; suit. Pub Health Rep 48:1083-4 S 1 '33

New bars must observe plumbing regulations. F. R. King. *diag* Dom Eng 141:37+ Ap '33

Plumbing code situation. W. C. Groeniger. *Ind Stand* 4:163-8 O '33

Plumbing codes adopted in 872 cities. Dom Eng 141:40+ F '33

**PLUMBING research**

Tower to test new hydraulic problems; National hydraulic laboratory. *il* Dom Eng 141:38 Mr '33

**PLUMBING shops****Management**

He makes more on \$35,000 than he did on \$200,000; Guy L. Berryman, Jewel City plumbing company. K. Doyle. *il* Dom Eng 142:38-9+ Jl '33

How \$10 made a new show room. C. B. Mathews. *il* Dom Eng 141:34-5+ Ap '33

Order—the sign of good management; store of Thomas E. Clark. *il* Dom Eng 140:40-2 D '32

What must be carried in the repair truck? *il* *diag* Dom Eng 141:26-7 Mr '33

**PLUMBING supplies industry**

Costs have increased 32 percent. W. W. Stevens. *il* Dom Eng 142:30-2 O '33

How one large wholesaler budgets his business; table. C. W. Owen. Dom Eng 141:103 Je '33

Plumbing fixture manufacturers and wholesalers file codes. Dom Eng 142:34-7, 96-102 S '33

Plumbing trade; each branch of industry relates its own story at code hearing; contractors, manufacturers and wholesalers. Dom Eng 142:22-9+ N '33

Repair work bolsters plumbing supply sales. R. Brennan. Dun's R 41:2-4 F 4 '33

Wholesale price of plumbing and heating equipment, monthly, 1926-1932. Survey of Cur Business 13:20 Ja '33

Wholesalers must pay emergency sales tax in Pennsylvania. M. F. Burger. Dom Eng 140:109-11 D '32

**See also**

Plumbing fixtures  
Soil pipes

**Advertising**

When customers pooh-pooh your big sales point; Chase brass & copper company got 12,000 plumbers to convince themselves. D. Masson. *il* Ptr Ink Mo 26:41+ Ja '33

**PLUMBING trade**

Beer brings many orders. *il* Dom Eng 141:44+ My '33

Each branch of industry relates its own story at code hearing. Dom Eng 142:23-4+ N '33

How beer's return affects the plumbing industry. *il* Dom Eng 141:36+ Ap '33

How NRA affects the plumbing industry. H. O. Nelson. Dom Eng 142:97-8 O '33

Nation-wide beer legalization stirs plumbing dealers to action. *il* *diags* Dom Eng 141:46-8+ Je '33

Need for more plumbing in modern buildings. T. J. Dorsey. Dom Eng 142:33+ N '33  
Our industry rushes national code; with initial draft of an outline for the plumbing and heating industries. Dom Eng 142:32-3, 82-6+ Jl '33

Plumbing and heating improvements. H. W. Seymour. *il* Manuf Rec 102:18-19 My '33  
Push sale of beer dispensing equipment. *il* Dom Eng 142:118-20 Jl '33

Sales tax for plumbing and heating dealers. Dom Eng 141:52 My '33

Selects good prospects for air conditioning; interview with C. A. Doeringer of Van Zandt and Doeringer, plumbing and heating contractor-dealers, Plainfield, N. J. *il* Dom Eng 141:55-7 Ap '33

Selling aids. G. R. Salisbury. Dom Eng 142:41-4 Ag '33

Sensible, inexpensive sales plan which meets today's conditions. *il* Dom Eng 141:25-8 Ap '33

State executives who handle code activities of plumbers chosen by Gen. Johnson for NRA drive. pors Dom Eng 142:32-3 S '33

Where to look for selling ideas. *il* Dom Eng 141:42-4+ Ja '33

**See also**

Gas industry and the      Plumbing shops  
plumbing trade      Plumbing supplies in-  
Plumbing fixtures      dustry

**Advertising**

How some dealers are attacking 1933 selling problems. *il* Dom Eng 141:26-9 My '33  
Merchandising helps. Dom Eng 141:35-8 Je '33  
Plumbing dealers active in beer equipment sales. Dom Eng 141:58+ Je '33

**Exhibitions****See also**

Chicago—World's fair, 1933—Plumbing exhibits

**Remodeling**

His business is increasing; distinctive remodeling jobs bring calls for growing service; Hillcrest plumbing company. W. W. Stevens. *il* *diags* Dom Eng 142:34-7 Jl '33

Remodeled hotel shows 33% increase; Carter hotel, Cleveland. M. A. Boyd. *il* Dom Eng 142:38-41+ S '33

Remodeled water heating system shows savings in hotel. J. Fletcher. *il* *diags* Dom Eng 141:32-4 Je '33

**PLYWOOD**

Das fugenlose sperrholzfass. E. Sachsenberg. *il* *diags* Zeit Ver Deutsch Ing 77:879-81 Ag 12 '33

Money making plans for winter shop work. *diags* Am Bld 54:30-1 D '32

Phemaloid compound lumber. *il* Elec Traction 29:292-3 S '33

Phenol resin gives new tool to marine engineers; S. S. Washington. F. E. Brill. *il* Plastic Prod 9:189-90 Jl '33



**PLYWOOD—Continued**

- Phenolic-resin glues for plywood. A. J. Norton; P. S. Hill. *Mech Eng* 55:649-50 O '33
- Plywood as a building material. P. S. Hill. *il Mech Eng* 55:355-7+ Je '33
- Le problème du collage dans l'industrie du contre-plaqué. A. Hecquet. *Chimie & Ind* 29:262-7 F '33
- T. S. S. Washington features new fire-resistant paneling. J. R. Fitzpatrick. *il Marine Eng* 38:208-13 Je '33
- Über die herstellung von furnieren und sperrholz. A. Upmalis. *il Zeit Ver Deutsch Ing* 77:844-6 Ag 5 '33
- Waterproof plywood; laminating with phenolic resins. *il Arch Rec* 73:295-9 Ap '33

**PNEUMATIC control**

- Air-operated controllers. *Engineering* 135:209-10, pl 11 F 24 '33
- Air-operated indexing chuck that cuts costs. I. F. Yeoman. *il diags Mach* 39:321-2 Ja '33
- New Blackburn Meadows generating power station of the Sheffield corporation. *il diags Engineering* 135:378-82, pl 24-5 Ap 7 '33; *Engineer* 155:356 Ap 7 '33; *Electrician* 110:451-3 Ap 7 '33

*See also*

- Air compressors  
Compressed air

**PNEUMATIC conveying**

- Demoistured air aids Madden Dam cement. A. J. Ackerman. *il diags Eng N* 111:11-13 Jl 6 '33
- Developments in pneumatic handling devices. H. Schulze-Manitius. *diags Mech Handling* 19:398-400 D '32
- Discharging grain; a modern automatic electrical system. R. N. Tweedy. *il plan Elec R (Lond)* 112:337-8 Mr 10 '33
- Electric bulk unloader saves stevedoring costs. *il Elec West* 70:159 My '33
- Exhauster system installed in large grain elevator. *Elec W* 100:873 D 31 '32
- Handling of hogged fuel. H. M. Plaisted. *Mech Handling* 20:45-6 F '33
- New pumping equipment conveys bulk cement at low cost. *il diag Concrete (mill sec)* 41:42-3 F '33
- Pneumatic conveying system and some of its applications; abstract. J. S. Loutit. *Elec R (Lond)* 111:709 N 11 '32
- Pneumatic dispatch system in a steelworks. *il diags plan Engineer* 155:126 F 3 '33
- Transporting fine materials pneumatically. *il Eng & Min J* 134:212-13 My '33

*See also*

- Exhaust systems

**PNEUMATIC hammers**

- Compressed air for hammers. *Power Pl Eng* 37:79-80 F '33
- Massey pneumatic power hammer. *il Engineering* 136:52 Jl 14 '33; *Engineer* 156:42 Jl 14 '33
- Pneumatic double-action drop hammer. *il Am Mach* 77:321 My 10 '33

**PNEUMATIC machinery**

- Farrel-Birmingham new type of pneumatic gum strip press. *il India Rubber W* 88:39 Ag '33
- Massey accelerator for drop stamps. *il Engineer* 155:125 F 3 '33; *Engineering* 135:146 F 3 '33

**PNEUMATIC tools**

- Pneumatic drilling devices. *il Ry Mech Eng* 107:376 O '33

**PNEUMATICS***See also*

- |                |       |
|----------------|-------|
| Aerodynamics   | Gases |
| Air flow       | Sound |
| Compressed air |       |

**PNEUMOCONIOSIS. See Lungs—Dust diseases****PNEUMONIA**

- Compensability of pneumonia under workmen's compensation act; suit. *Pub Health Rep* 48:324 Mr 31 '33

- Frequency of pneumonia among iron and steel workers. D. K. Brundage and others. *U S Public Health Bul* 202:1-51 '32

- Pneumonia held to be personal injury from negligence under provisions of Jones act. *Monthly Labor R* 36:1074-6 My '33

- Pneumonia problem in the steel industry. D. K. Brundage and J. J. Bloomfield. tables *J Ind Hygiene* 14:345-63 D '32

- Relative pneumonia fatality among surface workers and miners; abstract. C. H. Kibbey. *J Ind Hygiene* 15:sup12 Mr '33

- Toxin treatment in the prevention of pneumonia. A. F. Coca. *Science* 77:sup8 My 12 '33

**POCASSET river, Rhode Island**

- Pollution and self-purification of the Pocasset river in Rhode Island. F. W. Gilcreas. *Boston Soc C E J* 20:38-47 F-Mr '33

**PODOCARPUS totara**

- Essential oil of podocarpus totara. G. B. Beath. *Soc Chem Ind J* 52:338T-40T O 13 '33

**PODOPHYLLOTOXIN**

- Podophyllotoxin. A. Robertson and R. B. Waters. *Chem Soc J* p83-6 Ja '33

**POISEUILLE'S law**

- Studies in filtration. B. F. Ruth, G. H. Montillon and R. E. Montonna. bibliog *il Ind & Eng Chem* 25:76-82, 153-61 Ja-F '33

**POISON oak**

- Injury from poison oak held accident caused by external means. *Monthly Labor R* 36:1077-8 My '33

**POISONOUS plants***See also*

- Poison oak

**POISONS**

- Study of the toxicity of rotenone hydrochloride, acetylrotenone and rotenolone using the goldfish as the test animal. W. A. Gersdorff. *Am Chem Soc J* 55:1147-52 Mr '33

- Toxicity of osmium tetroxide (osmic acid). F. R. Brunot. *il J Ind Hygiene* 15:136-43 My '33; Abstract. *Monthly Labor R* 37:67-8 Jl '33

*See also*

- |                   |                    |
|-------------------|--------------------|
| Arsenic           | Mercury poisoning  |
| Arsenic poisoning | Methyl chloride    |
| Cyanide poisoning | Nicotine           |
| Fish poisons      | Potassium cyanide  |
| Fungicides        | Thallium poisoning |
| Hydrocyanic acid  | Thallium sulfate   |
| Insecticides      |                    |

**POISONS, Industrial**

- Arsenic, mercury and lead poisoning. A. Hamilton. *Safety Eng* 65:141-2, 183-4, 227-9 Ap-Je '33

- Benzol poisoning. H. H. Kessler. *Safety Eng* 65:105-6, 108-10, 146 Mr-Ap '33

- Chemical haematuria from handling 5-chloro-ortho-toluidine. A. N. Currie. *J Ind Hygiene* 15:205-13 Jl '33

- Engineering principles of industrial hygiene. A. Zimmerman. *il diags W Soc E J* 38:77-96 Ap '33; Same abr. *Chem Markets* 33:43-7 Jl '33

- Fatal poisoning with sodium nitrite. H. B. Arbuckle and O. J. Thies, jr. bibliog *Ind & Eng Chem News ed* 11:202 Jl 10 '33; Same. *Textile Col* 55:620 S '33

- Industrial diseases and poisoning in British factories, 1932. *Monthly Labor R* 37:864-6 O '33

- Industrial poisoning by carbon bisulphide in Italy; abstract. A. Ranelletti. *J Ind Hygiene* 15:sup5 Mr '33

- Is carbon tetrachloride a health hazard in the industry? J. N. Shirley. *Rubber Age* 32:165-7 D 10 '32

- Prophylaxis and compensation for industrial poisoning; abstract. F. Koelsch. *J Ind Hygiene* 15:sup30 My '33

- Some common industrial health hazards. E. R. Hayhurst. *U S Bur Labor Statistics Bul* 577:190-205; Discussion. 217-24 '33

**POISONS, Industrial—Continued**

Toxic substances in the rubber industry. P. A. Davis. Rubber Age 33:63-4 My '33

See also

Benzene poisoning	Hydrogen sulfide
Carbon monoxide poisoning	Lead poisoning
Carbon tetrachloride	Methanol
Chromium poisoning	Radium poisoning

**POISSON'S ratio**

Improved apparatus for the measurement of Poisson's ratio. W. A. Zisman. diags R Sci Instr 4:342-4 Je '33; Correction. 4:507 S '33

**POLAND**

See also	
Labor and laboring classes—Poland	Unemployment—Poland

**Economic conditions**

Poland in 1932. Economist 116:sup20 F 18 '33

**POLANDERS**

Intelligence of the prospective immigrant. Pub Health Rep 48:1115 S 8 '33

**POLAR year, International**

Fifth University of Michigan Greenland expedition. W. H. Hobbs. Science 77:163 F 10 '33

Second International polar year. Science 78:sup6 S 8 '33

**POLARIMETERS**

Method for the precise measurement of optical path-difference, especially in stressed glass. R. W. Goranson and L. H. Adams. il diags J Fr Inst 216:475-504 O '33

**POLARISCOPE**

Application of photoelasticity to the study of indeterminate truss-stresses. D. L. Pellett. il diags S A E J 31:469-74 D '32

**POLARITY (chemistry)**

Influence of poles and polar linkings on the course pursued by elimination reactions. C. K. Ingold and others. Chem Soc J p66-77 Ja; 523-37 My; 989-93 Ag '33

Polarity in certain hydrocarbon vapors. K. B. McAlpine and C. P. Smyth. diags Am Chem Soc J 55:453-62 F '33

**POLARIZATION, Dielectric**

Dielectric polarization in solids. S. O. Morgan, W. A. Yager and A. H. White. Am Chem Soc J 55:2171-2 My '33

Freezing points of solutions of nitro-benzene in benzene and cyclohexane, and their relations to the electrical polarisation. L. G. Davy and N. V. Sidgwick. Chem Soc J p281-6 Mr '33

Studies in dielectric polarisation. E. C. E. Hunter, J. R. Partington and E. G. Cowley. diags Chem Soc J p2812-29 D '32; 87-90 Ja; 309-13 Mr; 1252-9 S '33

**POLARIZATION, Electrolytic**

Studies of electrolytic polarisation; amines of copper, silver, zinc, and cadmium. S. Glasstone. Chem Soc J p2849-57 D '32

Studies on overvoltage; the mechanism of the transfer of electrolytic hydrogen and oxygen through thin sheets of platinum and palladium. A. L. Ferguson and G. Dubernell. bibliog il diags Electrochem Soc Trans 64 (preprint 22):253-79 S '33

Study of polarization currents due solely to changes in electrode area. K. E. Glidden and W. A. Patrick. diags Am Chem Soc J 55:3594-602 S '33

**POLARIZATION of rays**

Hyperfine structure and the polarization of resonance radiation; magnetic depolarization and the determination of mean lives. A. C. G. Mitchell. Phys R 43:887-93 Je 1 '33

Lateral distribution of photoelectrons and the measurement of X-ray polarization. D. G. Hare and P. Kirkpatrick. Phys R 43:1037 Je 15 '33

Limiting polarization of downcoming radio waves traveling obliquely to the earth's magnetic field. W. G. Baker and A. L. Green. diags Inst Radio Eng Proc 21:1103-31 Ag '33

Paschen-Back effect of hyperfine structure and polarization of resonance radiation; cadmium ( $6^1P_1$ — $5^1S_0$ ). N. P. Heydenburg. Phys R 43:640-7 Ap 15 '33

Polarizabilities of ions from spectra. J. E. Mayer and M. G. Mayer. Phys R 43:605-11 Ap 15 '33

Variation with angle of emission of the radiation from metals bombarded by slow electrons. C. Boeckner. U S Bur Stand J Research 9:583-91 N '32

**POLES**

Boulton process for southern pine poles. J. D. MacLean. Elec W 101:519-21 Ap 22 '33

Treated pole line after 28 years. C. O. Seaton. il Elec Traction 28:481 D '32

Treated pole output reported by Forest service. Elec W 102:585 N 4 '33

See also

Electric lines—Poles and towers

**Specifications**

Wood pole specifications of the American standards association. A. B. Campbell. N E L A Bul 20:81-4 F '33

**POLES, Concrete**

Reinforced concrete poles. B. Dennison. il Elec R (Lond) 112:265-6 F 24 '33

Reinforced concrete poles for overhead lines. P. D. Morgan. Inst E E J 72:423-30 My '33

Reinforced concrete standards; their use for traction and lighting purposes. B. Dennison. il Elec R (Lond) 112:521 Ap 14 '33

St Louis light standards too small at top and spill off. il Eng N 110:191 F 9 '33

**POLES, Steel**

Welded steel poles. il Elec R (Lond) 112:190 F 10 '33

**POLICE**

Chemical warfare in mob and crime control. K. A. Kobe. il Chem & Met Eng 40:60-1 F '33

Common sense of police reform. Economist 116:1013 My 13 '33

Personnel study of Duluth policemen. H. S. Diehl and others. Minnesota U Employment Stabilization Research Institute Bul v 2, no 2:1-24 '33

Salaries in police departments of principal cities in the United States, December 1932. tables Monthly Labor R 36:1116-50 My '33

University departments in the field of criminology. O. T. Schultz. Nat Research Council Bul 87:117-31 '32

See also

Chicago university—	Crime and criminals
Department of	Radio telephone—
police administration	Police uses

**Salaries, pensions, etc.**

Study of salaries paid in police departments throughout the United States. 14 numb 1 Calif. highway patrol, Sacramento '33

**POLICE, State****Barracks**

Troop K barracks, Valhalla, New York; views and plans. Arch Forum 59:195-6 S '33

**POLICE stations**

Planning of public buildings; with views and plans. Arch Forum 59:190-8 S '33

**POLIOMYELITIS. See Infantile paralysis****POLISHING**

Cylinder wear. Automobile Eng 23:298 Ag '33  
Grinding, polishing and buffing of monel metal and pure nickel. Am Mach 77:341-2 My 24 '33

New device for polishing and buffing. il Brass W 28:236 N '32; Same. Metal Ind 30:487 D '32

New method of polishing gray and malleable irons for metallographic examinations. R. Schneidewind. il Am Gas Assn Mo 15:13-14 Ja '33; Abstracts. Am Gas J 138:16 F '33; Foundry 61:56 Je '33

Ransohoff ball-return, side-loading burnishing barrel. il Platers' Guide 29:17 Ap '33; Metal Ind 31:142 Ap '33



**POLISHING—Continued**

- Reducing polishing costs by tumbling. G. S. Brady. *Iron Age* 131:303-4+ F 23 '33  
 Wear in the polishing of plated and other surfaces; abstracts and discussion. O. F. Hudson. *Engineer* 156:307 S 29 '33; *Engineering* 136:391 O 6 '33

*See also*

- |           |                 |
|-----------|-----------------|
| Abrasives | Metal finishing |
| Grinding  | Sand blast      |

**POLISHING machines**

- Advances made in automatic polishing equipment. R. E. Miller. *Iron Age* 131:54 Ja 5 '33  
 Motor polishing machines. *il Elec R (Lond)* 113:13-14 Jl 7 '33  
 Obtaining wear-resistant bearing surfaces by burnishing. A. T. Kuehner. *il diags Mach* 39:713-15 Jl '33  
 Ruesch machine eliminates hand work in preparing carbide wire drawing dies. *il Iron Age* 131:822 My 25 '33  
 Sommer and Adams continuous-feed polishing and machining equipment. *il Brass W* 28:254 D '32  
 Special equipment for polishing and buffing large parts to reveal flaws. H. H. Henson. *il Mach* 39:425 F '33  
 Stevens introduces new semi-automatic utensil polisher. *il Metal Ind* 31:351 O '33; *Platers' Guide* 29:19-20 O '33

*See also*

- Grinding machines  
 Lapping machines  
 Polishing wheels

**POLISHING materials**

- Goods priced for profit sell easier than at cut price; O-Cedar. P. H. Erbes, jr. *il Ptr Ink* 164:3-4+ Ag 24 '33  
 Homeward bound; Socony-made polishes for furniture, woodwork, and floors. *il Business Week* p11-12 Ap 5 '33

**POLISHING wheels**

- Cleveland container company's expanding polishing wheel and endless abrasive bands. *il Metal Ind* 31:219 Je '33  
 Howland expanding polishing wheel. *il Metal Ind* 31:106 Mr '33  
 Jiffy polishing wheel. *il Iron Age* 131:136 Ja 19 '33  
 Polishing sleeves with Turkish emery abrasive. *il Platers' Guide* 29:21 O '33

**POLITICAL ethics***See also*

- Boss rule

**POLITICAL parties**

- New party politics. A. N. Holcombe. 148p \$1.75 W. W. Norton & Co, inc, New York '33  
 Political handbook of the world, parliaments, parties and press as of January 1, 1933. W. H. Mallory, ed. 202p \$2.50 Harper '33  
 Political party versus the political machine. H. F. Gosnell. *Ann Am Acad* 169:21-8 S '33

**POLITICS**

- Politician looks at business men in public office. R. J. Alderdice. *Pub Serv Management* 54:28-9 Ja '33; *Discussion*. C. J. Cran-  
 don. 54:59-61 F '33  
 Politics, administration, and the new deal. L. Gulick. *Ann Am Acad* 169:55-66 S '33  
 Why business men fall down in politics. A. J. Cermak. *il Nation's Business* 21:24-7 Ja '33

*See also*

- Boss rule  
 Business—Political aspects

**POLYCYCLIC compounds.** *See* Cyclic compounds**POLYENES**

- Work of Richard Kuhn on the polyenes. C. M. Langkammerer. *bibliog J Chem Educ* 10:343-7 Je '33

**POLYGALACTURONIC acid**

- Decomposition of polyuronides by fungi and bacteria; decomposition of pectin and pectic acid by fungi and formation of pectolytic enzymes. S. A. Waksman and M. C. Allen. *Am Chem Soc J* 55:3408-18 Ag '33

**POLYHALIDES.** *See* Halides**POLYHALITE**

- Extraction of potash from polyhalite; cyclic production of schönite and its use in the manufacture of potassium sulfate and syn-  
 genite. N. Fragen and E. P. Partridge. *bibliog flow diag Ind & Eng Chem* 25:1153-60 O '33

- Extraction of potash from polyhalite; effect of particle size, sodium chloride concentration, and temperature. J. E. Conley and F. Fraas. *bibliog Ind & Eng Chem* 25:1002-9 S '33

**POLYIODIDES.** *See* Iodides**POLYMERIZATION**

- Acetylene polymers and their derivatives. G. J. Berchet and others. *Am Chem Soc J* 55: 2004-12, 2040-51 My '33

- Acetylene polymers and their derivatives; 1-alkyl-2-chloro-1,3-butadienes and their polymers. R. A. Jacobson and W. H. Carothers. *Am Chem Soc J* 55:1624-7 Ap '33

- Acetylene polymers and their derivatives; the polymerization of bromoprene. W. H. Carothers, J. E. Kirby and A. M. Collins. *il Am Chem Soc J* 55:789-95 F '33

- Action of radon on some unsaturated hydrocarbons; vinylacetylene and butadiene. G. B. Heisig. *bibliog Am Chem Soc J* 55:2304-11 Je '33

- Applications of vinyl resins. J. G. Davidson and H. B. McClure. *bibliog il plan Ind & Eng Chem* 25:645-52 Je '33; *Same*. *Plastic Prod* 9:143-50 Je '33

- Catalysis of polymerization by ozonides. R. C. Houtz and H. Adkins. *Am Chem Soc J* 55: 1609-17 Ap '33

- Catalytic polymerization of propylene. F. H. Gayer. *bibliog Ind & Eng Chem* 25:1122-7 O '33

- Comparison of organic inhibitors in chain reactions; photo-polymerization of vinyl acetate; the autooxidation of sodium sulfite; photolysis of hydrogen peroxide. K. Jeu and H. N. Alyea. *Am Chem Soc J* 55:575-88 F '33

- Effect of oxygen and water on polymerization of chloroprene. I. Williams and H. W. Walker. *diag Ind & Eng Chem* 25:199-202 F '33

- Efficiency of carbon dioxide as a radiochemical catalyst; acetylene polymerization and water synthesis. C. Rosenblum. *bibliog J Phys Chem* 37:53-8 Ja '33

- Homogeneous thermal polymerization of isoprene. W. E. Vaughan. *Am Chem Soc J* 55: 4109-16 O '33

- Liquid ketene and ketene polymers. C. D. Hurd, A. D. Sweet and C. L. Thomas. *Am Chem Soc J* 55:335-7 Ja '33

- Photochemical polymerization of methylacetylene and allene. S. C. Lind and R. Livingston. *Am Chem Soc J* 55:1036-47 Mr '33

- Polymerisation and explosive decomposition of ethylene under pressure. G. Egloff and R. E. Schaad. *bibliog diag Inst Pet Tech J* 19:800-11 S '33

- Polymérisation et dédoublement des carbures d'hydrogène sous l'influence de l'effluve électrique. R. Vanier de Saint-Aunay. *bibliog diags Chimie & Ind* 29:1011-25 My '33

- Polymerization of diolefins with olefins; function of pentene-2 in the polymerization of isoprene. C. A. Thomas and W. H. Carmody. *Am Chem Soc J* 55:3854-6 S '33

- Polymerisation of gaseous formaldehyde. R. Spence. *Chem Soc J* p1193-7 S '33

- Polymerization of some unsaturated hydrocarbons; the catalytic action of aluminum chloride. W. H. Hunter and R. V. Yohe. *Am Chem Soc J* 55:1248-52 Mr '33

- Quaternary ammonium salts from halogenated alkyl dimethylamines; the polymerization of gamma-halogenopropyl dimethylamines. C. F. Gibbs, E. R. Littmann and C. S. Marvel. *Am Chem Soc J* 55:753-7 F '33

- Studies of polymerization and ring formation; polyesters from  $\omega$ -hydroxydecanoic acid. W. H. Carothers and F. J. Van Natta. *Am Chem Soc J* 55:4714-19 N '33

**POLYMERIZATION**—*Continued*

Utilization of the light fractions for the manufacture of high octane motor fuels by means of polymerization; abstract. A. R. Bowen and A. W. Nash. *Oil & Gas J* 32:29 O 5 '33

**POLYMERS**

Acetylene polymers and their derivatives. W. H. Carothers and others. *il Am Chem Soc J* 55:786-95, 1094-1101, 1622-31, 2004-12, 2040-51, 2807-17 F-My, JI '33

Cyclic and polymeric compounds from the reactions of ethylene mercaptan with polymethylene halides. N. B. Tucker and E. E. Reid. *Am Chem Soc J* 55:775-81 F '33

**POLYMORPHISM**

Polymorphism in the substituted thiazole, 3-phenyl-2,4-thiazolidione. R. E. Gibson and K. S. Markley. *bibliog il diag Am Chem Soc J* 55:2399-406 Je '33

**POLYSACCHARIDES**

Chemistry of wood; water-soluble polysaccharide of eastern larch. L. E. Wise, P. L. Hamer and F. C. Peterson. *bibliog Ind & Eng Chem* 25:184-7 F '33

Molecular structure of a polysaccharide produced from glucose by a new species of penicillium and containing units of glucose, galactose, and an unusual hexose; abstract. W. N. Haworth, H. Raistrick and M. Stacey. *Soc Chem Ind J* (Chem & Ind) 51:980 N 25 '32

Polysaccharides from the viewpoint of the organic chemist; abstract. J. Irvine. *Can Chem & Met* 16:269 N '32

*See also*

Cellulose                      Starch  
Dextrin

**POLYZOA, Fossil**

Muscle-scars of monograptidae. E. Haberer. *il Am J Sci* 5th ser 25:298-302 Ap '33

**PONCEAU 4R**

Adsorption of Ponceau 4R (new coccine) and methylene blue by lead sulfate and the influence of adsorbed Ponceau on the speed of kinetic exchange. I. M. Kolthoff and C. Rosenblum. *Am Chem Soc J* 55:2664-72 JI '33

**PONTOON bridges.** *See* Bridges, Pontoon**POOR**

Poverty in East London. *Economist* 115:1020-2 D 3 '32

*See also*

Cost of living                      Saving  
Legal aid societies              Unemployment  
Old age pensions

**POOR relief**

Calculation of relief expenditures. C. E. Persons. *Am Statis Assn J* 28:sup68-74 Mr '33

New Jersey bars policyholders in relief program; holds policies with surrender values same as bank account. *East Underw* 34:5 JI 14 '33

No one need give; an examination of the conscience of the great American contributor. *il Fortune* 8:58-61+ N '33

Old-age dependency in Maryland counties. E. S. Bellman. *Monthly Labor R* 37:856-7 O '33

*See also*

Unemployment—Relief measures

**POPLIN**

Cockling of light-weight dress goods. G. L. Atkinson. *Textile Col* 55:450-1+ JI '33

Reducing costs and faults in the preparing and finishing of repp and poplin fabrics. G. L. Atkinson. *Textile Col* 55:373-4+ Je '33

**POPULATION**

Are there too many of us? L. I. Dublin. *Econostat* 1:16-17 Mr 25 '33

Falling population growth and consumption indicate lower profits. J. R. Arnold. *Annalist* 41:459-60+ Mr 31 '33

Importance of the human factor in city planning; problems arising as a stationary state of population is approached. W. R. Tylor. *il Mech Eng* 54:831-6 D '32

Population and subdividing activity in the region of Chicago: 1871-1930. H. C. Monchow. *map J Land & Pub Util Econ* 9:192-206 My '33

Population trends and the growth of cities. W. R. Tylor. *Civil Eng* 3:277-80 My '33

Population trends in the United States. W. S. Thompson and P. K. Wheelpton. 415p \$4 McGraw-Hill '33

Problems of population; report of proceedings of second general assembly of International union for the scientific investigation of population problems, London, June 15-18, 1931. 378p G. Allen & Unwin Ltd, London '32

Recent trends in city and country populations. W. R. Tylor. *J Land & Pub Util Econ* 9:63-74 F '33

What the next half century may mean for gas. *bibliog Gas Age* 72:723-7+ S 23 '33

*See also*

Birth rate	Immigration and emigration
Census	gration
Cities and towns—	Mortality
Growth	Vital statistics
Farm population	
also subdivision	Population under names of countries, e.g. Japan—Population; United States—Population

**Statistics**

American population before the federal census of 1790. E. B. Greene and V. D. Harrington. 228p [bibliog pXI-XXII] \$3.50 Columbia univ. press, New York '32

Composition of families in the United States, 1930. *Monthly Labor R* 36:1244-6 Je '33

Fertility and reproduction; methods of measuring the balance of births and deaths. R. R. Kuczynski. 94p [bibliog p91-2] Falcon press, New York '32

Growth curves; applications of the Pearl-Reed population curve to the growth of industrial production. W. Rautenstrauch. *Mech Eng* 55:433-7 JI '33

Household magazine puts 14,191,420 lost people back on market. *Sales Management* 32:124 F 1 '33

Our changing population; United Kingdom, 1921 and 1931. *Economist* 117:442-4 S 2 '33

Population changes and consumption; a forecast for our industrial future. L. I. Dublin. *Taylor Soc Bul* 17:162-4 O '32; Same. *Ptt Ink Mo* 25:61-2 D '32

30 million young, eager prospects for advertisers. *Ptt Ink* 162:16 F 16 '33

Use of census tracts in analyzing the population of a metropolitan community. H. W. Green. *Am Statis Assn J* 28:sup147-53 Mr '33

What the machine has done to us. W. S. Giele. *Iron Age* 131:264-9 F 16 '33

*See also*

Mortality—Statistics	Occupations—Statistics
----------------------	------------------------

**POPULATION, Foreign.** *See* subdivision Foreign population under names of countries, e.g. France—Foreign population

**PORCELAIN**

Effect of various gaseous atmospheres on the vitrification of ceramic bodies. A. E. Badger. *diag Am Cer Soc J* 16:107-17 F '33

Experiments on the coloring and glazing of porcelains; abstract. E. Damour, M. Larchevêque and P. Bremond. *Am Cer Soc J* 16 (Cer A 12):3 Ja '33

Porcelain as an art and a mirror of fashion. R. Schmidt. 335p [bibliog p311-17] G. G. Harrap & co, ltd, London '32

*See also*

Pottery

**PORCELAIN, Insulating**

High potential porcelain X-ray tube. R. Crane and C. C. Lauritsen. *diags R Sci Instr* 4:118-22 Mr '33

**Manufacture**

Ceramic insulators; their manufacture and testing; abstract. C. S. Garland. *Soc Chem Ind J* (Chem & Ind) 51:961 N 18 '32



**PORCELAIN, Insulating—Manufacture—Cont.**

Manufacturing control of dry-pressed porcelain. F. Cermak and L. E. Thiess. flow chart il Am Cer Soc J (Bul) 16:138-40 My '33

Time study as a basis for control of direct and indirect manufacturing costs on porcelain products. A. W. Hough. Am Cer Soc Bul 12:300-1 O '33

**Testing**

Dielectric strength of porcelain; the influence of porosity. A. J. Monack and R. K. Smith. Am Cer Soc J 16:293-5 Jl '33

Effect of repeated heatings on the mechanical strength of high-tension insulator porcelains. R. F. Geller. diags Am Cer Soc J (Bul) 16:18-25 Ja '33

**PORCHES**

Portfolio of verandas. il Architecture 67:231-46 Ap '33

**PORK**

Cashing in on pork. 79p National live stock and meat board, Chicago '32

Letter on the effect of the Domestic allotment plan on pork. G. F. Swift. Fortune 7:133 Mr '33

Quick-freezing destroys parasites of trichinosis pork. D. K. Tressler. il Food Ind 5:177 My '33

**PORK products**

Why Mayor's quality wieners outsell 44 cheap competitors. L. B. Colby. il Sales Management 32:56+ Ja 15 '33

See also

Bacon

**POROSITY**

Dielectric strength of porcelain; the influence of porosity. A. J. Monack and R. K. Smith. Am Cer Soc J 16:293-5 Jl '33

Further observations on the distribution of porosity in aluminium and copper ingots, with some notes on inverse segregation; abstract and discussion. N. P. Allen. Engineering 136:391-2 O 6 '33

Porous plastics made by use of calcium alloys. C. C. Downie. Metal Prog 24:46+ Ag '33

**POROUS materials**

Flow of simple fluids through porous materials. G. H. Fancher and J. A. Lewis. bibliog il diags Ind & Eng Chem 25:1139-47 O '33

Über einen apparat zur messung der flüssigkeitsaufnahme von quellbaren und porösen stoffen und zur charakterisierung der benetzbarkeit. O. Enslin. diag Chemische Fabrik 6:147-8 Mr 29 '33

**PORPHYRINS**

Occurrence of decomposition products of chlorophyll; decomposition of chlorophyll in the digestive system of the cow. P. Rothemund and O. L. Inman. Am Chem Soc J 54:4702-6 D '32

Studies in the chlorophyll series; transformations establishing the nature of the nucleus. J. B. Conant and C. F. Bailey. Am Chem Soc J 55:795-800 F '33

**PORT ANGELES, Washington****Harbor**

Ports of Olympia and Port Angeles, Washington. (Port ser. 23) 125p diags plans U.S. Engineer Dept. Board of engineers for rivers and harbors, Washington '32

**PORT of New York authority**

Port Authority commerce building, New York city. il plans Arch Rec 73:274-80 Ap '33

Port of New York authority. il Fortune 8:22-31, 118-19 S '33

Port of New York authority; an outstanding example of a successful self-liquidating enterprise. G. Agassiz. Barron's 13:16 Ja 2 '33

**PORTERS. See Pullman porters****PORTLAND, Oregon****Bridges**

Proportioning, mixing and placing of concrete piers for the St Johns bridge. W. A. Scott. il Concrete 41:19-20 Mr '33

**Galleries and museums**

Heating and ventilating Portland's new museum of art. W. E. Kemery, jr. il plan Heat & Ven 30:16-19 My '33

**PORTRAITS**

See also

Advertisements, Pictorial—Portraits

**PORTS**

L'activité du port de Messine et les travaux envisagés pour son extension. plan Génie Civil 103:432 O 28 '33

Any old port; in Galveston vs. New Orleans, court denies I.C.C.'s right to favor one port against another. Business Week p12 Je 7 '33

Harbors and waterways in 1932. Engineer 155:8-9, 35-7 Ja 6-13 '33

New passenger quay and maritime station at the port of Cherbourg. B. Cunningham. il diags map Engineering 136:427-9, 440, 481 O 20, N 3 '33

Ocean port of Le Verdon. il diags plan Engineer 156:203-5, 210 S 1 '33

Le port à arachides de Kaolack (Sénégal). E. Jacquier. il diags map Génie Civil 102:1-6 Ja 7 '33

Port development on the Great Lakes for the accommodation of traffic through the proposed St Lawrence shipway and the Lakes to the Gulf waterway. E. M. Markham. Can Eng 65:15-18 O 10 '33

Port of Havre. il diags plan map Engineer 155:566-9, 576, 592-5, 616-18, 642-5 Je 9-30 '33

Ports of Sandusky, Huron, and Lorain, Ohio. (Lake ser. 8) 156p U. S. War dept. Corps of engineers, Army, Washington '32

Transportation developments and the North Atlantic ports. R. W. Harbeson. Harvard Business R 12:82-93 O '33

Les travaux d'extension du port de Dunkerque; la visite du 5 juillet de la Société des ingénieurs civils. J. Dumas. diags plans Génie Civil 103:87-90 Jl 22 '33

See also

Cargo handling

Docks

Freight handling

Harbors

Piers

Shipping

Terminals

Wharves

also subdivision Harbor under names of cities, e.g. New York (city)—Harbor

**PORTUGUESE East Africa**

Trade of Portuguese East Africa. Engineering 135:674-5 Je 23 '33

**POSITIVE rays. See Rays, Positive****POSITRON (term)**

Positive electron. C. D. Anderson. il Phys R 43:491-4 Mr 15 '33; Abstract. Science 77:sup6 Mr 24 '33

See also

Electrons

**POST offices**

Development of air rights entails difficult substructure work; more than 200 column footings placed at the Pennsylvania station, New York, for post office extension. il plan Ry Age 95:342-5 S 2 '33

Operate passenger terminal under mammoth building project; construct new Chicago postoffice over Chicago union station tracks without interfering with train service. il plan Ry Age 94:71-4 Ja 21 '33

Planning of public buildings; with views and plans. Arch Forum 59:223-30 S '33

United States postoffice and courthouse at Little Rock, Arkansas; drawings and plans. Arch Rec 74:84-6 Ag '33

United States postoffice at Provincetown, Massachusetts; drawings and plans. Arch Rec 74:82-3 Ag '33

U.S. post office, Hempstead, L.I.; views and plan. Architecture 68:295-8 N '33

**Equipment**

Chicago post office. il Elec J 30:34 Ja '33

Electrical equipment of the Chicago post office. C. A. Carpenter. diags W Soc E J 38:266-73+ O '33; Excerpts. Elec W 102:108-9 Jl 22 '33

**POST offices—Equipment—Continued**

Mechanical handling of mails; handling 400,-000,000 articles a year at the Sydney general post office. A. Ashton. *Mech Handling* 20:121-2 Ap '33

Sackförderanlage im Nürnberger paketpostamt. H. Schwaighofer. *diags Zeit Ver Deutsch Ing* 76:1204-5 D 3 '32

Some problems on big job; double heating system uses steam and hot water; Chicago post office. W. W. Stevens. *il diags Dom Eng* 141:29-33- Ap '33

Steam-Diesel possibilities in the Boston post office; with cost data. E. J. Kates. *Power* 77:122-3 Mr '33

**Management**

Technological changes and employment in the United States postal service. W. Bowden. U S Bur Labor Statistics Bul 574:1-69 '32

**POSTAGE stamps**

Architectural philately. E. Fleming. *il Am Arch* 143:48-9 Jl '33

Description of United States postage stamps issued by Post office department from July 1, 1847, to December 31, 1932. 57p U.S. Post office dept. Washington '33

Foreign postage stamps; selling to postage stamp companies? *Management Methods* 62:226 My '33

Philately speaking; stamp album offered to restaurant patrons. *Ptr Ink Mo* 26:26 Mr '33

Postage stamps and their stories. S. Phillips. 224p \$2 Dodd '33

Today uses stamps as premiums. *il Ptr Ink* 164:56 S 14 '33

World bridges—ancient and modern depicted on postage stamps; illustrations. *Civil Eng* 3:sup 1, 409 Jl '33

**POSTAL cards**

Bangor & Aroostook finds economy in post cards. *Ry Age* 94:208 F 11 '33

Drafts, replacing checks, are sent by postcard. *il Management Methods* 62:261 Je '33

Postage expense reduced by use of post cards. *Management Methods* 62:123 Mr '33

**See also**

Advertising, Mail—  
Postal cards

**POSTAL credit union.** See Credit unions**POSTAL employees**

Technological changes and employment in the United States postal service. W. Bowden. U S Bur Labor Statistics Bul 574:1-69 '32

**POSTAL laws and regulations**

Bringing prize contests within post office laws. W. I. Orchard. *Ptr Ink* 163:69+ My 11 '33

Post office and coupons. *Ptr Ink* 163:68 Ap 27 '33

Postal laws and regulations of the United States of America. Edition of 1932 in effect Oct. 1, 1932. 912p U. S. Gov't. ptg. office. Washington '32

Registered mail charges as they affect the shipping of securities. P. V. Keyser. *Inv Banking* 3:173-4 D 23 '32

**POSTAL rates**

Collection messages can be sent third class if —. *Ptr Ink* 163:32-3 My 11 '33

Farley expects lower post office rates. *Ptr Ink* 163:76 Je 1 '33

Local letters go for two cents—now what? H. J. Buckley. *Inland Ptr* 91:24 Jl '33

Three-cent postage picks printers' pockets; "take" is millions. A. G. Fegert. *Inland Ptr* 90:21-3 Ja '33

What may and may not be done with third-class mail. E. B. Weiss. *Ptr Ink Mo* 25:54+ D '32

**See also**

Mail, Registered  
Mailing

**POSTAL savings banks**

In defense of postal savings; advisability of commercial and savings banks becoming depositories. D. D. Mackey. *Rand McNally Bankers Mo* 50:348-9+ Jl '33

Postmaster's bank. *il map Am Bankers Assn J* 25:28-9+ My '33

Reorganization of the Post office savings bank in Czechoslovakia. *Int Management Inst Bul* 7:89-90 Je '33

United States postal savings. Published in monthly numbers of Federal reserve bulletin

**POSTAL service****See also**

Air mail service  
Mail, Registered  
Mail handling

Parcel post  
Postage stamps  
Postal rates

**Great Britain**

Post office reform, its importance and practicability. R. C. P. Wolmer. 314p I. Nicholson & Watson Ltd, London '32

Post office reform; reorganisation on the lines of private enterprise; abstract. R. C. P. Wolmer. *Electrician* 110:230 F 17 '33

**United States**

Ocean mail contract postponed. H. F. Lane. *Marine Eng* 38:131 Ap '33; Same abr. *Ry Age* 94:376 Mr 11 '33

Post office and the bank. H. M. Wright. *Bankers M* 127:153-7+ Ag '33

Postoffice in business; tax first-class mail patrons to pay for propaganda to extend Uncle Sam's competition. W. R. Lence. *Pub Serv Management* 54:9-10 Ja '33

Technological changes and employment in the United States postal service. W. Bowden. U S Bur Labor Statistics Bul 574:1-69 '32; Uncle Sam's express business. *Ry Age* 93:824-6 D 3 '32

**POSTAL union life insurance company**

Postal Union Life of California launched. *Ins Field (Life ed)* 62:6 O 6 '33

**POSTERS**

Art in air travel sales; illustrations of European air line posters. *Aviation* 32:112-13 Ap '33

Battles sales resistance with big bug models; Nicotine pyrox. B. A. Grimes. *il Ptr Ink* 163:40-1 Je 8 '33

Four English posters for Shell corporation. *il Adv Arts* p21-4 N '33

Funny posters help dealers sell tennis strings. *il Ptr Ink* 164:68-9 Jl 13 '33

Memo to brewers. *Adv & Sell* 21:sup[Adv Arts]16 My '33

Name poster award winners. *il Ptr Ink* 165:72 O 26 '33

1933 issues of National safety news in which posters are illustrated; subject list. *Nat Safety N* 28:40 Jl '33

Outdoor advertising joins the arts. F. W. Kurtz. *il Adv & Sell* 20:sup[Adv Arts] 24-6 Ja '33

Pontiac spring birds are back—with a family. *il Ptr Ink Mo* 26:37 Je '33

Poster advertising. R. Martin. *il Gas Age* 70:696-7; 71:86-7, 196-7, 306-7, 494-5, 654-5; 72:110-11, 282-3, 442-3 D 31 '32, Ja 28, F 25, Mr 25, My 13, Je 24, Jl 29, S 23, N 4 '33

Poster prizes. *il Adv Arts* p16 N '33

Posters and showcards. C. Bennett. 63p pa 6d W. Foulsham & co, ltd, London '32

Posters; reproduction of one hundred best posters of the year. *Adv & Sell* 20:sup[Adv Arts] 26A-26H, 27-53 Ja '33

Posters tie in with newspapers. *il Ptr Ink* 162:52 F 16 '33

Technique of the poster. L. Richmond. *ed.* 207p 77 pls \$8.50 Pitman '33

Three English railroad posters by Austin Cooper. *Adv Arts* p32 S '33

What is modern and distinctive in car card and poster advertising? P. T. Haagen. *il Ptd Salesmanship* 61:162-5+ My '33

Wrigley posters. *il Adv & Sell* 20:sup [Adv Arts] 17-19 Mr '33

**POSTURE**

They sit or stand and are better operators for the change in posture. W. R. Mullee. *il Factory Management* 91:313-14 Ag '33

**POTASH**

Potash. B. L. Johnson. U S Bur Mines Economic Pa 16:1-78 [bibliog p74-8] '33



## POTASH—Continued

## Manufacture

Building a potash industry in New Mexico. C. A. Ward. flow sheet il Chem & Met Eng 40:172-6 Ap '33

Cement industry looks toward byproduct potash recovery; comparison of Multiclone collectors and Cottrell precipitators. P. E. Landolt. il Chem & Met Eng 40:345-9 Jl '33

Economics of potash recovery from wyomingite and alunite. J. R. Thoenen. flow sheets maps U S Bur Mines Rep of Invest 3190: 1-78 '32

Extraction of potash from polyhalite; cyclic production of schönite and its use in the manufacture of potassium sulfate and syn-genite. N. Fragen and E. P. Partridge. bibliog flow diag Ind & Eng Chem 25:1153-60 O '33

Extraction of potash from polyhalite; effect of particle size, sodium chloride concentration, and temperature. J. E. Conley and F. Fraas. bibliog Ind & Eng Chem 25:1002-9 S '33

Leucite as a source of alumina, potash and silica. G. A. Blanc. il diags Inst Chem Eng Trans 9:49-62 '31

Potash to be made from silicate ores; American potash & superphosphate corporation. Oil Paint & Drug Rep 123:15 F 20 '33

Proposed manufacture of monopotassium phosphate at Green River, Wyo.; Lemberg reaction. R. D. Pike. bibliog il diag Ind & Eng Chem 25:256-61 Mr '33

Proposed manufacture of monopotassium phosphate at Green River, Wyo.; manufacture of potash from leach solutions. R. D. Pike. flow sheets Ind & Eng Chem 25:374-8 Ap '33

Security plant recovers potash from kiln gases. Concrete (mill sec) 41:40 F '33

Valuable dust; new process turns a nuisance of the cement industry into profits. Business Week p23 Ag 12 '33

## Germany

Conveying in German potash mines. E. Schäfer. Mech Handling 20:148 My '33

## New Mexico

Building a potash industry in New Mexico. C. A. Ward. flow sheet il Chem & Met Eng 40:172-6 Ap '33

Supplementary notes on core drilling in the salt beds of western Texas and New Mexico; tests 13 to 24. E. P. Hayes. U S Bur Mines Information Circ 6679:1-11 '33

## Palestine

Dead Sea potash; progress by Palestine potash, ltd. since 1929. Chemicals 38:9 O 2 '33

Dead Sea salts industry. il Chem Age (Lond) 29:163 Ag 19 '33

Palestine potash co. is increasing its capacity. Oil Paint & Drug Rep 124:32A Jl 17 '33

## Spain

Les gisements de potasse des Pyrénées. Génie Civil 103:142-3 Ag 5 '33

## Texas

Supplementary notes on core drilling in the salt beds of western Texas and New Mexico; tests 13 to 24. E. P. Hayes. U S Bur Mines Information Circ 6679:1-11 '33

## POTASH industry and trade

## United States

Building a potash industry in New Mexico. C. A. Ward. flow sheet il Chem & Met Eng 40:172-6 Ap '33

Domestic potash production holds well in 1932. Chem & Met Eng 40:38-9 Ja '33

Potash independence; new potash-producing group starts operations; Potash co. of America. Business Week p18 F 22 '33; Correction. p27 Ap 12 '33

Potash industry in 1932. A. T. Coons and O. E. Kiessling. Min Cong J 19:22 My '33

Potash to be made from silicate ores; American potash & superphosphate corporation. Oil Paint & Drug Rep 123:15 F 20 '33

## POTASSIUM

Activity of potassium in dilute potassium amalgams. H. E. Bent and E. S. Gilfillan. bibliog diag Am Chem Soc J 55:3989-4001 O '33

Atomic weight of less volatile potassium prepared by Hevesy. G. P. Baxter and C. M. Alter. Am Chem Soc J 55:3270-1 Ag '33

Fortschritte 1930-1932 auf dem gebiete der freien alkalimetalle. H. Alterthum and R. Rompe. Angew Chemiq 46:545-7 [biblog p547] Ag 26 '33

Ionization and scattering accompanying positive ion impact in gases. C. A. Frische. diags Phys R 43:160-8 F 1 '33

Limitation in currents of positive alkali ions of homogeneous velocities. P. Keck and L. E. Loeb. diags R Sci Instr 4:486-90 S '33

Revision of the atomic weight of potassium. G. P. Baxter and W. M. MacNevin. Am Chem Soc J 55:3185-90 Ag '33

Spectra of potassium and sodium in the mercury arc. D. A. Wells and I. Balinkin. il diags Opt Soc Am J 23:105-8 Mr '33

## Analysis

Conductometric method of titrating potassium. J. H. Boulad. Soc Chem Ind J 52: 2707-2T Ag 25 '33

Determination of potassium by sodium cobaltinitrite. J. E. Schueler and R. P. Thomas. bibliog Ind & Eng Chem Anal ed 5:163-5 My 15 '33

Determination of potassium by the cobaltinitrite method and its application in agricultural analysis. A. H. Lewis and F. B. Marmoy. Soc Chem Ind J 52:177T-82T Je 23 '33

Separation and determination of the alkali metals using perchloric acid; perchloric acid and chloroplatinic acid in the determination of small amounts of potassium in the presence of large amounts of sodium. G. F. Smith and J. L. Gring. Am Chem Soc J 55:3957-61 O '33

## POTASSIUM acetate

Dissociation constants of organic acids; acetic acid. G. H. Jeffery and A. I. Vogel. Chem Soc J p2829-38 D '32

## POTASSIUM alloys

Activity of potassium in dilute potassium amalgams. H. E. Bent and E. S. Gilfillan. bibliog diag Am Chem Soc J 55:3989-4001 O '33

## POTASSIUM amide

Conductance of bases in liquid ammonia. W. W. Hawes. diag Am Chem Soc J 55: 4422-30 N '33

## POTASSIUM bichromate

Action of bichromate in the dyeing of furs. A. Dohogne and G. Rezabeck. Textile Col 55:554- Ag '33

Reduction of chromate solutions by X-rays. H. Fricke and E. R. Browncombe. bibliog Am Chem Soc J 55:2358-62 Je '33

Volumetric determination of cobalt by means of ferrous sulfate and potassium dichromate. L. A. Sarver. Ind & Eng Chem Anal ed 5:275-6 Jl 15 '33

Volumetric determination of uranium with potassium dichromate as reagent and the application of the method to the indirect titration of minute quantities of sodium. I. M. Kolthoff and J. J. Lingane. Am Chem Soc J 55:1871-6 My '33

## POTASSIUM biphthalate

Recommended specifications for analytical reagent chemicals. W. D. Collins and others. Ind & Eng Chem Anal ed 5:291 Jl 15 '33

## POTASSIUM borates

Investigations of the setting of plaster of Paris; sodium and potassium borates and their effects on the setting. C. S. Gibson and R. N. Johnson. Soc Chem Ind J 51: 399T-403T D 16 '32

**POTASSIUM boromalate**

Rotatory dispersion of organic compounds; borotartarates and boromalates. B. Jones. Chem Soc J p951-5 Ag '33

**POTASSIUM borotartrate**

Rotatory dispersion of organic compounds; borotartarates and boromalates. B. Jones. Chem Soc J p951-5 Ag '33

**POTASSIUM bromate**

Volumetric potassium bromate-bromide titration of furfural effect of temperature. O. C. Magistad. Ind & Eng Chem Anal ed 5:253 J1 15 '33

**POTASSIUM bromide**

Thermodynamics of ionized water in potassium and sodium bromide solutions. H. S. Harned and W. J. Hamer. Am Chem Soc J 55:4496-507 N '33

Viscosity of aqueous solutions as a function of the concentration; potassium bromide and potassium chloride. G. Jones and S. K. Talley. Am Chem Soc J 55:4124-5 O '33

**POTASSIUM caseinate**

Stabilization of aqueous dispersions of asphalt. A. W. Hixson and J. M. Fain. bibliog il Ind & Eng Chem 24:1336-43 D '32

**POTASSIUM chlorate**

Amination by ammonolysis; effect of inorganic salts. P. H. Groggins and A. J. Stirton. il plan Ind & Eng Chem 25:169-75 F '33

Rate of reaction between chlorate and sulfur dioxide in acid solution. A. C. Nixon and K. E. Krauskopf. Am Chem Soc J 54:4606-8 D '32

Systematic habit-variation in potassium chlorate crystals produced by dyes; abstract. H. E. Buckley and W. Cocker. Soc Dyers & Col J 49:267 Ag '33

See also

Potassium perchlorate

**POTASSIUM chloride**

Absorption of NaCl, KCl and KI in the far ultraviolet. A. Smith. diags Phys R 44:520-3 O 1 '33

Activity coefficient of potassium chloride in aqueous solutions at 0° from electromotive force and freezing point data. R. P. Smith. Am Chem Soc J 55:3279-82 Ag '33

Activity coefficients of potassium chloride; an application of the extended Debye-Hückel theory to interpretation of freezing point measurements. H. M. Spencer. Am Chem Soc J 54:4490-7 D '32

Corrosion of metals in salt solutions and seawater. G. D. Bengough. il diags Soc Chem Ind J (Chem & Ind) 52:195-210, 228-39, pl 1-4 Mr 10-17 '33

Effect of hydrogen sulphide on the corrosion of iron by salt solutions. S. C. Britton, T. P. Hoar and U. R. Evans. bibliog Iron & Steel Inst J 126:365-73; Discussion. 374-7 no 2 '32

Formation of muscovite in soils, and refinements in specific gravity separations. N. J. Volk. bibliog diag Am J Sci 5th ser 26:114-29 Ag '33

Ionization constant of water and the dissociation of water in potassium chloride solutions from electromotive forces of cells without liquid junction. H. S. Harned and W. J. Hamer. bibliog Am Chem Soc J 55:2194-206 Je '33

Measurement of the conductance of electrolytes; a redetermination of the conductance of standard potassium chloride solutions in absolute units. G. Jones and B. C. Bradshaw. bibliog Am Chem Soc J 55:1780-1800 My '33

Partial molal volumes of cobalt sulfate and of cadmium iodide. R. C. Cantelo and H. E. Phifer. Am Chem Soc J 55:1333-8 Ap '33

Physiological basis of potash salt manuring; abstract. T. Remy and A. Dhein. Soc Chem Ind J 52:sup439 Je 2 '33

Preparation of reststrahlen plates and the reflection power of powders. R. B. Barnes. Phys R 43:31-3 Ja 1 '33

Proposed manufacture of monopotassium phosphate at Green River, Wyo. R. D. Pike. flow sheets Ind & Eng Chem 25:374-8 Ap '33

Study of acetic acid-acetate buffers in potassium chloride and sodium chloride solutions using the quinhydrone electrode. E. F. Chase. Am Chem Soc J 55:3072-5 Ag '33

Viscosity of aqueous solutions as a function of the concentration; potassium bromide and potassium chloride. G. Jones and S. K. Talley. Am Chem Soc J 55:4124-5 O '33

See also

Carnallite

Sylvite

**POTASSIUM chromate**

See also

Potassium bichromate

**POTASSIUM cobaltinitrite**

Washing the potassium cobaltinitrite precipitate. W. E. Thrun. Ind & Eng Chem Anal ed 5:79 Mr 15 '33

**POTASSIUM columbate**

Physicochemical studies of complex acids; tannic acid; reactions of alkali niobate and tantalate solutions with organic acids. H. T. S. Britton and R. A. Robinson. Chem Soc J p419-24 Ap '33

**POTASSIUM compounds**

Output, 1931. Oil Paint & Drug Rep 122:53 D 26 '32

Potash. B. L. Johnson. U S Bur Mines Economic Pa 16:1-78 [bibliog p74-8] '33

See also

Muscovite

Potash

**POTASSIUM cyanide**

Methylene blue in cyanide and carbon monoxide poisoning. H. E. Howe. Textile Col 55:333 My '33

Reactions of halogenated ketones; the action of potassium cyanide on desyl chloride. E. P. Kohler and F. W. Brown. Am Chem Soc J 55:4299-304 O '33

**Analysis**

Accurate determination of cyanide by distillation from sulfuric acid solution. H. A. Pagel and W. Carlson. Am Chem Soc J 54:4487-9 D '32

**POTASSIUM dichromate.** See Potassium bichromate

**POTASSIUM ethylate**

Asymmetric syntheses; the action of optically active nitrates on cyclic ketones. R. L. Shriner and E. A. Parker. Am Chem Soc J 55:766-70 F '33

**POTASSIUM hydroxide**

Electrolytes for hydrogen-oxygen cells. W. S. Kirkpatrick, B. P. Sutherland and C. H. Wright. Electrochem Soc Trans 63 (preprint) 25:251-9 My '33; Abstract. Elec W 102:59 J1 8 '33

Kinetics of reactions in solution; the interaction of potassium hydroxide and the alkyl halides in ethyl alcohol. G. H. Grant and C. N. Hinshelwood. Chem Soc J p258-61 Mr '33

**POTASSIUM iodate**

Volumetric determination of arsenic; potentiometric titrations of reduced arsenic solutions with potassium iodate in sulfuric and hydrochloric acid solutions. I. C. Schoonover and N. H. Furman. Am Chem Soc J 55:3123-30 Ag '33

**POTASSIUM iodide**

Absorption of NaCl, KCl and KI in the far ultraviolet. A. Smith. diags Phys R 44:520-3 O 1 '33

Binary system lead iodide-potassium iodide. H. S. van Klooster and E. I. Stearns. diag Am Chem Soc J 55:4121-3 O '33

Ternary systems; sodium iodide, potassium iodide and water; sodium iodide, sodium iodate and water. A. E. Hill, H. S. Willson and J. A. Bishop. Am Chem Soc J 55:520-6 F '33

**POTASSIUM laurate**

Phase rule equilibria of acid soaps; anhydrous acid potassium laurate. J. W. McBain and M. C. Field. bibliog diag J Phys Chem 37:675-84 Je '33



**POTASSIUM laurate**—*Continued*

Ultrafiltration of soap solutions. J. W. McBain, Y. Kawakami and H. P. Lucas. *Am Chem Soc J* 55:2762-9 J1 '33

**POTASSIUM nitrate**

Further studies on the formation of oxynitrates of lead in molten salts. D. Freeman, K. Laybourn and W. M. Madgin. *Chem Soc J* p648-50 Je '33

Liquidus and solidus studies; the ternary system  $\text{Ba}(\text{NO}_3)_2$ - $\text{Ca}(\text{NO}_3)_2$ - $\text{KNO}_3$ . K. Laybourn and W. M. Madgin. *Chem Soc J* p236-40 Mr '33

Liquidus and solidus studies; the ternary system  $\text{KNO}_3$ - $\text{NH}_4\text{NO}_3$ - $\text{Pb}(\text{NO}_3)_2$ . H. M. Glass, K. Laybourn and W. M. Madgin. *Chem Soc J* p199-202 F '33

Nitre. H. Nicol. *Soc Chem Ind J (Chem & Ind)* 51:971-2 N 25 '32

Purification of crude saltpetre. R. L. Datta. *Soc Chem Ind J (Chem & Ind)* 52:366-7 Ap 28 '33

**POTASSIUM octoate**

Specific heats of aqueous solutions of potassium *n*-octoate at 15°. D. G. Davies. *Chem Soc J* p551-2 My '33

**POTASSIUM oleate**

Conductivity in the three-component system oleic acid-potassium oleate-water. J. W. McBain and A. Stewart. *Chem Soc J* p928-32 Ag '33

Phase-rule equilibria of acid soaps; anhydrous acid potassium oleate. J. W. McBain and A. Stewart. *Chem Soc J* p924-8 Ag '33

**POTASSIUM oxalate**

Complex compounds in Eder's solution. G. H. Cartledge and S. L. Goldheim. *Am Chem Soc J* 55:3583-94 S '33

Recommended specifications for analytical reagent chemicals. W. D. Collins and others. *Ind & Eng Chem Anal ed* 5:291-2 J1 15 '33

System zinc oxalate, potassium oxalate, water, at 25°. V. Metler and W. C. Vosburgh. *Am Chem Soc J* 55:2625-9 J1 '33

**POTASSIUM perchlorate**

Activity coefficients of hydrochloric acid in aqueous solutions containing either sodium or potassium perchlorate. S. J. Bates and J. W. Urmston. *Am Chem Soc J* 55:4068-73 O '33

Activity coefficients of salts in anhydrous acetic acid solutions from solubility measurements. A. W. Scholl, A. W. Hutchison and G. C. Chandlee. *Am Chem Soc J* 55:3081-8 Ag '33

**POTASSIUM permanganate**

Action of potassium permanganate solutions of graded hydrogen ion concentration on cotton cellulose. C. Dorée and A. C. Healey. *Soc Dyers & Col J* 49:290-5 S '33

Asbestos in permanganate titrations. R. W. Curtis and J. Finkelstein. *bibliog Ind & Eng Chem Anal ed* 5:318-19 S 15 '33

Conditions for estimating antimony by the permanganate method: potentiometric titration. W. Pugh. *Chem Soc J* p1-4 Ja '33

Organic iron and color removal facilitated by use of permanganate. T. R. McCrea. *Il Water Works & Sewerage* 80:225-6 Je '33

Removal of organic bound iron from highly colored water. T. R. McCrea. *Am Water Works Assn J* 25:931-46 [bibliog p945-6] J1 '33

Role of gaseous oxygen in the thermal reaction between manganic ion and oxalate ion. H. F. Launer. *Am Chem Soc J* 55:865-74 Mr '33

Studies in refractive index. A. M. Taylor and A. M. Glover. *Il diags Opt Soc Am J* 23:206-15 Je '33

**Analysis**

Study of Bunsen's method; a new apparatus. K. Braddock-Rogers and K. A. Krieger. *bibliog diag Ind & Eng Chem Anal ed* 5:342-4 S 15 '33

**POTASSIUM peroxide**

Die regeneration der atemluft in gas-schutzgeräten durch alkalisuperoxyde. A. Hloch. *Angew Chemie* 46:45-7 Ja 14 '33

**POTASSIUM phosphates**

Preparation of acetate and phosphate buffer solutions of known PH and ionic strength. A. A. Green. *bibliog Am Chem Soc J* 55:2331-6 Je '33

Proposed manufacture of monopotassium phosphate at Green River, Wyo.; Lemberg reaction. R. D. Pike. *bibliog Il diag Ind & Eng Chem* 25:256-61, 374-8 Mr-Apr '33

**POTASSIUM silicates**

*See also*

Leucite

**POTASSIUM sulfate**

Extraction of potash from polyhalite; cyclic production of schönite and its use in the manufacture of potassium sulfate and syngenite. N. Fragen and E. P. Partridge. *bibliog flow diag Ind & Eng Chem* 25:1153-60 O '33

Extraction of potash from polyhalite; effect of particle size, sodium chloride concentration, and temperature. J. E. Conley and F. Fraas. *bibliog Ind & Eng Chem* 25:1002-9 S '33

Physiological basis of potash salt manuring; abstract. T. Remy and A. Dhein. *Soc Chem Ind J* 52:sup439 Je 2 '33

**POTASSIUM sulfite**

Studies in electrolytic oxidation; the formation of dithionate by the electrolytic oxidation of potassium sulphite. S. Glasstone and A. Hickling. *Chem Soc J* p829-36 J1 '33

**POTASSIUM tannate**

Stabilization of aqueous dispersions of asphalt. A. W. Hixson and J. M. Fain. *bibliog Il Ind & Eng Chem* 24:1336-43 D '32

**POTASSIUM tantalate**

Physicochemical studies of complex acids; tantic acid; reactions of alkali niobate and tantalate solutions with organic acids. H. T. S. Britton and R. A. Robinson. *Chem Soc J* p419-24 Ap '33

**POTASSIUM thiocyanate**

Researches on pyrimidines; the molecular rearrangement of 2-ethylmercapto-5-phenyl-6-thiocyanopyrimidine. Yuoh-Fong Chi and Yu-Lin Tien. *Am Chem Soc J* 55:4181-4 O '33

**POTASSIUM triphenylmethyl**

Galvanic cells containing potassium triphenylmethyl. H. E. Bent and E. S. Gilfillan, jr. *Am Chem Soc J* 55:247-9 Ja '33

**POTASSIUM tungsten chloride**

Some reactions of complex chlorides of trivalent and pentavalent tungsten. R. C. Young. *Am Chem Soc J* 54:4515-19 D '32

**POTATO poisoning**

Potato poisoning; abstract. S. G. Willimott. *J Fr Inst* 216:668-9 N '33

**POTATOES**

Dearer potatoes. *Economist* 117:490 S 9 '33

Effects of glucose and fructose on the sucrose content in potato slices. J. M. Nelson and R. Auchincloss. *Am Chem Soc J* 55:3769-72 S '33

Fortschritte der kartoffelchemie. E. Trümpener. *Angew Chemie* 46:551-2 Ag 26 '33

Potato starch. T. C. Taylor and T. J. Schoch. *bibliog diag Am Chem Soc J* 55:4248-55 O '33

Tyrosinase activity of potatoes in relation to blackening in cooking; abstract. L. R. Bryant. *Can Chem & Met* 16:296 D '32

*See also*

Sweet potatoes

**POTENTIAL, Electric**

Activity coefficients of hydrochloric acid in uni-univalent chloride solutions at constant total molality. J. E. Hawkins. *Am Chem Soc J* 54:4480-7 D '32

Activity coefficients of hydroxyl ion in solutions of calcium hydroxide at 30° C. E. P. Flint and L. S. Wells. *U S Bur Stand J Research* 11:163-71 Ag '33

Activity of each component in aqueous solutions of sulfuric acid and acetic acid. F. H. MacDougall and D. R. Blumer. *Am Chem Soc J* 55:2236-49 Je '33

**POTENTIAL, Electric—Continued**

- Amplified ballistic method for measurement of glass electrode electromotive force. A. Hemingway and E. L. Arnow. *diag Ind & Eng Chem Anal* ed 5:278 J1 15 '33
- Application of the double layer theory of Otto Stern. F. Urban and H. L. White. *J Phys Chem* 36:3157-61 D '32
- Correlation of stream potentials and surface conductance. H. L. White, F. Urban and E. A. Van Atta. *J Phys Chem* 36:3152-6 D '32
- Dissociation constant of hypochlorous acid; glass-electrode potential determinations. J. W. Ingham and J. Morrison. *Chem Soc J* p1200-5 S '33
- Effect of glass containers on the electromotive force of Weston normal cells. G. W. Vinal and M. L. Howard. *diag pl U S Bur Stand J Research* 11:255-75 Ag '33
- Effect of service temperature conditions on the electromotive force of unsaturated portable standard cells. J. H. Park. *diag U S Bur Stand J Research* 10:39-98 Ja '33
- Electrochemical behavior of iron in corrosion cells; the cathode. H. L. Lochte. *Electrochem Soc Trans* 64 (preprint 4):41-7 S '33
- Electrokinetics; interfacial energy and the molecular structure of organic compounds;  $Al_2O_3$ -organic liquid interfaces. O. G. Jensen and R. A. Gortner. *diags J Phys Chem* 36:3138-51 D '32
- Electromotive force of voltaic cells—conventions as to sign. R. C. Cantelo. *J Chem Educ* 10:436 J1 '33
- Engineering acoustics; magnetic and electric potentials. *Electrician* 110:329-30 Je 23 '33
- Free energies and heats of formation of tetrahydrate and anhydrous forms of cadmium bromide and their transition temperatures. H. M. Spencer and R. F. Selden. *diags Am Chem Soc J* 54:4504-15 D '32
- Heat of dilution and the partial molal heat capacity of zinc sulfate from the electromotive force of galvanic cells. V. K. La Mer and I. A. Cowperthwaite. *Am Chem Soc J* 55:1004-13 Mr '33
- Influence of acid concentration on the oxidation-reduction potential of mixtures of ferric and ferrous sulphates in sulphuric acid solution. T. J. Glover. *Chem Soc J* p10-15 Ja '33
- Inhibitors in cracked gasoline; correlation of inhibiting action and oxidation-reduction potential. C. D. Lowry, jr. and others. *bibliog il Ind & Eng Chem* 25:804-8 J1 '33
- Ionization constant of water and the dissociation of water in potassium chloride solutions from electromotive forces of cells without liquid junction. H. S. Harned and W. J. Hamer. *bibliog Am Chem Soc J* 55:2194-206 Je '33
- Junction potentials between glass and salts in fusion. H. B. Elkins and G. S. Forbes. *Am Chem Soc J* 55:3250-60 Ag '33
- Measurement of oxidation-reduction potentials in glacial acetic acid solutions. J. B. Conant and B. F. Chow. *Am Chem Soc J* 55:3745-51 S '33
- Measurements on contact potential difference between different faces of copper single crystals. B. A. Rose. *diag Phys R* 44:585-8 O 1 '33
- Partial and integral heats of dilution of cadmium sulfate solutions from electromotive force measurements. V. K. La Mer and W. G. Parks. *Am Chem Soc J* 55:4343-55 N '33
- Potential of free radicals of the triphenylmethyl type in glacial acetic acid solutions. J. B. Conant and B. F. Chow. *Am Chem Soc J* 55:3752-8 S '33
- Reduction potential of vanadic acid to vanadyl ion in hydrochloric acid solutions. C. D. Coryell and D. M. Yost. *Am Chem Soc J* 55:1909-15 My '33
- Seat of the electromotive force in voltaic cells. M. deK. Thompson. *Electrochem Soc Trans* 63 (preprint 12):113-15 My '33
- Thermodynamics of aqueous hydrochloric acid solutions from electromotive force measurements. H. S. Harned and R. W. Ehlers. *bibliog Am Chem Soc J* 55:2179-93 Je '33
- Time-potential curves on iron and steel and their significance. T. P. Hoar and U. R. Evans. *bibliog Iron & Steel Inst J* 126:379-90; Discussion. 391-5 no 2 '32
- Use of triode and tetrode valves for the measurement of small d.c. potential differences. T. P. Hoar. *bibliog diags Wireless Eng* 10:19-25 Ja '33
- See also*
- |                      |                   |
|----------------------|-------------------|
| Critical potentials  | Piezoelectricity  |
| Photoelectric effect | Thermoelectricity |
| Photoelectricity     |                   |
- POTENTIOMETERS**
- Accurate voltage measurements in high resistance circuits. V. K. Ulrich. *diag Radio N* 14:726 Je '33
- Multirange potentiometer and its application to the measurement of small temperature differences. H. B. Brooks and A. W. Spinks. *il diags U S Bur Stand J Research* 9:781-98 D '32
- Standard-cell comparator, a specialized potentiometer. J. Fr Inst 216:394-5 S '33
- Standard-cell comparator, a specialized potentiometer. H. B. Brooks. *diags pls U S Bur Stand J Research* 11:211-31 Ag '33
- Universal direct-reading hydrogen-ion potentiometer. C. Morton and F. L. Best. *il diag Soc Chem Ind J* 52:6T-8T Ja 13 '33
- POTTER, Andrew Abraham, 1882-**
- Portrait. *Mech Eng* 55:35 Ja '33; *Power* 76:347 Mid-D '32
- President, American society of mechanical engineers. *por Steel* 91:16 D 12 '32
- POTTER, Howard Vincent**
- Sketch. *por Soc Chem Ind J* 52:supS25 My 19 '33
- POTTERIES**
- Dust elimination in the pottery industry. E. Schramm. *il Am Cer Soc J* 16:205-13 My '33
- Gas in the pottery industry. A. Mackay. *Gas J (Lond)* 202:277 My 3 '33
- See also*
- Pottery—Manufac-ture
- Employees**
- National collective bargaining in the pottery industry. D. A. McCabe. (Studies in historical and political science new ser no 16) 449p Johns Hopkins press, Baltimore '32
- Wages and hours of labor in the pottery industry, 1925 and 1932. *Monthly Labor R* 36:853-62 Ap '33
- Equipment**
- Opportunities for using indicating and recording control instruments in the rock products industries. J. R. Withrow. *il Rock Prod* 35:20-3 N 5 '32; 36:32-5 F '33
- POTTERY**
- Origin of Chalcidian ware. H. R. W. Smith. *Univ of Calif Pub in Classical Archaeology v 1, no 3:85-149, pl 9-24 '32 (pa \$1.50)*
- See also*
- |                       |               |
|-----------------------|---------------|
| Ceramics              | Kilns         |
| Clay                  | Porcelain     |
| Clay industries       | Potteries     |
| Clay products         | Sanitary ware |
| Enamel and enamel-ing | Stoneware     |
| Glazes                | Terra cotta   |
|                       | Tiles         |
- Bibliography**
- Ceramic abstracts. Published in monthly numbers of American ceramic society journal
- Design**
- Progress report on research in tableware design. A. E. Baggs. *Am Cer Soc Bul* 12:227-8 J1 '33
- Manufacture**
- Difficulties in firing decorated whiteware. J. T. Robson. *il Am Cer Soc J* 16:345-55 Ag '33
- Effects of particle size of a potter's flint and a feldspar in whiteware. R. F. Geller, D. N. Evans and A. S. Creamer. *U S Bur Stand J Research* 11:327-40 S '33
- Effects of varying particle size in whiteware. *J Fr Inst* 215:740-1 Je '33



**POTTERY—Manufacture—Continued**

- Gas aids the potter. J. B. Nealey. *il Sci Am* 143:160-1 Mr '33  
 Rapid firing of semiporcelain. J. T. Robson. *Am Cer Soc J* 16:296-8 Jl '33  
 Use of auxiliary fluxes in dinnerware bodies. G. A. Loomis. *Am Cer Soc J* 16:356-9 Ag '33

**POTTERY, Aztec**

- Influence of technique on the decorative style in the domestic pottery of Culhuacan. A. Brenner. 95p [bibliog p95] \$2 Columbia univ. press, New York '31

**POTTERY, Greek**

- Chemistry and Grecian archaeology. W. Foster. *il J Chem Educ* 10:270-7 My '33

**POUCH, William H. 1875-**

- President, Concrete reinforcing steel institute. *por Steel* 92:19 Je 19 '33

**POULTRY**

- Leather waste as chicken feed. *Sci Am* 148: 120 F '33

**Diseases and pests**

- Inheritance of resistance to fowl paralysis (neurolymphomatosis gallinarum). J. Biely and others. *Science* 78:42 Jl 14 '33  
 Ruptured yolk in hens and pullets. H. A. Hoffman. *Science* 76:489-90 N 25 '32  
 Scurvy-like disease in chicks. W. F. Holst and E. R. Halbrook. *Science* 77:354 Ap 7 '33

**Statistics**

- Poultry, 1932. *Economist* 116:sup38 F 18 '33  
 Some trend possibilities in poultry and eggs. *Food Ind* 5:54-5 F '33

**POULTRY, Effect of ultra-violet rays on**

- Six thousand white leghorns bask under sun-lamps. P. C. Schreiner and L. D. Black. *Illum Eng Soc Trans* 28:96-7 F '33  
 Vitamin D potency of egg yolk from irradiated hens. G. H. Maughan and E. Maughan. *Science* 77:198 F 17 '33

**POULTRY brooders, Electric**

- Remarkable results from new-type chick brooders. J. C. Scott. *il Elec West* 69:238-9 D '32

**POULTRY houses****Electric equipment**

- Poultry house wiring amortized in one season. *diags Elec W* 102:435 S 30 '33

**POVERTY****See also**

- Poor  
 Poor relief

**POWDER, Smokeless. See Smokeless powder****POWDERED metals. See Metals, Powdered****POWDERS**

- Experimental determination of void content of close-packed mineral powders; effect of particles size, shape, and texture. R. N. Traxler, L. A. H. Baum and C. U. Pittman. *bibliog ind & Eng Chem Anal ed* 5:165-8 My 15 '33  
 Infrared radiations from small particles. A. H. Pfund. *diag Opt Soc Am J* 23:270-3 Ag '33  
 Die korngroßensatzung als kenngröße staubförmigen arbeitsgutes. H. W. Gonell. *bibliog il diags Chemische Fabrik* 6:227-33 My 31 '33  
 Measurement of particle size with an accurate air analyzer: the fineness and particle size distribution of Portland cement. P. S. Roller. *il diags Am Soc T M Proc* 32 pt 2:607-25 '32; Excerpts. *Concrete (mill sec)* 40:42-4 S '32; Discussion. *Am Soc T M Proc* 32 pt 2:626-8 '32  
 Optical properties of metallic and crystalline powders. A. H. Pfund. *diag Opt Soc Am J* 23:375-8 O '33  
 Preparation of reststrahlen plates and the reflection power of powders. R. B. Barnes. *Phys R* 43:31-3 Ja 1 '33  
 Die prüfung von pigmenten und feinkörnigen stoffen auf teilchenfeinheit nach mechanischen und optischen verfahren. F. Schmid. *il Chemische Fabrik* 6:349-52 Ag 23 '33

- Rapid method of determining the specific gravity of pigments and powders. E. J. Dunn, Jr. *il Am Soc T M Proc* 32 pt 2:659-62; Discussion. 663-5 '32

**Schüttgewicht, rüttelgewicht und sedimentvolumen als kenngrößen feinkörnigen arbeitsgutes. H. W. Gonell. il diags Chemische Fabrik 6:77-81 F 15 '33**

- Über mahlung und mahlmaschinen. P. Rosin and E. Rammier. *bibliog Chemische Fabrik* 6:395-9, 403-5 S 20-27 '33

**See also**

- |                  |             |
|------------------|-------------|
| Coal, Pulverized | Flour       |
| Coke, Pulverized | Particles   |
| Dust             | Pulverizers |

**POWELL, Harford Willing Hare, Jr.**

- Gallery; burly wood pigeon. *Adv & Sell* 21: 22-3+ My 11 '33

**POWER (mechanics)**

- Agitator power consumption. *Power Pl Eng* 37:173-4 Ap '33

- Current research in power and allied fields; compilation of work completed during 1931, 1932 and 1933, together with work still in progress. *Power* 77:249-68 My '33

- Description et essais en usine d'un extracteur d'air, système Râteau devant être utilisé dans les appareils Claude-Boucherot. C. Monteil. *diags Soc Ing Civils Bul* 85:961-90, pl 210 Jl '32; Abstract. *Génie Civil* 101: 556-8 D 3 '32

- Development of industry and engineering during the century. A. P. M. Fleming. *Elec Eng* 52:666-71 O '33

- Dual drive improves steam-plant economy. E. C. Dieffenbach. *Power* 77:246 My '33

- Economic consequences of power production. F. Henderson. 220p Day '33

- Elements of power generation. A. M. Greene, Jr. 314p \$3.25 Wiley '33

- Energy for the future. A. B. Lamb. *Science* 78:sup6-7 Ag 11 '33

- Farms consume 20 billion horsepower hours a year. G. A. Krieger. *Oil & Gas J* 31:23 Mr 23 '33

- Industrial and engineering achievements. A. P. M. Fleming. *il Civil Eng* 3:423-5 Ag '33

- Kraftbedarf und ungleichförmigkeitsgrad beim webstuhl. F. Oertel. *diags Zeit Ver Deutsch Ing* 77:437-41 Ap 29 '33

- Perpetual motion—almost. *diag Sci Am* 148: 100 F '33

- Thermodynamic motor draws power from atmosphere; Cochrane vacuum vapor power plant. *il diag Power* 76:352 Mid-D '32

- What the machine has done to us. W. S. Giele. *Iron Age* 131:470-5+ Mr 23 '33

- World power resources. S. Kloumann. *Electrician* 111:258-60 S 1 '33

**See also**

- |                             |                             |
|-----------------------------|-----------------------------|
| Coal mines and mining—Power | Paper mills—Power           |
| Compressed air              | Petroleum engineering—Power |
| Dynamometer                 | Power cost                  |
| Electric power              | Power factor                |
| Force and energy            | Power plants                |
| Hydroelectric power         | Power transmission          |
| Load factor                 | Steam                       |
| Machinery                   | Steam, Natural              |
| Metallurgical plants—Power  | Steel works—Power           |
| Mining engineering—Power    | Textile mills—Power         |
|                             | Tidal power                 |
|                             | Water power                 |

**Statistics**

- Half a century of power. A. E. Silver. *Elec W* 101:289 Mr 4 '33

- Power and employment. W. N. Polakov. *Power* 77:121 Mr '33

- 20,000,000 horsepower. *Manuf Rec* 101:20-1 D '32

**POWER contracts**

- Adjusting energy takings under firm-power contract. *Elec W* 102:366-7 S 16 '33

- Minimum charge clause should be specific. L. Childs. *Elec W* 101:328 Je 24 '33

**POWER cost**

- Buying electricity is an art. J. M. Acheson. *Power* 77:76-7 F '33

- Combining group and unit drives for greatest economy. V. A. Hanson. *Chem & Met Eng* 39:612-13 N '32

**POWER cost—Continued**

- Cooperation between private plants and the utilities. O. H. Henschel. *Power Pl Eng* 36: 170-2, 255-7, 344-5, 572-4 F 15, Mr 15, Ap 15, Jl 15 '32; Discussion. W. W. Gaylord. 37: 143-4 Mr '33
- Costs down 2/3, kw.-hr. load up 1/3—the record at Deshler-Wallick. *Power* 77:230-1 My '33
- Economical power for large buildings. L. E. Habben. *Power Pl Eng* 37:307 Jl '33
- Economy of elevated storage strikingly shown. D. H. Maxwell. *il Water Works & Sewerage* 80:63-5 F '33
- Effect of power-factor correction on demand charges. B. Faxon. *Elec W* 101:833 Je 24 '33
- Electric melting gives superior iron; summary of survey. D. T. Waby. *il Elec W* 101:100-3 Ja 21 '33
- Electrical rehabilitation pays us \$15,000; General baking company purchases power. J. G. Coffin. *il Factory Management* 91:121-3 Ap '33
- Getting the most from your power rates. M. G. Munce. *Refrig W* 68:19-22 Mr '33
- How to get at the hidden gold in power drives. R. W. Drake. *il Factory Management* 91:453-60 N '33
- Individual and group drives; investment and operating cost data. R. Drake. *il Maintenance Eng* 90:317-21, 387-91 Ag, O '32; Abstract. *Mech Eng* 55:187-9 Mr '33
- Industrial plant load study points to savings. P. A. Borden. *diags Elec W* 100:730-4 N 26 '32
- Investigation of rate schedules points way to lower costs for purchased power. M. C. Bishop. *il Textile World* 83:1100-1 Je '33
- Keeping power bills down in industrial plants. E. E. Thomas. *Gen Elec R* 36:426-30 O '33
- Lower power costs; new factors enter picture of power generation. H. R. Carr. *Coal Age* 38:51-3 F '33
- National grain yeast corp. reequips for profit and quality. H. L. King. *il Food Ind* 5:134-7 Ap '33
- Power bill lowered \$60,000; oil, steam and purchased power combined for economy; Pau corporation, Chicago. E. E. Ashley. *il diag Power* 76:298-300 D '32
- Power costs affected by new elements. J. J. McElroy. *il Textile World* 83:52-4 Ja '33
- Power economy in the factory; a book for cost and works accountants. J. C. Todman. 215p \$2.25 Pitman '32
- Power survey earns \$2,000. A. K. Wolfe. *il diags Factory Management* 91:415-17 O '33
- Problem of power supply for resistance welding. W. C. Hutchins. *Elec W* 102:50 Jl 8 '33
- Put power lines on a diet—and keep little peaks from growing into big ones. H. C. Jenks. *il diag Factory Management* 91:83-90 Mr '33
- Reducing peak loads cuts power costs. E. T. Moore. *il Power* 77:476-8 S '33
- Scouting flaws in proposals for payment out of savings. D. W. Taylor. *Elec W* 100:788-91 D 10 '32
- Steam turbine plants in the paper industry. S. M. Green. *Power Tr J* 96:40-2 Mr 2 '33
- Stop no-load transformer losses. R. Stroppel. *Factory Management* 91:355-6 S '33
- Waste elimination is important factor in lowering power costs. R. Reddie. *il Textile World* 83:752 Ap '33
- See also*
- |                                     |                       |
|-------------------------------------|-----------------------|
| Electric plants (central stations)— | Hydroelectric plants— |
| Costs                               | Costs                 |
| Electric rates                      | Power plants—Costs    |
- Accounting**
- Prorating purchased power costs. C. W. Evans. *Factory Management* 91:223-5 Je '33
- See also*
- |                       |                  |
|-----------------------|------------------|
| Hydroelectric plants— | Steam plants—Ac- |
| Accounting            | counting         |
| Power plants—Ac-      | counting         |

**POWER factor**

- Balancing resistance-welding machine loads on shop lines. W. C. Hutchins. *diag Factory Management* 91:114-16 Mr '33
- Commercial power-factor measurements. R. M. Rowell. *diags Gen Elec R* 36:493-500 N '33
- Economical control of the speed and power factor of three-phase induction motors. T. F. Wall. *diags Engineering* 134:636-9 N 25 '32
- Effect of power-factor correction on demand charges. B. Faxon. *Elec W* 101:833 Je 24 '33
- Electric arc and arc resistance furnaces and their power factor. A. Wejnarth. *diags Electrochem Soc Trans* 63 (preprint 34):355-89 My '33
- Electric power famine approaches! F. Juraschek. *il Iron Age* 132:18-21 O 12 '33
- Higher power factor, more generator capacity. J. E. Housley. *Factory Management* 91:325-6 Ag '33
- Industrial plant load study points to savings. P. A. Borden. *diags Elec W* 100:730-4 N 26 '32
- Influence of mercury-arc rectifiers upon the power factor of the supply system. H. Risik. *Inst E E J* 72:435-55 [bibliog p450-1] My '33
- New high-voltage bridge measures low power factors. *il Elec W* 101:121 Ja 28 '33
- New measure of power factor accurate, simple and sound. A. E. Knowlton. *diags Elec W* 101:130-2 Ja 28 '33
- Plant power factor surveys made with one instrument. *Elec W* 101:139-40 Ja 28 '33
- Plymouth motor car corporation collects dividends from power-factor improvement. *Elec W* 101:330 Mr 11 '33
- Power factor and the consumer. E. H. W. Banner. *Elec R (Lond)* 112:866 Je 16 '33
- Power factor correction motors. *il diag Elec R (Lond)* 112:154 F 3 '33
- Power-factor correction saved cost in 18 months; New England pressed steel company, Natick, Mass. *Elec W* 100:781 D 10 '32
- Power factor correction; the B.T.-H. shunt phase advancer in a brick works. *il diag Elec R (Lond)* 111:920 D 23 '32
- Power-factor correction; the economic value of condensers. P. R. Coursey. *il Elec R (Lond)* 112:867 Je 16 '33
- Power, power factor, and reactive volt-amperes. C. L. Fortescue. *diags Elec Eng* 52: 319-23 My '33
- Power survey earns \$2,000. A. K. Wolfe. *il diags Factory Management* 91:415-17 '33
- This thing called power factor. *diags Power Pl Eng* 36:718-22, 765-7, 816-20; 37:87-9, 138-40, 178-81, 298-300 O-D '32, F-Ap, Jl '33
- Three-phase power factor. G. W. Stubbings. *Elec R (Lond)* 112:10 Ja 6 '33
- POWER factor, Dielectric**
- Bridge and condensers for the precision measurement of dielectric constant and power factor at frequencies below 10<sup>6</sup> cycles per second; abstract. A. V. Astin. *Elec Eng* 52:104 F '33
- Effect of temperature and frequency on the dielectric constant, power factor, and conductivity of compounds of purified rubber and sulphur. A. H. Scott, A. T. McPherson and H. L. Curtis. *diags U S Bur Stand J Research* 11:173-209 Ag '33
- Further studies and tests on the problems involved in high precision power factor measurements of small oil samples; abstract. J. C. Balsbaugh. *Elec Eng* 52:103-4 F '33
- Ionisation in cable dielectrics. P. Dunsheath. *Inst E E J* 73:321-49 [bibliog p348-9] O '33; Abstracts. *Electrician* 110:325-7 Mr 10 '33; *Elec R (Lond)* 112:344 Mr 10 '33; Discussion. *Inst E E J* 73:349-68 O '33
- Measurement of the power factor and capacitance of a condenser by comparison with a mutual inductance. A. W. Smith. *diags R Sci Instr* 4:280-4 My '33
- New tests disclose causes of cable deterioration; abstracts. K. S. Wyatt. *E. W. Spring and C. H. Fellows. il Elec W* 102:22-6 Jl 1 '33; *Elec Eng* 52:450-4 Jl '33



**POWER factor, Dielectric—Continued**

- Portable power factor apparatus for studying the deterioration of insulation; abstract. F. C. Doble. *Elec Eng* 52:104 F '33  
 Radio-frequency bridge for impedance and power-factor measurements. D. W. Dye and T. I. Jones. *bibliog diagrs Inst E E J* 72:169-81 F '33

**POWER plants**

- Capital crime. R. J. Gaudy. *Elec W* 102:177-8 Ag 5 '33  
 Demountable walls for power plant construction. R. B. Horner. *il Power Pl Eng* 37:172 Ap '33  
 Electrolytic copper refinery; Canadian copper refiners, Ltd. at Montreal East. *il diag Engineer* 156:153-5 Ag 18 '33  
 Forstmann Woolen adds power generation, scraps old boiler plants. F. L. Bradley. *il Power* 77:559-61 N '33  
 Government's public works program; views. *Arch Forum* 59:214-15 S '33  
 Investigation of the mechanical breakdown of prime movers and boiler plant. L. W. Schuster. *il Engineering* 135:488-9, 554-6, 661-4 My 5, 19, Je 16 '33; Abstract. *Engineer* 155:459-62 My 5 '33; Discussion. *Engineering* 155:496-7, 552-4 My 5, 26 '33; *Engineer* 155:449, 453-4 My 5 '33  
 Lower power costs; new factors enter picture of power generation. H. R. Carr. *Coal Age* 38:51-3 F '33  
 Mercury cycle saving estimated at 31 per cent; General Electric plant, Schenectady. A. R. Smith. *Elec W* 100:713 N 26 '32; Same. *Mech Eng* 55:127 F '33  
 New hydraulic power station at Leith. *il diagrs plan Engineer* 154:616, 620-2 D 16 '32  
 Power development continues. *il Manuf Rec* 101:28-9 D '32  
 Power; its progress and use in Canada from 1903 to 1933. A. J. F. Montabone. *il Pulp & Pa of Can (Convention no)* 34:86-8 [F] '33  
 Power-plant practice and marine power. R. C. Roe. *Marine Eng* 38:58-9 F '33; Abstracts. *Marine R* 62:25 D '32; *Engineering* 135:111-12 Ja 27 '33; Discussion. *Marine Eng* 38:65-6 F '33  
 Power's maintenance manual. 270p *Power (periodical)* McGraw-Hill '32  
 Scandinavian sectional meeting of World power conference. *Engineering* 136:478 O 27 '33  
 Steam and power supply; planning steam and power projects for industrial plants. V. E. Alden. *Mech Eng* 55:667-72 N '33  
 Surplus power in the pulp and paper industry. A. G. Christie. *Paper Tr J* 96:34-6 Mr 2 '33; Same cond. *Power Pl Eng* 37:203-4 My '33

**See also**

- |                                  |                       |
|----------------------------------|-----------------------|
| Boiler plants                    | Hydroelectric plants  |
| Coal handling                    | Paper mills—Power     |
| Coal mines and min-<br>ing—Power | Piping (power plants) |
| Electric plants                  | Steam plants          |
|                                  | Textile mills—Power   |

**Accounting**

- Fuel savings vs. fixed charges. G. R. Hahn. *Power Pl Eng* 36:828 D '32; Discussion. J. O. G. Gibbons. 37:69 F '33  
 Inventory records as a means of segregating costs. O. H. Henschel. *Power Pl Eng* 37:471-3 N '33

**Combination plants**

- Costs down 2/3, kw.-hr. load up 1/3—the record at Deshler-Wallick. *Power* 77:230-1 My '33  
 Power bill lowered \$60,000; oil, steam and purchased power combined for economy; Pau corporation, Chicago. E. E. Ashley. *il diag Power* 76:298-300 D '32  
 Steam and power supply; planning steam and power projects for industrial plants. V. E. Alden. *Mech Eng* 55:671-2 N '33

**Construction**

- Power-house foundations and circulating-water tunnels at the Ford motor company's works at Dagenham. R. V. Allin and M. Nachshen. *Engineering* 135:169-70 F 10 '33

**Costs**

- Ash handling economy. R. Trautschold. *Power Pl Eng* 37:468 N '33  
 Exposing omissions in savings contracts for Diesels. D. Taylor. *Elec W* 101:476-9 Ap 15 '33  
 Good housekeeping and commonsense operating methods halve fuel bill; Scribner press building. *il Power* 77:178-9 Ap '33  
 Keeping down industrial power costs; Security mutual insurance co. Binghamton, N. Y. *il plan Power Pl Eng* 37:433-4 O '33  
 Power plant analysis for Cincinnati general hospital. A. A. Fette. *il Power Pl Eng* 37:134-7 Mr '33  
 Significance of efficiency in power plant economics. T. Maynz. *Power Pl Eng* 36:804-5 D '32

**Diesel engine auxiliaries**

- Power bill lowered \$60,000; oil, steam and purchased power combined for economy; Pau corporation, Chicago. E. E. Ashley. *il diag Power* 76:298-300 D '32  
 Steam-Diesel possibilities in the Boston post office; with cost data. E. J. Kates. *Power* 77:122-3 Mr '33

**Diesel engine plants**

- Diesel-driven generating equipment may soon be available for much smaller buildings. *il Arch Forum* 58:439-40 My '33  
 Diesel-electric power plant for stone quarrying and crushing; Hudson River stone corp., Cold Spring, N.Y. O. J. de Gaetano. *il diagrs Rock Prod* 36:46-9 Ag '33  
 Diesel-fired boilers; types, sizes, uses. *il diagrs Power* 77:534-6 O '33  
 Diesel plant operating and accessory equipment; directory. *Power* 77:331, 336 sec 2 Je '33; Correction. 77:351 Jl '33  
 Double-acting dollars for Diesel fuel. *il diagrs Power* 77:285-7, 419-21 Je, Ag '33  
 Electric power famine approaches; analyzing Diesel-electric possibilities in comparison with use of utility power. F. Juraschek. *il Iron Age* 132:14-17 O 19 '33  
 Exposing omissions in savings contracts for Diesels. D. Taylor. *Elec W* 101:476-9 Ap 15 '33  
 Great Lakes pipe line powered by Diesels. *flowsheet il map Power Pl Eng* 37:94-6 F '33  
 High speed Diesel engine as a prime mover for pumping stations. E. Earl. *diagrs N E Water Works Assn J* 47:61-72; Discussion. A. L. Shaw. 72-3 Mr '33; Abstract. *Pub Works* 64:43-4 Jl '33  
 Isolated Diesel plant; chrome ore mine of the Mutual chemical company in New Caledonia. *il map Eng & Min J* 134:278-80 Jl '33; Abstract. *Power* 77:461 S '33  
 Low power costs from Diesel-electric plant; Hudson River stone corporation. O. J. de Gaetano. *il diag Eng & Min J* 134:11-13 Ja '33; Excerpt. *Power* 77:96 F '33  
 Oil engine power costs. *Power Pl Eng* 37:481 N '33  
 Power portent; Chicago pneumatic tool company installs automatic Diesel plant at No. 1 Park Avenue building, New York. *Business Week* p7 F 1 '33  
 Private plant in London; Diesels replace steam at the Prudential headquarters. *il Elec R (Lond)* 112:479, 486 Ap 7 '33  
 Typical Diesel installations since January 1, 1932; tabulation. E. J. Tangerman, comp. *Power* 77:332-5 sec 2 Je '33

**See also**

- Electric plants (central stations)—  
 Diesel engine stations

**Efficiency**

- Operating results at the Seaboard plant; abstract. M. W. Booth. *Mech Eng* 55:129 F '33  
 Power decreased 2 per cent, coal reduced 15 per cent; Hotel St George, Brooklyn, N.Y. *il Power* 77:562-4 N '33  
 Significance of efficiency in power plant economics. T. Maynz. *Power Pl Eng* 36:804-5 D '32  
 \$39,000 a year saved on coal and electricity. N. A. Curtiss. *il Food Ind* 5:343-5-+ S '33

**POWER plants—Continued****Electric equipment**

Progress in the production and transmission of heat and power; distribution of electricity. *il* Paper Tr J 96:101- F 16 '33

**Employees**

Gang bonus system cuts fuel costs in half; Denver tramway co. power plant. L. S. Flint. *Power Pl Eng* 37:383-4 S '33

**Equipment**

Blandin paper modernizes power plant to meet price cut. A. J. Kull. *il* Power 77:414-15 Ag '33

Electric eyes watch over the power plant. A. H. Lamb. *diags Power Pl Eng* 37:295-7 JI '33

Electricity on a Ceylon tea estate. H. Crownshaw. *il* Elec R (Lond) 113:279 S 1 '33

Famine in the land of plenty; power plant problems in office buildings. L. E. Habben. *il* Power 77:582-4 N '33

Gage board design for power stations. G. A. Gaffert. *plan Power Pl Eng* 37:418-20 O '33

Handling coal in the moderate-sized power plant. *il* Manuf Rec 102:24 Ap '33

How to get at the hidden gold in power drives. R. W. Drake. *il* Factory Management 91:458-60 N '33

It pays to modernize industrial power plants. N. D. Gove. *Power Pl Eng* 37:393 S '33

Low-cost coal-handling system for small plant; University of North Carolina power plant. I. W. Summerlin. *diag Power* 77:240-1 My '33

Macy's installs a 1,000-kw. mixed-pressure turbine. *il* Power 77:225-7 My '33

Modernization of the River Rouge power plant of the Ford motor company. T. Harvey. *il* diag Gen Elec R 36:262-8 Je '33

Modernizes power plant; Viscose company, Parkersburg, W. Va. *il* Manuf Rec 102:18 Ap '33

New deal in industrial power supply; Jacob E. Decker & sons. flow sheet *il* diags plan Power Pl Eng 37:282-8 JI '33

New paper mill power plant; Dartford paper mills. Kent. *il* Engineer 156:110, 114 Ag 4 '33; Electrician 111:170-1 Ag 11 '33; Elec R (Lond) 113:185 Ag 11 '33

New plant at Longview hospital saves 42,000 dollars annually. *il* diags plan Power Pl Eng 37:456-60 N '33

Power builds instruments; instruments guide power; Taylor instrument companies' power plant. *il* Power 77:292-3 Je '33

Power for printing works; the new installation for L'illustration. *il* Electrician 111:197 Ag 18 '33

Power for the new city hospital at Springfield, Ohio. G. B. Zeller. *il* plan Power Pl Eng 37:342-5 Ag '33

Power plants play larger part in new modernization plans. *Coal Age* 38:61-2 F '33

Progress in the production and transmission of heat and power. *il* diags Paper Tr J 96:59-61- F 16 '33

Purdue's new power plant extension reduces cost of operation. L. D. McCoy. *il* diags Power Pl Eng 37:370-5 S '33

Recent advances in the combustion field. J. G. Worker. *il* diag Blast F & Steel Pl 21:46-8 Ja '33

Reliability—keynote of hospital power plant; New York hospital medical center. W. H. Fisher. *il* Power 77:398-401 Ag '33

Review of power and mechanical equipment. *il* diags Power 76:356-83 Mid-D '32

Steam, power and hot water for the Hill school, Pottstown, Pa. R. S. Fitch. *il* Power 77:300-1 Je '33

Step-by-step modernization of a six-year-old plant; Viscose company. R. S. Fitch. *il* Power 77:157 Mr '33

Three 30,000-kw. electric-steam generators in paper mill; Ontario paper company. V. R. Young. *il* Elec W 102:317-18 S 2 '33

Thrustor applications in the power plant. R. F. Emerson. *il* Power Pl Eng 37:85-6 F '33

Variable speed transmission economies. J. M. Jewell. *il* Power Pl Eng 37:78-9 F '33

Varied exhibits at tenth New York power show. *il* Power Pl Eng 36:48-52 Ja '33

Year's power plant development in review. *il* diags Power Pl Eng 36:5-43 Ja '33

**See also**

Air preheaters  
Coal handling

Condensers (steam)  
Piping (power plants)

**Finance**

New deal in industrial power supply; Jacob E. Decker & sons. flow sheet *il* diags plan Power Pl Eng 37:282-8 JI '33

**Gas engine plants**

More gas engines in use. S. A. Lauver. *il* Manuf Rec 101:40 D '32

**Maintenance and repair**

Include in \$3,300,000 public works program the modernization of mechanical equipment in existing properties. Heating-Piping 5:450-4 S '33

Lubrication as a means of cost reduction. R. Trautschold. *Power Pl Eng* 37:83-4 F '33

**Management**

Inventory records as a means of segregating costs. O. H. Henschel. *Power Pl Eng* 37:471-3 N '33

Keeping power bills down in industrial plants. E. E. Thomas. *Gen Elec R* 36:426-30 O '33

This 200-kw. steam plant cut costs \$8,000 per year; St. James bldg, New York city. *Power* 77:236-7 My '33

**Models**

Power plant models pay dividends. *il* Power 77:405 Ag '33

**Records**

Inventory records as a means of segregating costs. O. H. Henschel. *Power Pl Eng* 37:471-3 N '33

**Statistics**

Diversification factors in industry. P. F. Rogers. *Power Pl Eng* 37:184 Ap '33

Steam plants placed in operation or under construction during 1932; tabulation. *Power* 77:4-5 Ja '33

**POWER show.** See National exposition of power and mechanical engineering

**POWER transmission**

Automatic load-adjusting power-transmission clutch, made by the British Rema mfg. co. *diags Engineering* 135:88 Ja 20 '33

Brooke marine motors, ltd. new vee drive. *il* Engineer 156:43 JI 14 '33

Check drives when modernizing. W. A. Meyer. *il* Heating-Piping 5:206-7 Ap '33

Choosing the right drive. W. Stanier. *il* Iron Age 132:12-18 JI 20; 10-13 Ag 17; 8-12 S 21; 18-22 O 19; 22-5 N 16 '33

Designing enclosed gear drives for successful lubrication. A. Kuhns. *il* diags Mach 40:33-6 S '33

Energy. *Electrician* 109:613 N 11 '32

For given loads, what drives? H. M. French. *il* Factory Management 91:234-6 Je '33

Friction gear drive that prevents overload. F. W. Curtis. *diags Mach* 39:518-19 Ap '33

Geared motor-reducer. P. W. Arnold. *il* diags Factory Management 91:100-2 Mr '33

Die gröösse und genauigkeit der von koppelkurven ableitbaren stillstände. K. Rau and W. Knyrim. *diags Zeit Ver Deutsch Ing* 77:196-8 F 25 '33

Handling plant transmission. *il* diags Mech Handling 19:351-3; 20:34-6, 202-5, 233-4 O '32, Ja, Je-JI '33

How to get at the hidden gold in power drives. R. W. Drake. *il* Factory Management 91:458-60 N '33

Intermittent drive mechanism. L. Kasper. *diag Mach* 39:643 Je '33

Magnetic clutch for power transmission. *il* diag Engineering 135:660 Je 16 '33

Mechanical transmissions. *il* diags Power 76:375-7 Mid-D '32

Modern trends apparent in process equipment. *il* Chem & Met Eng 40:270-1 My '33



**POWER transmission—Continued**

- Modernizes fan and compressor drives; Indianapolis automobile body plant. *il Heating-Piping* 5:95-6 F '33
- Nouveau système de transmission électrique de l'énergie mécanique, notamment pour la commande des hélices marines. *Mitzlaff, diag Génie Civil* 103:142 Ag 5 '33
- Principal developments in mechanical power transmission equipment. *il Factory Management* 91:346-9 S '33
- Rechnerische und messtechnische untersuchung über den lauf des mechanischen webstuhls. E. Honegger, *diags Zeit Ver Deutsch Ing* 77:585-90 Je 3 '33
- Salerni transmission; combines a fluid fly-wheel with a continuous mesh transmission. *diag Automotive Ind* 68:70 Ja 21 '33
- Synchronized mechanical motion without mechanical connection. C. W. Drake. *il diags Maintenance Eng* 90:441-3 D '32
- Variable speed transmission economies. J. M. Jewell. *il Power Pl Eng* 37:78-9 F '33
- Verstellbare koppelkurventriebe für hubbewegungen mit einem stillstand. K. Rauh and O. Edler. *diags Zeit Ver Deutsch Ing* 77:478-80 My 6 '33
- What modern group drive is. V. A. Hanson. *il diags Factory Management* 91:397-9 O '33
- Wirtschaftlichkeit der in resonanz betriebenen kraft- und arbeitsmaschinen. H. Schieferstein. *il diags Zeit Ver Deutsch Ing* 77:69-73 Ja 21 '33
- Das Zadowgetriebe. F. Witte and O. Stamm. *diags Zeit Ver Deutsch Ing* 77:499-502 My 13 '33; *Abstract. Génie Civil* 103:579 D 9 '33

*See also*

- |                  |                     |
|------------------|---------------------|
| Bearings         | Electric transmis-  |
| Belting          | sion                |
| Chain gear       | Gearing             |
| Clutches         | Hydraulic transmis- |
| Compressed air   | sion                |
| Couplings        | Machinery           |
| Electric driving | Pulleys             |
| Electric lines   | Selsyn apparatus    |
|                  | Speed variation     |

**POWER waste**

- How and where to cut down the power bill. C. N. Witherow. *Brick & Clay Rec* 83:126-7+ O '33

**POZZUOLANA**

- Effect of carbon dioxide on the strength of some building materials. G. E. Bessey. *Soc Chem Ind J* 52:288T-93T S 15 '33
- Progress of the pozzuolannic reaction; abstract. R. Feret. *Rock Prod* 36:40 My '33
- Puzzolan admixture to cement aids resistance of concrete. E. W. Lazell. *Concrete (mill sec)* 41:30 Ap '33
- Reaction between diatomaceous silica and hydrated lime at elevated temperatures. *J Fr Inst* 215:193-4 F '33

**PRASEODYMIUM**

- Crystalline fields of Pr, Nd and Yb from paramagnetic susceptibilities. W. G. Penney. *Phys R* 43:485-90 Mr 15 '33

**PRECIOUS metals**

- Buying and selling of old gold and other precious metals. C. M. Hoke. *Metal Ind* 31:55-7 F '33
- Nonferrous physical metallurgy; review of literature shows wide variety of work. E. M. Wise. *Min & Met* 14:36 Ja '33
- Precious metal salts and alloys. *Can Chem & Met* 17:153 Jl '33

*See also*

- |          |                 |
|----------|-----------------|
| Gold     | Platinum metals |
| Platinum | Silver          |

**PRECIOUS stones**

- Amateur rides a new hobby. A. G. Ingalls. *il Sci Am* 148:89 F '33

*See also*

- |                 |        |
|-----------------|--------|
| Agates          | Garnet |
| Bearings, Jewel |        |

**PRECIOUS stones, Artificial**

- Pierres scientifiques Balkowski. J. F. Audouin and A. L. Racapé. *Soc Ing Civils Bul* 85:1078-82 S '32

**PRECIPITATION**

- Alkaloidal cuprichlorides; the specific precipitation by cupric chloride of cinchona alkaloids containing the vinyl group. A. Cohen. *Chem Soc J* p996-1000 Ag '33
- Electrometric studies of the precipitation of hydroxides; standardisation of acid solutions by means of mercuric oxide. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p9-10 Ja '33
- Electrometric studies of the precipitation of hydroxides; the action of ammonia on solutions of mercuric chloride. H. T. S. Britton and B. M. Wilson. *Chem-Soc J* p601-7 Je '33
- Electrometric studies of the precipitation of hydroxides; the action of ammonia on solutions of potassium mercuri-iodide, and mercuric bromide, nitrate, sulphate, and perchlorate. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p1045-9 Ag '33
- Electrometric studies of the precipitation of hydroxides; the constitution of ammoniacal solutions of (a) silver nitrate, (b) silver oxide. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p1050-3 Ag '33
- Hydrated titanium oxide; thermal precipitation from titanium sulfate solutions. A. W. Hixson and W. W. Plechner. *bibliog il Ind & Eng Chem* 25:262-74 Mr '33
- Periodic precipitation of ferrous carbonate. R. J. Hartman, E. W. Kanning and F. J. Gallion. *il J Phys Chem* 37:229-32 F '33
- Quantitative spectrographic studies of coprecipitation; group II elements with barium sulfate. L. Waldbauer and E. St C. Gantz. *il Ind & Eng Chem Anal ed* 5:311-13 S 15 '33
- Studies in coprecipitation; internal structural changes on aging of freshly prepared precipitates. I. M. Kolthoff and E. B. Sandell. *J Phys Chem* 37:723-33 Je '33
- Studies in coprecipitation; the coprecipitation of alkali ions with calcium oxalate and the adsorbent properties of the latter. I. M. Kolthoff and E. B. Sandell. *bibliog J Phys Chem* 37:443-58 Ap '33
- Studies in coprecipitation; the coprecipitation of anions with calcium oxalate. I. M. Kolthoff and E. B. Sandell. *J Phys Chem* 37:459-73 Ap '33
- Studies in coprecipitation; water content of calcium oxalate monohydrate. E. B. Sandell and I. M. Kolthoff. *tables J Phys Chem* 37:153-70 F '33
- Studies in the precipitation of the copper and tin groups using hydrogen sulfide. L. Lehman. *J Chem Educ* 10:50-5 Ja '33

*See also*

- Coagulation
- Electric precipitation
- Liesegang rings

**PREECE test**

- Some factors affecting the Preece test for zinc coatings. H. H. Walkup and E. C. Groesbeck. *Am Soc T M Proc* 32 pt 2:453-63; Discussion. 464-7 '32

**PREFERRED numbers**

- Wirtschaftliche auswahl von typenreihen auf grund der normungszahlen. R. Germar. *Zeit Ver Deutsch Ing* 77:789-91 Jl 22 '33

**PREGNANCY**

- Biologic indicators of pregnancy. R. J. Main. *il J Chem Educ* 10:171-3 Mr '33

**PREHEATERS. See Air preheaters****PREHNITIC acid**

- Constitution of pyromellitic, mellophanic and prehnitic acids. L. I. Smith and G. D. Byrkit. *bibliog Am Chem Soc J* 55:4305-8 O '33

**PREMIUM industry****Advertising**

- \$217,000,000 premium industry starts "buy now" campaign. *il Sales Management* 33:322 O 1 '33

**PREMIUMS**

- New incentive plan for foremen. E. E. Burke. *Mach* 39:727-8 Jl '33

**PREMIUMS (merchandizing)**

Advertisers as movie hosts. *Ptr Ink* 162:73 Mr 2 '33

And now come masks; advertisers circulating them by millions as premiums. *Ptr Ink* 163:16 Je 1 '33

Auto premiums; free trip to the World's fair. *Business Week* p12 J1 22 '33

Dealer and jobber sales stimulated by premiums. *Ptr Ink Mo* 27:49-50 J1 '33

Glad rags for sugar. *Ptr Ink* 164:76 Ag 10 '33  
Hot cereal; Carnation wheat offers dri-a-dish towel. *il Ptr Ink* 161:46 D 1 '32

How advertisers are using premiums. *il Ptr Ink Mo* 26:52-82 My '33

How premiums are being offered by advertisers today. *il Ptr Ink Mo* 27:66-8+ O; 59-60 N '33

If it's free the kids will like it. *Ptr Ink* 162:68-71 Ja 5 '33

Ident finds premium requests poor measure of radio pull. *il Sales Management* 33:209+ S 1 '33

John Bull goes free gift crazy; cigarette advertisers abuse the premium. M. Russell. *il Ptr Ink* 163:58-9 My 18 '33

Meeting the challenge to premium glassware. W. Fawcett. *Glass Ind* 14:95-6 S '33

More parties; more silverware; certified coupon plan. *Ptr Ink* 164:28 Ag 17 '33

Nine forms of paper premiums that are finding popular approval. G. E. Mitchell. *il Ptd Salesmanship* 62:54-7+ S '33

One spoon to a family; premium offer by General mills, inc. *Ptr Ink* 164:74 J1 27 '33

Premium and sampling value in combination deals. *Ptr Ink* 161:44 D 1 '32

Premium carnivals. *pl Adv Arts* p32-3 J1 '33

Premium offer boosted off-season sales; Timken silent automatic company. E. V. Walsh. *Ptr Ink Mo* 26:19 F '33

Premium war in Great Britain. *Business Week* p20-1 Ap 12 '33

Premiums for children. R. E. Smallwood. *il Sales Management* 33:421 O 20 '33

Puzzles as premiums build sales for advertisers. *il Sales Management* 31:524 D 15 '32

Six yeases and 7 nos in the use of premiums. G. R. Marek. *Adv & Sell* 20:21+ Ap 13 '33

Something for nothing; the premium epidemic is no surprise to astute merchandisers. *Business Week* p9-10 Mr 1 '33

Test proves value of premium offer; beer mugs with Durkee's salad dressing. *il Ptr Ink Mo* 27:36+ Ag '33

This plan builds repeat sales for the dealer; International silver company certified coupon plan. *il Ptr Ink* 165:10-11 O 26 '33

Toddy uses stamps as premiums. *il Ptr Ink* 164:56 S 14 '33

Toothpaste and lipstick. *il Ptr Ink* 162:16 Mr 9 '33

\$217,000,000 premium industry starts "buy now" campaign. *il Sales Management* 33:322 O 1 '33

Two million braves let loose; Seminole tissue sales soar. L. B. Colby. *il Sales Management* 33:211-12 S 1 '33

Year old premium still pulls; Beech-nut receives over 200 requests a day for Chandu magic ball and vase trick. *il Ptr Ink Mo* 26:44-5 Je '33

*See also*

Gasoline industry—

Premiums

Trading stamps

**PRESBYTERIAN ministers' fund for life insurance**

Better and stronger with length of days. *Weekly Underw* 128:545 Mr 18 '33

**PRESCOTT, Ford L.**

Manly memorial medal award for 1932. *por S A E J* 32:sup19 F '33

**PRESCRIPTION writing**

Essentials of prescription writing. C. Eggleston. 5th rev ed 155p W. B. Saunders co, Philadelphia '33

**PRESERVATION of books. See Books—Conservation and restoration****PRESERVATION of flowers. See Flowers****PRESERVATION of food. See Food preservation****PRESERVATION of fruit. See Canning and preserving; Fruit, Frozen****PRESERVATION of records. See Records, Preservation of****PRESERVATION of wood. See Wood preservation****PRESERVING. See Canning and preserving****PRESIDENT'S reemployment agreement. See Industrial codes—President's reemployment agreement****PRESIDENT'S research committee on social trends**

Findings. *Monthly Labor R* 36:297-304 F '33

Plans of mice and men. S. Bell. *Comm & Fin* 22:5-6 Ja 4 '33

Recent social trends analyzed. *Barron's* 13:6 Ja 9 '33

Social trends studied by scientists and translated into policies. *Textile World* 83:72 Ja '33

**PRESS**

*See also*

Journalism

Newspapers

Periodicals

**PRESS agencies**

United press. S. V. Benét. *il Fortune* 7:67-72+ My '33

**PRESS agents. See Publicity, Free****PRESS law**

Law of the press. W. G. Hale. 2d ed 610p West '33

Publication laws of the state of Colorado. 277p Colorado press assn, inc, Boulder '32

**PRESS tools**

Adapting holders to press tools of various angles of dovetail. R. R. Cornell. *diag Am Mach* 77:187 Mr 15 '33

Automatic feed and ejection for press tools. J. F. Cavanagh. *diags Am Mach* 77:122-3 F 15 '33

Blanking, drawing and pinching off tools for a single-action press. W. E. Gochnauer. *diags Am Mach* 77:508 Ag 2 '33

Compound press tools. W. C. Betz. *Am Mach* 77:215 Mr 29 '33

Compound press tools. J. J. McHenry. *diag Am Mach* 77:442 J1 5 '33

Cost-cutting press tools. C. F. Kraut. *diag Am Mach* 77:122 F 15 '33

Developing press tools. E. B. Hare. *diags Am Mach* 77:731-2 N 8 '33

Device for centering bars in press tools. W. Aalrep. *diags Am Mach* 77:314 My 10 '33

Die for cutting parallel flats on round pins. P. L. Budwitz. *diags Mach* 39:525-6 Ap '33

Inexpensive press tools for economical production. J. J. McHenry. *diag Am Mach* 76:1168-9 N 23 '32; Discussion. C. F. Kraut. 77:152 Mr 1 '33

Mechanical feeds for press tools. C. F. Kraut. *diag Am Mach* 77:346 My 24 '33

Piercing tools for drawn cups. A. Amende. *diags Am Mach* 77:88 F 1 '33

Press tools for a sheet-steel casing. H. S. Taylor. *diags Am Mach* 77:151-2 Mr 1 '33

Press tools for a short run. W. Simpson. *diags Am Mach* 77:443 J1 5 '33

Press tools for bending flat springs. F. A. Gabriel. *diag Am Mach* 76:1166 N 23 '32

Press tools for bending tubing. F. H. Stran. *diag Am Mach* 77:120 F 15 '33

Press tools for blanking, piercing and coining. H. Hirst. *diag Am Mach* 77:636 S 27 '33

Press tools for contact tips. A. Beusch. *diags Am Mach* 77:21 Ja 4 '33

Press tools for escutcheon plates. C. W. Hinman. *diags Am Mach* 76:1038-9 S 28 '32; Discussion. A. Eyles. 77:121 F 15 '33

Press tools for felt retainers. J. Jergens. *diags Am Mach* 77:572 Ag 30 '33

Press tools for forming loops on flat springs. A. Beusch. *diag Am Mach* 76:1204f D 7 '32

Press tools for forming rectangular work. L. M. Hansen. *diag Am Mach* 77:186 Mr 15 '33

Press tools for piercing and cutting off. C. H. Willey. *diag Am Mach* 77:283-4 Ap 26 '33



**PRESS tools—Continued**

- Press tools for piercing cups. C. Kugler. diag Am Mach 77:185 Mr 15 '33  
 Press tools for riveting sheet-metal boxes. A. Beusch. diag Am Mach 77:186-7 Mr 15 '33

**PRESSES**

- Advances made in automatic combination feeds for presses. R. L. Payne. il Mach 39:700-4 Jl '33  
 Allsteel press co. builds Verson 350-ton welded steel double-crank press. il Iron Age 131:108 Ja 12 '33; Am Mach 77:29 Ja 4 '33; Mach 39:360 Ja '33  
 Baird automatic multiple-transfer press. il Am Mach 77:702 O 25 '33; Iron Age 132:36 O 26 '33; Mach 40:173 N '33  
 Doubling press production. R. H. Kasper. diag Am Mach 77:23 Ja 4 '33  
 Henry & Wright welded-steel automatic presses. il Am Mach 77:703-4 O 25 '33; Automotive Ind 69:514 O 28 '33; Iron Age 132:35 O 26 '33; Mach 40:175-6 N '33  
 Hot brass pressings; abstract. J. W. Beard. Mech Eng 55:256-7 Ap '33  
 Keeping two presses in step in making ferules used in the handles of can openers. W. Wells. diag Am Mach 77:375 Je 7 '33  
 Large presses equipped with automatic feeds. R. E. Miller. Iron Age 131:55-6 Ja 5 '33  
 Niagara double-crank horning press. il Am Mach 77:228 Mr 29 '33; Iron Age 131:513 Mr 30 '33  
 Plastische massen in der technik. W. Röhrs. il diags Zeit Ver Deutsch Ing 76:1233-9 D 17 '32  
 Press work pressures. C. W. Lucas. diags Am Mach 77:181-3, 218-19, 248-9, 280-1, 312-13, 344-5, 376-7, 412-13, 440-1, 472-3, 506-7, 538-9, 568-9, 600-1, 632-3, 662-3, 696-7, 726-7 Mr 15-N 8 '33 (to be cont)  
 Presses shown at British industries fair at Birmingham. Engineering 135:240-1, pl 14 Mr 3 '33  
 Steam platen press exerts 10,000 tons pressure. il Iron Age 130:807 N 24 '32; Steel 92:31 F 6 '32  
 Taylor and Challen double crank press. il Engineer 155:383 Ap 14 '33  
 Taylor and Challen wide-gap bending and punching press. il Engineering 135:277 Mr 10 '33; Engineer 155:255 Mr 10 '33  
 Tools for deep drawing in a single-action press. diags Am Mach 77:37 F 1 '33  
 Über ziehpresen. O. Kühner. il diags Zeit Ver Deutsch Ing 77:469-74 My 6 '33  
 Using a power press to operate a bench press. S. A. McDonald. il Mach 39:285 D '32  
 Verson double-crank presses with solid frame. il Am Mach 77:384 Je 7 '33; Mach 39:680 Je '33  
 Zeh and Hahnmann presses for powdered metal forming. il Metal Ind 31:28 Ja '33

See also

- |                   |                    |
|-------------------|--------------------|
| Dies              | Printing presses   |
| Forging machinery | Punching machinery |
| Hydraulic presses |                    |

**Control**

- Briggs mfg. co. finds magnetic clutches cut maintenance and accident cost. il Iron Age 131:sup12 My 18 '33  
 Stop mechanism for a power press equipped with a magazine feed. E. Lay. diag Mach 39:252-3 D '32

**Safety devices and measures**

- Dies that are safe. B. E. Rockoff. Am Mach 77:622 S 27 '33  
 Junkin safety guard. il Safety Eng 66:147 O '33  
 Power press maintenance. J. W. Bland. il Nat Safety N 27:19-22 Ap '33  
 These power press guards have saved fingers. A. W. Martin. il Nat Safety N 26:31-2 D '32

**PRESSURE**

- Autoclave in organic synthesis. G. T. Morgan. Chem Age (Lond) 27:572-3 D 17 '32  
 Calorimetric determination of the intrinsic energy of gases as a function of the pressure; data on oxygen and its mixtures with carbon dioxide to 40 atmospheres at 28° C. F. D. Rossini and M. Frandsen. diags U S Bur Stand J Research 9:733-47 D '32

- Catalytic vapor-phase hydration of 2-butene under high pressures. L. F. Marek and R. K. Flege. il diag Ind & Eng Chem 24:1428-31 D '32

- Density of ammonia at reduced pressures and its relation to the atomic weight of nitrogen, the gas constant, R, and the limiting molal volume. V. G. Dietrichson, C. W. Orleman and C. Rubin. diag Am Chem Soc J 55:14-21 Ja '33

- Design of high pressure laboratory equipment. E. H. Boomer. Can Chem & Met 17:136-9 Jl '33

- Distribution of pressure under a footing. F. J. Converse. il diag Civil Eng 3:207-9 Ap '33

- Druckverlust im glatten geraden kreisrohr. H. Richter. diags Zeit Ver Deutsch Ing 76:1269-74 D 24 '32

- Effect of mechanical pressure on the imbibitional and drying properties of some ceramic clays. A. E. R. Westman. diags Am Cer Soc J 15:552-63; 16:256-64 O '32, Je '33

- Equilibrium in binary systems under pressure; the influence of pressure on the solubility of ammonium nitrate in water at 25°. L. H. Adams and R. E. Gibson. Am Chem Soc J 54:4520-37 D '32

- High-pressure rectification; N-pentane-N-heptane system. L. W. T. Cummings, F. W. Stones and M. A. Volante. bibliog diags Ind & Eng Chem 25:728-32 Jl '33

- Physico-chemical factors in high-pressure design. B. F. Dodge. bibliog Ind & Eng Chem 24:1353-63 D '32

- Pressure shift and broadening of spectral lines. H. Margenau. Phys R 40:387-408; 43:129-34 My 1 '32, Ja 15 '33

- Über die entwicklung der chemischen hochdrucktechnik bei dem aufbau der neuen ammoniakindustrie. C. Bosch. il diags Zeit Ver Deutsch Ing 77:305-17 Mr 25 '33; Same. Chemische Fabrik 6:127-42 Mr 22 '33

- Vapor-liquid equilibria of hydrocarbons at high pressures. W. K. Lewis and C. D. Luke. bibliog Ind & Eng Chem 25:725-7 Jl '33

See also

- |                  |                            |
|------------------|----------------------------|
| Compressibility  | Steam plants—High pressure |
| Earth pressure   |                            |
| Load (mechanics) | Strains and stresses       |
| Piezoelectricity | Vapor pressure             |
|                  | Wind pressure              |

**PRESSURE gages**

- Improved type of flow meter for hydraulic turbines. I. A. Winter. diags Am Soc C E Proc 59:565-84 Ap '33; Discussion. 59:1046-9, 1524-5 Ag, N '33

- Kent ring type balanced pressure recorder. il Chem Age (Lond) 28:555 Je 17 '33

- Long distance gas pressure recording gauges. G. A. S. Cooper. il diags Gas Age 72:279-81+ S 23 '33

- Méthodes de mesure et d'enregistrement des pressions rapidement variables. A. Labarthe and M. Demontvignier. diag Génie Civil 102:19 Ja 7 '33

- Michels pressure balance for high pressures. il diag Engineering 135:172-3 F 10 '33

- New Brown thermometer and pressure gage. il Iron Age 132:24 Ag 31 '33

- Rapid advance made in perfecting instruments for exact recording of subsurface pressure. D. G. Hawthorn. diags Oil & Gas J 31:16-17+ Ap 20 '33

- Recording of pressure and time in gas explosions. B. Lewis and G. von Elbe. diags Am Chem Soc J 55:504-7 F '33

- Remote control of pressure in gas distribution systems. H. J. Keeling. il diags Gas Age 72:262-6 S 16 '33

- Two methods of measuring water to hydraulic turbines. diags Power 77:126-7 Mr '33

- Value of continuous pressure recorders at various points on a distribution system; abstract. J. B. Eddy. Water Works & Sewerage 80:291 Ag '33

See also

- Anemometers  
 Manometers  
 Vacuum gages

**PRESSURE regulators**

Automatic combustion control keeps steam pressure constant. *il diags Power* 77:202-4 Ap '33

Automatic control in the steel and gas industries. *diags Chem Age (Lond)* 29:377-8 O 21 '33

Automatic pressure-regulating unit for vacuum distillation. E. H. Huntress and E. B. Hershberg. *bibliog il diag Ind & Eng Chem Anal ed* 5:144-6 Mr 15 '33

Automatic pressure regulators for vacuum distillation; sulfuric acid as a manostat fluid. E. B. Hershberg and E. H. Huntress. *il diags Ind & Eng Chem Anal ed* 5:344-6 S 15 '33

Change in regulator solves pump control problem. C. B. Hudson. *diag Power* 77:314-15 Je '33

Milburn regulator is equipped with micrometer adjustment. *il Steel* 93:40 Jl 17 '33; *Am Gas J* 139:35 Jl '33

Pressure regulators; how they work. L. H. Brendel. *diags Power* 77:422-3 Ag '33

Regelung von turbokompressoren mit dem strahlrohrregler. K. Blasig. *il diags Stahl & Eisen* 53:375-9 Ap 13 '33

Regler für hohen wasserdruck. H. Sondermann. *diag Stahl & Eisen* 52:1101-2 N 10 '32

Remote control of pressure in gas distribution systems. H. J. Keeling. *il diags Gas Age* 72:262-6 S 16 '33

Remote control of pressure in gas mains; Selsyn system. *il diag Gas J (Lond)* 202:410-11 My 17 '33

Selection of pressure regulators. H. L. Colby. *il diags Heating-Piping* 5:565-7 N '33

Simple automatic pressure regulator. C. C. Coffin. *diag Am Chem Soc J* 55:3646-7 S '33

Steam generation control; Hagan system of pressure-reduction and de-superheating. *il diag Elec R (Lond)* 111:815 D 2 '32

*See also*

Gas governors

**PRESSURE vessels**

A.S.M.E. requirements for unfired pressure vessels tabulated. *Nat Pet N* 24:80 N 16 '32

Apparatus for chemical research at high pressures. *il diag Engineering* 136:32 Jl 14 '33

Handling high pressures in chemical synthesis. R. V. Kleinschmidt. *il diags Chem & Met Eng* 40:361-4 Jl '33

Helical joints in welded cylindrical pressure vessels; abstract. G. W. Bird. *Mech Eng* 55:448-9 Jl '33

High pressure equipment in the petroleum industry. G. L. MacPherson. *il Can Chem & Met* 17:159-62+ Ag '33

Large pressure tanks for oil-gas storage. L. S. Stiles. *il Mech Eng* 55:162 Mr '33

Provisions for wear in vessels with stirring devices. *diags Locomotive* 39:194-5 Jl '33

Rules for construction of unfired pressure vessels. 96p American society of mechanical engineers, New York '32

La soudure électrique et la construction des réservoirs soudés. J. Louis. *Soc Ing Civils Bul* 86:523-54, pl 217 My '33

Unit converts dry ice into gas; carbo-verters. *il Steel* 91:27 N 28 '32

X-ray in examination of welded pressure vessels. J. H. Goolsby. *il diags Refrig Eng* 25:134-9+ Mr '33

*See also*

Air compressors

Ammonia compressors

Autoclaves

Bollers

Calissons

Digesters (paper making)  
Dust collectors  
Evaporators  
Gas holders  
Kiers

**Design**

Bolts and flanges for tanks and heat exchangers. C. O. Sandstrom. *diags Chem & Met Eng* 40:67-71 F '33

Designing heads for tanks and heat exchangers. C. O. Sandstrom. *diags Chem & Met Eng* 39:668-72 D '32

More heads for tanks and heat exchangers. C. O. Sandstrom. *diags Chem & Met Eng* 40:138-41 Mr '33

**Inspection**

Making radiographic inspections of chemical equipment. H. R. Isenburger. *il diag Chem & Met Eng* 40:130-2 Mr '33

Radiographic examination of pressure vessel welds; Babcock & Wilcox co. R. E. Hiller. *il diags Iron Age* 131:736-9 My 11 '33

**Safety devices and measures**

Pressure vessel failures are preventable. E. R. Fish. *il Nat Safety N* 28:13-14+ S '33

**Testing**

Light-weight high-pressure gas cylinders. F. S. Marsh. *diags Iron & Steel Inst J* 126:75-87, pl 1-4 no 2 '32; Same. *Engineering* 134:489-90 O 21 '32; Discussion. *Iron & Steel Inst J* 126:88-92 no 2 '32

Testing of welded steel drums. *il Engineering* 135:328 Mr 24 '33

Untersuchung einer elektrisch geschweissten hochdrucktrommel. W. Jamm and O. Weinrich. *il Zeit Ver Deutsch Ing* 77:901-4 Ag 19 '33

**PRETZELS**

Pretzel business enjoys a boom. *Comm & Fin* 22:330 Ap 12 '33

We have with us again—the pretzel. *Ptr Ink* 163:24 Ap 6 '33

**PRICE brothers and company, ltd.**

Bowater interests to reorganize Price bros. *Paper Tr J* 97:28 O 5; 14-15 O 12; 14 O 19; 29 O 26 '33

Declared in bankruptcy. *Paper Tr J* 96:12 Ap 20 '33

Price brothers company limited; resources and manufacturing facilities. A. E. Kelsey. *il map Pulp & Pa of Can* 34:585-8 O '33

Price brothers concern remains Canadian. *Pulp & Pa of Can* 34:589 O '33

**PRICE cutting**

Advertiser says a good word for price-cutting! *Ptr Ink* 161:76+ D 8 '32

A.F.L. joins retailers to combat cigarette price-cutting by chains. *Sales Management* 32:442-3 Ap 20 '33

Are we in business to sell goods or to sell special discounts, free deals and loss leaders? B. I. Butler. *il Ptd Salesmanship* 60:308-10 D '32

Brutality of price cutting. K. M. Goode. *Adv & Sell* 21:24+ My 11 '33

Chasing the chiseler; Goodrich policy advertising. A. Bradbury. *il Ptr Ink* 162:3-4 Mr 16 '33

Cheaply thrives; cheap-jack cash-and-carry depots. *Business Week* p11-12 F 8 '33

Counteracting price cutting. A. D. Whiteside. *Adv & Sell* 21:21 My 11 '33

Department stores reveal most popular loss leaders. R. C. Hollander. *Ptr Ink* 162:65-7 F 23 '33

Do we want legalization of price fixing? O. F. Walker; S. Antonow. *Adv & Sell* 20:19-20+ Ap 13 '33

Establishing a price policy with open-letter copy; Herman Nelson corporation combats the chiseler. R. W. Nelson. *Ptr Ink* 165:35-6 O 12 '33

Exit the loss leader. A. H. Morrill. *Adv & Sell* 21:48 O 12 '33

Going down! cigarette manufacturers cut prices again. *Ptr Ink* 162:10+ F 16 '33

Grocery manufacturers condemn super-market price cutters. C. B. Larrabee. *il Ptr Ink* 162:41-4 Mr 2 '33

Guide to price-cutting. *Ptr Ink* 164:48 Ag 17 '33

Loss leader brings no permanent good. E. A. Filene. *Ptr Ink* 161:40-2 D 22 '32

Macy et al. *il Ptr Ink* 162:10+ F 9 '33

One price policy. W. F. Creighton. *Manuf Rec* 101:41 D '32

Price control and the NRA. L. D. H. Weld. *Ptr Ink* 164:17-20 S 28 '33

Price maintenance and the business recovery. O. F. Rost. *Food Ind* 5:6-7 Ja '33

Retail code hits trade evils; loss leader, deceptive advertising, substitution, hidden demonstration. C. E. Larrabee. *Ptr Ink* 165:17-18+ O 26 '33



**PRICE cutting—Continued**

- Scores price-cutters. W. Sammons. Oil Paint & Drug Rep 124:19, 32B-32C, O 2 '33
- Show the dealer how to meet price-cutters; old man specific lends a hand in a business-paper campaign by Cluett-Feabody & company. Ptr Ink Mo 26:23 F '33
- Sometimes price cutting is good for business! J. T. Mackey. Inland Ptr 90:35 D '32
- Standard Oil rejects bids of price-cutters. Oil Paint & Drug Rep 123:15 Mr 6 '33
- What can national advertisers do about profitless selling? M. M. Zimmerman. Adv & Sell 20:17-18+ Ap 27 '33
- What constitutes below-cost selling? A. Andersen. Credit & Fin Management 35:14-16 N '33
- Who cares who started price chiseling? A. F. Denham. Automotive Ind 68:699-700 Je 10 '33
- Wholesalers seek laws to check price-cutting by supermarkets. J. C. McLaurin. Sales Management 32:222 Mr 1 '33
- Will price-wreckers capture retail markets? H. F. Merrill. Il Forbes 31:15-16 Mr 15 '33

See also

- |                      |                     |
|----------------------|---------------------|
| Discount, Trade      | Sales policies—Free |
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**PRICE fixing**

- Advertising & selling criticism of price fixing arouses leaders of opposing camps. Adv & Sell 21:20+ O 12 '33
- Before a price fixing spree, what about our costs? a macaroni man protests. E. J. McLuckie. Food Ind 5:253 Jl '33
- Bill introduced by Cable to permit price fixing in periods of stress; text. Rubber Age 32:385 Mr '33
- Buyer sets your prices; government can control average price level of commodities but not individual product prices. W. T. Foster and W. Catchings. Ptr Ink Mo 27:19-20+ S '33
- Code fails without price fixing, say cost recovery advocates. Nat Pet N 25:14-15 Ag 9 '33
- Cost recovery suggested in lieu of price-fixing, in code. Nat Pet N 25:20-1 Ag 23 '33
- Dangers of price fixing. L. H. Haney. Adv & Sell 22:24+ N 9 '33
- Debate on price fixing in oil code carries on in New York papers. Nat Pet N 25:9-12 Ag 30 '33
- Department of justice resurrects aluminum, steel rail issues. Iron Age 132:32 Jl 13 '33
- Government use of group 3 as basis for prices in code follows usual practice of industry. C. O. Willson. map Oil & Gas J 32:6+ Ag 31 '33
- How price-fixing may complicate the machinery of distribution. W. P. Mangold. Il Adv & Sell 21:17-18+ S 28 '33
- Marketing cost does not belong in minimum price. A. T. Falk. Ptr Ink 165:63-6 O 12 '33
- NRA builds a machine; appoints a price board. Business Week p5 S 16 '33
- Penalties of price-fixing. P. Hollister. Adv & Sell 21:18 S 23 '33
- Price control and the N.R.A. G. P. Ellis. Rock Prod 36:24-5 S '33
- Price-fixing. Business Week p12-13 Ag 19 '33
- Price fixing clauses nullify distribution economies; penalize chains and large distributors. J. Jamieson. Il Adv & Sell 21:24+ O 26 '33
- Price leveling meets three big obstacles; lack of uniformity in cost accounting, management methods, equipment modernization. F. Juraschek. Iron Age 132:30-1 N 2 '33
- Price sections of code continue recent refinery losses. Nat Pet N 25:17-18 Ag 23 '33
- Regulated price agreements urged. W. A. Layman. Elec W 101:640-2 My 20 '33
- Why marketing cost should be part of production. L. D. H. Weld. Ptr Ink 165:63-5 O 19 '33
- World leaders may drop drive for compact including Russia in price stabilization plan for petroleum industry. A. E. Mockler. Oil & Gas J 31:34 D 29 '32

**PRICE fixing, Government**

- Are we headed toward government price fixing? L. D. H. Weld. Adv & Sell 20:19+ F 16 '33
- Attempt to fix natural gasoline prices would prove unusually difficult. Oil & Gas J 32:27+ S 21 '33
- Big bear raid; chains and anti-chains take time out to wage war against the supermarket. Business Week p13 Mr 8 '33
- Buyer sets your prices; government can control average price level of commodities but not individual product prices. W. T. Foster and W. Catchings. Ptr Ink Mo 27:19-20+ S '33
- Price control and the N.R.A. L. D. H. Weld. Ptr Ink 164:17-20 S 28 '33
- Price-fixing by law advocated by grocers; prohibiting sales below cost. Oil Paint & Drug Rep 123:15+ F 27 '33
- Price fixing: the third effort. L. D. Edie. Il Am Bankers Assn J 26:20-1+ O '33
- Provisions of milk control board act relative to the fixing of minimum prices for milk held constitutional. Pub Health Rep 48:884-7 Jl 28 '33
- Unique experiment in state regulation that rescues the utility instead of the user; New York's milk control law. H. C. Spurr. Pub Util 12:22-7 Jl 6 '33
- PRICE fixing, Resale**
- Agency and consignment plans of maintaining chemical prices. Chem Markets 32:507-8 Je '33
- Armand company ordered to abandon efforts to maintain resale prices. Oil Paint & Drug Rep 123:16+ F 13 '33
- Do we want legalization of price fixing? O. F. Walker; S. Antonow. Adv & Sell 20:19-20+ Ap 13 '33
- Price maintenance and the business recovery. O. F. Rost. Food Ind 5:6-7 Ja '33
- Prix imposé. O. J. Gérin. Chimie & Ind 28:1231-6 N '32
- Would the Capper-Kelly bill maintain chemical prices? Chem Markets 32:403-5 My '33
- PRICE policies**
- Advertising as defense against price slashing. T. Merrell. Ptr Ink 162:52 Ja 26 '33
- Crime of selling below cost. F. A. Melmoth. Ptr Ink 162:75-7 Ja 19 '33
- Deal strangles chain good-will for branded lines; makes featuring of private brands essential to profits. R. I. Harry. Ptr Ink 161:25-8 D 8 '32
- Does it ever pay to sell at a loss to absorb overhead? W. E. Curley. Il Sales Management 32:431-2+ Ap 20 '33
- Economic right price. E. L. Woodworth. Management R 22:273-4 S '33
- Entire line is repriced; more advertising; sales jump; new Pyrex distribution policy. J. L. Peden and C. D. La Follette. Il Ptr Ink 161:3-5+ D 1 '32
- Establishing a price policy with open-letter copy; Herman Nelson corporation combats the chiseler. R. W. Nelson. Ptr Ink 165:35-6 O 12 '33
- Fada, increasing prices, presents to retailers a trading-up creed. R. M. Klein. Sales Management 31:493 D 1 '32
- Fear—father of the ugly twins, price cutting and chiseling. J. Chase. Automotive Ind 68:361-2 Mr 25 '33
- F.T.C. reports on chain prices, profits, and allowances. Adv & Sell 22:42 N 9 '33
- Fighting lines; responsible manufacturers meet the popular demand for low-priced goods with new lines. Business Week p7-8 F 15 '33
- For price—but what a price! value of electric manufacturers' research work. W. R. Marshall. Elec West 70:192-3 Je '33
- Goods priced for profit sell easier than at cut price; O-Cedar. P. H. Erbes, jr. Il Ptr Ink 164:3-4+ Ag 24 '33
- Grocery manufacturers attack deals, rebates, allowances. Ptr Ink 161:69-70 D 15 '32
- High cost of haggling. Adv & Sell 21:21 Jl 6 '33

**PRICE policies—Continued**

How one company ended free deal charge-back nuisance; Wm. S. Merrell company. T. Merrell. *Ptr Ink* 164:41-2 S 14 '33

How shall we get higher price in changing market? Walter Booth shoe company. H. O. Leiser. *il Ptr Ink* 163:3-4+ Je 1 '33

How this advertiser keeps sales ahead of boom days; Scott paper company. T. B. McCabe. *il Ptr Ink* 162:3-6 Mr 23 '33

If price cuts persist, sheriff may have busy year. J. F. Bush, jr. *Ptr Ink* 162:3-4+ Ja 5 '33; Discussion. 77-8 Ja 19 '33

Lesson of \$5 hats; Stetson company. G. V. MacKinnon. *il Ptr Ink* 161:17-20 D 15 '32

Let's get back to profits by sensible selling. C. Francis. *Forbes* 31:11-12 My 15 '33

Let's stand pat on prices. N. G. Shidle. *Automotive Ind* 68:313-14 Mr 11 '33

Must price lines be abandoned? A. C. Fatt. *Adv & Sell* 21:32 S 14 '33

New deal at the drug store counter. H. Deutsch. *il Adv & Sell* 21:13-15+ Ag 3 '33

Open prices—how they work; scope and restrictions. *Nat Pet N* 25:19 J1 26 '33

Plain economics to save the chiseled profit margin. R. R. Updegraff. *il Adv & Sell* 20:24 Ap 27 '33

Position of leading industries in relation to their business policies. W. W. Danforth. *Annalist* 41:86-8+ Ja 20 '33

Post your own tank car prices. R. R. Irwin. *Nat Pet N* 25:31-3 Ap 12 '33; Same abr. *Oil & Gas J* 31:30 Ap 13 '33

Price concessions put parts makers on the spot. A. F. Denham. *Automotive Ind* 68:185-7 F 18 '33

Price cutting, child of fear, mother of panic. E. T. Weir. *Iron Age* 131:326 F 23 '33; Same abr. *Ptr Ink* 162:61-2 Mr 2 '33; Same. *Forbes* 31:7-8 F 15 '33

Price making under the National recovery act. W. A. McDermid. *il Adv & Sell* 21:13-15+ J1 20 '33

Price policies in the capital goods industry during a period of business depression. H. S. Beal. p 1-12; Discussion. 12-20 American management assn, New York '33

Price practices of chain stores. *Ptr Ink* 165:65+ N 2 '33; Reply (Mr Lebbhar disagrees). 165:47-8 N 9 '33

Price: the wrecker of harmony in distribution. C. F. H. Johnson. *Ptr Ink* 162:72+ F 16 '33

Price, weapon in competition. P. Cherington. *Adv & Sell* 20:19-20 Mr 16 '33

Pricing goods to protect profit under NRA costs. A. W. Rucker. *Sales Management* 33:397-8, 444+ O 20-N 1 '33

Pricing policies. L. S. Lyon. 12p Am. management assn, 20 Vesey st, New York '33

Profitless selling is biggest problem of advertiser. C. W. Dipman. *il Ptr Ink* 160:26:13-14+ Je '33

Purchasing methods in oil industry changed by steel code. W. F. Lowe. *Nat Pet N* 25:33-4 J1 26 '33

Reasons for and extent of markdowns in Ohio department stores. L. H. Grinstead. 311p \$2 Ohio state univ. Bur of business research '32

Renaissance of advertised brands; low-end merchandise on the way out under the codes. R. Dickinson. *Ptr Ink* 165:3-5, 96, 98-9 O 5 '33

Retail labor cost charge mandatory; official interpretation selling below cost. *Oil Paint & Drug Rep* 124:17 N 13 '33

Retail mark-up. *Business Week* p4-5 S 23 '33

Sane price and cost policy is essential to survival in industry. *Mach* 39:350 Ja '33

Setting price policies for goods sold by mail. M. Droke. *Sales Management* 33:377-8+ O 10 '33

Setting sound selling prices. N. B. Gaskill. *Paper Tr J* 96:22-5+ Je 1 '33

Simple rules of good business. W. M. McCormick. *Sales Management* 31:423-4+ N 15 '32

Social price; management must adjust pricing policies to human needs. R. R. Updegraff. *Adv & Sell* 21:17-18 Ag 31 '33

Ten business problems of contracting; securing business at the right price. J. L. Harrison. *Eng N* 111:129-32 Ag 3 '33

This company's policies became the keystone of a code; Pet milk company. J. A. Latzer. *il Ptr Ink* 164:17-20 Ag 3 '33

Three of tire "big 4" reduce lines in plan to stabilize prices. *Sales Management* 32:332 Ap 1 '33

Value of textile products. H. D. Martin. *Textile Col* 54:826+ D '32

What any industry can do to rationalize prices. R. O. Eastman. *Sales Management* 33:208-9+ S 1 '33

What price policy? L. S. Lyon. *Adv & Sell* 21:19+ J1 6 '33

What's happening to prices? latest developments in 12 industries. H. F. Merrill. *Forbes* 31:8+ F 15 '33

Whispered extras destroy value of list price scheme. N. G. Shidle. *Automotive Ind* 67:729-30 D 10 '32

Who dictates my prices? prices should be based on research. A. Bradbury. *il Ptr Ink* Mo 25:41+ D '32

Why Douglas shoe has gone back to 1876 prices. *il Ptr Ink* 163:36-7 Ap 20 '33

Will an open-price agreement tide your industry over the waiting-for-Washington period? R. O. Eastman. *Sales Management* 33:63+ J1 15 '33

*See also*

Advertising allowances  
Cost accounting  
Discount, Trade  
Price cutting

Price fixing, Resale  
Sales, Special  
Sales policies—Free goods  
Trade-in policies

**PRICES**

After devaluation what? I. Axelsson. *Bankers M* 127:25-8 J1 '33

Bank prosperity forecast; anticipated rise in commodity prices is the basis. D. Friday. *Rand McNally Bankers Mo* 50:327-8+ J1 '33

Commodity prices and silver. K. Pittman. *Min Cong J* 19:11-12+ F '33

Crucial question of price. W. F. Ogburn. *Nation's Business* 21:23-5+ O '33

Did gold cause the depression? *Nat City Bank* p134-40 S '33

Dire workings of inflation. *Barron's* 13:8 F 13 '33

Disastrous consequences to American agriculture of devaluing the dollar. O. J. Wheatley. *Annalist* 41:627+ My 5 '33

Functions of money. L. Alston. 139p \$1.75 Macmillan '32

Future for commodity prices. E. C. Harwood. *Barron's* 13:3, 7 Mr 13 '33

Inflation, values, and prices; what happened in France—possibilities in the U.S.A. J. H. Wood. *Barron's* 13:3, 6-7 S 25 '33

International agreements as a factor in the present attempt to raise prices. M. D. Gould. *Annalist* 42:539-40 O 27 '33

Meaning of prices. J. S. Lawrence. *Bradstreet's* 61:124+ Ja 28 '33

Money and the price level. F. M. Huntington-Wilson. 222p \$2 Century co. '32

Most popular prices for drug store products. *Ptr Ink* 162:74 Mr 2 '33

New gold policy and the effect on prices. *Nat City Bank* p168-71 N '33; Excerpts. *Comm & Fin* 22:971 N 8 '33

New source of distress merchandise. H. A. Haring. *Adv & Sell* 20:17-18+ F 2 '33

Outlook for the price level discussed by American statistical association. *Am Statis Assn J* 27:431-6 D '32

Paradox in economic history explained. R. K. Kenna. *Comm & Fin* 22:768 S 6 '33

Planned economy and a planned price level. B. M. Anderson, jr. *Chase Econ Bul* 13:3-23 Je 9 '33

Planners' comedy of errors; a half-year's record of achievements not wanted. S. Axley. *Barron's* 13:3+ O 16 '33

Price dislocation that retards prosperity. B. Bryan, jr. *Annalist* 41:227 F 10 '33

Price-raising the keynote; London conference. L. Pasvolksky. *Barron's* 13:18 J1 24 '33

Price recovery or debt adjustment? L. Stern. *Mag of Wall St* 51:319-21+ Ja 7 '33



## PRICES—Continued

- Prices. G. F. Warren and F. A. Pearson. 386p \$3.90 Wiley '33
- Prices and fixed charges. *Economist* 116:1062-3 My 20 '33
- Prices and speculation. *Nat City Bank* p 99-100 Jl '33; Same. *Comm & Fin* 22:588 Jl 5 '33
- Prices, debts and inflation. *Comm & Fin* 22:690-1 Ag 9 '33
- Prices in gold; soaring commodities find reflex in our depreciated dollar. *Barron's* 13:18 Jl 17; 10 Jl 24 '33
- Prices of manufactures. *Economist* 116:1011-12 My 13 '33
- Primary products. *Economist* 116:952-3; 117:803-5 My 6, O 28 '33
- Progress of dollar devaluation. S. R. Wagel. *Comm & Fin* 22:611-12 Jl 12 '33
- Raw material prices and business conditions. M. T. Copeland. *Harvard Univ Graduate School of Business Administration Bur Business Research Studies* 2:1-56 '33
- Relationship of gold to prices. G. F. Warren and F. A. Pearson. *Am Statis Assn J* 28:sup18-26; Discussion. E. W. Kemmerer. 126-32 Mr '33
- Some fallacies underlying the demand for inflation. B. M. Anderson, jr. *Chase Econ Bul* 13:3-20 My 9 '33
- Some thoughts on price control; a criticism of Mr Keynes' Theories on money. E. Dehn. *Bankers M* 126:138-40 F '33
- Sterling and international prices. *Economist* 116:175-6 Ja 28 '33
- Sterling and the price level. *Economist* 115:1225-7 D 31 '32
- To raise prices—start from the ground up. C. A. Musselman. *Automotive Ind* 68:401-2 Ap 1 '33
- War debts—world prices. *Business Week* p5-6 D 7 '32
- What the machine has done to us. W. S. Giele. *Iron Age* 131:354-6+ Mr 2 '33
- World conference draft annotated agenda submitted by the Preparatory commission of experts. *Economist* 116:sup5-6 Ja 28 '33
- World's gold reserves & commodity prices; memorandum and statistics. J. Kitchin. *Economist* 116:sup1-4; Editorial comment. 107-8 Ja 21 '33

## See also

- |                           |                      |
|---------------------------|----------------------|
| Advertising—Rates         | Price policies       |
| Cost of living            | Printing trade—Rates |
| Electric rates            | Public utilities—    |
| Gas rates                 | Rates                |
| Index numbers (economics) | Railroads—Rates      |
| Inflation (finance)       | Salesmanship—        |
| Money                     | Price problem        |
| Price cutting             | Wages                |
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- also subdivision Prices under various subjects, e.g. Chemicals—Prices; Coal—Prices; Gasoline—Prices; Newsprint paper—Prices; Stocks—Prices

## Stabilization

- Commodity dollar; Roosevelt's message to the London conference presages a rubber dollar. *Business Week* p16-17+ Jl 15 '33
- Depreciated foreign currencies obstruct price recovery; an interview with James A. Farrell. *Iron Age* 131:343-4 Mr 2 '33
- Managed money; Sweden has had striking success. *Business Week* p20 Mr 8 '33
- Monetary theory and the trade cycle. F. A. Hayek. 244p \$2 Harcourt '33
- Operation and principles of a managed currency system; results of the Swedish system. J. Liljencrants. *Trust Companies* 57:369-72+ O '33
- Social consequences of a return to gold; an analysis of certain current proposals for an international monetary standard. P. W. Martin and E. J. Riches. *Int Labour R* 27:36-8 Ja '33
- Stabilization of money. J. G. Hodgson, comp. *Ref Shelf v* 8, no 7:1-238 [bibliog p27-50] '33
- What the rubber dollar means to business and investment. T. M. Knappen. *Mag of Wall St* 52:361-3+ Ag 5 '33

- When inflation is not inflation. I. Fisher. *Ptr Ink* 165:59-62, 64+ O 5 '33
- World economic reconstruction; a criticism of the economic resolution adopted by the International labour conference. G. Cassel. *Int Labour R* 26:644-8 N '32

## Statistics

- Analysis of variance as an effective method of handling the time element in certain economic statistics. T. W. Schultz and G. W. Snedecor. *Am Statis Assn J* 28:14-30 Mr '33
- Commodity market. Published in weekly numbers of *Econostat*
- Commodity prices. Published in monthly numbers of *Survey of current business*
- Current market quotations (listed alphabetically by name of product). Published in weekly numbers of *Oil, paint and drug reporter*
- Future for commodity prices. E. C. Harwood. *Barron's* 13:3, 7 Mr 13 '33
- Index numbers of the cost of living and retail prices. *Int Labour R* 27:96-8, 539-57; 28:88-91, 561-4 Ja, Ap, Jl, O '33
- Kuehls' chart on commodity prices showing 3 complete cycles, 1800-1932. *Comm & Fin* 22:50 Ja 11 '33
- Movements of speculative commodities in 1932. *Annalist* 41:98-103 Ja 20 '33
- Prices and price indexes, 1913-1931. 222p Canada. Dominion bureau of statistics, Ottawa '32
- Problem of the representative price. R. L. Kozelka. *Am Statis Assn J* 28:sup20-5 Mr '33
- Retail and wholesale prices. Published in *Monthly labor review*
- Retail prices. Published monthly by U. S. Bureau of labor statistics, Washington
- Retail prices of food in the United States and in certain foreign countries. *Monthly Labor R* 35:1204-5; 36:420-3; 37:230-3, 998-1001 N '32, F, Jl, O '33
- See also

- Prices, Wholesale—Statistics

## Great Britain

- Commodity prices. *Economist* 116:sup6-7 F 18 '33
- Government and the housewife. *Economist* 117:614-15 S 30 '33
- Half-year's prices. *Economist* 117:59-60 Jl 8 '33
- Sterling prices in 1932. *Economist* 116:5-6 Ja 7 '33

## United States

- Balky consumers. *Business Week* p3-4 S 23 '33
- Bankless prices. *Business Week* p8 Mr 15 '33
- Business and financial conditions. *Guaranty Survey* 13:1-5 Jl '33
- Can prices be lifted by federal gold operations? T. M. Knappen. *Mag of Wall St* 53:66+ N 11 '33
- Commodity prices continue to reflect approval for administration policies. *Business Week* p16-17 Mr 29 '33
- Cost of railway materials reduced in 1932. D. A. Steel. *il Ry Age* 94:165-70 F 4 '33
- Costs have increased 32 percent. W. W. Stevens. *il Dom Eng* 142:30-2 O '33
- Crux of the situation. *Nat City Bank* p130-3 S; 145-9 O '33
- Effect of the falling dollar on the price level. W. W. Case. *Annalist* 42:572 N 3 '33
- Fairchild retail price index, monthly, 1931-1932. *Survey of Cur Business* 12:19 D '32
- Let's revive the goose that laid the golden egg; lower price of finished goods to re-establish the home market. C. Benedict. *Mag of Wall St* 51:193+ D 10 '32
- New era prices; commodity prices rising. *Business Week* p18-19 Jl 15 '33
- Not high prices, but price adjustment and stabilization are necessary. A. L. Jackson. *Mag of Wall St Manual* p7+ Mr 6 '33
- President's price goal. T. M. Knappen. *il Mag of Wall St* 52:466-8+ S 2 '33
- Price fixing; the third effort. L. D. Edie. *il Am Bankers Assn J* 26:20-1+ O '33

**PRICES—United States—Continued**

- Price tide turns. *Business Week* p8 My 3 '33
- Prices. G. F. Warren and F. A. Pearson. 386p \$3.90 Wiley '33
- Prices; commodities are higher. *Business Week* p6-7 Mr 22 '33
- Prices; sidewise movement of commodity prices in general and slight gain in farm products. *Business Week* p12 Ja 18 '33
- Purchasing power of the dollar, monthly, 1913-1932. Survey of Cur *Business* 13:18 Ag '33
- Real wages under laissez-faire; what a new index of retail prices covering 142 years shows. R. F. Tucker. *Barron's* 13:6-7 O 23 '33
- Recent commodity price trends. *Guaranty Survey* 13:7-10 Ag '33
- Relationship of gold prices to security and commodity prices since April 17, 1933; tabulation. *Barron's* 13:6 N 6 '33
- Report of the Federal trade commission on price bases inquiry. 218p U. S. Federal trade commission, Washington '32
- Wages vs. prices; editorial. *Business Week* p32 S 23 '33
- What's happening to prices? latest developments in 12 industries. H. F. Merrill. *Forbes* 31:8+ F 15 '33

**PRICES, Wholesale**

- Relation between wholesale prices and commercial failures; abstract. *Management R* 22:274 S '33
- Sweeping declines in 1932 drop commodity price level to new low ranges. *Annalist* 41:74+ Ja 20 '33
- What automobiles cost in commodities; tabulation. *Automotive Ind* 69:595 N 11 '33

**Statistics**

- Census of distribution data as a source for construction of a wholesale price index. T. N. Beckman. *Am Statis Assn J* 28:sup165-7 Mr '33
- Commodity prices. Published in monthly numbers of the Index
- Comparative wholesale prices of 106 commodities, 1896-1932. *Bradstreet's* 61:123 Ja 28 '33
- Index numbers of wholesale prices, 1913 to September, 1932. *Monthly Labor R* 35:1206-9 N '32 [cont monthly]
- Oldest index continually compiled in the United States; *Bradstreet's* commodity price index. F. Greene. *Bradstreet's* 61:121-2 Ja 28 '33
- Price movements in principal countries. Published in monthly numbers of Federal reserve bulletin
- What the machine has done to us. W. S. Giele. *Iron Age* 131:354-6+, 389-91+ Mr 2-9 '33
- Wholesale price index of the Guaranty trust company of New York. Published in monthly numbers of Guaranty survey
- Wholesale price table. Published in monthly numbers of Guaranty survey
- Wholesale prices, by groups of commodities. Published in monthly numbers of Federal reserve bulletin
- Wholesale prices in the United States and in foreign countries, years 1926 to 1931, inclusive and by months since January 1931. *Monthly Labor R* 35:1455-8; 36:700-2 D '32, Mr '33
- Wholesale prices, 1931. U S Bur Labor Statistics *Bul* 572:1-114 '33

**Great Britain**

- Wholesale prices of commodities, 31 December, 1926-1931; and monthly, 1932. *Economist* 116:sup63-6 F 18 '33

**United States**

- Course of prices and income. *Fed Res Bul* 18:729-32 D '32
- Diversity of movements within the price level. W. W. Case. *Annalist* 41:829 Je 16 '33
- Index number off 7.5 per cent for year; with tables 1860-1933. *Dun's R* 41:26-7 Ja 21 '33
- Index numbers of wholesale prices, 1913 to September, 1932. *Monthly Labor R* 35:1206-9 N '32 [cont monthly]

- Outstanding features in the commodities. Published in weekly numbers of *Annalist*
- Uneven tempo; prices took the toboggan at widely varying speeds, are climbing back in the same way. *Business Week* p9 Ag 19 '33

Wholesale prices for 213 years, 1720 to 1932. tables diagrs Cornell Univ Agric Exp Sta Memoir 142:1-222 [bibliog p197-200] '32

**PRIESTLEY, Joseph, 1733-1804**

- Bicentenary. *Engineering* 135:287 Mr 10 '33
- Bicentenary commemorated in Leeds. *Soc Chem Ind J (Chem & Ind)* 52:239-40 Mr 17 '33
- Bicentenary of Joseph Priestley; papers by P. Hartog, A. N. Meldrum and H. Hartley. *Chem Soc J* p896-920 Jl '33
- Commemoration by the French chemical society. *Soc Chem Ind J (Chem & Ind)* 52:525-7 Je 23 '33
- Commemoration of Joseph Priestley. *Soc Chem Ind J (Chem & Ind)* 52:350-1 Ap 21 '33
- Father of modern chemistry. R. A. M. Dixon. *Chem Age (Lond)* 28:243 Mr 18 '33
- Further evidence of Priestley's sympathy for the American revolution. T. L. Davis. *J Chem Educ* 10:348-9 Je '33
- Joseph Priestley, 1733-1804. R. M. Caven. 25p Institute of chemistry of Great Britain and Ireland, 30 Russell square, London, W.C. 1 '33
- Peter Porcupine's persecution of Priestley. L. C. Newell. *J Chem Educ* 10:151-60 Mr '33
- Portrait by Margaret Fitzhugh Browne. *J Chem Educ* 10:129 Mr '33
- Some letters of the Reverend Dr. Joseph Priestley, F.R.S. R. A. M. Dixon. *J Chem Educ* 10:148-50 Mr '33

**PRIESTLEY lectures.** See Pennsylvania state college—Priestley lectures

**PRIMARY network units.** See Electric distribution—Primary network units

**PRIMATES, Fossil**

- Preliminary notice of a new genus of lemur from the Siwaliks. G. E. Lewis. *il Am J Sci* 5th ser 26:134-8 Ag '33

**PRINCE, Frederick H.**

- Railroad planner. D. Hovey. *por Barron's* 13:6 Mr 20 '33

**PRINCETON, New Jersey****Sewerage**

- Operation of the new sewage treatment plant at Princeton; abstract. I. R. Riker. *Water Works & Sewerage* 80:131-2 Ap '33
- Treatment plant at Princeton, unifies sewage disposal. T. M. Curry, jr. *il plan Water Works & Sewerage* 80:77-80 Mr '33

**PRINTED salesmanship (periodical)**

- Six-year index to Printed Salesmanship articles, October, 1927-August, 1933. *Ptd Salesmanship* 61:350-76 Ag '33

**PRINTERS**

- Agreement establishing 5-day week for printers in Chicago. *Monthly Labor R* 35:1374 D '32
- Decisions as to wages of typographical workers. *Monthly Labor R* 36:1292-4; 37:111-13 Je-Jl '33
- Decisions regarding wages of typographical workers. *Monthly Labor R* 36:1090-1 My '33
- Education on management must fall unless it is started in the shop. C. H. Armstrong. *Inland Ptr* 90:21-2 Mr '33
- Mortality experience of International typographical union, 1932. *Monthly Labor R* 36:1248-52 Je '33
- Reduction in wage scale of typographical workers, New York city. *Monthly Labor R* 36:337 F '33
- Reduction in wage scales of typographical workers; Detroit, Mich. and Memphis, Tenn. *Monthly Labor R* 37:889-90 O '33
- Wage reduction for printers in Cleveland made by award. *Monthly Labor R* 35:1375-6 D '32
- Wage reduction for printing pressmen, Chicago. *Monthly Labor R* 37:110 Jl '33
- Warn unions out-of-line wages are strangling employers. A. G. Fegert. *Inland Ptr* 90:35-7 O '32; Discussion. M. O. Wittge. 90:60 F '33



**PRINTERS—Continued**

Who's who in printing in the United States and Canada. pt 1 D. Gustafson. 72p pa \$1  
David Gustafson, 441 Sulgrave rd, Mt  
Washington, Pittsburgh '33

See also

Printing offices—  
Employees

**PRINTERS' Ink (periodical)**

420,000-card index to Printers' Ink articles.

il Ptr Ink 162:33-4 F 9 '33

Printers' Ink officers. Ptr Ink 164:20 S 14 '33

**PRINTER'S Ink model statute**

Capper bill insures against rule by bureau-  
crats. L. H. Bristol. Ptr Ink 163:40-1+ My  
25 '33

Capper's bill; discussion. Ptr Ink 163:17-21  
My 18; 44-6 My 25; 17-20 Je 1; 32-3 Je 8;  
58-9 Je 15; 61, 64-5 Je 22; 55-6 Je 29 '33

P. I. statute is introduced as federal adver-  
tising law. Ptr Ink 163:3-4+ My 11 '33

U.S. law regulating advertising is under way.  
Ptr Ink 163:10-12+ My 4 '33

**PRINTERS' rollers. See Rollers, Printers'****PRINTING**

Chemisch-technische probleme im druck-  
gewerbe. J. Bekk. Angew Chemie 46:125-9  
F 25 '33

Importance of quality in print. B. G. Harri-  
son. Soc Chem Ind J (Chem & Ind) 51:  
sup S10+ N 18 '32

Quality bound; R. R. Donnelley & sons com-  
pany. il Factory Management 91:443 N '33

See also

Advertisements  
Advertisements—  
Typography

Blotters  
Book industry and  
trade

Bookplates

Calico printing

Collotype

Color printing

Ink

Letterheads

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Paper money—En-  
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also Kimball, Ingalls

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pography

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Proofreading

Publishing

Rotogravure

Scrip—Printing

Securities—Engrav-

ing and printing

Silk printing

Textile printing

Type and type found-

ing

Typesetting

**Bibliography**

Bibliotheca typographica in usum eorum qui  
libros amant; a list of books about books.  
H. Hart. 142p Printing house of Leo Hart,  
Rochester, N.Y. '33

Fifty books about bookmaking; exhibition  
prepared by Columbia university library  
for the twelfth annual Conference on print-  
ing education, June 26, 27, 28, 1933. H.  
Lehmann-Haupt, comp. 39p Columbia univ.  
press '33

**Design**

Cover contest in nip and tuck end. il In-  
land Ptr 91:46-52 My; 39-42 Je; 32, 45 Jl '33

Type and illustration. W. Chappell. il Adv &  
Sell 20:sup[Adv Arts] 14A-14D Ja '33

Where have modern typography and type de-  
sign taken us? pls Ptd Salesmanship 61:  
279-88 Jl '33

See also

Initials

**Exhibitions**

Typographic award winners. Ptr Ink 163:41  
Ap 27 '33

**History**

Century of progress in the graphic arts. D.  
C. McMurtrie. il Ptd Salesmanship 61:212-  
19, 247-50 Je '33

**Purchasing**

Eight reasons why I give all my work to one  
printer. il Ptd Salesmanship 60:210-11+ N  
'32

How will the graphic arts code affect ad-  
vertisers' printing costs? J. L. Scott. il  
Ptd Salesmanship 62:97-100 O '33

Is reciprocity good business for either party?  
paper mills and printers. Ptd Salesmanship  
61:295-+ Jl '33

Simplified practice for advertising-printing  
production. F. M. Knox. Adv & Sell 20:26+  
F 16 '33

What we learned about reducing costs of  
forms and stationery; Westinghouse electric  
and manufacturing co. W. R. Jacobson. il  
System and Management Methods 62:302-3+  
Jl '33

**Rates**

See Printing trade—Rates

**Specimens**

Business card contest; German captures first  
and second prizes for cards. il Inland Ptr  
91:31-4 S '33

Reviews of specimens. J. L. Frazier. Pub-  
lished in monthly numbers of Inland printer

**PRINTING, Modernist**

Astonishing pell-mell of modern typography.  
F. C. Singleton. il Adv & Sell 21:26+ Jl 20  
'33

**PRINTING, Offset**

Expert describes simple process of making  
offset press plates. J. B. Webendorfer. il  
Inland Ptr 91:44-5 Ap '33

Famous schooner frontispiece is fine offset  
reproduction. Inland Ptr 91:57 S '33

Inventor of pantone shifts interest to the off-  
set-printing processes. S. H. Horgan. In-  
land Ptr 90:42 Ja '33

Offset invades non-metropolitan territory and  
earns a profit; Grand Forks, N. D. A. G.  
Fegert. il Inland Ptr 90:21-4 D '32

Offset is golden dream of printers when  
handled with brains. B. C. Chambers. In-  
land Ptr 90:54-5 Ja '33

Offset vs. letterpress; editorial. Inland Ptr 90:  
22 F '33

Photoengravers want to provide offset print-  
ers with plates. Inland Ptr 90:32-3 Ja '33

Planographic and intaglio. G. R. Mayer. Pub-  
lished in monthly numbers of Inland printer  
Printer tells experience in offset. E. J. Baker.  
Inland Ptr 91:25-7 Jl '33

Printer tells offset experience. F. Keast.  
Inland Ptr 91:57-8 Ag '33

Relief plates are basis of dry offset. Inland  
Ptr 90:42 Mr '33

See profit in offset photo sections; small-  
city publishers may imitate gravure picture  
feature of metropolitan newspapers. D. H.  
De Michaels. Inland Ptr 91:22 Ap '33; Dis-  
cussion. L. Flader. 91:53-4 My '33

Uses clear stock for novel layouts; patching  
up proofs on cellulose tissue. E. J. Baker.  
il Inland Ptr 91:58-9 S '33

**PRINTING, Practical**

Art and practice of printing. W. Atkins, ed.  
6v Pitman '32-'33

Future technique of the graphic arts. H. L.  
Gage. Inland Ptr 91:25-6 S '33

Printed piece is no better than the materials  
that go into it. pl Ptd Salesmanship 61:32  
Mr '33

Printing for amateurs and small printers. A.  
Selwyn. 73p 75c Spon '33

Printing; reproductive means and materials.  
C. C. Knights. bibliog 370p Butterworth &  
co, ltd, London '32

Use of rubber in the printing industry. G. L.  
Riddell. Rubber Age 32:245-7; Discussion. 247  
Ja 10 '33

See also

Advertisements—

Typography

Color printing

Electrotyping

Ink

Letterheads

Linotype

Photomechanical

processes

Printing offices

Printing presses

Printing trade

Proofreading

Type and type found-

ing

Typesetting

Word division

**Costs**

Auditor cuts cost of composition while keep-  
ing wage scale up. Inland Ptr 90:41 F '33

**PRINTING, Practical—Costs—Continued**

Composition costs steal profits unless based on narrow faces. W. J. Wrinkle. Inland Ptr 90:22 Mr '33

**Estimates**

Figure your paper cost quickly by this convenient method. C. A. Jettinger. Inland Ptr 90:30 Mr '33

Newspapers can and ought to make a profit on commercial printing. B. O. Brown. Inland Ptr 90:63-5 F '33

No more questioning of estimates! J. D. Towne. Inland Ptr 91:53-4 Ag '33

**Imposition**

Use of folder points saves money for you in every department. J. N. Schuster. Inland Ptr 90:59-60 Ja '33

**Layout**

Uses clear stock for novel layouts; patching up proofs on cellulose tissue. E. J. Baker. Inland Ptr 91:58-9 S '33

**Presswork**

Here is how a western firm cuts down waiting time on presses. G. W. Bradshaw. Inland Ptr 91:59 S '33

Ink troubles; their cause and remedy. Inland Ptr 91:46 Ap '33

Make-ready. W. W. Hitchner. 76p R. O. Law co, Chicago '32

New light on ink-intensity problem; photo-electric cell is put to new use in printing industry. E. L. H. Flood. Inland Ptr 91:51-2 Ag '33

Passing buck to paper often costly. Inland Ptr 91:49-50 S '33

Precision printing standards and new developments in a Century of progress; abstract. L. W. Claybourn. Inland Ptr 91:28 S '33

Pressroom. E. St John. Published in monthly numbers of Inland printer

Use of folder points saves money for you in every department. J. N. Schuster. Inland Ptr 90:59-60 Ja '33

**Style manuals**

Style manual of the United States Government printing office. rev ed 302p U.S. Govt. ptg. office, Washington '33

Value of standards is emphasized by style-book issued in India. E. N. Teall. Inland Ptr 90:62-3 Mr '33

**Tables, calculations, etc.**

Cut composing-room cost by using one of these copyfitting charts. T. F. Mills. Inland Ptr 90:55-8 F '33

**PRINTING house craftsmen**, International association of. See International association of printing house craftsmen

**PRINTING ink**. See Ink

**PRINTING libraries**

Tribute to printing and the John Henry Nash library; radio talk. J. H. Nash. Inland Ptr 91:44-5 S '33

**PRINTING machinery**

Chain drives on printing machines offer worthwhile economies. F. A. Westbrook. Inland Ptr 91:32-3 My '33

L'emploi des machines à imprimer les billets à la Compagnie des chemins de fer de l'Est. P. Calame. Inland Ptr 102:183-6 F 25 '33

How to obtain best results in roll-grinding. H. J. Wills. Mach 39:506-7 Ap '33

N.R.A. doesn't forbid lower costs; old machines aren't what they used to be. R. B. Kershaw. Inland Ptr 91:24 S '33

New equipment for the printer. Published in monthly numbers of Inland printer

**See also**

Linotype

Printing presses

**PRINTING machinery industry**

Graphic arts council wins support of all machinery manufacturers. C. N. Everett. Inland Ptr 90:25-6 Ja '33

Printing equipment association writes a code which strikes at old abuses in industry. Inland Ptr 91:66 S '33

**PRINTING offices**

Newspaper building floor designed for 2,100-lb. load; Times-Star building in Cincinnati, supported with pipe-pile foundations. W. A. Lensky. Inland Ptr 110:586-8 My 11 '33

La nouvelle imprimerie de l'illustration, à Bobigny, près Paris. Inland Ptr 103:77-82 JI 22 '33

Shares his prosperity by building new plant as business grows; Whiting press, Rochester, Minnesota. Inland Ptr 90:60 Ja '33

**See also**

Newspaper offices

United States—

Government printing office

**Employees**

Increase in wage rates of mailers, Cleveland, Ohio. Monthly Labor R 37:606-7 S '33

30-hour workweek bill dangerous, master printers assert. A. G. Fegert. Inland Ptr 91:23-4 My '33

**See also**

Printers

**Equipment**

N.R.A. doesn't forbid lower costs; old machines aren't what they used to be. R. B. Kershaw. Inland Ptr 91:24 S '33

New equipment for the printer. Published in monthly numbers of Inland printer

Printers wise will modernize; editorial. Inland Ptr 91:25 My '33

Throw out all your obsolete machinery and then profits will climb, printer says. R. S. Pearre. Inland Ptr 90:25-8 D '32

**Lighting**

Paint can be the printer's friend; pressroom walls and ceiling should be painted white. N. M. Collart. Inland Ptr 91:50-2 Ap '33

**Management**

Controlled budget holds cost low. J. D. Towne. Inland Ptr 91:52-4 JI '33

Education on management must fail unless it is started in the shop. C. H. Armstrong. Inland Ptr 90:21-2 Mr '33

Intimate talk to executives; abstract. P. J. McAteer. Inland Ptr 91:26-7 S '33

Lower costs by cutting out waste motions that delay workers. E. M. Lovendale. Inland Ptr 91:52-3 Ap '33

Offset invades non-metropolitan territory and earns a profit; Grand Forks, N. D. A. G. Fegert. Inland Ptr 90:21-4 D '32

Simplified practice for advertising-printing production. F. M. Knox. Adv & Sell 20:26-F 16 '33

Specialized plant in Indiana village has \$200,000 annual business. V. Green. Inland Ptr 91:17-18 Je '33

Today you need real plant control. J. O. P. Hummel. bibliog Inland Ptr 91:21-2 My; 21-3 Je; 33-4 JI; 47-8 Ag; 55-7 S; 92:52-3 O '33

**Power**

Good housekeeping and commonsense operating methods halve fuel bill; Scribner press building. Inland Ptr 77:178-9 Ap '33

Power for printing works; the new installation for L'illustration. Inland Ptr 111:197 Ag 18 '33

**PRINTING offices, Private**

Ask court to forbid sale of printing by tax-exempt charity plants. A. G. Fegert. Inland Ptr 90:19-21 F '33

Cold cash will stop private plants. A. G. Fegert. Inland Ptr 91:19-21 Ap '33

Tennessee bans charity print shop. Inland Ptr 91:19-20 Je '33

**PRINTING plates**

Electro-deposition in printing. Inland Ptr 112:114 Ja 27 '33; Abstract. Mech Eng 55:260 Ap '33

Expert describes simple process of making offset press plates. J. B. Webendorfer. Inland Ptr 91:44-5 Ap '33



**PRINTING plates—Continued**

- How to produce gravure and offset effects by letterpress printing. A. Frisch. pl Ptd Salesmanship 61:164 My '33  
 Offset plate is quickly and simply prepared with new products. Inland Ptr 91:56 Ap '33  
 Perfects cheap duplicate plate. Inland Ptr 91:58 Jl '33  
 Photoengravers want to provide offset printers with plates. Inland Ptr 90:32-3 Ja '33  
 Printing plate of sprayed-metal. Inland Ptr 91:55 Ap '33  
 Rubber matrix material. India Rubber W 88:35 Ag '33  
 Rubber printing plates. il India Rubber W 88:29-30+ S '33

**PRINTING presses**

- High speed a.c. drive for multiple-unit presses. G. L. Beaver. il Elec West 71:20 S '33  
 Press jams as roller jumps out. Inland Ptr 91:49-50 Ag '33  
 Presses for printing of collotypes compared as to best results. G. R. Mayer. il Inland Ptr 91:28 Ap '33  
 Story of the newspaper printing press. G. A. Isaacs. 287p Co-operative printing society ltd, London '31  
 Typographic offset press runs off small orders swiftly. il Inland Ptr 90:54 F '33

**Control**

- Low-current starting of 1000-kw converters; the conversion equipment of the Cincinnati Times-Star. L. O. Dorfman and E. L. Blankenbaker. Elec J 30:420 O '33  
 Photo-electric cell in printing. il Elec R (Lond) 112:331 Mr 3 '33  
 Rotary printing machinery; some typical applications of electric control apparatus. C. H. S. Tupholme. il Elec R (Lond) 111:813-14 D 2 '32

**Manufacture**

- Milling in two planes. M. Harris. diags Am Mach 77:664 O 11 '33

**PRINTING research**

- Huge government research projects guard printer's plant investment. W. Fawcett. Inland Ptr 90:55-6 Mr '33  
 Tells experts more study is needed; A.S.M.E. Printing industries division meeting. Inland Ptr 91:28-30 Jl '33

**PRINTING trade**

- Displacement of men by machines. E. F. Baker. 284p [bibliog p269-71] \$3.50 Columbia univ. press '33  
 Easy sales—or we're not interested; experience of a publishing company with printing trade and other sellers. Adv & Sell 20:19-20+ F 2 '33  
 Government eyes on your business. Inland Ptr 91:11-12 Je '33  
 Graphic arts committee adopts broad credit control plan. Inland Ptr 91:24 Ap '33  
 Graphic arts council wins support of all machinery manufacturers. C. N. Everett. Inland Ptr 90:25-6 Ja '33  
 Here's what regulation means; forecast of effect on printing industry. Inland Ptr 91:22-4 Jl '33  
 Industry's revival depends on ending the sale of printing at cost or less. J. T. Mackey. Inland Ptr 90:35-6 Ja '33  
 Pushed by lost business, printer learns that he has sales ability. A. L. Newsom. il Inland Ptr 91:34-5 Ap '33  
 Survey of every business near plant lowers selling expense; Garden City press, Newton, Mass. B. R. Canfield. Inland Ptr 90:29-30 Mr '33  
 Three-cent postage picks printers' pockets; "take" is millions. A. G. Fegert. Inland Ptr 90:21-3 Ja '33  
 Tough uphill pull here; can you make it? W. E. Soderstrom. Inland Ptr 90:26-8 Mr '33  
 Worked 24 hours a day and liked it; J. A. Russell superintendent of plant which did most of 1893 Columbian exposition printing. il Inland Ptr 91:25-6 Ap '33

See also

- Printers  
 Printing offices  
 Scrip—Printing

**Accounting**

- Auditor cuts cost of composition while keeping wage scale up. Inland Ptr 90:41 F '33  
 Controlled budget holds cost low. J. D. Towne. Inland Ptr 91:52-4 Jl '33  
 Profits take the place of losses with this simple cost sheet. il Inland Ptr 90:58 Mr '33

**Advertising**

- As a printer advertises; Lakeside press brochures. il Adv & Sell 21:sup [Adv Arts] 26-7 My '33  
 Get orders by advertising yourself when others quit; with mailing pieces about type faces. Inland Ptr 90:34-6 F; 38-40 Mr; 91:36-8 Ag '33  
 Inexpensive house-organ can win customers and help hold them. C. M. Jickling. Inland Ptr 91:44-5 My '33  
 Printers in Topeka use direct mail to promote sales to merchants. il Inland Ptr 91:54 Jl '33  
 Printing sells printing at less cost. C. N. Tunnell. il Inland Ptr 91:31-2 Je '33  
 Samples of printing done recently make effective aids in selling. C. J. Powers. Inland Ptr 90:40 F '33  
 These printers cashed in on post-election stunt. il Inland Ptr 90:41 D '32  
 Typographic oddities; illustrations. Inland Ptr 90:50 D '32

**Advertising service**

- Capitalizes on off season bugaboo to make profitable sales. C. N. Tunnell. Inland Ptr 90:33-4 Mr '33  
 End-of-season selling campaign and copy service pay profit. L. S. Flint. Inland Ptr 90:27-8 Ja '33  
 Florists are preparing for Easter now and here is the perfect tie-up. il Inland Ptr 90:37-9 Ja '33  
 Guard all copy ideas and dummies against theft with a label. il Inland Ptr 90:35 Mr '33  
 Retailers expect printing suggestions that quickly pay for themselves. H. P. Bridge, jr. Inland Ptr 90:27-8 F '33  
 Specializing on printing needs of two industries pays big profit; Thompson company, Dayton, Ohio. T. Mills. il Inland Ptr 91:23-4 Je '33  
 Swiping speculative ideas; printer-lithographer problems. R. K. Leavitt. Adv & Sell 21:30+ My 11 '33  
 This four-page letter will sell suits to every man in your town now! il Inland Ptr 90:37-40 F '33

**Laws and regulations**

- Ask court to forbid sale of printing by tax-exempt charity plants. A. G. Fegert. il Inland Ptr 90:19-21 F '33  
 Tennessee bans charity print shop. Inland Ptr 91:19-20 Je '33

**Rates**

- How will the graphic arts code affect advertisers' printing costs? J. L. Scott. il Salesmanship 62:97-100 O '33  
 Ignorance and fear have wrecked fair prices, readers declare. Inland Ptr 91:35-6 My '33  
 Newspapers can and ought to make a profit on commercial printing. B. O. Brown. Inland Ptr 90:63-5 F '33

**Service**

- Eight reasons why I give all my work to one printer. il Ptd Salesmanship 60:210-11+ N '32  
 Lower bills without cutting prices. S. K. Hargis. il Inland Ptr 91:25-6 Je '33  
 Make each order look like new idea and collect your profits. B. Bigelow. il Inland Ptr 90:31-2 Mr '33  
 Press impressions bring dividends only when inked with ideas. W. P. Coleman. Inland Ptr 90:53 Mr '33  
 R.F.D. loses a job; Sears, Roebuck and Montgomery Ward hire R. H. Donnelly to deliver catalogs. Business Week p8 Mr 1 '33

## PRINTING trade—Service—Continued

## Taxation

Illinois printers hit by sales levy. J. R. Bowman. Inland Ptr 91:43 Ap '33

## Canada

Canadian printers spent \$12,000,000 for paper. Pulp & Pa of Can 34:226-7 Mr '33  
Capital in printing plants decreased; 1930 and 1931 report. Pulp & Pa of Can 34:410 Je '33

## Illinois

Illinois printers hit by sales levy. J. R. Bowman. Inland Ptr 91:43 Ap '33

## Japan

Japan invades U.S. printing and paper field; letter received by American buyers of printing. Ptr Ink 163:6 Ap 20 '33  
Missionaries will not compete with U.S. printers. Ptr Ink 163:27 Ap 27 '33

## United States

Industries basic to advertising and publishing draft codes; printing code. Adv & Sell 21:17-18 Ag 17 '33  
Printers adopt fair trade code; with text as adopted at Chicago meeting, July 13-14. Inland Ptr 91:19-26 Ag '33  
Printing code administration. Inland Ptr 91:23 S '33  
Publisher-printers adopt basic code for graphic arts industry. Inland Ptr 91:21-3 S '33  
Vote trade code in Chicago July 13; with text of tentative code. Inland Ptr 91:17-21 Jl '33

## PRISMS

Light modulation; improved method for use in television. L. M. Myers. Il Electrician 109:665 N 25 '32  
Permissible curvature of prism surfaces and inaccuracy of collimation in precise minimum-deviation refractometry. L. W. Tilton. diags U S Bur Stand J Research 11:25-57 Jl '33

## PRISON industries

Menace of prison-operated plants to clay products industry; report to the Shannon committee investigating government competition. G. S. Eaton. Brick & Clay Rec 81:206 D '32  
Prison labor in the United States, 1932. U S Bur Labor Statistics Bul 595:1-216 '33; Excerpt. Monthly Labor R 37:1-24 Jl '33

## PRISON labor. See Convict labor

## PRISON libraries

Libraries in correctional institutions. E. K. Jones. Lib J 58:839-40 O 15 '33  
2500 books for the prison library. P. Jones. 72p P. Jones, State office bldg, St Paul, Minn. '33

## PRISONERS

Prisoner injured while serving term held not "employee" within compensation act. Monthly Labor R 36:116-17 Ja '33

## PRISONS

Cell house of monolithic concrete at Illinois prison. B. E. Hadley. Il Concrete 41:7-8 S '33  
Electricity in New York state prison at Attica. D. W. McIntosh. Il Elec J 30:298-9 Jl '33  
Heat treated alloy steel makes jails escape proof. J. B. Nealey. Il Steel 92:21-2+ Ja 30 '33  
Jails of Virginia. F. W. Hoffer. D. M. Mann and F. N. House. 453p [bibliog p445-7] \$5 Appleton-Century '33  
Prison days and nights. V. F. Nelson. 283p \$2.75 Little '33

## See also

Convict labor  
United States—  
Prisons, Bureau of

## PRIVATE brands

Chain grocery to handle own brand toothpaste. Ptr Ink 162:44 Ja 26 '33

Deal strangles chain good-will for branded lines; makes featuring of private brands essential to profits. R. I. Harry. Ptr Ink 161:25-8 D 8 '32

Firestone renews his fight on private-brand tires. Ptr Ink 163:58-60+ Ap 6 '33

Grocery industry progressing rapidly in their house cleaning; abstract. P. S. Willis. Sales Management 31:472-3 D 1 '32

New sales angles will conquer unbranded merchandise. Ptr Ink 162:72 Ja 26 '33

Private-brand packages catch up. C. B. Larabee. Il Ptr Ink Mo 26:22-3 Je '33

Right now, the private brand is a poor bet. Ptr Ink 161:36-7 D 29 '32

Ten answers to substitute brands. H. Deutsch. il Nation's Business 21:37-40 Ja '33

What about private brand cigarettes? H. Deutsch. il Adv & Sell 20:18 Mr 30 '33

What about private brands? H. Deutsch. il Adv & Sell 20:17-18+ Mr 30 '33

What the voluntary chains think of the manufacturer. Ptr Ink 163:64+ Ap 6 '33

## See also

Advertising, National Trade marks  
Marketing Trade names  
Sales policies

PRIVATE flying. See Airplanes—Private ownership

## PRIZE contests

200 per cent sales increase; prize contest for retail salesmen, Zenith radio corporation. E. A. Tracey. Ptr Ink 162:68 Mr 2 '33

## See also

Advertising—Prize Show windows—  
contests Prize contests  
Sales contests

## PROBABILITIES

Application of probabilities to the counting of alpha-particles. N. I. Adams, Jr. Phys R 44:651-3 O 15 '33

Application of the law of mathematical probability to the behavior of gases in their pressure-volume-temperature relations. G. A. Linhart. J Phys Chem 37:645-53 My '33

Arriving at a labor recruiting policy through the statistical interpretation of routine employment data. H. Van Drooge. Harvard Business R 12:47-58 O '33

Mathematical theory of rational inference. T. C. Fry. Mech Eng 55:488-9; Discussion. 489 Ag '33

Probability and the exponential laws of physics. M. C. Holmes. J Fr Inst 215:281-5 Mr '33

Probability theory and telephone transmission engineering. R. S. Hoyt. Bell System Tech J 12:35-75 Ja '33

Statistics and engineering. D. W. Walton. Engineer 154:633-4 D 23 '32

Theory of probability. A. A. Bennett. Elec Eng 52:752-7 N '33

## See also

Frequency distribution

## PROBATE law

Advances in probate legislation affecting estates and trust administration. W. C. Turpin, Jr. Trust Companies 56:231-4 F '33  
Surrogate's proceedings simplified. M. Rubin. 479p \$6 Prentice-Hall '33

## See also

Estates, Decedents' Inheritance tax  
Executors and administrators Wills

## PROBATION system

Probation and criminal justice; essays in honor of Herbert C. Parsons. S. Glueck, ed. 344p \$3 Macmillan '33

## PROBOSCIDEA

Biological inductions from the evolution of the proboscidea. H. F. Osborn. Science 76:501-4 D 2 '32

## PROCAINE. See Novocaine

## PROCESS charts

How are you going to train your new operators? use of process charts. A. H. Mogenssen. il Factory Management 91:351-3 S '33



**PROCESS charts—Continued**

Process chart—indicator of profitable changes. A. S. Crockett and J. E. Gillon. *il Factory Management* 91:214-16 Je '33

**PROCHAZKA, George A.** 1855-American contemporaries. J. C. Olsen. *por Ind & Eng Chem* 25:711-12 Je '33

**PROCTER and Gamble company**  
Procter & Gamble's good year. *Econostat* 1:14-15, 23 Ag 12 '33

**PRODUCE terminals.** See **Railroads—Produce terminals**

**PRODUCER gas.** See **Gas, Producer**

**PRODUCERS and refiners corporation**

Parco properties to be sold to highest bidder under federal court order. *Oil & Gas J* 32:42 O 26 '33

**PRODUCTION**

L'ajustement de la production à la consommation. P. Razous. *Génie Civil* 103:300-4, 327-30 S 23-30 '33

Challenge from orphan Annie; distribution has been blamed too often for production's escapades. L. E. Kirstein. *Ptr Ink Mo* 26:36+ Ap '33

Consumption goods vs. capital goods. *Barron's* 13:10 O 16 '33

Diminishing returns of mass production. D. S. Kimball. *Factory & Ind Management* 84:29-30+ Ja '33

Lay-outs for mass production. H. R. M. Thorp. *diag Engineer* 155:530 My 26 '33

Plant overexpansion as a logical result of the Industrial recovery act. W. W. Hay. *Annalist* 42:115-16 Jl 28 '33

Production and purchasing power; a study in support of a view expressed in the first A.E.C. report on economic balance. C. A. Norman. *il Mech Eng* 55:549-55 S '33

Social effects of mass production. D. S. Kimball. *il Mech Eng* 55:83-9 F '33; Same. *Science* 77:1-7 Ja 6 '33

What the machine has done to us. W. S. Giese. *charts Iron Age* 131:544-5, 571+ Ap 6 '33

*See also*

Economics	Manufactures
Factory management	Overproduction
Labor productivity	Quantities (in production)
Machine shop management	Seasonal industries
Machinery in industry	Supply and demand

**Statistics**

Changes in physical production, industrial productivity and manufacturing costs, 1927-1932. F. C. Mills. *Nat Bur of Economic Research Bul* 45:1-6 F 20 '33

Growth curves; applications of the Pearl-Reed population curve to the growth of industrial production. W. Rautenstrauch. *Mech Eng* 55:433-7 Jl '33

Index of industrial production, 1919-1933. *Fed Res Bul* 19:584-5 S '33

Industrial production and trade; the record of physical volume of business in the United States, 1919-33. W. M. Persons. *Barron's* 13:18 My 15 '33

Industrial production, by industries. Published in monthly numbers of Federal reserve bulletin

Industrial production, by industries (adjusted indexes and unadjusted indexes) monthly, August 1932-August 1933. *Fed Res Bul* 19:662-3 O '33

1930 census of production. *Economist* 116:288-9, 513-14 F 11, Mr 11 '33

Physical volume of production of gold, silver, and other commodities. G. F. Warren and F. A. Pearson. *Am Statis Assn J* 28:sup113-17 Mr '33

Recent course of production. *Fed Res Bul* 18:679-80 N '32

Review of world production, 1925-1931. 163p World peace foundation, Boston '32

World production in 1932. *Economist* 116:174-5 Ja 28 '33

**PRODUCTION, Cooperative.** See **Cooperation**

**PRODUCTION, Limitation of**

NACM opposes lifting limits on machine hours. *Textile World* 83:1798 O '33

Production control committee of the A.I.M. E. awaits a workable method. A. Notman. *Min & Met* 14:8 Ja '33

Prosperity by allotment in 1933; pending legislation offers practical way out for raw material producers including the farmer. T. M. Knappen. *Mag of Wall St* 51:256-7+ D 24 '32

Reconstruction by direct action; dictators for agriculture and basic manufacturing groups. *Manuf Rec* 102:16 Ap '33

Report of the World economic conference; co-ordination of production and marketing. *Economist* 117:sup5 Jl 29 '33

*See also*

Petroleum industry and trade—International aspects	Petroleum laws and regulations
Petroleum industry and trade—United States—Overproduction problems	Rubber industry and trade

**PRODUCTION and sales, Coordination of**

Budgeting production effects material savings in costs. E. N. Hood. *il Textile World* 83:386-7 F 28 '33

How Grinnell forecasts sales five months in advance. M. S. Sullivan. *Sales Management* 32:508+ My 15 '33

Installation and operation of sales budgets. H. E. Howell. *Management R* 21:355-62 D '32

More sales for your money; Miller, Franklin & company. C. H. Hatch. *Ptr Ink* 164:49+ Ag 17 '33

Retailers help this company to style its products; Powdrell & Alexander, Danielson, Conn. *Ptr Ink* 161:66-7 D 29 '32

Sales manager's dream became the production manager's nightmare; Sun-maid raisin growers' association. W. K. Hines. *il Food Ind* 5:387-9 O '33

**PRODUCTION control**

Block scheduling moves orders, minimizes inventories; Bauer & Black. *Factory & Ind Management* 83:471-3 D '32

Eliminating red tape in controlling production; Michigan tool co. B. Finney. *il Iron Age* 131:424-5 Mr 16 '33

Making flow production flow. H. Giese. *il Factory Management* 91:272-4 Jl '33

Production control. T. M. Landy. *Factory & Ind Management* 84:21-3, 65-8 Ja-F '33; [cont as] *Factory Management* 91:84-7, 131-4, 195-7, 229-31, 263-4, 363-4, 451-2 Mr-Jl, S, N '33

Production control system employs Addressograph equipment. C. H. Getz. *il Iron Age* 131:502-5+ Mr 30 '33

Real silk hosiery mills has accurate system of production control. F. P. Delks. *Textile World* 83:1092-3 Je '33

Standards for production control. A. M. Lindsley. *charts Am Mach* 77:421-4, 462-5, 492-3 Jl 5-Ag 2 '33

Statistics and engineering. D. W. Walton. *Engineer* 154:661-2 D 30 '32

This system synchronized Boeing production; abstract. M. E. Bridston. *Management R* 22:311-12 O '33

We give them what they want—but standardize just the same; oil gage procedure, AC spark plug company. Flint, Mich. M. Spear. *il Factory Management* 91:259-62 Jl '33

We see what's wrong; graphic records for production control. E. Szepesi. *Textile World* 83:1438 Ag '33

*See also*

Factory management	Routing systems
Production and sales, Schedules	
Coordination of	

**PRODUCTS, Accessory**

Compression tester breaks all sales records for Hastings piston rings. L. B. Colby. *il Sales Management* 33:311 O 1 '33

How Sunkist triple checked a market survey; sale of extractors. W. B. Geissinger. *Ptr Ink* 163:60-2 My 18 '33

**PRODUCTS, Accessory—Continued**

New deal in coffee; McLaughlin's utensil offer.

il Ptr Ink 163:39-40 Ap 6 '33

Point-of-use display wins 3,000,000 sales in 10-month period; Cigaret machine and Target tobacco. il Sales Management 32:72 Ja 15 '33

**PRODUCTS, Certification of**

Laundry industry establishes seal of fabric quality. il Ptr Ink 165:72-3 N 2 '33

See also

Trade marks, Association

**PRODUCTS, Coal tar.** See Coal tar products

**PRODUCTS, Dairy.** See Dairy products

**PRODUCTS, Diversified**

Decentralization aids manufacture of diversified products. A. F. Murray. Iron Age 132:23 Ag 3 '33

See also

Family of products

Side lines

**PRODUCTS, Identification of**

Even sausage casings can have consumer acceptance; Visking advertising directed to meat dealers' trade. il Ptr Ink 163:75-6+ Ap 20 '33

Knitted-in identification lifts pioneer product's sales; Nelson Rockford socks. il Ptr Ink 162:33-4 Ja 19 '33

This label has convenience and sales appeal; Pequot sheets. il Ptr Ink 162:27-8 Ja 19 '33

**PRODUCTS, Improved**

Boy market is depression proof, this advertiser finds; Daisy air rifles. C. S. Hough. il Ptr Ink 164:41+ Ag 10 '33

Dollars and cents angle of product design. S. Nowak. il Ptr Ink Mo 26:20-1+ F '33

Done by design; Ditto machine. J. S. Hernlund. il Factory Management 91:437-9 N '33

Frigidaire turns bank holiday into salesfest for new line. il Sales Management 32:323+ Ap 1 '33

Frigidaire's \$2,000,000 campaign. H. W. Newell. Ptr Ink 162:56+ Mr 23 '33

Improved materials widen markets. H. R. Simonds. Iron Age 131:34-6, 104-5+ Ja 5-12 '33

Nemesis of mass production. M. Sykes. Comm & Fin 22:296 Mr 29 '33

New model opens new markets; Copeland refrigerators. W. D. McElhinny. il Ptr Ink 162:26-8 Mr 23 '33

100,793 women bossed our 1933 product design job; Norge corporation. H. E. Blood. Sales Management 33:261+ S 15 '33

Product development under regulated industry. G. S. Radford. il Adv & Sell 21:24, 55 Ag 3 '33

Redesign: what it means in the comeback process; Norge corporation. H. E. Blood. il Ptr Ink 162:69, 72-4 Mr 30 '33

Restyling—a major factor in future merchandising programs; interview with Gordon Armstrong. il Iron Age 130:987-8+ D 29 '32

Restyling service—a new development in merchandising. G. Armstrong. il diag Iron Age 131:97-8+ Ja 12 '33

Salability and the shop. J. Haydock. il Am Mach 77:32b-d Ja 18 '33

68 per cent increase in dealer outlets since 1929; Caterpillar tractor co. P. C. Smith. il Ptd Salesmanship 61:276-8 Jl '33

Something new to talk about every trip; Aluminum goods manufacturing company. il Ptr Ink 161:43 D 1 '32

Where psychology fits into today's marketing plans. L. H. Chalkley. Ptr Ink 164:108-10 S 14 '33

Yes, even against odds, steady effort wins; American cable co. J. O. Lashar. il Ptr Ink 162:64-6 My 18 '33

**Advertising**

Front page shirt advertising. il Ptr Ink 162:72 Ja 5 '33

**PRODUCTS, Molded.** See Molded products

**PRODUCTS, New**

And now it's Arrow cravats. il Ptr Ink 161:10+ D 15 '32

Bankers and engineers can restore our former prosperity; promotion of new industries. M. Bjorndal. Bankers M 125:575-8 D '32

Basic ingredients of a new product program; research, development of logical outlets, and co-operation of sales force. E. S. Sanderson. Ptr Ink 161:17-19 D 29 '32

British products recently introduced. Business Week p24 Mr 22 '33

Carbona's new product venture as Dartmouth sees it. Ptr Ink 162:63-5 F 2 '33

Coming out, yes; but where to? new and better products. C. F. Kettering. Ptr Ink 162:10+ Mr 30 '33

Copper teakettle and 160,000 orders. il Ptr Ink 162:16 F 9 '33

Custom-building a new product to the wants of the market; C. F. Church manufacturing company. R. S. McFadden. il Sales Management 33:74, 76 Jl 15 '33

Depression reveals 33 per cent of market is neglected; American Radiator merchandises Arcola to old homes. B. A. Grimes. Ptr Ink 165:33-5 O 5 '33

Design strategy helps industrial firm crash new consumer market; Sealright paper cups. R. S. McFadden. il Sales Management 33:272+ S 15 '33

Developing a new product—a method of procedure; abstract. H. W. Hoover. Management R 22:345-6 N '33

Developing a new product in a competitive market; Bosco. W. C. Scull. il Ptr Ink 163:10-12 Je 22 '33

Does it ever pay to sell at a loss to absorb overhead? W. E. Curley. il Sales Management 32:431-2+ Ap 20 '33

Exhibition in print of new products and designs; items for builders, architects and dealers at Century of progress exposition. il Am Bld 55:54-65 Je '33

Faith in tooth powder prepares way for new product; Dr Lyon's astringent mouth wash. il Ptr Ink 162:10+ Mr 2 '33

Grocery trade-mark helps new drug product; Worcester salt tooth paste. C. H. Dickson. il Ptr Ink 161:38-9 D 22 '32

How new products are found and developed. Ptr Ink 162:93-5 Ja 19 '33

How shall we get higher price in changing market? Walter Booth shoe company. H. O. Leiser. il Ptr Ink 163:3-4+ Je 1 '33

How to sell rattlesnake meat. R. Dickinson. il Ptr Ink 161:24-6 D 29 '32

Hunts new product ideas, gains unrelated field leadership; Jenkins fruit jar rings. J. R. White. il Ptr Ink 163:44-6 Ap 27 '33

Industrial advertiser opens new markets with new products; Babcock & Wilcox insulating firebrick. J. E. Brinckerhoff. il Ptr Ink Mo 27:45-6 Jl '33

Kreml introduces sister-product through "outsert" sampling plan. Sales Management 32:604 Je 15 '33

Look for new ways of merchandising. L. P. Fisher. Adv & Sell 20:18+ Ja 19 '33

Making new products new; the artist has given way to the product designer who knows his markets, materials, and manufacturing methods. il Business Week p20 F 15 '33

New ink; Ault & Wiborg co. il Ptr Ink 161:56 D 15 '32

New product now and then helps the whole line; Rome manufacturing company. il Ptr Ink 165:95 O 12 '33

New products. Business Week p22-3 N 11 '33

New products; a way to industrial recovery. Ohio State Univ Eng Exp Sta News v4, no 4:1-3, 12-13 D '32

New products main theme of industrial advertising. C. M. Taylor. Ptr Ink 164:8-10 Ag 3 '33

New products pay dividends on textile research. il Textile World 83:384-5 F 28 '33

New things; business builders for 1933. il Management Methods 62:59-61+ F '33

No business can escape change. Published in monthly numbers of Nation's business



**PRODUCTS, New—Continued**

Old company, new product; result: new profits for Stanley Works making construction toy. A. L. White. *il Forbes* 32:13 N 1 '33

Ounces to tons. G. C. McCarten. *Chem Markets* 32:523-5 Je '33

Pee-wee radio. C. A. Verschoor. *il Ptr Ink* 162:3-4+ F 16 '33

Problems of the agency when the product isn't right. A. C. Lescarbours. *il Adv & Sell* 21:18+ O 12 '33

Product development under regulated industry. G. S. Radford. *il Adv & Sell* 21:24, 55 Ag 3 '33

Save the plant—and lose the market. J. A. Murphy. *Adv & Sell* 21:21+ O 12 '33

Seven Swedes in a swamp; product; mosquito chaser. C. M. Odell. *Ptr Ink* 163:10+ My 25 '33

Six months' quota that was reached the first month; Y and E record chest. D. W. Duffield. *il Ptd Salesmanship* 62:36-7 S '33

Some new products. *Ptr Ink* 164:107 Ag 17 '33

Spencerian adds new product; 75-year-old company, brings out \$1.50 fountain pen. *il Ptr Ink* 162:35-6 Mr 2 '33

Stronger selling plan for weaker markets keeps sales and profits soaring; Lederer manufacturing company, Detroit. A. B. McWood. *Sales Management* 32:478+ My 1 '33

Test—test—test; the essentials of a product development program; General foods corporation. L. W. Waters. *il Ptr Ink* 162:3-5+ Ja 26 '33

There'll be no rabbit! A. H. Little. *il Ptr Ink* 163:25-8 My 25 '33

Used salesmen in market research in developing new product; Babcock & Wilcox co.'s new firebrick. B. & W. 80 Junior. *Iron Age* 131:752 My 11 '33

Watch these infant industries in 1934. C. R. Long. *il Sales Management* 33:440-1 N 1 '33

What's new in Britain. *Business Week* p27 Ja 24 '33

When the customers vote their preferences; silk strings for tennis rackets. F. Saladino. *il Ptr Ink* 163:72-5 Je 8 '33

Where psychology fits into today's marketing plans. L. H. Chalkley. *Ptr Ink* 164:108-10 S 14 '33

*See also*

Family of products

**Advertising**

Advertising leads new product into many uses; a depression-born cellulose fiber, Solka. *il Ptr Ink Mo* 27:44 O '33

And now Socony cleaning fluid. *il Ptr Ink* 164:20 Ag 10 '33

Coty invades beauty shops; hair lotion is introduced through business papers and direct mail, with general advertising to come later. *il Ptr Ink* 161:25-6 D 15 '32

5,000,000 bottles in eight weeks is Vicks goal; new antiseptic backed by \$1,200,000 campaign. *il Ptr Ink* 162:10+ Ja 26 '33

Four major jobs for advertising under industrial recovery; fairer competition, justification for price increases, winning new customers, gaining acceptance for new products. K. R. Costikyan. *Ptr Ink* 164:41-3 Ag 31 '33

How this new product covered nation in three years; Perstik. *il Ptr Ink* 164:56-7 Jl 27 '33

New products and the advertising appropriation. C. B. Larrabee. *il Ptr Ink* 162:3-4+ Mr 30 '33

New soap enters advertising ranks; Kirk program. *il Ptr Ink* 163:32 My 18 '33

Shell stakes \$2,000,000 on a new product. *il Ptr Ink* 163:5-6 Ap 6 '33

These simple mailing pieces sell, and pull inquiries; Savogran remover and bleacher. *Ptr Ink* 163:80-1 My 25 '33

Using direct mail to keep dealers in line; Gem did not want sales of new blade to lessen interest in single-edge product. B. A. Grimes. *il Ptr Ink* 161:64-5 N 17 '32

**Exhibitions**

Designers show new products. *Adv & Sell* 20:28 F 2 '33

New products exhibition and conference, Boston. *Business Week* p9-10 My 24 '33

**Testing**

Impromptu test, and then the advertising starts; Smoothie, new product for making ice cream. B. A. Grimes. *il Ptr Ink* 164:81-2 Jl 27 '33

Test—test—test; the essentials of a product development program; General foods corporation. L. W. Waters. *il Ptr Ink* 162:3-5+ Ja 26 '33

**PRODUCTS, Quality of.** *See* Quality of products

**PRODUCTS, Revived**

Revere resurrects copperware for kitchen—sales boom. H. Kerkow. *il Sales Management* 31:514+ D 15 '32

**PRODUCTS, Rock.** *See* Rock products

**PRODUCTS, Secondary.** *See* Quality of products

**PRODUCTS, Technical.** *See* Technical products

**PRODUCTS, Use of.** *See* Instruction in use of product

**PRODUCTS, Used**

Necktie seller turns buyer. *Ptr Ink* 162:78 Mr 2 '33

New kinks for marketing the repossession. A. E. Graham. *Adv & Sell* 20:15-16+ D 8 '32

When a new hat is not new. *Ptr Ink* 164:55 Jl 27 '33

*See also*

Automobile industry	Machine tool industry
and trade—Used	—Used machines
cars	Trade-in policies

**PRODUCTS, Waste.** *See* Waste products

**PROFESSION, Choice of**

Life work. C. C. Robinson, ed. (Leadership ser. v 16) 346p Univ. society, inc, New York '33

Vocational guidance in engineering lines. J. A. L. Waddell, F. W. Skinner and H. E. Wessman, eds. 521p American assn. of engineers, inc, New York '33; Review. *Prof Eng* 18:7-8 Ap '33

*See also*

Occupations, Choice of

**PROFESSIONAL advertising**

*See also*

Architects—Advertising

**PROFESSIONAL associations**

**Accounting**

American institute of accountants' examination in accounting theory and practice, November 17, 1932. *J Account* 55:59-68 Ja '33

**PROFESSIONAL education**

*See also*

Engineering education  
Library schools and training  
Medical education

**PROFESSIONAL ethics**

Advertising and solicitation of business by accountants. *J Account* 56:85-9 Ag '33

*See also*

Accounting ethics	Legal ethics
Banking ethics	Medical ethics
Business ethics	Newspaper ethics
Engineering ethics	

**PROFESSIONS**

Compensation in the professions. L. W. Bartlett and M. B. Neel. 187p [bibliog p147-82] Association press, New York '33

Professions. A. M. Carr-Saunders and P. A. Wilson. 536p \$6.75 Oxford '33

**PROFILING**

Higsen-Nube universal die-sinking, engraving, and profiling machine. *il Mach* 40:182 N '33

**PROFILING—Continued**

Naumann profile grinder facilitates making of form tools and gages. *Il Iron Age* 131:279 F 16 '33

Profile grinding machine for tools and gages. O. P. van Steewen. *Il Mach* 39:411-13 F '33

Profiling fixture. D. L. Curtis. *diags Am Mach* 77:121-2, 185 F 15, Mr 15 '33

Profiling operations on pantograph machines; illustrations. *Mach* 39:446-8 Mr '33

**PROFILOGRAPH**

New profilograph measures roughness of finely finished and ground surfaces. E. J. Abbott and F. A. Firestone. *il diag Automotive Ind* 69:204-7 Ag 19 '33

Specifying surface quality; a method based on accurate measurement and comparison. E. J. Abbott and F. A. Firestone. *il Mech Eng* 55:569-72 S '33

**PROFIT**

Behind-the-scenes picture of American Tobacco profits. *il Ptr Ink* 162:51-3+ Mr 30 '33

Business man and inflation. J. S. Lawrence. *Econostat* 1:6-10+ O 21 '33

Corporation profits and deficits, 1931-1932. *Nat City Bank* p57-9 Ap '33

Does it ever pay to sell at a loss to absorb overhead? W. E. Curley. *il Sales Management* 32:431-2+ Ap 20 '33

Earnings—just a record; first quarter. *Business Week* p20 Je 10 '33

Earnings—mostly deficits; third-quarter reports. *Business Week* p18 N 23 '32

Earnings; 1932 reports; eighteen companies show increase in net income. *Business Week* p11 Mr 1 '33

Falling population growth and consumption indicate lower profits. J. R. Arnold. *Analyst* 41:459-60+ Mr 31 '33

First the profitgraph—and now the turnover-graph. C. E. Knoepfel. *Factory & Ind Management* 8:4-5 Ja '33

Gain in second quarter profits. *Nat City Bank* p122-3 Ag '33; Same abr. *Barron's* 13:19 Ag 7 '33

How to control profits while reducing sales costs. S. A. Weart. *Ptr Ink Mo* 27:22-3 N '33

Industrial profits. *Economist* 116:798-9; 117: 168-70, 754-5 Ap 15, Jl 22, O 21 '33

Industrial profits, 1932. *Economist* 116:61-2 Ja 14 '33

Learning the philosophy of profit. J. L. Harrison. *Eng N* 111:73-5 Jl 20 '33

Net earnings of American corporations. *Bradstreet's* 61:313-14 F 11 '33

1932 annual reports. *Nat City Bank* p38-40 Mr '33; Same. *Barron's* 13:18 Mr 13 '33

184 companies report for first six months of 1933; tabulation. *Ptr Ink* 164:68-70 S 7 '33

Outstanding industrial recoveries. *Economist* 116:757-8 Ap 8 '33

Path of common-share earnings; steels, motors, and tobaccos. *Barron's* 13:19 Je 5 '33

Per share earnings. Published in weekly numbers of *Barron's*

Post-war course of corporate profits as determined by net-to-gross profit ratios. W. L. Crum. *Harvard Business R* 11:336-48 Ap '33

Production for profits. D. R. Stevens. *Elec W* 102:113-15 Jl 22 '33

Profit engineering. C. E. Knoepfel. 326p \$3 McGraw-Hill '33

Profits again! second-quarter earnings. *Business Week* p16 Ag 5 '33

Profits first! D. A. Weir. *Credit & Fin Management* 35:10-11+ Je '33

Profits for capital assure buying power for labor. D. Blanchard. *Automotive Ind* 69:353-5 S 23 '33

Profits; from a 71-company sample, average net earnings for 1932 are put at 0.6%. *Business Week* p18 F 15 '33

Profits of the steel industry, 1921-1932. *Nat City Bank* p141-3 S '33

Profits vs. plant capacity. C. E. Knoepfel. *Chem Markets* 31:499-502 D '32

Recovery and the profit problem. J. W. O'Leary. *il Nation's Business* 21:30+ N '33

Recovery earnings; third-quarter reports. *Business Week* p16 N 4 '33

Simple rules of good business. W. M. McCormick. *Sales Management* 31:423-4+ N 15 '32

Ten guideposts to profits under higher wages and shorter hours. C. R. Hatch. *il System* 62:487-9, 524 N '33

Third quarter profits. *Nat City Bank* p172-4 N '33; Excerpt (table). *Barron's* 13:19 N 13 '33

Those third quarter figures. *Ptr Ink* 165:13 N 9 '33

Thoughts on profits. C. F. Abbott. *Chem Markets* 32:526-7 Je '33

322 companies report for 1932; tabulation. *Ptr Ink* 163:54-5, 58-60 Ap 13 '33

Twenty-five more advertisers report for 1932. *Ptr Ink* 163:56 My 25 '33

Week's earnings record. Published in weekly numbers of *Econostat*

Why Jewel Tea earned a million last year. M. H. Karker. *il Management Methods* 62: 209-11+ My '33

*See also*

Capitalism

Corporations—Finance

Income

Interest

Investments

Price policies

**PROFIT sharing**

Banker's stake in the new co-operative movement. E. H. Hull. *Bankers M* 126:132-4 F '33

Changing sphere of profit sharing. *Management R* 22:310 O '33

Do salaried jobs hamstring company executives? G. James. *Sales Management* 31:463-4+ D 1 '32

Profit sharing schemes; present position in the chemical industry. *Chem Age (Lond)* 29:8 Jl 1 '33

Profit sharing with salesmen doubled this jobber's sales in five years; the House of Krasne. L. M. Hughes. *Sales Management* 31:466-7+ D 1 '32

*See also*

Bonus system

Cooperation

Employees as stockholders

**PROGRESS**

Century of progress—what next? K. T. Comp-ton. *W Soc E J* 38:197-202 Ag '33; Same cond. *il Mech Eng* 55:478-80 Ag '33

Contribution of engineering to progress. E. J. Mehren. *Prof Eng* 18:6-8 Jl '33; Same. *W Soc E J* 38:192-6 Ag '33; Same. *Am Cer Soc Bul* 12:291-5 O '33; Excerpts. *Mech Eng* 55:475-7 Ag '33; *Architecture* 68:299-300 N '33

Engineer and a Century of progress. H. P. Charlesworth. *Elec Eng* 52:445-8 Jl '33

Engineers and progress. B. Gherardi. *Elec Eng* 52:257-8 Ap '33

Evolution of society as influenced by the engineer. J. C. Merriam. *Elec Eng* 52:171-3 Mr '33

Must science ruin economic progress? J. Stamp. *Engineer* 156:294 S 22 '33

Supplementing natural resources. H. E. Howe. *Elec Eng* 52:188-9 Mr '33

*See also*

Civilization

Inventions

Social problems

**PROHIBITION**

Alcohol and narcotics control change sought. *Oil Paint & Drug Rep* 123:15, 34; Editorial comment. 13 Ap 10 '33

Congress for repeal. *Business Week* p3-4 D 7 '32

Dry fight in Europe and its relation to America. E. B. Gordon. 246p *Woman's national committee for law enforcement*, Washington college press, Takoma Park, D.C. '33

Industrial alcohol is unaffected by repeal. *Oil Paint & Drug Rep* 124:17+ N 13 '33

John Barleycorn, his life and letters. D. A. Poling. 245p John C. Winston co, Philadelphia '33

Planning for beer means planning for repeal. R. W. Sherman. *il Am Arch* 143:52-4 Jl '33

Prohibition's last days. M. Sykes. *Comm & Fin* 22:715 Ag 16 '33



**PROHIBITION—Continued**

Repeal fight; real battle will be in the 20 high-resistance states. *Business Week* p6 Mr 1 '33

What of the liquor racketeer? L. E. Lawes. *Econostat* 1:17 Ap 8 '33

See also  
Liquor traffic

**Economic aspects**

Economic aspects of repeal; probable effect upon government revenues and business. *Index* 13:165-71 O '33

Economic results of prohibition. C. Warburton. 273p [bibliog p264-8] \$3.25 Columbia univ. press, New York '32

Prohibition and the tariff. R. M. Harriss. *Comm & Fin* 21:1374 N 23 '32

Prohibition reform and the banker. J. S. Lawrence. *Bankers M* 126:119-23 F '33

Wet dividends. J. S. Lawrence. *Bradstreet's* 60:1623-5+ D 10 '32

What imminent repeal can do. G. P. Manton. *Mag of Wall St* 52:571+ S 30 '33

**PROJECTILES**

Gerlich rifle and bullet; abstract. G. P. Wilhelm. *diag Mech Eng* 55:510 Ag '33

Mile-a-second bullets from new rifle; Gerlich rifle and bullet. *diags Sci Am* 149:184 O '33

Shotgun shells in the making. *il Sci Am* 147:352-3 D '32

See also  
Ballistics  
Photography of projectiles

**PROJECTION apparatus**

Textile projector discloses knitted and woven defects. W. P. Seem. *il Textile World* 83:234-5 F 14 '33; Same. *Melliand* 4:712-14 Mr '33

See also  
Lantern slides  
Light projection  
Moving picture machines  
Searchlights

**PROMISSORY notes**

Computing maturity of note; suit. *Bankers M* 127:288-90 S '33

Set-off by indorser against insolvent bank; suit. *Bankers M* 126:591-2 Je '33

**PROMOTERS, Fraudulent**

How to spot fake stocks. R. W. Schabacker. *Forbes* 31:30-1 Je 1 '33

**PRONUNCIATION**

Pronunciation of botanical terms. R. W. Brown. *Science* 78:333-5 O 13 '33

**PROOFREADING**

Proofreader, compositors must work as a team. E. N. Teall. *Inland Ptr* 90:59-60 D '32

Proofroom. E. N. Teall. Published in monthly numbers of *Inland printer*

Young proofreader must use tact in dealing with his superiors. E. N. Teall. *il Inland Ptr* 91:47-8 Je '33

See also  
Printing, Practical  
—Style manuals  
Word division

**PROPAGANDA**

Hitler on advertising. *Ptr Ink* 164:78-9 Jl 20 '33

Majorities, minorities, and legislation. P. H. Odegard. *Ann Am Acad* 169:29-46 S '33

Propaganda and education. W. W. Biddle. \$1.50 84p [bibliog p83-4] Teachers college, Columbia univ, New York '32

Propaganda menace. F. E. Lumley. 454p [bibliog p433-45] Appleton-Century '33

Public utility and progressive propaganda in the Congressional record. H. Corey. *Pub Util* 12:312-19 S 14 '33

See also  
Lobbying

**PROPANE**

Dewaxing oils in propane solution with self-refrigeration. W. H. Bahlke, R. N. Giles and C. E. Adams. *flow diag il diag Am Pet Inst Proc* 14M(3):16-23 My '33; Excerpt. *Nat Pet N* 25:37, 38-9 My 17 '33

Equilibrium dehydrogenation of ethane, propane, and the butanes. F. E. Frey and W. F. Huppke. *bibliog diag Ind & Eng Chem* 25:54-9 Ja '33

Handbook of butane-propane gases. G. H. Finley, ed. 279p [bibliog p267-73] \$5 Western gas, 124 West Fourth st, Los Angeles '32

Ignition of gases; ignition by a heated surface; (a) mixtures of ethane, propane, or butane with air; (b) mixtures of ethylene, propylene, or butylene with air. C. A. Naylor and R. V. Wheeler. *Chem Soc J* p1240-7 S '33

Limits of inflammability of natural gases containing high percentages of carbon dioxide and nitrogen. G. W. Jones and R. E. Kennedy. tables U S Bur Mines Rep of Invest 3216:1-23 '33; Same. *Am Gas J* 139:13-15, 46 Jl; 21-3 Ag '33; Same abr. *Gas Age* 72:53-6 Jl 15 '33

Results obtained from use of propane during dewaxing and treating of lubricating oil. U. B. Bray, C. E. Swift and D. E. Carr. *Oil & Gas J* 32:14-16+ N 2 '33; Abstract. *Nat Pet N* 25:30-2 N 1 '33

Self-refrigeration of lubricating oils through use of propane improves their quality. R. C. Conine. *il diags Oil & Gas J* 31:11+ My 4 '33

Vapor pressures of propane and propylene. A. W. Francis and G. W. Robbins. *diag Am Chem Soc J* 55:4339-42 N '33

**PROPANEDIOL**

Local anesthetics derived from dialkylaminopropanediols; esters of piperidino-propanediol. E. W. Scott and T. H. Rider. *Am Chem Soc J* 55:804-5 F '33

**PROPELLERS**

Air drive for boats for shallow water. *il diag Engineering* 136:192 Ag 25 '33

Cargo ship design. G. S. Baker. *diags Marine Eng* 38:298-301 Ag '33

See also  
Airplane propellers

**Manufacture**

Prevent losses with proper gates and risers. P. Dwyer. *diags Foundry* 60:40-2 D '32

**Testing**

Cavitation. E. F. Eggert. *Marine Eng* 38:97-100 Mr '33; Abstract. *Marine R* 62:21 D '32;

Discussion. *Marine Eng* 37:519-21 D '32

Propeller performance. W. R. G. Whiting. *Engineering* 136:378-9 O 6 '33

**PROPELLERS, Airplane.** See Airplane propellers

**PROPERTY**

Modern corporation and private property. A. A. Berle, jr. and G. C. Means. 396p \$3.75 Macmillan '33; Review by W. D. Ennis. *Mech Eng* 55:545-8 S '33

See also  
Eminent domain  
Income  
Real property  
Taxation  
Wealth

**PROPINACOCERAS**

Propinacoceras from North America. A. K. Miller and P. S. Warren. *bibliog il Am J Sci* 5th ser 26:295-9 S '33

**PROPINE**

Photochemical polymerization of methylacetylene and allene. S. C. Lind and R. Livingston. *Am Chem Soc J* 55:1036-47 Mr '33

Vapor pressure and boiling point of pure methylacetylene. G. B. Heisig and C. D. Hurd. *Am Chem Soc J* 55:3485-7 Ag '33

**PROPIONIC acid**

Dissociation constant of propionic acid from 0 to 60°. H. S. Harned and R. W. Ehlers. *Am Chem Soc J* 55:2379-83 Je '33

Resolution of *cis*- and *trans*-dl-3-carboxy-1:1-dimethylcyclopropane-2-propionic acids and of *trans*-dl-caronic acid. J. Owen and J. L. Simonsen. *Chem Soc J* p1223-5 S '33

**Analysis**

Determination of formic, acetic, and propionic acids in a mixture. O. L. Osburn, H. G. Wood and C. L. Werkman. *bibliog. Ind & Eng Chem Anal* ed 5:247-50 Jl 15 '33

**PROPIOPHENONE**

Kinetics of the rearrangement of  $\alpha$ -methoxystyrene. F. H. MacDougall, W. M. Lauer and M. A. Spielman. *Am Chem Soc J* 55: 4089-97 O '33

**PROPORTION (art)**

Can we invent new forms? R. Boyd. *il diags Architecture* 67:323-6 Je '33  
Ratio-envelope of form. R. Boyd. *il Architecture* 66:311-16; 67:7-10 D '32-Ja '33

**PROPORTIONING equipment**

American electro-magnetic chemical-feed controller. *il Water Works & Sewerage* 80: 231-2 Je '33  
Bacharach R.S. dry chemical feeder. *il Water Works & Sewerage* 80:347-8 S '33  
Builders iron foundry offers automatic proportioning pump for feeding chemicals. *il Water Works & Sewerage* 80:111 Mr '33  
Constant-weight feeder regulates flow of dry materials. *il diags Concrete (mill sec)* 41:26-7 Je '33  
Ferr-O-Feeder an ingenious device of proportioners. *il Water Works & Sewerage* 80: 147-8 Ap '33  
Fluid-flow ratio regulator. *il diag Engineering* 135:261-2 Mr '33  
Tret-O-Unit: the jig-saw puzzle of water works equipment. *il Water Works & Sewerage* 80:228 Je '33

**PROPRIETARY association of America**

Annual convention, 51st, New York, May 24-26. *Oil Paint & Drug Rep* 123:17+ My 29 '33

**PROPYL alcohol**

Fusion curves for the systems ammonia-propyl alcohols and ammonia-butyl alcohols. H. P. Cady and E. A. Jones. *bibliog diags J Phys Chem* 37:303-20 Mr '33

**PROPYL mercaptan**

Studies in dielectric polarisation; benzene solutions of *n*-propyl mercaptan, *n*-butyl mercaptan, thiophenol, and acetonitrile. E. C. E. Hunter and J. R. Partington. *diag Chem Soc J* p2812-19 D '32

**PROPYL sulfide**

Studies in dielectric polarisation; benzene solutions of methyl, *n*-propyl, and *n*-butyl sulphides. E. C. E. Hunter and J. R. Partington. *Chem Soc J* p2819-24 D '32

**PROPYLENE**

Catalytic polymerization of propylene. F. H. Gayler. *bibliog Ind & Eng Chem* 25:1122-7 O '33

Ignition of gases; ignition by a heated surface; (a) mixtures of ethane, propane, or butane with air; (b) mixtures of ethylene, propylene, or butylene with air. C. A. Naylor and R. V. Wheeler. *Chem Soc J* p1240-7 S '33

Organic reactions with boron fluoride; the rearrangement of isopropylphenol, *o*-, *m*- and *p*-cresyl ethers. F. J. Sowa, H. D. Hinton and J. A. Nieuwland. *Am Chem Soc J* 55:3402-7 Ag '33

Peroxide effect in the addition of reagents to unsaturated compounds; the addition of hydrogen bromide to propylene. M. S. Kharasch, M. C. McNab and F. R. Mayo. *Am Chem Soc J* 55:2531-3 Je '33

Vapor-phase cracking. H. P. A. Groll. *bibliog il diags Ind & Eng Chem* 25:784-98 Jl '33

Vapor pressures of propane and propylene. A. W. Francis and G. W. Robbins. *diag Am Chem Soc J* 55:4339-42 N '33

**Analysis**

Analysis of propylene and cyclopropane in mixtures containing both. S. Z. Roginski and F. H. Rathmann. *Am Chem Soc J* 55:2800-5 Jl '33

**PROPYLENE dichloride**

Explosive properties of propylene dichloride-air mixtures. G. W. Jones, W. E. Miller and H. Seaman. *diag Ind & Eng Chem* 25: 771-3 Jl '33

Vapor pressures of fumigants;  $\alpha,\beta$ -propylene dichloride. O. A. Nelson and H. D. Young. *Am Chem Soc J* 55:2429-31 Je '33

**PROPYLENE oxide**

Reducing inflammability of fumigants with carbon dioxide. R. M. Jones. *diags Ind & Eng Chem* 25:394-6 Ap '33

**PROSPECT lists**

Canvassing the past keynote of prospecting system. H. H. Wilson. *East Underw* 34:20 Mr '33

How a trade-in prize contest increased Majestic sales 15 per cent; nation-wide search for oldest radio. R. Erlandson. *il Ptd Salesmanship* 60:382-4 Ja '33

How many prospects should a salesman be allowed? *il Dom Eng* 142:63-4 S '33

How to use inquiries to find industrial prospects. L. E. Perry. *Ptr Ink* 164:65-6+ Ag 17 '33

Improve business in 1933 by doing something you did not do in 1932; get more references. J. C. McNamara. *Spectator* 130:15+ F 9 '33

Make every order produce another; chain prospect chart. *Sales Management* 33:168 Ag 15 '33

Photographic lists used; Atlantic service co. *Management Methods* 61:615-16 N '32

Prospect lists and credit. *Management Methods* 62:131 Mr '33

Prospect record file for branch offices; General refrigeration sales company. *il System* 62:502 N '33

Sensible, inexpensive sales plan which meets today's conditions. *il Dom Eng* 141:25-8 Ap '33

Sifting power prospects. D. Taylor. *Elec W* 100:691-3 N 19 '32

This plan bolsters salesmen's slipping morale; canvassers precede regular sales force. C. B. Larrabee. *Ptr Ink* 162:69-71 F 23 '33

Westinghouse starts owner club sales campaign. *Ptr Ink* 162:24 Mr '33

What check-up do you make on your sales department? W. C. Rohdenburg. *il Management Methods* 62:256-7 Je '33

Worth while pointers on selling; one method of developing and maintaining a good house-heating prospect list. R. A. Lawder. *Sheet Metal Worker* 24:262-3 Ag '33

See also

Mailing lists

**PROSPECTING**

Drilling placer deposits. J. H. Robertson. *il diags Can Min J* 53:541-4 D '32

Engineering and geology; the quest for gold and the outcome; McIntyre Porcupine mines. H. G. Skaylen. *il diags maps Eng & Min J* 134:451-8 N '33

Geology applied to mining in the Ducktown district. H. F. Kendall and J. H. Ffolliott. *map Min & Met* 14:175-9 Ap '33

Gold in Canada. *il diag map Fortune* 7:30-7, 122-5 Je '33

Prospecting and exploration for sand and gravel. J. R. Thoenen. *bibliog diags map U S Bur Mines Information Circ* 6668:1-52 '32

Prospecting for placer gold in South Dakota. D. L. M. Anderson, comp. *South Dakota State Geol and Nat History S Rep of Invest* 15:1-15 '33

Prospecting in Ontario; the Swayze district. W. B. Millar. *map Min & Met* 14:183-6 Ap '33

Where geologists find gold. R. Clarke. *Min & Met* 14:237-8 My '33

See also

Divining rod  
Mine examination  
Mine surveying  
Mines and mineral resources

Ore sampling  
Petroleum—Prospecting

**Electric methods**

Another treasure finder; Metallascope. *il Sci Am* 149:126 S '33

Electrical measurements modernize geophysics. S. F. Kelly. *Elec W* 100:809 D 17 '32

Electrical methods of geophysical prospecting; abstract. J. M. Bruckshaw. *Electrician* 110: 490 Ap 14 '33

Geophysics applied to geology. H. Lundberg and F. Kihlstedt. *diags Can Min J* 54:337-42 S '33



**PROSPECTING**—Electric methods—*Continued*  
Latest methods for using electronic apparatus in prospecting for treasure. I. J. Saxl. *diags Radio N* 14:650-2+ My '33

#### Geophysical methods

- Audio transformer as a selective amplifier. M. Pawley. *bibliog il diags J Fr Inst* 215:133-47 F '33
- Demonstrating geophysical science and petroleum engineering to the public; exhibits at the World's fair, Chicago. C. A. Heiland. *il Min & Met* 14:455-8 N '33
- Elements of geophysical prospecting. C. A. Heiland. Colorado School of Mines Quarterly v 28, no 4:1-52 '33
- Erforschung des untergrundes mit geophysikalischen methoden. Reich. *Angew Chemie* 46:203 Ap '33
- Geophysical progress during the last year. F. W. Lee. *Min & Met* 14:217-20 My '33
- Geophysical work in the oil fields. P. Weaver. *Min & Met* 14:29-30 Ja '33
- Geophysicists debate in their own peculiar language at A.I.M.E. meeting. *Min & Met* 14:141-2 Mr '33
- Geophysics from the European viewpoint; review of two French books. S. F. Kelly. *Eng & Min J* 134:165 Ap '33
- Geophysics in the mining and geological fields. S. F. Kelly. *Min & Met* 14:30-1+ Ja '33
- Magnetometer work advancement due to better instruments and technique. L. Spraragen. *Oil & Gas J* 32:37 S 21 '33
- Progress of naphthology, 1932; geophysics. O. Weiss. *bibliog Inst Pet Tech J* 19:437-47 Je '33
- Sixty-three discoveries of pools on Gulf Coast are credited to the use of geophysics. N. Williams. *maps Oil & Gas J* 32:10-11+ O 5 '33
- Studies of geophysical methods, 1930. Canada Geol S Memoir 170:1-118 '32

#### PROSPERITY

What is prosperity? C. M. Clark. *Bradstreet's* 61:115+ Ja 28 '33

#### See also

Business conditions  
Business cycles

#### PROSPERITY sales plan corporation

50,000 pens in three months; endless chain selling company is looking for new products and plans to advertise. *Ptr Ink* 162:35-6 F 2 '33

#### PROTECTOID

No. 1 threat to du Pont's cellophane is Protectoid, made by a Celanese subsidiary, the reborn Celluloid co. *Fortune* 8:144-5 O '33

#### PROTEINS

- Action of heavy metals on cysteine and on sulphhydryl groups of proteins. S. M. Rosenthal and C. Voegtlin. *bibliog Pub Health Rep* 48:347-64 Ap 7 '33
- Activity coefficient of thallous chloride in protein systems. G. C. H. Stone and C. F. Failey. *J Phys Chem* 37:935-49 [bibliog p949] O '33
- Antiprophthrombin and globulins. I. P. Earle and P. E. Howe. *Science* 77:213-14 F 24 '33
- Combination of silk and wool with positive and negative ions. M. Harris. *U S Bur Stand J Research* 10:475-8 Ap '33; Same. *Am Dyestuff Rep* 22:273-4+ Ap 24 '33
- Crystalline pepsin and trypsin; abstract. J. H. Northrop. *Science* 77:456 My 12 '33
- International society of leather trades' chemists (British section) conference. *Soc Chem Ind J (Chem & Ind)* 51:1040-1 D 16 '32; *Chem Age (Lond)* 27:605 D 24 '32; *Soc Dyers & Col J* 49:77 Mr '33
- Molecular weight of erythrocrucorin. T. Svedberg and I. B. Eriksson. *Am Chem Soc J* 55:2834-41 Jl '33
- Relation between oxygen tension and protein synthesis in certain tissue extracts. C. Voegtlin, M. E. Maver and J. M. Johnson. *Science* 77:92-3 Ja 20 '33

Some aspects of intermediary protein metabolism. E. Brand and M. M. Harris. *bibliog Science* 77:589-90 Je 16 '33

Structure of unimolecular films; surface films of proteins. R. J. Fosbinder and A. E. Lessig. *il J Fr Inst* 215:579-91 My '33

Swelling of fibrous proteins; abstract. D. J. Lloyd, R. M. Marriott and W. B. Pleass. *Soc Chem Ind J (Chem & Ind)* 51:1076 D 30 '32

#### See also

Albumin  
Amino acids  
Casein  
Collagen  
Gelatin

#### PROTEOLYSIS

Influence of oxygen tension on the rate of autolysis of certain malignant tumors and normal tissues. M. E. Maver, J. M. Johnson and C. Voegtlin. *bibliog Pub Health Rep* 48:42-51 Ja 13 '33

#### PROTONS

- Atomic transmutations. E. R. Rutherford. *Engineering* 135:348-9 Mr 31 '33
- Battle of the alchemists. K. T. Compton. *Elec Eng* 52:75-80 F '33
- Collisions of neutrons with protons. F. N. D. Kurie. *il diags Phys R* 44:463-7 S 15 '33
- Detection and production of swift particles. E. R. Rutherford. *Engineering* 135:283, 309, 376-7 Mr 10-17, Ap 7 '33
- Disintegration of boron by swiftly moving protons. M. G. White and E. O. Lawrence. *Phys R* 43:304-5 F 15 '33
- Disintegration of lithium by protons of high energy. M. C. Henderson. *diag Phys R* 43:98-102 Ja 15 '33
- Emission of protons from various targets bombarded by deutons of high speed. E. O. Lawrence, M. S. Livingston and G. N. Lewis. *Phys R* 44:56 Jl 1 '33
- Protons and neutrons. M. Delbruck. *Science* 76:sup9 N 18 '32

#### PROTOTROPY

- Constitutional factors controlling prototropic changes in carbonyl compounds. W. S. Nathan, H. B. Watson and E. D. Yates. *Chem Soc J* p217-23 Mr '33
- Constitutional factors controlling prototropic changes in carbonyl compounds; a relationship between the polar characters of substituent groups and the activation energies of proton addition. W. S. Nathan and H. B. Watson. *Chem Soc J* p890-5 Jl '33
- Symmetrical triad prototropic systems; the influence of polynuclear aryl groups upon mobility and equilibrium in the  $\alpha$ -diaryl-methyleneazomethine system. C. W. Shoppee. *Chem Soc J* p37-45 Ja '33
- Velocity of bromination of acetoacetic ethyl ester. K. J. Pedersen. *J Phys Chem* 37:751-64 Je '33

#### PROTOZOA

Your internal menagerie. R. Hegner. *diags Sci Am* 147:346-8 D '32

#### See also

Chlamydomonas  
Colpidium

#### PROTRACTORS, Logarithmic

Logarithmic protractor. H. J. Yearian. *diags R Sci Instr* 4:407-9 Jl '33

#### PROVERBS

Proverbs as copy-patterns. M. K. Powers. *Ptr Ink* 164:24-6 Ag 17 '33

#### PROVIDENCE, Rhode Island

Survey of Providence. F. L. Ackerman. *Arch Rec* 73:316 My '33

#### Libraries

Smith Hill branch library. C. E. Sherman. *il Lib J* 58:201-2 Mr 1 '33

#### PROVIDENT life and accident insurance company

Annual statement, year ended Dec. 31, 1932. *Spectator* 130:21+ F 9 '33

#### PROVIDENT mutual life insurance company

Annual statement for 1932. *Spectator* 130:22 F 16 '33; *Ins Field (Life ed)* 62:18 F 3 '33; *Weekly Underw* 128:355 F 18 '33

**PROXIES**

Power to vote, Bradstreet's 60:1527 N 19 '32

**PRUDENTIAL assurance company**

Annual general meeting, Economist 116:452-3, 487-8 Mr 4 '33

**PRUDENTIAL insurance company of America**

Annual report, year ended Dec. 31, 1932, Spectator 130:21 F 23 '33; Same, Ins Field (Life ed) 62:5 F 24 '33; Same, Weekly Underw 128:396 F 25 '33

**PRUNES**

Increased acidity inhibits corrosion; application to canning prunes, E. F. Kohman and N. H. Sanborn, Ind & Eng Chem 25:920-2 Ag '33

**Advertising**

Prunes, il Ptr Ink 162:38-40 F 23 '33

Tenderized prunes, il Ptr Ink 163:56 My 11 '33

That new prune trade-mark, il Ptr Ink 164:64 S 14 '33

**PRUSSIAN blue**

Prussian blue for dyeing cottons; abstract, E. Justin-Mueller, Textile Col 55:399 Je '33

**PSEUDOCODEINE**

Reductions in the morphine series; dihydropseudocodeine, R. E. Lutz and L. F. Small, Am Chem Soc J 54:4715-30 D '32

**PSEUDONARCEINE**. See Narceine**PSITTACOSIS**

Pathology of psittacosis, Pub Health Rep 48:753 Je 30 '33

Pathology of psittacosis in man and II, The pathology of psittacosis in animals and the distribution of Rickettsia psittaci in the tissues of man and animals, R. D. Lillie, (Bul 161), 66p U S national institute of health, Washington '33

**PSYCHIATRIC hospitals**. See Hospitals, Psychiatric**PSYCHICAL research**

Case against Margery, W. F. Prince, il Sci Am 148:261-3 My '33

**See also**

Telepathy

**PSYCHOANALYSIS**

Self-conquest through self-analysis, A. J. Fox, Sci Am 149:56+ Ag '33

**PSYCHOLOGICAL corporation**

Copy—the dominating factor in successful advertising, H. C. Link, Ptr Ink 162:76-7 Ja 26 '33

Finds four-fifths of ads usually fail to click, il Sales Management 32:105+ F 1 '33

**PSYCHOLOGICAL research**

History of the National research council, 1919-1933; Division of anthropology and psychology, A. T. Poffenberger, Science 78:158-61 Ag 25 '33

Second psychological expedition to central Asia; study of primitive thought, A. Luria, Science 78:191-2 S 1 '33

**See also**

Thought and thinking  
—Mechanical parallels

**PSYCHOLOGY**

Anticipatory reaction, R. Dodge, Science 78:197-203 S 8 '33

Historical development of response psychology, H. S. Langfeld, Science 77:243-50 Mr 10 '33

Psychology, S. I. Franz and K. Gordon, 494p \$2.50 McGraw-Hill '33

Psychology applied, G. W. Crane, 586p Northwestern university press, Chicago '32

What does the configurationist say? Gestalt theory, E. B. Taylor, bibliog J Eng Educ 23:365-76 Ja '33

**See also**

Ability tests  
Advertising—Psychology  
Advertising copy  
Character  
Personality

Safety devices and measures—Psychological aspects  
Social psychology  
Thought and thinking

**Industrial applications**

Human nature and management, O. Tead, 2d ed 338p \$3.50 McGraw-Hill '33

**See also**

Ability tests

Advertising—Psychology

Advertising copy

Employment management

National institute of industrial psychology

**PSYCHOLOGY, Educational****See also**

Learning, Psychology of

**PSYCHROMETER**. See Hygrometer**PSYCHROMETRY**. See Humidity; Hygrometry**PUBLIC accountants**. See Accountants, Public**PUBLIC address system**. See Loud speaking apparatus**PUBLIC administration**. See Administration, Public**PUBLIC buildings**

City of Washington today, E. B. Morris, il map Architecture 68:189-212 O '33

Engineers sought for design of federal buildings, Eng N 111:56 Jl 13 '33

Government buildings; drawings and plans, Arch Rec 74:79-86 Ag '33

Instructions to private architects engaged upon public building work; general information and preliminary procedure, Arch Rec 74:73-5 Ag '33

London county hall extension, il Elec R (Lond) 112:111-12 Ja 27 '33

Modernize public property, Manuf Rec 102:40 S '33

Planning of public buildings; with views and plans, Arch Forum 59:164-230 S '33

Private architect's part in the federal building program, L. W. Robert, jr, Am Arch 143:12-14 S '33

**See also**

Capitols  
Community centers  
County buildings  
Courthouses  
Hospitals  
Library architecture  
Library buildings  
Municipal buildings

Police stations

Post offices

Prisons

Public comfort stations

Public works

School buildings

**Equipment**

Impetus given public works modernization plan; proper effort now should put it over, Heating-Piping 5:545-6 N '33

Include in \$3,300,000,000 public works program the modernization of mechanical equipment in existing properties, Heating-Piping 5:450-4, 497-9 S-O '33

Plan for public improvements at zero cost; modernization of mechanical equipment of public buildings, Power 77:510-11 O '33; Excerpt (The plan), Refrig Eng 26:208 O '33

What government jobs require; information relating to plumbing and drainage, G. K. Bringham, il plans Dom Eng 142:30-2+ Ag '33

**Heating and ventilation**

New National archives building conditioned to protect records, il Heating-Piping 5:305 Je '33

Requirements for heating, piping and ventilating work in federal buildings, G. K. Bringham, diag plans Heat & Ven 30:32-5 Mr '33

U.S. steam \$\$ in Baltimore; post office and customs house; estimated costs of purchased and locally generated steam, E. H. Thompson, Power 77:200-1+ Ap '33

**Lighting**

Belfast Parliament house; lighting features of the new building, il Electrician 109:633 N 18 '32

City hall and court house, St Paul, Minnesota, il Illum Eng Soc Trans 28:400-1 My '33

Stand-by batteries; position of theatres and other public buildings, Electrician 109:642 N 18 '32



**PUBLIC comfort stations**

Comfort station fixtures require adequate venting. W. W. Stevens. *il plans Dom Eng* 141:33-4 My '33

**PUBLIC health**

Canadian public health association annual meeting, Toronto, May 16-17. *Can Eng* 64:20-1 My '33

Economic depression and public health. *Int Labour R* 26:841-6 D '32

Health and environment. E. Sydenstricker. 217p \$2.50 McGraw-Hill '33

Outline of preventive medicine for medical practitioners and students. 2d ed rev and enl 462p P. B. Hoeber, inc. New York '32

Program of medical care for the United States. C. E. A. Winslow. *Science* 77:102-7 Ja 27 '33

*See also*

Advertising copy—

Health appeal

Building laws and

regulations

Carbon monoxide

poisoning

Children—Care and

hygiene

Diseases

Disinfection and dis-

infectants

Dust removal

Housing

Hygiene, Industrial

Insurance, Health

Medical service

Medical service, In-

dustrial

Mortality

Mosquitoes—Ex-

termination

Nuisances

Nurses and nursing,

Public health

Physical examina-

tions

Plumbing laws and

regulations

Refuse disposal

Safety devices and

measures

Sanitary engineer-

ing

Sewage disposal

Smoke prevention

Street cleaning

Ventilation

Water pollution

Water purification

Water supply

**Bibliography**

Municipal reference library notes; public health number. *Munic Ref Lib Notes* 18:197-204 D 28 '32

Public health service publications issued during the period July-December 1932. *Pub Health Rep* 48:624-7 Je 2 '33

Public health service publications issued during the period January-June, 1933. *Pub Health Rep* 48:1195-7 S 29 '33

**Statistics**

Standardization of morbidity reporting and development of the morbidity reporting area. R. C. Williams. *Pub Health Rep* 47:2267-81 D 9 '32

Trends of health in the United States. R. H. Britten. *bibliog Pub Health Rep* 48:27-41 Ja 13 '33

**Brazil**

Malnutrition in the Amazon basin. E. Hanson. *Science* 78:36-8 Jl 14 '33

**Great Britain**

Century of public health in Britain, 1832-1929. J. H. H. Williams. 314p \$2.50 Macmillan '32

**Kenya colony and protectorate**

Tropical mortality studies. F. L. Hoffman. *Spectator* 130:13-14 Ja 19 '33

**Manchuria**

Plague outbreak in Manchuria. Wu Lien-teh. *Science* 78:sup8-9 O 6 '33

**Palestine**

Public health in Palestine. I. J. Kligler. *Ann Am Acad* 164:167-77 N '32

**PUBLIC health administration**

Duties of Ohio public-health commissioners. W. W. Charters and D. A. Hindman. *Ohio State Univ Bur of Educational Research Monographs* 17:1-70 '33

Extent of rural health service in the United States, 1928-1932. *Pub Health Rep* 47:2299-314 D 16 '32

Extent of rural health service in the United States, January 1, 1929-December 31, 1932. *map Pub Health Rep* 48:1222-38 O 6 '33

Organization and administration of public health. N. Sinal. 63p Detroit bur. of governmental research, inc, 936 First national bank bldg. '33

Public health organization and administration in Naples, Italy. J. G. Townsend and E. Buonocore. *Pub Health Rep* 47:2328-54 D 23 '32

**PUBLIC health laboratories**

Traveling laboratory, Department of health, Bureau of laboratories, Pennsylvania. *Am Gas J* 137:20 D '32

**PUBLIC health laws***See also*

Hygiene, Industrial—

Laws and regula-

tions

Nuisances

**PUBLIC health nurses and nursing.** *See* Nurses and nursing, Public health

**PUBLIC health officers****Directories**

Whole-time county health officers, 1933. *Pub Health Rep* 48:818-26 Jl 14 '33

**PUBLIC health surveys**

Causes of illness in 9,000 families, based on nation-wide periodic canvasses, 1928-1931. S. D. Collins. *map Pub Health Rep* 48:283-308 Mr 24 '33; Abstract. *Monthly Labor R* 36:1065-7 My '33

**PUBLIC indemnity company**

Lines reinsured. *Nat Underw* 37:29-30 Ja 19 '33

U. S. attorney, H. Besson, says Public indemnity deal fraudulent. *Nat Underw* 37:24 O 5 '33

**PUBLIC lands**

Influence of overgrazing on erosion and watersheds. H. H. Chapman. *il Civil Eng* 3:74-8 F '33

State land-settlement problems and policies in the United States. W. A. Hartman. *diag maps U S Agric Tech Bul* 357:1-88 '33

*See also*

Forest reserves

National parks and

reserves

Oil lands

Surveying—Public

lands

**Nevada**

Public domain of Nevada and factors affecting its use. E. O. Wooton. *maps U S Agric Tech Bul* 301:1-52 [bibliog p50-2] '32

**PUBLIC officials**

By appointment; NIRA, RFC, AAA, CCC, HOLC, TVA, FERA, FCT, PWA. *Am Bankers Assn J* 26:28, 44-6 Ag '33

Expert in government. M. C. Hall. *Ann Am Acad* 169:91-100 S '33

Magnitude of the task of the politician. F. M. Davenport. *Harvard Business R* 11:468-77 Jl '33

Supreme economic council. *pors Fortune* 8:44-8, 100+ S '33

Who's who in the new deal for business. H. F. Merrill. *pors Forbes* 32:6-8+ Jl 15 '33

Wonder boys in Washington. *pors Fortune* 8:19-23+ Jl '33

*See also*

Administration, Public

Government em-

ployees

Insurance, Surety

and fidelity—Pub-

lic officials bonds

Notaries

**Removal**

Remedies against dishonest or inefficient public servants. F. E. Allen. *Ann Am Acad* 169:172-83 S '33

**PUBLIC opinion**

Conflicts of principle. A. L. Lowell. 161p Harvard university press, Cambridge, Mass. '32

From chaos to control. N. Angell. 208p \$2 Century co. '33

**PUBLIC relations**

Industry's new sales job; Washington will ease the Securities act strictures on advertising. *Business Week* p184+ O 14 '33

New viewpoints on public relations policies. *Pub Util* 11:52-5 Ja 5 '33

**PUBLIC relations—Continued**

Public relations—public policy and commercial publicity. J. P. Jones. 57p Commercial news corp, 150 Nassau st, New York '33

*See also*

Banks and banking—Public relations

Electric utilities—Public relations

Engineers—Public relations

Gas companies—Public relations

**PUBLIC schools**

*See also*

School buildings

School children

Public utilities—Public relations

Railroads—Public relations

Street railroads—Public relations

Waterworks—Public relations

Waterworks—Public relations

Waterworks—Public relations

Waterworks—Public relations

Waterworks—Public relations

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Waterworks—Public relations

Waterworks—Public relations

Waterworks—Public relations

Waterworks—Public relations

Waterworks—Public relations

Waterworks—Public relations

Waterworks—Public relations

Waterworks—Public relations

Why not truth-in-publicity? Pub Util 12:534-6 O 26 '33

**Appliance selling**

Kansas Supreme court knocks out anti-merchandising law. Pub Serv M 55:10-11 J1 '33

Retailers' viewpoint of public utility appliance competition. R. Peterson. Am Gas J 137:13-15 D '32; Same. Gas Age 70:655-7 D 17 '32

Rising tide of antiutility merchandising bills. Pub Util 11:418-19 Mr 30 '33

Utilities; Niagara Hudson to leave to the dealer the job of selling gas and electric appliances. Business Week p20 D 28 '32

Utility divorce annulled; Kansas court's decision sends appliance merchandising back to the gas and electric companies. Business Week p10 Je 24 '33

*See also*

Electric utilities—Appliance selling

Gas companies—Appliance selling

**Buildings**

Planning sales and office buildings for public service companies. J. B. Rodgers. il plans Arch Rec 72:397-409 D '32

**Claims**

\$500 house telephone; some values of utility service as computed by the ratepayers themselves in court actions. H. C. Spurr. Pub Util 12:320-7 S 14 '33; Discussion. C. O. Fisher. 12:586-8 N 9 '33

**Employees**

Central Hudson gas & electric corp. insurance-pension plan. Gas Age 71:152 F 11 '33; Same. Am Gas J 138:31 F '33

Comparability of sickness records of public utilities. D. K. Brundage. Pub Health Rep 48:1095-1103 S 8 '33

Employees' attitude toward the public. F. R. Phillips. N E L A Bul 19:715-17+ D '32

Employees' campaign nets \$446,000 sales in 5 months; Associated gas and electric system. L. D. West. Sales Management 32:54-5+ Ja 15 '33

*See also*

Meter readers

Meter reading

**Equipment**

Automotive good-housekeeping. S A E J 32: 137 Ap '33

Operating municipal trucks; pooling of truck equipment used in the public utility field. Pub Works 64:26 F '33

**Finance**

Corporation net earnings; industry, rails, utilities. Published in weekly numbers of Analyst

Curb on utility loans to affiliates urged by N.Y. public service commission. Gas Age 71:179 F 18 '33

Difficult year for utilities. J. J. O'Brien. Pub Serv Management 54:17 Ja '33

Expense and capital ratios of Wisconsin electric, gas, telephone, and water utilities, 1927-1931. B. J. Sickler. J Land & Pub Util Econ 9:57-62 F '33

Facts and fiction that lie between the lines of financial statements. A. J. C. Underhill. Pub Util 12:88-95 J1 20 '33

Financial policies of public utility holding companies. M. H. Waterman. Michigan U Bur of Business Research Studies v5, no1: 1-186 [biblog p181-61 '32

Financing public utilities; Los Angeles' department of water and power. H. A. Van Norman. Am Water Works Assn J 25:315-20 Mr '33

Holding company. W. A. Prendergast. Pub Util 11:589-95, 646-51 My 11-25 '33

Household demand improved—adoption of prudent investment possible. R. P. Hartwell. Mag of Wall St Manual p33-4+ Mr 6 '33

How an inflated currency would affect the utilities. A. A. Bock. Pub Util 11:499-505 Ap 27 '33

Improvement reserves for leveling financial peaks and valleys. V. B. Siems. Am Water Works Assn J 24:1911-19; Discussion. T. A. Leisen. 1919-21 D '32

**Accounting**

Depreciation by the insurance method. J. F. Brennan. J Land & Pub Util Econ 9:16-24 F '33

Facts and fallacies about straight-line depreciation methods. H. E. Riggs. Pub Util 12: 393-9 S 28 '33

Increasing the accountant's usefulness in the public utility industry. V. Thiemann. Edison Elec Inst Bul 1:171-3 S '33

Interest during construction. L. D. Blum. Am Water Works Assn J 24:1970-5 D '32

Recent court and commission decisions affecting utility accounting and financing. E. W. Hebel. Am Gas Assn Proc 1932:182-90

Wanted—a standard yardstick for measuring the costs of private and public power plants. M. G. Glaeser. Pub Util 10:663-74 D 8 '32

Why expenditures for utility advertising should be listed as operating costs. R. B. Calkins. Pub Util 12:373-6 S 28 '33

**Advertising**

Advertising and utility rates. Ptr Ink 164:27-8 J1 6 '33

Advertising from the viewpoint of the utilities. W. H. Hodge. Am Gas Assn Mo 15: 65-7 F '33

How and why the commissions regulate utility advertising. F. X. Welch. Pub Util 11: 42-51 Ja 5 '33

How utilities can build up better public relations. W. A. Gilman. Gas Age 72:107-9+ J1 29 '33



**PUBLIC utilities—Finance—Continued**

Inflation; what it may mean to the public utilities—and to their security owners. S. Crowther. *il Pub Util* 12:363-72 S 28 '33

Insult utility empire; description of the complete set-up showing the interlocking ownership and control, with subsidiary companies listed. J. G. Hodgson. *map Rand McNally Bankers Mo* 50:215-22, 226+ Ap-My '33

Interest during construction. L. D. Blum. *Am Water Works Assn J* 24:1970-5 D '32

Present and future development of public utility finance. H. M. Addinsell. 26p Chase Harris Forbes corporation, 60 Cedar st, New York '32; Excerpts. *Elec W* 100:844-6 D 24 '32

Public utility financing under the new deal; Securities act of 1933. G. B. Ruddick. *Pub Util* 12:400-6 S 28 '33

Status of Middle West Utilities. *Elec W* 101:188-90 F 11 '33

Use of subsidiary corporations in segregating risks. K. Field. *J Land & Pub Util Econ* 9:150-71 My '33

Utility net earnings. Published in weekly numbers of Barron's

What is the financial outlook for privately owned utilities? *Pub Util* 12:594-7 N 9 '33

Who will pay for Uncle Sam's utility projects? *Pub Util* 11:788-92 Je 22 '33

**Franchises**

Utility franchise muddle. D. L. Babson. *Pub Util* 11:702-8 Je 8 '33

**Free service**

One commission's attitude toward welfare credit to customers. *Pub Util* 12:33-4 J1 6 '33

**Government ownership**

See Government ownership

**Law**

Alabama legislates to regulate holding company. H. White. *Elec W* 100:796-8 D 10 '32

Attitude of the new Congress toward the utilities. H. Brayman. *Pub Util* 11:139-48 F 2 '33

Effort to keep the utilities out of the federal courts; what the Johnson bill augurs for the industry. H. Corey. *Pub Util* 11:266-74 Mr 2 '33

Four-point program for utility legislation. D. E. Lillenthal. *Elec W* 101:423 Ap 1 '33

How one state regulates holding companies by regulating operating companies; Alabama Harrison bill. H. White. *Pub Util* 11:379-89 Mr 30 '33

Illinois utilities law has drastic rules. *Gas Age* 72:137 Ag 5 '33

Montana Supreme court rules against classifying oil as a public utility. *Oil & Gas J* 32:23 J1 13 '33

Public utilities reports. Published in bi-weekly numbers of Public utilities fortnightly

Recent state laws that affect the work of the commissions. G. E. Doying. *Pub Util* 10:748-56 D 22 '32

Treatise on the law of public utilities. O. L. Pond. 4th ed rev & enl. 3v Bobbs '32

Why the state commissions want to confine the utilities to the state courts; what the pending Johnson bill means to commission regulation. C. L. Seavey. *Pub Util* 11:569-72 My 11 '33

Why utility rate cases should be restricted to state courts; the purpose of the Johnson bill. H. W. Johnson. *Pub Util* 11:199-207 F 16 '33

**See also**

Corporation law  
Public utilities—Ap-  
pliance selling

Public utilities com-  
missions  
Railroad law

**Libraries**

Baltimore Consolidated gets results from its library. F. E. Kunkel. *Gas Age* 72:128 Ag 5 '33

**Management**

Effect of the shorter work day on public service companies. G. Soule. *Pub Util* 11:12-16 Ja 5 '33

How the utilities will be affected by the shorter work week. G. Soule. *Pub Util* 12:82-6 J1 20 '33

Lessons of the depression. S. Crowther. *Pub Util* 11:3-11 Ja 5 '33

**See also**

Meter reading

**Officials**

Are utility salaries too high? *Pub Util* 12:284 Ag 31 '33

Carlisle's shadow lengthens. *Business Week* p20-1 My 3 '33

Public utility industry's captains in command; photographs. *Pub Util* 11:17-32 Ja 5 '33

Salary control; a new high mark in utility regulation. *Pub Util* 12:478-80 O 12 '33

**Public relations**

Employees' attitude toward the public. F. R. Phillips. *N E L A Bul* 19:715-17+ D '32

How utilities can build up better public relations. W. A. Gilman. *Gas Age* 72:107-9+ J1 29 '33

New concept of the job of "the vice president in charge of public relations." R. S. Tompkins. *Pub Util* 10:740-6 D 22 '32

New viewpoints on public relations policies. *Pub Util* 11:52-5 Ja 5 '33

Public utilities and the public. J. P. Coghlan. *N E L A Bul* 19:711-14 D '32

**See also**

Electric utilities—  
Public relations

**Rates**

And now, rates; editorial. *Business Week* p32 F 22 '33

Behavior of utility prices. R. L. Reierson. *J Land & Pub Util Econ* 9:89-91 F '33

Commission regulation and home rule in Ohio. B. W. Lewis. *J Land & Pub Util Econ* 9:207-14 My '33

Court holds rates must be responsive to new conditions; Los Angeles gas & electric corp. *Eng N* 110:668 My 18 '33

Crisis confronting the commissions. W. A. Prendergast. *Pub Util* 12:303-11 S 14 '33; Discussion. 12:588-9 N 9 '33

Dangers of rigid rate structures. P. Cabot. *Pub Util* 12:183-91 Ag 17 '33

Do we want scientific regulation? Los Angeles gas and electric corporation case. D. F. Pegrum. *J Land & Pub Util Econ* 9:314-17 Ag '33

Effects of a utility's financial policies upon utility rates. J. C. De Long. *Pub Util* 11:396-403 Mr 30 '33

Finding the increment cost of a special class of service; gas for space heating and suburban commutation to and from New York city. *Pub Util* 11:312-14 Mr 2 '33

\$500 house telephone; some values of utility service as computed by the ratepayers themselves in court actions. H. C. Spurr. *Pub Util* 12:320-7 S 14 '33; Discussion. C. O. Fisher. 12:586-8 N 9 '33

Government and the public utilities. D. E. Lillenthal. *Gas Age* 71:107-10+ F 4 '33

How far should value of service be considered as a basis of rate making? *Pub Util* 10:702-5 D 8 '32

How the depression is rocking the principles of utility rate making. *Pub Util* 12:414-19 S 28 '33

National survey of commission attitudes on utility NRA codes. *Pub Util* 12:477-8 O 12 '33

New concept in utility regulation. H. L. Hooker. *Am Gas Assn Mo* 15:414-18 O '33; Same abr. *Gas Age* 72:397-400 O 21 '33

Public utility rate structures. L. R. Nash. 379p \$4 McGraw-Hill '33

Rate fundamentals; A.G.A. committee report. *Am Gas Assn Proc* 1932:96-100

Recent trends in factors affecting the rate base. L. R. Howson. *Am Water Works Assn J* 24:1953-63; Discussion. 1963-9 D '32

Regulation by negotiation. M. Wolff. *Pub Util* 11:782-7 Je 22 '33

Revolutionary principles of rate making; the broad significance of the Senate amendment to the railroad bill. H. C. Spurr. *Pub Util* 12:260-6 Ag 31 '33

**PUBLIC utilities—Rates—Continued**

- Supreme court renders a decision that points the way to a readjusted utility rate base. Pub Util 11:732-4 Je 8 '33
- Uncertainties in the legal status of temporary rates. J. C. Swidler. Pub Util 12:136-42, 202-6 Ag 3-17 '33
- U.S. Supreme court upholds rate cuts on reduced property valuations. Elec W 101:593 My 13 '33
- Utility rates at the crossroads. L. R. Nash. Pub Util 11:79-89 Ja 19 '33
- Value of the service; its various meanings and uses. E. Heyman. J Land & Pub Util Econ 9:252-65 Ag '33
- What the records show about rate reductions by commissions. F. X. Welch. Pub Util 11:664-6 My 25 '33
- Why rate cases cost too much. C. B. Cooke, jr. Pub Util 12:16-21 Jl 6 '33
- Why utility rates don't go down with commodity prices. I. W. Coffman. Pub Util 11:454-7 Ap 13 '33
- Will the Blue Eagle stem the tide of revolts against utility rates? Pub Util 12:409-11 S 28 '33

*See also*

Electric rates      Telephone—Rates  
Gas rates      Water rates  
Railroads—Rates

**Regulation**

- Agency relationship a suggested development. A. G. Mott. Elec West 70:196-7 Je '33
- Bogie of federal regulation. B. W. Lewis. Pub Util 12:252-9 Ag 31 '33
- Budget supervision needed. C. M. Thomas. Elec West 70:195-6 Je '33
- Commission regulation and home rule in Ohio. B. W. Lewis. J Land & Pub Util Econ 9:207-14 My '33
- Cost of regulation. D. E. Lilienthal. Pub Util 10:723-32 D 22 '32
- Dr Felix Frankfurter ventures three postulates of improved utility regulation. R. L. Dewey. Pub Util 11:476-8 Ap 13 '33
- Effect of the elections upon utility regulation. Pub Util 10:697-9 D 8 '32
- Engineer in public utilities regulation. A. V. Guillou. Elec Eng 52:737-9 N '33
- Government and the public utilities. D. E. Lilienthal. Gas Age 71:107-10-4 F 4 '33
- High cost of competition between private and municipal plants. H. C. Spurr. Pub Util 11:516-22 Ap 27 '33
- How and why the commissions regulate utility advertising. F. X. Welch. Pub Util 11:42-51 Ja 5 '33
- New concept in utility regulation. H. L. Hooker. Am Gas Assn Mo 15:414-18 O '33; Same abr. Gas Age 72:397-400 O 21 '33
- New jobs for the commissions; current trends toward the regulation of industries not heretofore classified as public utilities. T. E. Shearer. Pub Util 12:447-55 O 12 '33
- New trends in public utility regulation face the investor. M. D. Gould. II Mag of Wall St 51:519-21+ Mr 4 '33
- Outlook for the investor in public utility securities: a state-by-state survey. C. F. Blanchard. Pub Util 12:499-515 O 26 '33
- Pending conflict between state and federal regulation. A. H. Ulm. Pub Util 12:9-15, 467-72, 524-9 Jl 6, O 12-26 '33
- Peril to state commissions in the assault on states' rights. W. A. Prendergast. Pub Util 12:3-8 Jl 6 '33
- Public utilities NRA codes as a wedge for federal regulation. Pub Util 12:334-40 S 14 '33
- Public utility regulation. W. E. Mosher and F. G. Crawford. 612p [bibliog p569-89] \$5 Harper '33; Review by P. Cabot. Pub Util 11:615-16 My 11 '33
- Recent court and commission decisions affecting utility accounting and financing. E. W. Hebel. Am Gas Assn Proc 1932:182-90
- Reconciling holding companies with public interest. D. E. Lilienthal. Elec W 100:588-91 O 29 '32; Discussion. 100:812-15 D 17 '32
- Regulation—is it judicial or administrative or both. H. Waples; D. E. Lilienthal. Pub Serv Management 53:173-4 D '32

- State commissioners solve regulation of holding companies. A. E. Knowlton. Elec W 100:748-50 D 3 '32
- Taxation growth and utility regulation. J. E. Zimmerman. Am Gas J 138:38-9 F '33
- What the state commissioners are thinking about; opinions expressed at the annual convention of the National association of railroad and utilities commissioners in Hot Springs, Arkansas, Nov. 15 to 18. Pub Util 10:682-9 D 8 '32
- What the state commissioners are thinking about; opinions expressed at the annual convention of the National association of railroad and utilities commissioners in Cincinnati, Oct. 10-13. Pub Util 12:578-85 N 9 '33

*See also*

Public utilities—Law  
Public utilities commissions

**Reports**

- Task of making utility securities sound investments. S. Crowther. Pub Util 11:559-68 My 11 '33

**Securities**

- Balanced public utility investment. P. Clay. Forbes 31:30-1 Ja 15 '33
- Basic soundness of utility investments remains intact. F. V. Henshaw. Elec W 102:81-2 Jl 15 '33
- Effect of the recovery program on utility securities; the views of a country banker. F. Tilden. Pub Util 12:144-8 Ag 3 '33
- Effects of a utility's financial policies upon utility rates. J. C. De Long. Pub Util 11:396-403 Mr 30 '33
- How one state regulates holding companies by regulating operating companies; Alabama Harrison bill. H. White. Pub Util 11:379-89 Mr 30 '33
- How utility bonds have survived the depression. F. V. Henshaw. Trust Companies 56:716 Je '33
- How will inflation affect utility rates, revenues—and security owners? Pub Util 11:667-9 My 25 '33
- Illinois commission voids securities used in unlawful manipulation. Pub Util 11:131-2 Ja 19 '33
- Method for measuring and comparing utility securities. J. P. Hickman, jr. II Am Bankers Assn J 25:30-1+ Ap '33
- New Federal securities act; how it affects the financial policies of the utilities. W. M. Wherry. Pub Util 12:123-35 Ag 3 '33
- Outlook for the investor in public utility securities: a state-by-state survey. C. F. Blanchard. Pub Util 12:499-515 O 26 '33
- Past, current and prospective position of leading public utility companies; tabulation. Mag of Wall St 52:170-3 Je 10 '33
- Position of public utility common stocks. Mag of Wall St 51:436-7; 52:378-9 F 4, Ag 5 '33
- Public utility security analysis, visual method. Ed. of June, 1933. loose-leaf Richards and Wack, New York '33
- Regulation by legislation which seeks protection for utility investors. S. Bent. Pub Util 11:718-23 Je 8 '33
- Report of I.B.A. public service securities committee. Inv Banking 3:72-3 N 16 '32
- Securities of public utilities. B. W. Ford. Bankers M 126:375-6 Ap '33
- Some semi-investments in the public utility group. R. S. Wallace. Forbes 31:46 Je 15 '33
- Task of making utility securities sound investments. S. Crowther. Pub Util 11:559-68 My 11 '33
- Utility bonds in the savings bank crucible. Elec W 102:151-2 Jl 29 '33
- What's wrong with the public utilities? F. C. Fullerton. Mag of Wall St 51:674-5+ Ap 15 '33

**Taxation**

- Destructive motive behind utility taxation projects. Pub Util 12:96-101 Jl 20 '33
- How excessive taxation increases cost of living. P. G. Gossler. Ptr Ink 163:75-6 Je 1 '33



**PUBLIC utilities—Taxation—Continued**

Taxation growth and utility regulation. J. E. Zimmerman. *Am Gas* J 138:38-9 F '33  
 When the ratepayer becomes a taxpayer; municipally owned plant should be taxed the same as other property. H. H. Trachsel. *Pub Util* 10:628-34 N 24 '32

**Valuation**

Agency relationship a suggested development. A. G. Mott. *Elec West* 70:196-7 Je '33  
 Current economic and political trend toward the prudent investment principle of utility rate making. W. H. Mullen. *Pub Util* 11:695-701 Je 8 '33  
 Divergent views on valuation. E. F. Wendt. *Eng N* 110:756-7 Je 8 '33  
 Facts and fallacies about straight-line depreciation methods. H. E. Riggs. *Pub Util* 12:393-9 S 28 '33  
 Further discussion of the Los Angeles gas and electric case. D. F. Pegrum. *J Land & Pub Util Econ* 9:92-3; Reply. J. C. Swidler. 93-5 F '33  
 Important Supreme court decision relative to utility values; Los Angeles gas and electric corp. H. P. Gillette. *Water Works & Sewerage* 80:271 J1 '33  
 Maryland board prefers indexes to appraisals. *Elec W* 100:772 D 10 '32  
 New approach to the old problem of determining values of utility plants. A. D. Schultz. *Pub Util* 12:340-1 S 14 '33

See also

**Depreciation****Public utilities—Rates****Alabama**

Alabama legislates to regulate holding company. H. White. *Elec W* 100:796-8 D 10 '32  
 How one state regulates holding companies by regulating operating companies; Alabama Harrison bill. H. White. *Pub Util* 11:379-89 Mr 30 '33

**California**

Further discussion of the Los Angeles gas and electric case. D. F. Pegrum. *J Land & Pub Util Econ* 9:92-3; Reply. J. C. Swidler. 93-5 F '33

**Georgia**

Georgia governor ousts commission and names new board. *Pub Util* 12:227-8, 287-8, 347 Ag 17-S 14 '33

**Illinois**

Illinois utilities law has drastic rules. *Gas Age* 72:137 Ag 5 '33

**Iowa**

No exemption for pledge orders. W. F. Maley. *Pub Serv M* 55:105-6 O '33

**Maryland**

Public service commission of Maryland. H. G. Burke. 177p Johns Hopkins press, Baltimore '32

**Massachusetts**

Maverick commission of Massachusetts. J. T. Lambert. *Pub Util* 11:596-606 My 11 '33

**New York (city)**

Politics, government and the public utilities in New York city. H. H. Klein. 195p Isaac Goldmann co, New York '33

**New York (state)**

Governor of New York moves for holding company regulation. *Pub Util* 11:531-3 Ap 27 '33

Governor offers plan for utility control. *Gas Age* 71:317 Mr 25 '33; *Barron's* 13:9 Mr 27 '33; *Elec W* 101:369 Mr 25 '33

**Ohio**

Commission regulation and home rule in Ohio. B. W. Lewis. *J Land & Pub Util Econ* 9:207-14 My '33

Development of commission regulation of public utilities in Ohio. E. T. Hellebrandt. *J Land & Pub Util Econ* 9:395-409 N '33

**Pennsylvania**

Pinchot and King break; commission control at stake. *Elec W* 101:338-9 Mr 18 '33

**United States**

Four horsemen in the utility outlook. *Mag of Wall St* 52:167-9+ Je 10 '33

How will the new Industrial recovery bill affect the utilities? *Pub Util* 12:28-31 J1 6 '33

Public utilities and the people. H. M. Robinson. 142p B. Upshaw and co, Dallas, Tex. '32

Public utilities at the crossroads. F. C. Fullerton. *il Mag of Wall St* 52:621-3+ O 14 '33

Public utility and progressive propaganda in the Congressional record. H. Corey. *Pub Util* 12:312-19 S 14 '33

Public utility highlights in 1932. *Bradstreet's* 61:243 Ja 28 '33

Trend of the utilities' growth is upward—if. R. W. Babson. *Pub Util* 11:33-4 Ja 5 '33

Utilities and the new deal. P. Cabot. *Elec W* 102:428-31 S 30 '33

**Wisconsin**

Expense and capital rates of Wisconsin electric, gas, telephone, and water utilities, 1927-1931. B. J. Sickler. *J Land & Pub Util Econ* 9:57-62 F '33

**PUBLIC utilities commissions**

Another state commission emerges from an investigation with an indorsement; Nebraska. *Pub Util* 11:473-6 Ap 13 '33  
 Balancing the state commissions' duties to the public and to the utilities. *Pub Util* 10:637-9 N 24 '32

Cost of regulation. D. E. Lilienthal. *Pub Util* 10:723-32 D 22 '32

Crisis confronting the commissions. W. A. Prendergast. *Pub Util* 12:303-11 S 14 '33; Discussion. 12:588-9 N 9 '33

Development of commission regulation of public utilities in Ohio. E. T. Hellebrandt. *J Land & Pub Util Econ* 9:395-409 N '33  
 Georgia governor ousts commission and names new board. *Pub Util* 12:227-8, 287-8, 347 Ag 17-S 14 '33

Maverick commission of Massachusetts. J. T. Lambert. *Pub Util* 11:596-606 My 11 '33

Organization and personnel of the Nebraska railway commission. L. L. Durisch. *J Land & Pub Util Econ* 9:42-51 F '33

Our under-financed state commissions. W. E. Mosher and F. G. Crawford. *Pub Util* 10:543-52, 622-7 N 10-24 '32

Peril to state commissions in the assault on states' rights. W. A. Prendergast. *Pub Util* 12:3-8 J1 6 '33

Personnel requirements of the state commissions. W. E. Mosher and F. G. Crawford. *Pub Util* 11:30-8 Ja 19 '33; Discussion. J. E. Benton. 11:238-40 F 16 '33

Power to hire and fire state commissioners. M. J. McVean. *Pub Util* 11:773-80 Je 22 '33

Practices of the commissions that have aroused a backfire. *Pub Util* 10:758-60 D 22 '32

Public utility commissioner in the rôle of prosecutor, jurymen, and judge. H. P. Moulton. *Pub Util* 10:761 D 22 '32

Recent revampings of the state commissions. H. R. Gallagher. *Pub Util* 12:268-75 Ag 31 '33

Recent state laws that affect the work of the commissions. G. E. Doying. *Pub Util* 10:748-56 D 22 '32

Regulation—is it judicial or administrative or both. H. Waples; D. E. Lilienthal. *Pub Serv Management* 53:173-4 D '32

Supreme court rules on state commission powers. *Pub Util* 11:549-50 Ap 27 '33

Utility commissioners; photographs. *Pub Util* 11:558, 573-88 My 11 '33

What the records show about rate reductions by commissions. F. X. Welch. *Pub Util* 11:664-6 My 25 '33

What the state commissioners are thinking about; opinions expressed at the annual convention of the National association of railroad and utilities commissioners in Hot Springs, Arkansas, Nov. 15 to 18. *Pub Util* 10:682-9 D 8 '32

**PUBLIC utilities commissions—Continued**

What the state commissioners are thinking about; opinions expressed at the annual convention of the National association of railroad and utilities commissioners in Cincinnati, Oct. 10-13. Pub Util 12:578-85 N 9 '33

Why the state utility commissions should regulate the municipal plants. H. Wright. Pub Util 11:652-62, 710-17 My 25-Je 8 '33

**PUBLIC works**

Construction reports. Published in weekly numbers of Engineering news-record

How one public works department got four hundred inches of favorable publicity during 1932. W. W. Reeder. Pub Works 64:7 My '33

Manual of public works records and accounting for cities of 10,000 and 40,000 population as installed in Winona, Minnesota. 81p pa \$1 Committee on uniform street and sanitation records, 923 E. 60th st, Chicago. '32 (typew)

Public works are ably planned to serve the community. C. H. Paul. il Eng N 110:661-3 My 18 '33

Public-works bill for national recovery. Eng N 110:687-90 My 25 '33

Public works in the federal service. H. L. Ickes. il Eng N 110:613-17 My 18 '33

Rigid contract control safeguards public interests. G. B. Walbridge. Eng N 110:663-4 My 18 '33

Selection of public works projects. H. M. Lewis. Arch Rec 74:78 Ag '33

Serving local community needs through public facilities; Pittsburgh, Pa. C. M. Reppert. il Eng N 110:620-4 My 18 '33

Survey of needed construction. R. D. Kohn and others. Arch Forum 58:445-52 Je '33

*See also*

Bridges	National industrial recovery act, 1933
Contracts, Letting of	Pavements
Flood control	Public buildings
Highway departments	Refuse disposal
Irrigation	Rivers—Regulation
Municipal engineering	Roads
Municipal improvement	Sewerage
	Streets
	Waterworks

**Costs**

Budgeting federal construction to stabilize employment. D. H. Sawyer. Eng N 110:657-9 My 18 '33

**Economic aspects**

Advance planning. D. H. Sawyer. Eng N 110:197 F 9 '33

Bubble of public works. S. Axley. Barron's 13:3+- Ag 7 '33

Can new construction restore prosperity? E. C. Harwood. il Mech Eng 54:837-40 D '32

Construction industry in the depression: attempts at stabilization. J. B. Hubbard. Harvard Business R 11:146-55 Ja '33

Construction's proposals for a way out. Eng N 110:112 Ja 26 '33

Economics in the depression. J. P. Hogan and others. il Civil Eng 2:731-9 D '32

Effectiveness of public works in stabilizing the construction industry. C. Gill. Am Statis Assn J 28:sup196-200 Mr '33

Michigan's experience shows need for liberalization of relief act. J. P. Hallihan. Eng N 110:89-90 Ja 19 '33

New aspects of the distribution problem. D. C. Coyle. Ann Am Acad 165:109-15 Ja '33

New construction can restore prosperity; discussion of article by E. C. Harwood. D. C. Coyle. Mech Eng 55:111-12 F '33

Place of public works in the economic scheme. W. T. Chevalier. Am Water Works Assn J 25:1007-15 J1 '33

Preparedness for slum clearance; federal aid. J. H. Millar. il Civil Eng 3:506-7 S '33

Prodging prosperity with public works. Econostat 1:5-6 My 27 '33

Public works and inflation. R. F. Kahn. Am Statis Assn J 28:sup168-73 Mr '33

Public works as a cure for depression; how Mr J. M. Keynes would increase employment and prices. Index 13:85-9 My '33

Public works as a stabilizer. E. Ogur. Mech Eng 55:156 Mr '33

Public-works construction issue. Eng N 110:609-64 My 18 '33

Public works—or bust. D. C. Coyle. Arch Forum 59:162-3 S '33

Public works program urged by construction industry. Arch Rec 73:235 Ap '33

Public works, ready to go. Business Week p7-8 My 31 '33

Resolutions adopted by highway and building conference. Brick & Clay Rec 82:54 F '33; Same abr. Roads & Sts 76:73 F '33

Technocracy as a threat to private utility ownership. Pub Util 11:111-14 Ja 19 '33

The way out. M. L. Oliver. Architecture 67:247-52 My '33

\$3,300,000,000 federal building program will make many smaller jobs; charts. Am Bld 55:15 Ag '33

World economic reconstruction; a criticism of the economic resolution adopted by the International labour conference. G. Cassel. Int Labour R 26:644-8 N '32

*See also*

Unemployment — Relief measures — Public works

**Federal loans**

Answers to questions on PWA loan procedure. Eng N 111:324-5 S 14 '33

Federal financing of housing proposed thru public works act. Brick & Clay Rec 83: '84, 122 S-O '33

Happy valley; Roosevelt selects the Tennessee watershed for development as a federal project. il Business Week p16 F 15 '33

Housing and slum-clearance projects eligible for loans and subsidies. Arch Rec 74:157-9 S '33

Housing circular no. 4; information required with preliminary applications for loans for low-cost housing or slum clearance projects. il Arch Forum 59:160-1 S '33; Same. Arch Rec 74:159-60 S '33

Housing progress under the PWA. R. D. Kohn. il Arch Rec 74:333-5 N '33

How public works money can be obtained for building projects. Dom Eng 142:36-7 O '33

Ickes boomerang; speed up allotments. Business Week p18 S 16 '33

Information needed for housing loans listed by PWA. Eng N 111:210 Ag 17 '33

Information required for loans to private corporations; emergency public works administration. Civil Eng 3:535-6 S '33

Information required for recovery loans in application form. Eng N 111:25 J1 6 '33

Long list of non-federal works approved by PWA. Eng N 111:452-3 O 12 '33

National public works credit corporation. F. H. McDonald. il Civil Eng 2:736-9 D '32

Organizing public works. Business Week p18 Je 24 '33

Pending projects will take total of public works fund. Eng N 111:390 S 28 '33

PWA lists information required with loan applications. Eng N 111:182-4 Ag 10 '33

PWA loan procedure. H. M. Waite. Eng N 111:364-5 S 21 '33

Public works begin to work. Business Week p20-1+ O 7 '33

Public works catechism; what you need to know to help your town reach for improvements, jobs and buying power via the PWA. Business Week p22 S 16 '33

Public-works construction needs a coordinated program. H. H. Wilson. Eng N 110:441-2 Ap 6 '33

Securing loans from the N.R.A.; abstract. L. A. Hoffman. Water Works & Sewerage 80:355-6 O '33

Speed the act. J. R. Law. Arch Forum 59:sup18 S; sup18 O '33

Spurred by criticisms, the Public works administration speeds its tempo. il Arch Forum 59:326-8 O '33

Statistical review of progress in public works program. L. S. Schnitman. Arch Rec 74:410 N '33

To what extent will public works funds go for public plants? Pub Util 12:251-3 Ag 31 '33



**PUBLIC works—Federal loans—Continued**

We must build schools. J. O. Betelle. Arch Rec 74:162-3 S '33

See also

Railroads—Federal loans

**Finance**

Citizen as a stockholder in public facilities. L. Brownlow. Eng N 110:628-31 My 18 '33

Conserving savings by investment in public works. W. Chevalier. Eng N 110:631-2 My 18 '33

Financial aspects of budgeting public-works construction. L. Wolman. Eng N 110:659-60 My 18 '33

Financing public improvements through service revenues. J. P. Hallihan. il Eng N 110:650-2 My 18 '33

Les grands travaux publics considérés au point de vue fiscal. A. Godin. Génie Civil 103:41-2 Jl 8 '33

How R.F.C. finances the construction of self liquidating public projects. Eng & Contr 71:253-5 N '32

Kansas City's ten-year public-works plan goes ahead with hand labor. Eng N 111:75 Jl 20 '33

Large reduction in federal work proposed in budget. Eng N 109:732-3 D 15 '32

Public works and the state; California projects. E. Hyatt. il map Eng N 110:617-20 My 18 '33

Public-works finance in normal and emergency times. L. D. Edie. Eng N 110:645-7 My 18 '33

Public works financing. M. Pirnie. il Civil Eng 2:733-6 D '32

**Social aspects**

Service requirements determine public-works construction. M. Pirnie. il Eng N 110:625-8 My 18 '33

**California**

Public works and the state; California projects. E. Hyatt. il map Eng N 110:617-20 My 18 '33

**Germany**

Public works in Germany. Economist 117:407 Ag 26 '33

**Ohio**

Ohio survey of needed construction projects. map Arch Forum 58:447-51 Je '33

**Ontario**

Ontario \$33,000,000 works program; large provincial recovery scheme of highway and building construction. Can Eng 65:15-16 N 7 '33

**Pennsylvania**

Pennsylvania's public works planning law. Arch Forum 58:452 Je '33; Same. Roads & Sts 76:223 Je '33

**Quebec**

Fees payable for public works. Can Eng 64:12 Ja 17 '33

**Southern states**

Self-liquidating projects. H. Couch. Manuf Rec 102:24 Ja '33

**United States**

Adapting public works to regional needs; activities of PWA region 10. Eng N 111:381-2 S 28 '33

Advisory board for each state announced by PWA. Eng N 111:147-8 Ag 3 '33  
Allotments from PWA fund total \$1,198,485,-539. Eng N 111:241 Ag 24 '33

Appointments are made and the Public works administration starts to function. Arch Forum 59:136-7, 150 Ag '33

Building brain trust is still being formed. Arch Forum 59:72-3+ Jl '33

Columbia River power job gets week's largest public works allotment. Iron Age 132:40H O 5 '33

Digest of circulars no. 1 and no. 2 issued by Federal emergency administration of public works, July 31 and Aug. 1, 1933. Water Works & Sewerage 80:337-8 S '33

Executives of the Recovery administration in contact with the building industry. Arch Rec 74:76-7+ Ag '33

Federal allotments for public works. Science 78:240-1 S 15 '33

Getting \$3,000,000,000 into motion. Nation's Business 21:53-4 Jl '33

Government construction program. il Manuf Rec 102:14-16 Jl '33

How to get federal funds for municipal, county and other work. il Pub Works 64:3-5 O '33

Ickes and Waite head public works under Recovery act. Eng N 111:56 Jl 13 '33

Important statement of National recovery committee for water works construction. Water Works & Sewerage 80:295 Ag '33

It is up to the cities. H. L. Ickes. Roads & Sts 76:355-7 O '33; Excerpts. Water Works & Sewerage 80:354 O '33

Minimum wage rates set for public works fund projects. Eng N 111:238-9 Ag 24 '33

More pressure on public works. Business Week 116 O 14 '33

National industrial recovery act becomes law; text of law. Civil Eng 3:401-3 Jl '33; Same. Roads & Sts 76:253-5 Jl '33

New opportunities for the engineer in city planning. D. H. Sawyer. Civil Eng 3:516-18 S '33

Operation of the PWA. Eng N 111:445-6 O 12 '33

Policies and organization of PWA place engineers in key positions. Eng N 111:144-5 Ag 3 '33

Policies formulated for public works under Recovery act. Eng N 111:24 Jl 6 '33

Power and irrigation work financed by PWA. diagrs map Eng N 111:251-3 Ag 31 '33

Public works. Business Week p3-4 Ag 26 '33

P.W.A. officials talk about activities in water and sewage works. Pub Works 64:25+ N '33

PWA planning board formulates principles. Eng N 111:411 O 5 '33

Public works administration takes new steps to speed projects. Eng N 111:485 O 19 '33

PWA today: is it a failure? Eng N 111:412-17 O 5 '33

Public works allocations approaching \$1,500,-000,000. Iron Age 132:32-3 S 7 '33

Public works allotments for scientific surveys. Science 78:sup6 Ag 11 '33

Public works; federal construction program. Business Week p13-14 Ag 5 '33

Public works funds allotted to scientific bureaus. Science 78:53-4 Jl 21 '33

Public works in the new deal; with data concerning the administrative boards and personnel. H. L. Ickes. Arch Forum 59:151-9 S '33

Public works program gets under way. Business Week p9 Jl 15 '33

Public-works program is moving forward. Eng N 111:265-7 Ag 31 '33

Public works program offers chance to clay products manufacturers. Brick & Clay Rec 83:12+ Jl '33

Public works provided by Industrial recovery act. Arch Rec 74:3-8 Jl '33

Public works under Recovery act subject to delay. Eng N 110:820 Je 22 '33

Public works wage scale muddle. Pub Works 64:31 O '33

Purposes and policies of public works administration. Monthly Labor R 37:797-800 O '33

Regional heads designated for public works. Eng N 111:116 Jl 27 '33; Am Bld 55:46 Ag '33; Roads & Sts 76:300 Ag '33

Regional offices to handle program. Am Bld 55:16 Jl '33

State advisory boards appointed to pass on public works projects. Roads & Sts 76:290-2 Ag '33

State engineers for public works announced by Secretary Ickes. Eng N 111:208-10 Ag 17 '33

Ten zones set up for administration of public works; program. Eng N 111:88-9 Jl 20 '33

Three billions for construction. J. A. Moffitt. Barron's 13:18 Jl 3 '33

**PUBLIC works—United States—Continued**

Washington advice on the forthcoming public works problem. Arch Forum 58:429-32 My '33

Who's who in the Public works administration. pors Arch Rec 74:317-24 O '33

Winter worries PWA; Ickes sends out cold-weather warnings. Business Week p18 N 11 '33

**PUBLIC works emergency housing corporation**

Low cost housing company formed to assist PWA. Eng N 111:540-1 N 2 '33

**PUBLICATION (term)**

Can a publication be camouflaged? N. E. Stevens. Science 77:239 Mr 3 '33

**PUBLICITY**

Electricity and the press; an examination and criticism of recent publicity activities of the electrical industry in Great Britain. Electrician 110:64-5 Ja 20 '33

Highway improvement; how to keep it sold to the public. E. J. Mehren. il Civil Eng 3:458-60 Ag '33; Same. Roads & Sts 76:293-6 Ag '33

How one public works department got four hundred inches of favorable publicity during 1932. W. W. Reeder. Pub Works 64:7 My '33

How the small company can handle its own publicity. H. F. Woods, Jr. Bus Transportation 12:164-6 Ap '33

How to do publicity. R. C. Mayer. 258p '33 Harper '33

It's better to tell the truth about corporations. Ptr Ink 162:49-50 Mr 23 '33

Public relations—public policy and commercial publicity. J. P. Jones. 57p Commercial news corp, 150 Nassau st, New York '33

Publicity and the physicist. R. D. Potter. R Sci Instr 4:261-3 My '33

See also

Advertising  
Corporations—Re-  
ports and year-  
books

**PUBLICITY, Free**

Are contests news? General Baking gets seven papers to run publicity. Sales Management 32:443 Ap 20 '33

Bacon's publicity manual. 88p \$3 R. H. Bacon & co, Chicago '33

Publicity agents and their ways intrigue Mr. Goldstein. Ptr Ink 162:64 Ja 5 '33

Publicity for dealers; what it is and how to get it. L. M. Forest. il Am Bld 55:76-7 S '33

**PUBLISHING**

Canadian printers spent \$12,000,000 for paper. Pulp & Pa of Can 34:226-7 Mr '33

Newsprint and the publisher. Pulp & Pa of Can 34:229-30 Mr '33

Periodical and newspaper publishers submit codes. Adv & Sell 21:26-1 Ag 17 '33

Periodical publishers prepare code; General Johnson calls on advertising to co-operate. C. B. Larrabee. Ptr Ink 164:25-8 Ag 3 '33

Periodical publishers unite; have prepared code. Sales Management 33:187 Ag 15 '33

Printing and publishing groups basic graphic arts code is NRA objective. Ptr Ink 164:84-5 S 28 '33

Propose code for periodical publishers. Adv & Sell 21:26-1 Ag 3 '33

Publisher-printers adopt basic code for graphic arts industry. Inland Ptr 91:21-3 S '33

Some reflections on publications costs. Civil Eng 3:640-1 N '33

See also

Book industry and	Newspapers
trade	Periodicals
Copyright	Printing
Journalism	Trade journals

**PUBLISHING buildings**

Canadian engineer celebrates its anniversary in new home. il Can Eng 64:32 My 30 '33

La nouvelle imprimerie de l'illustration, à Bobigny, près Paris. il diags plans Génie Civil 103:77-82 Jl 22 '33

Publications on Christian science move into new, modern plant. il Inland Ptr 91:63-4 S '33

See also

Newspaper offices  
Printing offices

**PUEBLOS**

Cliff-dwellers of 1000 A.D. as underpinning experts; what the inhabitants of Pueblo Bonito did to prevent destruction of their city by a great rock. J. B. Hamilton and F. A. Kittridge. il diags Eng N 110:774-5 Je 15 '33

**PUG mills**

See also

Auger machines

**PULLEYS**

How to eliminate slip on vertical belt drives. W. F. Schaphorst. diags Pulp & Pa of Can 33:442 N '32

Keying solid pulleys. J. A. Dixmund. diag Maintenance Eng 91:52-3 F '33

See also

Belting

Manufacture

Expedite construction of pulleys. il Foundry 60:26-7+ D '32

Simple turret lathe set-up for crowning three steps of a cone pulley simultaneously. A. E. Granville. il Mach 39:454 Mr '33

**PULLMAN cars. See Sleeping cars****PULLMAN incorporated**

Annual report for year ending Dec. 31, 1932. Ry Age 94:505, 514, 537-9 Ap 8 '33

Pullman's promising developments. Econostat 1:12, 32 S 23 '33

Speculative audit; favorable and unfavorable factors affecting common-stock values. Barron's 13:14 S 25 '33

**PULLMAN porters**

George sees a yellow peril; substitution of Filipinos and Japanese for negroes as Pullman porters. Business Week p20 Mr 29 '33

**PULVERIZED coal. See Coal, Pulverized****PULVERIZERS**

Commercial pulverisation; the Pulmac mill. il Chem Age (Lond) 28:556 Je 17 '33

Design of new grinding unit for closed-circuit application. il diag Concrete (mill sec) 40:47 D '32

Grinding and calcining gypsum in one operation. W. B. Lenhart. il Rock Prod 36:34-7 Ag '33

Multiplex pulverised-fuel unit. il Engineering 136:83-5 Jl 28 '33

New pulverised fuel system. il diags Engineer 155:332-3 Mr 31 '33

Possible grinding economies would save 25% in power cost of Portland cement; B&W type B pulverizer. N. C. Rockwood. il Rock Prod 36:42-4 Ap '33

Rubber linings for rotary grinding mills. W. E. Bennett. il diags Min & Met 14:399-400 S '33

Simplify your process by combining drying and grinding operations. L. T. Work. il diag Chem & Met Eng 40:306-9 Je '33

Über mahlung und mahlmaschinen. P. Rosin and E. Rammner. bibliog Chemische Fabrik 6:395-9, 403-5 S 20-27 '33

Vertical spindle burr stone mill. diag Engineer 156:41-2 Jl 14 '33

See also

Crushing machinery  
Disintegrators

**PULVERIZING**

Analysis of crushing and pulverizing processes. L. T. Work. Rock Prod 35:19 N 19 '32

Can cement be overground? L. R. Davies-Graham. Rock Prod 36:24-5 Ja '33

Rational expression for fineness of Portland cement. E. W. Reed-Lewis. Concrete 41:11-12 Mr '33

See also

Coal, Pulverized—  
Preparation

**PUMPING**

Analysis of hydro-regeneration. F. A. Allner. Elec Eng 52:547-50 Ag '33



**PUMPING—Continued**

Avoiding pitfalls in pump suction systems. M. J. Reed and L. H. Morrison. *Chem & Met Eng* 40:142-3 Mr '33

Elevated tank reduces pumping power consumption. *Pub Works* 64:41 F '33

*See also*

Petroleum—Pump-	Pumps
ing	Sand pumping
Pumping stations	Sewage pumping

**Cost**

Perspective in purification expenditures. G. B. Persides. *Am Water Works Assn J* 25: 965-73 Jl '33

**Tables, calculations, etc.**

Betriebsverhältnisse parallel arbeitender Kreiselpumpen mit langen verbindungsleitungen. R. Falk. *Zeit Ver Deutsch Ing* 77:898-900 Ag 19 '33

Economics of water pumping. G. B. Williams. *Engineer* 155:469-70 My 12 '33

Flow of paper pulps in pipe lines. C. A. Brautlecht and J. R. Sethi. *il Ind & Eng Chem* 25:283-3 Mr '33

Handling water with centrifugal pumps. L. H. Morrison. *Factory & Ind Management* 83: 461-3 D '32

Proper diameter pump for oil well and rough method to use to determine the diameter. A. Allen, Jr. *Oil & Gas J* 31:40-1+ F '33

Water measurements for rock products plants. A. C. Hewitt. *Rock Prod* 36:58-9 Ag '33

**PUMPING machinery**

Best of equipment available will be necessary to secure future oil from east Texas wells. *Oil & Gas J* 32:16+ Jl 27 '33

Boughton reservoir of the Chester waterworks company. *il Engineering* 135:576-8 My 26 '33

Brown and sons 1000 h.p. bevel increasing gears. *il diag Engineer* 155:331 Mr 31 '33

Central powers, pumping units and steel fronts will be extensively used in east Texas. *il Oil & Gas J* 32:41+ Je 22 '33

Cost of pumping for drainage in the upper Mississippi valley. J. G. Sutton. *U S Agric Tech Bul* 327:1-100 '32

Development in pumping wells; abstract. H. N. Marsh. *Oil & Gas J* 32:32+ Ag 31 '33

Diesel engine for slush-pump drive. *il diag Engineering* 135:594-5 Je 2 '33

Elderslie dock pumping plant. *il Engineer* 155:202 F 24 '33

Equipment progress aids pumping and distribution. T. A. Leisen. *il Eng N* 110:754-6 Je 8 '33

Floating irrigation plant for Egypt. *il diag Engineer* 156:118-19 Ag 4 '33

Further application of pneumatic cylinders to pumping wells being made in east Texas. H. B. Thomson. *il diag Oil & Gas J* 32:68+ Je 22 '33

Great Lakes pipe line powered by Diesels. flowsheet *il map Power Pl Eng* 37:94-6 F '33

Kitchener water works pumping plant. *il Can Eng* 64:29-30 F 28 '33

Little Hay pumping station of the South Staffordshire waterworks company. *il diag Engineering* 134:699-702, 712, pl 26 D 16 '32

Many types of rodless pumping units available for producing wells in the east Texas field. *il Oil & Gas J* 32:74+ Je 22 '33

New pumping equipment conveys bulk cement at low cost. *il diag Concrete (mill sec)* 41: 42-3 F '33

Pump designs present many advances in 1932. *il Power* 77:32-3 Ja '33

Pump outfits will operate better if equipped with properly designed counter-balances. *Oil & Gas J* 32:58 Je 22 '33

Record cement-pumping lift used at Pine Canyon dam. *diag Eng N* 110:241 F 23 '33

Selection and rating of oil well pumping units. B. Thomas. *il Am Pet Inst Proc* p73-9 sec 4 D '32

Steel front walking beam and self contained pumping units find favor in east Texas. *il plan Oil & Gas J* 32:44+ Je 22 '33

Topography and well conditions in east Texas permit use of central pumping power units. *il Oil & Gas J* 32:52 Je 22 '33

*See also*

Air lifts	Pumping stations
Gasoline pumps	Pumps
Mine pumps	Sewage pumping
Oil pumps	Vacuum pumps

**PUMPING machinery, Electric**

Capacity of eastern pipe line is doubled after oil flow is reversed from East to West. E. H. Fortmann. *il map Oil & Gas J* 31:11-12 D 1 '32

Colorado River aqueduct; 1933's outstanding electrical project. *Elec West* 70:52-5 F '33

Deep well pumping installation for the city of Guelph, Ont. H. S. Nicklin. *Can Eng* 64:13-14 Ja 31 '33

Developments in the electrical industry during 1932; oil wells. J. Liston. *il Gen Elec R* 36: 28-9 Ja '33

Electrical pumping; town's water supplied by electrically driven set. *Electrician* 111:212 Ag 18 '33

Electrically-operated pumping station; Tunbridge Wells water supply. *il diag Engineering* 134:760-1, pl 28 D 30 '32

Floating power house; electric equipment on a suction dredge. R. O. Brosemer. *il Elec West* 71:16-17 Ag '33

Gasoline cools outdoor pump motor. H. W. Stalnaker. *il Power* 76:290 D '32

Hydraulic service; advantages of the electrically driven turbine centrifugal pump. *Electrician* 111:238 Ag 25 '33

La Bour self-priming electrically-driven centrifugal pump. *il diag Engineering* 135:194 F 17 '33

Mather and Platt emergency water supply pumping plant. *il Engineering* 136:348 S 22 '33

Modernized pumping pays for itself. W. R. Chawner. *il Elec West* 71:27 S '33

Motors and controls for centrifugal pumps. *Factory Management* 91:246+ Je '33

New hydraulic power station at Leith. *il diag plan Engineer* 154:616, 620-2 D 16 '32

New pump increases advantages of electric power for pipe lines; Rannett unit. *il diag Elec W* 101:358-60 Mr 18 '33

New pumping unit of radical design revolutionizes oil pipe line practice. A. M. Rowley. *il Oil & Gas J* 32:33+ O 12 '33

New type large capacity pipe line pump for outdoor service revolutionary in design. *il Oil & Gas J* 31:12-13 S 29 '32; *Abstract. Mech Eng* 55:129-30 F '33

Outdoor operation of Great Lakes pipe line stations presented many problems which inventors and manufacturers solved. *il Oil & Gas J* 32:45 O 12 '33

Pipe line pumping and automatic control. J. Fies. *il diag Elec Eng* 52:29-34 Ja '33

Power companies co-operated in electrification of Rannett stations on Great Lakes pipe line. *Oil & Gas J* 32:45 O 12 '33

Rannett electrically driven centrifugal pumping unit has advantages appealing to industry. *il diag Oil & Gas J* 32:38+ O 12 '33

Selecting pumping equipment for a large water plant. W. C. Rudd and L. E. Ayres. *il diag Eng N* 111:429-33, 467-71 O 12-19 '33

Slitting mill pumping station of the South Staffordshire waterworks company. *il diag Engineering* 136:349-51, pl 11 S 29 '33

Southampton dock extensions. *il Engineer* 156:52-4 Jl 21 '33

Southampton docks; electrical equipment. *il Electrician* 111:87 Jl 21 '33; *Elec R (Lond)* 113:155 Ag 4 '33

West Middlesex sewerage scheme. *il map Engineer* 155:274, 278-80 Mr 17 '33

*See also*

Pumping stations—	<b>Control</b>
Power	

Automatic and remote control for electric pumping stations. R. C. Allen. *il Am Water Works Assn J* 25:529-43; *Discussion*. 543-5 Ap '33; *Same cond. Elec J* 30:183-6 My '33

**PUMPING machinery, Electric—Control—Cont.**

Automatic and remotely controlled pumping stations. *il* Pub Works 64:13-14 N '33

Control of electric pumps. F. J. Taylor. *diags Elec R (Lond)* 113:276-7 S 1 '33

Modern automatic pumping at Consolidated Coppermines. W. B. Clark. *il* Min & Met 14:295-6 J1 '33

Novel control for operating pump. H. G. Schaefer. *il* Heating-Piping 5:205 Ap '33

Pumping plant with 3,153-ft. lift at Grand Canyon. *il* Eng N 110:343-4 Mr 16 '33

Rectox unit saves extra control circuit; remote motor-driven pumping unit at Rainier national park. *diag Elec W* 101:515 Ap 22 '33

Spring water lifted 3000 feet at Grand Canyon. L. J. Cissna. *il* Elec J 30:142-4 Ap '33

Supervisory-controlled station pumps under 3,000 ft. head. *Elec W* 101:371 Mr 25 '33

Supervisory system controls pump house; Grand Canyon pumping plant of the Santa Fe. *il* Elec West 70:94-6 Mr '33

Water pumped out of Grand Canyon under  $\frac{3}{4}$ -mi. head. *il* Power 77:475 S '33

**Testing**

Pump testing as load insurance. *il* Elec West 70:18-19 Ja '33

**PUMPING stations**

Automatic pumping stations on the Baltimore water supply system; abstract. L. Small. *Water Works & Sewerage* 80:206 Je '33

Chicago to build 300-m.g.d. pumping plant. L. D. Gayton. *plan Eng N* 110:752-4 Je 8 '33

Double pumping—to and from a storage reservoir. W. C. Wills. *il* Water Works & Sewerage 80:32-3 Ja '33

Electrically-operated pumping station; Tunbridge Wells water supply. *il* *diags Engineering* 134:760-1, pl 28 D 30 '32

Guaranteed water supply; Waynesboro, Va. *il* *Manuf Rec* 102:22 Mr '33

Little Hay pumping station of the South Staffordshire waterworks company. *il* *diags Engineering* 134:613-15, 626, 699-702, 712, pl 26 N 25, D 16 '32

New high service water supply of Concord, New Hampshire. P. R. Sanders and F. A. Marston. *il* *diags N E Water Works Assn J* 47:1-12 Mr '33

New pumping station and reservoir at the Winnipeg water works. H. N. Halland. *il* *plan Can Eng* 65:11-14 J1 18 '33

New water purification and pumping plant at Hamilton. W. L. McFaul. *il* *plan Can Eng* 64:15-19 F 28 '33

Pumping plant with 3,153-ft. lift at Grand Canyon. *il* *Eng N* 110:343-4 Mr 16 '33

Pumping station and filtration plant at St Joseph, Michigan. F. G. Gordon. *il* *Am Water Works Assn J* 25:832-7 Je '33

Selecting pumping equipment for a large water plant. W. C. Rudd and L. E. Ayres. *il* *diags Eng N* 111:429-33, 467-71 O 12-19 '33

Solving a suction-lift problem in an automatic pumping station, New Castle, N. Y. E. I. McCaffery. *plan Am Water Works Assn J* 25:321-6 Mr '33

Some interesting phases of Chicago's water works activities. M. B. Reynolds. *Am Water Works Assn J* 25:1321-38 O '33

Spring water lifted 3000 feet at Grand Canyon. L. J. Cissna. *il* *Elec J* 30:142-4 Ap '33

La station de pompage et les canaux d'irrigation de Sontay (Tonkin). J. Gauthier. *diags plan map Génie Civil* 102:421-3 My 6 '33

Supervisory system controls pump house; Grand Canyon pumping plant of the Santa Fe. *il* *Elec West* 70:94-6 Mr '33

Water pumped out of Grand Canyon under  $\frac{3}{4}$ -mi. head. *il* *Power* 77:475 S '33

*See also*

Petroleum pipe lines—  
Pumping stations

**Equipment**

Automatic and remote control for electric pumping stations. R. C. Allen. *il* *Am Water Works Assn J* 25:529-43; *Discussion*. 543-5 Ap '33; *Same cond.* *Elec J* 30:183-6 My '33

Automatic and remotely controlled pumping stations. *il* *Pub Works* 64:13-14 N '33

Economic replacement of pumping equipment. H. P. Binder. *Water Works & Sewerage* 79:430-2 D '32

Modern waterworks pumping stations. W. Gore. *Am Water Works Assn J* 25:205-11 F '33

Overcoming the cost of obsolescence at a water pumping plant. J. B. Miller. *il* *Water Works & Sewerage* 80:100 Mr '33

Slitting mill pumping station of the South Staffordshire waterworks company. *il* *diag Engineering* 136:323-5, 349-51, pl 10-11 S 22-29 '33

*See also*

Pumping machinery      Water level indicators

**Power**

Colorado River aqueduct; 1933's outstanding electrical project. *diag map Elec West* 70:52-5 F '33

Economy of elevated storage strikingly shown. D. H. Maxwell. *il* *Water Works & Sewerage* 80:63-5 F '33

Four-step power conversion at Springwells. *il* *Power* 77:470, 472-3 S '33

High speed Diesel engine as a prime mover for pumping stations. E. Earl. *diags N E Water Works Assn J* 47:61-72; *Discussion*. A. L. Shaw. 72-3 Mr '33; *Abstract*. *Pub Works* 64:43-4 J1 '33

Reconstruction of the Lebanon, N. H. water works; hydraulic turbine-driven pump, utilizing water from the river for power. R. S. Holmgren. *il* *plan N E Water Works Assn J* 47:52-60 Mr '33

**PUMPS**

Anderson rotary pump. C. E. Anderson. *diags Refrig Eng* 26:143- S '33

Anderson rotary pump of simple design. *diag Iron Age* 131:824 My 25 '33

Broomwade portable trench or sump pump. *diag Engineer* 155:509 My 19 '33

Builders iron foundry offers automatic proportioning pump for feeding chemicals. *il* *Water Works & Sewerage* 80:111 Mr '33

De Laval-IMO rotary displacement pump of novel design. *il* *Iron Age* 130:964 D 22 '32; *Power Pl Eng* 36:54 Ja '33

De Laval propeller-type pump. *il* *diag Engineering* 135:99 Ja 27 '33

De Laval rotary displacement pumps for oil burners. *il* *Iron Age* 131:784 My 18 '33

Drum valveless rotary pump. *il* *diags Engineering* 135:460-1 Ap 28 '33

L'emploi de l'ondo-pompe Cattaneo pour utiliser les mouvements de la mer. J. Richard. *diag Génie Civil* 102:21 Ja 7 '33

Field and laboratory data covering tests upon special alloys for barrels, balls and seats for oil well pumps. W. F. Rogers. *il* *Oil & Gas J* 32:54, 57-8 O 26 '33

Flexible performance at high efficiency characterizes adjustable-blade, propeller-type pumps. R. E. B. Sharp. *il* *diag Power* 77:242-3 My '33

Gas-circulating pumps for high-pressure service. C. H. S. Tupholme. *diags Ind & Eng Chem News* ed 11:111-12 Ap 10 '33

Holden and Brooke circulating pump for hot-water heating systems. *il* *Engineering* 135:443 Ap 21 '33

Howard rotary pump. *il* *diag Engineer* 155:508 My 19 '33

Hydraulic characteristics of pump blades; abstract. *Mech Eng* 55:583-4 S '33

Improved circulating pump for hot water heating systems. *il* *diag Engineer* 155:124 F 3 '33

Leiman rotary air pumps. *Mach* 39:359 Ja '33

Low consumption of power is feature of portable cement pump. *il* *diags Concrete (mill sec)* 41:26-9 Ap '33

Meldrum acid-resisting pump. *diag Engineer* 155:supp vi F 17 '33

Mill eliminates pump trouble. W. A. T. Gil-mour. *il* *Pulp & Pa* of Can 34:292-3 Ap '33

La mise en place du béton au moyen d'une pompe. *il* *diag Génie Civil* 102:352-4 Ap 15 '33



**PUMPS—Continued**

New device develops straight line volumetric displacement for reciprocating pumps; Holveck compensator, J. E. Holveck, diag Oil & Gas J 31:36-7 Mr '33

New pumping equipment, il Heating-Piping 5: 42-3 Ja '33

New rotary pump patented by James L. Kempthorne, il Power 77:512 O '33

Northern radial piston pumps for machinery application, il Iron Age 131:440 Mr 16 '33; Mach 39:490-1 Mr '33

Placing concrete by pump and pipe line, Am Concrete Inst J 4:sup [news letter] 11-12 F '33

Proper diameter pump for oil well and rough method to use to determine the diameter, A. Allen, Jr. Oil & Gas J 31:40-1+ F 23 '33

Pump for high-pressure hydraulic transmissions, il Iron Age 131:710 My 4 '33

Pump infection under normal conditions in controlled experimental fields, E. L. Caldwell and L. W. Parr, bibliog Am Water Works Assn J 25:1107-17 Ag '33

Pumping; current research projects, Power 77:264 My '33

Pumps and compressors, il Chem Age (Lond) 28:250 Mr 18 '33

Pumps for power plant and industrial uses, il diags Power 76:370-2 Mid-D '32

Rotary displacement pumps; abstract, C. S. Darling, Mech Eng 55:640 O '33

Ruthman vertical motor-driven coolant pumps, il Iron Age 131:953 Je 15 '33

Safety in the pumping of chemicals; abstracts, J. C. Lawrence, Chem Age (Lond) 27:526 D 3 '32; Chem & Met Eng 39:619 N '32

Self-priming pumps, Power 76:353 Mid-D '32

Steel rotor stops breakdowns, G. H. Emerson, diag Factory Management 91:283-4 J1 '33

Sundstrand rota-roll pump, il Mach 39:617 My '33

Use of pump as gas sampler, R. C. Lee, diags Ind & Eng Chem Anal ed 5:354-6 S 15 '33

Les usines de pompage pour accumulation, L. Martin, diags Soc Ing Civils Bul 85:718-34, pl 205 My '32

Winkessel an kolbenpumpen, A. Closterhalfen, diags Zeit Ver Deutsch Ing 77:1143-6 O 21 '33

Worthington horizontal duplex steam pumps for handling cold or hot oils, gasoline and other petroleum products, Iron Age 131:362 Mr 2 '33; Marine Eng 38:63 F '33

**See also**

Air lifts	Pumping stations
Gasoline pumps	Pumps, Centrifugal
Mine puraps	Sewage pumps
Oil pumps	Vacuum pumps
Pumping machinery	

**Control**

Back-pressure governor controls steam-pump operation, E. R. Hallam, diag Power 77:313 Je '33

**Manufacture**

Iron for pressure castings, H. H. Judson, il Foundry 60:24-5+ N '32

**PUMPS, Centrifugal**

Acid-resisting pumps, C. H. S. Tupholme, diags Chem Markets 33:40-2 J1 '33

Automatic devices make centrifugal pumps self-priming, diags Power 77:302-3 Je '33

Automatically primed centrifugal pump supplies sprinkler system, M. M. Klosson, il Power 77:592 N '33

Betriebsverhältnisse parallel arbeitender kreiselpumpen mit langen verbindungsleitungen, R. Falk, diags Zeit Ver Deutsch Ing 77: 898-900 Ag 19 '33

Centrifugal pump characteristics; performance, construction, and cost, T. Y. Sherwell and R. Pennington, il diags Inst Mech Eng Proc 123:621-75 '32; Same cond, Engineer 154:556-9 D 2 '32; Discussion, Inst Mech Eng Proc 123:675-708 '32

Centrifugal pumps for the Zuyder Zee reclamation, il diags Engineering 134:777-8 D 30 '32

Chain belt co. 20,400 gal. per hr. pump is self-priming, Iron Age 132:27 Ag 17 '33

Chicago pump company screw-feed centrifugal pump designed for handling sludge, diag Water Works & Sewerage 80:71 F '33

Correction of troubles in centrifugal pumps, J. L. Stewart, il Power 77:124-5 Mr '33

Fonctionnement des turbines hydrauliques et pompes centrifuges, L. Bergeron, il diags Soc Ing Civils Bul 85:769-97 My '32

G.G.G. self-priming pump, il diags Engineering 135:471-2 Ap 25 '33

Handling water with centrifugal pumps, L. H. Morrison, Factory & Ind Management 83: 461-3 D '32

Harmain centrifugal pump handles oil heated to 800 deg. F, Oil & Gas J 32:77 Ag 10 '33

Ingersoll-Rand new air-operated portable sump pump, il Iron Age 131:171 Ja 26 '33; Eng & Contr 71:279 D '32

Kreiselpumpen für sonderzwecke, K. Grün, il diags Chemische Fabrik 6:325-8 Ag 2 '33

La Bour self-priming electrically-driven centrifugal pump, il diags Engineering 135:194 F 17 '33

Little Hay pumping station of the South Staffordshire waterworks company, il diags Engineering 134:699-702, 712, pl 26 D 16 '32

Many causes for pump losing prime, Power 77:545-6 O '33

Motors and controls for centrifugal pumps, Factory Management 91:246+ Je '33

New pumping unit of radical design revolutionizes oil pipe line practice, A. M. Rowley, il Oil & Gas J 32:33+ O 12 '33

Overcoming the cost of obsolescence at a water pumping plant, J. B. Miller, il Water Works & Sewerage 80:100 Mr '33

Pennsylvania pump & compressor co. novel development in pump design, diag Water Works & Sewerage 80:148 Ap '33

Placer mining by centrifugal pump, W. E. Sinclair, il Eng & Min J 134:184-7 My '33

Priming equipment installed on plunger pump, J. Moosbrugger, diag Power 77:379 J1 '33

Problems of modern pump and turbine design; abstract, W. Spannhaake, Power 76:339 Mid-D '32

Pump designs present many advances in 1932, Power 77:32-3 Ja '33

Rannett electrically driven centrifugal pumping unit has advantages appealing to industry, il diag Oil & Gas J 32:38+ O 12 '33

Selbstansaugende kreiselpumpe; gleichdrucksteuerung für wasserversorgungen, A. Closterhalfen, diags Zeit Ver Deutsch Ing 77: 441-2 Ap 29 '33

Selecting pumping equipment for a large water plant, W. C. Rudd and L. E. Ayres, il diags Eng N 111:429-33, 467-71 O 12-19 '33

Self-priming pumps simplify automatic pumping, diags Power 77:370-2 J1 '33

Small Duriron centrifugal pump for chemicals, il Platers' Guide 29:16 O '33

Twenty years' progress in centrifugal water works pumps, A. Peterson, Am Water Works Assn J 25:1372-86 O '33

Vacuum producers for priming centrifugal pumps, il diags Power 77:180-2, 317 Ap, Je '33

Wee-Mac self-priming pump, il diags Engineering 135:202, 203 F 17 '33; Engineer 155: 124 F 3 '33; Chem Age (Lond) 28:149 F 18 '33; Mech Eng 55:315 My '33

**Control**

Change in regulator solves pump control problem, C. B. Hudson, diag Power 77:314-15 Je '33

**PUMPS, Fuel**

Bosch feed pump for heavy fuels, diags Automotive Ind 69:130 J1 29 '33

Brennstoffförderung mittels selbstansaugender kreiselpumpen, C. Ritter, diags Zeit Ver Deutsch Ing 77:1016-17 S 16 '33

Bryce fuel-injection equipment, il diags Engineering 135:128-9 F 3 '33; Aviation Eng 8:17-18+ Mr '33; Automobile Eng 23:171-2 My '33

Compur pumps for fuel injection on Diesel engines, diags Automotive Ind 68:399-400 Ap 1 '33

**PUMPS, Fuel—Continued**

- Pressure piping effects on fuel injection. C. W. Lawson. *il* diags Roy Aeronautical Soc J 37:694-702 Ag '33  
 Scott oil pump; a variable delivery unit designed for two-stroke engines. *diag* Automobile Eng 23:299 Ag '33

**PUMPS, Submersible**

- Drysdale emergency bilge pump for submersible service. *il* Marine Eng 38:55 F '33  
 New methods of excavating quicksands. H. Japp. *il* diags plan Engineer 156:398-402 O 27 '33

**PUNCHED card system**

- Accurate statistics; Polish national alliance. System and Management Methods 62:305-6 JI '33  
 Cards tell facts; Model laundry company. System and Management Methods 62:357 Ag '33  
 Improved car accounting and statistics at lower costs; Boston & Maine applies punch card equipment. G. F. Glacy. *Ry* Age 94:548-52 Ap 15 '33  
 Mechanization in gas offices. C. R. Curtis. *Gas J* (Lond) 202:807-9 Je 14 '33  
 Statistics of geometrically coded scores. E. B. Royer and H. A. Toops. *Am Statis Assn J* 28:192-8 Je '33

**PUNCHES**

- Calculating dimensions of intersecting cylindrical punches. W. Wells. *diag* Mach 39:408 F '33  
 Combined forming and blanking punch. E. F. Eberhard. *diag* Am Mach 77:126 F 15 '33  
 Developing a punch for curling eyelets. H. R. Schmidt. *diags* Mach 39:254 D '32  
 Shearing-in small punches in hardened dies. E. E. Keeler. *Am Mach* 77:542 Ag 16 '33  
 Spring-operated punches. R. E. Peters. *diag* Am Mach 77:698 O 25 '33

**PUNCHING**

- Continuous punching, forming and assembling on automatic machines. F. H. Colvin. *il* diags Am Mach 77:522-5 Ag 16 '33  
 Press tools for piercing cups. C. Kugler. *diag* Am Mach 77:185 Mr 15 '33  
 Press work pressures; punching. C. W. Lucas. *diags* Am Mach 77:726-7 N 8 '33  
 Press work pressures; punching (non-metallic materials). C. W. Lucas. *diags* Am Mach 77:377 Je 7 '33  
 Two tricks in punching. W. J. Tangerman. *diag* Am Mach 76:1234 D 21 '32

*See also*

Sheet metal work

**PUNCHING machinery**

- Assembly fixture for a punch press. A. Beusch. *diag* Am Mach 77:88-9 F 1 '33  
 Nine press operations per stroke at ninety strokes per minute; eyelet press and shell threader. E. Lay. *diags* Mach 39:572-5 My '33  
 Press attachment for stacking blanked work. E. Lay. *diags* Mach 40:27-8 S '33  
 Service high speed punch press has welded frame. *il* Iron Age 132:27 Ag 10 '33  
 Strip-end stop for punch press. *diags* Mach 39:628 Je '33  
 Taylor and Challen wide-gap bending and punching press. *il* Engineering 135:277 Mr 10 '33; Engineer 155:255 Mr 10 '33

*See also*

Dies

**Safety devices**

- Brass shear ring provides safeguard for punch press operators. *il* Steel 92:25 F 20 '33

**Testing**

- Frame deflection in punch presses. A. Clements. *diags* Am Mach 77:101-3 F 15 '33

**PUPILLOMETER**

- Modified Broca pupillometer. F. K. Moss. *il* diags Opt Soc Am J 22:735-8 D '32

**PURCHASING**

- Bum's rush for "no" men. Acme head recommends. F. H. Johnston. *Sales Management* 33:401 O 20 '33; Same. *Brick & Clay Rec* 83:162 N '33

- Buyer-seller cooperation promotes inventory turnover. R. M. Bowman. *Iron Age* 131:630 Ap 20 '33

- Buyer's folly. *Sheet Metal Worker* 24:36+ F '33

- Buying of capital goods imperative; abstracts. M. Muir. *Iron Age* 132:36 O 5 '33; *Am Mach* 77:660e O 11 '33

- Charts and their use in purchasing. L. H. D. Acland. *bibliog* 18p 32 charts International management inst. Geneva '33

- Faster, cheaper, order service; Todd dry dock corp. uses teletype. *Management Methods* 62:174 Ap '33

- Fourteen months—and twenty-one letters—to sell a \$50 change part! *Food Ind* 5:262 JI '33

- How to buy machine tools. J. R. Weaver. *Am Mach* 77:69-72, 114-16, 138-9 F 1-Mr 1 '33

- How to save on supplies. G. M. Dodson. *Rand McNally Bankers Mo* 50:612 N '33

- Increase purchasing efficiency by using distributor cooperation; General cable corporation; abstract. L. A. Jones. *Management R* 22:186 Je '33

- Industrial purchasing. H. T. Lewis. 536p [bibliog p417-526] \$5 Prentice-Hall '33

- Laying aside the chisel; Taylor instrument companies follow the Goodrich lead. A. Bradbury. *Ptr Ink* 162:37 Mr 30 '33

- Mr Belcher meant well, but—a tale of disaster in the purchase of raw materials. W. H. Grimes. *il* Food Ind 5:243-5 JI '33

- Plain economics to save the chiseled profit margin. R. R. Updegraff. *il* Adv & Sell 20:24 Ap 27 '33

- Production control. T. M. Landy. *Factory Management* 91:84-7 Mr '33

- Purchasing chemical plant; tests and guarantees. J. H. West. *Chem Age* (Lond) 28:3-4 Ja 7 '33

- Purchasing machine tools for the small shop. J. R. Weaver. *Am Mach* 77:536-7 Ag 16 '33

- Purchasing office supplies. W. Fathers. p1-11; Discussion. p11-20 American management assn, New York '33

- Purchasing policies and practices of chain drug companies. E. F. Witte. *J of Business* 6:1-95 pt 2 Ja '33

- Recommended practice for gear purchasers; reference book sheet. *Am Mach* 77:469-70 JI 19 '33

- Research and service guides to efficient purchasing. W. J. Priestley. *Steel* 92:36-7 Je 26 '33

- Selecting new equipment to produce net profits. H. P. Bailey. *il* Mach 39:601-5 My '33

- Six reasons for paying fair prices. L. N. Selig. *Nation's Business* 21:46+ JI '33

- Specification and enquiry methods in industrial purchasing. R. H. White. *Industrial Standardization* 4:91-5 Je '33

- Speculative buying in the metal-working industry; an original survey. *Iron Age* 132:18A-18B JI 20; 19-22 JI 27 '33

- Standard Oil rejects bids of price-cutters. *Oil Paint & Drug Rep* 123:15 Mr 6 '33

- Standardization of consumers' goods. J. V. Coles. 323p [bibliog p299-312] \$3 Ronald press '32

- Ten business problems of contracting; buying to insure greatest profit. J. L. Harrison. *Eng N* 111:254-6 Ag 31 '33

- This advertiser chases chiseler à la Bradbury. C. H. Bauer. *Ptr Ink* 163:74 Ap 13 '33

- Time to bury the chisel. R. Dickinson. *il* Ptr Ink Mo 26:40+ Ap '33

*See also*

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|----------------------|----------------------|
| Banks and banking—   | Machinery, Replace-  |
| Purchasing           | ment of              |
| Buying habits        | Mail order business— |
| Chain stores—Pur-    | Purchasing           |
| chasing              | Merchandizing        |
| Coal purchasing      | Order blanks         |
| Colleges and univer- | Railroads—Pur-       |
| sities—Purchasing    | chasing              |
| Consumption (eco-    | Retail trade—Pur-    |
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| Inventories          | Women as purchasers  |



**PURCHASING—Continued****Advertising aids**

Booklet that developed a new industry; Ocean leather corporation instructs shark fishermen. L. R. Moresi. *il Ptr Ink Mo* 27:42+ S '33

**Hand-to-mouth policy**

Hand-to-mouth buying. H. R. Tosdal. *Harvard Business R* 11:299-306 Ap '33

**Reciprocal purchasing**

Is reciprocity good business for either party? paper mills and printers. *Ptd Salesmanship* 61:295+ J1 '33

Reciprocal buying found unfortunate and burdensome. *Ry Age* 93:743-4 N 26 '32

Reciprocal buying of coal condemned. *Ry Age* 95:527-9 O 14 '33

Reciprocity; I.C.C. warns railroads and shippers to take a cure now or a law later. *Business Week* p11 D 7 '32

Some aspects of reciprocal purchasing. C. E. Devlin. *Harvard Business R* 11:359-68 Ap '33

**Treatment of salesmen**

Find the "no" man! A. H. Deute. *Ptr Ink* 164:92, 94-5 Ag 24 '33

She knows why millions of customers stop buying; Joan Wing, doctor of courtesy. R. Arell. *Sales Management* 32:476+ My 1 '33

**PURCHASING, Cooperative**

Cooperative purchasing and marketing by farmers in 1929. *Monthly Labor R* 37:593-4 S '33

*See also*

Voluntary chain movement

**PURCHASING, Government**

Another governmental crack at advertised goods; dental association dictates Veterans' purchase of tooth paste. *Ptr Ink* 165:16 N 2 '33

Importing steel. *Nation's Business* 21:36 F '33  
Is the government in your sales quota? *Adv & Sell* 21:30+ S 14 '33

Johnson says lack of sympathy with NRA makes Ford ineligible for U.S. contracts. D. Blanchard. *Automotive Ind* 69:546-7 N 4 '33

Organization and administration of a governmental purchasing office. R. Forbes. 44p *National assn. of purchasing agents*, New York '32

Regulations covering tax free sales issued by Treasury. *Nat Pet N* 25:19-20 N 1 '33  
Would you like to sell to Uncle Sam? R. J. Monteith. *Am Bld* 55:54-6 J1 '33

*See also*

Purchasing, Municipal  
Purchasing, State

**PURCHASING, Household**

Standardization of articles for home use; a study outline covering some recent developments in production and distribution which affect the consumer. 51p *American assn. of university women*, 1634 Eye st, N.W., Washington, D.C. '32 (typew)

*See also*

Women as purchasers

**PURCHASING, Municipal**

Municipal purchasing methods—Milwaukee and New York. *Industrial Standardization* 4:55-7 Mr '33

State and local governmental agencies exempt from federal excise taxes. *Pub Roads* 13:150 N '32

**PURCHASING, State**

State and local governmental agencies exempt from federal excise taxes. *Pub Roads* 13:150 N '32

*See also*

Highway departments  
—Purchasing

**PURCHASING agents**

Price buying purchasing agent passing out; abstract. H. H. Krause. *Iron Age* 131:630 Ap 20 '33

When annoyed to exasperation it may be well to throw overboard the old belief that the customer is always right. E. N. Simons. *Foundry* 61:23+ Ja '33

*See also*

Retail trade—Purchasing

**PURCHASING departments**

Purchasing department; Ontario paper co. J. B. Sims. *Pulp & Pa of Can* 34:399-400 Je '33  
Why a purchasing department? E. T. Gushée and E. P. Lovejoy. *Factory Management* 91:239-41 Je '33

**Records**

Purchasing and stock records that show maximum information with minimum effort. P. B. Sisa. *il Management Methods* 62:21-2+ Ja '33

**PURCHASING power.** *See* Consumption (economics); Market statistics

**PURDUE university**

Forty years of railway research at Purdue. G. A. Young. *il Ry Age* 95:12-15 J1 1 '33  
Purdue's new power plant extension reduces cost of operation. L. D. McCoy. *il diags Power Pl Eng* 37:370-5 S '33

**PURE oil company**

Adjusts property values; annual report. *Nat Pet N* 25:11-12 Mr 29 '33

**PURINES**

Constitution of the purine nucleosides. J. M. Gulland and T. F. Macrae. *Chem Soc J* p662-9 Je '33

**PURITY bakeries corporation**

Purity's trend turns upward. *Econostat* 1:13, 23 Ag 5 '33

**PURPLE**

Purple dye from the berries of the common bryony plant. C. D. Mell. *Textile Col* 55:119+ F '33

Purple dyes from the fruit of the damson tree. C. D. Mell. *Textile Col* 55:702 O '33

**PURVES, Thomas, 1871-**

Sir Thomas Purves; his great part in developing international telephony. *por Electrician* 109:748-9 D 9 '32

**PUZZLES**

Colorado public service promotes gas ranges on jig-saw puzzle page. *Gas Age* 71:366 Ap 8 '33

Jig-saw jag. *Business Week* p8 Ja 18 '33

Mechanics of a craze. *il Fortune* 7:76 Ap '33

Picture puzzles—1933's first boom. *Forbes* 31:10-11 F 1 '33

*See also*

Advertisements—  
Puzzles

**Manufacture**

Large uses of steel in small ways; picture puzzles. *il Steel* 92:28 Mr 6 '33

**PUZZOLANA.** *See* Pozzuolana**PYRALIN**

Du Ponts have new plastic; marbledized pyralin. *Chemicals* 38:2 Ap 3 '33

Marbledized pyralin. *il Plastic Prod* 9:64 Ap '33

**PYRAZOLE**

4-Nitro-5-(3-pyridyl)pyrazole, a new oxidation product of nicotine. H. King and G. A. C. Gough. *Chem Soc J* p2768-70 N '32; p350-1 Ap '33

Pyridylnitropyrazole, an oxidation product of nicotine; the position of the nitro-group. H. Lund. *Chem Soc J* p686-7 Je '33

**PYRAZOLINE**

Heterocyclic ketones;  $\beta$ -amino-ketones and related pyrazolines derived from benzylidene- and furfurylidene-acetone. H. B. Nisbet and C. G. Gray. *Chem Soc J* p839-40 J1 '33

**PYRETHRIN**

Studies on pyrethrum flowers; the presence of pyrethrolon and methyl pyrethrolon in the flowers. C. B. Gnadinger and C. S. Corl. *Am Chem Soc J* 55:1218-23 Mr '33

**PYRETHROLON**

Studies on pyrethrum flowers; the presence of pyrethrolon and methyl pyrethrolon in the flowers. C. B. Gnadinger and C. S. Corl. *Am Chem Soc J* 55:1218-23 Mr '33

**PYRETHRUM (insecticide)**

Insecticidal studies of Midcontinent distillates as bases for pyrethrum extracts. H. H. Richardson. *bibliog Ind & Eng Chem* 24:1394-7 D '32

**PYREX**

Contribution to the study of the hydrogen-oxygen reaction; the adsorption of hydrogen on pyrex and quartz. A. T. Williamson. *Am Chem Soc J* 55:1437-41 Ap '33

Entire line is repriced; more advertising; sales jump; new Pyrex distribution policy. J. L. Peden and C. D. La Follette. *il Ptr Ink* 161:3-5+ D 1 '32

Heat transfer in an industrial glass heat exchanger. H. C. Bates. *diags Chem & Met Eng* 40:512-13 O '33

Industrial piping of glass. *il Comp Air M* 38: 4029 Ja '33

Reaction of pyrex glass with  $\text{Na}_2\text{CO}_3$ . E. Poling and G. R. Yohe. *J Chem Educ* 10:242 Ap '33

**PYRIDINE**

Anomalous electrolytes; the electrical conductivity of solutions of iodine and cyanogen iodide in pyridine. L. F. Audrieth and E. J. Birr. *Am Chem Soc J* 55:668-73 F '33

Contribution à l'étude de l'action des bases pyridiques sur les charbons. L. Malanowicz. *bibliog Chimie & Ind* 28:1277-82 D '32

Interference of pyridine derivatives in arsenic determination. C. R. Gross. *Ind & Eng Chem Anal ed* 5:58-60 Ja 15 '33

Mechanism of bimolecular reactions in solution; the addition of methyl iodide to pyridine in several solvents. H. W. Thompson and E. E. Blandon. *Chem Soc J* p1237-40 S '33

Nitration of  $\beta$ -phenylethylpyridines and related compounds. B. D. Shaw and E. A. Wagstaff. *Chem Soc J* p79-83 Ja '33

**Analysis**

Determination of pyridine bases in the presence of ammonia by titration. F. H. Rhodes and K. R. Younger. *Ind & Eng Chem Anal ed* 5:302-4 S 15 '33

**PYRIDINE arsonic acid**

Über alkoxypyridin-arsinsäuren. A. Binz, H. Maier-Bode and K. Morisawa. *Angew Chemie* 46:349-50 Je 17 '33

**PYRIDINE chlorophenoxide**

Equilibrium constants in terms of activities derived from cryoscopic data; the dissociation of pyridine *o*-chlorophenoxide in benzene. H. M. Glass and W. M. Madgin. *Chem Soc J* p193-8 F '33

**PYRIDINIUM halides**

Cleavage of carbonyl compounds by alkalies; phenacylpyridinium salts. S. H. Babcock and R. C. Fuson. *Am Chem Soc J* 55:2946-8 Jl '33

**PYRIDONE**

Röntgenkontrastwirkung von halogenpyridon-derivaten. A. Binz and others. *Angew Chemie* 45:713-15 N 12 '32

**PYRIMIDINES**

Pyrimidines; their amino and amino-oxo derivatives. T. B. Johnson and D. A. Hahn. *Chem R* 13:193-303 [bibliog and index p290-303] O '33

Researches on pyrimidines; a new synthesis of thymine. W. Bergmann and T. B. Johnson. *Am Chem Soc J* 55:1733-5 Ap '33

Researches on pyrimidines; some reactions and derivatives of 2-keto-4-phenyl-5-carbomethoxy-6-methyl-1,2,3,4-tetrahydropyrimidine. K. Folkers and T. B. Johnson. *Am Chem Soc J* 55:2886-93 Jl '33

Researches on pyrimidines; synthesis of 5-phenylcytosine. Yuoh-Fong Chi and Yu-Lin Tien. *Am Chem Soc J* 55:4185-6 O '33

Researches on pyrimidines; the mechanism of formation of tetrahydropyrimidines by the Biginelli reaction. K. Folkers and T. B. Johnson. *Am Chem Soc J* 55:3784-91 S '33

Researches on pyrimidines; the molecular rearrangement of ethyl 2-ethylmercapto-6-thiocyanopyrimidine-5-acetate. Yuoh-Fong Chi and Chi Ming Ma. *Am Chem Soc J* 55: 4655-7 N '33

Researches on pyrimidines; the molecular rearrangement of 2-ethylmercapto-5-phenyl-6-thiocyanopyrimidine. Yuoh-Fong Chi and Yu-Lin Tien. *Am Chem Soc J* 55:4181-4 O '33

Researches on pyrimidines; the reaction of phenylacetaldehyde and acetophenone with urea. K. Folkers and T. B. Johnson. *Am Chem Soc J* 55:3361-8 Ag '33

Researches on pyrimidines; the reduction of 1,2,3,4-tetrahydropyrimidines. K. Folkers and T. B. Johnson. *Am Chem Soc J* 55: 1140-7 Mr '33

Researches on pyrimidines; uracil-glycol. T. B. Johnson and E. Dyer. *Am Chem Soc J* 55:3781-3 S '33

**PYRITE**

Alteration of pyrite to pyrrhotite by alkali sulphide solutions. R. E. Stevens. *Econ Geol* 28:1-19 Ja '33

Surface actions of some sulfur-bearing organic compounds on some finely-ground sulfide minerals. A. M. Gaudin and W. D. Wilkinson. *bibliog J Phys Chem* 37:833-45 O '33

X-ray study of the transformation of marcasite into pyrite. H. V. Anderson and K. G. Chesley. *bibliog il Am J Sci* 5th ser 25:315-24 Ap '33

*See also*

Iron sulfides

**PYROLYSIS**

Pyrolysis of alpha unsaturated hydrocarbons. C. D. Hurd and H. T. Bollman. *Am Chem Soc J* 55:699-702 F '33

**PYROMELLITIC acid**

Constitution of pyromellitic, mellophanic and prehnitic acids. L. I. Smith and G. D. Byrkit. *bibliog Am Chem Soc J* 55:4305-8 O '33

**PYROMETERS and pyrometry**

Boiler house instruments. W. G. Marskell. *il diags Electrician* 111:510-11 O 27 '33

Caring for pyrometers to give greatest service. R. C. Kennan. *Brick & Clay Rec* 82: 174-5 My '33

Color filters for altering color temperature; pyrometer absorption and daylight glasses. H. P. Gage. *bibliog Opt Soc Am J* 23:46-54 F '33

Le contrôle des opérations thermiques avec utilisation du point de Curie dans le cas de la trempe. *Génie Civil* 102:331-2 Ap 8 '33

Inexpensive pyrometer for temperatures up to 1000° C. W. C. Stadie and S. L. Wright, Jr. *Science* 77:172-3 F 10 '33

Negretti and Zambra electrical pyrometer. *il Engineer* 155:358 Ag 7 '33

Pyromètres industriels, utilisant la dilatation d'un alliage métallique, le pyros. *diags Génie Civil* 102:405 Ap 29 '33

Pyrometric economies; a new thermocouple and a new resistance coil. W. Bowen. *Gas J (Lond)* 203:48 Jl 5 '33; Same. *Electrician* 111:182 Ag 11 '33

Temperature measurement and control. charts *Engineering* 135:67-9, pl 3 Ja 20 '33

*See also*

Temperature—Measurement Thermometers and  
Thermocouples thermometry

**PYRONES**

Studies in dielectric polarisation; benzene solutions of pyrones, thiopyrones, and thio-ketones; dioxan solutions of ureas and thioureas. E. C. E. Hunter and J. R. Partridge. *Chem Soc J* p87-90 Ja '33

**PYROUSNIC acid**

Usnic acid; usnetol, usnetic acid, and pyrousnic acid. F. H. Curd and A. Robertson. *Chem Soc J* p1173-9 S '33

**PYROXENE**

*See also*

Hedenbergite



**PYROXYLIN**

- New pyroxylin finishes. E. W. Ward. *il Plas-*  
*tic Prod* 9:272 S '33  
Pyroxylin and camphor in Japan. C. E. Mullin.  
*Plastic Prod* 9:322 O '33  
Pyroxylin plastics for the dental field. J. H.  
Clark. *il Plastic Prod* 9:317-18 O '33  
Pyroxylin plastics for wooden heels. T. D. L.  
Mabry. *il Plastic Prod* 9:193 J1 '33  
Pyroxylin sheets, rods, and tubes, monthly,  
1931-1932. Survey of Cur Business 13:19 Ja  
'33  
Pyroxylin waste plant almost certain death.  
Weekly Underw 128:1141 Je 17 '33

**PYROXYLIN coated fabrics**

See also

Fabrikoid

**PYRRHOTITE**

- Alteration of pyrite to pyrrhotite by alkali  
sulphide solutions. R. E. Stevens. *Econ Geol*  
28:1-19 Ja '33  
Origin of the Frood ore deposit. B. C. Free-  
man. *il map Econ Geol* 28:276-88 My '33

**PYRROCOLINE**

- Octahydropyrrocoline. G. R. Clemo and G. R.  
Ramage. *Chem Soc J* p2969-73 D '32

**PYRROLE**

- Addition of free radicals to certain dienes,  
pyrrole and maleic anhydride. J. B. Con-  
ant and B. F. Chow. *Am Chem Soc J* 55:  
3475-9 Ag '33  
Studies in dielectric polarisation; note on the  
dipole moment of pyrrole. E. G. Cowley  
and J. R. Partington. *Chem Soc J* p1259 S  
'33

**PYRROLIDINE**

- Synthesis and physiological action of alpha  
substituted N-methylpyrrolidines. L. C.  
Craig. *bibliog Am Chem Soc J* 55:2543-50  
Je '33

**PYRROLINE**

- Synthesis of a series of alpha-substituted N-  
methylpyrrolines. L. C. Craig. *bibliog Am*  
*Chem Soc J* 55:295-8 Ja '33

## Q

**QUAKER oats company**

- History of the Quaker oats company. H. J.  
Thornton. 279p [bibliog p258-67] \$3 Univ. of  
Chicago press '33  
More than thirty years of profits, strong to-  
day. R. P. Hartwell. *il Mag of Wall St* 51:  
442+ F 4 '33

**QUALITATIVE analysis. See Chemistry, An-**

alytic—Qualitative

**QUALITY control. See Factory management—**

Quality control

**QUALITY marks**

- Recommended commercial standard for mark-  
ing gold filled and rolled gold plate articles  
other than watch cases. *J Fr Inst* 216:647-8  
N '33

**QUALITY of products**

- Advertising's responsibility in the restoration  
of quality standards. P. H. Nystrom. *il*  
*Adv & Sell* 21:24+ Ag 17 '33  
Built-in quality wins mass sales: Wirecraft  
snubs price cutters. *Sales Management* 33:  
123 Ag 1 '33  
Causes of the present decline in quality. P. H.  
Nystrom. *il Adv & Sell* 21:19-20+ Je 22 '33  
Cheap light bulb fallacies. *Sci Am* 148:101  
F '33  
Comparison of value in soft floor coverings.  
A. G. Ashcroft. *il Melland* 4:235-7, 289-92.  
447-9, 511-13, 573-5, 632-4, 678-80, 721-4 J1-  
Ag, O '32-Mr '33  
Disintegration of quality standards in con-  
sumer goods. P. H. Nystrom. *il Adv & Sell*  
21:13-15+ Je 8 '33  
Fighting lines; responsible manufacturers  
meet the popular demand for low-priced  
goods with new lines. *Business Week* p7-8  
F 15 '33

How can buyer recognize "Q"? Sears' house-  
hold clinic tells. *il Sales Management* 31:529  
D 15 '32

How one association meets the cheapened  
quality problem; Electric cord manufactur-  
ers. *Ptr Ink* 162:50-1 F 9 '33

Lesson of \$5 hats; Stetson company. G. V.

MacKinnon. *il Ptr Ink* 161:17-20 D 15 '32

Let's end the price stampede; national quality

movement. P. A. O'Connell. *il Nation's*

*Business* 21:29+ Ja '33

Manufacturers and stores unite to promote

"Q" to prosperity. *il Sales Management* 31:

434 N 15 '32

Marshall Field exhibit reveals high cost of

poor quality. *il Sales Management* 33:324-

5 O 1 '33

Novelty packing lifts quality goods above

price; how a hairpin company got capacity

outlet. G. N. Bolinger. *il Ptr Ink* 164:10+

J1 27 '33

Q campaign; retailers try to swing buying

interest from price to quality. *Business*

*Week* p6-7 Ja 25 '33

Quality bound; R. R. Donnelley & sons com-

pany. *il Factory Management* 91:443 N '33

Quality mark for electrical apparatus. *Elec R*

(Lond) 112:44 Ja 13 '33

Quality standards are demanded; abstract.

*Management R* 22:346 N '33

Successful selling begins in the plant. H. S.

Wherrett and others. *Factory Management*

91:297-8 Ag '33

Superior claims for Zip gasoline retracted.

*Nat Pet N* 24:64 N 23 '32

Third grade gasoline sales double 1931 level

in third quarter. *Nat Pet N* 24:23-4 N 30

'32

This matter of quality in appliances. E.

Whitehorne. *Elec W* 101:488-9 Ap 15 '33

Time to bury the chisel. R. Dickinson. *il Ptr*

*Ink Mo* 26:40+ Ap '33

Too much fight in the fighting brand. *il Adv*

*& Sell* 21:15+ O 26 '33

Using direct mail to keep dealers in line;

Gem did not want sales of new blade to

lessen interest in single-edge product. B.

A. Grimes. *il Ptr Ink* 161:64-5 N 17 '32

What is this thing called quality? W. E.

McFee. *Ptr Ink* 165:38 O 12 '33

See also

Advertising copy— Misbranding

Quality appeal Products, Certifica-

Factory manage- tion of

ment—Quality con- Products, Improved

trol Standards

Inspection

**QUANTITATIVE analysis. See Chemistry, An-**

alytic—Quantitative

**QUANTITIES (in production)**

Economic lot sizes in manufacturing. P. T.

Norton, Jr. *il Mech Eng* 55:608-10 O '33

Is mass production doomed? T. MacManus.

*Adv & Sell* 20:13-14+ D 8 '32

Manufacturing quantities for the small indus-

try. J. C. Wattleworth. *Am Mach* 77:360-3

Je 7 '33

**QUANTUM theory**

Dissociation of oxygen to 5000°K; the free

energy of atomic oxygen. H. L. Johnston

and M. K. Walker. *bibliog Am Chem Soc*

*J* 55:187-93 Ja '33

Electronic structures of polyatomic molecules

and valence; electronic states, quantum

theory of the double bond. R. S. Mulliken.

*Phys R* 43:279-302 F 15 '33

Electro-physics; a review of progress. N. R.

Campbell. *Inst E E J* 72:155-6 F '33

Fermi-Dirac statistical theory of gas degener-

ation. V. Karapetoff. *Mech Eng* 55:237-

42 Ap '33

Professor Born's reconciliation of old and new

physics. *Science* 78:sup8-9 S 1 '33

Quantum theory of dispersion. G. Breit. *Rs*

*Mod Phys* 4:504-76; 5:91-140 J1 '32, Ap '33

Quantum theory of semi-conductors. E. L.

Hill. *R Sci Instr* 4:186-8 Ap '33

Recent advances in atomic physics. G. Castel-

franchi. 2v 360p; 400p ea \$4 Blakiston '32

Theory of depolarization, optical anisotropy,

and the Kerr effect. R. Serber. *Phys R* 43:

1003-10 Je 15 '33

**QUANTUM theory—Continued**

Theory of electric and magnetic susceptibilities. J. H. Van Vleck. 384p Oxford '32

See also

Wave mechanics

**QUARANTINE**

New quarantine tug for service at Boston; T. B. McClintic. *il* Marine Eng 38:21 Ja '33

**QUARRIES and quarrying**

Comparison of blasting methods in trap rock and dolomite quarries; New York trap rock corporation. S. A. Jones. *il* diags Explosives Eng 11:71-4 Mr '33

Complainants denied damages; blasting operations of Federal crushed stone corp. Buffalo, N.Y., are properly conducted. Rock Prod 36:41 Je '33

Keeping going with the ordinary stone and lime plant; M. J. Grove lime company, Stephens City, Va. *il* Rock Prod 36:17-20 O '33

Method and cost of quarrying limestone at the plant of the Calaveras cement co, San Andreas, Calif. R. H. Townsend. flow sheet diags U S Bur Mines Information Circ 6610:1-11 '33

Methods and costs of quarrying, crushing and grinding limestone at the plant of the Southwestern Portland cement co, El Paso, Texas. R. T. Mann. flow sheet diag maps U S Bur Mines Information Circ 6608:1-13 '33; Excerpts. Explosives Eng 11:148-51 My '33

Mining and milling Utah rock asphalt. R. C. Fleming. *il* Min & Met 14:192-4 Ap '33

Quarry as viewed by an engineer; sandstone production at Amherst, Ohio. E. D. Cassel. *il* Civil Eng 3:620-2 N '33

Quarry blast that had to be right; Union Portland cement company, Devil's Slide, Utah. H. Petersen. *il* diag Explosives Eng 11:263-5 S '33

Quarrying and fabricating limestone; photographs. Architecture 68:73-6 Ag '33

Quarrying methods and costs at the Sloan quarry, Nevada. R. E. Tremoureux. flow sheet diag maps Explosives Eng 11:199-203 JI '33

Record well-drill blast aids progress at San Gabriel dam no. 2. R. C. Fleming. *il* diags Explosives Eng 11:234-7 Ag '33

Stone producer operates eleven plants in state; Kentucky consolidated stone co. *il* Rock Prod 36:13-17 Ja '33

Tennessee cement industry sees bright future. G. I. Whitlatch. *il* map Rock Prod 36:28-33 S '33

See also

Blasting	Rock products plants
Crushing	Stone, Crushed
Mines and mineral resources	

**Accidents**

Quarry accidents in the United States during the calendar year, 1931. W. W. Adams. U S Bur Mines Bul 375:1-50 '33

**Costs**

Comparative costs of quarrying for cement, lime and crushed stone. Rock Prod 35:59 D 31 '32

Wage costs in the mineral industries. P. M. Tyler. *Min & Met* 14:447-51 N '33

**Equipment**

Endless chain haulage gears in quarries and brickworks. A. C. Farren. diags Mech Handling 20:151-4 My '33

Equipment manufacturers' review section. *il* Rock Prod 36:84-98 Ag '33

Large crushing and screening plant reflects engineering progress; Hudson River stone corporation. L. A. Slattery. *il* diags plans Eng & Min J 134:2-10 Ja '33

Modern ways of fighting abrasion. G. Sykes. *il* Rock Prod 36:64 F '33

This plant is the product of much experience in crushed stone washing; Bethlehem mines corporation's operation at Bridgeport, Penn. flow sheet *il* plan Rock Prod 36:17-26 Mr '33

Trends in machinery, equipment and supplies.

Rock Prod 35:71-3 D 31 '32  
Use 1½-ton trucks in quarry; Hopkinsville stone company, Hopkinsville, Kentucky. *il* Rock Prod 36:17-19 My '33

**Power**

Diesel-electric power plant for stone quarrying and crushing; Hudson River stone corp., Cold Spring, N.Y. O. J. de Gaetano. *il* diags Rock Prod 36:46-9 Ag '33

**Safety devices and measures**

National safety competition of 1932; mines and quarries. W. W. Adams. *il* Explosives Eng 11:168-73 Je '33

Safety methods at the Michigan limestone & chemical company, Calcite. J. A. Valentin. *il* map Explosives Eng 11:310-13 O '33

**QUARRY workers**

Wages and hours of union quarry workers in the United States, January, 1933. Monthly Labor R 36:862-3 Ap '33

Wages of quarry workers in Virginia, 1931. Monthly Labor R 37:379 Ag '33

**QUARTERLY cumulative index medicus**

Quarterly cumulative index medicus; subject headings and cross references, 1931. 414p American medical assn, 535 North Dearborn st, Chicago '32

**QUARTZ**

Contribution to the study of the hydrogen-oxygen reaction; the adsorption of hydrogen on pyrex and quartz. A. T. Williamson. *Am Chem Soc J* 55:1437-41 Ap '33

Effect of etching on the relative intensities of the components of double Laue spots obtained from a quartz crystal. M. Y. Colby and S. Harris. *il* Phys R 43:562-3 Ap 1 '33  
Fusion study of the high feldspar area in the feldspar-kaolin-quartz system. M. H. Waldschmidt. diags *Am Cer Soc J* 16:199-203 Ap '33

Large crystalline quartz double monochromator. W. E. Forsythe and B. T. Barnes. *il* diag R Sci Instr 4:289-94 My '33  
Laue patterns from thick crystals at rest and oscillating piezoelectrically. J. M. Cork. *il* Phys R 42:749-52 D 15 '32

Multiple interferometer for analyzing the vibrations of a quartz plate. H. Osterberg. *il* Phys R 43:819-29 My 15 '33

Quartz silica in the cement raw mix; abstract. H. Kuehl. Rock Prod 36:40 My '33

Researches of the late Dr. D. W. Dye on the vibrations of quartz. E. H. Rayner. diags Inst E E J 72:519-27, pl 1-4 Je '33; Abstract. Wireless Eng 10:205 Ap '33

Triple interferometer for distinguishing flexural and longitudinal vibrations in quartz. H. Osterberg. *il* diags Opt Soc Am J 23:30-4 Ja '33

X-ray reflections from a quartz piezoelectric oscillator in a Bragg spectrograph. M. Y. Colby and S. Harris. *Phys R* 42:733-4 D 1 '32

See also

Agates	Silica
Glass	

**QUARTZITE**

Eureka quartzite of the Great Basin region. E. Kirk. bibliog *Am J Sci* 5th ser 26:27-44 JI '33

**QUASI contracts**

Cases on quasi-contracts. E. H. Woodruff. 3d rev ed 682p \$5 Bobbs '33

**QUAYS. See Wharves****QUEBEC (city)**

Quebec, Montreal, and Ottawa. T. M. Longstreth. 318p [bibliog p313] \$3 Century co. '33

**QUEBEC (province)**

See also

Gold mines and mining—Quebec	Mines and mineral resources—Quebec
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**Sanitary affairs**

Public health engineering in Quebec. T. J. Lafreniere. *Can Eng* 65:9-10+ Ag 29 '33; Same. *Am Water Works Assn J* 25:1245-50 S '33



**QUEBRACHINE.** See Yohimbine  
**QUEENSLAND, Australia**

#### Bureau of industry

Creation of Bureau of industry in Queensland.  
 Monthly Labor R 37:52-3 Jl '33

**QUEENY, John Francis,** 1859-1933  
 Sketch. por Oil Paint & Drug Rep 123:13, 14  
 Mr 27 '33; Chem Markets 32:335 Ap '33

#### QUENCHING

Interchangeable quenching die for ring gears  
 which prevents distortion. D. L. Brown. diag  
 Mach 39:393-4 F '33

Quenching and tempering in alloys; abstracts.  
 A. Portevin. Chem Age (Lond) 28:433-4 My  
 13 '33; Engineer 155:480-1 My 12 '33; Engi-  
 neering 135:549 My 19 '33

Quenching in making Japanese cutlery. S.  
 Sato. Iron Age 131:168 Ja 26 '33

See also

Steel, Quenching of

#### QUESTIONNAIRES

Building sales by knowing customers' tastes;  
 General motors of Canada. N. G. Shidle.  
 Forbes 31:6-7+ Je 1 '33

One way to find out what readers read; Three  
 minute cereals company. C. B. Trost. il Ptd  
 Salesmanship 60:314-16+ D '32

What does the public want? consumer re-  
 search activity of General motors of Cana-  
 da. N. G. Shidle. il Automotive Ind 68:  
 666-9+ Je 3 '33; Same cond. Ptr Ink 163:  
 44-8 Je 22 '33

What the public wants; General Motors goes  
 direct to a million motorists to find out.  
 Business Week p14 Ag 19 '33

#### QUICKSAND

New methods of excavating quicksands. H.  
 Japp. il diags plan Engineer 156:398-402,  
 422-5 O 27-N 3 '33

#### QUINAZOLINE

Quinazolines; the alkylation of benzoylene  
 urea. N. A. Lange and F. E. Sheibley.  
 bibliog Am Chem Soc J 55:2113-16 My '33

Quinazolines; the partial hydrolysis of 2,4-  
 dialkoxiquinazolines with the formation of  
 2-alkoxy-4-ketodihydroquinazolines. N. A.  
 Lange and F. E. Sheibley. Am Chem Soc J  
 55:1188-94 Mr '33

#### QUINHYDRONE

Study of acetic acid-acetate buffers in potas-  
 sium chloride and sodium chloride solutions  
 using the quinhidrone electrode. E. F.  
 Chase. Am Chem Soc J 55:3072-5 Ag '33

#### QUININE

Absorption and fluorescence spectra of the  
 acid sulfates of quinine and ten of its  
 derivatives in water and aqueous sulfuric  
 acid solution. L. J. Heidt and G. S. Forbes.  
 Am Chem Soc J 55:2701-9 Jl '33

Photochemical reaction between quinine and  
 dichromic acid; kinetics of the reaction. G.  
 S. Forbes. L. J. Heidt and F. P. Brackett,  
 jr. Am Chem Soc J 55:588-96 F '33

Photochemical reaction between quinine and  
 dichromic acid; quinine derivatives and  
 utilization of absorbed quanta. G. S. Forbes  
 and L. J. Heidt. bibliog Am Chem Soc J  
 55:2407-13 Je '33

Quinine conference for world planned. Oil  
 Paint & Drug Rep 123:22 Mr 13 '33

#### QUINOLINE

Dipole moments of quinoline and isoquinoline.  
 R. J. W. Le Fèvre and J. W. Smith. Chem  
 Soc J p2810-11 N '32

Ionization constants of a number of meth-  
 ylated quinolines and of certain saturated  
 bases isolated from petroleum distillates.  
 W. A. Felsing and B. S. Biggs. Am Chem  
 Soc J 55:3624-5 S '33

Quinoline derivatives; furanoquinolines. M. A.  
 Haq, M. L. Kapur and J. N. Rây. Chem  
 Soc J p1087-9 Ag '33

Ring-chain conjugation in the quinoline series.  
 A. Hoffman, M. W. Farlow and R. C.  
 Fuson. Am Chem Soc J 55:2000-4 My '33

Therapeutic agents of the quinoline group,  
 cinchophen, plasmoquine, nupercaine,  
 quinine and acridine dyes. W. F. von  
 Oettingen. 301p Chemical catalog co. '33

See also

Dihydroisoquinoline  
 Methylquinoline

#### QUINONES

Absorption spectra of a series of organic  
 molecular compounds. W. H. Hunter and  
 E. H. Northey. diag J Phys Chem 37:875-87  
 O '33

## R

#### RABBITS

Australia's rabbit pest. Sci Am 148:110-11 F  
 '33

Rabbit fur makes sharp rise to popularity in  
 textiles. J. Kohlberg. Textile World 83:236  
 F 14 '33

See also

Angora rabbits

#### RACEMIZATION

Chemistry of the glutamic acids; the cata-  
 lytic effect of acids on the rate of race-  
 mization of *l-trans-α*-dimethylglutamic  
 acid. J. S. Fitzgerald and J. Packer. Chem  
 Soc J p595-600 Je '33

Racemization of chaulmoogric and hydnocarpic  
 acids. W. S. Hinegardner. Am Chem Soc  
 J 55:2831-4 Jl '33

Stereochemistry of diphenyls; comparison of  
 the racemization of 2,2'-difluoro-6,6'-dicar-  
 boxydiphenyl and 2,2'-dimethoxy-6,6'-dicar-  
 boxydiphenyl. W. M. Stanley, E. McMahon  
 and R. Adams. Am Chem Soc J 55:706-16  
 F '33

Velocity and mechanism of racemization;  
 mandelic acid. A. N. Campbell and A. J.  
 R. Campbell. Am Chem Soc J 54:4581-5 D  
 '32

See also

Optical rotation

#### RACKETEERING

Another Armageddon. Ptr Ink Mo 26:15 Je '33  
 Brewers fight racketeers. Ptr Ink 164:74 S 21  
 '33

Rockets and recovery; bearings of a Senate  
 subcommittee. il Business Week p16-17 Ag  
 19 '33

Smash the business rackets! H. E. Chasmar.  
 Credit & Fin Management 35:13+ S '33

**RACKETS, Tennis.** See Tennis rackets

#### RADIATION

Investigation of mitogenetic radiation by  
 means of a photoelectric counter tube. E.  
 Lorenz. bibliog diag Pub Health Rep 48:  
 1311-18 O 27 '33

Matter created from light and cosmic rays.  
 Science 77:sup8 Je 9 '33

Physiological effects of radiant energy. H.  
 Laurens. 610p [bibliog p577-93] Chemical cat-  
 alog co. '33

Present status of the standards of thermal  
 radiation maintained by the Bureau of  
 standards. W. W. Coblenz and R. Stair.  
 bibliog U S Bur Stand J Research 11:79-87  
 Jl '33

Radiation from canal ray impact. F. L. Ver-  
 wiebe. diags Phys R 44:15-19 Jl 1 '33

Radiation from slow electrons. L. Nedelsky.  
 Phys R 42:641-65 D 1 '32

Radiation of the night sky. V. M. Slipher.  
 Science 77:sup8-9 My 5 '33

Recombination radiation in the cesium posi-  
 tive column. F. L. Mohler. U S Bur Stand  
 J Research 10:771-80 Je '33

Recomparison of primary standards of radia-  
 tion. J Fr Inst 215:354-5 Mr '33

Relation between radiant energy and paint.  
 F. C. Atwood. Oil Paint & Drug Rep Extra  
 ed 122:44-5 N 29 '32

**RADIATION—Continued**

Variation with angle of emission of the radiation from metals bombarded by slow electrons. C. Boeckner. U S Bur Stand J Research 9:583-91 N '32

See also

Absorption of rays	Quantum theory
Alpha rays	Radiators
Beta rays	Radioactivity
Cosmic rays	Radiography
Gamma rays	Radium
Heat	Raman effect
Heat radiation	Solar radiation
Heating—Tables, calculations, etc.	Sound
Infra-red rays	Spectrum
Light	Ultra-violet rays
	X rays

**Resonance**

Conductivity of rare gases irradiated by their own resonance radiations. O. S. Duffendack and R. W. Smith. Phys R 43:586-7 Ap 1 '33

Equivalent absorption coefficient for diffused resonance radiation. M. W. Zemansky. Phys R 42:843-7 D 15 '32

Hyperfine structure and the polarization of resonance radiation; magnetic depolarization and the determination of mean lives. A. C. G. Mitchell. Phys R 43:887-93 Je 1 '33

Paschen-Back effect of hyperfine structure and polarization of resonance radiation; cadmium ( $6^1P_1$ - $5^1S_0$ ). N. P. Heydenburg. Phys R 43:640-7 Ap 15 '33

Radiation diffusion and the rapidity of escape of resonance radiation from a gas. C. Kenty. bibliog Phys R 42:823-42 D 15 '32

**Terminology**

Fundamental units and terms for biologically-effective radiation. M. Luckiesh and L. L. Holladay. Opt Soc Am J 23:197-205 Je '33

**RADIATION** resistance of antennas. See Radio antennas

**RADIATORS**

Correcting radiator sizes for off-standard conditions. charts Heat & Ven 30:37-9 Ja '33

Finishes for hot surfaces. H. Chase. Factory Management 91:156 Ap '33

Heat output of concealed radiators. E. A. Allcutt. diags Heating-Piping 5:267-74 My '33

New types of radiation. il Heating-Piping 5: 29-31 Ja '33

Radiator emission under off-standard conditions; charts. L. Culkin; J. N. Arnold. Heat & Ven 30:50a-50b Ag '33

Review of cast-iron direct radiators. il Heat & Ven 30:23-7 Ag '33

Tubular radiator data; reference data. Heat & Ven 40:42a-42b O '33

What to do about leaky traps in a gravity heating system. Power 77:98-9 F '33

Why won't this radiator heat? plan Dom Eng 141:33 Mr '33

See also

Hot water heating  
Steam heating

**Manufacture**

Principal parts of boiler and radiator code approved by advisory boards. Heat & Ven 30:31-2 N '33

**Testing**

Application of the eupatheoscope for measuring the performance of direct radiators and convectors in terms of equivalent temperature. A. C. Willard, A. P. Kratz and M. K. Fahnestock. il diags plans Heating-Piping 5:369-75 Jl '33; Abstract. Heat & Ven 30:40-1 S '33

Fuel is saved by equalizing flow in hot-water heating systems. E. L. Weber. il Dom Eng 140:48-9 D '32

**RADIATORS, Automobile.** See Automobile engines—Radiators

**RADICALS (chemistry)**

Dissociation into free radicals of di-*tert*-butyltetraphenylethane. J. B. Conant and R. F. Schultz. Am Chem Soc J 55:2098-104 My '33

Effect of ethyl radicals on the thermal decomposition of azomethane; the kinetics of the thermal decomposition of tetraethyllead; ethyl radicals and hydrogen. J. A. Leermakers. diag Am Chem Soc J 55:4508-18 N '33

Formation of free radicals from aliphatic azo compounds. F. O. Rice and B. L. Evering. Am Chem Soc J 55:3898-9 S '33

Labilities or electronegativities of some unsaturated alkyl radicals as determined by hydrogen chloride scission of organolead compounds. H. Gilman, E. B. Towne and H. L. Jones. Am Chem Soc J 55:4689-93 N '33

Thermal decomposition of organic compounds from the standpoint of free radicals; the dehydrogenation of paraffin hydrocarbons and the strength of the C-C bond. F. O. Rice and M. D. Dooley. Am Chem Soc J 55: 4245-7 O '33

To what extent are the so-called ketyls free radicals? abstract. W. E. Bachmann. Science 76:521 D '32

**RADIO advertising**

Arnold survey reveals two-fifths of radios are in use nightly. Sales Management 32:183 F 15 '33

Associated oil company broadcasts games. Ptr Ink 164:85 S 28 '33

Broadcast advertising. F. A. Arnold. 284p \$3 Wiley '33

Broadcast is dressed up; Union central life insurance company, Cincinnati. Ptr Ink 164: 28 S 28 '33

Chrysler's force, 75,000 strong, watch Plymouth set the pace. Sales Management 31: 440 N 15 '32

Companion shopping plan wins store co-operation. il Sales Management 33:280+ S 15 '33

Decade of radio advertising. H. S. Hettinger. 354p [bibliog p341-3] \$3 Univ. of Chicago press '33

Has radio sold goods in 1932? E. H. Felix. Adv & Sell 20:44-5 D 22 '32

How radio selling increased Henry Field's sales 500 per cent in 7 years. J. L. Scott. il Ptd Salesmanship 60:311-13+ D '32

Life insurance dramatized in series of radio sketches. Nat Underw (Life ed) 37:9 Ap 14 '33

Mail-order copy that sells overalls, seeds and prunes. J. L. Scott. il Ptd Salesmanship 60: 226-9+ N '32

Mama's night out! home service in Toronto conducts eight o'clock cooking classes; broadcasting of recipes. D. Dignam. il Gas Age 70:670 D 24 '32

Old Gold's radio policy. il Ptr Ink 165:16 O 26 '33

One pound of radio vs. four feet of printing ink—a bibliography. V. M. Ratner. Adv & Sell 21:54-5+ Ag 17 '33

Radio advertising as a station merchandiser sees it. K. L. Ede. Ptr Ink 165:48-50 O 26 '33

Radio advertising—from the standpoint of the broadcaster. F. A. Arnold. (In radio and education, 1932, ed. by L. Tyson. p241-76) Univ. of Chicago press '32

Radio broadcasters iron out their problems. Ptr Ink 165:69, 72-4 O 19 '33

Radio hour built along ideas of parents and teachers; Toddy malt milk. Ptr Ink 164:32 S 28 '33

Radio naturals. il Adv & Sell 20:26+ Mr 2 '33

Radio performer relieves his mind. R. Perkins. Ptr Ink 162:24-5+ Ja 5 '33

Radio programs must be in the public interest. H. A. Lafount. Ptr Ink 161:61-2 N 24 '32

Rogers vs. Cobb; two humorists compete over different networks for one sponsor, the Gulf refining company. il Ptr Ink 163:10+ Ap 20 '33

Samples and premiums supplant radio prize contests. Ptr Ink 162:68 Mr 30 '33

Should banks go on the air? L. D. Meredith. Bankers M 125:423-9, 579-83 N-D '32

Sponsors Colonel Howe broadcasts; advertising campaign by the RCA Victor company. Ptr Ink 163:57 Je 1 '33



**RADIO advertising—Continued**

Spot broadcasting. *il* *Ptr Ink* Mo 27:58-60, 62-4, 66+ S '33

Successful sampling requires select lists; Campana Italian balm. L. Anson. *il* *Ptd Salesmanship* 60:237-9+ N '32

There's money in the air. M. S. Cummings. bibliog *il* *maps Radio N* 14:393-5+ Ja '33

Too many two minute broadcasts? *Adv & Sell* 21:50 S 14 '33

Two advertising agents appointed to radio group. *Ptr Ink* 161:84 D 15 '32

250,000 entrants in this contest and only 40 prizes; Carnation company. S. D. Roberts. *Ptr Ink* 161:60-1 N 17 '32

University professor takes first prize in answer to protest against radio programs. L. E. Frailey. *Ptd Salesmanship* 62:51-3 S '33

Variety tells all; advertising agencies listed and radio methods analyzed. *Ptr Ink* 164:90-1 Ag 24 '33

Weighing one pound of radio against four feet of printing ink. K. Groesbeck. *il* *Adv & Sell* 21:19+ J1 20 '33

What's wrong with radio advertising? E. Hofsoos. *il* *Adv & Sell* 20:23+ N 24 '32

Why friendly copy is best; Hudson motor car company. M. Wiseman. *il* *Ptr Ink* 164:33-6 S 14 '33

*See also*

Advertising campaigns—Radio tie-in

**Advertising**

Broadcasts to salesmen; in advance of renewal of March of Time broadcasts, which Remington Rand, inc., is sponsoring. *Ptr Ink* 165:36 O 19 '33

How Westinghouse backs up its broadcasts at dealers' stores. F. R. Kohnstamm. *il* *Adv & Sell* 21:42-3 O 26 '33

Radio fan newspaper that promotes an advertiser's program; Associated oil company merchandises its advertising thru Associated Spotlight. S. T. Moore. *il* *Ptd Salesmanship* 61:165-7 My '33

Radio program on newspapers' theatrical pages. *Ptr Ink* 162:76 F 9 '33

Remington Rand's preview sells sales force on "March of time". *il* *Sales Management* 33:417 O 20 '33

**Coverage**

Checks program popularity by telephone calls. *Ptr Ink* 164:42 Ag 24 '33

Listeners-in; new kind of radio survey. *Business Week* p11-12 F 1 '33

Radio audit bureau needed, says station manager. M. B. Campbell. *Ptr Ink* 164:34-5 J1 13 '33

Sizing up the audience for radio advertisers. P. Arnold. *Adv & Sell* 21:21-2+ Je 22 '33

**Coverage maps**

Little map, what now? M. Varencove. map *Adv & Sell* 21:42-3 J1 20 '33

**Inquiries**

Iodent finds premium requests poor measure of radio pull. *il* *Sales Management* 33:209+ S 1 '33

**Price quoting**

A & P point-of-sale study shows price-casting increases sales. *Sales Management* 32:332 Ap 1 '33

**Statistics**

Radio advertising in the United States, monthly, 1929-1932. Bradstreet's 61:215 Ja 28 '33

**Store programs**

Point-o-purchase broadcasting test boosts sales 48 per cent. D. G. Baird. *Sales Management* 33:214-15 S 1 '33

**Testing**

A & P point-of-sale study shows price-casting increases sales. *Sales Management* 32:332 Ap 1 '33

Point-o-purchase broadcasting test boosts sales 48 per cent. D. G. Baird. *Sales Management* 33:214-15 S 1 '33

**RADIO aids to aviation**

Airport radio transmitter. E. M. Knott. *il* *Aviation Eng* 7:22-3 D '32

Airways radio stations contribute to safety and reliability of aircraft operations. *Air Commerce Bul* 4:361-4 F 1 '33

Civil aviation signal services; considerations affecting the choice of wavelengths. N. F. S. Hecht and H. L. Crowther. *Wireless Eng* 10:596-605 N '33

Developments in the electrical industry during 1932; aviation. J. Liston. *il* *Gen Elec R* 36:15-17 Ja '33

Down the landing beam; fog landing system demonstrated at Newark airport by the Department of commerce. S. P. Johnston. *il* *plan Aviation* 32:162-3 My '33

Light-weight aircraft radio. *il* *Sci Am* 148:48 Ja '33

Micro-rays and teleprinting. *Electrician* 109:655 N 18 '32

Radio aids to air navigation. C. F. Green and H. I. Becker. bibliog *il* *diags Elec Eng* 52:307-13 My '33

Radio call book section; television and aircraft stations in the U.S. *Radio N* 15:351 D '33

Radio comes to the aid of the student. *il* *Aviation* 32:45 F '33

Radio direction finder for use on airplanes. *Elec Eng* 52:779-80 N '33

Radio-range transmitters guide traffic of the air. F. S. Mabry. *diags Elec J* 30:333-5 Ag '33

Radio system for blind landing of aircraft to be given service tests. *diags Air Commerce Bul* 4:441-7 Mr 15 '33; Abstract. *J Fr Inst* 215:599-601 My '33

Radio system for fog landings. W. Selikoff. *il* *diags Aviation Eng* 8:23+ Ap '33

Remote control adopted for airways radio stations. *Air Commerce Bul* 4:424-6 Mr 1 '33

System of radio aids for fog landings. H. H. Blee. *il* *diag Aero Digest* 22:27-9+ Mr; 17-4 Ap '33

Third report of Liaison committee on aeronautic radio research. *Air Commerce Bul* 4:555-69 [bibliog p565-9] My 15 '33

Wireless direction finding; Marconi-Adcock aerial system. *il* *Electrician* 110:513 Ap 21 '33; Same cond. *Elec R (Lond)* 112:594 Ap 28 '33

Wireless equipment of the Manchester airport. *il* *Engineering* 136:222, 228-9 S 1 '33

*See also*

Radio apparatus on

aircraft

Radio beacons

**RADIO aids to explorers**

End of isolation; radio communication will be maintained to Admiral Byrd's base on the Bay of Whales. *Pub Serv M* 55:152 N '33

Mt Everest expedition; British-made batteries for transmission and reception. *il* *Electrician* 110:392 Mr 24 '33

**RADIO aids to navigation**

Facsimile transmission to ships at sea. *il* *Sci Am* 148:57-8 Ja '33

Latest developments in equipment for marine radio. A. K. Ransom. *il* *Radio N* 14:534-5+ Mr '33

*See also*

Direction finding apparatus

Radio apparatus on

ships

Radio beacons

Radio communication

—Ship-to-shore

service

**RADIO antennas**

Car antenna problems tackled in move to better automobile radio. *il* *S A E J* 32:sup12-13 Je '33

Cause and elimination of night effects in radio range-beacon reception. H. Diamond. *il* *diags U S Bur Stand J Research* 10:7-34 Ja '33

Crystal controlled short-wave super. F. H. Jones. *diags Radio N* 15:280-1+ N '33

Effective s.w. antenna for reducing interference. A. H. Lynch. *il* *diags Radio N* 14:396-7+ Ja '33

**RADIO antennas—Continued**

Engineering acoustics. Electrician 110:708-9;  
111:149-50, 177-8, 208-9, 234-5, 262-3, 290-1,  
321-2 Je 2, Ag 4-S 15 '33

Errors in direction-finding calibrations in  
steel ships due to the shape and orienta-  
tion of the aerial of the transmitting sta-  
tion. J. F. Coales. Inst E E J 73:280-3 S  
'33; Abstract. Wireless Eng 10:434 Ag '33;  
Discussion. Inst E E J 73:292-4 S '33; Wire-  
less Eng 10:436 Ag '33

How to build your own shielded lead-in sys-  
tem. H. J. Adler. diags Radio N 15:148-9+  
S '33

Mutual impedance of two skew antenna wires.  
F. H. Murray. Inst Radio Eng Proc 21:154-8  
Ja '33

Phase synchronization for the TL-antenna  
system. diags Air Commerce Bul 4:260-4 D  
'32

Phase synchronization in directive antenna  
arrays with particular application to the  
radio range beacon. F. G. Kear. pl diags  
U S Bur Stand J Research 11:123-39 Jl '33  
Radiation and induction. R. R. Ramsey. Inst  
Radio Eng Proc 21:1586-9 N '33

Radiation characteristics of a vertical half-  
wave antenna. J. A. Stratton and H. A.  
Chinn. diags Inst Radio Eng Proc 20:1892-  
1913 D '32

Radiation resistance of concentric conductor  
transmission lines. R. Whitmer. Inst Radio  
Eng Proc 21:1343-53 S '33

Radio tower 878 ft. high built at Nashville,  
Tenn. il Eng N 110:91 Ja 19 '33

Solution of the problem of night effects with  
the radio range beacon system. H. Diamond.  
il diags Inst Radio Eng Proc 21:808-32 Je  
'33

Some new types of broadcast transmitting  
aerials; editorial. il Wireless Eng 10:525-6  
O '33

**RADIO apparatus**

Developments in the electrical industry dur-  
ing 1932; radio. J. Liston. il Gen Elec R  
36:44-7 Ja '33

Electricity in the home; radio apparatus. il  
Elec R (Lond) 113:508-9 O 13 '33

Ferrocort; losses in radio frequency magnet  
cores. A. Schneider. diags Electrician 110:  
849+; 111:9 Je 30-Jl 7 '33

Interesting experiences in locating pipe lines;  
wireless locator. E. W. Esty. il diags Water  
Works & Sewerage 80:323-6 S '33

Iron-content cores for high-frequency coils;  
use of Ferrocort. A. Schneider. diags Wire-  
less Eng 10:183-5 Ap '33; Discussion. 10:  
293-5, 313-15, 491-2 Je, S '33

Kettering's radio relay system. T. H. Hall.  
il Elec R (Lond) 113:345 S 15 '33

Latest methods for using electronic apparatus  
in prospecting for treasure. I. J. Saxl. diags  
Radio N 14:650-2+ My '33

Radio construction and repairing, including  
the television receiver. J. A. Moyer and  
J. F. Wostrel. 4th ed 444p \$2.50 McGraw-  
Hill '33

Radio contributes to accuracy and safety. il  
Elec J 30:39-40 Ja '33

Tube adapters and their applications. H. G.  
Cisin. il diags Radio N 14:600-1+ Ap '33

Wireless apparatus for the study of the  
ionosphere. G. Builder. bibliog diags Inst  
E E J 73:419-36, pl 1-2 O '33

*See also*

Amplifiers, Vacuum  
tube  
Direction finding ap-  
paratus  
Oscillators  
Phonograph—Radio  
pick-up  
Radio antennas  
Radio apparatus in-  
dustry  
Radio beacons

Radio circuits  
Radio detectors  
Radio instruments  
Radio loud speakers  
Radio receiving ap-  
paratus  
Radio rectifiers  
Radio stations  
Radio transformers  
Radio transmitters  
Vacuum tubes

**Exhibitions**

Electrical progress; exhibits in the electrical  
building at the Century of progress. il Elec  
J 30:238-43 Je '33

Physical society's exhibition; matters of wire-  
less and allied interest. il Wireless Eng 10:  
74-7 F '33

Radio exhibition, Olympia, Aug. 15-24. il Elec  
R (Lond) 113:191-3 Ag 11 '33; Electrician  
111:195-6 Ag 18 '33; Wireless Eng 10:543-51  
O '33

Year's radio progress; radio exhibition at  
Olympia. E. H. W. Banner. il Elec R  
(Lond) 113:213-14 Ag 18 '33

**Manufacture**

Busy the year round; Crosley reorganizes  
plant, people, and products; counterbalances  
one seasonal product with another. L. C.  
Morrow. il Factory Management 91:343-5  
S '33

Cossor radio works at Highbury. il Electrician  
111:203-4 Ag 18 '33; Elec R (Lond) 113:219  
Ag 18 '33

Properties of mycalex. W. W. Brown. Inst  
Radio Eng Proc 21:1339-42 S '33

**Patents**

Latest radio patents. B. J. Chromy. Published  
in monthly numbers of Radio news

Radio patent action dismissed; Marconi's  
wireless telegraph co. v. Philips lamps, ltd.  
Elec R (Lond) 113:156 Ag 4 '33; Electrician  
111:155 Ag 4 '33

Some recent patents. Published in monthly  
numbers of Wireless engineer and experi-  
mental wireless

**RADIO apparatus industry**

Air King to offer new plastic radio; will re-  
tail at \$25. R. S. McFadden. il Sales  
Management 32:64 Ja 15 '33

Pee-wee radio. C. A. Verschoor. il Ptr Ink  
162:3-4+ F 16 '33

Pee-wee's effect on the radio industry. E. B.  
Weiss. Ptr Ink 162:6+ F 16 '33

Radio export trade. Elec R (Lond) 111:931 D  
23 '32

Radio has hopes. il Business Week p11 S 30  
'33

Radio makers to unite in campaign on old  
and new prospects. il Sales Management  
33:123 Ag 1 '33

Stewart-Warner attempts to give better deal-  
ers a better chance. Sales Management 32:  
26 Ja 1 '33

Stewart-Warner's new display plan does three  
worth-while things. G. E. Mitchell. il Ptd  
Salesmanship 60:281-4 D '32

200 per cent sales increase; prize contest for  
retail salesmen, Zenith radio corporation.  
E. A. Tracey. Ptr Ink 162:68 Mr 2 '33

*See also*

Radio corporation of  
America

**Advertising**

Direct mail results: results for radio batteries.  
Ptr Ink Mo 27:56-7+ N '33

How a trade-in prize contest increased  
Majestic sales 15 per cent; nation-wide  
search for oldest radio. R. Erlandson. il  
Ptd Salesmanship 60:382-4 Ja '33

Humor in the sales contest; radio company  
appeals to the national sport of France. il  
Ptr Ink 164:56 Jl 13 '33

If dealer helps are right, dealers will use  
them; Hygrade Sylvania corporation. il  
Sales Management 31:480-1+ D 1 '32

RCA Victor challenges the summer slump.  
il Ptr Ink 163:24-5 Je 8 '33

Radio ear theme of new Zenith campaign. il  
Ptr Ink 161:10+ N 24 '32

Shout—if you want the dealer's ear. il Ptr  
Ink Mo 25:29 D '32

Sponsors Colonel Howe broadcasts; adver-  
tising campaign by the RCA Victor com-  
pany. Ptr Ink 163:57 Je 1 '33

**Statistics**

How competition distorts normal wholesale  
trading areas. N. H. Engle. map Sales Man-  
agement 33:22-4 Jl 1 '33

Survey analyzes economic status of radio  
audience. Adv & Sell 22:38 N 9 '33

**Great Britain**

Gramophone and wireless shares. Economist  
115:887-8 N 12 '32



**RADIO apparatus industry—Great Britain**

—Continued

Imported valves; application for marking order under the merchandise act. Electrician 110:834 Je 23 '33

Pye radio. Economist 116:919 Ap 29 '33

**United States**

Radio industry making better showing. Dun & Bradstreet 41:14-16 Je '33

Radio industry passes luxury stage. R. Brennan. Dun's R 40:2-4 D 17 '32

**RADIO apparatus on aircraft**

Radio transmitter for the itinerant flyer. J. B. Bishop. il diag Aviation Eng 8:19-20 Mr '33

Wireless equipment for African aircraft. il Engineer 154:570 D 2 '32

See also

Television apparatus on aircraft

**RADIO apparatus on ships**

Les communications radioélectriques avec les navires en mer. Picault. Génie Civil 102:188-9 F 25 '33

Errors in direction-finding calibrations in steel ships due to the shape and orientation of the aerial of the transmitting station. J. F. Coales. Inst E E J 73:280-3 S '33; Abstract. Wireless Eng 10:434 Ag '33; Discussion. Inst E E J 73:292-4 S '33; Wireless Eng 10:436 Ag '33

Latest developments in equipment for marine radio. A. K. Ransom. il Radio N 14:534-5+ Mr '33

Marine radio equipment. il Elec R (Lond) 113:456 O 6 '33

S.O.S.; ship radio operator's experience in aiding in rescue of crew from disabled ship. F. Petraglia. il Radio N 14:647-9+ My '33

Talking picture and address system installed on the liner Manhattan. W. Whitmore. il Marine R 63:20-1 F '33

What the radio means to shipping. L. G. Green. Marine R 63:15 Ag '33

Wireless regulations; importance emphasized in court in connection with the liability of a tug-owner. Weekly Underw 127:1051 D 3 '32

See also

Direction finding apparatus Radio telephone on ships

Radio communication —Ship-to-shore service

**RADIO beacons**

Cause and elimination of night effects in radio range-beacon reception. H. Diamond. il diags U S Bur Stand J Research 10:7-34 Ja '33

Locating radio beacon stations. H. C. Stark. diags Aero Digest 21:39 D '32

Method of providing course and quadrant identification with the radio range-beacon system. F. W. Dunmore. diags pl U S Bur Stand J Research 11:309-25 S '33

New field of application for ultra-short waves. E. Kramar. bibliog il diags Inst Radio Eng Proc 21:1519-31 N '33

Phase synchronization in directive antenna arrays with particular application to the radio range beacon. F. G. Kear. pl diags U S Bur Stand J Research 11:123-39 Jl '33

Radio range beacon free from night effects. H. A. Chinn. diags Inst Radio Eng Proc 21:802-7 Je '33

Radio-range transmitters guide traffic of the air. F. S. Mabry. diags Elec J 30:333-5 Ag '33

Radio system for fog landings. W. Selikoff. il diags Aviation Eng 8:23+ Ap '33

Runway marking by radio. Aero Digest 22:52 Mr '33

Simplification of radio range beacon position and quadrant identification. diags Air Commerce Bul 5:2-7 Jl '33

Solution of the problem of night effects with the radio range beacon system. H. Diamond. il diags Inst Radio Eng Proc 21:808-32 Je '33

System of radio aids for fog landings. H. H. Blee. il diag Aero Digest 22:27-9+ Mr; 17+ Ap '33

See also

Direction finding apparatus

**RADIO broadcasting**

Debate handbook on radio control and operation. B. Aly and G. D. Shively, eds. 224p [bibliog p7-43] pa \$1.50 Staples pub. co, Columbia, Mo. '33

Radio broadcasters iron out their problems. Ptr Ink 165:69, 72-4 O 19 '33

Radio broadcasting forges ahead; interview with M. H. Aylesworth. Bradstreet's 61:214-15 Ja 28 '33

Radio transmission characteristics of Ohio at broadcast frequencies. J. F. Byrne. il diags Ohio State Univ Eng Exp Sta Bul 71:1-18 '32

Report of a research into the attitudes and habits of radio listeners. C. Kirkpatrick. 63p Webb book pub. co, St Paul, Minn. '33

Required minimum frequency separation between carrier waves of broadcast stations. P. P. Eckersley. diag Inst Radio Eng Proc 21:193-211 F '33

What to read about radio. L. Tyson. 30p Univ. of Chicago press '33

See also

Federal broadcasting company	Radio communication—Interference
National broadcasting company	Radio corporation of America
Radio advertising	Radio listeners
Radio broadcasting stations	Radio loud speakers
	Radio receiving apparatus

**Common frequency**

Study of reception from synchronized broadcast stations. C. B. Aiken. bibliog Inst Radio Eng Proc 21:1265-1301 S '33

**Court proceedings**

Traffic court goes on the air; court broadcasts over station WHB, Kansas City. F. C. Lynch. il Nat Safety N 27:30+ F '33

**Educational applications**

See Radio in education

**International aspects**

Transoceanic reception of high-frequency telephone signals. R. M. Morris and W. A. R. Brown. map Inst Radio Eng Proc 21:63-80 Ja '33

**Music**

Engineering acoustics. Electrician 110:162-3 F 3 '33

**Newspaper relations**

Associated press curbs radio use of news. Ptr Ink 163:65+ Ap 27 '33

Broadcast ban. Business Week p16 My 10 '33

Radio vs. newspapers; really newspaper vs. newspaper. Business Week p12 D 21 '32

See also

Newspapers—Radio programs

**Performers**

Radio performer relieves his mind. R. Perkins. Ptr Ink 162:24-5+ Ja 5 '33

Radio's road to fame. S. Kaufman. il Radio N 15:7-9 Jl '33

**Phonograph programs**

Engineering acoustics; magnetic recording. Electrician 110:193-4 F 10 '33

**Programs**

Radio program features. S. Kaufman, comp. Radio N 14:730-3 Je '33 [cont monthly]

See also

Newspapers—Radio programs

**Safety programs**

Traffic court goes on the air; court broadcasts over station WHB, Kansas City. F. C. Lynch. il Nat Safety N 27:30+ F '33

**RADIO Broadcasting—Continued****Songs**

5,000,000 songs are the commercial heritage of the American society of composers, authors and publishers. *Fortune* 7:27-33, 84, 86 Ja '33

**Study and teaching**

College courses that specialize in teaching broadcasting. *C. M. Koon*. *il Radio N* 15: 267 N '33

**Time signals**

See Time signals, Radio

**Wired relay system**

Kettering's radio relay system. *T. H. Hall*. *il Elec R (Lond)* 113:345 S 15 '33  
Radio relay systems. *il Elec R (Lond)* 113:414-15 S 29 '33

**Canada**

Canada's radio problem. *Nation's Business* 21: 81 N '33  
Canadian radio. *Business Week* p23 S 23 '33  
Canadian radio under government control; actually little change. *Business Week* p12 F 1 '33

**Great Britain**

American vs. British system of radio control. *E. C. Buehler*, comp. *Ref Shelf v 8*, no 10:1-361 [bibliog p25-50] '33  
*B. B. C.* year-book, 1933. 480p 2s British broadcasting corporation, Broadcasting house, London, W. 1 '33  
Ten years of British broadcasting. *Electrician* 109:616 N 11 '32

**India**

Broadcasting in India. *Electrician* 111:202 Ag 18 '33

**United States**

American vs. British system of radio control. *E. C. Buehler*, comp. *Ref Shelf v 8*, no 10:1-361 [bibliog p25-50] '33  
There's money in the air. *M. S. Cummings*. bibliog *il maps Radio N* 14:393-5+ Ja '33  
What our American broadcasting needs; by the Broadcast committee of the I.R.E. and *H. K. Randall*. *Radio N* 15:24-5+ Jl '33

**RADIO broadcasting stations**

Perfects radio transmission; *WBAL*, Baltimore. *Manuf Rec* 102:46 S '33  
Story of *WOR*. 43p Bamberger broadcasting service, inc, Newark, N.J. '33

**Directories**

Broadcast stations of the world; by call, location, frequency and power; Africa, Asia, Oceania, South and Central America. *Radio N* 14:606, 669, 698 Ap-May '33  
Broadcast stations of the world; by call, location, frequency and power; principal European stations. *Radio N* 14:539-40 Mr '33  
Broadcasting stations in North America (exclusive of the United States) alphabetically by call letters, location, frequency and power. *Radio N* 15:29 Jl '33  
DX corner; list of short wave stations, wavelengths, call letters, location and time schedules. Published in monthly numbers of *Radio news*

**Equipment**

B.B.C. long-wave station. *il Electrician* 110:63 Ja 20 '33; *Engineer* 155:75-6 Ja 20 '33; *Elec R (Lond)* 112:100 Ja 20 '33  
Compact, alternating-current operated speech input equipment. *W. L. Black*. *il diag Inst Radio Eng Proc* 21:1409-18 O '33  
Empire broadcasting station at Daventry. *il Engineering* 134:749-50 D 23 '32; *Elec R (Lond)* 111:885 D 16 '32; *Electrician* 109: 781-2 D 16 '32; *Engineer* 154:622 D 16 '32  
Low power radio transmitters for broadcasting. *A. W. Kishpaugh* and *R. E. Coram*. *il diags Inst Radio Eng Proc* 21:212-27 F '33  
Radio power from high-voltage rectifiers. *N. Kotschubey*. *il diags Elec W* 102:308-9 S 2 '33  
West regional broadcasting station. *il Engineering* 135:542-4 My 19 '33

**Austria**

Der neue rundfunksender in Wien. *F. Hartmann*. *il Zeit Ver Deutsch Ing* 77:195 F 25 '33

**Denmark**

Radio broadcasting; Danish station increases power to 100-kW. *Electrician* 111:127 Jl 28 '33

**Europe**

Nouvelles stations de radiodiffusion européennes à grande puissance; Radio-Luxembourg, Vienne-Bisamberg, Radio-Toulouse. *M. Adam*. *il Génie Civil* 103:205-9 Ag 26 '33

**Germany**

Deutschlands grossrundfunksender. *A. Semm*. *il plan Zeit Ver Deutsch Ing* 77:257-64 Mr 11 '33

**Great Britain**

B.B.C. long-wave station. *il Electrician* 110:63 Ja 20 '33; *Engineer* 155:75-6 Ja 20 '33  
Empire broadcasting station at Daventry. *il Engineering* 134:749-50 D 23 '32; *Elec R (Lond)* 111:885 D 16 '32; *Electrician* 109: 781-2 D 16 '32; *Engineer* 154:622 D 16 '32  
West regional broadcasting station. *il Engineering* 135:542-4 My 19 '33; *Elec R (Lond)* 112:667-8 My 12 '33; *Electrician* 110:612 My 12 '33

**United States**

Broadcasting stations in the U.S; alphabetically by call letters, location, frequency and power. *Radio N* 14:668-9 My '33  
Broadcasting stations in the United States by frequency, wavelength and call letters. *Radio N* 14:729 Je '33

**RADIO broadcasting studios**

Air conditioning a broadcasting studio; ductwork N.B.C. studios in tower of Radio City; illustrations. *Heat & Ven* 30:30 Mr '33  
Air conditioning and sound insulation of the N.B.C. Chicago studios. *V. J. Gilcher*. *il Heat & Ven* 30:16-19 N '33  
Air conditioning the broadcast plant. *V. J. Gilcher*. *il diags Heat & Ven* 30:33-5 O '33  
Interesting previews of the world's greatest broadcast metropolis; Radio City. *S. Kaufman*. *il Radio N* 15:332-3+ D '33  
RCA building of 69 stories rivals Empire State. *il diags plans Eng N* 109:587-90 N 17 '32  
Station WCAU of Philadelphia; views. *Adv & Sell* 20:sup [Adv Arts] 31-3 Mr '33  
WCAU broadcasting studios, Philadelphia. *R. Heller*. *il diags plans Arch Rec* 73:246-62 Ap '33  
WCAU in Philadelphia; modernistic broadcasting. *S. Kaufman*. *il Radio N* 14:654-5+ My '33

**RADIO cabinets**

Midget radios versus electric clocks. *F. E. Brill*. *Plastic Prod* 9:182 Jl '33

**RADIO circuits**

Amplitude characteristics of coupled circuits having distributed constants. *R. King*. *Inst Radio Eng Proc* 21:1142-81 Ag '33  
Engineering acoustics. *diag Electrician* 110: 460-1 Ap 7 '33  
Equivalent circuits of an active network. *J. G. Brainerd*. *diags Inst Radio Eng Proc* 21:144-53 Ja '33  
Ferro-inductors and permeability tuning. *W. J. Polydoroff*. *il diags Inst Radio Eng Proc* 21:690-709 My '33  
Frequency doubling in a triode vacuum tube circuit. *C. E. Smith*. *diags Inst Radio Eng Proc* 21:37-50 Ja '33  
Frequency modulation and the effects of a periodic capacity variation in a nondissipative oscillatory circuit. *W. L. Barrow*. bibliog *Inst Radio Eng Proc* 21:1182-1202 Ag '33  
Interdependence of frequency variation and harmonic content, and the problem of constant-frequency oscillators. *J. Groszkowski*. bibliog *diags Inst Radio Eng Proc* 21:958-81 Jl '33  
Method for calculating transmission properties of electrical networks consisting of a number of sections. *A. Alford*. *Inst Radio Eng Proc* 21:1210-20 Ag '33



**RADIO circuits—Continued**

- Micro radio waves; recent experimental work. G. Marconi. *Il diags Electrician* 110:3-4 Ja 6 '33
- Nonlinearity in transducers used in communication. P. Caporale. *diag Inst Radio Eng Proc* 21:1029-33 Jl '33
- Optimum decrement of tuned circuits for the reception of telephony. D. A. Bell. *Wireless Eng* 10:371-4 Jl '33
- Practical analysis of parallel resonance. R. Lee. *diags Inst Radio Eng Proc* 21:271-81 F '33; Discussion. 21:875-6 Je '33
- Radiometric condenser; the control of oscillating circuits by radiant heat. G. G. Blake. *il diags Elec R (Lond)* 112:43-4 Ja 13 '33
- Relations between the parameters of coupled-circuit theory and transducer theory with some applications. J. G. Brainerd. *diags Inst Radio Eng Proc* 21:282-9 F '33
- Simplified frequency dividing circuit. V. J. Andrew. *diag Inst Radio Eng Proc* 21:982-3 Jl '33
- Some general resonance relations and a discussion of Thevenin's theorem. J. G. Brainerd. *diags Inst Radio Eng Proc* 21:1050-4 Jl '33
- Technical data and circuit design for two new tubes; -58, -46. J. van Lienden. *Radio N* 14: 662-3+ My '33
- Theory and practice of tone-correction. F. M. Colebrook. *diags Wireless Eng* 10:4-12 Ja '33; Discussion. W. F. Cope. 10:370 Jl '33
- Transmission curves of high-frequency networks. S. J. Model. *diags Inst Radio Eng Proc* 21:114-43 Ja '33; Correction. 21:1238 S '33
- Voltage amplification with high selectivity by means of the dynatron circuit. F. M. Colebrook. *diags Wireless Eng* 10:69-73 F '33
- Why tin cans in a radio set. J. L. Hurff. *diags Elec J* 30:364-5+ S '33

**RADIO City. See New York (city)—Rockefeller Center****RADIO communication**

- Les conférences radioélectriques et télégraphiques de Madrid (3 septembre-9 décembre 1932) et de Lucerne (15 mai-19 juin 1933). J. Cazals de Fabel. *Génie Civil* 103:185-7 Ag 19 '33
- Le X<sup>e</sup> salon de la T.S.F. (Paris, 6-17 septembre 1933). M. Adam. *il diags Génie Civil* 103: 304-8 S 23 '33
- Electrical communication, 1932-33. *Elec Eng* 52:767-9 N '33
- Electrical engineering in 1932. *Engineer* 155: 12 Ja 6 '33
- Engineering acoustics. *Electrician* 110:624-5 My 12 '33
- Modern radio communication. J. H. Reyner. 4th ed 318p \$1.50 Pitman '32
- Principles of radio communication. J. H. Morecroft, A. Pinto and W. A. Curry. 3d ed 1084p \$7.50 Wiley '33
- Radio; a study of first principles for schools, evening classes and home study. E. E. Burns. 2d ed 281p Van Nostrand '32
- Radio amateur's handbook. 10th ed 220p American radio relay league, inc, West Hartford, Conn. '33
- Radio and television. J. R. Cameron. 541p Cameron pub. co, Woodmont, Conn. '33
- Radio operating questions and answers. A. R. Nilson and J. L. Hornung. 389p \$2.50 McGraw-Hill '33
- Telling the world. G. O. Squier. 163p [bibliog p156-62] \$1 Century co. '33
- Wireless. W. H. Eccles. 255p [bibliog p245-9] T. Butterworth ltd, London '33
- Wireless over thirty years. R. N. Vyvyan. 256p 8s 6d Routledge '33

**See also**

- |                    |                    |
|--------------------|--------------------|
| Radio apparatus    | Radio stations     |
| Radio broadcasting | Radio telegraph    |
| Radio engineering  | Radio telephone    |
| Radio frequency    | Radio transmission |
| Radio reception    | Radio waves        |
| Radio signals      |                    |

**Beam system**

- Engineering acoustics. *Electrician* 110:708-9; 111:177-8 Je 2, Ag 11 '33

**Bibliography**

- Abstracts and references. Published in monthly numbers of *Wireless engineer and experimental wireless*
- Radio abstracts and references. *Inst Radio Eng Proc* 20:1978-84 D '32 [cont monthly]
- Technical review. J. Calcaterra. Published in monthly numbers of *Radio news*

**History**

- Pittsburgh's contributions to radio. S. M. Kintner. *Inst Radio Eng Proc* 20:1849-62 D '32

**Interference**

- Audio-frequency atmospherics. E. T. Burton and E. M. Boardman. *il Inst Radio Eng Proc* 21:1476-94 O '33; Same. *Bell System Tech J* 12:498-516 O '33
- Directional studies of atmospherics at high frequencies. K. G. Jansky. *il diags Inst Radio Eng Proc* 20:1920-32 D '32
- Electrical disturbances apparently of extraterrestrial origin. K. G. Jansky. *diags Inst Radio Eng Proc* 21:1387-98 O '33
- Engineering acoustics; interference with radio reception. *Electrician* 110:563-4 Ap 28 '33
- Outline of the action of a tone corrected highly selective receiver. E. B. Moullin. *Inst Radio Eng Proc* 21:1252-64 S '33
- Radio-noise meter and its application to the measurement of radio interference. C. R. Barhydt. *il diags Gen Elec R* 36:201-5 Ap '33

**Interference elimination**

- Asphalt emulsion reduces insulator radio troubles. F. O. McMillan. *il Elec W* 102:185-7 Ag 5 '33
- Effective s.w. antenna for reducing interference. A. H. Lynch. *il diags Radio N* 14: 396-7+ Ja '33
- Eliminating radio interference from pin type insulators. G. W. Barrow. *diag Elec W* 100:787 D 10 '32
- Engineering acoustics; protection from interference. *Electrician* 110:590-1 My 5 '33
- How to build your own shielded lead-in system. H. J. Adler. *diags Radio N* 15:148-9+ S '33
- Interference; notes on methods for elimination of interference caused by non-radio devices. E. T. Glas. *diags Wireless Eng* 9:680-4 D '32
- Interference with broadcasting; report on proposed suppression devices. *Electrician* 111: 538 O 27 '33
- New pin insulators free from radio interference. H. H. Brown. *diags Elec Eng* 52: 608-13 S '33; Same cond. *Electrician* 111:646-9 N 24 '33
- Radio and static. J. C. Williams. *diags Radio N* 15:69-71, 119-21 [bibliog p121] Ag '33
- Reducing radio interference from commutating machines. C. V. Aggers and W. E. Pakala. *diags Elec J* 30:423-7 O '33
- Required minimum frequency separation between carrier waves of broadcast stations. P. P. Eckersley. *diag Inst Radio Eng Proc* 21:193-211 F '33
- Suppression of radio interference with capacitor-type filters. C. V. Aggers and W. E. Pakala. *Elec J* 30:337-9+ Ag '33
- Trolley omnibuses and wireless interference; special choke coils. *il Engineer* 154:649 D 23 '32

**Long wave**

- Low-frequency radio receiving measurements at the Bureau of standards in 1931 and 1932. E. B. Judson. *Inst Radio Eng Proc* 21:1354-63 S '33

**Municipal uses**

- Municipal police radio stations in the United States. *Radio N* 14:478 F '33
- Radio call book section; police and fire department stations in the United States. *Radio N* 15:289 N '33

**Ship-to-shore service**

- Les communications radioélectriques avec les navires en mer. Picault. *Génie Civil* 102:188-9 F 25 '33

**RADIO communication—Ship-to-shore service—**  
**—Continued**

North Atlantic ship-shore radiotelephone transmission during 1930 and 1931. C. N. Anderson. diags Inst Radio Eng Proc 21: 81-101 Ja '33

Telephone system for harbor radio. W. K. St Clair. il diags Radio N 15:10-11+ J1 '33

**Short wave**

Amateur radio on the short waves. H. P. Roberts. il Radio N 15:200-3+ O '33

Beamcasting with ultra-short waves at Century of progress. Can Min J 54:411-12 O '33

Broadcasting on 7.85 metres; experimental work in Amsterdam. P. J. H. A. Nordlohne. bibliog il Wireless Eng 10:186-96 Ap '33

Consolidated short-wave station list; by wavelength, frequency, call, location and time. Radio N 14:351, 411, 477-8; 15:91, 157, 223 D '32-F, Ag-O '33

DX corner; list of short wave stations, wavelengths, call letters, location and time schedules. Published in monthly numbers of Radio news

Directional studies of atmospherics at high frequencies. K. G. Jansky. il diags Inst Radio Eng Proc 20:1920-32 D '32

Electronic oscillations. E. C. S. Megaw. diags Inst E E J 72:313-25 [bibliog p324-5]; Discussion. 348-52 Ap '33

Empire broadcasting; new short wave transmitters at Daventry. il diag Electrician 109: 781-2 D 16 '32; Elec R (Lond) 111:885 D 16 '32; Engineering 134:749-50 D 23 '32

End of isolation; radio communication will be maintained to Admiral Byrd's base on the Bay of Whales. Pub Serv M 55:152 N '33

How American communications engineers are conquering fading on short waves by diversity reception. M. G. Crosby. il diag Radio N 15:72-3+ Ag '33

Investigation of the magnetron short-wave oscillator. E. C. S. Megaw. bibliog diag Inst E E J 72:326-48 Ap '33; Abstract. Elec R (Lond) 112:12-13 Ja 6 '33; Discussion. Inst E E J 72:348-52 Ap '33

Method of calculation of field strengths in high-frequency radio transmission. S. Namba and T. Tsukada. charts Inst Radio Eng Proc 21:1003-28 [bibliog p1028] J1 '33

Micro radio waves; recent experimental work. G. Marconi. il diags Electrician 110:3-6 Ja 6 '33

Optical behavior of the ground for short radio waves. C. B. Feldman. il Inst Radio Eng Proc 21:764-801 [bibliog p800-1] Je '33

Production and utilization of micro-rays; permanent link between Lympe, England and St. Ingelvert, France. A. G. Clavier. diags Elec Eng 52:739-40 N '33

Propagation of waves below ten meters in length. B. Trevor and P. S. Carter. Inst Radio Eng Proc 21:387-426 Mr '33

Radiotelephony with ultra-short waves; abstracts. G. Marconi. Engineering 134:771 D 30 '32; Electrician 109:758 D 9 '32; Elec R (Lond) 111:854 D 9 '32

Short-wave DX reception. W. H. Reeks. Radio N 14:523-4+, 664-5 Mr, My '33

Short-wave transmission to South America. C. R. Burrows and E. J. Howard. il Inst Radio Eng Proc 21:102-13 Ja '33; Same. Elec Eng 52:529-31 Ag '33

Short wave wireless communication. A. W. Ladner and C. R. Stoner. 348p \$3.50 Wiley '33

Single side-band system applied to short-wave telephone links. A. H. Reeves. diags Inst E E J 73:245-76 S '33; Abstracts. Electrician 110:623 My 12 '33; Elec R (Lond) 112: 631 My 5 '33; Discussion. Inst E E J 73: 276-9 S '33

Some characteristics of short-wave propagation. J. Hollingsworth. il Inst E E J 72:229-48 Mr '33; Abstracts. Electrician 109:810 D 23 '32; Elec R (Lond) 111:854 D 9 '32; Wireless Eng 10:89-90 F '33; Discussion. Inst E E J 72:249-51 Mr '33; Wireless Eng 10:90 F '33

Some characteristics of ultra-high-frequency transmission. H. Muyskens and J. D. Kraus. il map Inst Radio Eng Proc 21:1302-16 S '33

Some results of a study of ultra-short-wave transmission phenomena. C. R. Englund, A. E. Crawford and W. W. Mumford. il maps Inst Radio Eng Proc 21:464-92 Mr '33; Same. Bell System Tech J 12:197-227 Ap '33

Study of the propagation of wavelengths between three and eight meters. L. F. Jones. il diags Inst Radio Eng Proc 21:349-86 Mr '33

Transmission curves of high-frequency networks. S. J. Model. diags Inst Radio Eng Proc 21:114-43 Ja '33; Correction. 21:1238 S '33

Transoceanic reception of high-frequency telephone signals. R. M. Morris and W. A. R. Brown. map Inst Radio Eng Proc 21: 63-80 Ja '33

Ultra-short wave propagation. J. C. Schelleng, C. R. Burrows and E. B. Ferrell. bibliog il map Inst Radio Eng Proc 21:427-63 Mr '33; Same. Bell System Tech J 12:126-61 Ap '33

**Transoceanic**

Transoceanic radio communication; radio network of R.C.A. communications, inc. H. H. Beverage, C. W. Hansell and H. O. Peterson. bibliog il map Elec Eng 52:331-7 My '33

See also  
Radio telephone—  
Transoceanic

**Dutch East Indies**

Netherlands East Indies; radio telegraphy and telephony progress. Electrician 111:128 J1 28 '33

**RADIO compass**

Developments in the electrical industry during 1932; aviation. J. Liston. il Gen Elec R 36: 15-17 Ja '33

Radio aids to air navigation. C. F. Green and H. I. Becker. il diags Elec Eng 52:308-11 My '33

Radio compass developed in H.M. signal school. C. E. Horton and C. Crampton. diags Inst E E J 73:284-92 S '33; Abstracts. Elec R (Lond) 112:487 Ap 7 '33; Wireless Eng 10: 434-6 Ag '33; Discussion. Inst E E J 73:292-4 S '33; Wireless Eng 10:436 Ag '33

See also  
Direction finding apparatus

**RADIO condensers**

Decoupling efficiency. W. A. Barclay. Wireless Eng 10:307-9 Je '33

Modified reactance-frequency chart. J. R. Tolmie. Inst Radio Eng Proc 21:1364-6 S '33

**RADIO control**

See also  
Carrier current control

**RADIO corporation of America**

Achievement in transferring over six million shares of Radio stock. il Trust Companies 56:368-9 Mr '33

Building of 69 stories rivals Empire State. il diags plans Eng N 109:587-90 N 17 '32

Consent decree breaks up radio pool. Barron's 12:18 N 28 '32

Radio anti-trust case settled; text of consent decree. Sci Am 148:188-9 Mr '33

Radio corp. in good financial shape. Barron's 13:14 Mr 27 '33

R.C.A. consents; decree profoundly alters status. Business Week p10-11 N 30 '32

Radio pioneers for profit. Econostat 1:14-15+ My 27 '33

Skyscraper plumbing in the RCA building. C. M. Wilson. il diags Eng N 109:593-7 N 17 '32

Skyscraper steel erection in the RCA building. il diag plans Eng N 109:618-19 N 24 '32

What the unscrambling of Radio and the electric companies means. C. M. Warner. il Mag of Wall St 51:219+ D 10 '32

**RADIO detectors**

Analysis of power detection. R. De Cola. diags Inst Radio Eng Proc 21:984-9 J1 '33



**RADIO detectors—Continued**

- Diode detection analysis. C. E. Kilgour and J. M. Glessner. diag Inst Radio Eng Proc 21:930-43 J1 '33
- Screen-grid valve as superhet detector. C. B. Fisher. Wireless Eng 10:541-2 O '33
- Some notes on demodulation. H. Roder. diag Inst Radio Eng Proc 20:1946-61 D '32
- Superposition of two modulated radio frequencies. H. Roder. Inst Radio Eng Proc 20:1962-70 D '32
- Theory of the detection of two modulated waves by a linear rectifier. C. B. Aiken. bibliog Inst Radio Eng Proc 21:601-29 Ap '33

**RADIO education.** See Radio in education**RADIO engineering**

- Introduction to the various physical phenomena underlying radio. E. B. Kirk. il diag Radio N 13:846-7+, 1002-3; 14:472-3+, 602-3+; 15:84-5+ Ap, Je '32, F, Ap, Ag '33
- Pittsburgh's contributions to radio. S. M. Kintner. Inst Radio Eng Proc 20:1849-62 D '32
- Radio engineering handbook. K. Henney, ed. 583p \$5 McGraw-Hill '33

## Tables, calculations, etc.

- Amplification of transients. C. H. Smith. diags Wireless Eng 10:296-8 Je '33
- Amplitude characteristics of coupled circuits having distributed constants. R. King. Inst Radio Eng Proc 21:1142-81 Ag '33
- Decoupling efficiency. W. A. Barclay. Wireless Eng 10:307-9 Je '33
- Equivalent circuits of an active network. J. G. Brainerd. diags Inst Radio Eng Proc 21:144-53 Ja '33
- Method for calculating transmission properties of electrical networks consisting of a number of sections. A. Alford. Inst Radio Eng Proc 21:1210-20 Ag '33
- Modern radio practice in using graphs and charts. J. M. Borst. chart Radio N 14:666-7+ My '33
- Modified reactance frequency chart. J. R. Tolmie. Inst Radio Eng Proc 21:1364-6 S '33
- Practical analysis of parallel resonance. R. Lee. diags Inst Radio Eng Proc 21:271-81 F '33
- Relations between the parameters of coupled-circuit theory and transducer theory with some applications. J. G. Brainerd. diags Inst Radio Eng Proc 21:282-9 F '33
- Tables for the calculation of the mutual inductance of any two coaxial single-layer coils. F. W. Grover. Inst Radio Eng Proc 21:1039-49 J1 '33
- Theory of available output and optimum operating conditions for triode valves. M. V. Callendar. Inst Radio Eng Proc 21:909-29 J1 '33
- Theory of the detection of two modulated waves by a linear rectifier. C. B. Aiken. bibliog Inst Radio Eng Proc 21:601-29 Ap '33
- Transmission curves of high-frequency networks. S. J. Model. diags Inst Radio Eng Proc 21:114-43 Ja '33; Correction. 21:1238 S '33

**RADIO engineers, Institute of.** See Institute of radio engineers**RADIO filters**

- Electric filter design. C. A. Johnson. diags Radio N 15:216-17+ O '33
- Magnetostriction filter. H. H. Hall. il diags Inst Radio Eng Proc 21:1328-38 S '33
- Simple two-element low-pass filter of two and three sections. L. B. Hallman, jr. diags Inst Radio Eng Proc 21:1603-8 N '33
- Suppression of radio interference with capacitor-type filters. C. V. Aggers and W. E. Pakala. Elec J 30:337-9+ Ag '33

**RADIO frequency**

- Effect of the curvature of the characteristic on the frequency of the dynatron generator. E. B. Moullin. Inst E E J 73:186-95 Ag '33
- Frequency doubling in a triode vacuum tube circuit. C. E. Smith. diags Inst Radio Eng Proc 21:37-50 Ja '33

Frequency modulation and the effects of a periodic capacity variation in a nondissipative oscillatory circuit. W. L. Barrow. bibliog Inst Radio Eng Proc 21:1182-1202 Ag '33

Interdependence of frequency variation and harmonic content, and the problem of constant-frequency oscillators. J. Groszkowski. bibliog diags Inst Radio Eng Proc 21:958-81 J1 '33

Inter-electrode capacitance of the dynatron, with special reference to the frequency stability of the dynatron generator. G. B. Baker. Inst E E J 73:196-201; Discussion. 201-3 Ag '33

Measurement of the frequency of ultra-radio waves. J. B. Hoag. diags Inst Radio Eng Proc 21:29-36 Ja '33

Modulation frequencies in visual transmission. E. L. White. Inst Radio Eng Proc 21:51-5 Ja '33

Permeability of iron at ultra-radio frequencies. J. B. Hoag and H. Jones. diag Phys R 42:571-6 N 15 '32

Radio-frequency bridge for impedance and power-factor measurements. D. W. Dye and T. I. Jones. bibliog diags Inst E E J 72:169-81 F '33

Radio transmissions of standard frequencies. Inst Radio Eng Proc 21:516-17 Ap '33

Required minimum frequency separation between carrier waves of broadcast stations. P. P. Eckersley. diag Inst Radio Eng Proc 21:193-211 F '33

Selection of types of vacuum tubes as sources of high-frequency power. W. C. White. il diag Gen Elec R 36:394-7 S '33

Side bands in frequency modulation. E. D. Scott and J. R. Woodyard. il diags Washington U Eng Exp Sta Bul 68:5-24 '33

Simplification of accurate measurement of radio-frequency. W. H. F. Griffiths. il diag Wireless Eng 10:239-47, 299-306 My-Je '33

Some long-distance transmission phenomena of low-frequency waves. E. Yokoyama and I. Tanimura. Inst Radio Eng Proc 21:263-70 F '33

Superposition of two modulated radio frequencies. H. Roder. Inst Radio Eng Proc 20:1962-70 D '32

Vacuum tube electronics at ultra-high frequencies. F. B. Llewellyn. Inst Radio Eng Proc 21:1532-73 N '33

**Crystal control**

Simplified frequency dividing circuit. V. J. Andrew. diag Inst Radio Eng Proc 21:982-3 J1 '33

200-kilocycle piezo oscillator. E. G. Lapham. pl diags U S Bur Stand J Research 11:59-64 J1 '33

**RADIO in education**

- Appraisal of radio broadcasting in the land-grant colleges and state universities. 150p [bibliog p144-50] National committee on education by radio, Washington, D.C. '33
- Education on the air. J. H. MacLachy, ed. 376p Ohio state university, Columbus '32
- Radio and education, 1932. L. Tyson, ed. 306p \$3 Univ. of Chicago press '32
- Radio and its present relation to education. S. Kaufman. il Radio N 15:264-6+ N '33
- Radio, the assistant teacher. B. H. Darrow. 271p R. G. Adams & co, Columbus, O. '32

**Bibliography**

Educational broadcasting. R. Lingel. 162p pa \$1.50 Univ. of Chicago press '32

**RADIO instruments**

Automatic field strength and static recorder. W. W. Mutch. diags Inst Radio Eng Proc 20:1914-19 D '32

Continuous Kennelly-Heaviside layer records of a solar eclipse. H. R. Mimno and P. H. Wang. il diags Inst Radio Eng Proc 21:529-45 Ap '33

Directional studies of atmospherics at high frequencies. K. G. Jansky. il diags Inst Radio Eng Proc 20:1920-32 D '32

Extending meter ranges by means of multipliers and shunts. G. A. Eaton. diags Radio N 14:592-3+ Ap '33

**RADIO instruments—Continued**

- Modifications in the new impedance measuring set. A. T. Starr. diags Wireless Eng 10:609-11 N '33
- Practical signal generator for servicemen, experimenters and designers. S. Bagno and S. S. Egert. il diags Radio N 15:273-4+ N '33
- Radio-frequency bridge for impedance and power-factor measurements. D. W. Dye and T. I. Jones. bibliog diags Inst E E J 72:169-81 F '33
- Radio-noise meter and its application to the measurement of radio interference. C. R. Barhydt. il diags Gen Elec R 366:201-5 Ap '33
- Recording field strength; equipment used by the British broadcasting corp. for automatic measurement. C. H. Smith. il diag Wireless Eng 10:14-18 Ja '33
- Simple capacity bridge. M. O. Sharpe. diags Radio N 14:552-3+ Mr '33
- Valve voltmeter for audio frequencies calibrated by direct current. il diags Wireless Eng 10:310-12 Je '33

*See also*

**Oscillators****RADIO—Keith-Orpheum company**

- R-K-O in receivership. Barron's 13:25 Ja 30 '33

**RADIO laws and regulations**

- American vs. British system of radio control. E. C. Buehler, comp. Ref Shelf v 8, no 10:1-361 [bibliog p25-50] '33
- British system of radio control. (In University debaters' annual, 1932-1933). E. M. Phelps, ed. p97-132 [bibliog p128-32] Wilson, H. W. '33
- Debate handbook on radio control and operation. B. Aly and G. D. Shively, eds. 224p [bibliog p5-43] Staples pub. co, Columbia, Mo. '33
- Liability of broadcasting company. Bradstreet's 60:1493 N 12 '32
- Pending conflict between state and federal regulation; the radio, air, motor, and pipeline services. A. H. Uhm. Pub Util 12:524-9 O 26 '33
- Le régime juridique de la T.S.F. en France. A. Mestre. Génie Civil 102:93-4 Ja 28 '33
- Some aspects of radio law. J. W. Wright. Inst Radio Eng Proc 21:1574-85 N '33

**Bibliography**

- Educational broadcasting. R. Lingel. 162p pa \$1.50 Univ. of Chicago press '32

**RADIO listeners**

- Report of a research into the attitudes and habits of radio listeners. C. Kirkpatrick. 63p Webb book pub. co, St Paul, Minn. '33

**RADIO loud speakers**

- Acoustical performance of a cone-type loudspeaker. D. A. Oliver. bibliog diag Wireless Eng 10:420-9 Ag '33
- Amplification of transients. C. H. Smith. diags Wireless Eng 10:296-8 Je '33
- Amplitude of loud speaker diaphragms at low frequencies. N. W. McLachlan. diags Wireless Eng 10:375-80 Jl '33
- Extending loudspeaker range. J. S. Grant. il diag Radio N 14:463+ F '33
- How loud speakers might be improved; discussion. Elec R (Lond) 111:817-18 D 2 '32
- Piezo-electric loud speaker for the higher audio frequencies. S. Ballantine. il diags Inst Radio Eng Proc 21:1399-1408 O '33
- Vibrations of a coil-driven paper cone. F. R. W. Strafford. Wireless Eng 10:141 Mr '33; Discussion. 10:204, 313 Ap, Je '33

**RADIO measurements**

- Accurate voltage measurements in high resistance circuits. V. K. Ulrich. diag Radio N 14:726 Je '33
- Attenuation of overland radio transmission in the frequency range 1.5 to 3.5 megacycles per second. C. N. Anderson. Inst Radio Eng Proc 21:1447-62 O '33
- Attenuation of transmission lines. M. J. O. Strutt. Wireless Eng 10:139-40 Mr '33
- Automatic field strength and static recorder. W. W. Mutch. diags Inst Radio Eng Proc 20:1914-19 D '32

- Continuous recorder of radio field intensities. K. A. Norton and S. E. Reymer. diags pl U S Bur Stand J Research 11:373-8 S '33
- Dynamic measurement of electron tube coefficients. W. N. Tuttle. il diags Inst Radio Eng Proc 21:844-57 Je '33
- Ellipse diagram of a Lecher wire system. A. Hikosaburo. Inst Radio Eng Proc 21:303-11 F '33
- Experiments on electromagnetic shielding frequencies between one and thirty kilocycles. W. Lyons. il diags Inst Radio Eng Proc 21:574-90 Ap '33
- Frequency measurements at radio frequencies. 80p General radio co, Cambridge, Mass. '33
- Graphical determination of performance of push-pull audio amplifiers. B. J. Thompson. diags Inst Radio Eng Proc 21:591-600 Ap '33
- Low-frequency radio receiving measurements at the Bureau of standards in 1931 and 1932. E. B. Judson. Inst Radio Eng Proc 21:1354-63 S '33
- Measurement of the frequency of ultra-radio waves. J. B. Hoag. diags Inst Radio Eng Proc 21:29-36 Ja '33
- Measuring resistances. W. A. Barclay. Wireless Eng 10:552-5 O '33
- Method of calculation of field strengths in high-frequency radio transmission. S. Namba and T. Tsukada. charts Inst Radio Eng Proc 21:1003-28 [bibliog p1028] Jl '33
- Method of measuring the self-capacitance of coils. M. G. Scroggie. diags Wireless Eng 10:477-9 S '33
- Modifications in the new impedance measuring set. A. T. Starr. diags Wireless Eng 10:609-11 N '33
- New radiofrequency phase meter. R. R. Law. diag R Sci Instr 4:537-9 O '33
- Optical behavior of the ground for short radio waves. C. E. Feldman. il Inst Radio Eng Proc 21:764-801 [bibliog p800-1] Je '33
- Pocket diagnetometer. D. L. Van Leuven. il diags Radio N 14:290-1+, 475-6+ N '32, F '33
- Propagation of waves below ten meters in length. B. Trevor and P. S. Carter. Inst Radio Eng Proc 21:387-426 Mr '33
- Radiation characteristics of a vertical half-wave antenna. J. A. Stratton and H. A. Chinn. diags Inst Radio Eng Proc 20:1892-1913 D '32
- Radio-frequency bridge for impedance and power-factor measurements. D. W. Dye and T. I. Jones. bibliog diags Inst E E J 72:169-81 F '33
- Radio measurements; the application of the decibel system. N. Wells. Elec R (Lond) 111:736-7 N 18 '32
- Recording field strength; equipment used by the British broadcasting corp. for automatic measurement. C. H. Smith. il diag Wireless Eng 10:14-18 Ja '33
- Simple method for finding mutual conductance. G. E. Fleming. il diags Radio N 14:482+ F '33
- Simplification of accurate measurement of radio-frequency. W. H. F. Griffiths. il diag Wireless Eng 10:239-47, 299-306 My-Je '33
- Some characteristics of ultra-high-frequency transmission. H. Muyskens and J. D. Kraus. il map Inst Radio Eng Proc 21:1302-16 S '33
- Superregenerative wave meter for ultra-short waves. A. Ataka. diag Inst Radio Eng Proc 21:1590-2 N '33
- Supervisory and control equipment for audio-frequency amplifiers. H. Sohon. bibliog diags Inst Radio Eng Proc 21:228-37 F '33
- Ultra-short-wave propagation. J. C. Schelleng, C. R. Burrows and E. E. Ferrell. bibliog il map Inst Radio Eng Proc 21:427-63 Mr '33; Same. Bell System Tech J 12:125-61 Ap '33

*See also*

**Radio frequency  
Radio instruments****RADIO modulation**

- Application of transformer coupled modulators. J. A. Hutcheson. il diags Inst Radio Eng Proc 21:944-57 Jl '33



**RADIO modulation—Continued**

- Demodulation under practical conditions. M. V. Callendar. diags Wireless Eng 10:480-3 S '33
- Frequency modulation and the effects of a periodic capacity variation in a nondissipative oscillatory circuit. W. L. Barrow. bibliog Inst Radio Eng Proc 21:1182-1202 Ag '33
- Modulation frequencies in visual transmission. E. L. White. Inst Radio Eng Proc 21:51-5 Ja '33
- Modulation products in a power law modulator. A. G. Tynan. Inst Radio Eng Proc 21:1203-9 Ag '33
- New results in the calculation of modulation products. W. R. Bennett. Bell System Tech J 12:228-43 Ap '33
- Side bands in frequency modulation. E. D. Scott and J. R. Woodyard. il diags Washington U Eng Exp Sta Bul 68:5-24 '33
- Some notes on demodulation. H. Roder. diags Inst Radio Eng Proc 20:1946-61 D '32
- Superposition of two modulated radio frequencies. H. Roder. Inst Radio Eng Proc 20:1962-70 D '32

**RADIO operators**

- Radio operating questions and answers. A. R. Nilson and J. L. Hornung. 5th ed 389p \$2.50 McGraw-Hill '33
- S.O.S.; ship radio operator's experience in aiding in rescue of crew from disabled ship. F. Petraglia. il Radio N 14:647-9+ My '33
- Some important hints in learning the code. W. H. Candler. il Radio N 14:468-9 F '33

**RADIO operators, Amateur**

- Opportunity for code practice at home. G. Fraser. il Radio N 14:719+ Je '33

**RADIO programs. See Newspapers—Radio programs; Radio broadcasting—Programs****RADIO receiving apparatus**

- Design principles of long-distance receivers for the broadcast band. C. H. Long. Radio N 14:532-3+, 596-7+, 656-7+, 716-18+; 15:22-3+ Mr-Jl '33
- Le X<sup>e</sup> salon de la T.S.F. (Paris, 6-17 septembre 1933). M. Adam. il diags Génie Civil 103:305-7 S 23 '33
- Engineering acoustics; radio receiver auxiliaries. Electrician 110:519-20 Ap 21 '33
- Ferrocart coils. il Electrician 110:498 Ap 14 '33
- Further note upon the pentode with capacitive coupling. L. G. A. Sims. diags Wireless Eng 9:673-9 D '32
- High-quality ribbon receiver. H. F. Olson and F. Massa. il diags Inst Radio Eng Proc 21:673-81 My '33
- How to build the Economy eight. H. L. Short. il diags Radio N 14:404-5+ Ja '33
- How to build your own shielded lead-in system. H. J. Adler. diags Radio N 15:148-9+ S '33
- Lissen unit having a four-way coil. Electrician 110:524-5 Ap 21 '33
- Low-frequency radio receiving measurements at the Bureau of standards in 1931 and 1932. E. B. Judson. Inst Radio Eng Proc 21:1354-63 S '33
- Outline of the action of a tone corrected highly selective receiver. E. B. Moullin. Inst Radio Eng Proc 21:1252-64 S '33
- Les progrès réalisés dans les postes récepteurs de T. S. F. alimentés directement et entièrement sur les secteurs alternatifs d'éclairage. F. de Béville. Soc Ing Civils Bul 85:735-42 My '32
- Radio and movies synchronized. il diag Sci Am 149:82+ Ag '33
- Radio construction and repairing including the television receiver. J. A. Moyer and J. F. Wostrel. 4th ed 444p \$2.50 McGraw-Hill '33
- Radio receiver clocks; useful adjunct to a wireless set. il Electrician 111:475 O 20 '33
- Service data for service men; diagrams. Radio N 14:479, 541, 680, 739; 15:40, 102, 166, 230 F-Mr, My-O '33
- Servicing receivers by means of resistance measurement. J. F. Rider. 203p Radio treatise co. inc. New York '32

- Single-sideband radio-telephony; abstract. C. J. W. Hill and H. Page. Elec R (Lond) 112:157-8 F 3 '33
- Technical and operating data on modern receiver performance; Sparton Triolian model 28. il diag Radio N 15:38-9+ Jl '33
- Theoretical and experimental investigation of high selectivity tone-corrected receiving circuits. F. M. Colebrook. (Great Britain radio research board special report no 12) 69p H. M. stationery office, London '32
- Tone correcting amplifiers. G. Prieckenfried. Wireless Eng 10:487-90 S '33
- Use of a diode as a cumulative grid rectifier. E. A. Biedermann. diags Wireless Eng 10:123-33 Mr '33
- Why tin cans in a radio set. J. L. Hurff. diags Elec J 30:364-5+ S '33
- Wireless receivers, the principles of their design. C. W. Oatley. 103p [bibliog p101-2] Methuen & co, ltd, London '32

**See also**

- |                             |                     |
|-----------------------------|---------------------|
| Amplifiers, Vacuum tube     | Radio cabinets      |
| Radio apparatus in industry | Radio detectors     |
|                             | Radio loud speakers |

**Control**

- Automatic volume control. R. W. Minter. Elec R (Lond) 112:446 Mr 31 '33
- Automatic volume control for radio receivers. C. B. Fisher. diags Wireless Eng 10:248-54 My '33
- Remote control for any single dial receiver. H. Georges. il diags Radio N 14:590-1+ Ap '33
- Technical data and circuit design for two new tubes; -58, -46. J. van Lienden. Radio N 14:662-3+ My '33

**Installation on automobiles**

- Car antenna problems tackled in move to better automobile radio. il S A E J 32:sup12-13 Je '33
- Eliminating noise in auto radio installations. Z. Bouck. il Radio N 14:426-7 Ja '33
- Modern auto-radio offers new features. M. J. Sheedy. il diags Radio N 14:412-13+ Ja '33
- Operating tests on a modern auto-radio. S. G. Taylor and J. M. Borst. il Radio N 14:578-9+ My '33
- S-W radio for tow-cars; radio as an adjunct to the garage business. E. M. Hyatt. il diag Radio N 14:398+ Ja '33
- What's new in automobile radio. il Radio N 15:19+, 101+, 178-9 Jl-S '33

**Midget receivers**

- How to build the Junior DX'er. H. L. Short. il diag Radio N 14:528-9+ Mr '33

**Noise**

- Eliminating noise in auto radio installations. Z. Bouck. il Radio N 14:426-7 Ja '33
- Radio noise; its causes, prevention and suggested remedies. E. H. Scott. il Radio N 15:278-9 N '33

**Power supply**

- Analysis of power detection. R. De Cola. diags Inst Radio Eng Proc 21:984-9 Jl '33
- Student's radio physics course. A. A. Ghirardi. Radio N 14:432-3+, 492-3+ Ja-F '33

**Preference testing**

- Is good quality worth while? a psychological test at New York university on individual preferences. E. E. Free. il Radio N 15:140-1+ S '33

**Selectivity**

- Band-pass effect obtained in new i. f. design. K. Clough. il diag Radio N 15:285-6 N '33
- Engineering acoustics. Electrician 110:491-2 Ap 14 '33
- Optimum decrement of tuned circuits for the reception of telephony. D. A. Bell. Wireless Eng 10:371-4 Jl '33

**Short wave**

- A.c.-d.c. universal three-tube S. W. set. W. C. Dorf. il diag Radio N 15:90+ Ag '33
- Crystal controlled short-wave super. F. H. Jones. il diags Radio N 15:204-5+, 280-1+, 346-7+ O-D '33

**RADIO receiving apparatus—Short wave—Cont.**

- Design features of new Lincoln R-9 commercial type S-W super. il diag Radio N 14: 610-11+, 676-7+ Ap-MY '33
- Designing and testing a commercial short-wave super. J. Millen. il diag Radio N 14: 546-7+ Mr '33
- Discover five. C. E. Denton. il diags Radio N 15:76-7+ Ag '33
- Don Wallace's two-tube S. W. set. B. J. Montyn. il diag Radio N 15:78+ Ag '33
- Effective s.w. antenna for reducing interference. A. H. Lynch. il diags Radio N 14:396-7+ Ja '33
- Getting the most out of the short waves. A. J. Green. il Radio N 15:142-3+ S '33
- Handy two tube portable S-W receiver. B. J. Montyn. diag Radio N 15:28+ JI '33
- How to build a five meter receiver. G. W. Ray. il diags Radio N 15:206-7+ O '33
- Improved Don Wallace s. w. receiver. B. J. Montyn. il diags Radio N 15:213+ O '33
- International nine short-wave receiver. W. C. Dorf. il diag Radio N 15:277+ N '33
- New short-wave design. S. G. Taylor and W. C. Dorf. il diag Radio N 14:414-16+ Ja '33
- One-month's tests on a new seven tube short-wave super; National FB-7. il diags Radio N 15:211-12+ O '33
- Short wave Master 6. H. L. Short and F. Lester. il diag Radio N 15:86-7+ Ag '33

**Superheterodyne**

- Achievement in low-cost all-wave super design. S. G. Taylor and W. C. Dorf. il diag Radio N 14:544-5+, 614+ Mr-Ap '33
- Band-pass effect obtained in new i. f. design. K. Clough. il diag Radio N 15:285-6 N '33
- Build this low cost superhet; the Air Marshall. H. L. Shortt. il Radio N 15:343+ D '33
- Complete data on how to build the new super six midget. C. B. Brown and K. Alexander. il diags Radio N 14:464-5+ F '33
- Crystal controlled short-wave super. F. H. Jones. il diags Radio N 15:204-5+, 280-1+, 346-7+ O-D '33
- Design features of new Lincoln R-9 commercial type S-W super. il diag Radio N 14: 610-11+, 676-7+ Ap-MY '33
- Designing and testing a commercial short-wave super. J. Millen. il diag Radio N 14: 546-7+ Mr '33
- How to build the Junior DX'er. H. L. Short. il diag Radio N 14:528-9+ Mr '33
- Improved 15-250 meter super. S. G. Taylor and W. C. Dorf. il Radio N 14:418+, 483-4+ Ja-F '33
- Improved i.f. transformer design. A. A. Webster. il Radio N 14:674-5+ MY '33
- Improvements in all-wave deluxe super design. S. G. Taylor and J. M. Borst. il diags Radio N 14:542-3+ Mr '33
- International nine short-wave receiver. W. C. Dorf. il diag Radio N 15:277+ N '33
- New fifteen tube all-wave design. M. Silver. il Radio N 14:480-1+ F '33
- 1934 model laboratory-built super. M. Silver. il Radio N 15:287-8+ N '33
- One-month's tests on a new seven tube short-wave super; National FB-7. il diags Radio N 15:211-12+ O '33
- Operating tests on a fifteen tube McMurdo Silver all-wave super. S. G. Taylor and J. M. Borst. il diag Radio N 14:612-13+ Ap '33
- Pentagrid converter. C. L. Lyons. diags Wireless Eng 10:364-9 JI '33
- Screen-grid valve as superhet detector. C. B. Fisher. Wireless Eng 10:541-2 O '33
- Technical and operating data on modern receiver performance; the American Bosch model 260 super. diags Radio N 14:608-9 Ap '33
- Three months' test on a new console receiver; Scott Imperial. il diags Radio N 14:742-4+ Je '33

**Testing**

- A.c.-d.c. line operated test oscillator. K. Clough. il diag Radio N 15:14-15+ JI '33
- How to construct a set tester adapter. L. J. Littman. il diag Radio N 14:408+ Ja '33
- Improving the direct current set tester. B. J. Montyn. il diag Radio N 14:538+ Mr '33

- Modern equipment and technique for servicing receivers. J. Kaufman. il diag Radio N 15: 74-5+, 153+ Ag-S '33
- New service unit simplifies resistance analysis. K. Clough. il diags Radio N 15:236-7 O '33
- Pocket diagnetometer. D. L. Van Leuven. il diags Radio N 14:290-1+, 475-6+ N '32, F '33
- Practical signal generator for servicemen, experimenters and designers. S. Bagno and S. S. Egert. il diags Radio N 15:273-4+ N '33
- Set tester de-luxe. B. J. Montyn. diag Radio N 14:594+ Ap '33

**Tuning**

- Engineering acoustics. diag Electrician 110: 460-1 Ap 7 '33
- Ferro-inductors and permeability tuning. W. J. Polydoroff. il diags Inst Radio Eng Proc 21:690-709 MY '33

**RADIO receiving apparatus, Portable**

- Baby radio. il Fortune 8:64-5 JI '33
- Handy two tube portable S-W receiver. B. J. Montyn. diag Radio N 15:28+ JI '33
- How to build an a.c.-d.c. miniature receiver. H. G. Cisin. il diag Radio N 14:660-1+ MY '33
- Pee-wee radio. C. A. Verschoor. il Ptr Ink 162:3-4+ F 16 '33
- Pee-wee's effect on the radio industry. E. B. Weiss. Ptr Ink 162:6+ F 16 '33

**RADIO reception**

- Continuous recorder of radio field intensities. K. A. Norton and S. E. Reymers. diags pl U S Bur Stand J Research 11:373-8 S '33
- Distortion cancellation in audio amplifiers. W. Baggally. diags Wireless Eng 10:413-19 Ag '33
- How American communications engineers are conquering fading on short waves by diversity reception. M. G. Crosby. il diag Radio N 15:72-3+ Ag '33
- Study of reception from synchronized broadcast stations. C. B. Aiken. bibliog Inst Radio Eng Proc 21:1265-1301 S '33
- Superposition of two modulated radio frequencies. H. Roder. Inst Radio Eng Proc 20:1962-70 D '32
- Theory and practice of tone-correction. F. M. Colebrook. diags Wireless Eng 10:4-12 Ja '33; Discussion W. F. Cope. 10:370 JI '33
- Transoceanic reception of high-frequency telephone signals. R. M. Morris and W. A. E. Brown. map Inst Radio Eng Proc 21:63-80 Ja '33

**See also****Radio detectors****Long distance**

- Facts about DX reception. S. G. Taylor. diag Radio N 14:519-21+ Mr '33
- Short-wave DX reception. W. H. Reeks. Radio N 14:523-4+, 664-5 Mr, MY '33

**RADIO rectifiers**

- Analysis of linear rectification. F. Siemens. Radio N 15:145+ S '33
- New results in the calculation of modulation products. W. R. Bennett. Bell System Tech J 12:228-43 Ap '33
- Theory of the detection of two modulated waves by a linear rectifier. C. B. Aiken. bibliog Inst Radio Eng Proc 21:601-29 Ap '33
- Use of a diode as a cumulative grid rectifier. E. A. Biedermann. diags Wireless Eng 10: 123-33 Mr '33

**RADIO research**

- Inspection of N.P.L. Electrician 111:10-11 JI 7 '33
- National physical laboratory. diags Engineering 134:615-16 N 25 '32
- National physical laboratory report for 1932 summarized. Electrician 110:621-2 MY 12 '33
- Pittsburgh's contributions to radio. S. M. Kintner. Inst Radio Eng Proc 20:1849-62 D '32
- Radio research board; summary of annual report for 1931. Electrician 109:750 D 9 '32; Excerpt. Elec R (Lond) 111:954 D 30 '32
- Unification of radio research facilities in Great Britain. Science 77:576 Je 16 '33



**RADIO signals**

- Civil aviation signal services; considerations affecting the choice of wavelengths. N. F. S. Hecht and H. L. Crowther. *Wireless Eng* 10:596-605 N '33
- Fading radio signals and weather forecasts. R. C. Colwell. *Science* 76:sup9-10 N 18 '32
- Method of providing course and quadrant identification with the radio range-beacon system. F. W. Dunmore. *diags pl U S Bur Stand J Research* 11:309-25 S '33
- Radio echoes from space. I. J. Saxl. *il diags Radio N* 15:134-7+ S '33
- Wireless apparatus for the study of the ionosphere. G. Builder. *bibliog diags Inst E E J* 73:419-36, pl 1-2 O '33

*See also*

- Direction finding apparatus
- Time signals, Radio

**RADIO standards**

- Radio transmissions of standard frequencies. *Inst Radio Eng Proc* 21:516-17 Ap '33

**RADIO stations**

- Consolidated short-wave station list; by wavelength, frequency, call, location and time. *Radio N* 14:351, 411, 477-8; 15:91, 157, 223 D '32-F, Ag-O '33
- Radio call book section; police and fire department stations in the United States. *Radio N* 15:289 N '33
- Radio call book section; television and aircraft stations in the U.S. *Radio N* 15:351 D '33
- Transoceanic radio communication; radio network of R.C.A. communications, inc. H. H. Beverage, C. W. Hansell and H. O. Peterson. *bibliog il map Elec Eng* 52:331-7 My '33

*See also*

- Radio broadcasting stations

**Equipment**

- 12,000-volt direct current motor-generator for Rugby radio station. *il Engineering* 135:25-6 Ja 6 '33
- Wireless equipment of the Manchester air port. *il Engineering* 136:222, 228-9 S 1 '33

**Brazil**

- Police radio equipment; intercommunication and broadcasting service in Brazil. *il Electrician* 111:227 Ag 25 '33

**England**

- 12,000-volt direct current motor-generator for Rugby radio station. *il Engineering* 135:25-6 Ja 6 '33

- Wireless equipment of the Manchester air port. *il Engineering* 136:222, 228-9 S 1 '33

**RADIO stations, Amateur**

- Amateur radio on the short waves. H. P. Roberts. *il Radio N* 15:200-3+ O '33

**RADIO telegraph**

- Admiralty handbook of wireless telegraphy, 1931. 1012p H. M. stationery office, London '32

- Engineering acoustics. *Electrician* 110:652-3, 682-3 My 19-26 '33

- How American communications engineers are conquering fading on short waves by diversity reception. M. G. Crosby. *il diag Radio N* 15:72-3+ Ag '33

- Opportunity for code practice at home. G. Fraser. *il Radio N* 14:719+ Je '33

- Some important hints in learning the code. W. H. Candler. *il Radio N* 14:468-9 F '33

- Transoceanic radio communication; radio network of R.C.A. communications, inc. H. H. Beverage, C. W. Hansell and H. O. Peterson. *bibliog il map Elec Eng* 52:331-7 My '33

*See also*

- |                         |                            |
|-------------------------|----------------------------|
| Amplifiers, Vacuum tube | Radio stations             |
| Electric waves          | Radio transmitters         |
| Radio apparatus         | Telegraph, Carrier current |
| Radio communication     | Vacuum tubes               |
| Radio measurements      |                            |

**RADIO telephone**

- Engineering acoustics. *Electrician* 110:652-3, 682-3; 111:149-50 My 19-26, Ag 4 '33

- Optimum decrement of tuned circuits for the reception of telephony. D. A. Bell. *Wireless Eng* 10:371-4 Jl '33

- Prevention is better than cure; James MacLaren company operates radio communication on the Lievre river. D. E. Bankart. *il Pulp & Pa of Can* 34:281+ Ap '33

- Production and utilization of micro-rays; permanent link between Lympe, England and St. Inglevert, France. A. G. Clavier. *diags Elec Eng* 52:739-40 N '33

- Radio measurements; the application of the decibel system. N. Wells. *Elec R (Lond)* 111:736-7 N 18 '32

- Radio-telephony; several new long distance services opened in 1932. H. Faulkner. *Electrician* 110:109-10 Ja 27 '33

- Side bands in frequency modulation. E. D. Scott and J. R. Woodyard. *il diags Washington U Eng Exp Sta Bul* 68:5-24 '33

- Single side-band system applied to short-wave telephone links. A. H. Reeves. *diags Inst E E J* 73:245-76 S '33; Abstracts. *Electrician* 110:623 My 12 '33; *Elec R (Lond)* 112:631 My 5 '33; Discussion. *Inst E E J* 73:276-9 S '33

- Sir Thomas Purves; a wonderful decade of progress in communications. *Electrician* 109:748-9 D 9 '32

*See also*

- |                         |                            |
|-------------------------|----------------------------|
| Amplifiers, Vacuum tube | Radio receiving apparatus  |
| Radio apparatus         | Radio stations             |
| Radio broadcasting      | Telephone, Carrier current |
| Radio communication     | Vacuum tubes               |

**Police uses**

- Municipal police radio stations in the United States. *Radio N* 14:478 F '33

- Police radio equipment; intercommunication and broadcasting service in Brazil. *il Electrician* 111:227 Ag 25 '33

- Radio call book section; police and fire department stations in the United States. *Radio N* 15:289 N '33

- Radio patrol system of the city of New York. F. W. Cunningham and T. W. Rochester. *il map Inst Radio Eng Proc* 21:1239-51 S '33

**Secrecy**

- Engineering acoustics; telephonic secrecy. *Electrician* 110:801-2 Je 16 '33

**Transoceanic**

- Engineering acoustics; telephonic secrecy. *Electrician* 110:801-2 Je 16 '33

- Single-sideband radio-telephony; abstract. C. J. W. Hill and H. Page. *Elec R (Lond)* 112:157-8 F 3 '33

- Transoceanic reception of high-frequency telephone signals. R. M. Morris and W. A. R. Brown. *map Inst Radio Eng Proc* 21:63-80 Ja '33

**RADIO telephone on ships**

- North Atlantic ship-shore radiotelephone transmission during 1930 and 1931. C. N. Anderson. *diags Inst Radio Eng Proc* 21:81-101 Ja '33

- Telephone goes to sea; phoning from the fishing fleet. C. W. Tucker. *il Sci Am* 148:98-9 F '33

- Telephone system for harbor radio. W. K. St. Clair. *il diags Radio N* 15:10-11+ Jl '33

**RADIO towers**

- Funktürme aus holz in Wiederau bei Leipzig. F. Herbst. *il diags Zeit Ver Deutsch Ing* 76:1209-12 D 10 '32

- Radio tower 878 ft. high built at Nashville, Tenn. *il Eng N* 110:91 Ja 19 '33

**RADIO transformers**

- Band-pass effect obtained in new i. f. design. K. Clough. *il diag Radio N* 15:285-6 N '33

- Engineering acoustics. *Electrician* 111:346-7, 390-1, 418-19 S 22-O 6 '33

**RADIO transformers—Continued**

Improved i.f. transformer design. A. A. Webster. *il Radio N* 14:674-5+, 740-1+ My-Je '33

Push-pull amplification; Radio Instruments transformer. *il Electrician* 110:200 F 10 '33

**RADIO transmission**

Attenuation of overland radio transmission in the frequency range 1.5 to 3.5 megacycles per second. C. N. Anderson. *Inst Radio Eng Proc* 21:1447-62 O '33

Continuous measurements of the virtual heights of the ionosphere. T. R. Gilliland. pls diag U S Bur Stand J Research 11:141-6 J1 '33; Same. *Inst Radio Eng Proc* 21:1463-75 O '33

Cyclones, anticyclones and the Kennelly-Heaviside layer. R. C. Colwell. *diags Inst Radio Eng Proc* 21:721-5 My '33

Demodulation under practical conditions. M. V. Callendar. *diags Wireless Eng* 10:480-3 S '33

Eclipse and radio. S. Kaufman. *il Radio N* 14:457-9+ F '33

Engineering acoustics; arrays of radiators. *Electrician* 111:149-50 Ag 4 '33

Existence of more than one ionised layer in the upper atmosphere. G. Builder. *bibliog il Wireless Eng* 9:667-72 D '32

General theory on the propagation of radio waves in the ionized layer of the upper atmosphere. S. Namba. *bibliog Inst Radio Eng Proc* 21:238-62 F '33

Ionizing effect of meteors in relation to radio propagation. A. M. Skellett. *Inst Radio Eng Proc* 20:1933-40 D '32

Low-frequency radio receiving measurements at the Bureau of standards in 1931 and 1932. E. B. Judson. *Inst Radio Eng Proc* 21:1354-63 S '33

Magneto-ionic theory. J. A. Ratcliffe. *Wireless Eng* 10:354-63 J1 '33

Method for calculating transmission properties of electrical networks consisting of a number of sections. A. Alford. *Inst Radio Eng Proc* 21:1210-20 Ag '33

North Atlantic ship-shore radiotelephone transmission during 1930 and 1931. C. N. Anderson. *diags Inst Radio Eng Proc* 21:81-101 Ja '33

Observations in transmission during the solar eclipse of August 31, 1932. J. R. Martin and S. W. McCuskey. *il diags map Inst Radio Eng Proc* 21:567-73 Ap '33

Observations of Kennelly-Heaviside layer heights during the Leonid meteor shower of November, 1931. J. P. Schafer and W. M. Goodall. *Inst Radio Eng Proc* 20:1941-5 D '32

Observations of the effective height of the Kennelly-Heaviside layer and field intensity during the solar eclipse of August 31, 1932. G. W. Kenrick and G. W. Pickard. *il Inst Radio Eng Proc* 21:546-66 Ap '33

Optical behavior of the ground for short radio waves. C. B. Feldman. *il Inst Radio Eng Proc* 21:764-801 [bibliog p800-1] Je '33

Propagation of waves below ten meters in length. B. Trevor and P. S. Carter. *Inst Radio Eng Proc* 21:387-426 Mr '33

Propagation of waves of 150 to 2000 kilocycles per second (2000 to 150 meters) at distances between 50 and 2000 kilometers. B. van der Pol and others. *Inst Radio Eng Proc* 21:996-1002 [bibliog p1001-2] J1 '33

Radiation resistance of concentric conductor transmission lines. R. Whitmer. *Inst Radio Eng Proc* 21:1343-53 S '33

Radio echoes from space. I. J. Saxl. *il diags Radio N* 15:134-7+ S '33

Report of committee on radio propagation data. *Inst Radio Eng Proc* 21:1419-38 O '33

Short-wave transmission to South America. C. R. Burrows and E. J. Howard. *il Inst Radio Eng Proc* 21:102-13 Ja '33; Same. *Elec Eng* 52:529-31 Ag '33

Some long-distance transmission phenomena of low-frequency waves. E. Yokoyama and I. Tanimura. *Inst Radio Eng Proc* 21:263-70 F '33

Some results of a study of ultra-short-wave transmission phenomena. C. R. Englund, A. B. Crawford and W. W. Mumford. *il maps Inst Radio Eng Proc* 21:464-92 Mr '33; Same. *Bell System Tech J* 12:197-227 Ap '33

Study of the propagation of wavelengths between three and eight meters. L. F. Jones. *il diags Inst Radio Eng Proc* 21:349-86 Mr '33

Transmission curves of high-frequency networks. S. J. Model. *diags Inst Radio Eng Proc* 21:114-43 Ja '33; Correction. 21:1238 S '33

Transoceanic reception of high-frequency telephone signals. R. M. Morris and W. A. R. Brown. *map Inst Radio Eng Proc* 21:63-80 Ja '33

Travel of wireless waves; abstracts. F. Smith. *Engineering* 135:494-5 My 5 '33; *Electrician* 110:581-2 My 5 '33; *Elec R (Lond)* 112:631-2 My 5 '33; *Engineer* 155:454-5 My 5 '33; *Wireless Eng* 10:317 Je '33

Ultra-short-wave propagation. J. C. Schelleng, C. R. Burrows and E. B. Ferrell. *bibliog il map Inst Radio Eng Proc* 21:427-63 Mr '33; Same. *Bell System Tech J* 12:125-61 Ap '33

See also

Kennelly-Heaviside layer      Radio transmitters  
layer      Radio waves

**Fading**

Fading radio signals and weather forecasts. R. C. Colwell. *Science* 76:sup9-10 N 18 '32

How American communications engineers are conquering fading on short waves by diversity reception. M. G. Crosby. *il diag Radio N* 15:72-3+ Ag '33

**Tables, calculations, etc.**

Graphical methods for problems involving radio-frequency transmission lines. H. Roder. *bibliog Inst Radio Eng Proc* 21:290-302 F '33

Method of calculation of field strengths in high-frequency radio transmission. S. Namba and T. Tsukada. *charts Inst Radio Eng Proc* 21:1003-28 [bibliog p1028] J1 '33

**RADIO transmitters**

Airport radio transmitter. E. M. Knott. *il Aviation Eng* 7:22-3 D '32

Application of transformer coupled modulators. J. A. Hutcheson. *il diags Inst Radio Eng Proc* 21:944-57 J1 '33

Balancing and stabilizing of high-frequency amplifiers, with special reference to power amplifiers for radio transmitters. W. Ure, E. J. Grainger and H. R. Cantelo. *diags Inst E E J* 72:528-43 Je '33; Abstract. *Wireless Eng* 10:259-60 My '33; Discussion. *Inst E E J* 72:543-6 Je '33; *Wireless Eng* 10:261 My '33

B.B.C. long-wave station. *il Electrician* 110:63 Ja 20 '33; *Engineer* 155:75-6 Ja 20 '33; *Elec R (Lond)* 112:100 Ja 20 '33

Frequency doubling in a triode vacuum tube circuit. C. E. Smith. *diags Inst Radio Eng Proc* 21:37-50 Ja '33

Low power radio transmitters for broadcasting. A. W. Kishpaugh and R. E. Coram. *il diags Inst Radio Eng Proc* 21:212-27 F '33

R.f. amplifiers for amateur transmitters. E. M. Glaser. *il diags Radio N* 14:530-1+ Mr '33

Radio-range transmitters guide traffic of the air. F. S. Mabry. *diags Elec J* 30:333-5 Ag '33

Radio transmitter for the itinerant flyer. J. B. Bishop. *il diag Aviation Eng* 8:19-20 Mr '33

Telephone system for harbor radio. W. K. St Clair. *il diags Radio N* 15:10-11+ J1 '33

West regional broadcasting station. *il Engineering* 135:542-4 My 19 '33

**Power supply**

Determination of grid driving power in radio-frequency power amplifiers. H. P. Thomas. *diags Inst Radio Eng Proc* 21:1134-41 Ag '33

Radio power from high-voltage rectifiers. N. Kotschubey. *il diags Elec W* 102:303-9 S 2 '33



## RADIO transmitters—Continued

## Short wave

- Broadcasting on 7.85 metres; experimental work in Amsterdam. P. J. H. A. Nordlohne. bibliog *il* Wireless Eng 10:186-96 Ap '33  
 How to build a five meter transmitter. G. W. Ray. *il* diags Radio N 15:344-5+ D '33  
 Micro radio waves; recent experimental work. G. Marconi. *il* diags Electrician 110:3-6 Ja 6 '33

## Testing

- Life test power supply utilizing thyatron rectifiers. H. W. Lord. *il* diags Inst Radio Eng Proc 21:1097-1102 Ag '33

## RADIO waves

- Beamcasting with ultra-short waves at Century of progress. Can Min J 54:411-12 O '33  
 Electrical disturbances apparently of extra-terrestrial origin. K. G. Jansky. diags Inst Radio Eng Proc 21:1387-98 O '33  
 Ellipse diagram of a Lecher wire system. A. Hikosaburo. Inst Radio Eng Proc 21:303-11 F '33  
 Engineering acoustics; antennæ for electromagnetic radiation. Electrician 110:708-9 Je 2 '33  
 Fourier analysis of radio-frequency power amplifier wave forms. L. B. Hallman, Jr. Inst Radio Eng Proc 20:1640-59 O '32; Discussion. 21:726-31 My '33  
 General theory on the propagation of radio waves in the ionized layer of the upper atmosphere. S. Namba. bibliog Inst Radio Eng Proc 21:238-62 F '33  
 Hearing radio from the stars. K. G. Jansky. Elec W 102:521 O 21 '33  
 Limiting polarization of downcoming radio waves traveling obliquely to the earth's magnetic field. W. G. Baker and A. L. Green. diags Inst Radio Eng Proc 21:1103-31 Ag '33  
 Magneto-ionic theory. J. A. Ratcliffe. Wireless Eng 10:354-63 Jl '33  
 Measurement of the frequency of ultra-radio waves. J. B. Hoag. diags Inst Radio Eng Proc 21:29-36 Ja '33  
 New field of application for ultra-short waves. E. Kramar. bibliog *il* diags Inst Radio Eng Proc 21:1519-31 N '33  
 Optical behavior of the ground for short radio waves. C. B. Feldman. *il* Inst Radio Eng Proc 21:764-801 [bibliog p800-1] Je '33  
 Production of ultra-short-wave oscillations with cold-cathode discharge tubes. K. Okabe. diags Inst Radio Eng Proc 21:1593-8 N '33  
 Propagation of waves below ten meters in length. B. Trevor and P. S. Carter. Inst Radio Eng Proc 21:387-426 Mr '33  
 Propagation of waves of 150 to 2000 kilocycles per second (2000 to 150 meters) at distances between 50 and 2000 kilometers. B. van der Pol and others. Inst Radio Eng Proc 21:996-1002 [bibliog p 1001-21] Jl '33  
 Radiation and induction. R. R. Ramsey. Inst Radio Eng Proc 21:1586-9 N '33  
 Some characteristics of short wave propagation. J. Hollingworth. *il* Inst E E J 72:229-48 Mr '33; Abstracts. Electrician 109:810 D 23 '32; Elec R (Lond) 111:854 D 9 '32; Wireless Eng 10:89-90 F '33; Discussion. Inst E E J 72:249-51 Mr '33; Wireless Eng 10:90 F '33  
 Some long-distance transmission phenomena of low-frequency waves. E. Yokoyama and I. Tanimura. Inst Radio Eng Proc 21:263-70 F '33  
 Study of the propagation of wavelengths between three and eight meters. L. F. Jones. *il* diags Inst Radio Eng Proc 21:349-86 Mr '33  
 Superregenerative wave meter for ultra-short waves. H. Ataka. diag Inst Radio Eng Proc 21:1590-2 N '33  
 Theory of the detection of two modulated waves by a linear rectifier. C. B. Aiken. bibliog Inst Radio Eng Proc 21:601-29 Ap '33  
 Tilt of radio waves and their penetration into the earth; editorial. diag Wireless Eng 10:587-91 N '33

Travel of wireless waves; abstracts. F. Smith. Engineering 135:494-5 My 5 '33; Electrician 110:581-2 My 5 '33; Elec R (Lond) 112:631-2 My 5 '33; Engineer 155:454-5 My 5 '33; Wireless Eng 10:317 Je '33

Ultra-short-wave propagation. J. C. Schelleng, C. R. Burrows and E. B. Ferrell. bibliog *il* map Inst Radio Eng Proc 21:427-63 Mr '33; Same. Bell System Tech J 12:125-61 Ap '33

Wireless apparatus for the study of the ionosphere. G. Builder. bibliog diags Inst E E J 73:419-36, pl 1-2 O '33

## See also

Electric waves

## Physiological effect

Heating effect of very high frequency condenser fields on organic fluids and tissues. J. W. Schereschewsky. bibliog diags Pub Health Rep 48:844-58, pl 1-2 Jl 21 '33  
 Physiological effects of radio waves. J. L. Donnelly. Science 78:290 S 29 '33

## RADIO waves as insecticide

Radio waves kill insect pests. J. H. Davis. *il* Sci Am 148:272-3 My '33; Abstract. Elec J 30:200 My '33

## RADIOACTIVE substances

Adsorption of thorium B and thorium C from solution. J. F. King and A. Romer. bibliog J Phys Chem 37:663-73 Je '33

Discovery of the elements; the radio-active elements. M. E. Weeks. *il* J Chem Educ 10:79-90 [bibliog p88-90] F '33

From the ponderable to the imponderable. O. Hahn. Science 77:402-3 Ap 28 '33

Les gisements de minerais de radium autres que ceux du Congo. Génie Civil 103:410-11 O 21 '33

Half-life of actinouranium and the problem of geologic time. F. Western and A. E. Ruark. Phys R 44:675-81 O 15 '33

Health aspects of radium dial painting. L. Schwartz, F. L. Knowles and others. bibliog *il* J Ind Hygiene 15:362-82 S '33

More radioactive elements. K. K. Darrow. R Sci Instr 4:328-9 Je '33

Origin of the actinium series of radioactive elements. A. v. Grosse. bibliog Phys R 42:565-70 N 15 '32

Radioactive families. E. R. Bishop. bibliog Phys R 43:38-42 Ja 1 '33

## See also

Radium  
 Radon  
 Thorium

Uraninite  
 Uranium

## RADIOACTIVITY

Beryllium atoms proved radioactive. R. M. Langer and R. Raitt. Science 77:sup6 Mr 24 '33

Electro-physics; a review of progress. N. R. Campbell. Inst E E J 72:158-9 F '33

Exponential law of radioactive disintegration. A. E. Ruark. Phys R 44:654-6 O 15 '33

Failure to detect radioactivity in beryllium with the linear amplifier. R. D. Evans and M. C. Henderson. Phys R 44:59 Jl 1 '33

Failure to detect the radioactivity of beryllium with the Wilson cloud chamber. D. M. Gans, W. D. Harkins and H. W. Newson. Phys R 44:310 Ag 15 '33

New kind of radioactivity. R. M. Langer and R. W. Raitt. Phys R 43:585 Ap 1 '33

Radioactivity and the light nuclei; abstract. R. M. Langer and R. W. Raitt. Science 77:495 My 19 '33

Radioactivity of lanthanum, neodymium and samarium. W. F. Libby and W. M. Latimer. Am Chem Soc J 55:433 Ja '33

Radium-water generators. H. Schlundt, R. G. Fulton and F. Bruner. bibliog diags J Chem Educ 10:185-7 Mr '33

## See also

Alpha rays  
 Electrons  
 Gamma rays  
 Ionization, Gaseous

Radiography  
 Radium  
 Thorium  
 X rays

**RADIOCHEMISTRY**

Efficiency of carbon dioxide as a radio-chemical catalyst; acetylene polymerization and water synthesis. C. Rosenblum. *bibliog* J Phys Chem 37:53-8 Ja '33

**RADIOGRAPHY**

Decade of applied X-ray research. G. L. Clark. *il diag Soc Chem Ind J (Chem & Ind)* 52:317-25, 335-46 Ap 14-21 '33

Die entwicklung der Röntgenröhre in ihrer bedeutung für wissenschaft und technik. W. Gerlach. *il diags Chemische Fabrik* 6:419-26 O 11 '33

For testing castings, forgings, welds, navy uses rays from radium. C. S. Barrett. *il Heating-Piping* 5:208-9 Ap '33

Gamma ray radiographic testing. G. E. Doan. *il diags J Fr Inst* 216:183-216, 351-85 [bibliog p384-5] Ag-S '33

Gamma rays to insure internal soundness. D. Lewis. *il Metal Prog* 24:29-31 Jl '33

Making radiographic inspections of chemical equipment. H. R. Isenburger. *il diag Chem Met Eng* 40:130-2 Mr '33

Methods and equipment for study of metal structures are improved; discussion at annual meeting of the American society for steel treating. *Steel* 93:43 O 23 '33

New X-ray process may materially cut down tuberculosis mortality. *il East Underw* 34:8 Mr 10 '33

Photography works for industry. F. C. Ellis. *il Sci Am* 149:70-2 Ag '33

Quantitative analysis of calcite-aragonite mixtures by X-rays. E. G. Cox and T. H. Goodwin. *Soc Chem Ind J (Chem & Ind)* 52:172 Mr 3 '33

Radiographic examination of pressure vessel welds; Babcock & Wilcox co. R. E. Hiller. *il diags Iron Age* 131:736-9 My 11 '33

Radium in engineering practice. V. E. Pullin. *Inst Mech Eng Proc* 124:305-22, pl 1-24 [bibliog p322] '33; Same. *Engineer* 155:304-6 Mr 24 '33; Same. *Engineering* 135:340-2, pl 22 Mr 24 '33; Abstract. *Elec R (Lond)* 112:448 Mr 31 '33; Discussion. *Inst Mech Eng Proc* 124:323-32 '33; *Engineer* 155:302 Mr 24 '33; *Engineering* 135:335-6 Mr 24 '33

Rapid-fire weapon to fight tuberculosis; new machine for taking X ray pictures. *il Sci Am* 149:215 N '33

Roentgenological aspects of pneumoconiosis and its medico-legal importance. H. K. Pancoast and E. P. Pendergrass. *il J Ind Hygiene* 15:117-35 [bibliog p134-5] My '33

Röntgenprüfung von eisen und stahl. F. Wever. *il diags Stahl & Eisen* 53:497-505 My 11 '33

Röntgen-tagung des Eisenhüttenmännischen instituts der technischen hochschule in Berlin. *il Stahl & Eisen* 53:535-41 My 18 '33

X-ray and gamma-ray inspection as used in ship construction. H. R. Isenburger. *bibliog il Marine Eng* 38:137-9, 148 Ap '33

X-ray in examination of welded pressure vessels. J. H. Goolsby. *il diags Refrig Eng* 25:134-9+ Mr '33

X-ray interpretation of fibre structure. W. T. Astbury. *bibliog diag pl Soc Dyers & Col J* 49:168-79; Discussion. 179-80 Je '33

X-rays' place in the non-ferrous metal industry. H. R. Isenburger. *il Metal Ind* 31:121-2 Ap '33

*See also*

Metals—X ray inspection

**RADIOMETERS**

Brownian motion of the resonance radiometer. G. A. Van Lear, jr. *bibliog R Sci Instr* 4:21-7 Ja '33

Measurement of the spectrum photographs of stars. *Science* 77:sup8 Mr 10 '33

Radiometric condenser; the control of oscillating circuits by radiant heat. G. G. Blake. *il diags Elec R (Lond)* 112:43-4 Ja 13 '33

Ultra short waves; 60 cm. zero-shunt circuit—new methods for measurement—control by radiometric condensers and inductances. G. G. Blake. *bibliog diags Electrician* 111:279-80 S 8 '33

*See also*

Kamptometer

**RADIOTHERAPY**

*See also*

Ultra-violet rays—Physiological effect

**RADIOTRONS**

Direct-current amplifier with good operating characteristics. A. H. Taylor and G. P. Kerr. *diag R Sci Instr* 4:28-32 Ja '33

**RADIUM**

Les gisements de minerais de radium autres que ceux du Congo. *Génie Civil* 103:410-11 O 21 '33

Radium-bearing ore in Canada to be developed. *Oil Paint & Drug Rep* 123:22 Ja 23 '33

Radium content of ocean-bottom sediments. C. S. Piggot. *il map Am J Sci* 5th ser 25:229-38 Mr '33

Radium extraction in Canada. *Chem Age (Lond)* 28:53, 119 Ja 21, F 11 '33

Radium in engineering practice. V. E. Pullin. *Inst Mech Eng Proc* 124:305-22, pl 1-24 [bibliog p322] '33; Same. *Engineer* 155:304-6 Mr 24 '33; Same. *Engineering* 135:340-2, pl 22 Mr 24 '33; Abstract. *Elec R (Lond)* 112:448 Mr 31 '33; Discussion. *Inst Mech Eng Proc* 124:323-32 '33; *Engineer* 155:302 Mr 24 '33; *Engineering* 135:335-6 Mr 24 '33

Radium isotopes. E. R. Bishop and C. B. Dollins. *Phys R* 43:48 Ja 1 '33

Symposium on pitchblende and radium. R. J. Traill; M. Haycock; W. R. McClelland. *Soc Chem Ind J (Chem & Ind)* 51:1034-5 D 16 '32; *Can Chem & Met* 17:9 Ja '33

*See also*

Gamma rays

**Analysis**

Direct fusion method for determining the radium content of rocks. R. D. Evans. *diags R Sci Instr* 4:223-30 Ap '33

Technique for the determination of the radioactive content of liquids. R. D. Evans. *il diags R Sci Instr* 4:216-22 Ap '33

**Therapeutic use**

Birthmarks treated by radium. *Science* 78:sup8 S 29 '33

Elementary handbook on radium and its clinical use. D. F. Clephan and H. M. Hill. 164p \$2 Oxford '33

Recent advances in radium. W. R. Ward and A. J. D. Smith. 324p \$5 Blakiston '33

**RADIUM poisoning**

Health aspects of radium dial painting. L. Schwartz, F. L. Knowles and others. *bibliog il J Ind Hygiene* 15:362-82, 433-55 S, N '33

Poisoning from drinking radium water; abstract. A. O. Gettler and C. Norris. *J Ind Hygiene* 15:sup69 Jl '33

**RADON**

Action of radon on some unsaturated hydrocarbons; vinylacetylene and butadiene. G. B. Heisig. *bibliog Am Chem Soc J* 55:2304-11 Je '33

Apparatus for the purification of radon. R. Livingston. *bibliog diag R Sci Instr* 4:15-17 Ja '33

Direct fusion method for determining the radium content of rocks. R. D. Evans. *diags R Sci Instr* 4:223-30 Ap '33

Effect of gaseous impurities on the radiochemical combination of carbon monoxide and oxygen. C. Rosenblum. *Am Chem Soc J* 55:220-3 Ja '33

**RAGS**

Observations relative to the physical and chemical changes taking place in the cooking of new white rags. E. R. Laughlin. *Paper Tr J* 97:39-52 [bibliog p52] O 26 '33

Sodium hydrosulphite rag cooking process. S. Lenher. *Paper Tr J* 96:28-32 Ja 19 '33

*See also*

Paper making materials

**RAIL bonds**

Sequence in welding terminals, a real bonding factor. *diags Coal Age* 37:447-8 D '32



**RAIL bonds—Continued**

- Successful bonding of secondary tracks achieved with removable terminal. *diag Coal Age* 37:446-7 D '32  
Two antique bonds. G. H. McKelway. *il Elec Traction* 29:46 F '33

**RAIL fastenings**

- Der selbstspannenderbau; ein weiterer schritt zum durchgehend geschweissten gleis. R. Vogel. *il Stahl & Eisen* 53:866-7 Ag 17 '33  
Track bolts, 1914-1932, market history; tabulation. *Steel* 92:121 Ja 2 '33  
What happens when bolts are tight. A. N. Talbot. *il Ry Age* 94:893-6 Je 24 '33

**RAIL joints**

- Committee on welded rail joints, final report. 358p \$1 Am. bur. of welding, 29 W. 30th st., N.Y. '32  
Modern rail welding without interrupting traffic; abstract. J. H. Deppler. *Iron Age* 132:25-6 O 12 '33  
Rail joint failures reduced by improved welding methods. J. U. Bragg. *diags Transit J* 77:112-13 Ap '33  
Standardization of rail joints urged by Coordinator Eastman. *Iron Age* 132:48-9 O 19 '33  
Track welding practice shows marked advance. W. Spraragen. *il Transit J* 77:54-6 F '33  
Under-traffic welding prevents delays. W. E. Bobbitt. *il Elec Traction* 28:444-5 N '32  
Welding joints in open track. F. B. Walker. *il Transit J* 77:186 Je '33

**Testing**

- Final report issued by committee on welded rail joints. *Elec Eng* 52:277-9 Ap '33  
What happens when bolts are tight. A. N. Talbot. *il Ry Age* 94:893-6 Je 24 '33

**RAIL motor cars. See Motor cars (railroad)****RAILINGS**

- Portfolio of metal stair railings. *il Architecture* 67:169-84 Mr '33

**See also****Balustrades****RAILROAD and utilities commissioners, National association of. See National association of railroad and utilities commissioners****RAILROAD associations**

- Directory and meetings of mechanical associations and railroad clubs. Published in monthly numbers of *Railway mechanical engineer* and in first issue of each month of *Railway age*

**RAILROAD board of mediation**

- Work of United States Board of mediation, 1931-32. *Monthly Labor R* 36:137-8 Ja '33

**RAILROAD bridges. See Bridges, Railroad****RAILROAD credit corporation**

- Advances from rail surcharge fund. *Barron's* 13:6 Mr 13 '33

**RAILROAD engineering**

- A.R.E.A. 34th annual convention at Chicago. *Ry Age* 94:410-25 Mr 18 '33; *Eng N* 110:382-3 Mr 23 '33

- Introduction to railway mechanics. G. V. Lomonosov. 179p \$3.75 Oxford '33

- Pioneer's work in road transport. R. E. Crompton. *Engineer* 155:304 Mr 24 '33

- Position of the engineer's department. C. E. R. Sherrington. *Engineer* 154:559 D 2 '32

- Railroad mechanical engineering; condensed from the 1932 progress report of the A.S.M.E. railroad division. *il Mech Eng* 54:854-5 D '32

- Research in railway engineering; a report of papers and discussions at the Chicago meeting of the A.S.M.E. railroad division. *il Mech Eng* 55:539-44 S '33

- Researches by many agencies aid in railway development; A.S.M.E. reviews the projects of the railways, manufacturers and universities. *il Ry Age* 95:3-57 Jl 1 '33

**See also**

- Grade crossing elimination  
Locomotives  
Railroad research  
Railroads—Construction

- Railroads—Earthwork  
Railroads—Maintenance and repair  
Railroads—Track

**RAILROAD land grants**

- Transportation of government property and troops over land-grant railroads. N. Kenny. *map J Land & Pub Util Econ* 9:368-81 N '33

**RAILROAD law**

- Congress passes railroad bill. H. F. Lane. *Ry Age* 94:865-8 Je 17 '33  
Difficulties in the new bankruptcy bill. T. F. Woodlock. *Barron's* 13:14 F 13 '33  
Eastman finds employees entitled to pay for transfer. *Ry Age* 95:222 Ag 5 '33  
Emergency railroad bill amended to prevent dismissals. *Ry Age* 94:763-7 My 27 '33  
Emergency railroad transportation act, 1933. *Monthly Labor R* 37:91 Jl '33  
House committee favors new railway legislation; bills to repeal recapture and to regulate holding companies. *Ry Age* 94:483 Ap 1 '33  
Michigan railroads can lease right of way for oil. *Oil & Gas J* 32:31 Je 29 '33  
New bankruptcy law—a step in the right direction. R. P. Hartwell. *Mag of Wall St* 51:574+ Mr 18 '33  
New deal for railroads; emergency railroad transportation act. *Econostat* 1:6-7 My 6 '33  
Passing of the era of regulation by competition. K. Stecher. *Pub Util* 12:207-12 Ag 17 '33  
President Roosevelt approves transportation bill. *Ry Age* 94:668-70 My 6 '33  
Rail legislation; railroad reorganization seem to be blocked by politics, but rail labor is pushing its retirement pay program. *Business Week* p17-18 Ja 18 '33  
Railroad bill arouses little enthusiasm. *Ry Age* 94:729-33 My 20 '33  
Railroad bill—orphans. *Business Week* p22-3 My 24 '33  
Railroad bill passed by House. *Ry Age* 94:827-8+ Je 10 '33  
Railroad bill passed by Senate. *Ry Age* 94:805-6 Je 3 '33  
Railroad co-ordinator not to be czar. *Ry Age* 94:688-92+ My 13 '33  
Railroad reorganization. *Business Week* p18-19 Mr 22 '33  
Railroad reorganization bill. *Ry Age* 94:207, 213-14 F 11 '33  
Railroad reorganization bill passed by Congress. *Ry Age* 94:337-8 Mr 4 '33  
Rails aided under new bankruptcy law. *Barron's* 13:6 Mr 6 '33  
Reorganization law in effect; Hastings bankruptcy bill. *Ry Age* 94:362+ Mr 11 '33  
Report railroad reorganization bill. *Ry Age* 94:109-10 Ja 28 '33  
Right to fair return defended. *Ry Age* 94:897-8+ Je 24 '33  
Will the new railroad bill mark a new high in regulation? *Pub Util* 11:729-31 Je 8 '33

**See also**

- |                             |                          |
|-----------------------------|--------------------------|
| Carriers                    | Railroads—Valuation      |
| Railroad board of mediation | Transportation act, 1920 |
| Railroads—Rates             |                          |

**RAILROAD research**

- Accomplishments in railway mechanical research. *il Ry Age* 94:390-3 Mr 18 '33  
Advocates national bureau of railroad research. R. E. Elgen. *Ry Age* 95:94 Jl 8 '33  
American railroad in laboratory. 544p American railway assn, Washington, D.C. '33  
Are the railways backward in research and test work? *il Ry Age* 94:11-14 Ja 7 '33  
New research committee of A.R.A. Mechanical division. *Ry Age* 95:536 O 14 '33  
Railroads profit from research. *il Ry Age* 94:358-61 Mr 11 '33  
Research and the railways. *Ry Mech Eng* 107:257-8 Jl '33  
Research conducted by railroads. C. D. Young. *Ry Age* 95:9-11 Jl 1 '33  
Research in railway engineering; a report of papers and discussions at the Chicago meeting of the A.S.M.E. railroad division. *il Mech Eng* 55:539-44 S '33  
Research on the railways. J. Stamp. *Chem Age (Lond)* 28:236 Mr 18 '33  
Researches by many agencies aid in railway development; A.S.M.E. reviews the projects of the railways, manufacturers and universities. *il Ry Age* 95:3-57 Jl 1 '33

**RAILROAD supplies industry**

Conditions force revival in equipment industry. C. P. Woodruff. *Mag of Wall St* 52:228-9+ Je 24 '33

Research in many fields contributes to equipment development. *il Ry Age* 95:17-32 Jl 1 '33

Research in many industries underlies railway development. S. O. Dunn. *il Ry Age* 95:4-8 Jl 1 '33

See also

Railroad ties                      Railroads—Purchasing  
Railroads—Equipment and supplies

**Securities**

Railroad equipment companies, 1930-1932. *Mag of Wall St Manual* p48 Mr 6 '33

**RAILROAD telegraphers, Order of.** See Order of railroad telegraphers

**RAILROAD tie plates**

Tie plates, 1915-1932, market history; tabulation. *Steel* 92:121 Ja 2 '33

**RAILROAD ties**

A.R.E.A. report on ties. *Ry Age* 94:418 Mr 18 '33

Balancing supply and demand in crossties. J. H. Parmelee. *Ry Age* 94:794-6 Je 3 '33

Economic selection, treatment and use of cross ties. D. C. Curtis. *Ry Age* 94:367-9 Mr 11 '33

Economic value of treated timber. E. Stimson. *W Soc E J* 38:169-74 Je '33

How about the crosstie problem? convention of the Railway tie association. *Ry Age* 94:734-8 My 20 '33

Marked reductions in tie renewals: statistics compiled from annual reports of the railroads for 1932. *Ry Age* 95:399-401 S 16 '33

Preservation of railway sleepers. J. Bryan. *Engineering* 136:240-1 S 8 '33

Robinson and sons railway sleeper adzing and boring machine. *il Engineer* 156:190-1 Ag 25 '33

Santa Fe constructs treating plant for hardwood ties. *il plan Ry Age* 93:709-12 N 19 '32

What the buyer of ties expects from the seller. D. C. Curtis. *Ry Age* 94:768-9 My 27 '33

See also

Railroads—Track

**RAILROAD ties, Steel**

Steel railroad tie. *il Iron Age* 132:21+ Jl 6 '33

Traverse métalliques, de construction belge, pour voies ferrées. *il Génie Civil* 103:69-70 Jl 15 '33

**RAILROAD track.** See Railroads—Track

**RAILROADS**

Le XII<sup>e</sup> Congrès international des chemins de fer (Le Caire, 19-30 janvier 1933). *Génie Civil* 102:209-11, 225-8 Mr 4-11 '33

Inland transportation—principles and policies; a revision and extension of Railway transportation. S. L. Miller. 822p \$4 McGraw-Hill '33

Steel trails; the epic of the railroads. M. D. Stevers. 374p \$3.75 Minton, Balch & co, New York '33

World survey of foreign railways, 1933. 448p U. S. Bur. of foreign and domestic commerce, Washington '33

See also

Air brakes                      Railroad engineering  
Bridges, Railroad              Railroad ties  
Cableways                      Railroads and state  
Carriers                        Rails  
Cars                            Rapid transit  
Electric railroads              Seatrains  
Freight car service            Street railroads  
Freight cars                   Subways  
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Locomotive terminals       Transportation  
Locomotives                  Trestles  
Mine tracks                   Tunnels and tunneling  
Motor cars (railroad)  
Mountain railroads

Rail joints

also names of railroads, e.g. Chicago, Milwaukee, St Paul & Pacific railroad; Pennsylvania railroad

**Abandonment**

Lines abandoned in the United States, Canada and Mexico in 1932. G. E. Boyd. *Ry Age* 94:156-7 F 4 '33

**Accidents**

Accidents to platelayers. *Engineer* 155:194 F 24 '33

A.R.A. Safety section 13th annual meeting, Chicago. *Ry Age* 95:665-9 N 4 '33

Annual report on railway accidents of the year 1932. *Engineer* 156:44 Jl 14 '33

Fairbourne railway accident. *diag Engineer* 156:41 Jl 14 '33

Great Bridgeford fatal derailment. *diag Engineer* 155:280 Mr 17 '33

Report on Binghamton collision. *diag Ry Age* 95:559-60 O 21 '33

Victoria, Southern railway, buffer stop collision. *Engineer* 156:332 O 6 '33

See also

Grade crossing accidents      Railroads—Safety devices and measures

**Accounting**

A.R.E.A. committee report on records and accounts. *Ry Age* 94:413-14 Mr 18 '33

Co-ordinator weighs cost finding methods. *Ry Age* 95:436 S 23 '33

Digest of depreciation charges, 52 class I railways (with normal annual operating revenues above \$25,000,000) calendar year 1932. 20 numb 1 Bur. of railway economics, Washington, D.C. '33

Finding the increment cost of a special class of service; gas for space heating and suburban commutation to and from New York city. *Pub Util* 11:312-14 Mr 2 '33

How fifty railroads handle stores expense. *Ry Age* 95:429-35 S 23 '33

Improved car accounting and statistics at lower costs; Boston & Maine applies punch card equipment. G. F. Glacy. *Ry Age* 94:548-52 Ap 15 '33

Railway accounting officers association 45th annual meeting, Chicago, Aug. 30-31. *Ry Age* 95:371-5 S 9 '33

Taking inventory of materials and supplies on a large railroad system; abstract. J. L. Bradley. *Management R* 22:112 Ap '33

**Advertising**

Back to 2 cents a mile. *Ptr Ink* 163:20 Ap 6 '33

Frank appeal for loyalty. *Ptr Ink* 164:88 Ag 17 '33

How Union Pacific catalogs the merchandise it has to sell. H. B. Northcott. *il Ptd Salesmanship* 61:102-3 Ap '33

Impersonal letters with a human touch; a railroad sells its crack train to the hometown folk. *il Ptr Ink* 161:71-3 N 24 '32

Most interesting advertising job I ever did. M. O'Dea. *Ptr Ink* 162:33-5 F 16 '33

Railroad advertising that pays its way. J. C. Emery. *il Adv & Sell* 22:28, 30 N 9 '33

Railroad calls on Dr Nature to sell vacation trips. *il Ptr Ink* 164:61 Jl 13 '33

Railroads jointly advertise Fair. *Ptr Ink* 164:77 Jl 20 '33

Stimulating tourist travel; essay contest conducted by the Japan tourist bureau. *Ry Age* 95:69 Jl 1 '33

Three English railroad posters by Austin Cooper. *Adv Arts* p32 S '33

What can advertising do to promote passenger business? *il Ry Age* 95:618-22 O 14 '33

Why don't the railroads advertise? M. C. Smith. *il Adv & Sell* 20:13-14+ Ja 19 '33

See also

Street railroads—Advertising

**Air line competition**

Competition of airplanes should not be ignored. *Ry Age* 93:881-2 D 10 '32

Study of transportation by airway as related to competition with rail carriers in Continental United States; summary. *Aviation Eng* 8:22+ F '33



**RAILROADS**—Air line competition—*Continued*  
Subsidized air lines. *il* Ry Age 93:822-3 D 3 '32

Withdraw the air line subsidies! Ry Age 93:554 D 3 '32

#### Automatic stop and train control

Automatic train control. G. H. Crook; Vlaikoff; Stäckel. Engineer 155:110 F 3 '33

Burlington automatic train control discontinued. Ry Age 94:215 F 11 '33

Centralized traffic control and train control on the Baltimore and Ohio railroad. J. H. Davis and G. H. Dryden. *il* diag Elec Eng 52:699-700 O '33

Kofler automatic train stop. diags Mech Eng 54:871-2 D '32

Modern signaling on the Reading railroad. E. W. Reich and G. I. Wright. Elec Eng 52:701-2 O '33

Railroad signaling and train control. R. B. Amsden and W. M. Vandersluis. Elec Eng 52:698-9 O '33

#### Braking

Influence of the AB brake on freight-train operation. L. K. Sillcox. diag Ry Age 95:424-8 S 23 '33

Research in the railroad braking art. S. W. Dudley. *il* Ry Age 95:22-3 J1 1 '33

#### Buildings and structures

A.R.E.A. committee report on iron and steel structures. Ry Age 94:411-12 Mr 18 '33

Modern river-rail coal transfer plant; new facility of Pittsburgh & Lake Erie. *il* plan Ry Age 93:909-10 D 17 '32

Railroads far behind in maintenance of tracks and structures. Ry Age 95:612-13 O 28 '33

Santa Fe constructs treating plant for hardwood ties. *il* plan Ry Age 93:709-12 N 19 '32

#### See also

Bridges, Railroad

Car shops

Coaling stations

Locomotive shops

Locomotive terminals

Railroads—Shops

Railroads—Stations

Railroads—Terminals

#### Cars

See Cars; Dining cars; Freight cars; Motor cars (railroad); Sleeping cars

#### Claims

Association of railway claim agents 44th annual convention, Chicago. Ry Age 95:87-8 J1 8 '33

Claim payments decrease 26.8 per cent. Ry Age 94:444 Mr 25 '33

Freight claim division, American railway association, meeting, Louisville, Ky. *il* Ry Age 94:861-4 Je 17 '33

Principles and practices for freight claim agents; code adopted by Freight claim division of the A.R.A. Ry Age 95:414 S 16 '33

#### Commuter service

Finding the increment cost of a special class of service; gas for space heating and suburban commutation to and from New York city. Pub Util 11:312-14 Mr 2 '33

#### Competitive transportation

Are the railways obsolete? *il* Ry Age 93:769-72 D 3 '32

Centralized regulation of all transport urged. C. R. Porter. Ry Age 93:706-8 N 19 '32

Citizens transportation league enrolls 212,000 voters for promotion of transportation regulation. *il* Ry Age 94:369-70 Mr 11 '33

Concurrence ou transports combinés par voie ferrée et voie aérienne ou par voie ferrée et par automobile. Génie Civil 102:226-7 Mr 11 '33

Coolidge committee hearings. Ry Age 93:904-8 D 17 '32

Doles to selfish business. S. S. Wyer. Ry Age 94:912-13 Je 24 '33

Growing demand for regulation of the competitors of the railroads. E. Jones. Pub Util 11:55-6 Ja 5 '33

Increased competition forces rate revisions. Ry Age 93:714+ N 19 '32

Old ways are not good enough. *il* Ry Age 95:590-2 O 28 '33

Plight of railway employees. Ry Age 93:779-82+ D 3 '32

Railways propose legislative program. Ry Age 93:859-64 D 10 '32

Some of the problems of the railroads. R. E. Dougherty. Civil Eng 3:187-9 Mr '33

Uniform regulatory legislation urged by the Special committee on competing forms of transportation of the Chamber of commerce of the United States. Ry Age 93:984-6 D 31 '32

U. S. chamber of commerce favors fair field in transport. Ry Age 95:704-5 N 11 '33

Wanted—a transportation policy. Ry Age 93:765-8 D 3 '32

#### See also

Railroads—Air line

competition

Railroads—Motor vehicle

competition

Railroads—Pipe line

competition

Railroads—Water-

ways competition

#### Concrete construction

New ore dock built entirely of reinforced concrete; facility completed by D.S.S. & A. at Marquette, Mich. *il* diags plan Ry Age 94:326-8 Mr 4 '33

#### Consolidation

Bear in the merger shop; Looee's acquisition of New York Central stock makes him the center of the rail consolidation problem. Business Week p14, 16 F 8 '33

Consolidation no panacea. J. J. Cornwell. Ry Age 94:458-9 Mr 25 '33

Co-ordinator as emergency expedient. E. Lee. Ry Age 94:637+ Ap 29 '33

Eastman on P.R.R.-Long Island merger proposal. Ry Age 95:506+ O 7 '33

Eastman studying merits of consolidation plans. Ry Age 95:471-2 S 30 '33

Effect of the Looee purchase. Barron's 13:6 F 6 '33

I.C.C. denies Astor director application. Ry Age 95:563 O 21 '33

Prince plan of railroad consolidation. J. J. Cornwell. Ry Age 95:571-2 O 21 '33

Prince rail consolidation plan somewhat modified. Ry Age 95:506 O 7 '33

Railroad consolidation west of the Mississippi river. S. Daggett. maps Univ of Calif Pub in Economics v 11, no 2:127-256 '33

Railroad co-ordinator plan nears completion. Ry Age 94:509-14 Ap 8 '33

Railroads' relation to business recovery. W. W. Atterbury. Ry Age 94:702+ My 13 '33

Regional railroad consolidations; editorial. Ry Age 94:465-7 Ap 1 '33

Seven railroad systems; how regional groups would be constituted under the Prince plan. Barron's 13:6 O 9 '33

Whitney champions I.C.C., denounces consolidation. Ry Age 94:457 Mr 25 '33

#### Construction

Large grade separation project completed on the Reading. *il* map Ry Age 95:688-91 N 11 '33

Missouri Pacific improves main stem in Kansas. *il* map Ry Age 94:204-7 F 11 '33

Old tunnel demolished with trains running; Delaware & Hudson railroad tunnel at Whitehall, N.Y. *il* diags Eng N 109:620-2 N 24 '32

Railroad construction. W. L. Webb. 9th ed 2v 699p; 226p \$6; v 1 \$5; v 2 \$2 Wiley '32

Railway construction at low ebb; United States, Canada and Mexico. G. E. Boyd. *il* Ry Age 94:153-9 F 4 '33

Railway construction in Texas Panhandle. *il* map Eng N 109:609-11 N 24 '32

Roadway changes required by electrification; Pennsylvania railroad. *il* diags Ry Age 94:281-3 F 25 '33

#### See also

Ballast

Bridges, Railroad

Culverts

Grade crossing elimination

Railroads—Earth-

work

Railroads—Electri-

fication

Railroads—Stations

Railroads—Track

Railroads—Track

elevation

Rails

Tunnels and tunneling

## RAILROADS—Continued

## Conversion to highways

Considérations économiques relatives à la transformation progressive des réseaux en auto-routes. M. de Coninck. Soc Ing Civils Bul 86:671-700 My '33; Abstract. Génie Civil 102:233 Mr 11 '33

## Costs

Can equipment maintenance costs be reduced? il Ry Age 95:604-7 O 28 '33  
Cost of railway materials reduced in 1932. D. A. Steel. il Ry Age 94:165-70 F 4 '33  
Improvement work must go on. il Ry Age 93:835-40 D 3 '32  
Maintenance expenses down three billions since 1929. Ry Age 95:587-9 O 28 '33  
Railroads far behind in maintenance of tracks and structures. Ry Age 95:608-15 O 28 '33  
Railway purchases are trumps. Ry Age 95:629-33 O 28 '33  
Signaling work to be done. il Ry Age 95:622-5 O 28 '33  
Tables show marked reductions in maintenance of way. Ry Age 93:977-9 D 31 '32  
Will lighter freight cars save money for the railroads? A. F. Stuebing. Ry Age 95:339-41 S 2 '33

## Curves and turnouts

GEO turnout exhibited at Chicago. il Ry Age 95:248 Ag 12 '33  
Geometrical analysis of locomotive curving action. W. E. Burdick. Ry Mech Eng 107:315-17 S '33  
Relining curves by offsets. J. D. W. Ball. diags Engineer 155:645-6 Je 30 '33

## Damage from floods, etc.

Pinch-hitting for a railroad; substitution of buses due to flood damage. il Bus Transportation 12:354-5 S '33

## Development work

\$29,000,000 of new industries; Illinois Central system. M. Fenton. il Manuf Rec 102:17 Ap '33

## Earthwork

Jetting solidifies large embankment; method employed on the Cincinnati Union Terminal project. il Ry Age 94:41-3 Ja 14 '33

## See also

Culverts

## Electric equipment

British railway equipment for Budapest. il Elec R (Lond) 112:45 Ja 13 '33  
Electrical energy in railroad service. il Ry Age 95:55-7 Jl 1 '33  
Electrical requirements of steam roads. il Ry Age 95:625-8 O 28 '33

## Electrification

Les dépenses de charbon des Chemins de fer français, et les moyens de les réduire. Godfernaux. Génie Civil 101:532-3 N 26 '32  
Developments in the electrical industry during 1932; electric transportation. J. Liston. il Gen Elec R 36:17-18 Ja '33  
Diesel-electric trains as a temporary measure; abstract and discussion. C. J. H. Trutch and C. M. Beckett. Elec R (Lond) 112:453-4 Mr 31 '33  
Electric traction; a review of progress. F. Lydall. Inst E E J 72:124-31 F '33  
Electricity in transportation, 1932-33. Elec Eng 52:769 N '33  
Electrification des chemins de fer au point de vue économique. Génie Civil 102:210 Mr 4 '33  
Electrification of railways from an economic point of view. S. Withington and others. Engineer 155:86-7 Ja 27 '33  
Electrification of steam railways. 80p pa \$1 National electric light assn. New York '33  
L'exploitation des chemins de fer; comparaison entre la traction à vapeur et la traction électrique. H. Fonty. Génie Civil 102:108-10, 133-5, 155-9 F 4-18 '33  
Initial operation of the Pennsylvania railroad electrification. W. D. Bearce. il map Gen Elec R 36:258-61 Je '33

Lightning as it affects transportation; abstract and discussion. D. R. MacLeod. Ry Age 94:700-1 My 13 '33  
New York-Philadelphia electric service started. Ry Age 94:85 Ja 21 '33; Transit J 77:72 F '33

No-volt traction relays. E. H. Croft. diags Elec R (Lond) 112:149-50 F 3 '33  
Operation of three-power locomotives; D.L. & W. finds motive power suitable for both switching and transfer service. F. H. Craton. il map Ry Age 94:363-6 Mr 11 '33  
Pennsylvania electrification links Philadelphia and New York city. il map plan Ry Age 94:268-302 F 25 '33  
Pennsylvania electrifies. J. V. B. Duer. il Sci Am 149:170-1 O '33  
Power supply for the Pennsylvania railroad. J. V. B. Duer. il diags map Elec Eng 52:111-15 F '33  
Power supply systems for electrified railroads. diags Elec W 101:159-60 F 4 '33  
Progress in electric traction; editorial. Engineering 135:133-4 F 3 '33  
Reading company's Philadelphia suburban electrification. G. I. Wright. bibliog il diags map Elec Eng 52:155-61 Mr '33  
Standardization in electrification of Pennsylvania railroad. J. V. B. Duer. ind Standardization 4:131-3 Ag '33  
Steam, electric and oil-electric traction. H. W. H. Richards. Engineer 155:282-3 Mr 17 '33; Excerpts. Engineering 135:226 F 24 '33  
See also  
Electric locomotives

## Cost

Italian observations on electric railroad operation; comparative cost of operation with steam and electricity. G. Bianchi. Elec W 102:210-12 Ag 12 '33

## Austria

Transportation in Austria. F. Strauss. Engineering 135:232-3 F 24 '33

## Bulgaria

Bulgaria; prospects of railway electrification. Electrician 110:674 My 26 '33

## Denmark

Electric traction in Copenhagen. Engineering 134:639 N 25 '32  
Suburban electric traction at Copenhagen. il map Engineering 135:476-7 Ap 28 '33; Engineer 155:432-3 Ap 28 '33

## Europe

Railway electrification in Europe. il Elec R (Lond) 113:190 Ag 11 '33

## France

France plans to electrify 6,000 miles of railroad. R. F. Stockar. il Elec W 101:618-20 My 13 '33  
L'inauguration de la traction électrique sur la ligne d'Orléans à Tours (19 juillet 1933). J. Dumas. il Génie Civil 103:114-16 Jl 29 '33  
Orléans-Tours electrification. il Elec R (Lond) 113:317 S 8 '33  
La traction autonome et la traction électrique sur les grands réseaux français. Génie Civil 101:587-8 D 10 '32  
Le transport d'énergie à 220 000 volts du Massif central à Paris; l'alimentation électrique du chemin de fer d'Orléans. J. Dumas. il diags map Génie Civil 101:569-75 D 10 '32

## Great Britain

British main-line electrification; abstracts. F. Lydall. Electrician 109:812 D 23 '32; Elec R (Lond) 111:888-9 D 16 '32; Discussion. C. J. N. Trutch. Electrician 109:812-13 D 23 '32  
Main line railway electrification; abstracts. J. M. Kennedy. Electrician 109:813 D 23 '32; Elec R (Lond) 111:963 D 30 '32  
Manchester-Altrincham railway electrification; abstract. F. A. C. Leigh. il Elec R (Lond) 112:488-9 Ap 7 '33; Discussion. 112:523-4 Ap 11 '33  
Opening of the London-Brighton-Worthing service of the Southern railway. Electrician 110:18 Ja 6 '33



**RAILROADS—Electrification—Great Britain—**  
*Continued*

Railway finance; result of the electrification of the Southern Railway suburban area. H. Walker. Electrician 110:675 My 26 '33

*Hungary*

British railway equipment for Budapest. il Elec R (Lond) 112:45 Ja 13 '33

Electric traction; Hungarian state railways place further orders in Britain. Electrician 110:306 Mr 3 '33

L'électrification d'une section de la ligne de Budapest à Vienne, par les chemins de fer de l'Etat hongrois; traction par courants alternatifs, système Kandó, il diags map Génie Civil 102:57-62 Ja 21 '33

Hungarian railways electrification. il Engineer 155:13-14, 48-50 Ja 6-13 '33

Kandó phase converter; new type of locomotive on the Hungarian state railway. il Electrician 110:39-40 Ja 13 '33

Kandó system; editorial. Engineer 155:145 F 10 '33

Kandó system of electric traction of the Hungarian state railways. il diags map Engineering 135:46, 58-9, 296-8, 349-52 Ja 13, Mr 17, 31 '33

Transformer converters on Hungarian locomotives; Kandó system of electrification. Elec W 100:745 D 3 '32

Umformerkomotiven der Ungarischen staatsbahnen; der elektrische betrieb auf der strecke Budapest-Hegyeshalom. H. Dominke. il diags Zeit Ver Deutsch Ing 77:415-22 Ap 22 '33

Unusual electrification in Hungary. R. F. Stockar. il diags Elec W 101:166-8 F 4 '33

*India*

Electrification of the suburban and certain main-line sections of the Great Indian Peninsula railway. F. Lydall. diags plans Inst E E J 71:911-51, pl 1-2; Discussion 951-7 D '32

Future of Indian main-line electrification; abstract. F. Lydall. Elec R (Lond) 112:158 F 3 '33

*Italy*

Electric traction in Italy. Electrician 111:113-14 JI 28 '33

Italian observations on electric railroad operation; comparative cost of operation with steam and electricity. G. Bianchi. Elec W 102:210-12 Ag 12 '33

Italian output rising; railway electrification schemes. Electrician 111:202 Ag 18 '33

Outlook in Italy. il Electrician 110:9 Ja 6 '33

*Poland*

Electric traction; Poland awards £2 000 000 electrification contract to Britain. Electrician 111:181 Ag 11 '33

*Russia*

Development in Russia. Electrician 109:603 N 11 '32

Electric locomotives for Russia. B. S. Cain. il map Ry Age 94:17-18 Ja 7 '33

*Sweden*

Economic problems of the Swedish state railway electrification. I. Öfverholm. il diags map Inst E E J 72:385-95 My '33; Abstracts. Engineering 135:449 Ap 21 '33; Elec R (Lond) 112:11 Ja 6 '33; Electrician 110:37-8 Ja 13 '33; Discussion. Inst E E J 72:395-401 My '33; Elec R (Lond) 112:47 Ja 13 '33

*United States*

Progress made on large engineering projects; railways and rail terminals. Eng N 110:160-1 F 2 '33

Railroad electrification in 1932. Transit J 77:23 Ja '33

**Employees**

American railway development association semi-annual meeting, Chicago, Dec. 1-2. Ry Age 93:873 D 10 '32

Awards and decisions; switchmen, Iowa transfer railway co. Monthly Labor R 35:1119-20 N '32

Basic 6-hour day sought by railway labor unions. Ry Age 94:564 Ap 15 '33

Canadian rail unions unite for protection. Ry Age 95:292 Ag 19 '33

Conciliation boards on the railways. Engineer 155:245-6 Mr 10 '33

Eastman asks co-operation to increase employment. Ry Age 95:369-70 S 9 '33

Eastman finds employees entitled to pay for transfer. Ry Age 95:222 Ag 5 '33

Eastman inquiries into company unions. Ry Age 95:405+ S 16 '33

Emergency railroad bill amended to prevent dismissals. Ry Age 94:763-7 My 27 '33

Employment on class I steam railroads in the United States. Published in Monthly labor review

How far workmen's compensation acts can apply to maritime law, interstate commerce, and the doctrine of extraterritoriality. S. B. Horowitz. bibliog U S Bur Labor Statistics Bul 577:119-37; Discussion. 137-46 '33

I.C.C. report on six-hour day investigation. Ry Age 93:911-14 D 17 '32

Pennsylvania work-sharing plans. W. W. Atterbury. Ry Mech Eng 106:477 N '32

Plight of railway employees. Ry Age 93:779-8+ D 3 '32

Railroads not under N.I.R.A. Ry Age 95:307-8 Ag 26 '33

Railway wages and railway employment; editorial. Ry Age 93:895-6 D 17 '32

Recharging of batteries used in railroad signaling held part of interstate commerce. Monthly Labor R 36:119-20 Ja '33

Report on proposed six-hour day for railroad employees. Monthly Labor R 36:367-9 F '33

Reports of presidential emergency boards for disputes on railroads. Monthly Labor R 37:882-5 O '33

Six-hour day; I.C.C. tells Congress what it will cost the railroads. Business Week p20 D 28 '32

Six hour day would cost \$630,000,000. Barron's 12:6 D 19 '32

What about apprentices when business picks up? Ry Mech Eng 107:192+ Je '33

*See also*

Railroad board of mediation	Railroads—Wages
Railroads—Pensions	Street railroads—Employees

**Equipment and supplies**

Accomplishments in railway mechanical research. il Ry Age 94:390-3 Mr 18 '33

A.R.A. mechanical division committee report on material specifications. Ry Mech Eng 107:250-1 JI '33

A.R.E.A. committee report on maintenance of way work equipment. Ry Age 94:415-16 Mr 18 '33

Cost of railway materials reduced in 1932. D. A. Steel. il Ry Age 94:165-70 F 4 '33

Depletion of railway supplies grows. Ry Age 94:803-4 Je 3 '33

Erie supply methods show planning. il Ry Age 95:499-500 O 7 '33

Impact tests in specifications for soft steels. F. Giolitti. Metal Prog 22:48-9 D '32

Manufacturers offer aid in solving problems of 1933; illustrations. Ry Age 94:426-31 Mr 18 '33

Million a day for supplies in 1932. Ry Age 94:4-7 Ja 7 '33

New locomotives for old; NRA economists suggest the government buy railway equipment and sell or lease it on easy terms. Business Week p9 S 23 '33

Railway inventories reduced by almost \$450,000,000. Ry Age 94:553-8 Ap 15 '33

Railway rubber goods. W. Norris. il India Rubber W 88:27-8 My; 33-4 Je '33

Reduced inventories make room for new materials. Ry Age 94:39-40 Ja 14 '33

Research in many fields contributes to equipment development. il Ry Age 95:17-32 JI 1 '33

Research in many industries underlies railway development. S. O. Dunn. il Ry Age 95:4-8 JI 1 '33

75 t-wagendrehkran für aufgleisungsarbeiten. C. Bartel. il diags Zeit Ver Deutsch Ing 77:1123-4 O 14 '33

**RAILROADS**—Equipment and supplies—*Cont.*  
Three years of under-maintenance. Ry Age  
94:149-52+ F 4 '33

*See also*

Air brakes	Railroads—Rolling
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Railroad supplies in-	Railroads—Shops—
dustrial	Equipment
Railroad ties	Railroads—Stores
Railroads—Pur-	systems
chasing	Rails
	Track scales

#### Equipment trust certificates

Railroad equipment trusts merit confidence. G.  
T. Cartinhour and M. W. Nance. Bur-  
roughs Clearing House 17:18-20+ JI '33

#### Excursions

Trial vacations; British railroad offers one-  
day excursions. Business Week p23 Ap 26  
'33

#### Exhibitions

*See also*

Chicago—World's  
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#### Fares

Autos face new competition in scrip books;  
many firms to return western salesmen to  
travel by railroad. *il* Sales Management 32:  
158-9+ F 15 '33

Carriers oppose fare cut; L. & N. acts inde-  
pendently. Ry Age 94:333 Mr 4 '33

Downward trend of railroad rates. E. Hunger-  
ford. Pub Util 11:523-9 Ap 27 '33

Eastern railroads get cold feet on fare cuts;  
new western rate. Sales Management 33:416  
O 20 '33

Eastern roads join West in rail rate cut;  
to offer scrip; will mean big saving in sales  
cost. Sales Management 33:308 O 1 '33

Fare cuts or excursions? Business Week p11  
D 7 '32

Finding the increment cost of a special class  
of service; gas for space heating and  
suburban commutation to and from New  
York city. Pub Util 11:312-14 Mr 2 '33

If you want scrip books in the eastern terri-  
tory, speak up, sales managers! Sales Man-  
agement 32:108 F 1 '33

Is railway passenger service properly sold?  
*il* Ry Age 95:457-60+ S 30 '33

Oppose passenger-fare cut. Barron's 13:6 Ja  
16 '33

Passenger rates and revenues. B. Robins. Ry  
Age 95:185-9 JI 29 '33

Railroads campaign for passengers. Forbes  
31:8 Ap 15 '33

Railway passenger fares. Economist 116:577  
Mr 18 '33

Sales management's crusade bears fruit;  
western roads approve scrip mileage books.  
map Sales Management 32:14-15+ Ja 1 '33  
Salesmen win; Western railroads revived the  
bargain mileage book. Business Week p18  
Ja 18 '33

Southern railroad merchandises train travel  
bargains. Ry Age 93:922 D 17 '32

Travel costs drop in South; four more roads  
follow L & N in 2-cent coach fare test.  
Sales Management 32:326-7+ Ap 1 '33

Western railroads report heavy sale of scrip  
books; L. & N. line asks I.C.C. for 2-cent  
coach fare. Sales Management 32:211-12+  
Mr 1 '33

Western roads announce cuts in excursion  
fares. Ry Age 95:570 O 21 '33

Western roads reduce basic passenger rate.  
Ry Age 95:529-30 O 14 '33

Western scrip books. Sales Management 32:  
253+ Mr 15 '33

What results from fare reductions? *il* Ry  
Age 95:80-2 JI 8 '33

Will reductions in rates attract more pas-  
senger traffic? Ry Age 94:884-7 Je 24 '33

Will the eastern railroads wait for the gov-  
ernment to force reductions in rates? Sales  
Management 32:470 My 1 '33

#### Federal loans

Couzens asks suspension of R.F.C. railway  
loans. Ry Age 94:191-2 F 4 '33

Government offers loans for rails and equip-  
ment. Ry Age 95:695-7 N 11 '33

Government railroad loans and business re-  
vival; editorial. Ry Age 94:719-21 My 20 '33

How to get capital goods moving is serious  
government problem. L. W. Moffett. Iron  
Age 132:34-5 S 21 '33

New loans proposed for equipment and main-  
tenance. Ry Age 94:760 My 27 '33

Railroad buying to be stimulated by Trans-  
portation loan division in F.W.A. Iron Age  
132:33G N 9 '33

Railroads allotted \$135,000,000 for rail pur-  
chases and P.R.R. electrification. Iron Age  
132:33C N 9 '33

Railways and government loans. Ry Age 95:  
485-7 O 7 '33

Recent R.F.C. rail loans given to six com-  
panies. Ry Age 94:483 Ap 1 '33

R.F.C. November report lists loans to rail-  
ways. Ry Age 94:24-5 Ja 7 '33

Relief on rails; by putting its money in the  
railroads, P.W.A. expects to spread it wide.  
Business Week p26 N 11 '33

Senator Couzens investigates R.F.C. loans.  
Ry Age 94:239+ F 18 '33

Small risk for R.F.C. in rail loans. P. Shoup.  
Ry Age 94:312+ F 25 '33

#### Finance

Consolidation no panacea. J. J. Cornwell. Ry  
Age 94:458-9 Mr 25 '33

Corporation net earnings; industry, rails,  
utilities. Published in weekly numbers of  
Analyst

Deferred railroad maintenance close to \$2,000,-  
000,000. J. B. Eastman. Iron Age 131:796 My  
18 '33

Le déficit dans l'exploitation des grands Ré-  
seaux français de chemins de fer. C. Dantin.  
Génie Civil 102:9-13 Ja 7 '33

Eight months rail net at rate of 1.72 per cent.  
Ry Age 95:507 O 7 '33

Essentials in restoring the credit of the rail-  
roads. F. Dick. Trust Companies 57:137-9  
Ag '33

Estimated 1932 net put at \$324,000,000. R. H.  
Aishton. Ry Age 93:390-1 D 31 '32

Expense-earnings ratio improved but huge  
debt problem remains. P. H. Fulton. Mag  
of Wall St Manual p35-7+ Mr 6 '33

L'exploitation des chemins de fer; compa-  
raison entre la traction à vapeur et la  
traction électrique. H. Fonty. Génie Civil  
102:108-10, 133-5, 155-9 F 4-18 '33

Federal bankruptcy amendment. A. A. Berle,  
jr. Am Bankers Assn J 25:37-8+ Mr '33

Financial reports. Published in weekly num-  
bers of Railway age

Four measures required to restore rail earn-  
ings. S. O. Dunn. Ry Age 94:873 Je 17 '33

Hearing on recapture bill. Ry Age 94:517 Ap  
8 '33

How finance equipment purchases, larger  
maintenance program? Ry Age 95:634-5 O  
28 '33

How the investor looks at the railroads. T.  
C. McClary. Mag of Wall St 51:524-5+ Mr  
4 '33

I.C.C. annual report for year ended Oct. 31.  
Ry Age 93:917-19, 945-7 D 17-24 '32

I.C.C. nominates panel of trustees. Ry Age  
94:562 Ap 15 '33

I.C.C. relents on earnings attitude. Barron's  
13:4 Ja 9 '33

Modern trends in railroading. S. O. Dunn.  
W Soc E J 38:63-73; Discussion. 73-6 Ap  
'33

Mundy's earning power of railroads. F. W.  
Mundy, ed. 727p James H. Oilphant & co,  
61 Broadway, New York '33

Net deficit in 1932 was \$153,308,487. Ry Age  
94:396-7 Mr 18 '33

Northern coal roads continue gain over  
southern. A. T. Shurick. Mag of Wall St  
52:422-3+ Ag 19 '33

O. P. Van Sweringen heard in Morgan in-  
vestigation. Ry Age 94:834+ Je 10 '33



RAILROADS—Finance—*Continued*

- One-man show; Senator Couzens gets more excitement than nourishment out of his baiting-the-railroads act. *Business Week* p8 F 22 '33
- Position and prospects of leading railroads. D. Hovey. *il maps Barron's* 13:3, 6-7 Ap 24; 5, 7 My 8; 6-7+ My 15; 3+ My 29; 6-7 Je 5; 3, 7 Je 12; 6-7+ Je 19; 6-7+ Je 26; 6, 10 Jl 10; 6+ Jl 17; 6+ Jl 24; 6-7 Jl 31; 8-9+ Ag 7 '33
- Problem of the railroads. *Am Bankers Assn* J 25:21+ Ja '33
- Prospective revival in rail net. W. L. Crum. *Barron's* 13:3+ My 22 '33
- Prospective shifts in rail revenues; lower wage scales in soft coal regions affect railroads. A. T. Shurick. *Mag of Wall St* 52:74-5+ My 13 '33
- Rail coordination. *Business Week* p16 Je 10 '33
- Rail income in 1932 at record low. *Bradstreet's* 61:315 F 11 '33
- Railroad credit corp. closes lending period. *Ry Age* 94:834 Je 10 '33
- Railroad debt problem. E. T. Clough. *Barron's* 12:3+ N 28 '32
- Railroad highlights in 1932. *Bradstreet's* 61:176-8 Ja 28 '33
- Railroad reorganization bill passed by Congress. *Ry Age* 94:337-8 Mr 4 '33
- Railroad reorganization would effect big savings. L. F. Loree. *Iron Age* 131:593 Ap 13 '33
- Railroading in the red. P. H. Fulton. *Mag of Wall St* 51:150-1+ N 26 '32
- Railroads' inadequate return. G. G. Boardman. *Barron's* 13:5 F 6 '33
- Railroads' need for a new deal. A. B. Barber. *il Nation's Business* 21:40+ Je; 55 Jl '33
- Railroads reduce expenses and improve position of bonds. D. Friday. *Rand McNally Bankers Mo* 50:208-9+ Ap-My '33
- Railroads would benefit under bankruptcy bill. *Barron's* 13:6 Ja 30 '33
- Railway finances in 1932. J. G. Lyne. *Ry Age* 94:160-4 F 4 '33
- Railway interest and other costs; editorial. *Ry Age* 94:387-9 Mr 18 '33
- Railway results for 1932. *Economist* 116:571-3 Mr 18 '33
- Report of I.B.A. railroad securities committee. *Inv Banking* 3:87-92 N 25 '32
- Report railroad reorganization bill. *Ry Age* 94:109-10 Ja 28 '33
- Reputation of debts—a railway example. *Ry Age* 94:63-5 Ja 21 '33
- Revenues and expenses of railways; month of December and twelve months of calendar year 1932; tabulation. *Ry Age* 94:227-32 F 11 '33 [cont monthly]
- Review of railway operations in 1932. J. H. Parmelee. *Ry Age* 94:134-43 F 4 '33
- Revival in railroad earnings. W. L. Crum. *Barron's* 13:6 S 4 '33
- Right to fair return defended. *Ry Age* 94:897-8+ Je 24 '33
- Sees possibilities for substantial savings. L. F. Loree. *Ry Age* 94:511, 741 Ap 8, My 20 '33
- Solution suggested for the railroad problem. P. Synnestvedt. *Ry Age* 94:665-7 My 6 '33
- This is what has happened to the railways. *Ry Age* 93:774-8 D 3 '32
- Traffic gains and earnings; the significance of the trend of carloadings. W. B. Slade. *Barron's* 13:7 O 30 '33
- Transportation—as amended. *il Am Bankers Assn* J 26:31-4+ Jl '33
- What the expiration of surcharges means to the railroads. C. H. Owen. *Mag of Wall St* 52:578+ S 30 '33
- Where the railroads could save money. *Barron's* 13:24 Mr 13 '33
- Why did Union Pacific buy into Pennsylvania? P. H. Fulton. *Mag of Wall St* 51:332-3+ Ja 7 '33
- See also*
- |                                   |                          |
|-----------------------------------|--------------------------|
| National transportation committee | Railroads—Rates          |
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- Fires and fire protection
- Better supervision brings reduction in railroad fires. *East Underw* 34:1+ N 3 '33
- Railway fire losses decrease; 20th annual meeting of the Railway fire protection association. *Ry Age* 95:661-2 N 4 '33
- Forms and blanks
- Forms keep G.T.W. stores in step. *il Ry Age* 95:190-3 Jl 29 '33
- Freight
- Analyze results of pick-up and delivery service; Boston & Maine. *Ry Age* 95:160-2 Jl 22 '33
- Attacking the terminal problem. *il Ry Age* 95:616-18 O 28 '33
- Business needs should dictate speed of service. M. W. Harrison. *Ry Age* 94:214-15 F 11 '33
- Car loadings. Published in weekly numbers of *Econostat*
- Carload damage. J. Marshall. *Ry Age* 94:862-3 Je 17 '33
- Central Vermont co-ordinated service an effective traffic developer. *il Ry Age* 94:775-6 My 27 '33
- Changes in volume, trend, and seasonal pattern of freight car loadings. *Annalist* 40:877 N 18 '32
- Changing freight car. C. B. Peck. *Ry Age* 94:209-12 F 11 '33; Same. *il Mech Eng* 55:151-5 Mr '33
- Freight car loading. Published in weekly numbers of *Railway age*
- Freight-car loadings, by classes. Published in monthly numbers of *Federal reserve bulletin*
- Freight credit rules cover bank holidays. *Ry Age* 94:375 Mr 11 '33
- Freight traffic officer makes some suggestions; how mechanical department can help build up freight traffic. *Ry Mech Eng* 107:159+ My '33; Discussion. 107:202-3, 284 Je, Ag '33
- Heavier car loading. *Ry Age* 94:891-2 Je 24 '33
- Highway construction produces railroad traffic. J. L. Harrison. *Roads & Sts* 76:142-3 Ag '33
- Impending shifts in coal movement; how leading carriers would be affected. A. T. Shurick. *Barron's* 13:3, 8 F 27 '33
- Many packing and loading innovations effective. A. L. Green. *Ry Age* 94:863-4 Je 17 '33
- Numbers versus symbols for the identification of freight trains. G. H. Minchin. *Ry Age* 94:889-90 Je 24 '33
- Principles and practices for freight claim agents; code adopted by Freight claim division of the A.R.A. *Ry Age* 95:414 S 16 '33
- Rail aid plan proposed by perishable shippers. *Ry Age* 93:957 D 24 '32
- Railroad agents and shippers comment on store-door service; Boston & Maine gets first-hand data. *Ry Age* 95:441-3 S 23 '33
- Railroad committees asked to study empty mileage problem. J. B. Eastman. *Ry Age* 95:553-4 O 21 '33
- Railroads are not asleep! *il Ry Age* 93:828-30 D 3 '32
- Roads count on price rise in wheat. *Barron's* 13:9 Ja 2 '33
- Shall we deliver the goods? J. R. Turney. *Ry Age* 93:871-3 D 10 '32
- Standard-gaging the East Broad Top railroad and coal company; standard-gage car bodies transferred to narrow-gage trucks. *il Ry Age* 95:501 O 7 '33
- Store-door service—can the railroads afford it? J. R. Turney. *Ry Age* 94:452-4 Mr 25 '33

**RAILROADS—Freight—Continued**

- Study shows rubber traffic deserting rails. Ry Age 94:24 Ja 7 '33
- Tell Mr Eastman; coordinator starts his survey of how the railroads can make a profit by finding out what shippers want. Business Week p 13 Ag 26 '33
- Third quarter rise in car loadings disappointing; effect of recovery plans. Annalist 42:508 O 20 '33
- Traffic increased in 1932 by M-K-T subsidiary. Ry Age 94:455-6 Mr 25 '33
- Traffic recovery, the railways' greatest problem. Ry Age 94:820-2 Je 10 '33
- Transportation service surveyed by coordinator. Ry Age 95:278-9+ Ag 19 '33
- What results from store-door service? il Ry Age 95:685-7+ N 11 '33
- Will lighter freight cars save money for the railroads? A. F. Stuebing. Ry Age 95:339-41 S 2 '33
- Will new philosophy change food transportation costs? Food Ind 5:106 Mr '33

**See also**

- |                                     |                     |
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| Container system (freight handling) | Railroads—Rates     |
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**Fuel**

- Purchases and stores division, A.R.A. report on fuel purchasing. Ry Age 95:64 JI 1 '33
- Reciprocal buying of coal condemned. Ry Age 95:527-9 O 14 '33

**See also**

- Coaling stations
- Locomotives—Fuel

**History**

- Trevithick's London exhibition railway of 1808. C. R. King. il plan Engineering 135:693-5 Je 30 '33

See also Louisville and Nashville railroad

**Loading rules**

- A.R.A. mechanical division committee report on loading rules. Ry Mech Eng 107:244-6 JI '33

**Maintenance and repair**

- A.R.E.A. committee report on economics of railway labor. Ry Age 94:422-3 Mr 18 '33
- A.R.E.A. committee report on rules and organization. Ry Age 94:421 Mr 18 '33
- Can equipment maintenance costs be reduced? il Ry Age 95:604-7 O 28 '33
- Deferred freight-car maintenance exceeds \$300,000,000. il Ry Age 95:597-600 O 28 '33
- Deferred railroad maintenance close to \$2,000,000,000. J. B. Eastman. Iron Age 131:796 My 18 '33
- Electrical requirements of steam roads. il Ry Age 95:625-8 O 28 '33
- Improvement work must go on. il Ry Age 93:835-40 D 3 '32
- Maintenance expenses down three billions since 1929. Ry Age 95:587-9 O 28 '33
- Motive power obsolescence high. il Ry Age 95:593-6 O 28 '33
- Passenger equipment maintenance drastically cut. Ry Age 95:601-3+ O 28 '33
- Railroads far behind in maintenance of tracks and structures. Ry Age 95:608-15 O 28 '33
- Signaling work to be done. il Ry Age 95:622-5 O 28 '33
- Three years of under-maintenance. Ry Age 94:149-52+ F 4 '33

**See also**

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| Locomotive shops    | Railroads—Track |
| Locomotives—Repair  | Rails           |

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**Management**

- Address at R. B. A. meeting. J. B. Eastman. Ry Age 95:699-701 N 11 '33
- American association of railroad superintendents 39th annual meeting, Cleveland. Ry Age 94:869-92; 95:157-9+ Je 24, JI 22 '33
- A.R.E.A. committee report on economics of railway operation. Ry Age 94:423-4 Mr 18 '33
- Eastman asks co-operation to increase employment. Ry Age 95:369-70 S 9 '33
- Effect of the shorter work day on public service companies. G. Soule. Pub Util 11:12-16 Ja 5 '33
- Graphical analyses of mechanical operations. L. Richardson. Ry Mech Eng 107:33-44 F '33
- Same cond. Ry Age 93:643-6 N 5 '32
- How the railroads have increased their efficiency by co-operation. il Ry Age 94:251-4 F 18 '33
- Is modern equipment the answer? il Ry Age 95:212-15 Ag 5 '33
- Katy head makes them all salesmen. H. Manley. Forbes 32:17-18 O 15 '33
- Method of measuring locomotive maintenance and its use in regulation. R. W. Harbeson. J Land & Pub Util Econ 9:352-7 N '33
- Old ways are not good enough. il Ry Age 95:590-2 O 28 '33
- Pitfalls in predicting economies. H. J. Titus. Ry Age 93:732-7 N 26 '32
- Railroad co-ordinator not to be czar. Ry Age 94:688-92+ My 13 '33
- Railroad has new things to sell. L. C. Probert. il Nation's Business 20:25-7 D '32
- Railroad reorganization would effect big savings. L. F. Loree. Iron Age 131:593 Ap 13 '33
- Thirty-five years on the railway—and after. W. Whitelaw. Engineer 156:367 O 13 '33
- Traffic recovery, the railways' greatest problem. Ry Age 94:820-2 Je 10 '33
- What of the railroads? T. C. McClary. Mag of Wall St 52:474-5+ S 2 '33
- Work of the federal co-ordinator. J. B. Eastman. Ry Age 95:468-71 S 30 '33

**See also**

- |                      |                             |
|----------------------|-----------------------------|
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**Manufacturing activities**

- Specialization and the railroads; being led further into manufacturing fields. R. D. Bartlett. Ry Age 94:9-10 Ja 7 '33

**Mechanical departments**

- Freight traffic officer makes some suggestions; how mechanical department can help build up freight traffic. Ry Mech Eng 107:159+ My '33; Discussion. 107:202-3, 284 Je, Ag '33
- Mechanical department can help sell transportation. Ry Mech Eng 107:313-14 S '33
- Real objective of the mechanical department. Ry Mech Eng 107:351-2 O '33
- What about apprentices when business picks up? Ry Mech Eng 107:192+ Je '33

**Mileage**

- Railway construction at low ebb; United States, Canada and Mexico. G. E. Boyd. il Ry Age 94:153-9 F 4 '33

**Models, Miniature**

- Miniature trains; an important distinction between toys and models. il Fortune 6:41-3, 110, 113 D '32

**Motor vehicle auxiliaries**

- Attacking the terminal problem. Ry Age 95:617-18 O 28 '33
- Boston & Maine truck operations continue profitable. il Ry Age 94:907-8 Je 24 '33
- Central Vermont co-ordinated service an effective traffic developer. il Ry Age 94:775-6 My 27 '33
- Experiment in store-door service welcomed by co-ordinator. F. E. Williamson; J. B. Eastman. Ry Age 95:495-7 O 7 '33



**RAILROADS—Motor vehicle auxiliaries—Cont.**

How provide collection and delivery service? British railways' operation of own trucks. C. E. R. Sherrington. *il Ry Age* 95:315-17 Ag 26 '33

How Texas & New Orleans provides store-door service to shippers. H. M. Lull. *Ry Age* 94:115-16 Ja 28 '33

Is the motor coach a rail-traffic builder? *il Ry Age* 95:330-2 S 2 '33

Is there a demand for store-door service? *Ry Age* 95:651-3 N 4 '33

Joint service proves satisfactory and economical; Reading transportation company and Pennsylvania Greyhound lines complete third winter of pooled operations. *il Ry Age* 94:904-6 Je 24 '33

Lost traffic recovered by Missouri Pacific trucks. *il map Ry Age* 95:439-40 S 23 '33

Missouri-Kansas-Texas transportation company complete third year of store-door service. *il Ry Age* 95:318 Ag 26 '33

Pinch-hitting for a railroad; substitution of buses due to flood damage. *il Bus Transportation* 12:354-5 S '33

Place for trucks and buses. *il Ry Age* 95:619-21+ O 28 '33

Purchases and stores division, A.R.A. report on purchasing and storekeeping for highway vehicles. *Ry Age* 95:65-6 Jl 1 '33

Railroad annual reports review motor transport operations. *il Ry Age* 94:772-4+ My 27 '33

Railway truck use greatly extended. J. C. Emery. *il Ry Age* 94:183-4+ F 4 '33

What results from store-door service? *il Ry Age* 95:685-7+ N 11 '33

**See also**

Freight handling— Motor trucks in  
Store door delivery freight service

**Motor vehicle competition**

Automobile's challenge. B. E. Hutchinson. *il Bus Transportation* 12:3-6 Ja '33

Automotive age and the railroads. L. A. Rossmann. *Bus Transportation* 12:321-2 Ag '33

Big loss in gasoline consumption is threatened by railroad campaign against motor trucks. *Oil & Gas J* 31:9 D 22 '32

Brief regarding the railroad-highway transportation controversy. *Roads & Sts* 76:60-6+ F '33

Canadian railways endorse fair motor taxes. R. M. Smith. *S A E J* 32:163 Ap '33

Constructive governmental supervision of motor transport. J. P. Kuhn. *Ry Age* 94:870-1 Je 17 '33

Control of road transport. *Economist* 116:227 F 4 '33

Defense of the unregulated motor carriers. *Pub Util* 11:612-14 My 11 '33

Equality of opportunity—a mirage. T. W. Van Metre. *Bus Transportation* 12:sup16-17 Ja '33

Federal regulation of motor transport. H. M. Muller, comp. *Ref Shelf v* 8, no 9:1-154 [bibliog p 19-27] '33

Five and a half billion dollar investment with an 18% tax rate paid by motor vehicle owners in 1930. T. P. Henry. *Bus Transportation* 12:10-12 Ja '33

Forgotten man in transportation. A. J. Brosseau. *Am Pet Inst Proc* 14M(2):15-20 My '33

Half billion in revenue lost to trucks in 1932. S. O. Dunn. *Ry Age* 94:120-1 Ja 28 '33

Highway defense; organized by the automobile makers, the automobile users are meeting the railroads' solid front. *il Business Week* p4-5 D 28 '32

Hold of railroads on legislatures cramps truck design and use. T. R. Dahl. *S A E J* 32:12-14 Ap '33

I am a farmer; views on transportation and road finance. C. Brand. *il Bus Transportation* 12:31-2 Ja '33

Is it worth it? hysteria over 2½ to 5½ per cent freight movement. G. P. McCallum. *Bus Transportation* 11:493-4 D '32

Leave the bus alone says Canadian commission. *Eus Transportation* 11:495 D '32

Motor competition. *Ry Age* 95:158-9 Jl 22 '33

Motor men misrepresent rail program. S. O. Dunn. *Ry Age* 94:85+ Ja 21 '33

Motor trucks, milk and the consumer. H. E. Seanor. *Roads & Sts* 76:67-8 F '33

Motor vehicle transportation; reports at meeting of National association of railroad and utilities commissioners. *Ry Age* 93:739-40 N 26 '32

Plan of railroads to handicap trucks is rejected by the Coolidge committee. *Oil & Gas J* 31:39-40 Mr 2 '33

Le rail et la route; les points de vue des grands réseaux français, des transporteurs automobiles et des usagers. M. D. Dupuis and others. *Soc Ing Civils* Bul 86:629-744 My '33; Abstracts. *Génie Civil* 102:231-3 Mr 11 '33

Rail loss to trucks at least \$275 millions a year. *Business Week* p15-16 N 30 '32

Railroad complaints against truck competition are answered by automobile chamber of commerce. A. J. Brosseau. *Oil & Gas J* 31:8 D 22 '32

Rail-road pact; agreement between highway users and railroad men leaves some important issues still to be settled. *Business Week* p16-17 F 8 '33

Railroad versus automobile. *Ry Age* 94:95-7 Ja 28 '33

Railroads, motors begin to agree. *Forbes* 31:13 F 15 '33

Rails and bus lines agree on regulation. *Baron's* 13:6 F 6 '33

Rails into roads; Rhode Island commission says obsolete trackage should be converted into truck highways. *Business Week* p11-12 N 23 '32

Railways and the nation. C. E. R. Sherrington. *Engineer* 155:321 Mr 31 '33

Railways handicapped in meeting highway competition. *il Ry Age* 93:811-14 D 3 '32

Roads vs. railroads; truck and bus operators prepare a defense. *Business Week* p14 Ja 25 '33

Salter report. L. Vickers. *Aera* 23:1404-9 N '32

Share-expense travel a racket. H. A. Koach. *Ry Age* 94:829-30 Je 10 '33

Shippers say surcharge encourages trucking. *Ry Age* 94:212 F 11 '33

Show shippers' views on railways vs. highways; Trans-Missouri-Kansas shippers' board report. *Ry Age* 93:747-9 N 26 '32

Trains vs. trucks; rail and highway carriers carry their battle to Mr Coolidge. *Business Week* p12+ D 14 '32

Transportation leadership needed. E. A. Jack. *Ry Age* 94:304 F 25 '33

Truck regulation and competition with the railways. P. Johnson. *Roads & Sts* 76:58-9 F '33

Truck transport expensive with all costs considered. C. B. Sudborough. *Ry Age* 95:675-6 N 4 '33

Trucks; their service to the public. R. C. Fulbright. *il Bus Transportation* 12:13-17 Ja '33

Unregulated transport destroys farm and business stability. *Ry Age* 93:797-800 D 3 '32

What to do about highway transport. *il Ry Age* 93:849-51 D 3 '32

**See also**

Railroads—Competitive transportation      Railroads—Motor vehicle auxiliaries

**Office management**

Bangor & Aroostook finds economy in post cards. *Ry Age* 94:208 F 11 '33

**Officials**

Eastman seeks salary reductions. *Ry Age* 95:151-2+ Jl 22 '33

I.C.C. denies Astor director application. *Ry Age* 95:563 O 21 '33

Railway salaries greatly reduced. *Ry Age* 94:887-8 Je 24 '33

\$60,000 maximum for executive salaries; statement by Commissioner Eastman. *Ry Age* 95:335-6 S 2 '33

**Passenger service**

Are the railways capitalizing on Pullman service? *il Ry Age* 95:395-8+ S 16 '33

Is railway passenger service properly sold? *il Ry Age* 95:457-60+ S 30 '33

**RAILROADS—Passenger service—Continued**

Railroad has new things to sell. L. C. Probert. *il* Nation's Business 20:25-7 '32  
Roads doing much to improve passenger service. *il* Ry Age 93:831-4 D 3 '32

**See also**

Dining cars  
Railroads—Commuter service

Railroads—Fares

**Passenger traffic**

Are the railways capitalizing on Pullman service? *il* Ry Age 95:395-8+ S 16 '33  
Century of progress fair stimulates train travel. Ry Age 94:912 Je 24 '33  
Is modern equipment the answer? *il* Ry Age 95:212-15 Ag 5 '33  
Is speed what the public wants? *il* Ry Age 95:276-8 Ag 19 '33  
Is the motor coach a rail-traffic builder? *il* Ry Age 95:330-2 S 2 '33  
Losses in passenger service in 1932. G. G. Boardman. Barron's 13:6 Mr 13 '33  
Passenger rates and revenues. B. Robins. Ry Age 95:185-9 Jl 29 '33  
Passenger traffic survey. Ry Age 95:562 O 21 '33  
Railroads again serve nation in emergency; transporting reforestation army on schedule. Ry Age 95:121-2 Jl 15 '33  
Traffic recovery, the railways' greatest problem. Ry Age 94:820-2 Je 10 '33  
Wanted: some automobile sales managers for the railroad industry. Sales Management 33:216+ S 1 '33  
What can advertising do to promote passenger business? *il* Ry Age 95:518-22 O 14 '33  
What results from fare reductions? *il* Ry Age 95:80-2 Jl 8 '33  
Will air conditioning attract more passengers? *il* Ry Age 95:144-6 Jl 22 '33  
Will rail cars win back lost passenger traffic? P. M. Heldt. Automotive Ind 69:90-2+ Jl 22 '33  
Will reductions in rates attract more passenger traffic? Ry Age 94:884-7 Je 24 '33

**Pensions**

Railroad pension legislation hearings. Ry Age 94:80-3, 111-14 Ja 21-28 '33  
Railway employees ask retirement insurance; hearings on the rival bills to provide for the establishment of a uniform retirement insurance-pension system. Ry Age 94:46-7 Ja 14 '33

**Bibliography**

Pensions in railway service. 42 l Library, Bur. of railway economics, Washington, D.C. '32

**Pipe line competition**

Pipe lines; the railroads' underground competition is taking more from them than the trucks. Business Week p10-11 Ja 4 '33

**Police patrol**

Motor cars in railway police service. *il* Ry Age 94:902 Je 24 '33

**Pooling**

Railroad pool dries up. Business Week p11 N 23 '32

**Power**

New hydroelectric plant authorized to furnish power to railroad company. Pub Util 11:253-4 F 16 '33

Railways and power questions; reports at World power conference. Engineer 156:116 Ag 4 '33

Travelling rectifier station. *diag* Elec R (Lond) 112:210 F 10 '33

**See also**

Electric railroads—Power  
Railroads—Electrification

**Produce terminals**

Designing buildings for fruit and produce terminals. plan Ry Age 94:831-3 Je 10 '33  
Niagara frontier food terminal, Buffalo, New York. *il* plan Arch Rec 74:342-4 N '33

**Public relations**

Are the railroads riding into a hurricane of public disfavor? Sales Management 32:252-3+ Mr 15 '33  
Railroad case gets to the people; newspapers quote Railway Age. Ry Age 94:447-8 Mr 25 '33  
Railroads' public relations policies. F. J. Lisman. Ry Age 95:216-18 Ag 5 '33  
When silence is not golden. A. Huntington. Pub Serv Management 54:15-16 Ja '33

**Purchasing**

Competitive bids asked for rail for 47 roads. J. B. Eastman. Ry Age 95:504-5 O 7 '33  
Eisenindustrie und beschaffungswirtschaft der reichsbahn. M. Schlenker. Stahl & Eisen 53:251-4 Mr 9 '33  
Figures show that railroad buying is overdue. G. L. Lacher. Iron Age 132:45 S 28 '33  
Government's pressure on rail prices alarms capital goods industries. Iron Age 132:46D-46E O 12 '33  
July purchases reach \$39,000,000. Ry Age 95:467 S 30 '33  
L.C.L. and contract buying by railroads. Ry Age 94:448-9 Mr 25 '33  
Million a day for supplies in 1932. Ry Age 94:4-7 Ja 7 '33  
New regulations governing railroad purchases of steel are adopted. Iron Age 132:29-30 N 9 '33  
Purchases and stores division, A.R.A. considers year's work; general committee meeting, Chicago, June 25. Ry Age 95:60-6 Jl 1 '33  
Railroad buying to be stimulated by Transportation loan division in P.W.A. Iron Age 132:33G N 9 '33  
Railroad car situation involves many problems. A. F. Stuebing. Iron Age 132:12-13+ O 12 '33  
Railway purchases—a vital force in business recovery. Ry Age 93:783-7 D 3 '32; Abstract. Pub Serv Management 54:19-20 Ja '33  
Railway purchases and business; editorial. Ry Age 94:35 Ja 14 '33  
Railway purchases and business recovery. C. M. Day. Ry Age 95:164 Jl 22 '33  
Railway purchases are trumps. Ry Age 95:629-33 O 28 '33  
Railway purchases in 1932 at low ebb. Ry Age 94:625-7 Ap 29 '33  
Railway purchases show expansion. Ry Age 95:241-2+ Ag 12 '33  
Reciprocal buying found unfortunate and burdensome. Ry Age 93:743-4 N 26 '32  
Reciprocal buying of coal condemned. Ry Age 95:527-9 O 14 '33  
Reciprocity; I.C.C. warns railroads and shippers to take a cure now or a law later. Business Week p11 D 7 '32  
Some observations on railway purchasing. C. E. Smith. Ry Age 94:305-6 F 25 '33  
What the buyer of ties expects from the seller. D. C. Curtis. Ry Age 94:768-9 My 27 '33

**See also**

Railroads—Equipment and supplies

**Rates**

Ask rates to compete with water carriers. Ry Age 93:716 N 19 '32  
Basic commodity shippers demand rate reductions. Ry Age 94:484 Ap 1 '33  
Fight surcharge extension as plea for lower rates is in. Steel 92:9 Ja 23 '33  
Flat rates on the railways. Economist 115:1183-4 D 24 '32  
Freight fight still a draw; extension of rail surcharges. Business Week p18 Mr 22 '33  
Freight rates must come down. Business Week p13 F 8 '33  
Freight rates O.K. Business Week p12 Ag 12 '33  
Freight surcharges continued. Barron's 13:7 Mr 27 '33  
Hearings begun by I.C.C. in freight rate inquiry. Ry Age 94:638 Ap 29 '33  
Increased competition forces rate revisions. Ry Age 93:714+ N 19 '32



**RAILROADS—Rates—Continued**

I.C.C. refuses to reduce rates. Ry Age 95:243-7 Ag 12 '33  
 I.C.C. steps over state long-and-short-haul rule. Ry Age 94:84 Ja 21 '33  
 I.C.C. theories rejected in Galveston port preference case. Ry Age 94:836 Je 10 '33  
 I.C.C. views on what traffic will bear. Ry Age 94:767-8 My 27 '33  
 I.C.C.'s new rate decisions. Barron's 13:8 Ag 14 '33  
 Maintaining rate surcharges; Interstate commerce commission hearing. J. H. Parmelee. Barron's 13:7 Ja 2 '33  
 Needed investigation of transportation costs. Ry Age 95:267-9 Ag 19 '33  
 Ohio battles; Pittsburgh Coal and U. S. Steel turn on their old customers, the railroads, demanding lower rates. Business Week p3 D 28 '32  
 Pretty quarrel in rate-making; I.C.C. overrules Pennsylvania constitution and statutes. T. F. Woodlock. Barron's 13:6 F 27 '33  
 Price of transportation service. W. M. Daniels. 86p Harper '32  
 Proper adjustment of railroad freight rates in view of the present depression. Ry Age 93:738 N 26 '32  
 Railroad profits on lower rates? T. C. McClary. Mag of Wall St 52:118-19+ My 27 '33  
 Railroad rates. Manuf Rec 102:12-13 Mr '33  
 Railroads ask continuance of emergency freight rates. Iron Age 130:936 D 15 '32  
 Railroads oppose reductions in freight rates. Ry Age 94:372-3 Mr 11 '33  
 Railroads propose rate cuts to meet waterway competition. Iron Age 130:775 N 17 '32  
 Railways ask continuation of freight surcharge. Ry Age 93:986-7 D 31 '32  
 Railways oppose general freight rate reduction. Ry Age 94:797-801 Je 3 '33  
 Railways would continue Ex parte 103 surcharges. Ry Age 93:921 D 17 '32  
 Rate reduction petition opposed by short lines. Ry Age 94:376 Mr 11 '33  
 Real cause of railway financial distress. H. P. Gillette. il Roads & Sts 76:55-7 F '33  
 Regulation as a cause of present railway situation. Ry Age 93:802-10 D 3 '32  
 Remove barriers to progress; basic freight rates and their relation to southern development. C. R. Cunningham. Manuf Rec 102:42 S '33  
 Reparations a racket? T. F. Woodlock. Ry Age 95:255 Ag 12 '33  
 Revolutionary principle of rate making; the broad significance of the Senate amendment to the railroad bill. H. C. Spurr. Pub Util 12:260-6 Ag 31 '33  
 Right to fair return defended. Ry Age 94:897-8+ Je 24 '33  
 Shippers say surcharge encourages trucking. Ry Age 94:212 F 11 '33  
 Sound economics demand readjustment of freight rates. Brick & Clay Rec 82:47+ F '33  
 Store-door tariffs of Erie and P.R.R. to be protested. Ry Age 95:674 N 4 '33  
 Surcharge continued until September 30. Ry Age 94:398-9 Mr 18 '33  
 Transcontinental railroads appeal to Coolidge group. Ry Age 94:24+ Ja 7 '33  
 Vicious circle in rate-making. T. F. Woodlock. Barron's 13:6 Mr 13 '33  
 Western class rate case re-opened. Ry Age 93:920 D 17 '32  
 What the railroads have lacked; preservation of freight-rate structure would have averted many troubles. G. G. Boardman. Barron's 13:4 F 13 '33  
 Why freight rates are high; editorial. Ry Age 94:201-3 F 11 '33

*See also*

Railroads—Fares

**Clay products**

Throttling the clay industry with high freight rates. Brick & Clay Rec 81:192 D '32  
 What about freight rates? Brick & Clay Rec 81:154 N '32

**Coal**

Freight rates. Business Week p5 F 1 '33  
 Freight rates under widespread attack by producers and consumers. map Coal Age 38:63-4 F '33  
 Lake cargo coal rate controversy. H. C. Mansfield. 273p \$4.25 Columbia univ. press, New York '32

**Cottonseed and cottonseed products**

Cottonseed products freight rates fixed for entire United States. Oil Paint & Drug Rep 122:14 D 19 '32

**Fertilizers**

Fertilizer freight rate revision is recommended. Oil Paint & Drug Rep 123:15 F 20 '33

**Fruit**

Oranges leave rails; Florida citrus growers are shipping by water and highway. Business Week p5 F 1 '33

**Gasoline**

Westland oil obtains reduction in Montana freight rates. Net Pet N 25:36 JI 19 '33

**Glass-packed foods**

Glass container freight rates greatly reduced. Glass Ind 14:111 O '33

**Iron**

Railroad freight rates on foundry, malleable, basic and Bessemer pig iron in carloads (usual minimum 25 tons) from principal code basing points. Iron Age 132:35-6 O 19 '33  
 Water competition to bring lower freight rates to gulf ports. Iron Age 131:640 Ap 20 '33

**Live stock**

Higher livestock rates unjustified, I.C.C. holds. Ry Age 94:218 F 11 '33  
 Sale-in-transit rates on livestock challenged. Ry Age 94:257 F 18 '33

**Oils and fats**

Cottonseed products freight rates fixed for entire United States. Oil Paint & Drug Rep 122:14 D 19 '32

**Paint materials**

Traffic achievement; N.O.P. & V.A. report. Oil Paint & Drug Rep Extra ed 122:20-2 N 29 '32

**Paper**

Waste paper hearing before rail executives. Paper Tr J 95:25 N 17 '32

**Petroleum and petroleum products**

I.C.C. examiners recommend lowering refined oil rates in South. Nat Pet N 24:54 N 30 '32  
 Mid-continent refined products move by railroad to vast consuming public. A. S. James. map Nat Pet N 25:72+ My 17 '33  
 Mountain-Pacific rail rates hiked by I.C.C. Nat Pet N 25:52 My 24 '33  
 Petroleum freight cuts approved by New York public service commission. Oil Paint & Drug Rep 122:54 D 5 '32

**Rock products**

How railroads and commercial aggregate producers cooperate in Kansas. J. H. Ruckman. map Rock Prod 36:28-9 Mr '33  
 Missouri aggregate producers find a way to save established plants; three-cornered agreement between state highway department, the railroads and the producers. Rock Prod 35:46-51 D 31 '32

**Sand and gravel**

Industrial sand cases 1930. R. E. Riley. Rock Prod 36:30-1 Ja '33  
 Missouri aggregate producers find a way to save established plants; three-cornered agreement between state highway department, the railroads and the producers. Rock Prod 35:46-51 D 31 '32

**Steel**

New low Pittsburgh-Detroit rate, 18.5c, asked at hearing. Steel 92:9 Ja 16 '33

**RAILROADS—Rates—Steel—Continued**

Pittsburgh for lower freight rates to aid coast trade. Steel 92:15 F 6 '33; Iron Age 131:244 F 9 '33

Railroad freight rates on finished steel products in carloads (usual minimum, 40,000 lb.) from leading code basing points to representative consuming centers. Iron Age 132:35-6 O 12 '33

**Sugar**

Barge lines oppose lower costs to shippers. M. W. Harrison. Ry Age 93:987-8 D 31 '32  
Reduced rates on sugar permitted by the I.C.C. Ry Age 95:167-8 JI 22 '33

**Wood pulp**

Wood pulp freight rate hearings resumed. Paper Tr J 97:21 JI 20 '33

**Receiverships**

I.C.C. issues rules for reorganization procedure. Ry Age 94:740 My 20 '33  
Railway finances in 1932. J. G. Lyne. Ry Age 94:160-4 F 4 '33  
Wisconsin Central in receivership. Ry Age 93:879 D 10 '32

**Records**

A.R.E.A. committee report on records and accounts. Ry Age 94:413-14 Mr 18 '33  
Canadian National stores control methods stand time test. il Ry Age 93:970-3 D 31 '32  
Improved car accounting and statistics at lower costs; Boston & Maine applies punch card equipment. G. F. Glacy. Ry Age 94:548-52 Ap 15 '33

**Ride stealing**

Stealing of train rides becomes more prevalent. Ry Age 95:70 JI 1 '33

**Rolling stock**

All-metal rolling stock; carriages and wagons; use of light metals and alloys; use of autogenous welding. H. N. Gresley; R. Mariani; Dähnck. Engineer 155:109-10 F 3 '33  
Mechanical division, A.R.A. holds limited meeting at Chicago, June 27. Ry Age 95:58-9+ JI 1 '33  
New equipment may stem passenger losses of railroads. il Steel 92:13-14 Ap 3 '33  
Railroad cars and locomotives are fewest in a decade. Iron Age 130:811 N 24 '32  
Railroad mechanical engineering; condensed from the 1932 progress report of the A.S.M.E. railroad division. il Mech Eng 54:854-5 D '32

**See also**

Cars	Motor cars (railroad)
Dining cars	Refrigerator cars
Freight cars	Tank cars
Locomotives	

**Safety devices and measures**

A.R.A. Safety section 13th annual meeting. Chicago. Ry Age 95:665-9 N 4 '33  
Announce winning railroads in employee safety contest. Nat Safety N 27:32 My '33  
Canadian Pacific installs signaling for tunnel. il plan Ry Age 94:15-16 Ja 7 '33  
Power reverse gear required by I.C.C. Ry Age 94:83 Ja 21 '33; Excerpts. Ry Mech Eng 107:72-3 F '33  
Railroad safety on schedule. C. E. Hill. Nat Safety N 27:21-2 Je '33  
Relationship between the vehicle and the track, to ensure safety at high speeds; summary of report. Engineer 155:64 Ja 20 '33

**See also**

Air brakes	Harriman memorial
Grade crossings	medals for safety

**Salaries**

Eastman seeks salary reductions. Ry Age 95:151-2+ JI 22 '33  
General Atterbury's salary reduced to \$60,000 at own request. Ry Age 95:447-8 S 23 '33  
Limitation on salaries imposed by the R.F.C. Ry Age 94:809-10 Je 3 '33  
Railway salaries greatly reduced. Ry Age 94:887-8 Je 24 '33  
\$60,000 maximum for executive salaries; statement by Commissioner Eastman. Ry Age 95:335-6 S 2 '33

**Scrap material**

Mills balking at rail-scrap barter. Steel 92:25 My 1 '33  
Railroads review question of old materials. il Ry Age 95:285-7 Ag 19 '33

**Securities**

American railroad—a sound investment. E. G. Buckland. Inv Banking 3:80-6 N 25 '32  
Hope for railway stockholders? Economist 117:283-4 Ag 5 '33  
How the rails will meet maturing debts of 1933. P. H. Fulton. il Mag of Wall St 51:428-9+ F 4 '33  
List of bonds for safety and profit. P. Clay. Forbes 31:31-2 Ja 1 '33  
Opportunities for price appreciation in the low-priced rails. H. C. Slater. Mag of Wall St 52:324-5+ JI 22 '33  
Plan for rehabilitation of the railroads. P. E. Hunter. Iron Age 131:482 Mr 23 '33  
Position of railroad common stocks. Mag of Wall St 51:435; 52:376-7 F 4, Ag 5 '33  
Prudent-investment theory. T. B. Robb. Barron's 13:6-7 Ap 17 '33  
Railroad bond policy for the institutional investor. H. Spero. Trust Companies 56:447-50 Ap 33  
Railway finances in 1932. J. G. Lyne. Ry Age 94:160-4 F 4 '33  
Removal of railroad legal bonds from Connecticut savings bank list. Barron's 13:19 Ja 9 '33  
Report of I.B.A. railroad securities committee. Inv Banking 3:87-92 N 25 '32  
Six rail bonds for speculation. R. S. Wallace. Forbes 32:30 JI 1 '33  
What to look for in rail securities. M. D. Gould. Mag of Wall St 51:572-3+ Mr 18 '33  
Who are the railway's owners? Ry Age 93:788-90 D 3 '32

**See also**

Railroads—Equipment trust certificates

**Service**

Railroads are not asleep! il Ry Age 93:828-30 D 3 '32

**See also**

Freight car service  
Railroads—Passenger service

**Shops**

Air-compressor repairs on the Burlington. il Ry Mech Eng 107:65-7 F '33  
A.R.E.A. committee report on shops and locomotive terminals. Ry Age 94:413 Mr 18 '33  
Katy air-brake repairs centralized. W. E. Vergan. il Ry Mech Eng 107:171-4 My '33  
Purchases and stores division, A.R.A. report on manufacturing in railroad shops. Ry Age 95:64-5 JI 1 '33  
Railway-coach batteries; their maintenance in the tropics. J. G. B. Sams. diag plan Electrician 110:357 Mr 17 '33  
Specialization and the railroads; being led further into manufacturing fields. R. D. Bartlett. Ry Age 94:9-10 Ja 7 '33  
Ten to one variations in railroad shop time. Am Mach 77:4-5 Ja 4 '33

**See also**

Car shops  
Locomotive shops

**Equipment**

Car straightening devices. diags Ry Mech Eng 107:369-70 O '33  
Car wheeling up to date. A. T. Kuehner. il plan Am Mach 77:106-9 F 15 '33  
Crane for the truck-shop. il Ry Mech Eng 107:136-7 Ap '33  
Efficient oxyacetylene cutting machine installed. il Ry Mech Eng 107:31-2 Ja '33  
Grinding operations in locomotive repair. F. B. Jacobs. il Am Mach 77:233-5 Ap 12 '33  
Modern electric equipment repair facilities used by Pennsylvania railroad electrified system. il Ry Age 94:301-2 F 25 '33  
Paint spray hoods at Burnside shop. il Ry Mech Eng 107:137-8 Ap '33  
Pneumatic clamp for the triple-valve shop. il diags Ry Mech Eng 106:463 N '32



**RAILROADS—Shops—Equipment—Continued**

- Portable jack for handling car wheels. P. G. Stultz. *il Ry Mech Eng* 106:504-5 D '32
- Pulverized coal for forge furnaces is excellent and cheap; Norfolk & Western railway. C. P. Blair and C. E. Pond. *il diags Metal Prog* 22:24-8 D '32
- Rack for fabricating hopper-car sides. *il Ry Mech Eng* 107:297-8 Ag '33
- Railway shops badly in need of new tools. *Ry Mech Eng* 107:287 Ag '33
- Reversing valve-bushing press. *diags Ry Mech Eng* 107:67-8 F '33
- Set-up time for pedestal wedges and shoes reduced to almost nothing. O. Herbert. *diag Mach* 39:646 Je '33
- Shop devices for reclaiming air hose. *il Ry Mech Eng* 107:368-9 O '33
- Turning driving-box brasses with tungsten-carbide cutters. C. O. Herb. *il Mach* 40:156 N '33
- Two car-shop devices; spring-equipped hook and spring-type bumper. *il Ry Mech Eng* 106:467 N '32
- Vat for applying No-Ox-Id compound. *diags Ry Mech Eng* 107:374-5 O '33
- Wheel-shop devices. *il Ry Mech Eng* 107:373-4 O '33

**Signals**

- Alton replaces crossing flagmen with signals. *il diag Ry Age* 94:771 My 27 '33
- A.R.E.A. committee report on signals and interlocking. *Ry Age* 94:412-13 Mr 18 '33
- Burlington replaces crossing gates with flashing-light signals. W. F. Zane. *il plan Ry Age* 94:334-5 Mr 4 '33
- Cab signals authorized on the Pennsylvania. *Ry Age* 93:982-3 D 31 '32
- Cab signals authorized on the Reading and the Central of N.J. *Ry Age* 94:678 My 6 '33
- Cab signals in Europe. V. Vlaikoff. *Ry Age* 94:18-19 Ja 7 '33
- Canadian Pacific installs signaling for tunnel. *il plan Ry Age* 94:15-16 Ja 7 '33
- Centralized traffic control on P.R.R. *il plan Ry Age* 95:92-3 Jl 8 '33
- Changes in interlockings and signaling system; Pennsylvania railroad electrified system. *il Ry Age* 94:297-9 F 25 '33
- La commande centralisée du trafic sur les chemins de fer de l'État, entre Houilles et Sartrouville (Seine-et-Oise). J. Netter. *il diags Génie Civil* 103:293-6 S 23 '33
- Electric signalling; progress in 1932. M. G. Tweedie. *Electrician* 110:116 Ja 27 '33
- Electricity in transportation, 1932-33. *Elec Eng* 52:770 N '33
- Glasgow's new railway signals. *il Elec R (Lond)* 113:11 Jl 7 '33
- Manual-block installation includes spring switch on C. & O. *il Ry Age* 95:310-12 Ag 26 '33
- Modern signaling on the Reading railroad. E. W. Reich and G. I. Wright. *diags Elec Eng* 52:701-2, 712-15 O '33
- New centralized traffic control on the B. & M. *il diag Ry Age* 95:124-6 Jl 15 '33
- Le poste central à commande électrique des aiguilles et signaux, de la gare du Nord, à Bucarest. *diag Génie Civil* 102:258-9 Mr 18 '33
- Power signalling; new installation at St Enoch station, Glasgow. *Electrician* 110:710 Je 2 '33
- Remote control replaces interlocking on the Wabash. *il Ry Age* 94:633-4 Ap 29 '33
- Remote control switch replaces interlocker on Missouri Pacific. *il Ry Age* 94:475-6 Ap 1 '33
- Re-signalling of Brighton station. *il Engineer* 155:34-5, 44 Ja 13 '33
- Signal construction during 1932. J. H. Dunn. *il Ry Age* 94:179-82 F 4 '33
- Signal section. A.R.A. meets in New York. *Ry Age* 94:693-5 My 13 '33
- Signaling developments have improved the operation of trains. *il Ry Age* 95:51-4 Jl 1 '33
- Signaling work to be done. *il Ry Age* 95:622-5 O 28 '33

Simplified interlocking installed at Dayton Union terminal. *il plan Ry Age* 93:899-902 D 17 '32

Test of the durability of signal-relay contacts. E. E. King. *il diags Ill U Eng Exp Sta Bul* 250:1-16 '32

Two groups of consolidated interlockings save the C.M.St.P.&P. \$10,730 net annually. *il diag Ry Age* 94:240-1 F 18 '33

Use dwarf signals as automatics; N.Y.O.&W. revises signaling through Middletown, N.Y. *il plan Ry Age* 95:491-2 O 7 '33

What signalling offers; the part General railway signal co. plays in economical and safe operation of railroads. R. P. Cooke. *il Barron's* 13:18-19 Ap 24 '33

*See also*  
Track circuits

**Snow protection and removal**

Snow, natural enemy of railroads and cities. *il Fortune* 7:40-1, 90 F '33

**Stationery**

Purchases and stores division. A.R.A. report on stationery and printing. *Ry Age* 95:62-3 Jl 1 '33

**Stations**

Aluminum details; the new Cincinnati union terminal. D. B. Hobbs. *il Arch Rec* 74:227-36 S '33

Cincinnati union terminal; pictorial history. 87p Cincinnati. Chamber of commerce and merchants' exchange '33

Cincinnati's new union terminal now in service. W. S. Lacher; J. H. Dunn. *il diag plans map Ry Age* 94:575-90 Ap 22 '33

New Cincinnati union terminal has novel features. *il Heating-Piping* 5:337-40 Jl '33

New passenger station facilities for New York-Philadelphia electrified line. *il plan Ry Age* 94:271-2 F 25 '33

Paddington station improvements. *il diags plan Engineering* 136:403, 404-6, 457-9, 466, 592, 593, pl 14, 16 O 13, 27, D 1 '33

Re-signalling of Brighton station. *il Engineer* 155:34-5, 44 Ja 13 '33

Union terminal, Cincinnati, Ohio. front *il diag plan map Arch Forum* 58:453-78 Je '33

*See also*  
Railroads—Terminals

**Lighting**

Illuminating engineering society prize, Beaux-Arts institute of design. A. L. Powell. *il Illum Eng Soc Trans* 28:204-12 Mr '33

Union depot, Cincinnati, Ohio; lighting. *il Illum Eng Soc Trans* 28:472-3 Je '33

**Train indicators**

Novel train announcing board for the National railways of Mexico. *il Ry Age* 95:497-8 O 7 '33

**Statistics**

Business revival and the railways; editorial. *Ry Age* 95:235-6 Ag 12 '33

Forty-fifth annual report on the statistics of railways in the United States for the year ended December 31, 1931. p132-282 Interstate commerce commission, Washington, D.C.; \$1.50 Supt. of doc. '32

Method of measuring locomotive maintenance and its use in regulation. R. W. Harbeson. *J Land & Pub Util Econ* 9:352-7 N '33

Plight of railway employees. *Ry Age* 93:779-82+ D 3 '32

Railroad cars and locomotives are fewest in a decade. *Iron Age* 130:811 N 24 '32

Railway purchases—a vital force in business recovery. *Ry Age* 93:783-7 D 3 '32

Railway purchases show expansion. *Ry Age* 95:241-2+ Ag 12 '33

Review of railway operations in 1932. J. H. Parmelee. *Ry Age* 94:134-43 F 4 '33; Same, with figures rev. to March 6, 1933. 36p Bur. of railway economics, Washington, D. C. '33

Statistics of railways of class I, United States, 1920-1932. 12 sheets Bureau of railway econ, Washington, D.C. '33

**RAILROADS—Statistics—Continued**

This is what has happened to the railways.

Ry Age 93:774-8 D 3 '32

Why freight rates are high; editorial. Ry Age 94:201-3 F 11 '33

See also

Cars—Statistics

**Stores systems**

Canadian National stores control methods

stand time test. il Ry Age 93:970-3 D 31 '32

Energizing the supply dollar; elimination of

waste in stores operation. A. G. Follette. il

Ry Age 95:115-16 J1 15 '33

Erie supply methods show planning. il Ry

Age 95:499-500 O 7 '33

Forms keep G.T.W. stores in step. il Ry

Age 95:190-3 J1 29 '33

How fifty railroads handle stores expense.

Ry Age 95:429-35 S 23 '33

Purchases and stores division, A.R.A. con-

siders year's work; general committee meet-

ing, Chicago, June 25. Ry Age 95:60-6 J1 1

'33

Railway storekeeping many sided. Ry Age

95:337-8+ S 2 '33

Supply departments and railway progress.

D. C. Curtis. Ry Age 93:745-6 N 26 '32

**Suburban traffic**

See also

Railroads—Commut-

er service

**Switches, frogs, etc.**

Le poste central à commande électrique des

aiguilles et signaux, de la gare du Nord, à

Bucarest. diag Génie Civil 102:258-9 Mr 18

'33

**Switching**

Cincinnati's new union terminal now in serv-

ice; interlocking facilities. J. H. Dunn. il

Ry Age 94:582-5 Ap 22 '33

Manual-block installation includes spring

switch on C. & O. il Ry Age 95:310-12

Ag 26 '33

Modernizing a large gravity yard, Galesburg,

Ill. il plans Ry Age 93:938-42 D 24 '32

New centralized traffic control on the B. & M.

il diag Ry Age 95:124-6 J1 15 '33

Operation of three-power locomotives; D.L.

& W. finds motive power suitable for both

switching and transfer service. F. H. Cra-

ton. il map Ry Age 94:363-6 Mr 11 '33

Power supervision, switching and sectional-

izing; Pennsylvania railroad electrified sys-

tem. il diags Ry Age 94:294-6 F 25 '33

Remote control replaces interlocking on the

Wabash. il Ry Age 94:633-4 Ap 29 '33

Simplified interlocking installed at Dayton

Union terminal. il plan Ry Age 93:899-902

D 17 '32

Two groups of consolidated interlockings save

the C.M.St.P.&P. \$10,730 net annually. il

diag Ry Age 94:240-1 F 18 '33

**Taxation**

Effect of excessive and inequitable taxation of

the railways. il Ry Age 93:791-6 D 3 '32;

Reply. V. J. Brown. Roads & Sts 76:74 F '33

How the tax burden falls on different forms

of transportation; tabulation. Bus Trans-

portation 12:60 Ja '33

Problem of railroad taxation. E. C. Craig.

Ry Age 95:372-3 S 9 '33

Some current problems of railroad taxation.

A. G. Buehler. J Land & Pub Util Econ

9:75-88 F '33

Untaxed! buses paid 7.41% of operating

revenue, railroads 6.6% in 1931. A. M. Hill.

Bus Transportation 12:26-30 Ja '33

**Telegraph**

Communication activities curtailed. S. R.

Hamilton. il Ry Age 94:185-6 F 4 '33

Communication systems of American rail-

roads. J. L. Niesse and R. C. Thayer. Elec

Eng 52:11-14 Ja '33

**Telephone**

Communication activities curtailed. S. R.

Hamilton. il Ry Age 94:185-6 F 4 '33

Communication systems of American rail-

roads. J. L. Niesse and R. C. Thayer. Elec

Eng 52:11-14 Ja '33

Telephone communication system for freight

trains. il diag Ry Age 94:801-2 Je 3 '33;

Same abr. Sci Am 149:284 D '33

**Terminals**

A.R.E.A. committee report on yards and

terminals. Ry Age 94:416-17 Mr 18 '33

Attacking the terminal problem. il Ry Age

95:616-18 O 28 '33

Buses serve union terminal dedicated recently

at Cincinnati. il Transit J 77:162+ My '33

Cincinnati terminal boilers roundhouse swap

heat. il plan Power 77:136-8 Ap '33

Cincinnati's new union railway terminal. il

Eng N 111:524-6 N 2 '33

Cincinnati's new union terminal now in serv-

ice. W. S. Lacher; J. H. Dunn. il diag

plans map Ry Age 94:575-90 Ap 22 '33

Complete grade separation project at Bir-

mingham, Alabama. il diags plan Ry Age

95:271-5 Ag 19 '33

Development of air rights entails difficult

substructure work; more than 200 column

footings placed at the Pennsylvania sta-

tion, New York, for post office extension.

il plan Ry Age 95:342-5 S 2 '33

\$41,000,000 funnel, which is the Cincinnati

union terminal, il Fortune 7:72-6+ Je '33

Illinois Terminal improves freight facilities;

construction of a modern terminal at St

Louis. il map plans Ry Age 95:523-6+ O 14

'33

Install plaza lights at Cincinnati's new union

terminal. Illum Eng Soc Trans 28:392-3 My

'33

Los Angeles gets its union terminal. il Arch

Forum 59:334 O '33

Operate passenger terminal under mammoth

building project; construct new Chicago

postoffice over Chicago union station tracks

without interfering with train service. il

plan Ry Age 94:71-4 Ja 21 '33

Operation of 3,000-volt locomotives on the

Cleveland union terminals electrification. F.

H. Craton and H. W. Pinkerton. il Elec Eng

52:96-9 F '33

Progress made on large engineering projects;

railways and rail terminals. Eng N 110:160-1

F 2 '33

St Louis electric terminal improves schedule

speed. il Elec Traction 28:452-3 N '32

Seven great railroads build a union terminal

at Cincinnati. R. G. Skerrett. il Comp Air

M 33:4134-40 Je '33

Terminals also have been greatly improved.

il Ry Age 95:46-8 J1 1 '33

Union terminal, Cincinnati, Ohio. front il diag

plan map Arch Forum 58:453-78 Je '33

See also

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**Heating and ventilation**

Heating and ventilating the new Cincinnati

union terminal. L. J. Hart. il diag plan

Heat & Ven 30:28-32 O '33

**Ticket offices**

Is railway passenger service properly sold? il

Ry Age 95:457-60+ S 30 '33

**Tickets**

L'emploi des machines à imprimer les billets

à la Compagnie des chemins de fer de l'Est.

P. Calame. il diags Génie Civil 102:183-6 F

25 '33

**Track**

A.R.E.A. committee report on ballast. Ry Age

94:416 Mr 18 '33

A.R.E.A. committee report on maintenance

of way work equipment. Ry Age 94:415-16

Mr 18 '33

A.R.E.A. committee report on roadway. Ry

Age 94:420-1 Mr 18 '33

A.R.E.A. committee report on track. Ry Age

94:417 Mr 18 '33

A.R.E.A. proposes 112-lb. rail section. il diag

Ry Age 95:126 J1 15 '33



**RAILROADS—Track—Continued**

Are the railways backward in research and test work? *il Ry Age* 94:11-14 *Ja* 7 '33

Better maintenance will reduce stresses in rail. A. N. Talbot. *diags Ry Age* 95:153-5 *Jl* 22 '33

Builds cutoff to take traffic from city streets; project of the Los Angeles & Salt Lake at Long Beach, Cal. *il map Ry Age* 94:506-8 *Ap* 8 '33

Depresses tracks formerly elevated to eliminate grade crossings; St Louis Wabash project. *il diag map Ry Age* 95:359-62 *S* 9 '33

Electric arc welders join the railroad gang. W. W. Reddie. *il Elec J* 30:307-8 *Jl* '33

Modern track a product of research. *il Ry Age* 95:33-8 *Jl* 1 '33

New methods in track work. T. H. Strate. *W Soc E J* 38:29-37; Discussion. E. E. R. Tratman. 37-8 *F* '33

Old tunnel demolished with trains running; Delaware & Hudson railroad tunnel at Whitehall, N.Y. *il diags Eng N* 109:620-2 *N* 24 '32

Position of the engineer's department. C. E. R. Sherrington. *Engineer* 154:559 *D* 2 '32

Railroads far behind in maintenance of tracks and structures. *Ry Age* 95:608-12 *O* 28 '33

Research and study have made the roadway. *il Ry Age* 95:38-41 *Jl* 1 '33

Roadway changes required by electrification; Pennsylvania railroad. *il diags Ry Age* 94:281-3 *F* 25 '33

Roundabout working for railway trains. *diag Engineer* 154:482 *N* 11 '32

Tables show marked reductions in maintenance of way. *Ry Age* 93:977-9 *D* 31 '32

Use of mechanical appliances in the permanent way maintenance and in track relaying; summary of reports. *Engineer* 155:63-4 *Ja* 20 '33

Welder for railroad track maintenance. *il Iron Age* 131:633 *Ap* 20 '33

Westinghouse tractor welder for railroad maintenance. *il Elec Traction* 29:181 *Je* '33; *Engineering* 136:33 *Jl* 14 '33

What happens when bolts are tight. A. N. Talbot. *il Ry Age* 94:893-6 *Je* 24 '33

When Tehachapi creek turned outlaw; repairing railroad tracks damaged by flood. L. A. Luther. *il Comp Air M* 38:4084-5 *Mr* '33

Widening work on the London and North eastern railway. *il Engineering* 136:92, 97-8 *Jl* 28 '33

**See also**

Ballast	Railroads—Switches,
Grade crossings	frogs, etc.
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Rail joints	gauge
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	Track

**Track elevation**

Complete grade separation project at Birmingham, Alabama. *il diags plan Ry Age* 95:271-5 *Ag* 19 '33

Construction under heavy traffic. G. H. Wilsey. *il Civil Eng* 3:142-4 *Mr* '33

Girderless concrete slabs solve headroom problem; overstreet crossings at Elmira, N.Y. M. Hirschthal. *il diags map Eng N* 109:678-81 *D* 8 '32

Grade separation eliminates many multiple-track crossings; four railroads join in the construction of two long underpasses at Black Rock, N. Y. *il Ry Age* 95:182-4 *Jl* 29 '33

Large grade separation project completed on the Reading. *il map Ry Age* 95:688-91 *N* 11 '33

Long Island is completing another large grade separation project at Valley Stream, N.Y. *il plan Ry Age* 95:550-3 *O* 21 '33

Santa Fe elevates its tracks in Oklahoma City. H. W. Wagner. *il map Eng N* 111:563-5 *N* 9 '33

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**Track making machinery**

Broom and Wade railway tie tamping outfit. *il Engineer* 155:357-8 *Ap* 7 '33

Easing the burden of labor. *il Ry Age* 95:48-50 *Jl* 1 '33

**Traffic****See also**

Railroads—Freight  
Railroads—Passenger traffic

**Train dispatching**

Centralized traffic control on P.R.R. *il plan Ry Age* 95:92-3 *Jl* 8 '33

La commande centralisée du trafic sur les chemins de fer de l'État, entre Houilles et Sartrouville (Seine-et-Oise). J. Netter. *il diags Génie Civil* 103:293-6 *S* 23 '33

Communication system of American railroads. J. L. Niesse and R. C. Thayer. *Elec Eng* 52:11-12 *Ja* '33

Roundabout working for railway trains. *diag Engineer* 154:482 *N* 11 '32

Signaling developments have improved the operation of trains. *il Ry Age* 95:51-4 *Jl* 1 '33

Simplified interlocking installed at Dayton Union terminal. *il plan Ry Age* 93:899-902 *D* 17 '32

**Train speed**

Express train speeds. P. F. Laning. *Sci Am* 148:185 *Mr* '33

Is speed what the public wants? *il Ry Age* 95:276-8 *Ag* 19 '33

Relationship between the vehicle and the track, to ensure safety at high speeds; summary of report. *Engineer* 155:64 *Ja* 20 '33

Speedier passenger train services on French roads. *Ry Age* 94:836 *Je* 10 '33

**Trains**

Conditioning the Empire Builder. V. A. Tetu. *il Ry Mech Eng* 107:295-6 *Ag* '33

Drum battery train establishes new record. *Elec W* 102:294 *S* 2 '33

Is modern equipment the answer? *il Ry Age* 95:212-15 *Ag* 5 '33

Materials main factor in new type railway train; Union Pacific. *il Mach* 40:67 *O* '33

Numbers versus symbols for the identification of freight trains. G. H. Minchin. *Ry Age* 94:889-90 *Je* 24 '33

Pullman light-weight rail car designed for high speeds. *il Ry Age* 95:489-90 *O* 7 '33

R.R. futurity; the high-speed, light weight, streamlined trains of the future are not so far away, after all. *il Business Week* p15-16 *Je* 10 '33

Reducing train stops. *Ry Age* 94:891 *Je* 24 '33

Round and light will be the U.P.'s new high-speed train. *il diags Fortune* 8:64-6 *Ag* '33

Stainless-steel train delivered to Texas & Pacific; two-car unit for main-line mail-baggage-passenger service. *il Ry Age* 95:692-4 *N* 11 '33

Tourist trains on the London and North-eastern railway. *il Engineering* 136:114-15 *Ag* 4 '33; *Engineer* 156:112 *Ag* 4 '33

Union Pacific plans high-speed streamlined train. *il diag Ry Age* 94:761-2 *My* 27 '33; Abstracts. *Ry Mech Eng* 107:228 *Je* '33; *Sci Am* 149:81 *Ag* '33

**See also**

Cars  
Motor cars (railroad)

**Trespassing**

Accidents to trespassers; report of A.R.A. committee on train service accidents. *Ry Age* 95:667 *N* 4 '33

Trespassing problem worries the railroads. D. G. Philipps. *Nat Safety N* 28:29 *N* '33

**Valuation**

I.C.C. plans to make valuation records current. E. I. Lewis. *Ry Age* 93:740-1 *N* 26 '32

Prudent-investment theory. T. B. Robb. *Baron's* 13:6-7 *Ap* 17 '33

Regulation as a cause of present railway situation. *Ry Age* 93:809-10 *D* 3 '32

Terminal rights of New Haven excluded from valuation. *Ry Age* 93:754-5 *N* 26 '32

## RAILROADS—Continued

## Wages

- British railroads fight for wage cut. *Barron's* 13:9 Ja 2 '33
- British roads to abandon existing wage procedure. *Ry Age* 94:484-5 Ap 1 '33
- Changed railroad situation; new employee relation demanded. *J. A. Moffitt. Barron's* 12:3+ N 21 '32
- Conflicting views regarding employment and wages; editorial. *Ry Age* 94:655-6 My 6 '33
- Extension of railroad pay-deduction agreement. *Monthly Labor R* 36:336 F '33
- Fundamentals in rail wage fight. *T. F. Woodlock. Barron's* 13:4 Ja 2 '33
- Inflexible wage rates as a factor in the financial position of the railroads. *G. G. Boardman. Annalist* 42:181 Ag 11 '33
- Kansas City Southern proposes new wage plan. *Ry Age* 95:127-31 Jl 15 '33
- Mileage pay basis abolished on Delaware & Hudson railroad. *Monthly Labor R* 35:1119 N '32
- New deal proposed by Kansas City Southern wage plan; editorial. *Ry Age* 95:515-17 O 14 '33
- President Roosevelt considers K.C.S. wage plan dispute. *Ry Age* 95:305-7 Ag 26 '33
- Problem of governmental costs, taxation, and railroad wages; letter to the editor. *J. N. Mowery. Barron's* 12:19 D 12 '32
- Proposed Louisiana, Arkansas & Texas wage basis found unjustified. *Ry Age* 95:348+ S 2 '33
- Rail wage cut postponed at administration request. *Ry Age* 94:909 Je 24 '33
- Rail wage gamble; results of the Chicago wage conference. *Business Week* p9 Ja 4 '33
- Railroad-wage issue. *Barron's* 13:3+ Ja 16 '33
- Railroads cancel low wage drive. *Forbes* 32:12 Jl 1 '33
- Railway wages. *Economist* 115:1126-8 D 17 '32
- Railway wages and railway employment; editorial. *Ry Age* 93:895-6 D 17 '32
- Reports of presidential emergency boards for disputes on railroads. *Monthly Labor R* 37:882-5 O '33
- Termination of railway wage dispute in Great Britain. *Monthly Labor R* 36:1086-9 My '33
- Unions threaten to sue Canadian lines. *Ry Age* 95:319-20 Ag 26 '33
- Wage conference at Chicago. *Ry Age* 93:914-16, 948-50 D 17-24 '32
- Wage hearings open in Canada. *Ry Age* 94:566 Ap 15 '33
- Wages and salaries of railway workers in the Soviet Union, August 1933. *Monthly Labor R* 37:709-10 S '33
- Wages and the railways. *Economist* 116:109-10 Ja 21 '33
- Wages of railway workers in Great Britain, 1932. *Monthly Labor R* 35:1412-13 D '32

See also

## Railroads—Salaries

## Warehouse service

- Warehousing and storage practices are criticized by the I.C.C. *Ry Age* 94:402-3 Mr 18 '33; *Business Week* p19 Mr 22 '33

## Water supply

- A.R.E.A. committee report on water service and sanitation. *Ry Age* 94:421-2 Mr 18 '33
- Better water service pays large returns on Chesapeake & Ohio. *il map Ry Age* 93:865-9 D 10 '32
- Compressed air in a water-softening plant; water station at Clinton, Ia. *E. E. Coughlan. il plan Comp Air M* 38:4243-4 O '33
- Railroad water problems yield to technical advances. *il Ry Age* 95:44-6 Jl 1 '33
- Railroads far behind in maintenance of tracks and structures; water service improvements must go on. *Ry Age* 95:613-15 O 28 '33
- Railway water supply practice. *R. C. Bardwell. il Water Works & Sewerage* 79:403-6; 80:9-14 D '32-Ja '33
- Sewage-plant effluent for boiler water; new activated-sludge plant for Herington, Kan.; water contract with the Rock Island railroad. *diags plans Eng N* 111:521-3 N 2 '33

- Water treatment on Pacific lines of Southern Pacific. *D. Wood. il Water Works & Sewerage* 80:92-4 Mr '33
- Water treatment plants for the London Midland and Scottish railway. *il Chem Age (Lond)* 29:297-8 S 30 '33
- Zeolite water treatment meets with favor on Northern Pacific. *E. M. Grime. il Ry Age* 95:300-2 Ag 26 '33

## Waterways competition

- Ask rates to compete with water carriers. *Ry Age* 93:716 N 19 '32
- Barge lines oppose lower costs to shippers. *M. W. Harrison. Ry Age* 93:987-8 D 31 '32
- Five roads protest against Cumberland river expenditures. *Ry Age* 94:38-9 Ja 14 '33
- Government should dispose of its barge line. *Ry Age* 93:852-3 D 3 '32
- Great Lakes—Saint Lawrence seaway project; case against. *R. H. Aishton. map Nation's Business* 21:21-3 F '33
- Inland waterways an unfair form of competition. *il lty Age* 93:815-18 D 3 '32
- Intercoastal shipping takes traffic from railroads. *il Ry Age* 93:819-21 D 3 '32
- Let the railroads operate steamships. *il Ry Age* 93:855-6 D 3 '32
- National transportation committee on railroads and waterway competition. *Marine R* 63:17-18 Mr '33
- Railroads meeting barge competition. *Ry Age* 93:916-17 D 17 '32
- Railroads propose rate cuts to meet waterway competition. *Iron Age* 130:775 N 17 '32
- Regulation of waterways urged. *M. W. Harrison. Ry Age* 94:120+ Ja 28 '33
- St Lawrence waterway opposed. *Ry Age* 93:701-2+ N 19 '32
- Tests asked to compare rail and waterway costs. *Ry Age* 93:751+ N 26 '32
- Transcontinental railroads appeal to Coolidge group. *Ry Age* 94:24+ Ja 7 '33
- Uncle Sam competes with the railroads. *Pub Util* 11:232-4 F 16 '33
- Water transportation and railroads; services should be co-ordinated. *E. Lee. Marine R* 63:15-16 F '33
- Waterway conference asks end of subsidies. *Ry Age* 94:328+ Mr 4 '33

See also

## Inland waterways corporation

## Yards

- A.R.E.A. committee report on yards and terminals. *Ry Age* 94:416-17 Mr 18 '33
- Modernizing a large gravity yard, Galesburg, Ill. *il plans Ry Age* 93:938-42 D 24 '32
- Operation of three-power locomotives; D.L. & W. finds motive power suitable for both switching and transfer service. *F. H. Craton. il map Ry Age* 94:363-6 Mr 11 '33

## Alaska

- Grit, grief and gold; a true narrative of an Alaska pathfinder. *F. B. Whiting. 247p \$2 Peacock pub. co. 1106 Third av, Seattle, Wash.*

## Argentina

- Argentine-Chilean railway. *maps Engineer* 156:39 Jl 14 '33
- Argentine railways. *Economist* 117:869-70, 875 N 4 '33

## British East Africa

- Railways in East Africa. *Economist* 116:904-5 Ap 29 '33

## Canada

- Canada's major issue. *Business Week* p22 F 8 '33
- Canadian Pacific; relative position of world's largest transportation system is not appreciated. *F. T. Northrup. Mag of Wall St* 51:578-9+ Mr 18 '33
- Canadian rail unions unite for protection. *Ry Age* 95:292 Ag 19 '33
- Canadian railway development from the earliest times. *G. N. V. Thompson and J. H. Edgar. 402p Macmillan co. of Canada, Toronto '33*



**RAILROADS—Canada—Continued**

Canadian roads have trying year. J. G. Lyne. *il Ry Age* 94:144-6 F 4 '33

Plea for amalgamation. E. W. Beatty. *Ry Age* 94:86-7 Ja 21 '33

Railway construction at low ebb. G. E. Boyd. *Ry Age* 94:154-5, 159 F 4 '33

Railway problem. *Can Min J* 54:102-4 Mr '33

Railway wage parleys continuing in Canada. *Ry Age* 95:569 O 21 '33

Wage hearings open in Canada. *Ry Age* 94:566 Ap 15 '33

*See also*

Canadian National railways

Canadian Pacific railway

**Chile**

Argentine-Chilean railway. maps *Engineer* 156:39 Jl 14 '33

**China**

Extensive use of light railways advocated for Chinese republic. A. M. Shaw. *Eng N* 109:745 D 22 '32

Railway development for China. *Engineer* 154:510 N 18 '32

**Egypt**

Les chemins de fer de l'Égypte et du Soudan anglo-égyptien. maps *Génie Civil* 102:261-2 Mr 18 '33

**France**

Le déficit dans l'exploitation des grands Réseaux français de chemins de fer. C. Dantin. *Génie Civil* 102:9-13 Ja 7 '33

French road extends rail-car service. L. A. Glynn. *il diags Ry Age* 95:238-40 Ag 12 '33

Le rail et la route; les points de vue des grands réseaux français, des transporteurs automobiles et des usagers. M. D. Dupuis and others. *Soc Ing Civils Bul* 86:629-744 My '33; Abstracts. *Génie Civil* 102:231-3 Mr 11 '33

Speedier passenger train services on French roads. *Ry Age* 94:836 Je 10 '33

*See also*

Railroads—Electrification—France

**Germany**

Die Deutsche reichsbahn-gesellschaft im geschäftsjahr 1932. *Stahl & Eisen* 53:612-14 Je 8 '33

Eisenindustrie und beschaffungswirtschaft der Reichsbahn. M. Schlenker. *Stahl & Eisen* 53:251-4 Mr 9 '33

**Great Britain**

Annual report on railway accidents of the year 1932. *Engineer* 156:44 Jl 14 '33

British railroads fight for wage cut. *Barron's* 13:9 Ja 2 '33

British railways forge ahead. C. S. Lock. *il Ry Age* 95:406-10 S 16 '33

British railways in boom and depression. C. D. Campbell. 125p P. S. King & son, Ltd, London '32

British railways in 1932. *Engineer* 155:39-40 Ja 13 '33

British roads to abandon existing wage procedure. *Ry Age* 94:484-5 Ap 1 '33

Conciliation boards on the railways. *Engineer* 155:245-6 Mr 10 '33

Conference on rail and road transport; letter from the members to the Minister of transport. *Engineer* 154:646-7 D 23 '32

Future of British canals. *Economist* 117:486-7 S 9 '33

Great Western railway annual general meeting. London. *Economist* 116:430 F 25 '33

Home railway position. *Economist* 115:1037-8 D 3 '32

Home railway receipts in 1932. *Economist* 116:34 Ja 7 '33

Hope for railway stockholders? *Economist* 117:283-4 Ag 5 '33

London Midland and Scottish railway company annual general meeting. *Economist* 116:483-6 Mr 4 '33

Position of the engineer's department. C. E. R. Sherrington. *Engineer* 154:559 D 2 '32

Railway results. *Economist* 116:451-2, 511-13, 571-3 Mr 4-18 '33

Railway wages. *Economist* 115:1126-8 D 17 '32

Railways and the nation. C. E. R. Sherrington. *Engineer* 155:321 Mr 31 '33

Railways of Britain. T. F. Woodlock. *Ry Age* 95:349-50 S 2 '33

Termination of railway wage dispute in Great Britain. *Monthly Labor R* 36:1086-9 My '33

Thirty-five years on the railway—and after. W. Whitelaw. *Engineer* 156:367 O 13 '33

*See also* Railroads—Electrification—Great Britain

**Hungary**

*See also*

Railroads—Electrification—Hungary

**Italy**

*See also*

Railroads—Electrification—Italy

**Kentucky**

*See also* Louisville and Nashville railroad

**Manchuria**

Effect of Chinese nationalism upon Manchurian railway developments, 1925-1931. H. L. Kingman. *Univ of Calif Pub in International Relations* v3, no 1:1-97 [bibliog p91-7] '32

Manchukuo and engineering developments. J. N. Penlington. *il Engineer* 155:238-9, 248, 264-5 Mr 10-17 '33

Rail rivals; Russia refuses meekly to abandon rights in the Chinese Eastern railway; Japan completes a parallel line. map *Business Week* p24-5 Ap 26 '33

**Mexico**

Railway construction at low ebb. G. E. Boyd. *Ry Age* 94:154-5, 159 F 4 '33

Retrenchment continued on Mexican railways. *il Ry Age* 94:147-8 F 4 '33

**New England**

Rails into roads; Rhode Island commission says obsolete trackage should be converted into truck highways. *Business Week* p11-12 N 23 '32

**New Jersey**

Pennsylvania and Reading lines combined in South Jersey. map *Eng N* 110:823 Je 22 '33

**Oregon**

I.C.C. authority denied; United States Supreme court rules against compulsory rail construction order to Union Pacific. *Barron's* 13:6 Ja 16 '33

I.C.C. cannot order line into new territory. *Ry Age* 94:44-5 Ja 14 '33

**Persia**

Trans-Persian railway scheme. *Engineer* 155:455 My 5 '33

**Rhodesia**

Rhodesia railways moratorium. *Economist* 115:895 N 12 '32

**Siam**

Les chemins de fer du Siam. P. Kandaouroff. *il diags map Soc Ing Civils Bul* 86:424-57 Mr '33; Abstract. *Génie Civil* 103:457-8 N 4 '33

*See also*

Railroads—Electrification—Sweden

**Texas**

Railway construction in Texas Panhandle. *il map Eng N* 109:609-11 N 24 '32

**United States**

Address at R. B. A. meeting. J. B. Eastman. *Ry Age* 95:699-701 N 11 '33

Address at the banquet held in conjunction with the 12th annual meeting of the Associated traffic clubs of America. J. B. Eastman. *Ry Age* 95:653-4 N 4 '33

American railroad—a sound investment. E. G. Buckland. *Inv Banking* 3:80-6 N 25 '32

American railroad in laboratory. 544p American railway assn, Washington, D.C. '33

**RAILROADS—United States—Continued**

American transportation problem. H. G. Moulton and others. 985p \$3 Brookings institution, Washington, D.C. '33; Review. Ry Age 94:399-401 Mr 18 '33

Coming "new deal" in the regulation of the carriers. Pub Util 11:470-3 Ap 13 '33

Confidence in railroads unshaken by depression. F. Shoup. Ry Age 94:874-5 Je 17 '33

F. H. Prince—railroad planner. D. Hovey. Barron's 13:6 Mr 20 '33

Fair field and no favor urged for all forms of transport carriers by National transportation committee. Bus Transportation 12:96-7 F '33

Future of the railways. S. O. Dunn. Ry Age 95:555-9 O 21 '33

Great waterway hoax. Ry Age 93:725-7 N 26 '32

How the investor looks at the railroads. T. C. McClary. Mag of Wall St 51:524-5+ Mr 4 '33

How to approach the railroad problem. F. E. Williamson. Ry Age 94:443-4 Mr 25 '33

I.C.C. annual report for year ended Oct. 31. Ry Age 93:917-19, 945-7 D 17-24 '32

Martian view of America's railroads. T. F. Woodlock. Barron's 13:7 Mr 20 '33

Memorandum submitted to the National transportation committee by the National association of motor bus operators. Bus Transportation 12:sup13-15 Ja '33

Modern trends in railroading. S. O. Dunn. W Soc E J 38:63-73; Discussion. 73-6 Ap '33

National rail plans evolving. Barron's 13:6 Mr 27 '33

National transportation committee makes comprehensive report; Alfred E. Smith files separate statement. Ry Age 94:247-50+ F 18 '33

National transportation committee proposes new policies for railroads; with supplemental report of Alfred E. Smith. Annalist 41: 261+ F 17 '33; Same cond. Barron's 13:6 F 20 '33; Conclusions. Eng N 110:262+ F 23 '33; Comm & Fin 22:166 F 15 '33

National transportation committee report. Guaranty Survey 12:5-7 F '33

Need for coordination in field of transportation; German practices applicable to railroad service here. K. Pittman. Eng N 110:366-7 Mr 23 '33

Our railroads—a great national asset. L. A. Luther. il Comp Air M 38:4214-17 S '33

Plan of railroads to handicap trucks is rejected by the Coolidge committee. Oil & Gas J 31:39-40 Mr 2 '33

Rail renovation troubles. Business Week p26 S 16 '33

Rail-rubber debate; the Chamber of commerce discusses transportation problems. Bus Transportation 12:199 My '33

Railroad buying smallest in this century. C. E. Wright. Iron Age 131:7-8, 11 Ja 5 '33

Railroad conditions; the rails face problems of adjustment in 1933. L. F. Loree. il Bradstreet's 61:174-5 Ja 28 '33

Railroad highlights in 1932. Bradstreet's 61: 176-8 Ja 28 '33

Railroad outlook. D. Willard. Ry Age 95:654, 658 N 4 '33

Railroad performance and prospects. Comm & Fin 22:40 Ja 11 '33

Railroad problem. J. J. Pelley. Ry Age 93: 703-5 N 19 '32

Railroad prosperity concerns us all. F. E. Williamson. Bradstreet's 61:173 Ja 28 '33

Railroad rescue; National transportation committee's solution of the railroad problem is to treat railroading as a business. Business Week p6-7 F 22 '33

Railroad situation. W. W. Atterbury. Ry Age 94:872+ Je 17 '33

Railroads. Bradstreet's 60:1556+, 1702 N 26, D 24 '32

Railroads again serve nation in emergency; transporting reforestation army on schedule. Ry Age 95:121-2 JI 15 '33

Railroads economize on many fronts. Forbes 31:8 My 1 '33

Railroads' need for a new deal. A. B. Barber. il Nation's Business 21:40+ Je; 55 JI '33

Railroads' plight—causes and remedies. E. Lee. il Civil Eng 2:740-2 D '32

Railway construction at low ebb; United States, Canada and Mexico. G. E. Boyd. il Ry Age 94:153-9 F 4 '33

Railway trends in 1932 and prospects for 1933; editorial. Ry Age 94:129-33 F 4 '33

Researches by many agencies aid in railway development; A.S.M.E. reviews the projects of the railways, manufacturers and universities. il Ry Age 95:3-57 JI 1 '33

Some of the problems of the railroads. R. E. Dougherty. Civil Eng 3:137-9 Mr '33

Task before the federal coordinator of transportation. R. E. Elgen. Pub Util 12:456-66 O 12 '33

Taxpayer's point of view. G. W. Dyer. Ry Age 93:705-6 N 19 '32

Transportation changes affecting chemical industry. H. M. Mabey. Chem Markets 32:517-19 Je '33

Transportation or turmoil? T. C. McClary. Mag of Wall St 51:260-2+ D 24 '32

Vital message to the American people and their governments. Ry Age 93:761-4 D 3 '32

Westward the course of empire. E. P. Luffer. il map Civil Eng 3:254-8 My '33

What of the railroads? T. C. McClary. Mag of Wall St 52:474-5+ S 2 '33

What will become of the railroads? Pub Util 10:699-701 D 8 '32

Whither in transportation. J. H. Parmelee. Ry Age 94:673-4 My 6 '33

*See also*  
**Railroads—Elec-** **Railroads and state—**  
**trification—Unit-** **United States**  
**ed States**

**Uruguay**

Central Uruguay railway group. Economist 117:875 N 4 '33

**Western states**

Rail umpire; Western roads' appointee, Harry Guy Taylor, will guide coordination. Business Week p12 D 7 '32

Western class rate case re-opened. Ry Age 93:920 D 17 '32

Western railways name H. G. Taylor commissioner. Ry Age 93:834 D 3 '32

Western roads reduce basic passenger rate. Ry Age 95:529-30 O 14 '33

**RAILROADS, Cable**

Standseilbahn auf den Petřín bei Prag. H. Smonker. diags Zeit Ver Deutsch Ing 76: 1074-6 O 29 '32; Discussion. 77:293-4 Mr 18 '33

*See also*

Railroads, Suspended

**RAILROADS, Elevated.** *See* Elevated railroads

**RAILROADS, Industrial**

*See also*

Locomotives, Industrial

Mine tracks

**RAILROADS, Local and light**

Extensive use of light railways advocated for Chinese republic. A. M. Shaw. Eng N 109: 745 D 22 '32

**RAILROADS, Narrow gage**

Standard-gaging the East Broad Top railroad and coal company; standard-gage car bodies transferred to narrow-gage trucks. il Ry Age 95:501 O 7 '33

**RAILROADS, Suspended**

Le funiculaire aérien pour voyageurs du Mont Salève, près de Genève. A. Lévy-Lambert. il map diags Génie Civil 101:621-4 D 24 '32

**RAILROADS and state**

*See also*

Railroad law

**Brazil**

Public and private operation of railways in Brazil. J. S. Duncan. \$3.75 245p Columbia univ. press, New York '32

**Canada**

Canada's railway bill passes second reading. Ry Age 94:450 Mr 25 '33



**RAILROADS and state—Canada—Continued**

- C. P. president opposes enforced cooperation. E. W. Beatty. Ry Age 93:754 N 26 '32  
 Canadian provinces for highway control. Ry Age 93:716-17 N 19 '32  
 Canadian railway bill passed by Parliament. Ry Age 94:702 My 13 '33  
 Canadian Senators debate railway bill. Ry Age 94:257+ F 18 '33  
 Debate rail bill in Canada. Ry Age 94:393-4 Mr 18 '33  
 Railway bill passed by Dominion Senate. Ry Age 94:344 Mr 4 '33

**France**

- French railway organisation. Engineer 154:593 D 9 '32

**United States**

- Another railroad pool; service pool managed by Mr Roosevelt's coordinator. Business Week p13 Ap 26 '33  
 Approaching a solution to the railroad problem. M. W. Harrison. Ry Age 94:86 Ja 21 '33  
 Blue Eagle code not needed for railroads. J. B. Eastman. Ry Age 95:367-9 S 9 '33  
 Clear the track; coordination plan gives the railroads their chance to reform. Business Week p18-19 My 10 '33  
 Commissioner Eastman appointed federal co-ordinator. Ry Age 94:899-900 Je 24 '33  
 Coolidge committee hearings. Ry Age 93:904-8 D 17 '32  
 Coordinating committees of the railroads and the Science advisory board. Science 78:357 O 20 '33  
 Co-ordinator organizes for work. Ry Age 95:117-19 Jl 15 '33  
 Co-ordinator studies pooling, standards, research. Ry Age 95:308-9 Ag 26 '33  
 Danger in public enemy attitude toward carriers. T. F. Woodlock. Ry Age 95:535+ O 14 '33  
 Eastman favors federal aid to eliminate crossings. Ry Age 95:223 Ag 5 '33  
 Further appointments to staff of co-ordinator. Ry Age 95:253+ Ag 12 '33  
 Government in business—the railroad example; editorial. Ry Age 94:1-3 Ja 7 '33  
 Government offers loans for rails and equipment. Ry Age 95:695-7 N 11 '33  
 Harmonious regulation of transport agencies needed. P. J. Farrell. Ry Age 95:533-4 O 14 '33  
 Help for rail coordinator. Business Week p10-11 Jl 1 '33  
 How will the investor fare under railroad co-ordination? P. H. Fulton. Mag of Wall St 52:16-18+ Ap 29 '33  
 I.C.C. authority denied; United States Supreme court rules against compulsory rail construction order to Union Pacific. Barron's 13:6 Ja 16 '33  
 I.C.C. nominates panel of trustees. Ry Age 94:562 Ap 15 '33  
 Legislation needed for railroad loans. E. G. Buckland. Ry Age 93:715 N 19 '32  
 Less regulation for railways. il Ry Age 93:842-8 D 3 '32  
 Let the railroads operate steamships. il Ry Age 93:855-6 D 3 '32  
 Members of U.S. Chamber approve railway program. Ry Age 93:957+ D 24 '32  
 New railway lines may not be ordered, Supreme court finds. Eng N 110:68-9 Ja 12 '33  
 New transport policy planned by President. Ry Age 94:445-6, 479-80, 509-14 Mr 25-Apr 8 '33  
 Opportunity for rail-highway co-ordination. Ry Age 95:66-7 Jl 1 '33  
 Passing of the era of regulation by competition. K. Stecher. Pub Util 12:207-12 Ag 17 '33  
 President Roosevelt approves transportation bill. Ry Age 94:668-70 My 6 '33  
 President Roosevelt considers K.C.S. wage plan dispute. Ry Age 95:305-7 Ag 26 '33  
 Rail aid plan proposed by perishable shippers. Ry Age 93:957 D 24 '32  
 Rail conservator; administration program. Business Week p18 Mr 29; 11-12 Ap 12 '33  
 Rail executives heard in depression inquiry. Ry Age 94:312+ F 25 '33

- Railroad brain trust. Business Week p11-12 Jl 15 '33  
 Railroad pension legislation hearings. Ry Age 94:80-3, 111-14 Ja 21-28 '33  
 Railroad profits on lower rates? T. C. McClary. Mag of Wall St 52:118-19+ My 27 '33  
 Railways propose legislative program. Ry Age 93:859-64 D 10 '32  
 Real cause of railway financial distress. H. P. Gillette. il Roads & Sts 76:55-7 F '33  
 Regional committees must take leadership. J. B. Eastman. Ry Age 95:253-4 Ag 12 '33  
 Regional railroad consolidations; editorial. Ry Age 94:465-7 Ap 1 '33  
 Regulation as a cause of present railway situation. Ry Age 93:802-10 D 3 '32  
 Regulation as it looks today. H. A. Wheeler. Ry Age 94:727-8+ My 20 '33  
 Regulation of railroad holding companies. Hearings before the Committee on interstate and foreign commerce, House of representatives, 287p U. S. Govt. ptg. office, Washington '32  
 Regulation of transportation. C. R. Gray. Ry Age 95:701-3 N 11 '33  
 Restrictions hinder progress. W. B. Stout. il Aero Digest 22:25+ Mr '33  
 Revolt of ownership; editorial comment. Bradstreet's 61:364 F 18 '33  
 Ruler of the rails moves for recovery. il Pub Util 12:590-4 N 9 '33  
 Should the transportation act be repealed? Pub Util 10:639-41 N 24 '32  
 Solution suggested for the railroad problem. P. Synnestvedt. Ry Age 94:665-7 My 6 '33  
 Task before the federal coordinator of transportation. R. E. Elgen. Pub Util 12:456-66 O 12 '33  
 Transportation of government property and troops over land-grant railroads. N. Kenny. map J Land & Pub Util Econ 9:368-81 N '33  
 Transportation service surveyed by co-ordinator. Ry Age 95:278-9+ Ag 19 '33  
 Uncle Sam's express business. Ry Age 93:824-6 D 3 '32  
 Views on motor transport regulation. J. B. Eastman. Ry Age 95:636-7 O 28 '33  
 What railroad men want to know about federal regulation; nine questions by rail executives, and answers by Joseph B. Eastman. H. Corey. Pub Util 11:213-24 F 16 '33  
 Work of the federal co-ordinator. J. B. Eastman. Ry Age 95:468-71 S 30 '33

**See also**

- |                                |                          |
|--------------------------------|--------------------------|
| Interstate commerce commission | Railroads—Rates          |
| Railroad law                   | Railroads—Taxation       |
| Railroads—Consolidation        | Railroads—Valuation      |
| Railroads—Federal loans        | Transportation act, 1920 |

**RAILS**

- A.R.E.A. committee report on rail. Ry Age 94:419 Mr 18 '33  
 A.R.E.A. proposes 112-lb. rail section. il diag Ry Age 95:126 Jl 15 '33  
 Competitive bids asked for rail for 47 roads. J. B. Eastman. Ry Age 95:504-5 O 7 '33  
 Copper-bearing steel rails for mine use. J. O. Greenan. il Eng & Min J 134:364 S '33  
 Mills balking at rail-scrap barter. Steel 92:25 My 1 '33  
 Standards for drilling ends of rails. Ry Age 95:562 O 21 '33  
 Steel companies agree to bid for rail orders. Ry Age 95:474-5 S 30 '33  
 Use of T-rail in paved streets; analysis of the figures for the 92 companies. Transit J 77:62 F '33

**See also**

- |                 |                        |
|-----------------|------------------------|
| Rail joints     | Street railroads—Track |
| Railroads—Track | Track                  |

**Failures**

- Burden of defective rails. C. W. Gennet, jr. Ry Age 95:250-1 Ag 12 '33  
 Untersuchungen über den entfall an schönheitsfehler-schienen. E. Spetzler. il diags Stahl & Eisen 53:570-5; Discussion. 575-8 Je 1 '33

**Joints****See Rail joints**

## RAILS—Continued

## Manufacture

- Schienenwalzung auf einem russischen hüttenwerk. F. Braun and H. Kettler. plan Stahl & Eisen 53:930-4 S 7 '33
- Ueber erzeugung, vergiessen und behandlung von Thomas-schienenstahlblöcken. K. Eich-el. diags Stahl & Eisen 53:521-32 My 18 '33
- Untersuchungen über den entfall an schönheitsfehler-schienen. E. Spetzler. il diags Stahl & Eisen 53:570-5; Discussion. 575-8 Je 1 '33

## Prices

- Collusion was just codification, say steel companies, who split the difference on rail price. Business Week p10 N 4 '33
- Compromise reached on rail price. Ry Age 95:670-2 N 4 '33
- Government's pressure on rail prices alarms capital goods industries. Iron Age 132:46D-46E O 12 '33
- Is rail price reduction justified? T. H. Gerken. Iron Age 132:37-8 O 5 '33
- Steel forced to prime business; asked to reduce rail prices in face of higher code costs. Econostat 1:5-6 S 30 '33
- Steel gets a big inquiry; President's demand for a price cut on rails inconsistent with the industry's code. Business Week p9 S 30; 14 O 7 '33

## Standards

- New rail section adopted by A.R.E.A. at Chicago. diag Eng N 110:412 Mr 30 '33
- Why the 131-lb. R. E. rail section was adopted. diags Ry Age 94:627-8+ Ap 29 '33

## Statistics

- Rail production during 1932 was lowest since 1866. Ry Age 94:634 Ap 29 '33

## Stresses

- Aufzeichnung der schienenbeanspruchung unter schnellfahrenden zügen. H. Thoma. il diags Zeit Ver Deutsch Ing 77:873-8 Ag 12 '33
- Better maintenance will reduce stresses in rail. A. N. Talbot. diags Ry Age 95:153-5 Jl 22 '33

## Testing

- Are the railways backward in research and test work? il Ry Age 94:11-14 Ja 7 '33
- Rail flaw detector greatly improved in five years; detector car. il Ry Age 95:655-8 N 4 '33

## RAILWAY accounting officers association

- Annual meeting, 45th, Chicago, Aug. 30-31. Ry Age 95:371-5 S 9 '33

## RAILWAY age (periodical)

- Story of the December 3 issue. Ry Age 94:75-9 Ja 21 '33

## RAILWAY business association

- Annual meeting, New York, Nov. 10. Ry Age 93:703-6 N 19 '32
- Annual meeting, Chicago, November 9. Ry Age 95:699-703 N 11 '33

## RAILWAY express agency

- Co-ordinated air-rail express brings fast service to entire country. il map Ry Age 94:477-9 Ap 1 '33
- Selling express; old transportation service out to get its share of new traffic. Business Week p14 N 11 '33
- Versatile express; new developments in personal service. Business Week p10 Mr 15 '33

## RAILWAY fire protection association

- Annual meeting, 20th, Chicago, Oct. 17-18. Ry Age 95:661-2 N 4 '33

## RAILWAY tie association (formerly National association of railroad tie producers)

- Convention, Richmond, Va., May 10-11; abstracts of papers. Ry Age 94:734-8 My 20 '33

## RAIN and rainfall

- Nature made a good record in last twelve months. J. C. Hoyt. Eng N 110:167 F 2 '33
- Rainfall and crop yields. I. Gutmann. Civil Eng 3:326-9 Je '33

Record floods in Colorado, Wyoming and Arizona formulated. P. V. Hodges. map Eng N 111:171 Ag 10 '33

## See also

- |             |               |
|-------------|---------------|
| Droughts    | Run-off       |
| Floods      | Snow          |
| Meteorology | Water storage |

## California

- Analysis of flood produced by severe California cloudburst. Eng N 111:128 Ag 3 '33

## Great Britain

- Organisation required for the recording of water level and river flow in the British Isles; discussion. Engineering 134:554-5 N 11 '32

## New England

- Great storm of September 16 and 17, 1932. G. V. White. map N E Water Works Assn J 47:164-77; Discussion. 177-83 Je '33
- Hydrology of southern New England; abstract. C. M. Saville. Water Works & Sewerage 80:359 O '33

## Oregon

- Revised method of averaging Oregon precipitation figures. L. L. Harrold. Eng N 109:643 D 1 '32

## RAIN water

- Chloride and sulfate in rain water. W. D. Collins and K. T. Williams. bibliog Ind & Eng Chem 25:944-5 Ag '33
- Photosynthesis in tropical sunlight; the presence of formaldehyde in rain water. N. R. Dhar and A. Ram. bibliog J Phys Chem 37:525-31 Ap '33

## RAINBOW

- Home-brewing the rainbow—and understanding it. G. Johnson. il diags Sci Am 148:156-8 Mr '33

## RAINCOATS

- Public is ready for better smelling rubber raincoats. D. A. Laird. il Rubber Age 33:153-4+ Jl '33
- Raincoats again. S. G. Byam. il India Rubber W 87:31-3 N; 35-7 D '32

## RAISINS

- Sales manager's dream became the production manager's nightmare; Sun-maid raisin growers' association. W. K. Hines. il Food Ind 5:387-9 O '33

## RAMAN effect

- Filter for the study of the Raman effect. A. H. Pfund. Phys R 42:581-2 N 15 '32
- Raman effect in relation to some chemical problems. J. J. Fox. Soc Chem Ind J (Chem & Ind) 52:161-2 F 24 '33; Discussion. 52:181-3 Mr 3 '33

## RAMIE

- Misconceptions on ramie fiber. il Sci Am 148:230 Ap '33
- Ramie could supersede cotton fiber or silk. Chemicals 37:5 O 17 '32
- Ramie rainbow, it has fooled investors as well as technocrats. Business Week p19-20 D 28 '32
- Raw ramie. E. Ott and D. A. Wilson. Am Chem Soc J 55:2608-9 Je '33

## RAMPS

- Asphalt for runways and loading ramps. C. W. Short, Jr. Aero Digest 22:27 F '33
- Vehicular ramps in the Chateau d'Amboise. W. Atlee. il plan Civil Eng 3:595-7 N '33

## RANCIDITY

- Action of light on fats. C. H. Lea. Soc Chem Ind J 52:146T-9T My 26 '33; Abstract. Textile Col 55:745 N '33
- Prevention of rancidity by maleic acid. Science 77:sup6 F 24 '33
- Stability of fats and oils; applications of the methylene blue test. H. D. Royce. bibliog diag Ind & Eng Chem Anal ed 5:244-7 Jl 15 '33
- Taffel and Revis method for estimating the rancidity of oils and fats. J. K. Giles. Soc Chem Ind J (Chem & Ind) 52:816-17 O 13 '33; Reply. A. Taffel and C. Revis. 52:880 O 27 '33



**RANGE** boilers. See Boilers, Range

# **RANGOON river, Burma**

Progressive silting of a river delta studied; tidal model built to predict conditions at mouth of Rangoon river, Burma. H. H. Wheaton. *il plan Civil Eng* 3:89-91 F '33

# **RANKIN, William H.**

Most interesting advertising job I ever did; army service registration, 1918. *por Ptr Ink* 162:10+ Mr 9 '33

# **RAOULT'S law**

Equilibrium conditions in continuous recycle system. R. B. Smith. *Ind & Eng Chem* 25: 692-3 Je '33

Validity of Raoult's law in molten solutions of lead chloride and lead bromide. J. Shrawder, jr. *Am Chem Soc J* 55:1975-6 My '33

Vapor pressure of low-boiling paraffin hydrocarbons in absorber oil. G. L. Matheson and L. W. T. Cummings. *diags Ind & Eng Chem* 25:723-5 Jl '33; Same cond. *Oil & Gas J* 31:35 Ap 27 '33

# **RAPESEED oil**

Rapeseed oil; air-blowing in presence of catalysts. B. P. Caldwell and G. H. Dye. *Ind & Eng Chem* 25:338-42 Mr '33

# **RAPID transit**

Fitting transit equipment to its best job. C. O. Guernsey. *il S A E J* 32:sup16-20+ My '33

Merchandising points the way; discussion at American transit assn. meeting. *Bus Transportation* 12:387-91 O '33

Opening of Eighth Avenue subway outstanding event in rapid transit. *Transit J* 77:19 Ja '33

Progress made on large engineering projects; municipal rapid-transit. *Eng N* 110:161-2 F 2 '33

## *See also*

Electric railroads	Street railroads
Motor bus lines	Subways
Railroads	Trolley buses

also subdivision Rapid transit under names of cities, e.g. Chicago—Rapid transit; Indianapolis, Indiana—Rapid transit; New York (city)—Rapid transit

**RARE** earths. See Earths, Rare

**RARE** gases. See Gases, Rare

# **RATCHET mechanism**

Simple arrangement for varying a ratchet movement. *diags Mach* 39:519 Ap '33

# **RATE setting**

Standards for production control. A. M. Lindsley. *chart Am Mach* 77:421-4 Jl 5 '33

Worst reeling; calculations for production standards and piece rates. M. C. Bishop. *Textile World* 83:64-5 Ja '33

# **RATIONALIZATION**

Necessity for rationalization. *Int Management Inst Bul* 7:145-6 O '33

Rationalization movement in German industry. R. A. Brady. 466p \$5 Univ. of California press, Berkeley '33

# **RATS**

Rat infestation of ships out of commission. C. L. Williams. *Pub Health Rep* 48:89-90 Ja 27 '33

## **Extermination**

Rat-catching cats. *Science* 77:sup9 Mr 3 '33

Your rat—and mine; their eradication. H. Stiner. *il Food Ind* 5:216-17 Je '33

# **RATS as carriers of infection**

Epidemiological study of plague in Peru; with observations on the antiplague campaign and laboratory work. C. R. Eskey. *map Pub Health Rep* 47:2191-207, pl 1-2 N 18 '32

Rat harborage and its relation to the spread of bubonic plague. B. E. Holsendorf. *Pub Health Rep* 48:535-8 My 19 '33

# **RAW materials**

Determining value of limestone and other raw materials. E. C. Eckel. *Concrete (mill sec)* 41:45-6 Mr '33

Important clause in fair practice codes; established price for raw materials. A. G. Alexander. *Mach* 40:155 N '33

Materials used in manufactures: 1929. 58p U. S. Bur. of census, Washington '33

Primary products. *Economist* 116:952-3; 117: 803-5 My 6, O 28 '33

Raw material prices and business conditions. M. T. Copeland. Harvard Univ Graduate School of Business Administration *Bus Business Research Studies* 2:1-56 '33

## *See also*

Cellulose	Mines and mineral resources
Chemicals	Petroleum
Coal	Rubber
Cotton	Textile fibers
Farm produce	Wood
Mineral industries	

# **RAYBESTOS-Manhattan, incorporated**

Moving from red ink to black. *Mag of Wall St* 52:529 S 16 '33

# **RAYMOND, Antonin, 1889-**

American architect in Japan; with *il* and plans of his work. *Arch Rec* 73:41-56 Ja '33

# **RAYON. See Silk, Artificial**

# **RAYON circular knit fabrics manufacturers association**

Organization. *Textile World* 83:1650 S '33

# **RAYS**

## *See also*

Absorption of rays	Gamma rays
Alpha rays	Infra-red rays
Beta rays	Radiation
Cathode rays	Ultra-violet rays
Cosmic rays	X rays

# **RAYS, Positive**

Radiation from canal ray impact. F. L. Verwiebe. *diags Phys R* 44:15-19 Jl 1 '33

# **RAZOR blades**

German blades win; American started strife which caused German razor blade industry to fill its needs at home. *Business Week* p23-4 D 28 '32; 24-5 Ja 4 '33

No product can have monopoly of a color; Gillette safety razor company vs. Triangle mechanical laboratories corporation. *Ptr Ink* 163:64-5 Je 15 '33

## **Manufacture**

Manufacturing safety razor blades. R. W. Woodward. *il Iron Age* 131:811-13 My 25 '33

## **Prices**

Safety cut; Gillette finally comes down to meet the invaders. *Business Week* p3 S 9 '33

## **Testing**

Measuring sharpness of razor blade edges. P. N. Peters. *il diags Metal Prog* 24:18-22 N '33

Testing safety razor blades. R. W. Woodward. *il Iron Age* 131:981-3+ Je 22 '33

# **RAZORS**

## *See also*

Gillette safety razor company

## **Advertising**

Gillette blade price cut. *il Ptr Ink* 164:85 Ag 31 '33

Gillette cuts loose; Mr Lambert drops the patent props. *Business Week* p9-10 My 31 '33

Using direct mail to keep dealers in line; Gem did not want sales of new blade to lessen interest in single-edge product. B. A. Grimes. *il Ptr Ink* 161:64-5 N 17 '32

# **REACTANCE**

Adjusted synchronous reactance and its relation to stability. H. B. Dwight. *diags Gen Elec R* 35:609-14 D '32

Characteristics of alternators. *Electrician* 110: 624 My 12 '33

Engineering calculation of inductance and reactance for rectangular bar conductors. O. R. Schurig. *Gen Elec R* 36:228-31 My '33

Modified reactance-frequency chart. J. R. Tolmie. *Inst Radio Eng Proc* 21:1364-6 S '33

**REACTIONS, Chemical.** See Chemical reaction

**REACTIVE current (term)**

Reactive current; two distinct definitions.  
G. W. Stubbings. Elec R (Lond) 112:303 Mr 3 '33

**REACTIVE power**

Influence of mercury-arc rectifiers upon the power factor of the supply system. H. Ris-sik. Inst E E J 72:435-55 [bibliog p450-1] My '33

Power, power factor, and reactive volt-amperes. C. L. Fortescue. diags Elec Eng 52:319-23 My '33

What is reactive power? A. E. Knowlton; J. A. Johnson; V. G. Smith. diags Elec Eng 52:259-70 Ap '33; Discussion. P. L. Alger; W. B. Nulsen. 52:350-1 My '33

**REACTORS**

Bus-bar and feeder reactors. B. G. Gates. il diags Elec R (Lond) 113:383 S 22 '33

Choke coil design. H. E. Hutter. Elec R (Lond) 112:447 Mr 31 '33

Current-limiting reactors; abstracts. H. C. Goodman. diags Elec R (Lond) 111:925-6 D 23 '32; Electrician 110:8 Ja 6 '33; Discussion. Elec R (Lond) 111:926 D 23 '32; Electrician 110:8-9 Ja 6 '33

Developments in the electrical industry during 1932; reactors. J. Liston. il Gen Elec R 36: 52 Ja '33

Identification tag for the airport; distinctive indication of airport boundaries—periodic change of brilliancy of lights. W. P. Simpson. diags Gen Elec R 36:326-7 Jl '33

Impedance control by d.c. G. W. Stubbings. diags Elec R (Lond) 112:736-7 My 26 '33

Let's get acquainted with reactors. R. H. Rogers. il diags Factory Management 91:256-8 Jl '33

New reactors limit voltage rise on network cables. C. A. Woodrow. il diags Elec W 100: 822-4 D 17 '32

Reactor-rectifier circuits serve as flasher and dimmer. C. G. Suits. il diags Elec W 101:320 Mr 11 '33

Rectifier and reactor combinations produce interesting non-linear circuits. diags Power Pl Eng 37:219-20 My '33

**READING.** See Books and reading**READY mixed concrete.** See Concrete mixing—Ready-mixed concrete**READY mixed concrete association, National.** See National ready mixed concrete association**REAL estate bonds.** See Bonds, Real estate**REAL estate business**

Common sense view of foreclosed real estate. A. Van Vliissingen, jr. Burroughs Clearing House 17:14-15+ Ap '33

Cycles in real estate activity: Los Angeles county. L. A. Maverick. J Land & Pub Util Econ 9:52-6 F '33

Foils cemetery scheme. Ptr Ink 164:65 Ag 31 '33

Great American land bubble. A. M. Sakolski. 373p \$3.50 Harper '32

Krenn and Dato resign as trustees of the Edith Rockefeller McCormick trust. Arch Forum 58:522-3 Je '33

Owners' equities. C. H. Lench. Am Arch 143: 96-7 Mr '33

Plan for real estate; common sense program for housing development. A. C. Holden. Arch Forum 58:338-40 Ap '33

Problem of analyzing local real estate cycles. R. Wenzlick. charts Am Statiz Assn J 28: sup201-6 Mr '33

Real estate anticipates inflation. il Am Bankers Assn J 26:76 Ag '33

Real estate looks up. Business Week p11 Je 24 '33

Real estate? pick and choose. H. W. Underhill. il Am Bankers Assn J 26:22-3, 60-2 Ag '33

Sales in 1932 exceeded those of '30 and '31 combined; Oyster Harbors club colony on Cape Cod. F. W. Norris. il Am Bld 54:26-7+ Ja '33

What beer might do for city real estate. Barron's 12:9 N 28 '32

What the depression has taught us about real estate loans. R. L. Hoguet. Bankers M 126: 29-34 Ja '33

*See also*

Banks and banking—	Mortgages
Real estate opera-	Real property
tions	Rent
Building—Finance	Trust companies—
Home ownership	Real estate opera-
Housing projects	tions
Land values	

**Accounting**

Double entry real estate accounting simplified; advantages of columnar journal. il Management Methods 62:64-5 F '33

**Advertising**

Eggs higher; why not rents. il Ptr Ink 164:88 Ag 24 '33

Made-to-order "for rent" copy. Ptr Ink 162: 42 F 16 '33

Tailored advertising; Reliance property management, inc. W. Baker. il Ptr Ink 162:62-4 F 9 '33

**Finance**

Great thaw may free millions in mortgage money. Arch Forum 59:147 Ag '33

Mortgage bond racket. E. A. Barbeau. 92p Roland Swain co, Philadelphia '32

Skylines on the auction block. M. Edwards. il Nation's Business 21:20-2+ Mr '33

What can be done to improve the real estate mortgage situation; employing stagnant supplies of credit and cash. H. D. Pettibone. Trust Companies 56:193-7 F '33

*See also*

Bonds, Real estate	Housing finance
Building—Finance	Mortgages

**Chicago**

Industrial districts of the Chicago region and their influence on plant location. W. N. Mitchell and M. J. Jucius. map J of Business 6:139-56 Ap '33

Ups and downs of Chicago real estate. il Arch Forum 59:141-3+ Ag '33

**Cleveland, Ohio**

Cleveland knows; city-wide inventory of real estate. Business Week p22-3 Ag 5 '33

**New Jersey**

Real estate subdividing in New Jersey, with special reference to Middlesex county. C. H. Wray. Rutgers Univ Bur of Economic and Business Research Ser 3, no 1:1-178 '32

**New York (city)**

Guarantees off; New York suspends mortgage guarantees as bondholders refuse to accept lower interest rates. Business Week p4 Mr 22 '33

In defense of Vincent Astor; first public analysis of the holdings and management of the world's no. 1 real estate fortune. il map Fortune 8:71-80+ O '33

More mortgage distress; Realty stabilization corp. to aid in the refinancing of maturing guaranteed mortgages in New York city. Business Week p20 F 22 '33

Mortgage companies in bondage; New York. Arch Forum 58:sup26 Ap '33

Mortgage situation in New York. R. M. Hurd. Trust Companies 56:53-6 Ja '33

Suggestions for the relief of the mortgage situation in New York city. R. M. Hurd. Bankers M 126:255-6 Mr '33

Tax payers; one on Park Avenue. il Arch Forum 59:86 Jl '33

**St Louis**

Problem of analyzing local real estate cycles. R. Wenzlick. charts Am Statiz Assn J 28: sup201-6 Mr '33

**United States**

Real estate survey shows lack of financing, growing home shortage. Am Bld 54:46 Mr '33  
Survey shows quickening real estate market. Am Bld 55:48 Ag '33



**REAL property**

Business law of real property, with cases, text and forms. B. R. Bentley. 513p Callaghan '33

Cases and materials on the law of possessory estates. R. R. Powell. 541p West '33

Cases and materials on the law of vendor and purchaser. M. Handler. 925p West '33

Indiana law of title to real property. R. C. Street. 989p Thomas law book co, St Louis '33

New law of property. A. F. Topham. 4th ed 434p, 66p Butterworth & co, ltd, London '32

Treatise on the law of mortgages of real property. F. H. Aldrich. 2d ed 650p Callaghan '33

*See also*

Deeds	Landlord and tenant
Eminent domain	Leases
Estates, Decedents'	Mechanics' liens
Farms	Mortgages
Land—Taxation	Real estate business
Land tenure	Rent
Land titles	Single tax

**Valuation**

Appraising industrial property. L. B. Beardslee. Manuf Rec 102:56 F '33

Fundamental bases of value which the assessor could use to aid in appraisals. J. E. Burton. Arch Forum 59:sup27-8+ O '33

Real estate appraisal and valuation. P. W. Kniskern. 532p Ronald press '33

Valuation of real estate. F. M. Babcock. 593p \$5 McGraw-Hill '32

*See also*

Assessment	Insurance, Fire—
Buildings—Valuation	Valuation of property

**REAMERS**

Attachment for relieving rifle barrel reamers. J. Finlay. diags Mach 39:453 Mr '33

Cutters for fluting taps and reamers. M. Harris. diags Am Mach 77:635 S 27 '33; Discussion. M. H. Ball. 77:791 D 6 '33

Experiences in machining aluminum alloys. R. V. Hutchinson. diags Am Mach 77:686-8 O 25 '33

Floating reamer. il Ry Mech Eng 107:178 My '33

Kitchen and Wade multiple-spindle reaming machine. il Engineering 135:478 Ap 28 '33; Engineer 155:433 Ap 28 '33

Pratt & Whitney stub screw machine reamers in decimal sizes. il Iron Age 132:33 N 2 '33

**REASONING**

New type of reasoning and some of its possible consequences. F. Zwicky. Phys R 43:1031-3 Je 15 '33

**RECAPTURE clause. See Transportation act, 1920—Recapture clause****RECEIPTS**

Henley's twentieth century book of formulas, processes and trade secrets. G. D. Hiscox, ed. new rev ed 809p \$4 Henley '33

Scientific American encyclopedia of formulas. A. A. Hopkins, ed. 1077p Scientific American pub. co, New York '32

**RECEIVABLES. See Accounts receivable****RECEIVERS**

Ancillary receivers limited hereafter. Credit & Fin Management 35:33 Je '33

Business-wrecking racket must be stopped! H. F. Merrill. Forbes 31:11-13+ Ap 15 '33

Corporate trusteeship and receiverships; defense. E. M. Leesman. Trust Companies 57:141-6 Ag '33

Equity receiverships in the Common pleas court of Franklin county, Ohio, in the years 1927 and 1928. T. C. Billig. 159p Johns Hopkins press, Baltimore '32

Investor pays. M. Lowenthal. 406p \$2.50 Knopf '33

New plan for handling bankruptcies; Irving trust company's work as standing receiver. H. F. Woods, jr. Burroughs Clearing House 17:12-14+ Jl; 15-16+ Ag '33

Receiver control; Supreme court's move to cut the cost of chain bankruptcies. Business Week p8-9 My 24 '33

Receiver reports; Irving trust co. Business Week p10-11 D 14 '32

Receiverships; procedure for the handling of bankruptcy cases through a trust institution; Irving trust company. Am Bankers Assn J 25:24-5+ F '33

*See also*

Insurance, Life—	Railroads—Receiver-
Receiverships	ships

RECIPE books. See	Advertisements—Cook
books and recipes	

**RECIPROCAL purchasing. See Purchasing—Reciprocal purchasing**

**RECLAMATION of land**

Centrifugal pumps for the Zuyder Zee reclamation. il diags Engineering 134:777-8 D 30 '32

Economics of federal reclamation. W. Melcher. map J Land & Pub Util Econ 9:382-94 N '33

Enclosure of the Zuyder Zee. B. Cunningham. il map Engineering 134:553-4, 555 N 11 '32

Greece engaged on huge reclamation project. R. H. Chambers. il maps Civil Eng 3:217-21 Ap '33

Italy subsidizes land reclamation. Eng N 110:466 Ap 13 '33

Modern methods used on reclamation projects. E. Mead. il Civil Eng 3:448-51 Ag '33

Progress made on large engineering projects; land reclamation and flood control. il Eng N 110:158-9 F 2 '33

Reclaiming river-bottom lands. Science 77:sup7 F 10 '33

Reclamation of the Zuiderzee. A. L. Shaw. il diag map Eng N 109:639-43 D 1 '32

Relief of unemployment through general land-reclamation activities in Italy. C. P. Kuykendall, T. Jaeckel and J. R. Putnam. Monthly Labor R 37:836-9 O '33

Sea defences and reclamation of land from the sea. M. Du-Plat-Taylor. il Engineering 136:372-4 S 29 '33; Abstract. Engineer 156:293 S 22 '33

Voluntary labor service in Schleswig-Holstein and Hamburg areas, Germany. J. E. Kehl. Monthly Labor R 35:1074-5 N '32

What the federal irrigation scheme augurs for the utilities. H. Corey. Pub Util 11:636-45 My 25 '33

*See also*

Dikes (engineering)	Irrigation
Drainage	Zuider Zee

**RECLAMATION service (United States)**

Economics of federal reclamation. W. Melcher. map J Land & Pub Util Econ 9:382-94 N '33

**RECOGNITION (international law)**

American policy of recognition towards Mexico. S. A. MacCrok. (John Hopkins univ. studies in historical and political science, ser 51, no. 3) 119p [bibliog p109-13] pa \$1 Johns Hopkins press, Baltimore '33

League of nations and the recognition of states. M. W. Graham. Univ of Calif at Los Angeles Pub in Social Sciences v 3, no 1:1-79 '33

Stimson doctrine of non-recognition of territory acquired thru violation of treaties. (In University debaters' annual, 1932-1933).

E. M. Phelps, ed. p355-90 [bibliog p386-90] Wilson, H. W. '33

**Bibliography**

Recognition in International law, with special reference to Russia. 6 l Carnegie endowment for international peace library, 700 Jackson place, Washington, D.C. '33 (typew)

**RECONSTRUCTION finance corporation**

Approves \$10,305,200 loans in final week. Eng N 110:853 Je 29 '33

Closed banks; liberals claim R.F.C.'s methods too conservative and slow. U. V. Wilcox. Barron's 13:18-19 Ag 7 '33

Courts disapprove loan by R.F.C. to city of Ogden, Utah. Eng N 110:480 Ap 13 '33

Couzens asks suspension of R.F.C. railway loans. Ry Age 94:191-2, 239+ F 4, 18 '33

Critical of R.F.C. activities. W. H. Bennett. East Underw 34:37 F 10 '33

Early loans to insurance companies. Nat Underw 37:3+ F 2 '33

**RECONSTRUCTION finance corporation—Cont.**

- Future of government banking. J. Hanna. *Am Bankers Assn J* 25:11-13+ Je '33
- How R.F.C. finances the construction of self liquidating public projects. *Eng & Contr* 71:253-5 N '32
- Interest rates on R.F.C. loans to be reduced. *Eng N* 109:790-1 D 29 '32
- Liberalization of the loan policy of the R.F.C. is imminent. *Business Week* p18 Ja 25 '33
- Loans by R.F.C. total \$15,737,000 at end of year. *Eng N* 110:66 Ja 12 '33
- Loans outstanding, end of month, 1932-1933. *Survey of Cur Business* 13:20 Ag '33
- Loans to Oct. 31 totaled \$1,397,596,033. *Ry Age* 93:715+ N 19 '32
- Loans to railroads defended. *Barron's* 13:11 F 6 '33
- Mounting R.F.C. loans. *Barron's* 13:13 F 27 '33
- November report lists loans to railways. *Ry Age* 94:24-5 Ja 7 '33
- Openly declares policy in favor of American materials. *Iron Age* 130:775 N 17 '32
- Quarterly reports. *Fed Res Bul* 18:684-5; 19:64-6, 341, 538 N '32, F, Je, S '33
- Reconstructed finance corporation. *Business Week* p1-2 Ja 4 '33
- Reconstruction finance corporation act with amendments. E. A. Lewis, comp. 53p Supt. of docs. '33
- R.F.C. builds credit bridge to cross NRA cost gap. *Iron Age* 132:36-7 S 21 '33
- R.F.C. loans. *Eng N* 109:602, 660-1, 694 N 17, D 1-8 '32
- R.F.C. loans are problem in field. *Nat Underw* (Life ed) 37:1+ Ja 27 '33
- R.F.C. loans for water works. *Water Works & Sewerage* 80:165 My '33
- R.F.C.; pawnbroker or fire department? editorial. *Business Week* p32 Mr 1 '33
- R.F.C. renders account. *Econostat* 1:6 Jl 8 '33
- Recovery program. *Business Week* p16+ D 7 '32
- Reduces interest rates  $\frac{1}{2}$  of 1%. *Barron's* 12:21 D 26 '32
- Relief act changes meet approval of Senate committee. *Eng N* 110:202-3 F 9 '33
- Revival insurance; the Kent plan would empower the R.F.C. to guarantee markets. *Business Week* p4-5 Ja 18 '33
- Six months of the relief act. *Eng N* 110:163-5 F 2 '33

**RECORDING instruments**

- Apparatus and methods for precise fractional-distillation analysis. W. J. Podbielniak. *il diags Ind & Eng Chem Anal* ed 5:172-3 My 15 '33
- Costing in the chemical industry; extracting useful facts from the available plant data. L. Staniforth. *Chem Age (Lond)* 28:133-4 F 18 '33
- 18 proofs that instruments save money. G. A. Van Brunt. *Factory Management* 91:449-50 N '33
- Improving automatic control by recorder chart interpretation. W. R. Clendinning. *diags Chem & Met Eng* 40:123-5 Mr '33
- Inexpensive water-stage recorder developed; Los Angeles county flood control district. *il Eng N* 110:677 My 25 '33
- Measurement of coal and coke; Lea coal meter and the Lea cubimeter. *il diags Mech Handling* 20:269-71 Ag '33
- Mechanically recording industrial extensometer. P. Chevenard. *diags Engineer* 156:sup [Metallurgist] 71-2 O 27 '33
- Meters, recorders and testing instruments. *il diags Power* 76:360-3 Mid-D '32
- Micromax indicating recorder. *il Automotive Ind* 68:121 Ja 28 '33; *Mach* 39:421 F '33
- New autographic load-extension recorder. H. S. Cliff. *diags pl Textile Inst J* 24:T351-60 O '33
- Rapid advance made in perfecting instruments for exact recording of subsurface pressure. D. G. Hawthorn. *diags Oil & Gas J* 31:16-17+ Ap 20 '33

Tagliabue magnetic-clutch flow recorder and controller. *il diags Engineering* 135:582 My 26 '33

*See also*

Accelerograph	Profilograph
Carbon dioxide recorders	Water level indicators
Oscillographs	

**Manufacture**

Embossing feed pins in a recording cylinder of Brown potentiometer-pyrometer. W. C. Schmidt. *diags Am Mach* 76:1230-1 D 21 '32

**RECORDING instruments, Electric**

Advances in dielectric, graphic and acoustic measurements; abstracts of papers at A.I.E.E. meeting. *diag Elec W* 101:164 F 4 '33

Automatic autographic extensometer for use in tension tests of materials. R. L. Templin. *il diags Am Soc T M Proc* 32 pt 2:783-92 '32

Boiler house instruments; improvements in design and reliability. W. G. Marskell. *il diags Electrician* 111:509-11+ O 27 '33

Brown mercury-switch thermometer controller. *Power Pl Eng* 37:491-2 N '33

Brown smoke density meter. R. D. Bean. *il diag Blast F & Steel Pl* 21:166-7 Mr '33

Centralized control of blast furnace. O. P. Van Steewen. *il diags Blast F & Steel Pl* 21:523-6, 579-80 O-N '33

Continuous Kennelly-Heaviside layer records of a solar eclipse. H. R. Mimno and P. H. Wang. *il diags Inst Radio Eng Proc* 21:529-45 Ap '33

Continuous recorder of radio field intensities. K. A. Norton and S. E. Reymer. *diags pl U S Bur Stand J Research* 11:373-8 S '33

Determination of losses in travel time. E. W. James. *il Civil Eng* 3:463-5 Ag '33

Dissolved-oxygen recorder at Seal Beach. C. Pettingill and E. J. Barlow. *il Power* 77:63 F '33

Everashed and Vignoles single operation recorder. *il Engineer* 154:649 D 23 '32

Improved photoelectric recorder. C. W. LaPierre. *il diags Gen Elec R* 36:271-4 Je '33

Instruments supervise control of steam turbines. R. B. Smith. *il Power* 77:142-4 Mr '33

Load registering instrument. G. Becker. *diag Am Gas J* 138:34-5 My '33

Long distance gas pressure recording gauges. G. A. S. Cooper. *il diags Gas Age* 72:279-81+ S 23 '33

New high-speed engine indicator. E. S. Taylor and C. S. Draper. *il diags Mech Eng* 55:169-71 Mr '33

New system of recording using electronic means. H. L. Bernarde and L. J. Lunas. *il diag Elec Eng* 52:168-70 Mr '33; *Excerpts. Heating-Piping* 5:220 Ap '33

Observations in transmission during the solar eclipse of August 31, 1932. J. R. Martin and S. W. McCuskey. *il diags map Inst Radio Eng Proc* 21:567-73 Ap '33

Observations of the effective height of the Kennelly-Heaviside layer and field intensity during the solar eclipse of August 31, 1932. G. W. Kenrick and G. W. Pickard. *il Inst Radio Eng Proc* 21:546-66 Ap '33

Rate and quantity records transmitted over telephone circuits; Chronoflo system. C. G. Richardson. *il diags Power* 77:304-5 Je '33

Recorder-controller for materials-testing machines; Southwark-Emery system. C. H. Gibbons. *bibliog il Iron Age* 131:274-6+ F 16 '33

Recorder for minute quantities. H. L. Bernarde and L. J. Lunas. *il diags Elec J* 30:108-9 Mr '33

Recording field strength; equipment used by the British broadcasting corp. for automatic measurement. C. H. Smith. *il diag Wireless Eng* 10:14-18 Ja '33

Recording transmission measuring system for telephone circuit testing. F. H. Best. *il diag Bell System Tech J* 12:22-34 Ja '33

Schenck autographic extensometer. W. Saran. *il Engineering* 136:160, 161-2 Ag 18 '33



**RECORDING instruments, Electric—Continued**  
 Sicometer; device for recording moisture content in paper during manufacture. *il diag Electrician* 110:486 Ap 14 '33; *Elec R (Lond)* 112:650 My 5 '33; *Elec W* 102:540 O 21 '33  
 Smoke detection. A. Tyler; H. M. Ford. *il diag Engineer* 155:606-7 Je 16 '33  
 Southwark Emery recorder-controller for materials testing. *il Eng N* 110:545 Ap 27 '33  
 Telephonic drop counter. C. F. Graham. *diags Science* 77:542-3 Je 2 '33  
 Water level recorders at Hamilton water works. E. D. Wilkes. *il Can Eng* 65:15-16 S 12 '33

#### Standards

Report on standards for electrical recording instruments. 12p American institute of electrical engineers, New York '33

#### RECORDS

Credit checking simplified; Akron credit bureau, inc. *il System and Management Methods* 62:398-9 S '33  
 Effective plan for beer distribution records; how specialized order routine prevents credit misunderstandings. *il System and Management Methods* 62:390-1 S '33  
 How simplified procedures reduced Westinghouse operating costs; handling orders, standardizing forms, etc. G. L. Harris. *il System* 62:494-5+ N '33  
 Investigation and control of records; abstract. C. U. Stapleton. *Management R* 22:306 O '33  
 Many different plans used in transferring year's files and records. *Management Methods* 61:659-60 D '32  
 One writing completes four records; Frank Levinsohn & bros. inc. *il Management Methods* 62:76 F '33  
 Posting account eliminated; Golden rule company. *Management Methods* 62:264-5 Je '33  
 Simple graphic merchandise transfer record serves also as stock control. *Management Methods* 62:18 Ja '33  
 Storage and disposal of old files. *Management Methods* 62:24-6+ Ja '33  
 What price system? F. Klein. *Chem Markets* 33:25-6 Jl '33

#### See also

Accounting	Inventories
Advertising department—Records	Office management—
Banks and banking—Records	Caller records
Chemical plants—Records	Order blanks
Credit departments—Records	Orders
Factories—Records	Photographic records
Files and filing (documents, etc.)	Production control
Forms and blanks, Business	Purchasing departments—Records
	Railroads—Records
	Sales records
	Stores systems
	Time cards

#### RECORDS, Preservation of

Are your records adequately protected? *il Bankers M* 127:301-6 S '33  
 New National archives building conditioned to protect records. *il Heating-Piping* 5:305 Je '33  
 Preservation of printed materials and manuscripts; report of a subcommittee of the International institute of intellectual co-operation of the League of nations. *Paper Tr J* 97:32-5 Jl 20 '33  
 Receivables good security if—the records are protected from fire damage. D. Girard. *il Bankers Mo* 50:94-5+ F '33  
 Storage of government records. *J Fr Inst* 215:360-1 Mr '33  
 Uncle Sam's prized papers to be air conditioned; National archives building. *Refrig W* 68:21-2 F '33

#### RECORDS, Visible

Card records simplify bookkeeping work; Hygienic products company. *Management Methods* 62:117-18 Mr '33  
 For better sales control; American cynamid and chemical corp. *il Management Methods* 62:263-4 Je '33  
 Visible records speed customer service. J. F. Branagan and B. Yoepp, jr. *il Gas Age* 72:461-2 N 11 '33

#### RECREATION

Americans at play. J. F. Steiner. 201p \$2.50 McGraw-Hill '33  
 Charges and fees for community recreation facilities and activities of public park, recreation and school systems. 158p National recreation assn, New York '32  
 Community recreation in the United States, 1932. *Monthly Labor R* 37:119-20 Jl '33  
 Development and taxation of private recreational land; studies of northern Wisconsin counties. G. S. Wehrwein and R. F. Spilman. *J Land & Pub Util Econ* 9:340-51 N '33  
 \$10,000,000,000 market; NRA brings opportunity to the industry of leisure. A. H. Little. *il Ptr Ink Mo* 27:13-14+ N '33

#### See also

Community centers  
 Sports

#### RECREATION buildings

Croydon gas company open new sports pavilion. *il Gas J (Lond)* 200:619-20 N 30 '32  
 Engineering features of a modern gymnasium; Payne Whitney gymnasium at Yale university. E. E. Seelye. *il Eng N* 111:219-20 Ag 24 '33  
 Need for recreational buildings foreseen by American institute of architects. *Arch Rec* 73:3 Ja '33  
 Payne Whitney gymnasium and Ray Tompkins house at Yale university. front *il plans Arch Rec* 73:75-104 F '33  
 University gymnasium and athletic club; checklist of planning requirements. I. D. Matthew. *il diags Arch Rec* 73:137-44 F '33

#### See also

Community centers  
 Swimming pools

#### RECREATION fields

Community playgrounds; plans. *Arch Rec* 73:8-9 Ja '33  
 Playground space requirements. *Arch Rec* 73:15 Ja '33

#### RECREATION rooms

Build recreation rooms in basements with concrete ashlar. *il Concrete* 41:7-8 O '33

#### RECRYSTALLIZATION. See Crystallization

#### RECTIFICATION

High-pressure rectification; *N*-pentane-*N*-heptane system. L. W. T. Cummings, F. W. Stones and M. A. Volante. *bibliog diags Ind & Eng Chem* 25:728-32 Jl '33  
 Principles of rectification. G. A. Burrell and N. C. Turner. *Nat Pet N* 25:26, 28-31 Mr 22; 25-6+ Ap 19; 23-4+ My 31; 35-6+ Je 14 '33  
 Der rektifizierungsvorgang auf verstärkungsböden. E. Kirschbaum. *Zeit Ver Deutsch Ing* 77:401-2 Ap 15 '33  
 Über den wirkungsgrad von rektifizierböden. E. Kirschbaum. *il diags Chemische Fabrik* 6:431-6 O 18 '33  
 Untersuchungen über die rektifikation in füllkörpersäulen (auszug). M. Weimann. *il Chemische Fabrik* 6:411-13 O 4 '33

#### See also

Distillation

#### RECTIFIERS, Electric. See Electric rectifiers

#### RECTIFIERS, Radio. See Radio rectifiers

#### RECTIFYING apparatus. See Distillation apparatus

#### RED

Dyeing reds on cottons. *Textile Col* 55:399 Je '33

#### RED beds

Hamilton red beds in eastern New York. G. H. Chadwick. *Science* 77:86-7 Ja 20 '33

#### RED Cross

Red Cross cotton; how the 500,000 bales have been handled. G. S. Harris. *Textile World* 82:983 N '32

#### RED lead. See Lead oxides

#### RED river

Sedimentation in Red river below the mouth of Washita river. V. H. Jones. *map Iowa Univ Studies in Natural History* v 15, no4: 1-30 '33

**RED spiders**

Selenium; insecticide material for controlling red spider. C. B. Gnadinger. bibliog Ind & Eng Chem 25:633-7 Je '33

**REDUCTION, Chemical**

Benzoiln reduction; the mechanism of ketone formation; the case of *m*-chlorobenzanisoiln. S. S. Jenkins and E. M. Richardson. Am Chem Soc J 55:3874-9 S '33

Catalytic reduction of aromatic nitro-compounds. S. J. Green. Soc Chem Ind J 52:52T-6T, 172T-3T F 24, Je 16 '33

Catalytic reduction of mandelonitriles. J. S. Buck. bibliog Am Chem Soc J 55:2593-7 Je '33

Kinetics of the reduction, in acid solution, of hydrogen peroxide by iodide ion. H. A. Liebhafsky and A. Mohammad. bibliog Am Chem Soc J 55:3977-86 O '33

Mechanism of reduction by sodium amalgam and alcohol; the reduction of aromatic ketones to hydrols. W. E. Bachmann. Am Chem Soc J 55:770-4 F '33

Photochemical reduction of ketones to hydrols. W. E. Bachmann. Am Chem Soc J 55:391-5 Ja '33

Reducing action of the Grignard reagent; hydrocarbons formed during reduction. C. R. Noller, W. E. Grebe and L. H. Knox. Am Chem Soc J 54:4690-6 D '32

Reduction and hydrolysis of *o*-, *m*-, and *p*-nitrophenetoles. D. H. Richardson and F. W. Smith. Chem Soc J p2955-8 D '32

Reduction by hydrogen and the thermal decomposition of nitrides made by the reaction of ammonia with various promoted and unpromoted iron synthetic ammonia catalysts. P. H. Emmett and K. S. Love. Am Chem Soc J 55:4043-50 O '33

Reduction of antimonic acid in hydrochloric acid solution with mercury. L. W. McCay. Ind & Eng Chem Anal ed 5:1-3 Ja 15 '33

Reduction of chromate solutions by X-rays. H. Fricke and E. R. Brownscrobe. bibliog Am Chem Soc J 55:2358-63 Je '33

Reduction of palladium oxide by carbon monoxide. P. V. McKinney. diag Am Chem Soc J 54:4498-504 D '32

Reduction studies of Schiff bases; the condensations of certain secondary aromatic amines with formaldehyde in acid solution; nuclear or N-methylations by means of formaldehyde. E. C. Wagner. bibliog Am Chem Soc J 55:724-31 F '33

Simultaneous reduction of vanadic acid and oxygen by iodide; induced catalysis of oxygen reactions. W. C. Bray and J. E. Ramsey. bibliog Am Chem Soc J 55:2279-88 Je '33

Studies on oxidation-reduction; aposafranines. R. D. Stiehler and W. M. Clark. Am Chem Soc J 55:4097-109 O '33

Studies on oxidation-reduction; simple safranines. R. D. Stiehler, Tung-Tou Chen and W. M. Clark. Am Chem Soc J 55:891-907 Mr '33

See also

Hydrogenation

Metallurgy

**REDUCTION, Electrolytic**

Electrolytic reduction of ketones in glacial acetic acid. S. Swann, jr. Electrochem Soc Trans 64 (preprint 21):245-52 S '33

Influence of iron salts on the electrolytic reduction of benzophenone. S. Swann, jr. Electrochem Soc Trans 63 (preprint 23): 227-8 My '33

**REDWOOD**

Crystalline coloring compounds in redwood extract. E. C. Sherrard and E. F. Kurth. Am Chem Soc J 55:1728-32 Ap '33

Distribution of extractive in redwood; its relation to durability. E. C. Sherrard and E. F. Kurth. diag Ind & Eng Chem 25:300-2 Mr '33

Redwoods and frost. H. D. MacGinitie. Science 78:190 S 1 '33

**REE, Alfred, 1863-1933**

Sketch. R. Brightman. Soc Dyers & Col J 49:108 Ap '33

**REELING**

Worsted reeling; calculations for production standards and piece rates. M. C. Bishop. Textile World 83:64-5 Ja '33

**REELS**

Tension reels for strip mills. F. Mohler. il diags Iron Age 132:18-22 O 5 '33

See also

Electric cable reels

**REFERENCE books**

How to find out. L. R. McColvin. 95p H. Toulmin, London '33

How to use a large library. E. J. Dingwall. 64p Bowes & Bowes, Cambridge, Eng. '33

See also

Bibliography

Dictionaries

Trade directories  
also subdivision Dictionaries under various subjects, e.g. Chemistry—Dictionaries

**Bibliography**

Newspaper reference methods. R. W. Desmond. [List of books and periodicals valuable for newspaper libraries, p139-96; Bibliography on newspaper reference libraries, p207-21]. 229p \$2.50 Univ. of Minnesota press, Minneapolis '33; Review. Special Lib 24:185 O '33

Non-chemical publications important in chemistry. M. G. Mellon. J Chem Educ 10:619-21 O '33

Practical use of books and libraries. G. O. Ward. 5th ed rev & enl 195p F. W. Faxon co, Boston '33

**REFLECTION (optics)**

Effect of weathering on the reflection factor of surfacing materials for light wells. M. R. Paul. il Illum Eng Soc Trans 28:315-24; Discussion. 324-5 Ap '33

Influence of the reflecting characteristics of wall paints upon the intensity and distribution of artificial and natural illumination. D. L. Gamble. bibliog il diags Illum Eng Soc Trans 28:326-45; Discussion. 345-6 Ap '33

Preparation of reststrahlen plates and the reflection power of powders. R. B. Barnes. Phys R 43:31-3 Ja 1 '33

La prévention des réflexions parasites dans les tableaux sous verre. Génie Civil 102:524-5 Je 3 '33

**REFLECTION of atoms. See Atoms—Reflection****REFLECTION of electrons. See Electrons—Reflection, scattering, etc.****REFLECTORS**

Design of theatre down lights. E. B. Kirk. diag Illum Eng Soc Trans 28:280-3 Mr '33

L'éclairage des voies publiques. R. Boutteville. il diags Soc Ing Civils Bul 85:1291-1378 N '32

Good reflectors help whiten daylight quality. M. Luckiesh. Elec W 102:26 J1 1 '33

Smaller headlamps for streamlined cars. W. C. Brown and V. J. Roper. diags Automotive Ind 69:270-4, 306-8 S 2-9 '33; Abstract. S A E J 33:376 N '33

**Manufacture**

Works of Messrs. C. A. Parsons and company, limited. il diags Engineering 134:730-2 D 23 '32

**Testing**

Quality measurements for lighting equipment. A. A. Brainerd. il Illum Eng Soc Trans 28: 526-33; Discussion. 533-6 Je '33

Testing specifications for lighting equipment; specifications for testing asymmetric show-window reflectors. Illum Eng Soc Trans 28: 512-25 Je '33

**REFLECTORS, Telescope. See Telescope—Mirrors****REFORESTATION. See Forests and forestry****REFORMATSKY reaction**

Reformatsky reaction with anisil. J. W. Cook and W. Lawson. Chem Soc J p827-8 J1 '33

Reformatsky reaction with compounds of the ethylene oxide type. G. R. Clemo and J. Ormston. Chem Soc J p362 Ap '33



**REFRACTION**

Double-refraction effects in the Kennelly-Heaviside layers. H. R. Minno and P. H. Wang. *Phys R* 43:769-70 My 1 '33

Home-brewing the rainbow—and understanding it. G. Johnson. *il diags Sci Am* 148:156-8 Mr '33

Method for the precise measurement of optical path-difference, especially in stressed glass. R. W. Goranson and L. H. Adams. *il diags J Fr Inst* 216:475-504 O '33

Permissible curvature of prism surfaces and inaccuracy of collimation in precise minimum-deviation refractometry. L. W. Tilton. *diags U S Bur Stand J Research* 11:25-57 J1 '33

Theory of forced double refraction. K. F. Herzfeld and R. H. Lee. *bibliog Phys R* 44: 625-31 O 15 '33

See also

Kerr effect

**REFRACTIVE INDEX**

Determination of alcohol and extract in wine by means of the density refractive index. W. Newton and F. L. Munro. *Can Chem & Met* 17:119-20 Je '33

Index of refraction of water and its thermal history. V. K. La Mer and M. L. Miller. *Phys R* 43:207-8 F 1 '33

Optical anisotropy of molecular crystals. S. B. Hendricks and M. E. Jefferson. *Opt Soc Am J* 23:299-307 S '33

Refractivities of liquid compounds of phosphorus. W. J. Jones, W. C. Davies and W. J. C. Dyke. *J Phys Chem* 37:583-96 [biblog p596] My '33

Relation of carcinogenicity of mineral oils to certain physical and chemical characteristics of these oils. R. Lyth. *J Ind Hygiene* 15: 226-37 J1 '33

Simple method of determining the refractive index of a liquid. S. C. Gladden. *R Sci Instr* 4:231-2 Ap '33

Studies in refractive index. A. M. Taylor, A. M. Glover, D. A. Duffie and A. King. *il diags Opt Soc Am J* 23:206-15, 263-9, 308-12 Je, Ag-S '33

Theory of the dispersion and absorption of helium. J. A. Wheeler. *Phys R* 43:258-63 F 15 '33

**REFRACTOMETER**

Determination of ethyl alcohol in gasoline-alcohol mixtures using a Zeiss immersion refractometer. F. S. Mortimer and E. H. Giese. *Ind & Eng Chem Anal ed* 5:356 S 15 '33

Determination of *o*-nitrotoluene in nitrocellulose powder by the immersion refractometer. J. A. O'Callaghan and S. G. Cook. *Ind & Eng Chem Anal ed* 5:333-4 S 15 '33

**REFRACTORY cement. See Cement, Refractory****REFRACTORY materials**

Anwendungsmöglichkeiten von Siemensit in der chemischen techn. J. Schmauser. *il diag Chemische Fabrik* 6:119-22 Mr 15 '33

Armstrong's EF brick. *Blast F & Steel Pl* 21: 272-3 My '33

Chromcrete, new natural base castable refractory. *il Am Gas J* 138:56 Ap '33

Classification and definition of specialized refractories. H. E. White. *Am Cer Soc Bul* 12:252-6 Ag '33

Compilation of phase-rule diagrams of interest to the ceramist and silicate technologist. F. P. Hall and H. Insley. *diags bibliog Am Cer Soc J* 16:459-567 O '33

Feuerfester Mörtel zum flicken von silikakoks-öfen. E. Comblés. *diags Stahl & Eisen* 53: 984-8 S 21 '33

Graphite as a refractory. R. H. Stone. *il Am Cer Soc J* 16:96-101 F '33

Heat insulation. A. L. Foster. *Gas J (Lond)* 201:566-8 Mr 1 '33; Excerpt (Heat insulation for steam plants). *Blast F & Steel Pl* 21:427-9 Ag '33

High-temperature refractories; metallic oxides for laboratory ware; abstract. *Am Cer Soc J* 16 (Cer A 12):13-19 Ja '33

Improving open-hearth furnace design. W. C. Buell, jr. *diags Steel* 91:24-6+ O 17; 29-31 O 24; 26+ N 21; 28-9 N 28; 29-30+ D 5; 29-31 D 12 '32

Investigation of some of the refractories used in ladles and in ingot casting; some characteristics of the clays used in the manufacture of runners, stoppers, nozzles, etc. J. E. Priestley and W. J. Rees. *diags Soc Chem Ind J* 52:297T-304T S 22 '33

Longer life, higher strength shown by new refractories. *Steel* 92:98-9 Ja 2 '33

Neue keramische hilfsmittel für höchste beanspruchung. *Chemische Fabrik* 6:sup3-4 Je 7 '33

New refractory, Siemensit will not fuse at cone 42; German product made from ferrochrome furnace slag. *Brick & Clay Rec* 82: 88 Mr '33

Porous plastics made by use of calcium alloys. C. C. Downie. *Metal Prog* 24:46+ Ag '33

Properties of refractory materials; tabulation. *Chem & Met Eng* 39:653 D '32

Proposed code for refractories. *Brick & Clay Rec* 83:51-2 Ag '33

Refractories. A. H. Loveless. *Blast F & Steel Pl* 21:500, 552, 603 S-N '33 (to be cont)

Refractories. C. R. F. Threlfall and A. T. Green. *Soc Chem Ind J (Chem & Ind)* 52: 347-8 Ap 21 '33; Same cond. *Chem Age (Lond)* 28:358-9 Ap 22 '33

Refractories in 1932. *il Blast F & Steel Pl* 21:70-1 Ja '33

Refractory linings for modern blast furnaces. M. Barrett. *Soc Chem Ind J (Chem & Ind)* 51:972-3 N 25 '32; Same. *Blast F & Steel Pl* 21:123-4 F '33

Refractory material for cement rotary kilns; abstract. J. Fauner. *Rock Prod* 36:42 Je '33

Refractory materials and the gas industry; a progress report. A. T. Green. *Gas J (Lond)* 202:339-42; Discussion. 342 My 10 '33

Refractory oxides for crucible manufacture. *Chem Age (Lond)* 28:sup29-30 My 6 '33

Refractory service, with particular reference to boiler furnaces. J. Walker. *diags Engineering* 135:4-7, 34-7 Ja 6-13 '33; Abstract. *Mech Eng* 55:183-4 Mr '33

Selecting the right chrome ore. A. De Macedo. *Blast F & Steel Pl* 21:279-80, 335-6 My-Je '33

Silica as a refractory material. C. N. Witherow. *Brick & Clay Rec* 82:123-4+, 164-5, 171, 208-9 Ap-Je '33

Study of a group of typical spinels. C. W. Parmelee, A. E. Badger and G. A. Ballam. *diags Ill U Eng Exp Sta Bul* 248:1-54 '32

Symposium on the physical chemistry of the alumina-silica refractories. R. B. Sosman and others. *il Am Cer Soc J* 16:54-76 Ja '33

Symposium (second) on the physical chemistry of the alumina-silica refractories. B. E. Warren and others. *Am Cer Soc J* 16: 412-21 S '33

Theory of spalling. F. W. Preston. *Am Cer Soc J* 16:131-3 Mr '33; Discussion. F. H. Norton. 16:423-4 S '33

Thermal expansion of refractories to 1,800° C. R. A. Heindl. *diag pl U S Bur Stand J Research* 10:715-35 Je '33; Excerpts. *Brick & Clay Rec* 83:59-60+ Ag '33

Thorium oxide, a high temperature refractory. O. O. Fritzsche, H. B. Wahlén and J. F. Oesterle. *il diags Electrochem Soc Trans* 64 (preprint 23):281-91 S '33

X-ray diffraction patterns of mullite. E. Posnjak and J. W. Greig. *il Am Cer Soc J* 16:569-83 N '33

See also

Cement, Refractory	Magnesite brick
Fire brick	Mullite
Fire clay	Silica brick
Magnesite	Silicon carbide

**Bibliography**

Ceramic abstracts. Published in monthly numbers of American ceramic society journal

**Manufacture**

Driers and drying in refractories industry. J. T. Robson. *Am Cer Soc J (Bul)* 16:2-17 Ja '33

Refractories for the manufacture of glass. F. S. Thompson and H. M. Kraner. *bibliog il diags Ind & Eng Chem* 25:856-64 Ag '33

**REFRACTORY materials—Manufacture—Cont.**  
Right metal for the right job is problem for refractories man. C. E. Bales. Brick & Clay Rec 83:22-3 J1 '33

#### Testing

Action of waste wood and oil fuel on refractories. K. G. Skinner and N. L. Field. il Brick & Clay Rec 81:204+ D '32

Action of waste-wood ash on refractories when used with auxiliary oil-firing. K. G. Skinner and N. L. Field. il diags Am Cer Soc J 16:393-403 Ag '33

Some experiments with zircon and zirconia refractories. G. F. Comstock. il Am Cer Soc J 16:12-35 Ja '33

#### REFRACTORY research

British refractories research helps the gas industry. A. C. Blackall. Gas Age 71:390 Ap 15 '33

Research and refractory materials. A. T. Green. Gas J (Lond) 204:86-7 O 4 '33

Some experiments with zircon and zirconia refractories. G. F. Comstock. il Am Cer Soc J 16:12-35 Ja '33

#### REFRIGERANTS

Analysis of refrigeration-grade liquid sulfur dioxide. F. A. Eustis. diags Ind & Eng Chem Anal ed 5:77-9 Mr 15 '33

Application of the halogen derivatives of the hydrocarbons with particular reference to methyl bromide. A. Henning. Soc Chem Ind J (Chem & Ind) 52:462-4 Je 2 '33

Comparison of the carbonic and ammonia refrigeration cycles. H. J. McIntire. Power 77:412-14 Ag '33

Ebullition of refrigerants. L. A. Philipp and B. E. Tiffany. diags Refrig Eng 25:140-6+ Mr '33

Flow of superheated refrigerants in copper tubing. J. E. Linebaugh. Refrig Eng 26:82-4 Ag '33

Hazards of gas leakage as affected by ventilation; with special reference to methyl chloride. J. B. Churchill and E. T. Williams. Refrig Eng 25:256-60 My '33

New tables of refrigerant gases; properties of certain media of high boiling point. J. B. Churchill. bibliog Refrig Eng 26:85-7 Ag '33

Oils for refrigeration. E. S. Herman. Refrig Eng 26:206 O '33

Washington, D.C. adopts new refrigerants code. Refrig Eng 26:34 J1 '33

Water as a refrigerant. J. Everetts, jr. flow diag il diags Refrig Eng 24:329-33 D '32; Abstract. Power 76:354 Mid-D '32; Discussion. Refrig Eng 25:111+ F '33

#### See also

Ammonia	Carbon dioxide, Solid
Brine	Methyl chloride
Carbon dioxide	

#### REFRIGERATING engineering

Carbon dioxide thermodynamics; review of research related to CO<sub>2</sub> and practice with CO<sub>2</sub> in refrigerating engineering. J. C. Goosmann. Refrig Eng 26:190-1+, 245-8 O-N '33 (to be cont)

#### See also

Refrigerating plants  
Refrigeration and refrigerating machinery

#### Study and teaching

Refrigeration servicing as a vocation; Herkimer institute of refrigeration, New York. il Refrig W 68:32-3 J1 '33

#### Tables, calculations, etc.

CO<sub>2</sub>-NH<sub>3</sub> cycle of refrigeration. F. A. Winters. Refrig W 68:44-6 F '33

Diagrams and tables for designing absorption refrigerating machines. F. Merkel and F. Bosnjakovic. Refrig Eng 25:156-8 Mr '33

#### REFRIGERATING industries

How the refrigerating industries are organized. Refrig Eng 25:336-8 Je '33

Refrigerating industries. D. L. Fiske. il Refrig Eng 25:304-7+ Je '33

Refrigeration, an invaluable aid to material progress. Index 13:172-3, 176-8 O '33

#### See also

Air conditioning	Ice industry
Cold storage	Refrigerators
Cooling	

#### Bibliography

Reviews; short digests of the most valuable articles appearing in publications throughout the world. Published in monthly numbers of Refrigerating world, beginning May 1933

#### REFRIGERATING machines, Domestic

Refrigeration for the farmer; kerosene-heated absorption machine. D. F. Keith. il Refrig Eng 25:327 Je '33

#### REFRIGERATING plants

Refrigeration plant chemistry; corrosion in brine installations. C. B. Hill. Refrig Eng 25:216+ Ap '33

#### See also

Cold storage	Ice plants
Cold storage ware-houses	Piping (refrigerating plants)

#### Accidents

Accidental injury rates in the refrigeration industry in 1932. Refrig W 68:18-20 My '33

#### Equipment

Protective coatings. A. R. Moir. il Refrig W 68:12-14 Ag '33

#### Fires and fire protection

Ammonia refrigeration plants; periodic cleansing necessary to prevent excessive accumulation of free hydrogen which is explosive. W. J. Tallamy. Weekly Underw 129: 411-12 S 2 '33

#### Heating and ventilation

Comfort cooling in a refrigerating plant. R. H. Smith. Refrig Eng 26:152 S '33

#### Management

Refrigerating plant operating troubles. L. Buehler, jr. plant Power 77:176-7 Ap '33

#### Power

Checking up on refrigeration plant operation. R. B. Wolf. Power Pl Eng 37:214-15 My '33  
Flexible Diesel-compressor refrigerating plant. Power 77:273 My '33

Power drive in refrigerating plants. E. W. O'Brien. Refrig Eng 25:358+ Je '33

#### REFRIGERATION and refrigerating machinery

Air conditioning and refrigeration in the bakery. M. Olchoff. il diags Refrig Eng 25:9-13+ Ja '33

Air conditioning—the lubrication factor. Heat & Ven 30:34-7 J1 '33

Application of refrigerating to air conditioning. B. C. Oldham. Refrig Eng 26:35 J1 '33

Behaviour of the absorption refrigerating machine; abstract. A. Weise. Refrig Eng 25: 40+ Ja '33

Brewing—the present situation. H. A. Rosenbusch. il Refrig Eng 26:251-2; Discussion. 252-3 N '33

Compressing steam to make cold water; steam-jet refrigerating apparatus. C. H. Vivian. il diags Comp Air M 38:4141-6 Je '33

Conditions air for six-floor tenant; 22 East 40th St. building of the New York trust company. M. O'Connell. il Heating-Piping 5:463-5+ S '33

Control valves for refrigerating fluids. H. T. Lange. diags Refrig Eng 26:17-18+ J1 '33; Discussion. C. Shipman. 26:162 S '33

Cooling condensing water with refrigeration. Power 77:437 Ag '33

Cooling water for air conditioning or industrial process uses with steam jet refrigeration. W. L. Fleisher. il diag Heating-Piping 5:77-81, 147-8+ F-Mr '33

Deutscher Kälteverein, Leipzig, 12. bis 14. März 1933, versamlungsberichte. Chemische Fabrik 6:266-9 Je 14 '33; Angew Chemie 46: 340-3 Je 10 '33



REFRIGERATION and refrigerating machinery  
—Continued

Effect of wall temperature on the operation of refrigerating compressors; abstract. G. Wirth. *Refrig Eng* 26:256 N '33

Evaporating, condensing and cooling apparatus. E. Hausbrand. 5th English ed rev & enl 503p [bibliog p499-500] \$8 Van Nostrand '33

Food refrigeration applications. *il Refrig Eng* 25:312-23+ Je '33

Heat technology turns to new mediums. *Chem & Met Eng* 40:264 My '33

Heating a building by means of a refrigerator. T. B. Morley. *diags Engineer* 155:655 Je 30 '33

House heated by pump with 5 to 1 pick-up ratio. G. Wilkes and R. E. Marbury. *il diag Elec W* 100:828-31 D 17 '32

Ice cream factory in miniature. J. R. Hunt. *Refrig W* 68:15 F '33

Journées d'études concernant le chauffage et la réfrigération (Lyon, 13-15 mars 1933). *Génie Civil* 102:472-4 My 20 '33

Kälteerzeugungsanlage geschlossener bauart. H. Köckritz. *il Zeit Ver Deutsch Ing* 77:913-14 Ag 19 '33

Maiuri cold multiplier; refrigeration control and economizer for solid CO<sub>2</sub>; abstract. G. Maiuri. *diag Refrig Eng* 25:95 F '33; Discussion. J. C. Goosmann. 25:208 Ap '33; Reply. 25:274 My '33

Measuring the pressure, temperature and concentration in the liquid and gaseous phases of the saturated ammonia-water mixtures; abstract. J. Wucherer. *Refrig Eng* 24:360+ D '32

Mechanical refrigerating equipment; a guide to the selection of equipment for residential and commercial buildings. *diags Am Arch* 142:75-80 N '32

Mechanical refrigeration. H. Williams. 554p \$6 Pitman '33

Modern refrigerating equipment. *il Refrig Eng* 25:341-2+ Je '33

Motor driven ductless distribution of cold air in small commercial applications. H. Harrison. *il Refrig Eng* 25:250-2; Discussion. 25:2-5 My '33

1933 refrigeration for 1933 breweries. F. Ophuls and A. B. Stickney. *chart Power* 77:118-20 Mr '33

Obsolescence of refrigerating machinery. R. M. Fischer. *Refrig Eng* 25:92-3+ F '33

Oil refinery refrigeration. *diag Power Pl Eng* 37:386 S '33

Possibility of electrical production of refrigeration; abstract. E. Schlagel. *Refrig Eng* 26:257 N '33

Power and refrigerating plant in the brewery. F. Ophuls. *Refrig W* 68:13-17 My '33

Precision work on refrigerator parts. F. H. Colvin. *il diags Am Mach* 77:677-80, 712-15 O 25-N 8 '33

Radio City air conditioning includes steam-jet refrigeration. A. Merle. *il diags Power* 77:449-52 S '33

Refrigeration accelerated by air conditioning. *Power* 77:31 Ja '33

Refrigeration and air conditioning points in common. D. E. Perham. *W Soc E J* 38:97-102 Ap '33

Refrigeration and material progress. *il Refrig Eng* 25:297-303 Je '33

Refrigeration and the public health; exhibition of refrigeration materials. *Chem Age (Lond)* 29:32 J1 8 '33

Refrigeration in the brewery. F. Ophuls. *il Refrig Eng* 25:72-7 F '33; Excerpts. *Power Pl Eng* 37:175-7 Ap '33; Discussion. *Refrig Eng* 25:77+ F '33

Refrigeration the control factor in brewing. A. B. Stickney. *il Refrig Eng* 26:70-2+ Ag '33

Regulating compressor capacity for variable refrigeration loads. L. Buehler, jr. *il diag Power* 76:305-7 D '32

Reversed cooling for heat an economic combination. C. D. Graham. *Elec W* 102:533-7 O 21 '33

Science reverses the refrigeration cycle and gives us the heat pump! C. D. Graham and G. Wilkes. *il diag Dom Eng* 141:55-6+ Mr '33

Steam ejector refrigeration. H. M. Graham; J. F. Kooistra. *il diags Heat & Ven* 30:22-7 F '33

Steam-jet refrigeration. J. M. Labberton. *Marine Eng* 38:291 Ag '33

Steam jet refrigeration and air conditioning. R. M. McQuitty and R. M. Mullen. *diag Power Pl Eng* 37:395-6 S '33

Steam jet refrigeration system. *il Refrig W* 68:24-5 S '33

Sulzer frigorotor; abstract. *diag Mech Eng* 55:702-3 N '33

300-ton refrigeration plant for New York hospital-Cornell university medical college. W. H. Fisher. *il Power* 77:482-3 S '33

Unique installation at Canadian refinery provides for the refrigerated storage of gasoline. C. O. Willson. *il Oil & Gas J* 31:9 F 23 '33

Water as a refrigerant. J. Everetts, jr. *flow diag il diags Refrig Eng* 24:329-33 D '32; Abstract. *Power* 76:354 Mid-D '32; Discussion. *Refrig Eng* 25:111+ F '33

World's largest refrigerating compressor. *il Power* 77:291 Je '33

Zorzi enclosed motor-compressor unit. G. Muffy. *il Refrig Eng* 25:244-6 My '33

Zorzi refrigerating unit. C. Zorzi. *diag Refrig Eng* 25:379-80 Je '33

## See also

Ammonia compressors	Ice plants
Carbon dioxide, Solid	Insulation (heat)
Cold storage	Piping (refrigerating plants)
Compressors	Refrigerants
Cooling	Refrigerating engineering
Cooling of fruits and vegetables	Refrigerating plants
Cooling of water	Refrigeration on cars, trucks, etc.
Cooling towers	Refrigeration on ships
Electricity in refrigeration	Refrigerator cars
Evaporators	Refrigerators
Freezing	
Ice—Manufacture	

## Bibliography

Book directory; a list of best books on ice making, cold storage and refrigeration. Published in monthly numbers of *Refrigerating world*

Review of sources and research in refrigeration. *Refrig Eng* 25:34-5 Ja '33

Reviews; short digests of the most valuable articles appearing in publications throughout the world. Published in monthly numbers of *Refrigerating world*, beginning May 1933

## History

History of refrigeration. C. C. Curtiss. *Refrig Eng* 25:100-1 F '33

Ninety-nine years of progress. *Refrig Eng* 25:296+ Je '33

## Patents

Patents of the month. Published in monthly numbers of *Refrigerating engineering*

## Safety devices and measures

Safety regulations for refrigeration equipment. Y. Henderson and W. V. Batson. *J Ind Hygiene* 15:154-5 My '33

## Tables, calculations, etc.

Absorption refrigeration with solid absorbents. R. M. Buffington. *il diags Refrig Eng* 26:137-42+ S '33

Comparison of the carbonic and ammonia refrigeration cycles. H. J. McIntire. *Power* 77:412-14 Ag '33

Flow of superheated refrigerants in copper tubing. J. E. Linebaugh. *Refrig Eng* 26:82-4 Ag '33

I.H.P. per ton of refrigeration. K. Wegemann. *chart Refrig W* 68:14-16 Ap '33

Unit figures for estimating and checking values. K. Wegemann. *Refrig W* 68:13-16 Je '33

## Terminology

What is a ton of refrigeration? A. B. Stickney; D. L. Fiske. *Refrig Eng* 26:249-50+ N '33

**REFRIGERATION associations****Directories**

Trade organizations. Refrig W 68:63 S '33

**REFRIGERATION from central stations**

Transportation and distribution of heating and refrigeration in cities; abstract. C. Boileau. Refrig Eng 24:360 D '32

**REFRIGERATION laboratories**

Lehigh university installs refrigeration laboratory. G. B. Thom. il diags Refrig Eng 24:352-3+ D '32

**REFRIGERATION on cars, trucks, etc.**

Application of air conditioning to railroad passenger cars. W. C. Goodwin and C. Kerr, jr. il Elec Eng 52:85-8 F '33  
Kold-Kan refrigeration. il Refrig W 68:22-5 Ap '33

Mack statotherm; new system of refrigeration control for truck bodies. il diag Refrig Eng 25:153+ Mr '33

Mechanical systems applied to freight cars. E. C. Wood. il Refrig Eng 26:11-13 Jl '33

New refrigeration control by Mack; statotherm. Refrig W 68:52-3 Mr '33

Planting the trout crop. il Comp Air M 38:4237 O '33

Refrigerated auto trucks. H. B. Lindsay. il Refrig Eng 25:333-4 Je '33

Refrigerated truck bodies in the food industries. Food Ind 5:144 Ap '33

Refrigerator motor-trucks. H. M. Williams and J. W. Carl. il S A E J 31:457-60 D '32  
Truck refrigeration. H. M. Hoyt. Refrig Eng 26:255+ N '33

**See also**

Refrigerator cars

**REFRIGERATION on ships**

Factors in marine refrigeration. il Refrig Eng 25:334-5 Je '33

Investigations on the sea transport of apples. Engineering 136:333-4 S 22 '33

Marine electricity; the refrigerated ship. A. C. Hardy. il Electrician 111:257 S 1 '33

Operation of refrigeration on shipboard; S.S. President Hoover. J. E. Budd. il Refrig Eng 26:14 Jl '33

Refrigerating equipment of the steamers Ville de Tomatave and Ville de Majunga; abstract. Refrig Eng 25:40 Ja '33

South's pre-cooling and refrigerating projects. Manuf Rec 102:48 O '33

**REFRIGERATION on the farm**

Refrigeration for the farmer. D. F. Keith. il Refrig Eng 25:327+ Je '33

**REFRIGERATION research**

Review of sources and research in refrigeration. Refrig Eng 25:34-5 Ja '33

**REFRIGERATOR cars**

Blower type car icer. il Refrig W 68:27 Ag '33

M.D.T. refrigerator cars insulated with aluminum foil. il Ry Age 94:663-4 My 6 '33

Mechanical freight car systems increase. il Refrig Eng 25:334-5 Je '33

North American builds four-wheel refrigerator car. il Ry Age 93:698-700 N 19 '32; il diags Ry Mech Eng 106:481-4 D '32

Refrigerator car; historical development. W. F. Dietrichson. il Refrig Eng 26:9-11 Jl '33

**REFRIGERATORS**

Air conditioned commercial ice refrigeration. F. J. Moelter. diags Refrig W 68:9-13 Ap '33

Commercial applications are legion. Refrig Eng 25:326 Je '33

Domestic ice refrigeration. C. F. Belshaw. il Refrig Eng 26:28-9 Jl '33

Household refrigerators. L. Stanley. Refrig W 68:9-11 Je '33

Ice bunkers for commercial refrigerators. C. F. Holske. Refrig W 68:17-19 S '33; Discussion. 68:62-3 N '33

Ice refrigerator manufacturer offers cooperation. J. Ganzer. Refrig W 67:29-30 D '32

Ice warms up; new uses, new refrigerator designs. Business Week p8 My 24 '33

Ice man's answer; a new ice box with forced circulation. il Business Week p12 Je 17 '33

Refrigerators and other containers. il Refrig Eng 25:366+ Je '33

Selection of domestic or unit refrigerators. Am Arch 142:79-80 N '32

**See also**

Cold storage

**Manufacture**

Making flow production flow. H. Giese. il Factory Management 91:272-4 Jl '33

**Merchandizing**

Baseball contest jumps ice-box sales 135% for City ice and fuel co. Sales Management 33:260 S 15 '33

**REFRIGERATORS, Electric**

All's not so well with the electric; accumulating of oil in the evaporator. J. T. Wade. Refrig W 68:25+ Ja '33

Copeland model has compact refrigerating unit. Refrig Eng 25:210 Ap '33

Developments in the electrical industry during 1932; electric refrigeration. J. Liston. il Gen Elec R 36:39-40 Ja '33

Domestic refrigeration; rapid advance in public favour in Great Britain. A. C. Cox. il Electrician 110:411-12 Mr 31 '33

Electricity in the home; refrigerators. il Elec R (Lond) 113:503-4 O 13 '33

Frigidaire springs new everything. Elec West 70:146 Ap '33

General Electric refrigerators; working drawings and dimensions. Am Arch 143:104-8 Jl '33

New refrigerators. il Elec R (Lond) 112:522 Ap 14 '33

Off peak refrigerators. Refrig Eng 25:209 Ap '33

100,793 women bossed our 1933 product design job; Norge corporation. H. E. Blood. Sales Management 33:261+ S 15 '33

Redesign: what it means in the comeback process; Norge corporation. H. E. Blood. il Ptr Ink 162:69, 72-4 Mr 30 '33

Refrigerator service; methods and tools. L. K. Wright. Refrig Eng 26:30-1 Jl '33

Refrigerator should give 10 to 15 year's service. L. Ruthenberg. Refrig Eng 26:39 Jl '33

Refrigerators; competition brings out new sales points. il Business Week p10-11 Mr 29 '33

Refrigerators up. Business Week p10 Jl 15 '33

Review of domestic refrigeration. G. Muffly. il Refrig Eng 25:324-6 Je '33

Styling—the electric refrigerator's answer to 1933. A. P. Hirose. il Ptr Ink Mo 26:30-2 Ap '33

**Advertising**

Complete plan for promoting advertising to dealers; Kelvinator corporation. V. C. Woodcox. Ptr Ink 164:68-70 Jl 20 '33

For puzzled husbands; Westinghouse refrigerator Christmas campaign. il Ptr Ink 161:48-9 D 8 '32

4,000 dealers from scratch in 90 days; Grunow refrigerator. D. Wanamaker. il Ptd Salesmanship 62:27-9+ S '33

Frigidaire's \$2,000,000 campaign. H. W. Newell. Ptr Ink 162:56+ Mr 23 '33

How Americans sell refrigeration in Great Britain. il Ptr Ink 163:32-4 Je 1 '33

How Frigidaire builds business with direct mail. F. R. Pierce. Ptr Ink 165:48-9, 52-3 O 5 '33

New basis for cooperative advertising. Adv & Sell 20:26 Mr 30 '33

Plus value from an advertised name; Frigidaire using consumer good-will to help sell more commercial installations. il Ptr Ink 163:49-50 Je 1 '33

Safe refrigerators; Grunow advertising. Business Week p14 My 10 '33

Tested copy in Frigidaire largest mid-year campaign. Ptr Ink 164:29-30 Jl 13 '33

20,000 direct-mail sets sold in gold rush campaign; Servel sales, inc. W. P. Jones. il Ptd Salesmanship 61:13-15 Mr '33

**Manufacture**

Fabricating products by electric furnace brazing. H. M. Webber. il diags Mach 39:520-4 Ap '33



**REFRIGERATORS, Electric — Manufacture—**  
*Continued*

- How electric refrigerators are made noiseless; Westinghouse electric & mfg. co. C. O. Herb. *il Mach* 39:561-4 My '33  
 Last year's product won't sell this year. *il Factory Management* 91:182-3 My '33  
 Pickling of refrigerator parts is made automatic by conveyors. *il Steel* 92:17-19 Ja 16 '33  
 Rust-proofing refrigerator parts. *il Iron Age* 131:168 Ja 26 '33

**Merchandizing**

- Born during the depression—our business has thrived; Norge corporation. H. E. Blood. *il System and Management Methods* 62:339-41+ Ag '33  
 Cash customers, also, are lured by Warner-GE prosperity special. *il Sales Management* 32:262 Mr 15 '33  
 Christmas display contest is next major activity of Electric refrigeration bureau. *N E L A Bul* 19:693 N '32  
 Contest for 7,500 salesmen; Westinghouse refrigerator drive. E. Peterson. *il Ptr Ink* 164:75-8 Ag 24 '33  
 Do you wait for business or—do you work for it? R. Cole. *Refrig W* 68:29-30 F '33  
 Eight cardinal virtues of a good window display. J. H. Knapp. *il Ptd Salesmanship* 62:41-3+ S '33  
 Evaluating our national coordinated promotional programs. J. E. Davidson. *Edison Elec Inst Bul* 1:70 Je '33; Same abr. *Elec W* 101:763 Je 10 '33  
 Frigidaire turns bank holiday into salesfest for new line. *il Sales Management* 32:323+ Ap 1 '33  
 GE sells 2,000 carloads of refrigerators in 60-day man hunt. A. R. Hahn. *Sales Management* 33:13-15+ J1 1 '33  
 How Allen-Ingraham develop champion quota-busters. R. C. Hill. *Sales Management* 32:203-5+ Mr 1 '33  
 Kelvinator sets a 19-year record in leadership sales campaign. *Sales Management* 32:620 Je 15 '33  
 Losers stand to win in this contest; Kelvinator corp. V. C. Woodcox. *Ptr Ink* 165:44-5 O 19 '33  
 Majestic's master dealer plan of selective selling. E. Butt. *il Ptd Salesmanship* 60:233-6+ N '32  
 Meterice; Frigidaire corp. has purchased the assets of Meterice of America, Ltd. *Business Week* p8 N 30 '32  
 New model opens new markets; Copeland refrigerators. W. D. McElhinny. *il Ptr Ink* 162:26-8 Mr 23 '33  
 104 per cent of a summer sales quota; Westinghouse Master builders' contest. D. E. Thompson. *il Ptd Salesmanship* 62:22-5 S '33  
 Publicity train; General Electric-Warner Brothers special turned out to be a G-E party for appliance prospects. *Business Week* p20 Mr 22 '33  
 Refrigeration bureau activities in 1933. J. E. Davidson. *N E L A Bul* 20:51 Ja '33  
 Refrigeration industry mobilizes forces for record campaigns. *Sales Management* 32:223 Mr 1 '33  
 Two years of progress with the Electric refrigeration bureau. G. W. Allison. *N E L A Bul* 19:719-20+ D '32  
 Westinghouse starts owner club sales campaign. *Ptr Ink* 162:24 Mr 9 '33

**Statistics**

- Electric refrigeration bureau reports 769,695 units sold in 1932. *N E L A Bul* 20:92-3 F '33

**REFRIGERATORS, Gas**

- Electrolux quality demand soars in face of price competition. L. M. Hughes. *Sales Management* 32:566+ Je 1 '33  
 New air-cooled Electrolux gas refrigerator is placed on market. *il Gas Age* 71:292 Mr 18 '33; *Am Gas J* 138:54 Ap '33  
 New air-cooled gas refrigerator; its operation and future. F. E. Sellman. *il diag Gas Age* 71:299-300+ Mr 25 '33; Excerpts. *Am Gas Assn Mo* 15:136-7 Ap '33

- Review of domestic refrigeration. G. Muffly. *il Refrig Eng* 25:324-6 Je '33

**Advertising**

- Ice cards good tip for iceless prospects. O. B. Server. *Am Gas J* 138:46 Ap '33  
 Window displays that tie in with advertising. *il Ptd Salesmanship* 61:156-7 My '33

**Merchandizing**

- Companies enter cash prize contest to sell gas refrigerators. *Am Gas Assn Mo* 15:377-8 S '33  
 How Brooklyn Union is selling 1000 refrigerators a month. R. L. Hallock. *Gas Age* 72:7-8+ J1 1 '33  
 How utilities can sell gas refrigeration. H. H. Wampler. *Gas Age* 71:385-6+ Ap 15 '33  
 Industry is watching midsummer gas refrigerator contest. C. Barnes. *il Gas Age* 72:185-6 Ag 26 '33  
 Old gas merchandising man tells how gas refrigeration sales can be increased. *Am Gas J* 138:29-31 F '33  
 Philadelphia welcomes the new air-cooled refrigerator. M. R. Kehoe. *Gas Age* 71:499-500 My 13 '33  
 Refrigeration; A.G.A. committee report. *Am Gas Assn Proc* 1932:532-52  
 30,000 refrigerators! E. J. Devlin. *Am Gas Assn Mo* 15:138-40+ Ap '33  
 Using the telephone to sell gas refrigerators. W. Parker. *il Gas Age* 71:71-2 Ja 21 '33  
 Using the user to promote gas refrigerator sales. R. K. Tenney. *Gas Age* 72:153 Ag 12 '33  
 Value of refrigeration load to the gas industry. C. Barnes. *Gas Age* 71:605-6 Je 10 '33

**Testing**

- Results of tests with gas fired refrigerator; abstract. R. Stueckle and W. Emendoerfer. *Refrig Eng* 26:257-8 N '33

**REFUGE assurance company**

- Annual ordinary general meeting, 69th, Manchester. *Economist* 116:545-7 Mr 11 '33

**REFUSE, Utilization of**

- Disposal of refuse; abstracts. E. W. Smith. *Chem Age (Lond)* 27:473-4 N 19 '32; *Electrician* 109:603 N 11 '32; *Elec R (Lond)* 111:708 N 11 '32  
 Gasification of town's refuse. Burnley, England. *il diag Engineer* 156:355-6 O 13 '33; *Engineering* 136:383 O 6 '33; *Gas J (Lond)* 204:81-2 O 4 '33  
 Producing gas from municipal refuse, in Burnley, England. *Pub Works* 64:34 N '33

**REFUSE collection**

- Collection and disposal of municipal wastes in the Chicago area; a report to the Civic affairs council. *W Soc E J* 38:107-13 Ap '33  
 Mechanical handling of refuse; how material is conveyed in containers by lorries to destructor. T. Ruete. *il Mech Handling* 19:414 D '32

- Refuse collection and disposal in Los Angeles. *Pub Works* 64:39-41 N '33

- Taxation of road vehicles; unfairness of the Salter report proposals to battery-electrics; effect on street cleansing services. *Electrician* 109:612 N 11 '32

- Trenton refuse bodies for city of Baltimore carry larger load. *il Roads & Sts* 76:132 Mr '33

*See also***Street cleaning****REFUSE disposal**

- Collection and disposal of municipal wastes in the Chicago area; a report to the Civic affairs council. *W Soc E J* 38:107-13 Ap '33

- Disposal of refuse. E. W. Smith. *Chem Age (Lond)* 27:473-4 N 19 '32

- Garbage loading plant at a Thames side wharf. *il Mech Handling* 20:258-9 Ag '33

- Improved method of handling house refuse. *il Mech Handling* 20:246 Ag '33

- Lightning crusher for disintegrating ordinary household refuse. *diag Engineer* 155:330 Mr 31 '33

**REFUSE disposal—Continued**

Refuse collection and disposal in Los Angeles.  
Pub Works 64:39-41 N '33

*See also*

Refuse, Utilization of	Street cleaning
Refuse collection	Trade waste
Refuse incinerators	Water pollution
Sewage disposal	

**REFUSE incinerators**

La destruction des résidus urbains par l'incinération (procédés Vesuvio et Woodall-Duckham). diags Génie Civil 101:509-10 N 19 '32

Disposal of refuse. E. W. Smith. Chem Age (Lond) 27:473-4 N 19 '32

Incinerator firing at Washington, D.C. H. P. Eddy, jr. il Pub Works 64:18 My '33

Mechanical developments in municipal sanitation. W. Ralsch. Mech Eng 55:367-8 Je '33

New Baltimore garbage incinerator; abstract. O. H. Schroedl. Water Works & Sewerage 80:205 Je '33

New incinerator at Toronto has straight-line layout. H. D. Bradley. Eng N 111:499 O 26 '33

New incinerator of Baltimore, Md. Water Works & Sewerage 80:156 My '33

New incinerators at Washington, D. C. H. P. Eddy, jr. il Boston Soc C E J 20:1-12; Discussion. 12-13 Ja '33

Procedure in contracting for garbage incinerators; abstract. I. S. Osborn. Pub Works 64:43 Jl '33

Refuse collection and disposal in Los Angeles. Pub Works 64:40-1 N '33

Refuse problem of Washington, D.C. H. P. Eddy, jr. il plan Civil Eng 2:746-9 D '32

Two incinerators for the collection and disposal of refuse in Montreal. G. D. O'Connor. il Can Eng 63:5-8 N 22 '32

L'usine d'incinération des ordures ménagères de la Ville de Lyon. C. Chalumeau. il diags Génie Civil 101:517-21, pl 3 N 26 '32

**REGINA, Saskatchewan****Water supply**

Wascana Creek watershed supply. J. F. Bryant. Can Eng 64:14 Ap 11 '33

**REGIONAL planning**

Cumbrian regional planning scheme. P. Abercrombie and S. A. Kelly. 220p [bibliog p217-18] Hodder & Stoughton, Ltd, London '32

From plan to reality. 142p Regional plan assn, inc, 400 Madison av, New York '33

Planning for planning; principles for the organization of state and regional planning on a national scale. J. L. Crane, jr. Civil Eng 3:525-6 S '33

Planning progress; abstract. T. Buckley. Eng N 111:447-8 O 12 '33

Regional plan for the Philadelphia Tri-state district. S. P. Wetherill, jr. and others. il maps Civil Eng 2:721-30 D '32

Regional planning produces results in New York region. Eng N 110:543 Ap 27 '33

Social factors in development of regional highways. W. R. Tylor. il Roads & Sts 76:219-23 Je '33

Water supply in relation to city and regional planning. M. Pirnie. Water Works & Sewerage 80:189-91 Je '33

*See also*

City planning	Metropolitan districts
County planning	State planning

**REGISTERED mail. See Mail, Registered****REGISTERS (heating and ventilating)**

Bailey air control register. il Sheet Metal Worker 23:538 D '32

**REGULATORS**

Regelung von turbokompressoren mit dem strahlrohrregler. K. Blasig. il diags Stahl & Eisen 53:375-9 Ap 13 '33

*See also*

Feed water regulators	Rheostats
Governors (machinery)	Temperature regulators
Pressure regulators	Voltage regulators

**REHABILITATION. See Disabled—Rehabilitation**

**REHABILITATION, Industrial, National committee on.** See National committee on industrial rehabilitation

**REICHSKURATORIUM für wirtschaftlichkeit**  
Organizations for the promotion of management research; the Reichskuratorium für wirtschaftlichkeit and its work. chart (supp) Int Management Inst Bul 7:1-4 Ja '33

**REICHSTAG fire, 1933.** See Germany—Reichstag fire, 1933

**REIMER-TIEMANN reaction**

Reimer-Tiemann reaction. D. E. Armstrong and D. H. Richardson. Chem Soc J p496-500 My '33

**REINA, AI**

Star salesmen the depression couldn't lick. por Sales Management 33:16-17+ Jl 1 '33

**REINFORCED concrete.** See Concrete, Reinforced

**REINFORCING steel.** See Steel, Reinforcing

**RELATIVITY (physics)**

Astronomical aspect of the theory of relativity. W. de Sitter. Univ of Calif Pub in Mathematics v 2, no 8:143-96 '33

Case against Einstein. A. Lynch. 275p \$3 Dodd '33

Ether-drift experiment and the determination of the absolute motion of the earth. D. C. Miller. il diags Rs Mod Phys 5:203-42 Jl '33

Expanding universe; abstract. A. S. Eddington. Engineering 136:470 O 27 '33

Professor Einstein and Abbe Lemaitre; discussion of the cosmical constant. R. M. Langer. Science 77:sup8 Ja 27 '33

Projective relativity and the Einstein-Mayer unified field theory. B. Hoffmann. Phys R 43:615-19 Ap 15 '33

Relativistic cosmology. H. P. Robertson. diags Rs Mod Phys 5:62-90 [bibliog p88-90] Ja '33

Relativity theory simplified and the formative period of its inventor. M. Talmey. 186p Falcon press, New York '32

Space structure and motion. G. Strömberg. Science 76:477-81, 504-8 N 25-D 2 '32

Thermodynamics and relativity. R. C. Tolman. Science 77:291-3, 313-17 Mr 24-31 '33

**RELAYS**

Balanced relay equalizes material input and output. H. Van Rosen. diag Elec W 101:327 Mr 11 '33

Billet scale removed with relay-controlled spray. R. M. Bayle. il diag Elec W 101:723-4 Je 3 '33

Building a new power system; Indianapolis power and light company. F. S. Douglass and A. C. Monteith. il diags Elec J 30:55-9 F '33

Capacity relay. E. L. Deeter. il diag Radio N 14:488 F '33

Carrier-current relaying simplified. P. Sporn and C. A. Muller. il diags Elec W 102:556-60 O 28 '33

Circuit breaker tripping. R. L. deLoache. il diags Elec J 30:329-32 Ag '33

Control panel for an oscilloscope laboratory. R. T. Pennoyer and S. O. Evans. il diags Gen Elec R 36:389-93 S '33

Controlling tank current in copper works. W. C. Noddings. Elec W 101:238-9 F 18 '33

Co-ordinating fuses and relays for distribution reliability. G. F. Lincks. diag Elec W 102:140-3 Jl 29 '33

Developments in the electrical industry during 1932; relays. J. Liston. il Gen Elec R 36:62-3 Ja '33

Differential relays operate abnormally due to different lead lengths. S. Ein. diag Elec W 100:827 D 17 '32

D.c. pilot-wire loop protects 66-kv. cable circuits. J. H. Neher. il diags Elec W 101:384-7 Mr 25 '33

Directional relays. G. W. Stubbings. diags Elec R (Lond) 113:586 O 27 '33

Experimental applications of the grid-glow tube. M. J. Brown. il diags Radio N 14:658-9+ My '33

Faults, and their clearance on large networks. R. O. Kapp and C. G. Carrothers. diags Inst E E J 71:685-702; Discussion. 721-36 N '32



**RELAYS—Continued**

- High speed reactance relay. A. R. V. War-  
rington. *il diags Elec Eng* 52:248-52 Ap '33
- Home-made relays for the pickle bottle photo-  
cell. M. L. Wendel. *il diags Radio N* 15:  
144+ S '33
- Lighthouses; automatic control of electric  
supply, using acetylene gas as standby. J.  
O. Hinds. *diag Electrician* 110:704-5 Je 2  
'33
- Machines stopped automatically by electronic  
time-delay relay. *il diag Elec W* 101:643 My  
20 '33
- Motor protection; a relay for large direct-  
started induction machines. C. L. Lipman.  
*il diags Elec R (Lond)* 111:810 D 2 '32
- New developments in synchronous motor con-  
trol. M. N. Halberg. *il diag Gen Elec R*  
36:244-9 My '33
- New ideas on protecting service; abstracts of  
papers at A.I.E.E. meeting. *diags Elec*  
*W* 101:161-3 F 4 '33
- New maximum and reverse current relay. R.  
Edler. *diags Elec R (Lond)* 113:558 O 20 '33
- No-volt traction relays. E. H. Croft. *diags*  
*Elec R (Lond)* 112:149-50 F 3 '33
- Non-linear circuits applied to relays. C. G.  
Suits. *il Elec Eng* 52:244-6 Ap '33
- Operation diagrams simplify relaying prob-  
lems. R. C. Ericson. *map Elec W* 101:106-8  
Ja 21 '33
- Protecting squirrel-cage winding of synchro-  
nous motors. M. N. Halberg. *il Elec W* 102:  
627 N 11 '33
- Recent developments in electronic devices for  
industrial control. F. H. Gulliksen. *il diags*  
*Elec Eng* 52:106-10 F '33
- Recommended practises for the protection of  
electrical apparatus. *Elec Eng* 51:829-34 D  
'32
- Relaying of high voltage interconnections. H.  
P. Sleeper. *il diags Elec Eng* 52:402-9 Je '33
- Relays and breakers improved; discussion at  
A.I.E.E. meeting. *Elec W* 102:45-6 Jl 8 '33
- Ring main feeder protection. *diags Engineer*  
155:122-3 F 3 '33
- Selecting thermal relays to protect three-  
phase motors. H. Wilson. *diags Power* 77:  
78-80 F '33
- Sequence principles used for network relay-  
ing. H. R. Searing and E. E. Powers. *diags*  
*Elec Eng* 52:694-7 O '33
- Sequence relay for network protectors. H. S.  
Orcutt and M. A. Bostwick. *il diags Elec*  
*Eng* 52:689-94 O '33
- Simple relays given precision by resonant cir-  
cuits. C. G. Suits. *diags Elec W* 101:140 Ja  
28 '33
- Synchronous motor excitation controlled by  
new relays. N. L. Hadley. *Elec W* 101:550-1  
Ap 29 '33
- Temperature protection with detector coils. H.  
E. Pearson. *il diags Gen Elec R* 36:109-10  
F '33
- Tests on photo-electric cells. D. Hauser. *diag*  
*Elec R (Lond)* 112:562 Ap 21 '33
- Tube control for filament production. G. C.  
Holloway. *il diag Elec J* 30:431 O '33
- Use of communication facilities in transmis-  
sion line relaying. J. H. Neher. *bibliog il*  
*diags Elec Eng* 52:162-8 Mr '33

**Testing**

- Adjustable-ratio transformer aids relay test-  
ing. J. W. Lingary. *il diag Elec W* 102:406-7  
S 23 '33
- Board speeds testing of network relays. *il*  
*diags Elec W* 101:268-9 F 25 '33
- Device for testing generator cut-out relay.  
F. Tipton. *diag Transit J* 77:251 Ag '33
- Short-circuit tests prove primary network.  
R. J. Salisbury and H. S. Moore. *diags Elec*  
*W* 100:849-51 D 24 '32
- System performance tested with 600 short cir-  
cuits; Indianapolis power & light company.  
E. G. Ralston and E. H. Klemmer. *il diags*  
*Elec W* 101:192-5 F 11 '33
- Test of the durability of signal-relay con-  
tacts. E. E. King. *il diags Ill U Eng Exp*  
*Sta Bul* 250:1-16 '32
- Testing of high speed distance relays. E. E.  
George. *Elec Eng* 52:471-4 Jl '33

What the tests on the Indianapolis system  
show. P. O. Langguth and R. M. Smith. *il*  
*diags Elec J* 30:98-101 Mr '33

**RELEASING mechanism**

- Overload release clutch for rotating members.  
E. Niederer. *diag Mach* 39:641 Je '33
- Quick-releasing devices. H. P. Camp. *diags*  
*Am Mach* 77:444-5 Jl 5 '33

**RELIANCE life insurance company of Pitts-  
burgh**

- Annual report, year ended Dec. 31. *Spectator*  
130:15+ F 23 '33

**RELIEF work**

*See also*

- Poor relief  
Unemployment—Re-  
lief measures

**RELIEVING mechanism**

- Relief of formed milling cutters. R. V. Hutch-  
inson. *Am Mach* 77:133-6, 178-80 Mr 1-15 '33

**REMARRIAGE****Statistics**

*See Marriage—Statistics*

**REMINGTON Rand, incorporated**

- Remington Rand's unassured profits. *Econo-*  
*stat* 1:13+ Jl 1 '33

**REMODELING (architecture)**

- Alteration of old school properties. H. C.  
Roberts. *il plans Arch Rec* 73:111-17 F '33
- Alteration work for architects in 1933. *Arch*  
*Rec* 73:16 Ja '33
- Building modernization in 1932, with special  
reference to the influence of architects. L.  
S. Schnitman. *Arch Rec* 73:125 F '33
- Modernization and alteration; views. *Arch Rec*  
74:113-20, 211-13, 325-8, sup24, 383-5 Ag-N  
'33
- Modernization in first quarter, 1933, with spe-  
cial reference to the influence of architects.  
L. S. Schnitman. *Arch Rec* 73:378 My '33
- Modernization methods that bankers will sup-  
port. L. C. Stone. *plans Am Arch* 143:13-  
15 Mr '33
- Modernizing and remodeling reference num-  
ber. *il plans Arch Forum* 58:1-84 Ja '33
- Modernizing—the liveliest field for 1933 building;  
five pleasing transformations of a common  
type of house; illustrations. *Am Bld* 54:18-19  
Ja '33
- Remodelling and adapting the small house. H.  
D. Eberlein and D. G. Tarpley. 163p \$3.50  
Lippincott '33
- Remodeling Art museum, Portland, Oregon.  
*il plans Arch Rec* 74:50-4 Jl '33
- Seventeen examples of successful moderniz-  
ing. *il plans Arch Forum* 58:45-68 Ja '33
- See also*
- |                      |                      |
|----------------------|----------------------|
| Apartment houses,    | Heating industry—    |
| Remodeled            | Remodeling           |
| Building—Repair and  | Houses, Remodeled    |
| reconstruction       | Office buildings—Re- |
| Buildings, Remodeled | modeling             |

**RENT**

- Bankruptcy without receiver; John David ef-  
fects lease revisions. *Business Week* p10 Mr  
22 '33
- Change in English rent and mortgage interest  
restrictions. *Monthly Labor R* 37:915-16 O  
'33
- Insurance plan for renters; North American  
Mutual will insure landlords against loss  
because of death or disability of tenants.  
*Nat Underw (Life ed)* 37:6 Jl 14 '33
- Liggett lease problem. *Barron's* 12:14 D 12 '32
- Liggett plan may become standard for ad-  
justing chain store leases. *Arch Forum* 58:  
340-1 Ap '33
- Percentage lease. R. McDaniel. *Burroughs*  
*Clearing House* 17:18-20 My '33
- Pre-planning low cost housing projects to  
meet economic requirements. A. M. Butts.  
*chart Am Arch* 143:31-4 Mr '33
- Present and pre-war rents in Berlin. *Monthly*  
*Labor R* 37:139 Jl '33
- Rent liens and public welfare. C. J. Foreman.  
207p Macmillan '32

**RENT**—*Continued*

Rent strike; Liggett's landlords set the pattern for meeting the chains' challenge of "lease adjustments or bankruptcy." *Business Week* p5 Ja 11 '33

*See also*

Real estate business

**Statistics**

International statistics of rents in certain towns in 1932. tables *Int Labour R* 28:248-64 Ag '33

**REORGANIZATION.** *See* Corporations—Reorganization

**REPAIR parts**

*See also*

Machinery—Replacement parts

**REPAIR shops**

Fire hydrants assembled in Philadelphia water department shop. *J. H. Sheehan. il Am Mach N* 110:413-14 Mr 30 '33

*See also*

Automobile service stations

Electric railroads—Shops

Locomotive shops

Motor bus lines—Shops

Railroads—Shops

**REPAIR shops, Portable**

Machine shop on wheels; D. H. Mead's traveling repair shop. *J. H. Sheehan. il Am Mach* 77:169 Mr 15 '33

**REPAIRING**

*See also* subdivision Maintenance and repair and Repair under various subjects, e.g. Automobiles—Repair

Electric lines—Maintenance and repair

Factories—Maintenance and repair

Freight cars—Repair

**REPLACEMENT parts.** *See* Machinery—Replacement parts

**REPORTS**

*See also*

Banks and banking—Reports

Corporations—Reports and year-books

Public utilities—Reports

Salesmen's reports

**REPRESENTATIVE government and representation**

Voice of the people. *T. V. Smith. Ann Am Acad* 169:101-9 S '33

**REPTILES**

*B. coli* in cold blooded animals. *J. W. Burger and S. Thomas. Am Water Works Assn J* 25:1238-44 S '33

Ear region and the foramina of the cynodont skull. *G. G. Simpson. bibliog diags Am J Sci* 5th ser 26:285-94 S '33

**REPUBLIC steel corporation**

Restlessness in steel. *il Fortune* 8:52-5, 120-3 S '33

**REREDOS**

Reredos, Presbyterian church of the Covenant, Cleveland, Ohio. *il Architecture* 66:333-6 D '32

**RESEARCH**

Did science get us in? Can science get us out? *C. F. Kettering. il Forbes* 31:6-8+ F 1 '33

Engineers and economic reconstruction. *H. Arnstein. Prof Eng* 18:7-10 Ja '33

Public library as an aid to industry and research. *J. P. Lamb. Assn of Sp Lib & Inf Bur Proc* 1932:62-6

Research as I see it. *H. L. Horning. S A E J* 32:33-7; Discussion. 37-40 Ja '33

Research at the Huntington library. *F. P. Hill. Lib J* 58:540-3 Je 15 '33

Research; where the library and the librarian come in. *B. M. Headicar. Assn of Sp Lib & Inf Bur Proc* 1932:67-9

Research work and experimental investigations. *W. N. Elgood. Engineering* 136:282-3 S 15 '33

*See also*

Aeronautic research  
Agricultural research  
Business research

Cement research  
Ceramic research  
Chemical research

Coal research

Concrete research

Corrosion research

Cotton research

Dye research

Electric research

Engineering research

Geographical research

Geological research

Government research

Industrial research

Insurance research

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National research council

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Paper research

Printing research

Railroad research

Refractory research

Refrigeration research

Rubber research

Scientific research

Steam research

Steel research

Sun Yat-sen institute

for advancement of

culture and educa-

tion

Textile research

United States—Stand-

ards, Bureau of

Wool research

**History**

Romance of research. *L. V. Redman and A. V. H. Mory. 149p Williams & Wilkins* '33

**RESEARCH information service**

History of the National research council, 1919-1933; Research information service. *C. J. West. bibliog Science* 78:203-6 S 8 '33

**RESERVES**

Legal reserves for industry. *R. M. Lambert. Credit & Fin Management* 35:18+ Je '33

Reserves—with reservations. *M. M. Strain. Credit & Fin Management* 35:12-13+ Mr '33

*See also*

Bank reserves

Sinking funds

**RESERVOIRS**

Application of duration curves to hydro-electric studies. *G. H. Hickox and G. O. Wesenauer. diag Am Soc C E Proc* 58:713-27 My '32; Discussion. 58:1439-48, 1606-9; 59:192-5, 480-3 O-N '32, Ja, Mr '33

Building a new reservoir for Los Angeles. *il Pub Works* 64:42 Jl '33

*Chlamydomonas* in storage reservoirs. *S. Thomas and J. W. Burger. Am Water Works Assn J* 25:991-9 Jl '33

Cle Elum dam completes storage for Yakima project. *R. J. Newell. il diag plan Eng N* 111:397-400 O 5 '33

Design and construction of the West Seattle reservoir. *S. De Moss. Am Water Works Assn J* 25:508-14 Ap '33

Double pumping—to and from a storage reservoir. *W. C. Wills. il Water Works & Sewerage* 80:32-3 Ja '33

Edgar Hoopes reservoir assures Wilmington's future water supply. *M. J. Walsh. il Explosives Eng* 11:7-9 Ja '33

Elevated storage at Louisville cuts peak-hour pumpage. *Eng N* 110:681 My 25 '33

Evaporation from reservoir surfaces. *R. Follansbee. Am Soc C E Proc* 59:254-65 F '33

Experiences with well water in an uncovered reservoir. *K. W. Brown. Am Water Works Assn J* 25:337-42 Mr '33

Initial and final dam heights; economical means of increasing storage capacity. *E. H. Burroughs. il diags Civil Eng* 3:14-16 Ja '33

Manganese in impounded water supplies. *R. S. Weston and A. E. Griffin. N E Water Works Assn J* 47:40-51 Mr '33; Discussion. *E. S. Hopkins. 47:280-2 S '33*

More water for the Panama canal. *E. S. Randolph. il plan Sci Am* 149:206-8 N '33

New pumping station and reservoir at the Winnipeg water works. *H. N. Halland. il plan Can Eng* 65:11-14 Jl 18 '33

Power and irrigation work financed by PWA. *diags map Eng N* 111:251-3 Ag 31 '33

Progress on the new water supply for metropolitan Boston. *il map Eng N* 111:308-9 S 14 '33

Quality of impounded water supplies. *H. P. Eddy. N E Water Works Assn J* 46:396-405 D '32

Reservoir storage above spillway level. *H. K. Barrows. Civil Eng* 3:233 Ap '33

Reservoirs and floods; review of report by committee appointed by the Institution of civil engineers. *Engineer* 156:188-9 Ag 25 '33



**RESERVOIRS—Continued**

Water supply sources for the Boston metropolitan district. map Boston Soc C E J 19: 452-5 O '32

*See also*

Dams	Water supply engineering
Flood control	Water tanks
Irrigation	Waterworks
Water supply	

**Repair**

New test data aid quality control of gunite; relining reservoirs for Syracuse, N.Y. provide basic data on nozzle velocities, size and shape of test specimens, cement ratio, etc. E. P. Stewart. diags Eng N 111:558-61 N 9 '33

**RESERVOIRS, Concrete**

Boughton reservoir of the Chester waterworks company. il Engineering 135:576-8 Mr 26 '33  
Ryburn reservoir. il Engineer 156:284, 287 S 22 '33  
Ryburn waterworks of the Wakefield corporation. il map Engineering 136:288-90, 292 S 15 '33

**RESIN acids**

Resin acids of American turpentine gum; the preparation of the pimaric acids from *pinus palustris*. S. Palkin and T. H. Harris. diags Am Chem Soc J 55:3677-84 S '33

Resin acids; synthesis of 1-methyl-7-isopropylphenanthrene (retene). J. C. Bardhan and S. C. Sengupta. Chem Soc J p2798-800 N '32

**RESINOUS products**

Alkyd resins as bonding materials. A. G. Hovey. bibliog Ind & Eng Chem 25:613-15 Je '33

Alkyd resins in industry. R. H. Kienle and C. S. Ferguson. Chem & Met Eng 39:599-600 N '32

Anstrichtechnische bedeutung von natur- und kunstharzen. W. Krumbhaar. Angew Chemie 46:347-9 Je 17 '33

Answering the handle problem. M. H. Frost. il Plastics 8:457 Ja '33

Application of low-temperature tar in the production of phenol-formaldehyde resins. G. T. Morgan, N. J. L. Megson and E. L. Holme. diag Soc Chem Ind J 52:277T-80T S 8 '33

Applications of vinyl resins. J. G. Davidson and H. B. McClure. bibliog il plan Ind & Eng Chem 25:645-52 Je '33; Same. Plastic Prod 9:143-50 Je '33; Excerpt (Vinylite dwelling). J Fr Inst 216:406-8 S '33

Art of resin manufacture. J. P. Dunne. Plastic Prod 9:273-4 S '33

Der aufbau der phenoplaste. M. Koebner. Angew Chemie 46:251-6 My 6 '33

Chemical progress in synthetic resins. H. L. Bender. Oil Paint & Drug Rep 123:17-+ Ap 17 '33

Coming: creaseless textiles. Plastics 8:417-+ N '32

Effect of synthetic resins and pigments on drier absorption and viscosity. Oil Paint & Drug Rep Extra ed 122:37-8 N 29 '32

Electrical conductivity of commercial dielectrics and its variation with temperature. J. D. Clark and J. W. Williams. bibliog diags J Phys Chem 37:119-31 Ja '33

Flexible alkyd resins. R. H. Kienle and P. F. Schlingman. bibliog il Ind & Eng Chem 25:971-5 S '33

Formulating with beccakite and becosols; abstract. H. M. Johnson. Can Chem & Met 17:11 Ja '33

Glycerol phthalate resins in quick-drying house paints. Oil Paint & Drug Rep Extra ed 122: 40-1 N 29 '32

Hard rubber vs. synthetic resins. Chem Markets 32:236 Mr '33; Same. India Rubber W 87:37 Mr '33; Same. Plastic Prod 9:25 Mr '33

Historical survey of coatings. B. S. Covell. il Plastic Prod 9:56-8, 137-8 Ap. Je '33

Machining non-metallic materials. diags Am Mach 77:565-6 Ag 30 '33

Methods of test for phenolic resin laminated materials. D. Harvey. diags Elec J 30:66-9-+ F '33

Modern lacquers; improved synthetic resins and plasticisers. Chem Age (Lond) 28:484 My 27 '33

New materials in products and packages. il Adv & Sell 20:sup [Adv Arts] 28-30 Mr '33

New plastic-impregnated cloth; Revolite. il Plastic Prod 9:21 Mr '33

Newer chemistry of coatings. C. Ellis. bibliog il Ind & Eng Chem 25:125-32 F '33

Newer developments in the urea resins. L. Smidth. Plastic Prod 9:152 Je '33

Phenol resin gives new tool to marine engineers; S. S. Washington. F. E. Brill. il Plastic Prod 9:189-90 Jl '33

Plant equipment from synthetic resins. D. H. Killeffer. il Ind & Eng Chem 25:1217-19 N '33

Plastics—a new industry comes of age. il Iron Age 131:345-7 Mr 2 '33

Plastics and their genesis. G. T. Morgan. Chem Age (Lond) 29:104-6 Jl 29 '33; Same. Soc Chem Ind J (Chem & Ind) 52:675-80 Ag 18 '33; Abstract. Gas J (Lond) 203:351 Ag 16 '33

Plastics in the paint industry; abstract. L. A. Jordan. Chem Age (Lond) 28:522 Je 10 '33

Plastics of the urea-formaldehyde type. K. M. Chance. Chem Age (Lond) 29:84 Jl 22 '33

Plastics; the phenolic type and their uses. G. Dring. Soc Chem Ind J (Chem & Ind) 52:671-5 Ag 18 '33; Abstract. Chem Age (Lond) 28:575 Je 24 '33

Preliminary tests on revolite. F. I. Bennett. il Plastic Prod 9:314-16 O '33

Progrès chimiques réalisés dans l'industrie des résines synthétiques. H. L. Bender. bibliog Chimie & Ind 30:525-32 S '33

Quick-drying and enduring finishes. H. Chase. Am Mach 77:241 Ap 12 '33

Resinification of glycerol; sulfates and sulfites as catalysts. S. N. Ushakov and E. M. Obriadina. Ind & Eng Chem 25:997-1001 S '33

Resinous equipment solves corrosion problems. il diags Chem & Met Eng 40:201-3 Ap '33

Safety glass manufacture. Chem Age (Lond) 27:472 N 19 '32

Sorption of organic vapors by glyptal resins. C. H. Wunning and J. W. Williams. diag J Phys Chem 36:2915-35 D '32

Sorption of organic vapors by resinous and cellulosic materials. C. H. Wunning and J. W. Williams. Am Chem Soc J 55:3560-9 S '33

Stähle für werkzeuge zum pressen von kunstharz. F. Rapatz. Stahl & Eisen 52:1271 D 22 '32

Synthetic houses; house that chemistry built at the Century of progress exposition. il Sci Am 149:180 O '33

Synthetic resin products. A. E. Williams. il diags Engineering 136:131-3 Ag 11 '33; Abstract. Mech Eng 55:632 O '33

Synthetic resins. A. E. Williams. il diags Engineer 155:569-72 Je 9 '33; Excerpts. Chem Age (Lond) 29:369-70, 395 O 21-28 '33

Synthetic resins and anti-crease cellulosic materials. E. Clayton. Soc Dyers & Col J 48: 295-8 N '32

Synthetic resins and other plastics from an electrical standpoint. W. H. Nuttall. Soc Chem Ind J (Chem & Ind) 52:124 F 10 '33; Same. Chem Age (Lond) 28:117 F 11 '33

Uses of phenolic laminated and plastic molded products. H. M. Richardson. il Chem & Met Eng 39:597-8 N '32

Versatile material; abstract. A. C. Hitchon. Elec R (Lond) 112:453 Mr 31 '33

Vinylite. Business Week p8 Jl 8 '33

Which synthetic resin? J. P. Dunne. il Chem Markets 32:33-5 Ja '33

*See also*

Bakelite	Haveg
Glyptal	Micarta

**RESINS.** See Gums and resins; Rosin

**RESISTORS, Electric.** See Electric resistors

**RESONANCE**

Applications of resonance. G. W. Preston. diags Elec R (Lond) 112:896-7 Je 23 '33

Lamp flicker traced to critical compressor resonance. il Elec W 101:300-1 Mr 4 '33

**RESONANCE—Continued**

Method of exciting resonant vibrations in mechanical systems. L. B. Tuckerman, H. L. Dryden and H. E. Brooks. U S Bur Stand J Research 10:659-60 My '33

Practical analysis of parallel resonance. R. Lee, diags Inst Radio Eng Proc 21:271-81 F '33; Discussion. 21:875-6 Je '33

Resonance method of wave-form analysis. C. F. J. Morgan. Inst E E J 71:819-29 [bibliog p828-9] N '32; Abstract. Electrician 110:161 F 3 '33

Some general resonance relations and a discussion of Thevenin's theorem. J. G. Brainard, diags Inst Radio Eng Proc 21:1050-4 JI '33

**RESONANCE radiation.** See Radiation—Resonance

**RESONANT shunt**

Selective devices for reducing ripples in d-c systems. Edison Elec Inst Bul 1:190 S '33

**RESORCINOL monobutyl ether**

Nitrosation of phenols; resorcinol mono-n-butyl ether. H. H. Hodgson and H. Clay. Chem Soc J p660-1 Je '33

**RESPIRATION**

Hemodynamic and respiratory changes following the manipulation and traction of the gastrohepatic ligament; abstract. A. B. Luckhardt, R. Alpert and S. Smith. Science 76:645 D 9 '32

Influence of respiration and transpiration on ionic content of air of occupied rooms. C. P. Yaglou, L. C. Benjamin and A. Brandt. bibliog diag J Ind Hygiene 15:8-17 Ja '33

Physiologic changes during exposure to ionized air. C. P. Yaglou, A. D. Brandt and L. C. Benjamin. bibliog Heating-Piping 5: 423-30 Ag '33; Same cond. J Ind Hygiene 15:341-53 S '33

Relation between volume of respiration chamber and concentration of carbon dioxide in end sample and in composite sample of air. M. Kleiber. Ind & Eng Chem Anal ed 5: 98-100 Mr 15 '33

Studies in dust retention; dust retained by the tracheotomized cat. T. Ishikawa and P. Drinker. bibliog diag J Ind Hygiene 15: 57-65 Mr '33

**RESPIRATION ferments**

Respiration coenzyme. F. E. Allison, S. R. Hoover and D. Burk. Science 78:217-18 S 8 '33

**RESPIRATORY apparatus**

Apparatus for maintaining artificial respiration in laboratory animals. W. R. Bond. diags Science 77:515-16 My 26 '33

Chicago eye shield co.'s healthguard mask. il Blast F & Steel Pl 21:597 N '33

Dust in industry; shop methods and equipment effective in controlling dust hazards. F. Willson. il Mech Eng 55:80-2 F '33

Equipment shows progress in respiratory protection. R. H. Ferguson. il diag Nat Safety N 28:37-8+ O '33

How efficient are respirators? R. C. Stratton. il Nat Safety N 27:21-2 F '33

Inhalators as modern life savers. J. J. Barada. il Safety Eng 64:271-2 D '32

Protecting the worker against dust inhalation. P. Drinker. Nat Safety N 27:25-6 Mr '33

La protection contre les fumées et les gaz, dans les incendies de navires. Manaud. diags Génie Civil 103:70 JI 15 '33

Relation between volume of respiration chamber and concentration of carbon dioxide in end sample and in composite sample of air. M. Kleiber. Ind & Eng Chem Anal ed 5: 98-100 Mr 15 '33

Spare oxygen cylinder aids in apparatus failure. il Coal Age 38:212 Je '33

See also

Gas masks

**RESPIRATORY organs****Diseases**

Air-conditioning with relation to comfort, health, and efficiency. E. R. Hayhurst. bibliog J Ind Hygiene 15:98-115 Mr '33

Incidence and clinical symptoms of minor respiratory attacks with special reference to variation with age, sex, and season. S. D. Collins and M. Gover. bibliog Pub Health Rep 48:1155-78 S 22 '33

See also

Cold (disease)

Influenza

Lungs—Dust diseases  
Pneumonia

**RESPIROMETER**

Large respirometer used in making some studies of the catalase, nitrogen and carbohydrate changes in asparagus roots. W. B. Balch. diag Science 77:116-17 Ja 27 '33

**REST days**

Barber-shop closing law for District of Columbia. Monthly Labor R 36:320 F '33

Report of the governing body of the International labour office upon the working of the convention concerning the application of the weekly rest in industrial undertakings. 38p World peace foundation '33

See also

Holidays

**RESTAURANTS**

Beer bars and cafés. il diags plans Arch Forum 58:413-28 My '33

Colonial restaurant, Herald Square hotel, New York; views and plans. Am Arch 143:55-6 Ja '33

Department store food service. I. M. Hamlin and A. H. Winakor. Ill U Bur of Business Research Bul 46:1-37 '33

Hi-hat restaurant, Los Angeles; views and plans. Arch Forum 58:397-8 My '33

Manual and directory, Wisconsin restaurants. Ed. of 1933 111p Wisconsin state board of health, Madison '33

Modernization increases restaurant profits. J. O. Dahl. il plans Arch Forum 58:73-9 Ja '33

Old Heidelberg inn is recreated for the World's fair. J. B. Nealey. il Gas Age 71: 627-8 Je 17 '33

Penny pantries. Business Week p10 Mr 15 '33

Philately speaking; stamp album offered to restaurant patrons. Ptr Ink Mo 26:26 Mr '33

Remodeled dining room, bar and tavern, Hotel Knickerbocker in Chicago; views and plans. Arch Rec 74:383-5 N '33

Restaurant mart; food purveyors set up national buying center in Chicago's American furniture mart building. Business Week p6 Ja 4 '33

Sardi's restaurant, Hollywood, California; views. Arch Forum 58:402-4 My '33

Schrafft's; largest food purveyor of its kind. Business Week p12 Ap 5 '33

See also

Bars and bar rooms

Hotels

Lunch counters

Tea rooms

**Advertising**

Say it with a smile; Triangle restaurants, small-space campaign. il Ptr Ink 163:74 Ap 20 '33

**Electric equipment**

Maison Lyons Corner House; electrical features of London's latest restaurant. Electrician 111:528 O 27 '33; Elec R (Lond) 113:588 O 27 '33

**Employees**

Wages and hours of union hotel and restaurant employees. Monthly Labor R 37:350-4 Ag '33

**Equipment**

Four thousand meals a day and gas cooks them all. il Gas Age 70:649 D 17 '32

Remodel large store—it becomes Twin Cities' biggest tavern. il plan Dom Eng 142:108-9+ JI '33

**Heating and ventilation**

Restaurant air conditioning. P. V. Simpson. Refrig W 68:43-4 Ja '33

Summarize cooling data now; air conditioning installation in the Barnum hotel, Bridgeport, Conn. A. Merle. il plan Dom Eng 142:72+ O '33

Temperature up and so were sales! Dom Eng 141:62 Ap '33



**RESTAURANTS**—Heating and ventilation—*Continued*

This restaurant is steam-cooled—its sales mount. S. S. Sanford. *il Dom Eng* 141:81-3 Ja '33

**Lighting**

Hotel lighting; installation at the Grand, Birmingham. *il Electrician* 110:201 F 10 '33

Maison Lyons Corner House; electrical features of London's latest restaurant. *Electrician* 111:528 O 27 '33; *Elec R (Lond)* 113:588 O 27 '33

Modern lighting at Ciro's club. *il Illum Engr* 26:20+ Ja '33

**RESTRAINT of trade**

Rule of reason broadened; Supreme court relaxes anti-trust laws, approves the Appalachian Coals plan. *Business Week* p9-10 Mr 22 '33

*See also*

Competition, Unfair	Price fixing, Resale
Interstate commerce	Trade associations
Monopolies	Trusts, Industrial
Price fixing	

**RESTSTRAHLEN plates**

Preparation of reststrahlen plates and the reflection power of powders. R. B. Barnes. *Phys R* 43:31-3 Ja 1 '33

**RESUSCITATION**

Resuscitation by countershock. W. B. Kouwenhoven and R. D. Hooker. *bibliog Elec Eng* 52:475-7 J1 '33; Same. *Electrician* 111:174-5 Ag 11 '33

Treatment of asphyxia due to carbon monoxide or cyanide by artificial respiration and methylene blue. S. C. Dickinson. *Am Gas J* 139:22-5 S '33

**RETAIL salesmen.** *See* Salesmen, Retail

**RETAIL stores***See also*

Chain stores	Retail trade
Country stores	Show windows
Department stores	Store buildings
Drug stores	Traveling stores
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**RETAIL stores, Manufacturers'**

Ford stores tried out in Buffalo; factory-operated retail branches may be started in other cities. *Business Week* p8 D 21 '32

Fuller Brush turns to retail stores. *Forbes* 32:14-15 N 1 '33

**RETAIL trade**

Another challenge to nationally advertised brands; market stores, the Big Bear. *il Ptr Ink* 162:41-3 Ja 26 '33

Boston conference on retail distribution, 1933. 86p pa \$3.50 Retail trade board, Boston chamber of commerce '33

Cheaply thrives; cheap-jack cash-and-carry depots. *Business Week* p11-12 F 8 '33

Competition between different types of retail outlets in selling the same commodity. W. C. Hill and J. D. Scott. *Harvard Business R* 11:519-27 J1 '33

Economics of retailing. P. H. Nystrom. 3d ed rev & enl Ronald press '32

Must price lines be abandoned? A. C. Fatt. *Adv & Sell* 21:32 S 14 '33

New deal at the drug store counter. H. Deutsch. *il Adv & Sell* 21:13-15+ Ag 3 '33

1932 Boston conference on retail distribution. *Management R* 21:377-8 D '32

Professional production but amateur distribution. E. E. Calkins. *il Adv & Sell* 20:13-15+ Ap 27 '33

Retail mark-up. *Business Week* p4-5 S 23 '33

Retailers discuss quality, price wars, volume sales. *Ptr Ink* 162:68-70 Ja 26 '33

Retailers face another menace; giant market stores. L. Dale. *Comm & Fin* 22:349 Ap 19 '33

Retailers' viewpoint on business. M. L. Wilson and W. M. Hart. *Adv & Sell* 20:21-24+ D 22 '32

Retailing and the public. L. E. Neal. 191p G. Allen & Unwin, Ltd, London '33

Shopkeepers and the highway. G. V. Sheridan. *Bus Transportation* 12:45 Ja '33

Some new era alterations in retailing patterns. M. M. Ohrbach. *il Adv & Sell* 21:30+ Ag 3 '33

Survey of a retail trading area; Champaign-Urbana district. F. M. Jones. *il U Bur Business Research Bul* 44:1-32 '32; Abstract. *Sales Management* 32:66+ Ja 15 '33

Threat of the super-market. H. M. Foster. *Sales Management* 32:436+ Ap 20 '33

What makes a dealer succeed, shown by one banker's experience. J. V. Tuttle. *Rand McNally Bankers Mo* 50:540-1 O '33

Will price-wreckers capture retail markets? H. F. Merrill. *il Forbes* 31:15-16 Mr 15 '33

*See also*

Advertising—Dealer cooperation	Grocery trade
Advertising—Dealers, Appeal to	Hardware
Canvassing	Instalment plan
Chain stores	Mail order business
Charge accounts (retail trade)	Market stores
Christmas business	Marketing
Country stores	Merchandizing
Dealer conventions	Price fixing, Resale
Dealer helps	Public utilities—Appliance selling
Dealer relations	Purchasing
Delivery of goods	Returned goods
Department stores	Sales, Special
Display of merchandise	Salesmanship, Retail
Dry goods	Salesmen, Retail
Electric contractor-dealers	Substitution (merchandizing)
Electric shops (retail trade)	Traveling stores
	Vending machines
	Voluntary chain movement

**Accounting**

Control book provides compact and simple accounting record; Coward shoe, inc. *Management Methods* 62:122-3 Mr '33

Good accounting as move to cut dealer failures; National Lead. *Ptr Ink* 162:42-3 F 9 '33

**Advertising**

For future historians; advertising and the bank holidays. *il Adv & Sell* 20:15-16 Mr 16 '33

I "shop" the ads. B. F. Peik. *il Adv & Sell* 21:26+ Je 8 '33

Mail plan brings results; Joseph I. Schwartz company. *Management Methods* 62:119 Mr '33

Retailers expect printing suggestions that quickly pay for themselves. H. P. Bridge, jr. *Inland Ptr* 90:27-8 F '33

Six ads that pulled big; six ads that didn't; and why; Bonwit Teller, G. Bijur. *il Ptr Ink Mo* 26:24-5 F '33

Teaches retailers value of planned advertising; Selby shoe company. *Ptr Ink Mo* 26:18+ Je '33

2,200 new accounts at a cost of 20 cents each; Coward shoe company of Boston. B. Crowell. *Sales Management* 31:429-30 N 15 '32

Why we stopped using government cards. *Ptd Salesmanship* 61:290-1 J1 '33

*See also*

Advertising—Dealer cooperation	Department stores—Advertising
Chain stores—Advertising	

**Cost**

Cost of marketing; a general analysis of the factors involved. L. D. H. Weld. *Taylor Soc Bul* 18:26-30 Ap '33

**Finance**

Cash sales gain; retail credit survey. *Credit & Fin Management* 35:30 J1 '33

Margins, expenses, and profits of Chicago retail meat stores. R. C. Lindquist and H. C. Greer. *J of Business* 6:215-25 J1 '33

Retail credit survey, July—December 1932. *U S Bur For & Dom Com Domestic Commerce Ser* 83:1-36 '33

Retail credit survey, January-June 1933. *U S Bur For & Dom Com Domestic Commerce Ser* 84:1-35 '33

Retail store companies. *Economist* 116:589-90 Mr 18 '33

**RETAIL trade—Finance—Continued**

Why so many retail stores are failing. P. J. Fitzpatrick. Credit Executive [New Haven, Conn.] 27:14-22 Je '33

**Law**

Legislation considered in relation to retail distribution; its origin and defects. G. B. Brooks. Textile Inst J 24:P41-6 Mr '33

**Outside selling**

Outside sales kits as dealer aids. il Ptr Ink Mo 25:57 D '32

**Purchasing**

Buying graft; S. Klein prosecutes buyer thereby helping to discourage bribery. Business Week p6 Ja 18 '33

**See also**

Chain stores—Purchasing

**Savings certificates**

Christmas club II; retailers bait sales with savings certificates and help collections along. Business Week p14 Ja 4 '33

**Securities**

Merchandising companies, 1930-1932. Mag of Wall St Manual p58-9 Mr 6 '33  
Position of leading merchandising stocks. Mag of Wall St 51:490; 52:432 F 18, Ag 19 '33

**Service**

Is the dealer losing his birthright to the service man? A. Hirose. il Adv & Sell 21: 21+ J1 20 '33

**Small town stores**

Main Street market. M. Dana. Adv & Sell 22: 19+ N 9 '33

Passing of the country store. J. J. McCarthy. Ptr Ink 164:53-5 J1 13 '33

Small town can't come back—it never went away. Ptr Ink 162:43-4 Mr 23 '33

**Statistics**

Cash buying comes back; retail survey. Business Week p8 N 30 '32

Consumer is buying; July sales. Business Week p8 Ag 19 '33

Consumer's dollar: 1929 and 1932; Monroe, Wis. Sales Management 33:210 S 1 '33

Domestic trade statistics. Published in monthly numbers of Survey of current business

How much food is sold in food stores? L. D. H. Weld. charts Ptr Ink Mo 27:34-5+ J1 '33

Retail split-up; final summary of distribution census. Business Week p9 F 22 '33

Sales Management survey of spending power; total spendable money income from all sources and retail sales in 1932 by counties and cities of 10,000 population and over. Sales Management 32:353-420 Ap 10 '33

Shoe retailing. 46p U.S. Bur of the census, Washington '33

**See also**

Department stores—Statistics

**Stock**

Brands save store's prestige during price promotion; a retail buyer tells why advertised lines of men's underwear are best for his department. C. H. Reinhard. Ptr Ink 164:56-7 Ag 3 '33

Place of branded merchandise in the retailers' new deal. R. E. Tilles. Adv & Sell 21:34 S 28 '33

Recordless stockkeeping for retailers. C. Fast. Management Methods 62:170-1+ Ap '33

Simple graphic merchandise transfer record serves also as stock control. Management Methods 62:18 Ja '33

**Store layout**

Logic of the layout. K. C. Welch. il Arch Forum 58:346-52 My '33

Store of the future. il System and Management Methods 62:305 J1 '33

**Store location**

Location structure of retail trade, based upon a study of Baltimore. I. K. Rolph. fold maps U S Bur For & Dom Com Domestic Commerce Ser 80:1-42 '33

**Store management**

Aids to retail grocery profits. plan U S Bur For & Dom Com Domestic Commerce Ser 71:1-67 '33

Furniture distribution in the west mid-continent. W. Mitchell, Jr. maps U S Bur For & Dom Com Domestic Commerce Ser 68:1-171 '32

Light for merchandising. F. H. Pearson. Elec W 101:514-15 Ap 22 '33

Merchandising in city drug stores. E. J. Carroll. U S Bur For & Dom Com Domestic Commerce Ser 70:1-18 '32

Retail merchandise control. J. W. Wingate. 478p Prentice-Hall, inc. '33

Survey of retail management practices. F. K. Hall. tables U S Bur For & Dom Com Domestic Commerce Ser 81:1-67 '33

What's wrong with dealers? a manufacturer answers. F. Manning. Sales Management 32:99-100 F 1 '33

Where drugs and cigars fell doughnuts are making money! Mayflower doughnut corporation, New York. L. M. Hughes. il Sales Management 32:469+ My 1 '33

**See also**

Department stores—Management

**Taxation**

Distribution groans under increasing taxation. A. G. Buehler. Adv & Sell 21:24+ O 12 '33

**Ten cent tables**

How 10-cent package has created a place for itself. il Ptr Ink 161:60-3 D 15 '32.

**Atlantic states**

Aid for analyzing markets in Delaware, Maryland, Virginia, West Virginia and the District of Columbia. C. B. Elliot. 27p U.S. Bur. of foreign and domestic commerce, Washington '33

**Baltimore**

Location structure of retail trade, based upon a study of Baltimore. I. K. Rolph. fold maps U S Bur For & Dom Com Domestic Commerce Ser 80:1-42 '33

**Chicago**

Customer turnover experience of meat packing companies. H. C. Greer. 34p pa 50c Univ. of Chicago press '33

Margins, expenses, and profits of Chicago retail meat stores. R. C. Lindquist and H. C. Greer. J of Business 6:215-25 J1 '33

**China**

Development of Chinese department stores. P. Ho. Harvard Business R 11:280-8 Ap '33

**Germany**

Berlin bans new 5 & 10's; five Woolworth units cannot open. il Business Week p22 Ja 18 '33

**Great Britain**

Retail store companies. Economist 116:589-90 Mr 18 '33

**Illinois**

Aid for analyzing markets in Illinois. 20p maps U. S. Bur. of foreign and domestic commerce, Washington '33

**Indiana**

Aid for analyzing markets in Indiana and Kentucky. maps 24p U. S. Bur. of foreign and domestic commerce, Washington '33

**Kentucky**

Aid for analyzing markets in Indiana and Kentucky. 24p maps U. S. Bur. of foreign and domestic commerce, Washington '33



**RETAIL trade—Continued****Michigan**

Aid for analyzing markets in Michigan. 18p maps U. S. Bur. of foreign and domestic commerce, Washington '33

**New England**

Aid for analyzing the market for general consumer goods in New England. 17p maps U. S. Bur. of foreign and domestic commerce, Washington '33

**New Jersey**

Aid for analyzing markets in New Jersey. 16p U. S. Bur. of foreign and domestic commerce, Washington '33

**New York (city)**

Customers make stores. E. E. Calkins. Adv & Sell 21:20+ Je 8 '33

**New York (state)**

Aid for analyzing markets in New York. C. B. Eliot. 20p U. S. Bur. of foreign and domestic commerce, Washington '33

**Ohio**

Aid for analyzing markets in Ohio. 20p maps U. S. Bur. of foreign and domestic commerce, Washington '33

Reasons for and extent of markdowns in Ohio department stores. L. H. Grinstead. 31p \$2 Ohio state univ, Columbus '32

**Pennsylvania**

Aid for analyzing markets in Pennsylvania. 21p maps U. S. Bur. of foreign and domestic commerce, Washington '33

**Southwestern states**

Aid for analyzing the market for general consumer goods in the Pacific Southwest. 16p U. S. Bur. of foreign and domestic commerce, Washington '33

**Texas**

Aid for analyzing markets in Texas. 24p U. S. Bur. of foreign and domestic commerce, Washington '33

**United States**

Balky consumers. Business Week p3-4 S 23 '33

How and why of the retail code. L. Hahn. il Nation's Business 21:32, 35-6 Ag '33

How merchants view the upswing. P. H. Hayward. il Nation's Business 21:28+ S '33

NRA code for retailers means death of loss leader; buy now drive continues. System 62:500 N '33

Retail aftermath; stores now under code watch mark-up, make adjustments. Business Week p13-14 N 11 '33

Retail code. Business Week p 11-12 O 28 '33

Retail code compromise. Adv & Sell 22:15+ N 9 '33

Retail code hearing proves lively affair. Oil Paint & Drug Rep 124:17+ Ag 28 '33

Retail code hits trade evils; loss leader, deceptive advertising, substitution, hidden demonstration. C. B. Larrabee. Ptr Ink 165:17-18+ O 26 '33

Retail code provides store practice rules. Oil Paint & Drug Rep 124:17+ O 30 '33

Retail codes. Business Week p7-8 Ag 19 '33

Retail trade and the new deal. Econostat 1:8 J1 8 '33

Retailing in retrospect and outlook. P. H. Nystrom. Am Statis Assn J 28:sup84-9; Discussion. L. H. Grinstead. 89-91 Mr '33

Retailing in retrospect and outlook. P. H. Nystrom. il Bradstreet's 61:148-51 Ja 23 '33

**RETAINING walls**

Retaining wall design. diags Pub Works 64: 33-4 Ag '33

*See also*

Bulkheads

Dams

Earth pressure

Embankments

Railroads—Construction

Reservoirs

Wharves

**RETAINING walls, Concrete**

Data for design of retaining walls. A. H. T. Williams. chart Concrete 41:10 S '33

Minimum-section trapezoidal mass-concrete retaining walls. C. G. Reddington. Engineering 135:644 Je 16 '33

Retaining wall design; reinforced concrete walls. diags Pub Works 64:21-2 N '33

*See also*

Breakwaters, Concrete

**RETENE**

Resin acids; synthesis of 1-methyl-7-isopropylphenanthrene (retene). J. C. Bardhan and S. C. Sengupta. Chem Soc J p2798-800 N '32

Retene offered to industries. Oil Paint & Drug Rep 123:31 My 8 '33

**RETIREMENT plans. See Pensions, Industrial; Wages—Dismissal wage****RETURNED goods**

Conquering returned goods evil. Ptr Ink 162:3-4+ Ja 12 '33

Dated as sales argument has its drawbacks; also creates difficult returned goods problems. Ptr Ink 164:19-20 Ag 17 '33

Eliminating an operation; returned goods record. Abbott laboratories. il System and Management Methods 62:306-7 J1 '33

High cost of returned goods. J. R. Bromell. Adv & Sell 21:36+ Ag 17 '33

Mercantile credit survey. U S Bur For & Dom Com Domestic Commerce Ser 74:1-46; 77:1-44; 78:1-39 '32

Returned goods; A.P. & V.M.A. report. Oil Paint & Drug Rep Extra ed 122:32 N 29 '32

This plan reduced returned goods 36 per cent; Benedict mfg. co. L. E. Barnes. Ptr Ink Mo 26:42+ Ja '33

**REVERSING mechanism**

Simplified reversing mechanism for Thompson surface grinding machines. il Mach 40: 57 S '33

Utilizing multi-speed a.c. motor on reversing table drive. diag Elec W 101:173 F 4 '33

**REVOLITE**

Preliminary tests on revolite. F. I. Bennett. il Plastic Prod 9:314-16 O '33

**REWARDS, prizes, etc.**

Aircraft medals awarded for 1932. S A E J 32:sup19 F '33

A. F. A. awards Seaman gold medal to Guillian H. Clamer. Foundry 61:54+ Je '33

Award of the Loubat prizes. Science 77:421-2 My 5 '33

Beal medal—1897-1932. H. W. Hartman. Am Gas Assn Mo 15:9-10+ Ja '33

Honors conferred by the Franklin institute. Science 77:538-9 Je 2 '33

McCharles prize, 1933. Can Min J 54:266 J1 '33

Medal day meeting of the Franklin institute. J Fr Inst 216:225-40 Ag '33

Medals presented at the annual dinner of the National academy of sciences. Science 77: 514-15 My 26 '33

Presentation of Redwood medal to Dr. L. Edleau. Inst Pet Tech J 18:898-900 N '32

**REYCHLER'S acid**

Mercury derivatives of camphor; the constitution of Reychler's acid. J. D. Loudon. Chem Soc J p823-5 J1 '33

**REYNOLDS, C. H.**

President, Sheffield machine & tool co. por Steel 93:23 S 4 '33

**REYNOLDS, Joseph B.**

Colorful life insurance president. C. Axman. por East Underw 33:3+ D 9 '32

**REYNOLDS, Osborne, 1842-1912**

Reynolds number. R. Fleming. Civil Eng 3: 393-4 J1 '33

**REYNOLDS, R. J., tobacco company**

R. J. Reynolds' record year. Econostat 1:14-15 J1 '33

Reynolds Tobacco did well last year. Barron's 13:13 Ja 16 '33

**RHENIUM**

Discovery of rhenium. L. C. Hurd. *J Chem Educ* 10:605-8 O '33

Discovery of the elements. M. E. Weeks. *J Chem Educ* 10:163-5 Mr '33

Infrared arc spectra of manganese and rhenium. W. F. Meggers. *U S Bur Stand J Research* 10:757-69 Je '33

Parachor of rhenium. H. V. A. Briscoe, P. L. Robinson and A. J. Rudge. *diags Chem Soc J* p2673-6 N '32

Precipitation of rhenium sulfide from ammoniacal solution; a separation of rhenium and molybdenum. J. H. Müller and W. A. La Lande, jr. *Am Chem Soc J* 55:2376-8 Je '33

Die technische gewinnung des rheniums und galliums und einiger ihrer verbindungen. W. Feit. *Angew Chemie* 46:216-18 Ap 15 '33

**RHENIUM chlorides**

Density and molecular state of rhenium tetrachloride and rhenium hexachloride in the gaseous state. D. M. Yost and G. O. Shull. *Am Chem Soc J* 54:4657-61 D '32

**RHENIUM sulfide**

Precipitation of rhenium sulfide from ammoniacal solution; a separation of rhenium and molybdenum. J. H. Müller and W. A. La Lande, jr. *Am Chem Soc J* 55:2376-8 Je '33

**RHEOLOGY**

New science of rheology. E. C. Bingham. *R Sci Instr* 4:473-6 S '33

**RHEOLOGY, Society of. See Society of rheology****RHEOSTATS**

Auxiliary contactor stops arcing in starting rheostats. *diag Coal Age* 38:132 Ap '33

L'Homme dieu new tank rheostat. *il Metal Ind* 31:29 Ja '33

Rhéostat automatique à liquide, système R. Planche. *diags Génie Civil* 102:44-5 Ja 14 '33

**RHEUMATISM**

Social and industrial aspects of rheumatism; abstract. R. F. Fox. *J Ind Hygiene* 15:sup63 J1 '33

**RHINE river**

La canalisation du Rhin entre Bâle et le lac de Constance. *map Génie Civil* 102:259-60 Mr 18 '33

**RHINELANDER, Wisconsin****Water supply**

Cold, soft well water replaces unsatisfactory river water. T. Wardwell. *il Pub Works* 64:12+ Ja '33

**RHODAMINE-B**

Blue sodium salt of rhodamine-B and some related substances. W. R. Brown and F. A. Mason. *Chem Soc J* p1264-9 S '33

**RHODE ISLAND**

Renovize Rhode Island is first statewide campaign. E. L. Gilbert. *il Am Bld* 55:28-31 J1 '33

**RHODESIA***See also*

Labor and laboring classes—Rhodesia

**Economic conditions**

Changes in Southern Rhodesia. *Economist* 117:618-19 S 30 '33

Prospects in Northern Rhodesia. *Economist* 117:572-3 S 23 '33

Trade in Southern Rhodesia. *Chem Age (Lond)* 28:98 F 4 '33

**RHODIUM**

Reference tables for platinum to platinum-rhodium thermocouples. W. F. Roeser and H. T. Wensel. *U S Bur Stand J Research* 10:275-87 F '33

Refining platinum metals. M. Schwitter. *Brass W* 28:247-8 D '32

**RHODIUM alloys**

Thermoelectric properties of platinum-rhodium alloys. F. R. Caldwell. *U S Bur Stand J Research* 10:373-80 Mr '33

**RHODIUM plating**

Efficiency of rhodium plating baths. V. L. Bigsby. *Metal Ind* 31:132-3 Ap '33

Rhodium plating. C. G. Fink and G. C. Lam-bros. *bibliog Electrochem Soc Trans* 63 (preprint 11):107-12 My '33; Same. *Metal Ind* 31:208-9 Je '33

**RHONE river**

L'aménagement du Rhône; constitution de la Compagnie nationale du Rhône. *Génie Civil* 102:546-8 Je 10 '33

**RHYOLITE**

Contributions to the geology of Maine; an occurrence of garnet in rhyolite. E. S. C. Smith. *Am J Sci* 5th ser 25:225-8 Mr '33

Intrusive relationship of the granite to the rhyolite (porphyry) of southeastern Missouri. W. A. Tarr. *il maps Geol Soc Bul* 43:965-92 D '32

**RIBBON**

Improvements in ribbon loom construction. F. Klages. *il diags Melland* 4:561-4 D '32

**RIBOSE**

Preparation of *l*-arabinose and *l*-ribose by the oxidation of *l*-arabinal with benzoic peracid. F. C. Austin and F. L. Humoller. *Am Chem Soc J* 54:4749-50 D '32

**RICE**

Rice; a raw material for process industries. E. C. Pattee. *Chem & Met Eng* 40:365 J1 '33

Seeding California's rice fields by air. *il Aviation* 32:199 Je '33

**RICHARDS, Alfred Newton**

Honorary degrees conferred at Yale university. *Science* 77:621 Je 30 '33

**RICHARDS, Frank, 1839-1933**

Sketch. *por Comp Air M* 38:4153 Je '33

**RICHARDSON, William M. 1883-1933**

Sketch. *por Ptr Ink* 165:65 O 19 '33

**RICHBERG, Donald Randall**

Labor sentinel. *por Business Week* p6, 7 Je 10 '33

**RICHFIELD oil company**

Richfield bondholders favor Standard Oil offer. *Nat Pet N* 24:119 N 16 '32

Standard's bid for Richfield approved by bank committee. *Oil & Gas J* 31:42 N 17 '32

U. S. claim heard against Richfield oil co. *Nat Pet N* 25:62 Ja 18 '33

**RICHMOND, Virginia**

Negro housing proposed for Richmond. A. Kastner. *il diags plans Arch Rec* 73:164-8+ Mr '33

*See also*

Unemployment—  
Richmond, Virginia

**Bridges**

Richmond launches program of bridge construction; a public works plan for unemployment relief. S. C. Jemian. *il diags Civil Eng* 3:545-9 O '33

**Water supply**

Ammonia-chlorine process at Richmond. M. C. Smith. *Water Works & Sewerage* 80:157-8 My '33

Improved coagulation at the Richmond filter plant. M. C. Smith. *Am Water Works Assn J* 25:254-9 F '33

Reasons for and difficulties encountered in the use of ammonia-chlorine process at Richmond; abstract and discussion. M. C. Smith. *Water Works & Sewerage* 79:418-19 D '32

**RICKETS**

Chemical difference between antirachitic factors from different sources; abstract. S. K. Kon and R. G. Booth. *Soc Chem Ind J (Chem & Ind)* 52:420-1 My 12 '33

Effect of tropical sunlight on the development of bones of children in Puerto Rico. M. M. Eliot. *U S Children's Bur Pub* 217:1-122 '33

Prevalence of rickets. *Science* 76:sup11 D 9 '32; Same. *Sci Am* 148:177+ Mr '33



**RIDING** comfort. See Automobiles—Riding qualities

#### RIFLE shooting

Better marksmanship for bank guards. W. H. Harding. *il Burroughs Clearing House* 17:19-20 Ap '33

#### RIFLES

Gerlich rifle and bullet; abstract. G. P. Wilhelm. *diag Mech Eng* 55:510 Ag '33

Mile-a-second bullets from new rifle; Gerlich rifle and bullet. *diags Sci Am* 149:184 O '33

#### Manufacture

Attachment for relieving rifle barrel reamers. J. Finlay. *diags Mach* 39:453 Mr '33

Rifle and shot gun manufacture. J. B. Nealey. *il Am Mach* 77:111-13 F 15 '33; Same. *Am Gas Assn Mo* 15:460-2 N '33

**RIGID** airships. See Airships, Rigid

#### RIGIDITY

Laboratory instrument for the study of rigidity in twisting. B. A. Wooten. *diags R Sci Instr* 4:297-8 My '33

Temperature coefficient of the moduli of metals and alloys used as elastic elements. G. H. Keulegan and M. R. Houseman. *il diags U S Bur Stand J Research* 10:289-320 Mr '33

#### RIGLING, Alfred

Celebration of the Franklin institute of the completion of fifty years of valuable services by Alfred Rigling, librarian and assistant secretary, 1883-1933. *J Fr Inst* 215:327-51 Mr '33

Re-election as chairman of the Special library council of Philadelphia. *por Special Lib* 24:133 Jl '33

**RIMES**. See Advertising copy—Rimes

#### RINGWORM

Occupational dermatitis and ring worm. M. R. Mayers. *Safety Eng* 66:69-70 Ag '33

#### RIO GRANDE

Rio Grande rectification will control floods; International boundary commission proposals. *map Eng N* 110:226-7 F 16 '33

#### RIPARIAN rights

St Francis river bed ownership. *Can Eng* 65:11 O 3 '33

#### RIPPLES

Simple method of producing and projecting mercury ripples. A. R. Harmon and J. B. Brinsmade. *bibliog il diag R Sci Instr* 3:803-9 D '32

#### RISK

See also

Hedging  
Profit  
Speculation

**RISKS** (insurance). See Insurance—Risks; Insurance, Fire—War risks; Insurance, Life—Aviation risks; also subdivision Risks under various forms of insurance

#### RITCHIE, Harold F. 1881-1933

Sketch. *por Ptr Ink* 162:60 Mr 2 '33

#### RITTENHOUSE, David, 1732-1796

Physicist. T. D. Cope. *J Fr Inst* 215:287-97 Mr '33

#### RIVER traffic

Five roads protest against Cumberland river expenditures. *Ry Age* 94:38-9 Ja 14 '33

Inland waterways offer big saving to cement industry; detailed cost analysis. J. A. Harman. *il diags Concrete (mill sec)* 41:35-9 F '33

Shannon committee suggests abandonment of Federal barge service. *Ry Age* 94:218+ F 11 '33

Steel by water. *Business Week* p7 My 17 '33  
What is a navigable waterway? G. B. Pillsbury. *il Civil Eng* 3:165-7 Mr '33

See also

Barges  
Inland waterways corporation  
Railroads—Waterways competition

St Lawrence waterway and power project  
Waterways

#### RIVERA, Diego

Industrial Detroit; a selection from the frescoes in the Detroit institute of arts. *por Fortune* 7:48-53 F '33  
Rockefeller dissenter. *por Arch Forum* 58:sup 36 Je '33

#### RIVERS

Age of rivers and the mountains they flow through. D. W. Johnson. *Science* 76:sup10-11 D 9 '32

Effects of earthquakes on waters of the earth. N. H. Heck. *Science* 77:sup9 My 5 '33

Progressive silting of a river delta studied; tidal model built to predict conditions at mouth of Rangoon river, Burma. H. H. Wheaton. *il plan Civil Eng* 3:89-91 F '33

Water diversion between drainage basins. R. E. Horton. *Am Water Works Assn J* 24:1623-59; Discussion. 1659-83 N '32

See also

Dams	Stream flow
Flood control	Valleys
Floods	Water pollution
Hydraulic engineering	Water power
Hydraulics	Water rights
Riparian rights	Water supply
River traffic	Waterways

also names of rivers, e.g. Colorado river; Mississippi river; Rhine river

#### Bank protection

Concrete wall with sheetpile cutoff replaces levee at Helena, Ark. H. V. Pittman. *il diags plan Eng N* 110:780-4 Je 15 '33

New plans for the Mississippi; recent investigations of bank revetment. *il diags Eng N* 111:166-9 Ag 10 '33

#### Regulation

L'aménagement du Rhône; constitution de la Compagnie nationale du Rhône. *Génie Civil* 102:546-8 Je 10 '33

L'aménagement hydro-électrique du secteur des cataractes du Bas-Danube. J. Aubert. *il diag map Génie Civil* 102:586-8 Je 24 '33

Automatic radial sluice gate on the river Ouse. F. E. H. Shenton. *diags map Engineering* 136:422 O 13 '33

Blasting a cutoff channel on the Saco river. L. D. Barrows. *il map Eng N* 111:198 Ag 17 '33

La canalisation du Rhin entre Bâle et le lac de Constance. *map Génie Civil* 102:259-60 Mr 13 '33

Causes and prevention of bed erosion and the protection of structures controlling rivers and canals. A. D. Butcher and J. D. Atkinson. *Engineering* 134:709 D 16 '32

Egypt and the Sudan; abstracts. M. Macdonald. *Engineer* 154:460-1 N 4 '32; *Engineering* 134:562-3 N 11 '32

Explosives widen and deepen Miami river and canal. R. S. Petty. *il Explosives Eng* 11:344-5 N '33

Greece engaged on huge reclamation project. R. H. Chambers. *il maps Civil Eng* 3:217-21 Ap '33

Improvement of Hudson river by narrowing the navigable fairway. L. J. Bevan. *map Am Soc C E Proc* 58:705-12 My '32; Discussion. 58:1428-38; 59:477-9 O '32, Mr '33

Improving the Oder river. J. B. Drisko. *il map Civil Eng* 3:314-18 Je '33

New channel in the upper Yangtze. H. R. Dixon. *il Comp Air M* 38:4239-42 O '33

New cutoffs being made on the Mississippi. *maps Eng N* 111:358-9 S 21 '33

New plans for the Mississippi. *il diags maps Eng N* 110:795-801, 838-42; 111:14-17, 41-5, 79-81, 102-5, 133-7, 166-9 Je 22-Ag 10 '33

Power on the Tennessee river. *il diags map Eng N* 110:579-83 My 11 '33

Preparing for river diversion at Hoover dam. *il Eng N* 109:622-4 N 24 '32

Problem of soil in transportation in the Colorado river. S. L. Rothery. *il plans Am Soc C E Proc* 58:1639-59 D '32; Discussion. 59:682-7, 866-81, 1014-19, 1185-91 Ap-May, Ag-S '33

Regulation of the Colorado river. C. C. Elder. *Am Water Works Assn J* 25:793-802 Je '33

**RIVERS**—Regulation—*Continued*

- Rio Grande rectification will control floods; International boundary commission proposals. map Eng N 110:226-7 F 16 '33
- Das staubecken Ottmachau; ein erster schritt zur verbesserung der Oderschiffahrtsstrasse. E. Krieg. il diags map Zeit Ver Deutsch Ing 77:1057-60 S 30 '33
- Sudd region of the Nile. H. E. Hurst. Engineer 155:586 Je 9 '33
- Les travaux d'irrigation dans la région du Macina, au Soudan, au moyen des eaux au Niger. il maps Génie Civil 101:602-5 D 17 '32
- Wrestling with some of China's rivers. O. J. Todd. il maps Civil Eng 3:304-8 Je '33

*See also*

- Colorado river  
Dams  
Flood control  
Jetties
- Levees  
Mississippi river—  
Flood control projects

**China**

- Wrestling with some of China's rivers. O. J. Todd. il maps Civil Eng 3:304-8 Je '33
- Yellow river—a major flood menace in China. A. M. Shaw. il maps Eng N 111:261-5 Ag 31 '33

**RIVETED joints**

- Cold-driven rivets show superiority; construction of a 10,000,000-cu. ft. gasholder. F. G. Thorn, jr. il Eng N 110:784-5 Je 15 '33
- Motorfundamente auf schiffen. W. Scholz. il diags Zeit Ver Deutsch Ing 76:1141-7 N 19 '32; Excerpts (Marine oil engine foundations). Marine Eng 38:178-81 My '33
- Rivets or welds? H. H. Hollis. Gas J (Lond) 200:628-9; Discussion. 629-30 N 30 '32
- Split-H end connections for wind girders. W. C. Huntington and P. Nielsen. Civil Eng 3:457 Ag '33
- Work of rivets in riveted joints. A. Hrennikoff. diags Am Soc C E Proc 58:1507-19 N '32; Abstract. Mech Eng 55:43-4 Ja '33; Discussion. Am Soc C E Proc 59:523-30, 646-72, 1327-32 Mr-Apr, O '33

**Testing**

- Die dauerfestigkeit von genieteten und geschweissten verbindungen aus baustahl St 52. E. H. Schulz and H. Buchholtz. il diags Stahl & Eisen 53:545-52 My 25 '33; Discussion. 53:552-3, 861 My 25, Ag 17 '33
- Testing riveted joints of cromansil steel. L. Lyse. diags Eng N 110:584-5 My 11 '33
- Tests of riveted and welded steel columns. W. A. Slater and M. O. Fuller. il diags Am Soc C E Proc 58:1147-80 S '32; Discussion. 59:199-206, 380-3, 841-2 Ja-F, My '33

**RIVETING**

- Grant no. 1-A rotary vibrating riveter. il Am Mach 76:1240 D 21 '32
- Hanna yoke-type compression riveter. il Am Mach 77:128-9 F 15 '33
- High Speed riveting hammers. diags Am Mach 77:737-8 N 8 '33; Mach 40:180-1 N '33; Iron Age 132:26 N 16 '33
- Jig facilitates cold riveting. il Transit J 77:155 My '33; Elec Traction 29:147-8 My '33
- Piston rivets—in and out. F. C. Hudson. il diag Am Mach 77:561 Ag 30 '33
- Press tools for riveting sheet-metal boxes. A. Beusch. diag Am Mach 77:186-7 Mr 15 '33
- Press work pressures; riveting. C. W. Lucas. diags Am Mach 77:696 O 25 '33
- Riveters are made lighter, easier to handle; illustrations. Steel 92:39 Je 5 '33
- Universal riveting fixture. D. L. Brown. diag Am Mach 76:1170-1 N 23 '32

**RIVETS**

- Champion master rivet. il diag Marine Eng 38:380 O '33
- 109° below zero; an ideal temperature for certain metal-working operations. C. O. Herb. il diags Mach 39:305-9 Ja '33
- Rivet of 18-8 chrome-nickel steel finding use in hull construction. Steel 92:27 Mr 20 '33
- Specifications for riveting and reference data for use therewith. 55p U.S. Bur. of construction and repair, Washington '33
- Structural rivets, 1913-1932, market history; tabulation. Steel 92:121 Ja 2 '33

**Manufacture**

- Heading properties of brass wire as it varies with composition and temper. D. K. Cramp-ton. il diags Metal Prog 23:20-4 Mr '33

**Testing**

- Cold-driven rivets show superiority; construction of a 10,000,000-cu. ft. gasholder. F. G. Thorn, jr. il Eng N 110:784-5 Je 15 '33; Discussion. I. F. Morrison. 111:113 Jl 27 '33
- Rivets have high tensile strength without excessive hardness; cromansil steels. A. E. Gibson. il diags Steel 93:27-9+ O 2 '33; Abstract. Mech Eng 55:699 N '33

**ROAD accidents***See also*

- Automobile accidents  
Grade crossing accidents
- Roads—Safety devices and measures

**ROAD making machinery**

- Application of truck mixers and mechanical spreaders to concrete road construction. il Pub Works 64:24-6 Ja '33
- Athey new hydraulic bulldozer. il Roads & Sts 76:351 S '33
- Austin model 77 motor grader. il Roads & Sts 76:209 My '33
- Caterpillar announces new power controlled elevating grader. il Roads & Sts 76:170 Ap '33; Engineer 155:383 Ap 14 '33
- Construction equipment for low-cost roads. il Pub Works 64:20-2 Ja '33
- Development in bituminous distributors. Pub Works 64:45 F '33
- Economics of elevating grader operation in highway construction. T. C. Thee. il Roads & Sts 76:175-83 My '33
- Greco surface heater for resurfacing roads and streets. il Roads & Sts 75:513-14 D '32; Same. Eng & Contr 71:282 D '32
- Iroquois 40 cu. ft. (2-ton) asphalt pugmill mixer. il Roads & Sts 75:511-12 D '32
- Le Tourneau bulldozer. il Roads & Sts 76:281 Jl '33
- Littleford bituminous spraying unit. il Roads & Sts 76:134 Mr '33
- Machine-finished asphalt roads in Indiana. A. H. Hinkle. il Eng N 110:335-7 Mr 16 '33
- Machinery reduces road costs. F. Moseley. Can Eng 64:17 F 21 '33
- Man power and the machine in highway work. J. H. Mullen. Roads & Sts 76:268-9 Jl '33
- Pre-mix macadam pavement in Frontenac county, Ont. J. E. Goodman. il Can Eng 64:11-12+ Ap 4 '33
- Probleme des maschineneinsatzes im autostrassenbau. G. Garbotz. il diags Zeit Ver Deutsch Ing 77:1047-52 S 23 '33
- Stothert and Pitt hot tarmacadam mixer. il Gas J (Lond) 203:352 Ag 16 '33
- Wagon drills prove good roadbuilders. C. H. Vivian. il map Comp Air M 38:4079-83 Mr '33
- Western shouldering attachment. il Eng & Contr 71:264 N '32

*See also*

- Paving machines  
Road rollers
- Roads, Concrete—  
Construction equipment

**Exhibitions**

- Equipment and materials on display at the 1933 road show. il Roads & Sts 76:35-44 Ja '33
- Road equipment exhibits unusual refinement; Detroit road show. Eng N 110:115-16 Ja 26 '33

**Patents**

- Recent United States patents relating to roads. Published in monthly numbers of Roads and streets beginning July 1933

**ROAD materials**

- About roadway stability using calcium chloride. H. F. Clemmer. Roads & Sts 76:184-6 My '33
- Arc-melted soil proposed as road pavement. Elec W 102:354 S 16 '33; Business Week p22 S 23 '33
- Asphalt limestone pavements on black base. J. H. Conzelman. il Pub Works 64:11+ Ja '33



**ROAD materials—Continued**

- Build mortar-bound macadam roads with bitumen-coated cement. T. A. Pearson. *il Concrete* 41:9-10 N '33
- Cementing value of crushed gravel screenings. R. V. Warren. *Rock Prod* 36:47 My '33
- Cotton fabric reinforcement of road surfacing. *il Roads & Sts* 76:235 Je '33
- Developments in highway materials. H. F. Clemmer. *il Manuf Rec* 102:22-3 My '33
- Evaluation of emulsified asphalts for road building purposes. L. Kirschbraun. *il Roads & Sts* 76:150-5 Ap '33
- Fluxed asphaltic limestone as seal coat for mixed-in-place surfaces. J. H. Conzelman. *il Pub Works* 64:31-2 Mr '33
- Maintenance of salt-clay highways; experiments with salt in the surface treatment of roads in Nova Scotia. A. R. Chambers. *Can Eng* 63:13-15 D 6 '32
- Medusa's new special cement enters secondary road market. *il Concrete (mill sec)* 40:44-5 D '32

Progress of naphthology, 1932; asphalts and road materials. W. W. Goulston. *Inst Pet Tech J* 19:617-27 Jl '33

Relation of geological formations to road material surveys. D. G. Runner. *bibliog il diags Roads & Sts* 76:301-3 Ag '33

Road construction and dressings; conference by the Lancashire district tar board of the British road tar association. *Gas J (Lond)* 202:543 My 24 '33

Road surfacing experiments with jute. *Textile Inst J* 24:p112 Je '33

Tar concrete. W. E. Cone. *Gas J (Lond)* 202:864-5 Je 21 '33

Utilization of sulphate waste liquor. H. K. Benson. *bibliog Paper Tr J* 95:31-2 N 17 '32

Value and tonnage of concrete materials and highway and building construction, 1918-1932; chart. *Rock Prod* 36:25 F '33

Das versuchsprogramm für die untersuchung der aufbereitung und verarbeitung von teer- und bitumenhaltigen strassenbaustoffen. *Zeit Ver Deutsch Ing* 77:1052-4 S 23 '33

*See also*

Asphalt	Pavements
Bituminous materials	Road oils
Coal tar	Road tar
Concrete	Sand
Gravel	Stone, Crushed
Limestone	Tar

**Patents**

Recent United States patents relating to roads. Published in monthly numbers of Roads and streets beginning July 1933

**Transportation**

Highway construction produces railroad traffic. J. L. Harrison. *Roads & Sts* 76:142-3 Ap '33

Transportation of road materials. W. D. Colby. *Can Eng* 64:60 Mr 7 '33

**ROAD oiling**

Development of New Mexico's road oil formula. L. C. Campbell. *Pub Works* 63:28-9 D '32

*See also*

Road oils  
Roads, Oiled

**ROAD oils**

Fuel oil; some methods for utilization. R. P. Russell and W. V. Hanks. *Am Pet Inst Proc* p21-5 sec 3 D '32; Same. *Oil & Gas J* 31:14+ D 1 '32; Discussion. *Am Pet Inst Proc* p25-7 sec 3 D '32

Liquid asphaltic road materials from the producer's standpoint. P. Hubbard. *Am Pet Inst Proc* 14M(3):94-8; Discussion. 98-101 My '33

Specifications for liquid asphaltic materials for low-cost roads. E. F. Kelley. *Am Pet Inst Proc* 14M(3):89-93 My '33

Time is ripe to push a road oiling program for farm-to-market roads. P. Truesdell. *il Nat Pet N* 25:23-5 Ja 11 '33

Warns against destroying road oil market by selling poor oils. E. R. Lederer. *Nat Pet N* 25:19-20 Ja 4 '33

*See also*

Asphalt

**ROAD rollers**

Galion 6-cylinder motor roller. *il Roads & Sts* 76:133 Mr '33

**ROAD signs**

Before sundown and after dark; map sign-board in Jackson county, Mo. W. M. Spann. *il Roads & Sts* 76:168-9 Ap '33

Comparative visibility of standard luminous and nonluminous highway signs. F. W. Mills. *il Pub Roads* 14:109-28 S '33; Summary. *Roads & Sts* 76:358 O '33

How to place road signs for night driving. C. C. Wiley. *il Roads & Sts* 76:75-8 F '33

Length of pavement required for a car to pass a truck of maximum length; chart for determining location of highway markers. J. N. Arnold. *Eng N* 111:191 Ag 17 '33

*See also*

Traffic signs

**ROAD tar**

Address at the British road tar association. D. Milne-Watson. *Gas J (Lond)* 200:442-3 N 9 '32; Excerpt. *Chem Age (Lond)* 27:450 N 12 '32

Cold tars. Mallison. *Gas J (Lond)* 202:862-4 Je 21 '33; Excerpt. *Chem Age (Lond)* 28:573-4 Je 24 '33; Same. *Chem Ind* 33:319-20 O '33

Combating the tar hazard. *Transit J* 77:417 N '33

Direct recovery of standard road tars. F. Cooke. *diag Gas J (Lond)* 202:811-13 Je 14 '33

Evaporation et oxydation des revêtements à base de goudron de houille. A. Léauté. *Génie Civil* 102:598 Je 24 '33

Filled tars. P. Le Gavrian. D. Boutet and G. Bedaux. *Gas J (Lond)* 202:861-2 Je 21 '33

Fortschritte in der chemie der strassenteere und strassenteeremulsionen. H. Wagner. *Angew Chemie* 46:263-9 My 13 '33

Measurement of the viscosity of tar. G. Barr and A. L. Thorogood. *diag Soc Chem Ind J* 51:381T-92T N 25 '32

Road construction and dressings; conference by the Lancashire district tar board of the British road tar association. *Gas J (Lond)* 202:543 My 24 '33

Road-tar consistency conversion chart. E. O. Rhodes. *Eng N* 111:474-5 O 19 '33

Road tar industry and the coal trade. *Gas J (Lond)* 200:610-11 N 30 '32

Road tars. H. Pickard. *Soc Chem Ind J (Chem & Ind)* 52:4-5 Ja 6 '33

T.I.C. process in France; preparation of road tar at Montbéliard gas-works. A. Eichelbrenner. *il Gas J (Lond)* 200:739-41 D 14 '32

*See also*

Roads, Tarred

**ROAD traffic**

Cost of traffic delays. S. Johannesson. *il Civil Eng* 3:149-51 Mr '33

Making public roads pay. T. H. MacDonald. *Bus Transportation* 12:7-9 Ja '33

Motor tourist traffic in Michigan. map *Pub Roads* 13:197-200 F '33

Problem of motor vehicle regulation. H. H. Kelly. *Pub Roads* 13:153-68 D '32

Purposes of travel of automobile owners in Wisconsin. *Pub Roads* 14:35-6 Ap '33; Excerpt. *Roads & Sts* 76:230 Je '33

Review of the 1931 Connecticut traffic survey. L. E. Peabody. *Roads & Sts* 76:208 My '33

Strassenbau in organisatorischer und technisch-wirtschaftlicher hinsicht. H. Ehlgötz. map *Zeit Ver Deutsch Ing* 77:1023-9 S 23 '33

Survey of highway transportation in Michigan. maps *Pub Roads* 13:185-96+ F '33

Traffic volume studied by short time counts. M. McClintock. *Civil Eng* 3:461-3 Ag '33

*See also*

Bridge traffic  
Highway engineer-  
ing  
Highway law  
Highway transporta-  
tion

Motor trucks and  
roads  
Street traffic  
Traffic regulations  
Traffic signals  
Traffic surveys

**ROAD workers**

- Hourly wages on federal-aid highway projects, 1922 to 1932. Monthly Labor R 36:619 Mr '33;  
Same. Roads & Sts 76:331 S '33  
How highway work in upper Michigan provides unemployment relief. J. T. Sharpsteen. Concrete 41:5-6 Ap '33  
Minimum wage scale on relief work set by state highway departments. map Eng N 109:634 N 24 '32  
Ontario's highway-construction camps for unemployed. H. C. Hudson. Monthly Labor R 35:1071-3 N '32  
Productivity of labor in the building of concrete roads in Illinois. Monthly Labor R 35:1026-9 N '32

**ROADS**

- Driving a 4,230-ft. tunnel in Yosemite national park. C. S. Moore. il diags Eng N 111:76-8 Jl 20 '33  
Low cost roads and bridges. V. J. Brown and C. N. Conner. 544p Gillette pub. co, Chicago '33  
Proceedings of the eighteenth annual road school, Purdue university, January 25-29, 1932. B. H. Petty, comp. il Purdue Univ Eng Extension Dept Bul 28:1-196 '32  
Proceedings of the nineteenth annual road school held at Purdue university, January 23-27, 1933. B. H. Petty, comp. il Purdue Univ Eng Extension Dept Bul 30:1-112 '33  
Die siedlungsstrasse, diags Zeit Ver Deutsch Ing 77:1043-6 S 23 '33  
Social factors in development of regional highways. W. R. Tylor. il Roads & Sts 76:219-23 Je '33  
Work-relief plans stressed by Associated general contractors at Detroit meeting. Eng N 110:124 Ja 26 '33

*See also*

- |                        |                       |
|------------------------|-----------------------|
| Automobiles and roads  | Mountain roads        |
| Curbs                  | Parkways              |
| Forest roads           | Pavements             |
| Highway administration | Road making machinery |
| Highway engineering    | Road materials        |
| Highway law            | Road rollers          |
| Highway research       | Road traffic          |
| Highway transportation | Snow removal          |
| Motor trucks and roads | Street cleaning       |
|                        | Street railroads      |
|                        | Streets               |

**Bibliography**

- Neueres schrifttum über strassenbau. E. Gerlach. Zeit Ver Deutsch Ing 77:1055-6 S 23 '33

**By-pass roads**

- New Seventh Street trafficway in Kansas City, Kansas. L. Grover. il diags map Eng N 111:459-63 O 19 '33

**Congresses**

- Highway and building congress symbolizes unity; Detroit meeting, Jan. 19-20. Eng N 110:111-24, 196-8 Ja 26, F 9 '33

**Construction management**

- Accident prevention in highway construction. T. W. Walton. Roads & Sts 75:501-3 D '32  
Construction of portage roads for trucks and tractors working in Canadian woods. D. McLaren. il diags Pulp & Pa of Can 34:451-6 Jl '33  
Construction of the trans-Canada highway as an unemployment relief measure; abstract. J. Sinton. Engineer 155:227 Mr 3 '33  
Productivity of labor in the building of concrete roads in Illinois. Monthly Labor R 35:1026-9 N '32  
Promoting safety in highway construction. H. D. Immel. il Roads & Sts 76:187-9 My '33  
Single and multiple lane concrete road construction methods; abstract. D. O. Robinson. Can Eng 65:61; Discussion. 61-4 S 19 '33

**Construction schedules**

- Economics of elevating grader operation in highway construction. T. C. Thee. il Roads & Sts 76:175-83 My '33

**Contracts**

- Alternate bids to be required on highway work in California. Eng N 110:823 Je 22 '33

**Cost**

- Demonstrating the economy of good roads; State highway department in Michigan. A. C. Benkelman. il Civil Eng 3:379-82 Jl '33  
Economics of maintenance and reconstruction. C. N. Conner. il Pub Works 64:26+ Ap '33  
Highway grading and drainage, Arizona; unit prices. Eng N 109:700 D 8 '32  
Highway grading and drainage, Delaware; unit prices. Eng N 111:214 Ag 17 '33  
How the highway pays. R. W. Crum. Eng N 110:834-6; 111:37-9 Je 29, Jl 13 '33  
Index of the cost of highway construction. J. L. Harrison. Pub Roads 14:81-92 Jl '33  
Low-cost roads in the North Atlantic states. Pub Works 64:30-3 N '33  
Mounting maintenance costs demand new planning. L. R. Ames. il Eng N 110:15-18 Ja 5 '33  
Road costs and revenues—how they balance. P. M. Tebbs. il Eng N 110:24-6 Ja 5 '33  
State and county highway construction in 1932 and 1933; reports from highway officials showing probable expenditures. Roads & Sts 76:10-17+ Ja '33

**Crossings**

- See* Grade crossings; Roads—Grade separation; Roads—Intersections

**Curves**

- Banking highway curves. W. B. Potter. Eng N 111:327 S 14 '33  
Parabolic vertical curves for highway grades. M. W. Furr. Eng N 109:496-7 O 27 '32; Discussion. 110:258-9 F 23 '33  
Solving vertical highway curves by graph and table. R. W. Abbott. Eng N 110:186 F 9 '33

**Drainage**

- Drainage and drainage structures. il diags Pub Works 63:16-17 D '32  
Drainage—the basic highway problem; illustrations. Roads & Sts 76:31 Ja '33

**Economic aspects**

- Cost of traffic delays. S. Johannesson. il Civil Eng 3:149-51 Mr '33  
Demonstrating the economy of good roads; State highway department in Michigan. A. C. Benkelman. il Civil Eng 3:379-82 Jl '33  
Economics of maintenance and reconstruction. C. N. Conner. il Pub Works 64:26+ Ap '33  
Estimating the economic value of proposed highway expenditures. T. R. Agg. Am Soc C E Proc 59:1093-1103 S '33; Abstract. Civil Eng 2:761-2 D '32; Excerpt. Roads & Sts 76:404 N '33; Discussion. Am Soc C E Proc 59:1504-7, 1660-5; 60:125-7 N '33-Ja '34  
Farm-to-market road program. L. O. Marden. Pub Works 64:19 Mr '33  
Farm to market road program suggested for Massachusetts. L. O. Marden. Roads & Sts 76:164-7 Ap '33  
Farmers' interest in adequate highways. C. H. Gray. Roads & Sts 76:124-7 Mr '33  
Highways and unemployment. F. M. Feiker. Can Eng 64:24 F 7 '33  
Making the highway pay for its cost; a chart and interpretation. B. E. Gray. Eng N 110:590-1 My 11 '33; Discussion. M. D. Catton. 111:177 Ag 10 '33  
Repercussions of roadbuilding on business prosperity. J. L. Harrison. Eng N 110:248-50 F 23 '33  
Road costs and revenues—how they balance. P. M. Tebbs. il Eng N 110:24-6 Ja 5 '33  
Road up-keep and your car-mile costs. C. N. Conner. Roads & Sts 76:199+ My '33  
What highways mean in economic, educational and social life of United States. T. H. MacDonald. Roads & Sts 76:101-5 Mr '33

**Federal aid**

- Current status of federal-aid road construction; tabulation. Published in monthly numbers of Public roads (cover)



**ROADS—Federal aid—Continued**

Current status of national recovery road construction as provided in title II, section 204 of the National industrial recovery act; tabulation. Pub Roads 14:155-6 (cover), 179-80 (cover), 195-6 (cover) O-D '33  
 Federal aid can stabilize highway development. G. B. Sowers. il Eng N 110:26-9 Ja 5 '33  
 Highway funds allotted to state by Recovery board. Eng N 110:850+ Je 29 '33; Excerpt. Roads & Sts 76:263 Jl '33  
 Hourly wages on federal-aid highway projects, 1922 to 1932. Monthly Labor R 36:619 Mr '33; Same. Roads & Sts 76:331 S '33  
 Laws relating to federal aid in construction of roads. E. A. Lewis, comp. 59p U.S. Gov't ptg. office, Washington '32  
 1933 federal aid for highway work now in jeopardy. Eng N 109:790 D 29 '32  
 Rules and regulations for highway work under \$400,000,000 federal appropriation. Roads & Sts 76:256-8, 261-3 Jl '33  
 State highways and the National recovery act. Pub Works 64:30-1 Ag '33  
 Status of the \$400,000,000 highway program. Eng N 111:233-4 Ag 24 '33

**Finance**

Allocation of highway costs among classes of motor vehicles for purposes of calculating graduated tax schedules. A. D. Schultz. Am Statis Assn J 28:286-92 S '33  
 Brief regarding the railroad-highway transportation controversy. Roads & Sts 76:63-6 F '33  
 Build roads that pay from traffic they carry. W. R. Boyd, jr. Nat Pet N 25:12 F 1 '33  
 California adds 6,800 miles to state highway system. Eng N 111:325 S 14 '33  
 Conference on rail and road transport; letter from the members to the Minister of transport. Engineer 154:646-7 D 23 '32  
 Cost to American public of diversion of gasoline taxes and motor vehicle fees from their lawful purposes; abstracts. E. N. Smith. Roads & Sts 76:71-3 F '33; Bus Transportation 12:98-100 F '33  
 Federal aid can stabilize highway development. G. B. Sowers. il Eng N 110:26-9 Ja 5 '33  
 Forty billion dollars invested in roads, streets and motor vehicles. Roads & Sts 76:34 F '33  
 Funds for highway construction and maintenance must be protected as service charges. Rock Prod 35:36-7 D 10 '32  
 Highway costs and who pays them. W. Chevalier. Bus Transportation 12:22-5 Ja '33  
 Highway demand is turning from main to local roads. B. H. Petty. il Eng N 110:7-10 Ja 5 '33  
 Highway finance, particularly with regard to county road problems. T. J. Mahony. Can Eng 64:32-4 Mr 7 '33  
 Highways organizations in the Canadian provinces; legislation, administration and finance; abstract. R. M. Smith. Can Eng 65:45-6; Discussion. J. L. Boulanger. 46-9 S 19 '33  
 How the highway pays. R. W. Crum. Eng N 110:834-6; 111:5-6, 37-9 Je 29-Jl 13 '33  
 I am a farmer; views on transportation and road finance. C. Brand. Bus Transportation 12:31-2 Ja '33  
 Illinois financial survey. Pub Roads 14:37-51+ My '33  
 Increasing amount of motor fuel tax money being diverted from roads. F. E. Packard. Oil & Gas J 32:18+ S 14 '33  
 Major problems. A. M. Hyde. Eng N 109:625 N 24 '32  
 Making public roads pay. T. H. MacDonald. Bus Transportation 12:7-9 Ja '33  
 Michigan financial survey. Pub Roads 14:57-72 Je '33  
 Must prevent misuse of highway funds by other income. Rock Prod 35:34 N 19 '32  
 Obstructionist! new name for diversionist! Roads & Sts 76:29-30 Ja '33  
 Rail and road men report on highway control and costs. Eng N 110:171 F 2 '33  
 Road costs and revenues—how they balance. P. M. Tebbs. il Eng N 110:24-6 Ja 5 '33  
 Road taxes for roads! W. C. Markham. il Eng N 110:5-7 Ja 5 '33

Salter report. L. Vickers. Aera 23:1404-9 N '32  
 States spent \$955,000,000 for highways last year. Eng N 111:491 O 26 '33  
 Unwarranted government expenditures—a highway example. Ry Age 94:355-7 Mr 11 '33  
 User's taxes for highway purposes; abstract. W. G. Robertson. Can Eng 65:64-5 S 19 '33  
 What price highway economy? W. R. Melton. Manuf Rec 102:22-3 Jl '33  
 Who pays our highway bonds? C. S. Duncan. Ry Age 94:629-32+ Ap 29 '33  
 Wide range of road work in emergency program; analysis of highway projects approved by PWA. H. E. Sargent and others. Eng N 111:505-9 O 26 '33  
 Wisconsin financial survey. Pub Roads 14:21-36 Ap '33; Excerpts. Roads & Sts 76:224-7 Je '33

**See also**

Roads—Federal aid

**Foundations**

Brick pavements on flexible bases; abstracts. J. H. Lowe. Pub Works 64:12 Ap '33; Roads & Sts 76:217 Je '33  
 Building a low-cost base for a low-cost road in Champaign county, Ill. J. S. Crandell. il Eng N 109:751-2 D 22 '32

**See also**

Roads—Subgrades

**Grade separation**

Intricate intersections on Queens parkway system, New York. C. U. Powell. maps Eng N 110:251-5 F 23 '33  
 Old Forest Hill road bridge in Forest Hill village, Ont. W. D. Proctor. il Can Eng 65:5-7 Ag 8 '33  
 Scant headroom complicates grade-separation problem on Queens boulevard. S. G. Koon. plan Eng N 110:58 Ja 12 '33  
 Separating grades at highway intersections. H. S. Swan. il diags Civil Eng 3:79-83 F '33  
 Three-level rail and road crossing, Newark, N.J. A. B. Cohen. il diags Eng N 110:179-83 F 9 '33

**Grading**

Careful balancing of cuts and fills speeds grading job; highway between Columbus and Marietta, Ohio. il Eng & Contr 71:272-3 D '32  
 Economics of elevating grader operation in highway construction. T. C. Thee. il Roads & Sts 76:175-83 My '33  
 Engineering and grading policies for single track concrete roads. il Roads & Sts 76:21-3 Ja '33  
 Grading roads in the townships. J. H. Ruth-erford. Can Eng 65:15 Ag 22 '33  
 Operating economics of highway grades. N. W. Dougherty. Eng N 111:69-70 Jl 20 '33  
 Parabolic vertical curves for highway grades. M. W. Furr. Eng N 109:496-7 O 27 '32; Discussion. 110:258-9 F 23 '33  
 Reconstructing an important California highway; widening 4.2-mile section in Los Angeles county. J. M. Lackey. il Roads & Sts 76:321-3 S '33  
 Right equipment for the job; record and analyses of 30 road-grading jobs. H. K. Church. Eng N 110:556-9 My 4 '33  
 Rough grading on a rocky road. C. T. Fisher. il Roads & Sts 76:156-7 Ap '33

**Ice control**

Salt for icy roads. G. E. Gollop. Can Eng 64:16 Ap 4 '33

**Intersections**

Intricate intersections on Queens parkway system, New York. C. U. Powell. maps Eng N 110:251-5 F 23 '33  
 Separating grades at highway intersections. H. S. Swan. il diags Civil Eng 3:79-83 F '33

**Lighting**

Developments in the electrical industry during 1932; highway lighting. J. Liston. il Gen Elec R 36:71 Ja '33

**ROADS—Lighting—Continued**

- Lichttechnische fragen zum bau der autobahnen. E. Weisse. *il Zeit Ver Deutsch Ing* 77:1054-5 S 23 '33
- Lighted highways would reduce night driving hazards at moderate cost. D. M. Diggs. *il Automotive Ind* 69:356-7 S 23 '33
- Lighting and safety. E. M. Severn. *Gas J (Lond)* 203:513 S 6 '33
- Main road public lighting. C. C. Kirby. *Engineering* 135:11-12 Ja 6 '33
- Necessity of adequate highway lighting. F. T. Groome. *il Can Eng* 64:19-21 F 7 '33
- Principles of directive street lighting. H. T. Harrison. *il diags Illum Engr* 26:146-9 Je '33; Same cond. *Gas J (Lond)* 202:418-19 My 17 '33; Discussion. *Illum Engr* 26:150-8 Je '33; *Gas J (Lond)* 202:419-20 My 17 '33
- Seeing and highway safety. M. Luckiesh. *Nat Safety N* 28:33-6+ O '33
- Sodium gas-discharge lamp; installation on the Croydon by-pass road. *il diags Elec R (Lond)* 111:851 D 9 '32; *Electrician* 109:741 D 9 '32; *Illum Engr* 26:13-14 Ja '33
- Sodium-vapor lamps used on half mile of highway. *il Elec W* 101:815 Je 24 '33; *Roads & Sts* 76:296 Ag '33; *Sci Am* 149:127 S '33; *Illum Eng Soc Trans* 28:631-2 S '33

**Maintenance and repair**

- Calcium chloride for maintenance. H. F. Clemmer. *Can Eng* 63:80, 82 S 20 '32; Same abr. *Roads & Sts* 75:497-8 D '32
- Construction and maintenance of the Quebec highway system. *il Can Eng* 64:11-16 My 30 '33
- Details of street and highway maintenance. B. E. Gray. *Pub Works* 64:23-4+ Ap '33
- Economics of maintenance and reconstruction. C. N. Conner. *il Pub Works* 64:26+ Ap '33
- Equipment and plant for county highway maintenance. *Roads & Sts* 76:233-5 Je '33
- Maintenance equipment; its suitability and utility. C. N. Conner. *il Pub Works* 64:29-30 Je; 31-2 Jl '33
- Maintenance of highways in winter. G. R. Marston. *Can Eng* 64:58+ Mr 7 '33
- Maintenance of roads in the townships. J. D. Flanders. *Can Eng* 64:62 Mr 7 '33
- Mounting maintenance costs demand new planning. L. R. Ames. *il Eng N* 110:15-18 Ja 5 '33
- Paving side ditches for hilly roads. D. M. Norton. *il diags Eng N* 111:351-2 S 21 '33
- Planning your highway program. W. A. Hardenbergh. *Pub Works* 64:21-2 Ap '33
- Road up-keep and your car-mile costs. C. N. Conner. *Roads & Sts* 76:199+ My '33
- Save road repairs by better building; conditioning logging roads for further use. *Pulp & Pa of Can* 34:546 S '33
- State highway maintenance practice. *il Roads & Sts* 76:24-8 Ja '33

**See also**

- |                                      |                         |
|--------------------------------------|-------------------------|
| Roads—Resurfacing                    | Roads, Macadamized      |
| Roads—Surface treatment              | —Maintenance and repair |
| Roads, Gravel—Maintenance and repair |                         |

**Protection**

- Slipping road fill held up by steel suspenders. T. H. Cutler. *il Eng N* 109:684-5 D 8 '32

**Resurfacing**

- Cut-back asphalt used in mixed-in-place between Youngsville and Jeffersonville, N. Y. *il Pub Works* 64:13-14 S '33
- Greco surface heater for resurfacing roads and streets. *il Eng & Contr* 71:282 D '32
- Low-cost resurfacing of old pavement; concrete road widened by concrete strips and surfaced with asphaltic concrete. J. E. Blair. *il Eng N* 111:352 S 21 '33
- Machine-finished asphalt roads in Indiana. A. H. Hinkle. *il Eng N* 110:335-7 Mr 16 '33
- Pre-mixed resurfacing both satisfactory and cheap. W. W. Reeder. *il Pub Works* 64:21-2 S '33
- Pre-mixed tar slag resurfacing project. G. E. Martin. *il Pub Works* 64:25 Ap '33

- Resurfacing pavements with thin bituminous layers. A. O. Hastings. *Pub Works* 64:32-3+ Mr '33
- Re-tread pavement, then and now. G. E. Martin. *il Pub Works* 64:9 N '33
- Revamping the paved road, an increasing obligation. O. W. Merrell. *il diags Eng N* 110:18-23 Ja 5 '33
- Sealing cracked asphalt for resurfacing. B. P. MacWhorter. *Eng N* 109:613 N 24 '32
- Speed and excellence on a 25-mile bituminous resurfacing job. U. S. road 30-S (the Lincoln highway). *il Pub Works* 64:11 F '33; Same. *Roads & Sts* 76:108 Mr '33
- Trend in resurfacing pavements with brick. G. F. Schlesinger. *il diags Roads & Sts* 76:1-4 Ja '33

**See also**

- Roads—Surface treatment

**Safety devices and measures**

- Building safety into the rural road. J. L. Bauer. *il Civil Eng* 2:767-70 D '32
- Le Congrès pour la sécurité de la route (Paris, 5-8 octobre 1933). J. Thomas. *Génie Civil* 103:406-8 O 21 '33
- Road accidents and traffic signs. *Engineering* 136:120 Ag 4 '33
- Safety on highways. J. T. Bickell. *Can Eng* 64:41-3 Mr 7 '33
- Voice from the sky. W. B. Nichols. *il Safety Eng* 64:213 N '32

**See also**

- |                 |                     |
|-----------------|---------------------|
| Grade crossings | Roads—Lighting      |
| Road signs      | Traffic regulations |

**Safety guards**

- Highway guard of steel pipe deflects runaway cars back onto road. *il Steel* 93:42 N 6 '33
- Large uses of steel in small ways; wire rope highway guards. *il Steel* 93:38 Ag 7 '33

**Specifications**

- Road builders offer specifications for cement-bound macadam. *Concrete* 41:9-10 My '33

**Statistics**

- State and county highway construction in 1932 and 1933; reports from highway officials showing probable expenditures. *Roads & Sts* 76:10-17+ Ja '33
- 29,577 miles of road surfaced last year, the states report. *Roads & Sts* 76:292 Ag '33

**Subgrades**

- About roadway stability using calcium chloride. H. F. Clemmer. *Roads & Sts* 76:184-6 My '33; Same. *Can Eng* 65:11-13 Jl 25 '33; Excerpts. *Pub Works* 64:31+ Je '33
- Calcium chloride for maintenance. H. F. Clemmer. *Can Eng* 63:80, 82 S 20 '32; Same abr. *Roads & Sts* 75:497-8 D '32
- Comments on the hydrometer method of mechanical analysis. R. C. Thoreen. *bibliog diags Pub Roads* 14:93-105 Ag '33
- Explosives for settling highway fills. E. Godfrey. *diags Can Eng* 64:11-13 My 2 '33
- New method of blasting swamp for highway fill. C. L. Wooley. *il diags Eng N* 110:715-17 Je 1 '33
- New methods in highway fill settlement work in Rhode Island. *il Roads & Sts* 76:249-52 Jl '33
- Research underlies road building program; activities of the United States Bureau of public roads. *il Sci Am* 149:244-5 N '33
- Settling a road embankment by underfill blasting. C. G. Wahl. *bibliog Pub Works* 64:15-16 Mr '33
- Tar surface treatment of low cost roads. *il Pub Roads* 14:13-20 Mr '33

**Superhighways**

- British super-highway between Manchester and Liverpool to cost \$500,000 per mile. *Automotive Ind* 67:758 D 10 '32
- Proposed scheme by Charles Downing Lay, for a high-speed trunk highway through a suburban or city district; plan. *Arch Rec* 73:15 Ja '33



ROADS—Superhighways—*Continued*

Super-roads to serve as pleasure-land; super-highways in Queens, Long Island, N.Y. C. U. Powell. *il* maps Eng N 110:209-12 F 16 '33

## Surface treatment

- Asphalt emulsions in low cost road construction. C. L. McKesson, V. L. Ostrander and F. X. Kern. *il* Pub Works 64:32 Ja '33
- Asphalt road construction; surface treatment types. 128p Asphalt institute, New York '32
- Bituminous surface treatments for roads and streets. B. E. Gray. *il* Pub Works 64:21-2 My '33
- Cut-back asphalts; their characteristics and use. P. Hubbard. Roads & Sts 76:87-9 F '33
- Development in low cost tar surfacing. A. R. Taylor. *il* Pub Works 64:27-8, 39-40 Je '33
- Eight years' upkeep costs of surface-treated gravel; Caddo Parish, La. J. T. Bullen. *il* Eng N 110:407-8 Mr 30 '33
- L'emploi de l'azote sur les camions-citernes utilisés au revêtement des routes. *il* diag Génie Civil 101:588-9 D 10 '32
- Emulsion-penetrated stone in Maine. E. L. Merrill. Eng N 110:320 Mr 9 '33
- Experimental salt-clay-gravel road; Elmsdale, N.S. G. D. Macdougall. *il* Can Eng 64:19-20 My 30 '33
- Innovation in road-surfacing methods; principal features of the emulsion Terolas. R. G. Wace. *il* Can Eng 64:17-18 My 30 '33
- Maintenance of salt-clay highways; experiments with salt in the surface treatment of roads in Nova Scotia. A. R. Chambers. Can Eng 63:13-15 D 6 '32
- Moisture-film cured macadams. C. A. Hogen-togler, jr. *il* Pub Works 64:29-30 N '33
- Paved surfaces unwarranted for secondary roads. P. Hubbard. *il* Eng N 110:10-11 Ja 5 '33
- Road construction and dressings; conference by the Lancashire district tar board of the British road tar association. Gas J (Lond) 202:543 My 24 '33
- Smoother riding roads and longer life obtained by New York's new drag treatment of bituminous surfaces. A. E. Stewart. Pub Works 64:20 My '33
- Surface secondary roads for secondary traffic! A. R. Taylor. *il* Eng N 110:14-15 Ja 5 '33
- Surface-treated gravel in New Jersey. E. E. Reed. Eng N 110:320 Mr 9 '33
- Surface treatment of topsoil roads. J. S. Williamson and P. F. Critz. Pub Roads 13:169-76+ Ja '33
- Surface treatment on gravel saves money. R. S. Gain. *il* Pub Works 64:23 My '33
- Tar drag treatment of Pennsylvania roads. A. R. Taylor. *il* Pub Works 64:17+ N '33
- Tar surface treatment of low cost roads. *il* Pub Roads 14:1-20 Mr '33; Abstract. Pub Works 64:13-14 Jl '33
- Time is ripe to push a road oiling program for farm-to-market roads. P. Truesdell. *il* Nat Pet N 25:23-5 Ja 11 '33
- Treatment of road surfaces with bitumen emulsions; Colas and Terolas. *il* Engineering 135:659 Je 16 '33

## See also

Road oiling Roads, Oiled  
Roads—Resurfacing Roads, Tarred

## Surfaces

- Cast iron roads. *il* Engineer 154:571 D 2 '32
- Construction of oil-mixed surfaces in higher altitudes; Yellowstone park. C. F. Capes. Roads & Sts 76:274-5 Jl '33
- Cost of road-mix highway at Cobble Mountain dam. H. H. Hatch. *il* Eng N 110:529-30 Ap 27 '33
- Fluxed asphaltic limestone as seal coat for mixed-in-place surfaces. J. H. Conzelman. *il* Pub Works 64:31-2 Mr '33
- How to build bituminous plant-mix surface of graded aggregate type. V. J. Brown and C. N. Connor. Roads & Sts 76:115-16 Mr '33
- Low-cost bituminous road surfaces; experiences in Huron county with retreat, pre-mix and road mix types of pavements. T. R. Patterson. Can Eng 64:22-3 Ap 4 '33

Low-cost road practices in North Atlantic states; symposium of experience and experiment in surfacing. Eng N 110:319-21 Mr 9 '33

- Low-cost rural road system of Pennsylvania. S. Eckels. *il* Roads & Sts 76:373-5, 378-80 O '33; Abstract. Can Eng 65:65-6; Discussion. D. H. Storms. 66-8 S 19 '33
- Die neuzeitlichen strassenbauverfahren. J. Kluge. *il* Zeit Ver Deutsch Ing 77:1039-43 S 23 '33
- Paved surfaces possible for secondary roads. E. M. Fleming. *il* diags Eng N 110:12-14 Ja 5 '33
- Paved surfaces unwarranted for secondary roads. P. Hubbard. Eng N 110:10-11 Ja 5 '33
- Progressive low-cost road construction. A. J. Moynihan. *il* Pub Works 64:10+ Ag '33
- Stabilization of low cost roads by calcium chloride. C. O. Hogentogler, jr. *il* Roads & Sts 76:359-60 O '33
- Die stahlroststrasse, eine neue strassendecke. H. Fey. *il* Stahl & Eisen 52:1274 D 22 '32

## See also

Pavements Roads—Surface  
Roads—Resurfacing treatment  
Roads, Macadamized  
—Cement grouting

## Widening

- Low-cost resurfacing of old pavement; concrete road widened by concrete strips and surfaced with asphaltic concrete. J. E. Blair. *il* Eng N 111:352 S 21 '33
- Moving live high line in highway widening. G. F. Harden. *il* Elec W 101:387 Mr 25 '33
- New method of wetting earth cover on concrete widening strip. *il* Roads & Sts 76:258 Jl '33
- Reconstructing an important California highway; widening 4.2-mile section in Los Angeles county. J. M. Lackey. *il* Roads & Sts 76:321-3 S '33
- Removing the cork from the bottleneck; widening three-mile section of Roosevelt road, 30 miles west of Chicago. *il* diag Roads & Sts 76:285-9 Ag '33
- Revamping the paved road, an increasing obligation. O. W. Merrell. *il* diags Eng N 110:18-23 Ja 5 '33

## Width

Extra wide highways on state systems, with table. *il* Pub Roads 13:148-9 N '32

## Alabama

Asphalt limestone pavements on black base. J. H. Conzelman. *il* Pub Works 64:11+ Ja '33

## Alaska

Report of the Commission to study the proposed highway to Alaska. 116p U.S. Commission to study the proposed highway to Alaska, Washington '33

## Argentina

La confection des chaussées en béton armé, en Argentine. P. Dachary. *il* diags Génie Civil 103:10-12 Jl 1 '33

## California

- Alternate bids to be required on highway work in California. Eng N 110:823 Je 22 '33
- California adds 6,800 miles to state highway system. Eng N 111:325 S 14 '33
- California pavement records and construction progress. E. Withycombe. *il* Pub Works 64:23-4 Ag; 25-6 S '33
- Snow removal method and equipment on mountain highways of California. *il* Roads & Sts 76:346, 348-50 S '33

## Canada

- Construction of the trans-Canada highway as an unemployment relief measure; abstract. J. Sinton. Engineer 155:227 Mr 3 '33
- Highways organizations in the Canadian provinces; legislation, administration and finance; abstract. R. M. Smith. Can Eng 65:45-6; Discussion. J. L. Boulanger. 46-9 S 19 '33
- National parks road building. Can Eng 65:12 S 26 '33

## ROADS—Continued

## Connecticut

Low-cost waterbound macadam in Connecticut. A. W. Bushell. Eng N 110:321 Mr 9 '33

## Georgia

Sealing cracked asphalt for resurfacing. B. P. MacWhorter. Eng N 109:613 N 24 '32

## Germany

Arbeitsbeschaffung durch strassenbau. F. Platzmann. Zeit Ver Deutsch Ing 77:1030-2 S 23 '33

Germany to build special motor roads. Automotive Ind 69:392 S 30 '33

Die reichsautobahnen. W. Blöcker. Zeit Ver Deutsch Ing 77:1021-2 S 23 '33

Strassenbau in organisatorischer und technisch-wirtschaftlicher hinsicht. H. Ehlgoetz. map Zeit Ver Deutsch Ing 77:1023-9 S 23 '33

Super-highways; Hitler public works program. Business Week p22-3 Jl 15 '33

## Great Britain

Roads of England, being a review of the roads, of travelers, and of traffic in England, from the days of the ancient trackways to the modern motoring era. R. M. C. Anderson. 236p [bibliog p229-36] E. Benn, Ltd, London '32

## Illinois

Future road program planned for Illinois. Eng N 110:256 F 23 '33

Illinois financial survey. Pub Roads 14:37-51+ My '33

## Iowa

Secondary road construction policies in Iowa counties. C. E. Smith. Roads & Sts 76:272-3 Jl '33

## Maine

Emulsion-penetrated stone in Maine. E. L. Merrill. Eng N 110:320 Mr 9 '33

## Manitoba

Manitoba good roads contest. Can Eng 64:13 Je 6 '33

## Maryland

Oiled bank-run gravel in Maryland. C. B. Bryant. Eng N 110:320-1 Mr 9 '33

## Massachusetts

Cost of road-mix highway at Cobble Mountain dam. H. H. Hatch. il Eng N 110:529-30 Ap 27 '33

Farm-to-market road program. L. O. Marden. Pub Works 64:19 Mr '33

Farm to market road program suggested for Massachusetts. L. O. Marden. Roads & Sts 76:164-7 Ap '33

## Michigan

Demonstrating the economy of good roads; State highway department in Michigan. A. C. Benkelman. il Civil Eng 3:379-82 Jl '33

How highway work in upper Michigan provides unemployment relief. J. T. Sharpsteen. Concrete 41:5-6 Ap '33

Michigan financial survey. Pub Roads 14:57-72 Je '33

Survey of highway transportation in Michigan. maps Pub Roads 13:185-96+ F '33

## Nebraska

Nebraska NRA road program is going ahead. Eng N 111:536 N 2 '33

## New Jersey

Surface-treated gravel in New Jersey. E. E. Reed. Eng N 110:320 Mr 9 '33

Varied steel-erection practice on New Jersey viaduct; three miles of truss spans on high-level structure on Holland Tunnel approach highway. il diag Eng N 110:43-8 Ja 12 '33

## New Providence Island, Bahamas

Highway construction in Nassau. R. N. A. Burnside. il Explosives Eng 11:80-1 Mr '33

## New York (state)

Road mix and penetration combined in New York. E. C. Lawton. Eng N 110:321 Mr 9 '33

Sound unemployment relief through highway improvement in Port Jervis. il Pub Works 64:14-15+ O '33

Unemployment relief road work in Onondaga county. il Pub Works 64:32-3 O '33

## North Carolina

Centralized road control in North Carolina. il Eng N 110:82-4 Ja 19 '33

## Ontario

Conference on road construction for county and township engineers and road superintendents, 19th, Toronto, Feb. 20-21. Can Eng 64:47-8 Mr 7 '33

Good roads in Welland county. Can Eng 64:12 Je 6 '33

Maintenance of highways in winter. G. R. Marston. Can Eng 64:58+ Mr 7 '33

Need for economy in road construction; mileage of improved roads in Renfrew county. W. J. Moore. Can Eng 64:21-2; Discussion. H. A. Lumsden. 24 Ap 4 '33

Norfolk county highway system. G. R. Marston. Can Eng 64:18 F 7 '33

Ontario good roads association 31st annual meeting, Toronto, Feb. 22-23. Can Eng 64:25-46 Mr 7 '33

Ontario's investment in roads. R. M. Smith. Can Eng 64:15-16 My 2 '33

Organization of township road systems. P. M. Higgins. Can Eng 64:50+ Mr 7 '33; Discussion. G. H. Baker. 64:15-16 Je 27 '33

Review of Lincoln county roads. Can Eng 64:31 F 23 '33

Snow removal and winter road maintenance in Ontario. W. L. Saunders. il Roads & Sts 76:382-6 O '33; Same. Can Eng 65:5-9 D 12 '33; Discussion. J. A. Duchastel. 65:69 S 19 '33

Transverse expansion joint installation practice in Ontario highways. M. L. Baxter and W. C. Brockway. il Can Eng 64:9-10 My 2 '33

## Oregon

Highway location problem solved by tunnel; connecting link between main Pacific Coast highways in Oregon. E. A. Collier. il diag Eng N 110:85 Ja 19 '33

## Pennsylvania

How Pennsylvania is solving the farm-to-market road problem. S. S. Lewis. Roads & Sts 76:309+ Ag '33

Low-cost rural road system of Pennsylvania. S. Eckels. il Roads & Sts 76:373-5, 378-80 O '33; Abstract. Can Eng 65:65-6; Discussion. D. H. Storms. 66-8 S 19 '33

Meeting Pennsylvania's highway needs. G. Pinchot. il Pub Works 64:20 Ap '33

Upper Darby did more highway work in 1932 than in 1931 and at two-thirds the cost. Pub Works 64:18 Jl '33

## Quebec

Construction and maintenance of the Quebec highway system. il Can Eng 64:11-16 My 30 '33

Improvements in highways of Quebec. C. M. Black. Can Eng 64:16 F 21 '33

Report on Quebec roads tabled. Can Eng 64:10 F 21 '33

## Southern states

\$140,000,000 for road work in South. il Manuf Rec 102:26+ Mr '33

Progress in southern road building. il Manuf Rec 102:24-5+ O '33

Road-building in the South. il Manuf Rec 102:30+ Ja '33

## United States

Changing highway world. E. M. Fleming. Concrete 41:7-8 Ja '33

Forty billion dollars invested in roads, streets and motor vehicles. Roads & Sts 76:84 F '33

Wide range of road work in emergency program; analysis of highway projects approved by PWA. H. E. Sargent and others. Eng N 111:505-9 O 26 '33



**ROADS—United States—Continued**

Working together for highway and community beautification. E. Perry. 30p [bibliog p28-30] National highway beautification council, Springfield, Mass. '32

**Vermont**

Road mix gravel and stone in Vermont. H. E. Sargent. Eng N 110:319-20 Mr 9 '33

**Wisconsin**

Wisconsin financial survey. Pub Roads 14:21-36 Ap '33; Excerpts. Roads & Sts 76:224-7 Je '33; Abstract. Eng N 110:683 My 25 '33

**ROADS, Asphalt**

Advantages of emulsified asphalt in penetration type construction. V. L. Ostrander. il Can Eng 64:13-17 F 7 '33

Asphalt emulsions. Eng N 110:114 Ja 26 '33

Asphalt emulsions in low cost road construction. C. L. McKesson, V. L. Ostrander and F. X. Kern. il Pub Works 64:29-32 Ja '33

Asphalt limestone pavements on black base. J. H. Conzelman. il Pub Works 64:11+ Ja '33

Asphalt mixed macadam pavement laid in Peterborough county. A. E. Chalmers. il Can Eng 65:7-8 Ag 22 '33

Asphalt road construction; surface treatment types. 128p Asphalt institute, New York '32

Cotton fabric reinforcement of road surfacing. il Roads & Sts 76:235 Je '33

Cut-back asphalts; their characteristics and use. P. Hubbard. Roads & Sts 76:87-9 F '33

Emulsified asphalt in mixed-in-place construction. A. D. MacCallum. Pub Works 64:34+ Ja '33

Emulsified asphalt in road and plant mixed pavements. C. L. McKesson. il Can Eng 64:9-13 Je 27 '33

Foreign asphalts not needed in U. S. Mid-continent refiners protest. Nat Pet N 25:22 O 4 '33

Machine-finished asphalt roads in Indiana. A. H. Hinkle. il Eng N 110:335-7 Mr 16 '33

Surface treatment types. 128p Asphalt institute, New York '32

Township builds low cost road with emulsified asphalt. E. L. Bracken. il Roads & Sts 76:204+ Mr '33

**See also**

Pavements, Asphalt

**Cost**

Cost of road-mix highway at Cobble Mountain dam. H. H. Hatch. il Eng N 110:529-30 Ap 27 '33

**Maintenance and repair**

Sealing cracked asphalt for resurfacing. B. P. MacWhorter. Eng N 109:613 N 24 '32

**ROADS, Automobile**

L'autoroute de Cologne à Bonn. diag Génie Civil 102:212-13 Mr 4 '33

Considérations économiques relatives à la transformation progressive des réseaux en auto-routes. M. de Coninck. Soc Ing Civils Bul 86:671-700 My '33; Abstract. Génie Civil 102:233 Mr 11 '33

Germany to build special motor roads. Automotive Ind 69:392 S 30 '33

Rampe-autostrade de montagne. P. Ferretti. diag Génie Civil 102:233-4 Mr 11 '33

Die reichsautobahnen. W. Blöcker. Zeit Ver Deutsch Ing 77:1021-2 S 23 '33

**ROADS, Bituminous**

Are low-cost bituminous roads really economical? H. W. Skidmore. Eng N 111:567-8 N 9 '33

Bituminous paver spreads and finishes coarse aggregate type plant mix. A. R. Erskine. il Roads & Sts 76:137-41 Ap '33

Bituminous surface treatments for roads and streets. B. E. Gray. il Pub Works 64:21-2 My '33

Black top construction in western Nebraska. il Roads & Sts 76:365-6 O '33

Build mortar-bound macadam roads with bitumen-coated cement. T. A. Pearson. il Concrete 41:9-10 N '33

Cut-back asphalt used in mixed-in-place between Youngsville and Jeffersonville, N. Y. il Pub Works 64:13-14 S '33

Emulsified asphalt in road and plant mixed pavements. C. L. McKesson. il Can Eng 64:9-13 Je 27 '33

First class county road at low cost; with cost data. S. E. Fitch. il Roads & Sts 76:197-9 My '33

Fluxed asphaltic limestone as seal coat for mixed-in-place surfaces. J. H. Conzelman. il Pub Works 64:31-2 Mr '33

How to build bituminous plant-mix surface of graded aggregate type. V. J. Brown and C. N. Connor. Roads & Sts 76:115-16 Mr '33

Innovation in road-surfacing methods; principal features of the emulsion Terolas. R. G. Wace. il Can Eng 64:17-18 My 30 '33

Low-cost bituminous road surfaces; experiences in Huron county with retread, pre-mix and road mix types of pavements. T. R. Patterson. Can Eng 64:22-3 Ap 4 '33

Low-cost roads in the North Atlantic states. Pub Works 64:31-3 N '33

Mixed-in-place construction job in Michigan. il Roads & Sts 76:313-14 Ag '33

Mixed-in-place construction job in Vermont. M. M. Ogden. il Roads & Sts 76:278-80 Jl '33

Penetration macadam at low cost; cost data. R. W. Coburn. Boston Soc C E J 20:171-82 O '33

Pre-mix macadam pavement in Frontenac county, Ont. J. E. Goodman. il Can Eng 64:11-12+ Ap 4 '33

Pre-mixed resurfacing both satisfactory and cheap. W. W. Reeder. il Pub Works 64:21-2 S '33

Progressive low-cost road construction. A. J. Moynihan. il Pub Works 64:10+ Ag '33

Road mix and penetration combined in New York. E. C. Lawton. Eng N 110:321 Mr 9 '33

Road mix gravel and stone in Vermont. H. E. Sargent. Eng N 110:319-20 Mr 9 '33

Road-mixed types of pavement; abstract. D. Noonan. Can Eng 65:51-2; Discussion. 52-61 S 19 '33

Stanco cold-laid pavement. G. V. Rayner. il Can Eng 64:14-15 My 2 '33

Surface secondary roads for secondary traffic! A. R. Taylor. il Eng N 110:14-15 Ja 5 '33

**See also**

Pavements, Asphalt  
Pavements, Bituminous

Roads, Asphalt  
Roads, Oiled  
Roads, Tarred

**Construction schedules**

Paving records in bituminous and concrete construction. il Pub Works 63:11-12 D '32

**Maintenance and repair**

Improving low cost bituminous surfaces. J. H. Conzelman. il Roads & Sts 76:147 Ap '33

Resurfacing pavements with thin bituminous layers. A. O. Hastings. Pub Works 64:32-3+ Mr '33

Smoother riding roads and longer life obtained by New York's new drag treatment of bituminous surfaces. A. E. Stewart. Pub Works 64:20 My '33

**ROADS, Bituminous concrete**

California pavement records and construction progress. E. Withycombe. il Pub Works 64:25-6 S '33

Low-cost resurfacing of old pavement; concrete road widened by concrete strips and surfaced with asphaltic concrete. J. E. Blair. il Eng N 111:352 S 21 '33

Reconstructing an important California highway; widening 4.2-mile section in Los Angeles county. J. M. Lackey. il Roads & Sts 76:321-3 S '33

Speed and excellence on a 25-mile bituminous resurfacing job, U.S. road 30-S (the Lincoln highway). il Pub Works 64:11 F '33; Same. Roads & Sts 76:108 Mr '33

**ROADS, Brick**

Brick pavements on flexible bases; abstracts. J. H. Lowe. Pub Works 64:12 Ap '33; Roads & Sts 76:217 Je '33

Fillers for brick roads; report of A.R.B.A. committee. Eng N 110:113-14 Ja 26 '33

Ohio tests brick pavement construction methods. H. H. Wyss. diag Pub Works 64:13 Ja '33

**ROADS, Brick—Continued**

Trend in resurfacing pavements with brick. G. F. Schlesinger. *il diags Roads & Sts* 76: 1-4 Ja '33

Vitrified brick on Connecticut Avenue experimental road. *Pub Roads* 13:150-1 N '32

*See also*

Pavements, Brick

**ROADS, Concrete**

Advanced ideas find encouragement in concrete road construction. *Concrete* 41:3-4 Ja '33

California pavement records and construction progress. E. Withycombe. *il Pub Works* 64:23-4 Ag '33

Careful balancing of cuts and fills speeds grading job; highway between Columbus and Marietta, Ohio. *il Eng & Contr* 71:272-4 D '32

Concrete highway awards in 1932 reach high figure. *Concrete* 41:4 F '33

Concrete roads; editorial. *Engineering* 136: 171-2 Ag 18 '33

Concrete street and highway construction. J. M. Portugais. *Can Eng* 65:9-10 J1 11 '33

La confection des chaussées en béton armé, en Argentine. P. Dachary. *il diags Génie Civil* 103:10-12 J1 1 '33

Continuation of highway construction is entirely justifiable; nearly 50% of cement output in 1932 went into highway structures. J. L. Harrison. *Rock Prod* 36:27 My '33

Curing of concrete pavements with calcium chloride. H. F. Clemmer. *il Roads & Sts* 76: 264-7 J1 '33

Engineering and grading policies for single track concrete roads. *il Roads & Sts* 76:21-3 Ja '33

How Ohio's highway department uses transmixed concrete for widening and repair. H. P. Chapman. *Concrete* 41:3-4 Mr '33

Old Ohio concrete road shows record service. F. H. Jackson. *il Eng N* 111:378-80 S 23 '33

One-yard trucks haul concrete for 3-mile overhead highway. *il Concrete* 41:18 Ja '33

Paved surfaces possible for secondary roads. E. M. Fleming. *il diags Eng N* 110:12-14 Ja 5 '33

La protection des chaussées bétonnées et des terrains d'aviation au moyen d'émulsions bitumineuses. *Génie Civil* 103:91-2 J1 22 '33

Roller-compacted pavement shows economy. Sheboygan county, Wis. G. W. Langley, Jr. *il Eng N* 110:434-6 Ap 6 '33

Scenic drive on Mt Franklin affords an international vista. J. C. Coyle. *il Comp Air M* 38:4054 F '33

Single and multiple lane concrete road construction methods; abstract. D. O. Robinson. *Can Eng* 65:61; Discussion. 61-4 S 19 '33

Single-track concrete roads economical low cost type. *Concrete* 41:8-9 J1 '33

Treatment of road surfaces with bitumen emulsions; Colas and Terolas. *il Engineering* 135:659 Je 16 '33

*See also*

Pavements, Concrete  
Roads, Bituminous  
concrete

**Construction equipment**

Application of truck mixers and mechanical spreaders to concrete road construction. *il Pub Works* 64:24-6 Ja '33

Boston-Worcester turnpike paved by truck mixers. *il Eng N* 110:104-7 Ja 26 '33; Excerpt. *Mech Handling* 20:180 Je '33

New finishing and joint installing methods on Indiana road. *il Roads & Sts* 76:366 O '33

New method of wetting earth cover on concrete widening strip. *il Roads & Sts* 76:258 J1 '33

Place truck-mixed highway concrete with mechanical spreader. *il Concrete* 41:17 Mr '33

Productivity of labor in the building of concrete roads in Illinois. *Monthly Labor R* 35: 1026-9 N '32

Removing the cork from the bottleneck; widening three-mile section of Roosevelt road, 30 miles west of Chicago. *il diags Roads & Sts* 76:285-9 Ag '33

Shovel places concrete for Delaware road; bottom-dump bucket substituted for dipper. *il Eng N* 111:202-3 Ag 17 '33

Twin pavers make progress records on concrete paving projects. J. S. Burch. *il diags Roads & Sts* 76:213-17 Je '33

Vibratory finishing machine for concrete pavements. F. V. Reagel. *Am Concrete Inst J* 4:391-6 Je '33

**Construction schedules**

Paving records in bituminous and concrete construction. *il Pub Works* 63:11-12 D '32

Record in concrete pavement laying—1807 sq. yd. in ten hours. *il Pub Works* 64:34 J1 '33

Thinking ahead helps complete big Ohio road job quickly. *il Roads & Sts* 75:485-8 D '32

Twin pavers make progress records on concrete paving projects. J. S. Burch. *il diags Roads & Sts* 76:213-17 Je '33

**Expansion joints**

Diagonal expansion joints for concrete highways. H. R. Newsome. *Concrete* 41:19 Ja '33

Godwin air-lock expansion joint for concrete paving. *il Roads & Sts* 76:172 Ap '33

Transverse expansion joint installation practice in Ontario highways. M. L. Baxter and W. C. Brockway. *il Can Eng* 64:9-10 My 2 '33

**Failure**

Concrete pavement failures due to high-lime cement. I. Paul. *Eng N* 110:212-13 F 16 '33

**Joints**

Ace expansion and contraction joint for concrete. *il Pub Works* 64:45 Mr '33

Practical details of concrete construction. W. E. Barker. *il Pub Works* 64:17 Ja; 22 F '33

Tests of aggregate interlock at joints and cracks. A. C. Benkelman. *il diags Eng N* 111:227-32 Ag 24 '33

**Maintenance and repair**

Device for forcing displaced slabs into position. I. S. Voorhees. *diags Roads & Sts* 76: 394 N '33; Abstract. *Pub Works* 64:22 N '33

**Reconstruction**

Showing how a very low bid does not always mean a heavy loss; use of broken concrete on highway 42, Milwaukee county. *il Roads & Sts* 76:324-6 S '33

**Testing**

Determining yield of concrete by density method. W. S. Foster. *il Roads & Sts* 76: 120-1 Mr '33

Tests of aggregate interlock at joints and cracks. A. C. Benkelman. *il diags Eng N* 111:227-32 Ag 24 '33

**ROADS, County**

Administrative relationship of state and county. V. J. Brown. *Roads & Sts* 76:79-83 F '33

County engineer and county leadership. J. W. Mavity. *Roads & Sts* 76:130-1 Mr '33

County organization for construction and maintenance of secondary road system. A. K. Olsen. *il Roads & Sts* 75:508-10 D '32

County road administration; report of A.R.E.A. committee. *Eng N* 110:113 Ja 26 '33

County road maintenance costs. *Can Eng* 64:14 Je 27 '33

Equipment and plant for county highway maintenance. *Roads & Sts* 76:233-5 Je '33

Estimated county road and bridge expenditures for 1933; tabulation. *Roads & Sts* 76: 16-17+ Ja '33

Farm to market road program suggested for Massachusetts. L. O. Marden. *Roads & Sts* 76:164-7 Ap '33

Highway finance, particularly with regard to county road problems. T. J. Mahony. *Can Eng* 64:32-4 Mr 7 '33

History and the function of the county road system. C. Talbot. *Can Eng* 64:34-6 Mr 7 '33



**ROADS, County—Continued**

Need for economy in road construction; mileage of improved roads in Renfrew county. W. J. Moore. *Can Eng* 64:21-2; Discussion. H. A. Lumsden. 24 Ap 4 '33

Norfolk county highway system. G. R. Marson. *Can Eng* 64:18 F 7 '33

Secondary road construction policies in Iowa counties. C. E. Smith. *Roads & Sts* 76:272-3 J1 '33

Stabilizing gravel roads, Onondaga county, N.Y.; moisture regulation by calcium chloride. *il Eng N* 111:529-30 N 2 '33

**ROADS, Earth**

*See also*

Roads, Macadamized

**Maintenance and repair**

About roadway stability using calcium chloride. H. F. Clemmer. *Roads & Sts* 76:184-6 My '33; Same. *Can Eng* 65:11-13 J1 25 '33; Excerpts. *Pub Works* 64:31+ Je '33

Soil concrete; use of calcium chloride in soil stabilization. R. A. Giddings. *Chemicals* 38:9 S 18 '33; Abstract. *Automotive Ind* 69:308 S 9 '33

Surface treatment of topsoil roads. J. S. Williamson and P. F. Critz. *Pub Roads* 13:169-76+ Ja '33

**ROADS, Elevated**

Jersey Meadows high-level viaduct. *il diags Engineer* 155:402, 405-6 Ap 21 '33

New Jersey high-level viaduct. H. W. Hudson. *il Civil Eng* 3:146-8 Mr '33

New Jersey's newest pride; Newark-Jersey City viaduct. *il Fortune* 7:58-9 Ap '33

One-yard trucks haul concrete for 3-mile overhead highway. *il Concrete* 41:18 Ja '33

Varied steel-erection practice on New Jersey viaduct; three miles of truss spans on high-level structure on Holland Tunnel approach highway. *il diag Eng N* 110:43-8 Ja 12 '33

**ROADS, Experimental**

Build cement-bound macadam type for secondary roads. *il Concrete* 41:5-6 Ja '33

Building cement-bound macadam test road near Chicago. *il Concrete* 41:9 J1 '33

Cement-bound macadam for road construction; test road at Bath, Pa. with cost data. C. H. Buckius. *il Civil Eng* 3:84-8 F '33

Cement bound macadam; important research now underway for low cost road work. V. J. Brown. *il Roads & Sts* 76:338-9, 342-3 S '33

Connecticut Avenue experimental road now twenty years old. *il Pub Works* 64:17 F '33

Experimental salt-clay-gravel road; Elmsdale, N.S. G. D. Macdougall. *il Can Eng* 64:19-20 My 30 '33

Verfahren der strassenuntersuchung. E. Neumann. *il diags Zeit Ver Deutsch Ing* 77:1033-8 S 23 '33

Vitrified brick on Connecticut Avenue experimental road. *Pub Roads* 13:150-1 N '32

**ROADS, Forest. See Forest roads****ROADS, Gravel**

Experimental salt-clay-gravel road; Elmsdale, N.S. G. D. Macdougall. *il Can Eng* 64:19-20 My 30 '33

Improved low cost soil and gravel roads. 69p Dow chemical co, Midland, Mich. '33

Low-cost roads in the North Atlantic states. *Pub Works* 64:30 N '33

Oiled bank-run gravel in Maryland. C. B. Bryant. *Eng N* 110:320-1 Mr 9 '33

Soil stabilization and low-cost roads. B. C. Tiney. *Can Eng* 65:9-11+ O 17 '33

Surface-treated gravel in New Jersey. E. E. Reed. *Eng N* 110:320 Mr 9 '33

**Cost**

County road maintenance costs. *Can Eng* 64:14 Je 27 '33

Eight years' upkeep costs of surface-treated gravel; Caddo Parish, La. J. T. Bullen. *il Eng N* 110:407-8 Mr 30 '33

Surface treatment on gravel saves money. R. S. Gain. *il Pub Works* 64:23 My '33

**Maintenance and repair**

About roadway stability using calcium chloride. H. F. Clemmer. *Roads & Sts* 76:184-6 My '33; Same. *Can Eng* 65:11-13 J1 25 '33; Excerpts. *Pub Works* 64:31+ Je '33

Calcium chloride for maintenance. H. F. Clemmer. *Can Eng* 63:80, 82 S 20 '32; Same abr. *Roads & Sts* 75:497-8 D '32

Eight years' upkeep costs of surface-treated gravel; Caddo Parish, La. J. T. Bullen. *il Eng N* 110:407-8 Mr 30 '33

Ingenious device recovers gravel surfacing. *il Pub Works* 63:27-8 D '32

Low-cost roads and unemployment relief. R. B. Traver. *il Pub Works* 64:27-8 Ap '33

Maintenance of salt-clay highways; experiments with salt in the surface treatment of roads in Nova Scotia. A. R. Chambers. *Can Eng* 63:13-15 D 6 '32

Oil-mix gravel surfacing, using loose material on roadway. L. D. Townsend. *il Pub Works* 64:33 My '33

Stabilizing a gravel street surface. K. B. Robertson and D. N. Smith. *diags Can Eng* 65:11-14 Ag 22 '33

Stabilizing gravel roads, Onondaga county, N.Y.; moisture regulation by calcium chloride. *il Eng N* 111:529-30 N 2 '33

**ROADS, Macadamized**

Advantages of emulsified asphalt in penetration type construction. V. L. Ostrander. *il Can Eng* 64:13-17 F 7 '33

Asphalt mixed macadam pavement laid in Peterborough county. A. E. Chalmers. *il Can Eng* 65:7-8 Ag 22 '33

Cut-back asphalt used in mixed-in-place between Youngsville and Jeffersonville, N. Y. *il Pub Works* 64:13-14 S '33

Emulsified asphalt in road and plant mixed pavements. C. L. McKesson. *il Can Eng* 64:9-13 Je 27 '33

Low-cost roads in the North Atlantic states. *Pub Works* 64:32 N '33

Low-cost waterbound macadam in Connecticut. A. W. Bushell. *Eng N* 110:321 Mr 9 '33

Moisture-film cured macadam. C. A. Hogen-togler, Jr. *il Pub Works* 64:29-30 N '33

Penetration macadam at low cost; cost data. R. W. Coburn. *Boston Soc C E J* 20:171-82 O '33

Pre-mix macadam pavement in Frontenac county, Ont. J. E. Goodman. *il Can Eng* 64:11-12+ Ap 4 '33

Pre-mixed resurfacing both satisfactory and cheap. W. W. Reeder. *il Pub Works* 64:21-2 S '33

Road-mixed types of pavement; abstract. D. Noonan. *Can Eng* 65:51-2; Discussion. 52-61 S 19 '33

Tar concrete. W. E. Cone. *Gas J (Lond)* 202:864-5 Je 21 '33

**Cement grouting**

Build cement-bound macadam type for secondary roads. *il Concrete* 41:5-6 Ja '33

Build mortar-bound macadam roads with bitumen-coated cement. T. A. Pearson. *il Concrete* 41:9-10 N '33

Building a modern cement-bound macadam pavement. *il Roads & Sts* 76:117-19 Mr '33

Building cement-bound macadam test road near Chicago. *il Concrete* 41:9 J1 '33

Cement-bound macadam for road construction; test road at Bath, Pa. with cost data. C. H. Buckius. *il Civil Eng* 3:84-8 F '33

Cement bound macadam; important research now underway for low cost road work. V. J. Brown. *il Roads & Sts* 76:338-9, 342-3 S '33

Cement-bound macadam road project financed by scrip in Mason City, Iowa. *il Concrete* 41:3-4 O '33

Experiments with cement-bound macadam. H. S. Van Scoyoc. *il Can Eng* 65:5-8 O 17 '33

Medusa's new special cement enters secondary road market. *il Concrete (mill sec)* 40:44-5 D '32

New York state builds cement-bound macadam highway. *il Pub Works* 64:9-10 Ja '33

Un nouveau liant pour chaussées: le vitaroute. J. Thomas. *il Génie Civil* 101:531-2 N 26 '32

**ROADS, Macadamized—Cement grouting—Cont.**  
Paved surfaces possible for secondary roads.  
E. M. Fleming. *il diags Eng N 110:12-14 Ja 5 '33*

Road builders offer specifications for cement-bound macadam. *Concrete 41:9-10 My '33*

#### Maintenance and repair

Pre-mixed tar slag resurfacing project. G. E. Martin. *il Pub Works 64:25 Ap '33*

#### ROADS, Oiled

California pavement records and construction progress. E. Withycombe. *Pub Works 64:26 S '33*

Construction of oil-mixed surfaces in higher altitudes; Yellowstone park. C. F. Capes. *Roads & Sts 76:274-5 Jl '33*

Low-cost oil-surface road in Arizona. *il Pub Works 64:20+ O '33*

Oiled bank-run gravel in Maryland. C. B. Bryant. *Eng N 110:320-1 Mr 9 '33*

Time is ripe to push a road oiling program for farm-to-market roads. P. Truesdell. *il Nat Pet N 25:23-5 Ja 11 '33*

#### ROADS, State

Extra wide highways on state systems, with table. *il Pub Roads 13:148-9 N '32*

Low-cost rural road system of Pennsylvania. S. Eckels. *il Roads & Sts 76:373-5, 378-80 O '33*

State and county highway construction in 1932 and 1933; reports from highway officials showing probable expenditures. *Roads & Sts 76:10-15 Ja '33*

State highways and the National recovery act. *Pub Works 64:30-1 Ag '33*

States spent \$955,000,000 for highways last year. *Eng N 111:491 O 26 '33*

#### ROADS, Tarred

Building a low-cost base for a low-cost road in Champaign county, Ill. J. S. Crandell. *il Eng N 109:751-2 D 22 '32*

Development in low cost tar surfacing. A. R. Taylor. *il Pub Works 64:27-8, 39-40 Je '33*

Pre-mixed tar slag resurfacing project. G. E. Martin. *il Pub Works 64:25 Ap '33*

Re-tread pavement, then and now. G. E. Martin. *il Pub Works 64:9 N '33*

Surfacing a village street with mixed-in-place, using tar, Liberty, N.Y. *il Pub Works 64:13 Ag '33*

Tar drag treatment of Pennsylvania roads. A. R. Taylor. *il Pub Works 64:17+ N '33*

Tar surface treatment of low cost roads. *il Pub Roads 14:1-20 Mr '33; Abstract. Pub Works 64:13-14 Jl '33*

#### ROADS, Township

Grading roads in the townships. J. H. Ruth-erford. *Can Eng 65:15 Ag 22 '33*

Organization of township road systems. P. M. Higgins. *Can Eng 64:50+ Mr 7 '33; Discus-sion. G. H. Baker. 64:15-16 Je 27 '33*

Township road—the farmers' road. L. W. Harkness. *Can Eng 64:40 Mr 7 '33*

Township roads. S. A. Brown. *Can Eng 64:40-1 Mr 7 '33*

#### ROADSIDE planting

California highway roadside beautification survey. Progress report, 1932. 53p Calif. Dept. of public works, Division of high-ways, Sacramento '33

#### ROBB, Willis O. 1859-1933

Sketch. *East Underw 34:19 Jl 21 '33*

#### ROBERT, L. W. Jr.

Portrait. *Arch Rec 74:5 Jl '33*

#### ROBERTSON, A. W.

Portrait. *Elec J 29:542 D '32*

#### ROBOTS

How scientists are working out new radio methods for controlling machinery by sound impulses. I. J. Saxl. *il diag Radio N 14:460-2+ F '33*

#### ROCIE, John Pierre

Pirle. B. McCanna. *por Adv & Sell 21:26+ Ag 31 '33*

#### ROCHES moutonnées (term)

Meaning of the term roches moutonnées. C. R. Longwell. *Am J Sci 5th ser 25:503-4 Je '33*

#### ROCHESTER athenaeum and mechanics insti-tute

Rochester athenaeum and mechanics insti-tute. J. A. Randall. *J Eng Educ 23:686-94 My '33*

#### ROCK drills

Control of the silicosis hazard in the hard rock industries; application of the Kelley trap to underground drilling operations. T. Hatch and others. *il diags J Ind Hygiene 15:41-56 Ja '33*

Diamond-drill bits and carbon. W. R. Storms. *diags Eng & Min J 134:96-8 Mr '33*

Diamond drilling at the United Verde mine. M. G. Hansen. *il diags U S Bur Mines In-formation Circ 6708:1-18 '33*

Drill steels for mining purposes. W. H. Hat-field. *Can Min J 54:236 Je '33*

Hot miller; novel equipment for drill sharpen-ing. *Eng & Min J 133:641 D '32*

Ingersoll-Rand auto-feed for drifter drills. *il Comp Air M 38:4247 O '33*

New detachable bits of the one-piece type. W. F. Boericke. *il Min & Met 14:117-18 F '33*

New detachable rock drill bit. *il Can Min J 54:237-9 Je '33*

Plug for diamond-drill holes. *diag Eng & Min J 134:150 Ap '33*

Portable drill-dust collector demonstrated at New York. *il Eng N 110:563 My 4 '33*

Rock drills and accessories. L. Eaton. *diags Eng & Min J 134:65-8, 106-9 F-Mr '33*

Sullivan one-man diamond drill. *il Can Min J 54:210 My '33*

#### See also

Drilling and boring  
(earth and rocks)

#### Manufacture

Hughes tool co. plant, started in corner of a building, now requires traffic regulations; invention and manufacture of rock bit for well boring. T. F. Smiley. *il Oil & Gas J 32:15-16 Je 8 '33*

#### Patents

Hadfield patent metal core process. *Can Min J 54:126+ Mr '33*

Patents on drilling apparatus; abstract. C. R. Solum. *Inst Pet Tech J 19:129A-30A Ap '33*

#### ROCK dust

Control of the silicosis hazard in the hard rock industries; application of the Kelley trap to underground drilling operations. T. Hatch and others. *il diags J Ind Hygiene 15:41-56 Ja '33*

#### ROCK gardens

Natural rock gardening. B. H. B. Symons-Jeune. 151p \$3.50 Scribner '33

#### ROCK products

Rock products papers at meeting of Institute of mining engineers. *Rock Prod 36:30-1 Mr '33*

#### See also

Aggregates  
Building stone  
Granite  
Gravel  
Gypsum  
Lime  
Marble

Phosphate rock  
Railroads—Rates—  
Rock products  
Sand  
Slate  
Stone  
Stone, Crushed

#### Prices

Price trends? philosophy of prices important in our business strategy. *Rock Prod 35:40 D 31 '32*

#### ROCK products industry

New products and new uses for rock products plants. *il Rock Prod 35:52-3 D 31 '32*

Perspective of rock products industries. P. Hatmaker. *Rock Prod 35:38-40 D 31 '32*

Stabilization of the aggregates industry. J. R. Thoenen. *Rock Prod 36:20-2 Je '33*

What rock products producers think about their prospects. *Rock Prod 35:34-7 D 31 '32*

#### Finance

Price, profit and prosperity. *Rock Prod 36:23-4 Ap '33*



**ROCK products industry—Continued****Securities**

Recent quotations on rock products securities.  
Published in monthly numbers of Rock products

**Missouri**

Missouri aggregate producers find a way to save established plants; three-cornered agreement between state highway department, the railways and the producers. Rock Prod 35:46-51 D 31 '32

**ROCK products plants**

Few obsolete plants according to producers themselves. Rock Prod 35:54-5 D 31 '32

Water measurements for rock products plants. A. C. Hewitt. diag Rock Prod 36: 58-9 Ag '33

See also

Gravel plants  
Stone, Crushed

**Costs**

Do production costs mean anything in a year like this? S. E. Honey. Rock Prod 35:60-2 D 31 '32

**Electric equipment**

Ground detector for electrical distributing systems. W. R. Carmichael. diag Rock Prod 36:30 Ap '33

Obsolescence of electric drives in the rock products industry. R. H. Rogers. il Rock Prod 35:65-70 D 31 '32

**Employees**

Labor generally is cooperative, patient and loyal. Rock Prod 35:63-4 D 31 '32

**Equipment**

Cutting maintenance costs in rock products plants by welding. J. S. Roscoe. diag Rock Prod 36:64-5 Ag '33

Efficient and economical crushed-stone production; plant at Mettur dam, Madras, India. R. Hadfield. flow sheet il diag Eng & Min J 134:384-5 S '33

Equipment manufacturers' review section. il Rock Prod 36:84-98 Ag '33

Newest stone crushing plant in New York city district. R. R. Shafter. il Rock Prod 35:9-16 D 10 '32

Opportunities for using indicating and recording control instruments in the rock products industries. J. R. Withrow. il Rock Prod 36:32-5 F '33

Trends in machinery, equipment and supplies. Rock Prod 35:71-5 D 31 '32

**Power**

Low power costs from Diesel-electric plant; Hudson River stone corporation. O. J. de Gaetano. il diag Eng & Min J 134:11-13 Ja '33; Excerpt. Power 77:96 F '33

**ROCK wool.** See Mineral wool

**ROCKEFELLER, Percy**

Air reduction; why is it called Percy Rockefeller's rabbit? Fortune 8:24-9, 108+ J1 '33

**ROCKEFELLER Center.** See New York (city) —Rockefeller Center**ROCKEFELLER foundation**

Activities during 1932. Science 78:411-14 N 3 '33

**ROCKET propulsion**

Principles of rocket propulsion. H. Chatley. Roy Aeronautical Soc J 37:723-8 Ag '33

Rocket motors; abstract. Martell. Mech Eng 55:316-17 My '33

**ROCKETS**

Tilling rocket. diags Sci Am 148:106 F '33

**ROCKFORD, Illinois****Water supply**

Rockford water supply. D. W. Mead. Am Water Works Assn J 25:1140-51 Ag '33

**ROCKS**

Film method for studying textures. J. E. Appel. il Econ Geol 28:383-8 Je '33

Further notes on the Salisbury district of Connecticut. W. M. Agar. Am J Sci 5th ser 25:385-9 My '33

Insolation hypothesis of rock weathering. E. Blackwelder. Am J Sci 5th ser 26:97-113 [biblog p112-13] Ag '33; Discussion. 26:523-4, 607-8 N-D '33

Petrography of the fuller's earth deposits, Olmstead, Illinois, with a brief study of some non-Illinois earths. R. E. Grim. il diags Econ Geol 28:344-63 Je '33

Petrotectonics. E. B. Knopf. il diags Am J Sci 5th ser 25:433-70 Je '33

Some recent applications of physics to sedimentation problems. C. E. Van Orstrand. Nat Research Council Bul 89:105-21 [biblog p113-21] '32

Thin sections of weathered rocks. T. Clements. Eng & Min J 134:99 Mr '33

Thrusting younger rocks over older. M. Billings. diags Am J Sci 5th ser 25:140-65 [biblog p164-5] F '33

What is rock? F. L. Ransome. Econ Geol 28:502-5 Ag '33

See also

Concretions  
Continental shelf  
Crystallography

Geology

Geophysics

Granite

Limestone

Metamorphism

Mineralogy

Phosphate rock  
Quarries and quarrying

Schists

Shale

Slate

Soapstone

Stone, Crushed

**Analysis**

Direct fusion method for determining the radium content of rocks. R. D. Evans. diags R Sci Instr 4:223-30 Ap '33

Quantitative microscopic methods with an integrating stage applied to geological and metallurgical problems. F. E. Thackwell. il Econ Geol 28:178-82 Mr '33; Discussion. H. L. Alling. 28:695-6 N '33

**Bibliography**

Abstracts of literature on accessory minerals in sedimentary rocks as related to possible source crystalline rocks. A. C. Tester. Nat Research Council Bul 89:168-82 '32

**Classification and nomenclature**

Classification and nomenclature of rock units G. H. Ashley and others. Geol Soc Bul 44: 423-59 [biblog p448-53] Ap '33

Classification and terminology of the pyroclastic rocks. C. K. Wentworth and H. Williams. il Nat Research Council Bul 89: 19-53 '32

Fundamental limits to the sizes of clastic grains. C. K. Wentworth. Science 77:633-4 Je 30 '33

**ROCKS, Igneous**

Accessory minerals of crystalline rocks. A. N. Winchell and others. Nat Research Council Bul 89:142-50 '32

Danbury granodiorite gneiss of Connecticut. W. M. Agar. il map Am J Sci 5th ser 25:1-19 Ja '33

Hydrothermal metamorphism of an ultrabasic intrusive at Schuyler, Virginia. H. H. Hess. il diags Am J Sci 5th ser 26:377-408 O '33

Igneous rocks and the depths of the earth; R. A. Daly. rev ed 598p \$5 McGraw-Hill '33

Intrusive relationship of the granite to the rhyolite (porphyry) of southeastern Missouri. W. A. Tarr. il maps Geol Soc Bul 43:965-92 D '32

Petrography and petrology of the Mount Devon diabase porphyry. G. A. Muilenburg and S. S. Goldich. il Am J Sci 5th ser 26: 355-67 S '33

Sierra Nevada as a co-magmatic region. A. A. Fitch. Am J Sci 5th ser 24:481-95 [biblog p494-5] D '32

Structure, inclusions, and alteration of the Deer Creek intrusive, Wyoming. J. T. Rouse. il Am J Sci 5th ser 26:139-46 Ag '33

Trends of differentiation in basaltic magmas. W. Q. Kennedy. Am J Sci 5th ser 25:239-56 Mr '33

**ROCKS, Igneous—Continued**

Volcanic history of Glass mountain, northern California. C. A. Anderson. bibliog il maps Am J Sci 5th ser 26:485-506 N '33

See also

Gabbro Ore deposits  
Granite Pegmatite

**Bibliography**

Abstracts of literature on accessory minerals of igneous rocks. J. C. Reed. Nat Research Council Bul 89:151-68 '32

**ROCKVILLE CENTRE, New York****Sewerage**

Vacuum filtration of sewage at Rockville Centre, N. Y. W. G. Taylor. il Water Works & Sewerage 80:283-6 Ag '33

**ROCKY Mountain spotted fever**

Additional studies on the relationship of the viruses of Rocky Mountain spotted fever and Sao Paulo exanthematic typhus. G. E. Davis and R. R. Parker. bibliog Pub Health Rep 48:1006-11 Ag 13 '33

Further studies on the relationship of the viruses of Rocky Mountain spotted fever and Sao Paulo exanthematic typhus. R. R. Parker and G. E. Davis. Pub Health Rep 48:339-43 JI 21 '33

Investigation of sexual transmission in the wood tick *Dermacentor andersoni*. C. B. Philip and R. R. Parker. bibliog Pub Health Rep 48:266-72 Mr 17 '33

Nonmannitol-fermenting type of *S. enteritidis* producing clinical reactions similar to those of Rocky Mountain spotted fever virus. L. F. Badger. Pub Health Rep 48:677-80 Je 16 '33

Prevention of Rocky Mountain spotted fever. Pub Health Rep 48:471-3 My 5 '33

Protective value of convalescent sera of Sao Paulo exanthematic typhus against virus of Rocky Mountain spotted fever. R. R. Parker and G. E. Davis. bibliog Pub Health Rep 48:501-7 My 12 '33

Rabbit tick and Rocky Mountain spotted fever. R. R. Parker. Science 78:sup8-9 O 13 '33

Relationship between Rocky Mountain spotted fever and exanthematic typhus of Sao Paulo. R. E. Dyer. Pub Health Rep 48:521-2 My 19 '33

Rocky Mountain spotted fever and Boutonneuse fever. L. F. Badger. Pub Health Rep 48:507-11 My 12 '33

Rocky Mountain spotted fever (eastern type); virus recovered from the dog tick *Dermacentor variabilis* found in nature. L. F. Badger. Pub Health Rep 47:2365-9 D 30 '32

Rocky Mountain spotted fever; susceptibility of the dog and sheep to the virus. L. F. Badger. Pub Health Rep 48:791-5 JI 7 '33

**RODS****Manufacture**

New process for cold drawing of metals; Dudgele. C. L. Mantell. Iron Age 131:99+ Ja 12 '33

**ROLLER bearings**

Anti-friction bearings in railway service. J. R. Jackson. il Ry Age 95:30-1 JI 1 '33

Ball versus tapered roller bearings; abstract. J. E. Hamilton. Mech Eng 55:47-8 Ja '33

Bantam roller bearings. diag Automotive Ind 68:122 Ja 28 '33; Am Mach 77:97-8 F 1 '33

Bearings for rolling mill gear drives. F. Waldorf. il Blast F & Steel Pl 21:201-6+ Ap '33

Cageless roller bearings develop high carrying capacities. K. L. Herrmann. diags S-A E J 33:275-82; Discussion. P. E. Miquelon. 282 Ag '33

Handling plant transmission. il diags Mech Handling 20:170-2, 202-5 My-Je '33

Lubrication of anti-friction bearings. K. A. Newman. Power Pl Eng 37:129 Mr '33; Abstract. Mach 39:413 F '33

Rollenlager-walzgerüst für warm- und kalt-walzwerke. P. Terpe. il diags Stahl & Eisen 52:1288-90 D 29 '32

Roller bearings applied to trailer trucks. il Ry Mech Eng 107:224-5 Je '33

Roller bearings for new cold mill specially designed. il Steel 93:26 JI 10 '33

Roller bearings on driving journals show economies. H. E. Brunner and B. W. Taylor. il diags Ry Mech Eng 106:451-6 N '32; Same cond. Ry Age 93:421-5 S 24 '32

Schlittenführungen mit rollender reibung. E. Krabbe. il diags Zeit Ver Deutsch Ing 77:885 Ag 12 '33

Shafer single-row radial roller bearings. il Mach 39:295 D '32; Ry Mech Eng 107:85 Mr '33; Blast F & Steel Pl 21:169 Mr '33

Some economical aspects concerning the use of roller bearings in large electric machines; abstract. A. Palmgren. Engineering 136:268-9 S 8 '33

**Tables, calculations, etc.**

Heavy loads make accurate calculation of needle bearing capacities essential. diags Automotive Ind 68:641-3 My 27 '33

**ROLLER chains.** See Chain gear

**ROLLER skates**

Next: a craze in roller-skating! Forbes 31:8 Je 1 '33

Skates and bikes. Business Week p12-13 Je 17 '33

**ROLLERS**

Welding in the steel industry—construction of welded steel rollers. C. M. Taylor. il diags Iron Age 131:620-1 Ap 20 '33

**ROLLERS (earthwork)**

Marshall, sons and co. steam roller for consolidating reservoir embankments. il Engineer 156:42, 240-1 JI 14, S 8 '33; Engineering 136:10, 242 JI 7, S 8 '33

**ROLLERS, Printers'**

Rubber printing rollers. C. L. Travers. Rubber Age 33:15 Ap '33

**ROLLING (metal work)**

Analysis of factors influencing rolling pressure and power consumption in the hot rolling of steel. S. Ekelund. Steel 93:27-9 Ag 21; 44, 46 Ag 28; 38, 40-1 S 4; 32+ S 11; 29-32 S 18; 71-4 S 25; 45-6, 48 O 2 '33

Cold rolling of sheets and of tinplate. W. Trinks. diags Blast F & Steel Pl 21:315-20, 359-61 Je-JI '33

Comparison of sheet and strip steels for difficult stampings. E. S. Lawrence. Am Soc Steel Tr Trans 21:119-38 [bibliog p 136-8] F '33

Continuous inspection of sheet and strip metal; Pratt & Whitney electrolimit gage. il Iron Age 132:30 S 7 '33

Controlling operation of Steckel mills. F. Mohler. il diag Iron Age 130:756-7+ N 17 '32

Diescher process for producing seamless tubing. T. H. Gerken. il Iron Age 131:237-8 F 9 '33

Dynamische dehnungsmesser und oszillographen zur untersuchung des walzvorganges. H. Hoff and T. Dahl. il diags Stahl & Eisen 53:593-8; Discussion. 598-604 Je 8 '33

Effect of concavity of rolls on operation. D. T. Davies. il Blast F & Steel Pl 21:469-70 S '33

Der einfluss der reibung beim walzen von bandstahl. W. Lueg. diags Stahl & Eisen 53:812-13 Ag 3 '33

Evolution of the sheet steel industry. W. H. Melaney. Blast F & Steel Pl 21:28-31 Ja '33

Factors influencing the annealing of cold rolled strip steel. G. R. Brophy and L. L. Wyman. il Am Soc Steel Tr Trans 21:532-54; Discussion. 554-6 Je '33

Improves strip by cold rolling under tension. Steel 91:27 N 28 '32

Manufacture of steel sheets. J. Bryden. Blast F & Steel Pl 20:722+, 774-7+, 841-2+, 896-7+ S-D '32

Neuere entwicklung von rohrwalzverfahren. F. Kocks. il diags Stahl & Eisen 53:689-701 JI 6 '33

Oberflächenfehler auf walzgut. H. Cramer. il diags Stahl & Eisen 53:973-81; Discussion. 981-4 S 21 '33

Physical properties of zinc at various stages of cold rolling; abstracts and discussion. R. Chadwick. Engineer 155:267 Mr 17 '33; Engineering 135:326-7 Mr 24 '33; Metal Ind 31:126 Ap '33



**ROLLING (metal work)—Continued**

- Rolling merchant bars. W. Trinks. Blast F & Steel Pl 21:485, 535 S-O '33  
 Rolling mill power problems. S. Calander. Blast F & Steel Pl 21:470 S '33  
 Rolling stainless steel plate. L. M. Curtiss. il diags Metal Prog 24:27-30 Ag '33  
 Rolling tubes to various shapes. F. W. Shaw. il diags Am Mach 76:1167-8 N 23 '32  
 Single-stand continuous rolling of hot and cold strip. A. P. Steckel. Iron Age 131:779+ My 13 '33  
 Ein sonderverfahren zum auswalzen grosser nahtloser rohre. M. Roeckner. il diags Stahl & Eisen 53:1101-5 O 26 '33  
 Spannungsverteilung und werkstofffluss im walzspalt. W. Lueg. il diags Stahl & Eisen 53:346-52 Ap 6 '33  
 Vermeidung des klebens beim warmwalzen von feiblechen. J. Gergen. Stahl & Eisen 53:18-19 Ja 5 '33

**ROLLING mills**

- Automatic screw down control. il Iron Age 132:38+ O 19 '33  
 Brass rolling mill, 1932. W. J. Pettis. Metal Ind 31:11-12 Ja '33  
 Comparison of sheet and strip steels for difficult stampings. E. S. Lawrence. Am Soc Steel Tr Trans 21:119-38 [bibliog p 136-8] F '33  
 Decision defines license rights of United under Steckel patent. Iron Age 131:138 Ja 19 '33  
 Entwicklung der kaltwalzmaschinen. W. Fass. il diags Stahl & Eisen 52:1261-70 D 22 '32  
 Entwicklungslinien der walzenstrassen. J. Puppe. diags Stahl & Eisen 53:265-70, 300-5 Mr 16-23 '33  
 Manufacture of steel sheets. J. Bryden. il Blast F & Steel Pl 20:896-7+ D '32  
 Neuzeitliche trio-blockstrassen und ihre verwendungsmöglichkeit im vergleich zu duo-blockstrassen. E. Howahr. il diags Stahl & Eisen 53:137-44, 168-71 F 9-16 '33; Abstract. Génie Civil 103:162-4 Ag 12 '33; Discussion. Stahl & Eisen 53:171-2 F 16 '33  
 New cold mill facilitates planishing of wide sheets. diags Iron Age 132:25 Ag 10 '33; Steel 93:23-9 Jl 31 '33  
 Presidential address before Iron and steel institute. W. R. Lysaght. Iron & Steel Inst J 127:35-47, pl 1 no 1 '33  
 Räderwalzwerk neuer bauart. P. Hohnen. diags Stahl & Eisen 53:907-8 Ag 31 '33  
 Rolling merchant bars. W. Trinks. Blast F & Steel Pl 21:485, 535, 591 S-N '33  
 Seamless mill produces small-diameter tubing without reheating; Babcock & Wilcox tube co. J. D. Knox. il diags Steel 92:17-19 F 13 '33  
 Small hot-finished seamless tubing made in new mill; rolling mill advancement during the year. il Steel 92:38-9 Ja 2 '33  
 Tata sheet mills do well. Blast F & Steel Pl 21:375-6, 588 Jl, N '33  
 Die technische und betriebswirtschaftliche entwicklung des Mannesmannrohr-walzverfahrens. R. Mooshake; H. Hillmer. il diags Stahl & Eisen 53:465-88 My 11 '33  
 Trend of rolling mill design. E. L. Williams. il Blast F & Steel Pl 21:154-6 Mr '33  
 Tube-reducing or sinking mill; abstract. W. H. Engelbertz. Mech Eng 55:316 My '33  
 Using forged plate housings on 84-inch cold mill. H. G. Marsh. il diags Steel 92:23-5 Mr 13 '33; Abstract. Iron Age 132:14-15; Discussion. L. Jones. 15+ Jl 13 '33

*See also*

Steel works  
 Tubes, Steel—Manu-  
 facture

**Bearings**

- Bearings for rolling mill gear drives. F. Waldorf. il Blast F & Steel Pl 21:201-6+ Ap '33  
 Large mill bearing manufactured by Bantam ball bearing co. il Blast F & Steel Pl 21:380 Jl '33  
 Report of 3-year research comparing roll neck bearings. W. Trinks and J. H. Hitchcock. Steel 93:41 Jl 3 '33  
 Rollenlager-walzgerüst für warm- und kaltwalzwerke. P. Terpe. il diags Stahl & Eisen 52:1288-90 D 29 '32

Roller bearings for new cold mill specially designed. il Steel 93:26 Jl 10 '33

**Electric equipment**

- Accessories for automatic sheet catchers. W. B. Snyder. il Blast F & Steel Pl 21:602, 654 N-D '33  
 Betriebsverbesserungen durch einbau von schutzensteuerung an einer blockstrasse. S. Kreuzer. il diags Stahl & Eisen 53:379-81 Ap 13 '33  
 Conserving power by electric drag. A. L. Krause. il diags Blast F & Steel Pl 21:211-12 Ap '33  
 Controlling operation of Steckel mills. F. Mohler. il diags Iron Age 130:756-7+ N 17 '32  
 De-ion circuit breakers for steel-mill service. R. C. Dickinson. il diags Elec J 30:415-17 O '33  
 Developments in electrical equipment for steel mills in 1932. H. A. Winne. Blast F & Steel Pl 21:35-7 Ja '33  
 Developments in the electrical industry during 1932; steel mills. J. Liston. il Gen Elec R 36:29-30 Ja '33  
 Electrical developments during the past year. A. F. Kenyon. Blast F & Steel Pl 21:38-9 Ja '33  
 Electrical penetration; steel works developments at Motherwell. il Electrician 110:466 Ap 7 '33  
 Electricity in iron and steel production, 1932. bibliog Elec Eng 52:400-1 Je '33  
 Electrified steel mill; Dalzell steel and iron works. il Elec R (Lond) 112:559 Ap 21 '33  
 Epic story of the first big steel mill motors; beginning of the great Gary steel plant. J. W. Hammond. il Iron Age 132:8-11 Ag 24 '33  
 Exhibits of mill equipment interest iron and steel plant engineers. Steel 93:34-5 O 23 '33  
 Hot strip rolling mills; electrical operation of works at Riversdale, Ill. F. J. Taylor. il Electrician 110:707 Je 2 '33  
 Iron and steel electrical engineers trace trends of current mill practice at annual meeting. Iron Age 132:41-3 O 26 '33; Steel 93:32, 34-5 O 23; 28-9 O 30 '33  
 Short circuit opens knife switch. S. Ein. diags Elec W 101:233 F 18 '33  
 Silicon steel strip is annealed in continuous electric furnace; Republic steel corporation. A. N. Otis. il Steel 93:21-3 N 13 '33  
 Steel-mill electrical engineer. W. E. Miller. Elec J 30:421-2 O '33  
 Steel mills' toughest motor job; automatic sheet catchers. G. A. Caldwell. il diags Elec J 30:399-404 O '33  
 Synchronous motors in rolling mill service. S. P. Bordeaux and R. N. Early. bibliog Elec Eng 51:855-8 D '32  
 Tension reels for strip mills. F. Mohler. il diags Iron Age 132:18-22 O 5 '33  
 Untersuchungen über den pilgervorgang; die anwendung neuzeitlicher messverfahren bei walzwerksuntersuchungen. F. Kocks. diags Stahl & Eisen 53:441-6 My 4 '33

**Employees**

- Unprincipled mal-practice of metal rolling. A. L. Molineux. Metal Ind 31:271-2 Ag '33

*See also*

Steel workers

**Equipment**

- Application of gas to the tinplate and sheet industries. A. D. Howells. diags Gas J (Lond) 201:313-15; Discussion. 315-16 F 8 '33  
 Billet scale removed with relay-controlled spray. R. M. Bayle. il diags Elec W 101:723-4 Je 3 '33  
 Blocklager, ofenbeschickung und beförderung der gewärmten blöcke zu einer 575er trio-walzenstrasse. E. Kästel. il diags Stahl & Eisen 53:1003-4 S 28 '33  
 Continuous sheet production achieved by re-vamping hot mill at Republic plant; illustrations. Iron Age 130:916-17 D 15 '32  
 Cradle arrangement for backing-up rolls feature of sheet leveler. diags Steel 92:29 My 29 '33

**ROLLING mills—Equipment—Continued**

Design of merchant mill repeaters. H. F. McIntire. diag plan Blast F & Steel Pl 20:887-8+ D '32

Electrical strip—a new product; manufacturing process in Republic plant. F. L. Prentiss. il Iron Age 132:18-20 N 2 '33

Engineers inspect rolling mill nearing completion for the Gary works of the American sheet & tin plate co. Steel 92:32 My 29 '33  
Entwicklung der kantvorrichtungen im walzwerksbetrieb. J. Gassen. il diags Stahl & Eisen 53:953-6 S 14 '33

Fabricates large gear cases by arc welding; United engineering & foundry co. C. M. Taylor. il Steel 92:21-2 F 20 '33

Herringbone run-out table for sheet mills. il Iron Age 130:767 N 17 '32

Magnetic uncoiler for strip steel. il Iron Age 130:964 D 22 '32

Mechanisierte stabeisen- und drahtstrassen. B. Quast. il diags Stahl & Eisen 53:215-18 Mr 2 '33

Mill lift table. il Blast F & Steel Pl 21:62 Ja '33

Need for rehabilitating equipment will be greater in 1933. J. D. Knox. Steel 92:67-70 Ja 2 '33

Neuere entwicklung von rohrwalzverfahren. F. Kocks. il diags Stahl & Eisen 53:689-701 JI 6 '33; Abstract. Génie Civil 103:479-80 N 11 '33

Neuerungen an führungskasten für walzwerke. H. Cramer. il diags Stahl & Eisen 53:241-3 Mr 9 '33

New equipment, new processes, new products that sell; Inland Steel's new hot strip mill at Indiana Harbor, Ind. H. P. Dutton. il Factory Management 91:299-301 Ag '33

Pack and pair heating furnaces in connection with sheet and tin mills; abstract. R. J. Wean. Steel 93:28 O 30 '33

Properties of rolled plates improved by heat treating. Steel 92:33 Je 5 '33

Remodeled Tata sheet mills triple production. Iron Age 131:745+ My 11 '33; Same. Steel 92:28 My 8 '33

Rise Carr rolling mills. il plan Engineer 155: 652, 662 Je 30 '33

Rolling mill for light gage sheets. diag Blast F & Steel Pl 21:548 O '33

Sutton roll leveller. Blast F & Steel Pl 21:168 Mr '33

Transporting hot ingots at Cambria works. D. E. Renshaw. il Iron Age 130:992-3 D 29 '32

Trend of sheet mill mechanization. J. F. Miller. diags Iron Age 131:576-9 Ap 13 '33

12-ton roll-changing hook provides severe test of weld strength. il Steel 92:19-20 Ja 9 '33

Umbau einer ausländischen drahtstrasse. F. Braun. diags Stahl & Eisen 53:1094-6 O 19 '33

Welding in the steel industry—fabrication of steel mill machinery. C. M. Taylor. il diag Iron Age 131:1024-7 Je 29; 132:16-17+ JI 6; 24-5 Ag 3 '33

**Gearing**

Bearings for rolling mill gear drives. F. Waldorf. il Blast F & Steel Pl 21:201-6+ Ap '33  
Neue wege im bau von walzwerksgetrieben. il diag Stahl & Eisen 53:126-7 F 2 '33

**Layout**

Rise Carr rolling mills. il plan Engineer 155: 652, 662 Je 30 '33

**Lubrication**

Lubricating a 48-in., 3-high, universal mill; centralized system. L. H. Hein. il diags Blast F & Steel Pl 21:99-102 F '33

Modern lubrication on hot mills. R. M. Gordon. diag Blast F & Steel Pl 21:251-4 My '33

**Management**

Entwicklung des Mannesmannrohr-walzverfahrens; die betriebswirtschaftliche entwicklung. R. Mooshake and H. Hillmer. Stahl & Eisen 53:483-8 My 11 '33

New equipment, new processes, new products that sell; Inland Steel's new hot strip mill at Indiana Harbor, Ind. H. P. Dutton. il Factory Management 91:299-301 Ag '33

**Patents**

Four-high mill patent suit decided. Blast F & Steel Pl 21:109 F '33

**Power**

Rolling mill power problems. S. Calander. Blast F & Steel Pl 21:470 S '33

**Repair**

Welding in the steel industry. C. M. Taylor. il diags Iron Age 132:24-5 Ag 3 '33

**Safety devices and measures**

Killing electrical transmission lines. S. Einplan Power Pl Eng 37:463 N '33

**Tables, calculations, etc.**

Analysis of factors influencing rolling pressure and power consumption in the hot rolling of steel. S. Ekelund. Steel 93:27-9 Ag 21; 44, 46 Ag 28; 38, 40-1 S 4; 32+ S 11; 29-32 S 15; 71-4 S 25; 45-6, 48 O 2 '33  
Die kalibrierung der schrägwalzen für nahtlose rohre. F. Gorol. diags Stahl & Eisen 53:422-5 Ap 27 '33  
Schienenwalzung auf einem russischen hüttenwerk. F. Braun and H. Kettler. plan Stahl & Eisen 53:930-4 S 7 '33

**ROLLS**

How to obtain best results in roll-grinding. H. J. Wills. Mach 39:310-12, 374-6, 437-40, 505-7, 565-7 Ja-My '33

Rolls ground with a crown. A. L. Hartley. il Am Mach 77:233-40 Ap 12 '33

**ROLLS (bending machines)**

Giant bending roll aids construction at Hoover dam. il Am Mach 77:156-7 Mr 1 '33  
Huge bending roll shipped to Hoover dam. il Eng N 110:307-8 Mr 9 '33

**ROLLS (jewelers')**

How to obtain best results in roll-grinding. H. J. Wills. Mach 39:438 Mr '33

**ROLLS (paper machinery)**

Bruce, Peebles and company's pulp-beater rolls with internal electric drive. il Engineering 136:48 JI 14 '33

Modern trends in table roll construction. E. Peterson. il Paper Tr J 97:23-4 O 26 '33

Stiffness constants as an aid to matching press rolls. H. E. Wright. il Paper Tr J 96:42-4 F 2 '33

**Manufacture**

How to obtain best results in roll-grinding. H. J. Wills. Mach 39:439-40 Mr '33

Rubber and its use in pulp and paper mills. il Pulp & Pa of Can 34:611-14+ O '33

**ROLLS (rolling mills)**

Breakage of sheet and tin rolls. W. H. Melaney. il Blast F & Steel Pl 21:577-8+ N '33

Cause of roll breakage in tinplate and sheet mills. J. Williams. Blast F & Steel Pl 20: 907; 21:66 D '32-Ja '33

Effect of concavity of rolls on operation. D. T. Davies. il Blast F & Steel Pl 21:469-70 S '33

Electric furnace co. induction heater preheats sheet rolls electrically. A. G. Robiette. il Iron Age 131:782+ My 18 '33

Failure by fatigue. J. B. Kommers. Engineering 135:238-9 Mr 3 '33; Discussion. J. S. Caswell. 135:299 Mr 17 '33

Farrel-Birmingham 60-in. by 20-ft. heavy-duty roll grinder. il Am Mach 77:383 Je 7 '33; Iron Age 131:865 Je 1 '33

Rolls for finishing stainless strip steel require mirror surface. E. S. Heck. il Steel 93:25-7 JI 3 '33

Sheet and tinplate rolls. J. S. Caswell. il Blast F & Steel Pl 21:120, 172, 224, 276, 332, 384, 436, 496 F-S '33

**Manufacture**

Roll cambering devices. R. C. Lewis. il diags Iron Age 132:18-23 Ag 3 '33

Welded plate for furnace-work. G. B. Cramp. il Metal Prog 23:25 My '33

Welding in the steel industry—rational design as applied to mill housings. W. H. Warren. il diags Iron Age 131:464-5+ Mr 23 '33



**ROLLS (textile machinery)**

- Cork-covered rolls discussed by Eastern Carolina S.T.A. Textile World 83:921 My '33  
Heart-cam roll too often neglected on spoolers and twistlers. L. L. Kingsford. diags Textile World 83:574 Mr '33  
Selection and testing of rubber covered rolls for the textile industry. C. P. McHugh. Am Dyestuff Rep 22:188-93 Mr 13 '33

**ROLLS, Rubber**

- How to obtain best results in roll-grinding. H. J. Wills. Mach 39:505 Ap '33  
Modern trends in table roll construction. E. Peterson. il Paper Tr J 97:23-4 O 26 '33

**Manufacture**

- Rubber and its use in pulp and paper mills. il Pulp & Pa of Can 34:611-14+ O '33

**ROMAN Catholic church**

- Catholic church and social questions. J. A. Ryan. Ann Am Acad 165:48-56 Ja '33

**ROMAN coins.** See Coins, Roman**ROME, Italy**

- New Rome in an old setting. A. M. Hoffmann. il Comp Air M 38:4147-9 Je '33

**Forum Mussolini**

- Forum Mussolini, Roma. il plan Arch Forum 58:504-7 Je '33

**Lighting**

- Outdoor illumination in Rome. il Illum Engr 26:108 Ap '33

**ROMER, John Irving, 1869-1933**

- John Irving Romer, as former Printers' Ink men see him. Ptr Ink 164:45-6 Ag 31 '33  
John Irving Romer, as friends and admirers see him. Ptr Ink 164:59-63 Ag 24 '33  
Sketch. por Ptr Ink 164:3-4+ Ag 17 '33; Adv & Sell 21:20 Ag 17 '33; Ptr Ink Mo 27:15 S '33  
Truth in advertising. H. S. Houston. Ptr Ink 164:10 Ag 24 '33

**ROOF gardens****Lighting**

- Roof gardens; enterprise of the Brompton and Kensington E.S. co. il Electrician 111:115 JI 28 '33

**ROOFING**

- Cellacite roofing. Gas J (Lond) 202:163 Ap 19 '33  
Durability of prepared roll roofings. H. Giese, H. J. Barre and J. B. Davidson. il diags Iowa State College Eng Exp Sta Bul 109:1-59 '32  
Non-tearing roofing. il Am Bld 55:46 My '33  
Opportunity is knocking; selling sheet metal roofing. G. D. Myers. il Sheet Metal Worker 23:507-8 D '32  
Roofing paper industry in Canada. R. H. Coats and R. G. Lewis. Pulp & Pa of Can 34:596 O '33  
Service, not first cost, real measure of value. il Sheet Metal Worker 24:37 F '33  
Some pitfalls in supervision; roofing and sheet metal. W. F. Bartels. Architecture 67:102, 165-6, 223-4 F-Ap '33  
Why we have a composition roof on our house. il Sheet Metal Worker 24:79-80 Mr '33

**ROOFING, Bituminous****Testing**

- Apparatus and method for measuring the consistency of roofing putties and fibrous roof coatings. G. W. Clarvoe. il Am Soc T M Proc 32 pt 2:689-700; Discussion. 701-4 '32

**ROOFING, Copper**

- Copper sheet in new form; electro-sheet. il Sheet Metal Worker 24:5 Ja '33  
Expansion battens for copper deck. diags Sheet Metal Worker 23:475-6 N '32

**ROOFING, Steel**

- Catenary steel-plate roof for grain elevator at Albany, N.Y. il diags plans Eng N 111:137-40 Ag 3 '33  
Self-supporting arc-welded steel roof for grain elevators. il Engineering 135:22 Ja 6 '33; Elec Eng 52:35 Ja '33

- Self-supporting roofs; grain elevators. Albany, A. J. T. Eyles. il Elec R (Lond) 113:252 Ag 25 '33  
Self-supporting welded steel roof. il Engineer 154:518 N 18 '32; Sci Am 147:372-3 D '32

**ROOFS**

- Cast-iron plates form permanent plant roof. W. G. Nutzel. il diag Maintenance Eng 91:52 F '33  
Cast-iron roof plates. il Eng N 110:423 Mr 30 '33  
Catenary steel-plate roof for grain elevator at Albany, N. Y. il diags plans Eng N 111:137-40 Ag 3 '33  
Les charpentes en lamelles de bois; calcul des fatigues et essais de résistance. F. Crestin. il diags Génie Civil 102:461-6 My 20 '33  
Decaying roofs; construction modernized to eliminate dry rot. R. H. Guest. il Textile World 83:226-8 F 14 '33  
Design and construction of Lamella trussless roofs. il diags Can Eng 64:5-7 Ja 24 '33  
Development and use of roofing nails. A. J. Deniston, jr. il Sheet Metal Worker 24:187-8+ Je '33  
New materials and improved construction methods; lightweight roof and floor construction. A. L. Kocher and A. Frey. il diags Arch Rec 73:282-3 Ap '33  
Self-supporting arc-welded steel roof for grain elevators. il Engineering 135:22 Ja 6 '33; Elec Eng 52:35 Ja '33  
Self-supporting welded steel roof. il Engineer 154:518 N 18 '32; Sci Am 147:372-3 D '32  
Sloping vs. the flat roof. il Sheet Metal Worker 24:319-20 O '33  
Welded steel roof trusses economical. J. E. Webster. il diag Civil Eng 3:282 My '33

**See also**

Architecture  
Building  
Domes  
Eaves  
Flashing

Girders  
Mine roofs  
Roofing  
Skylights  
Strains and stresses

**ROOFS, Concrete**

- Essais de rupture d'une voûte mince conoïde en béton armé, aux ateliers de Fontenay-sous-Bois du chemin de fer Métropolitain de Paris. M. Fauconnier. il diags plan Génie Civil 102:533-8 Je 10 '33  
Opens new market for concrete roof tile. il Rock Prod 36:60 F '33

**ROOMS**

- Country house room by room; a check list with suggestions. F. A. Pawley. il Arch Forum 58:194-204 Mr '33

**See also**

Bedrooms  
Kitchens

**ROOSEVELT, Franklin Delano**

- Business looks at Roosevelt. por Business Week pl-2 Mr 1 '33  
Mr Roosevelt's economic platform. por Nation's Business 20:17+ D '32  
Month's big sales lesson. G. L. Sumner. Adv & Sell 20:16 Mr 30 '33  
President Roosevelt asks continued cooperation by the Chamber. Nation's Business 21:15 Je '33  
Recovery of business to take measure of Roosevelt regime. L. M. Lamm. por Steel 92:71-3+ Ja 2 '33  
Roosevelt talked business with me. M. Edwards. por Nation's Business 20:14-16+ D '32

**ROOT beer****Advertising**

- Hires plans year-round advertising. il Ptr Ink 164:72-3 Ag 3 '33

**ROPE**

- Destruction of mooring ropes by teredo; growth and habits in an unusual environment. W. R. Coe. Science 77:447-9 My 12 '33  
Rope; how to use and care for on shipboard. J. G. Bisset. il Marine R 63:22-3+ S '33

**See also**

Cables  
Wire rope

**ROPE**—*Continued***Testing**

Machine test on the durability of manila rope. N. C. Wiley. *il diags Am Soc T M Proc* 32 pt 2:705-21; Discussion. 722-4 '32

**ROPE drive**

Choosing the right drive; multiple V-rope and pivoted motor short center drives. W. Stanjar. *il Iron Age* 132:8-12 S 21 '33

**ROPER, Daniel Calhoun, 1867-**

Brings textile background to Commerce department. *por Textile World* 83:726 Ap '33  
Secretary of commerce of the United States. *por Explosives Eng* 11:292-3 O '33

**ROPEWAYS.** See Cableways**ROSENWALD, Lessing J.**

Lessing J. Rosenwald. G. H. Allen. *por Forbes* 32:11-12+ Ag 15 '33

**ROSENWALD museum.** See Museum of science and industry, Chicago**ROSIN**

Case for rosin-wax sizes. R. B. Ladoo. *Chem & Met Eng* 40:89-90 F '33

Contribution to the knowledge of rosin sizing. H. W. Bialkowski. *bibliog diag Paper Tr J* 97:29-46 S 28 '33

Factors affecting rate of vulcanization of chloroprene plastic polymers. E. R. Bridgewater and E. H. Krismann. *Ind & Eng Chem* 25:280-3 Mr '33

Frequency variation of the dielectric constant of dilute non-aqueous solutions. J. L. Oncley and J. W. Williams. *diags Phys R* 43:341-54 Mr 1 '33

Gewinnung definierter harzbestandteile. W. Nagel. *Angew Chemie* 46:576-7 S 9 '33

Paper-making raw materials, 1932; rosin and turpentine. E. I. Turner. *Paper Tr J* 96:35-6 Je 22 '33

Rosin consumers asked to state specifications. *Oil Paint & Drug Rep* 124:29 Ag 28 '33; Same. *Paper Tr J* 97:29 S 21 '33; Editorial comment. *Oil Paint & Drug Rep* 124:15 Ag 28 '33

**Standards**

Grading rosin by established standards. J. E. Lockwood. *Oil Paint & Drug Rep* 123:26 Ja 2 '33

**ROSIN acids**

Rosin acids. E. A. Georgi. *il J Chem Educ* 10:415-18 Jl '33

**ROSINDONE**

Studies on oxidation-reduction; aposafranines. R. D. Stiehler and W. M. Clark. *Am Chem Soc J* 55:4097-109 O '33

**ROSTONE.** See Stone, Artificial**ROTARY converters.** See Electric converters, Synchronous**ROTATION**

Rotatory motion with friction. R. C. Colwell and M. C. Holmes. *diags R Sci Instr* 4:88-9 F '33

See also

**Topics****ROTATION, Optical.** See Optical rotation**ROTATORY dispersion.** See Dispersion of rays**ROTENONE**

Commercial aspect and future possibilities of rotenone. R. W. Birdsall. *bibliog Ind & Eng Chem* 25:642-4 Je '33

Determination of the structure of rotenone. F. B. La Forge, H. L. Haller and L. E. Smith. *Chem R* 12:181-213 [bibliog p212-13] Ap '33

Establishment of priority in scientific discoveries. C. A. Browne. *Science* 76:454-6 N 18 '32

Experiments on the synthesis of rotenone and its derivatives; dehydrodihydrorotenone acid and tephrosic acid. A. Robertson. *Chem Soc J* p1163-5 S '33

Experiments on the synthesis of rotenone and its derivatives; the dehydrorotenone nucleus. A. Robertson. *Chem Soc J* p489-93 My '33

Occurrence of rotenone and related compounds in the roots of cracca virginiana. E. P. Clark. *Science* 77:311-12 Mr 24 '33  
Rotenone. R. C. Roark. *bibliog Ind & Eng Chem* 25:639-42 Je '33; Same. *Chem Age (Lond)* 28:568-9 Je 24 '33

Rotenone found in common American weed. *Ind & Eng Chem News ed* 11:16 Ja 20 '33; Same. *Sci Am* 148:231-2 Ap '33; Same cond. *Chemicals* 38:11 Ja 9 '33

Rotenone in a species of spatholobus. H. A. Jones. *Am Chem Soc J* 55:1737-8 Ap '33

Rotenone; note on the hydrogenation of rotenone. H. L. Haller and P. S. Schaffer. *Am Chem Soc J* 55:3494-5 Ag '33

Rotenone; preparation of dihydrorotenone. H. L. Haller and P. S. Schaffer. *Ind & Eng Chem* 25:983 S '33

Rotenone; synthesis of tetrahydrotubanol. H. L. Haller. *Am Chem Soc J* 54:4755 D '32

Rotenone; synthesis of the parent substances of some characteristic rotenone derivatives. F. B. LaForge. *Am Chem Soc J* 55:3040-8 Jl '33

Rotenone; the synthesis of tetrahydrotubanol and tetrahydrotubac acid. H. L. Haller. *Am Chem Soc J* 55:3032-5 Jl '33

Study of the toxicity of rotenone hydrochloride, acetylrotenone and rotenolone using the goldfish as the test animal. W. A. Gersdorff. *Am Chem Soc J* 55:1147-52 Mr '33

**Analysis**

Assay of plant material for its rotenone content. H. A. Jones. *bibliog Ind & Eng Chem Anal ed* 5:23-6 Ja 15 '33

Color test for rotenone. H. A. Jones and C. M. Smith. *Ind & Eng Chem Anal ed* 5:75-6 Ja 15 '33

**ROTOGRAVURE**

History of rotogravure. *Ptr Ink* 162:59 Mr 30 '33

Is there a trend toward color and rotogravure? tabulation of papers, groups, circulation, costs. *Sales Management* 33:158-60 Ag 15 '33

Taking the mystery out of rotogravure. *il Ptr Ink Mo* 26:53-68 Mr '33

**ROTOGRAVURE advertising association**

Annual meeting, 4th, New York. *Ptr Ink* 163:49 Je 29 '33

**ROTORS**

Drill jig used in balancing rotors. J. E. Fenno. *diag Mach* 39:335 Ja '33

Steel rotor stops breakdowns. G. H. Emerson. *diag Factory Management* 91:283-4 Jl '33

**ROTORS (electric machinery)**

Olsen style E-O static-dynamic balancing machine. *il Am Mach* 77:643 S 27 '33; *Mach* 40:161-2 N '33

Turbo-alternator development; abstract. E. Wilczek. *Electrician* 111:7 Jl 7 '33

**ROTORS (S-rotor)**

Wind-rotor experiments decidedly satisfactory. *il Elec W* 102:548 O 28 '33; *System* 62:501 N '33

**ROUMANIA.** See Rumania**ROUNDHOUSES**

Cincinnati terminal boilers roundhouse swap heat. *il plan Power* 77:186-8 Ap '33

See also

Locomotive shops  
Locomotive terminals  
Railroads—Shops

**Heating and ventilation**

Use of unit heaters in shops and engine-houses has advantages. *il Ry Age* 94:559-61 Ap 15 '33

**ROUTING systems**

Changes in plant layout for varying production; White motor company. R. A. Fintz. *il Am Mach* 77:430-3 Jl 5 '33

Eliminating red tape in controlling production; Michigan tool co. B. Finney. *il Iron Age* 131:424-5 Mr 16 '33

Modernizing a motor department; General electric co. works, Lynn, Mass. M. G. Godschall. *il plan Am Mach* 76:1195-9 D 7 '32



**ROUTING systems—Continued**

We give them what they want—but standardize just the same; oil gage procedure, AC spark plug company, Flint, Mich. M. Spear. *il* Factory Management 91:259-62 J1 '33

See also

Assembling methods  
Factory transportation

**ROW houses.** See Houses, Row

**ROYAL aeronautical society**

Sixty-eighth annual report of the council, 1932-33. Roy Aeronautical Soc J 37:291-306 Mr '33

Summary of the society's activities, December, 1931-December, 1932. Roy Aeronautical Soc J 36:1013-36 D '32

**ROYAL college of surgeons**

Buckston Browne surgical research farm

Opening. Science 78:117 Ag 11 '33

**ROYAL Dutch-Shell group**

Royal Dutch directors; portraits by Dr. Erich Salomon. Fortune 7:75-7 Mr '33

Royal Dutch reports for 1932. Econostat 1:11+ Je 17 '33

Royal Dutch-Shell accounts. Economist 116:1201-2 Je 3 '33

**ROYAL exchange assurance**

Annual general court, 213th, London. Economist 116:926 Ap 29 '33

**ROYAL institution**

Annual meeting, London, May 1. Science 77:576-7 Je 16 '33

Royal institution and Sir William Bragg. Science 77:484-5 My 19 '33

**ROYAL insurance company**

Annual general meeting, 88th, Liverpool, May 29. Economist 116:1209-10 Je 3 '33

**ROYAL mail steam packet company, London**

Royal mail case, C. Brooks, ed. 276p W. Hodge & co, ltd, Edinburgh '33

Royal Mail report for 1931. Economist 115:1152 D 17 '32

**ROYAL society of Edinburgh**

Elections. Science 78:380 O 27 '33

**ROYAL society of London**

Royal society's conversazione. *il* Engineer 155:528 My 26 '33; Engineering 135:566-8, 602-3 My 26-Je 2 '33; Electrician 110:671-2 My 26 '33; Elec R (Lond) 112:738 My 26 '33; Soc Chem Ind J (Chem & Ind) 52:455-6 My 26 '33

**ROYAL union life insurance company**

Active bidding for Royal Union Life. Ins Field (Life ed) 62:5+ S 1 '33

Bank Savings included in new merger plan. Ins Field (Life ed) 62:5-6+ J1 14 '33

Iowa commissioner cited before executive council. Nat Underw (Life ed) 37:4 J1 28; 3+ Ag 3 '33; Ins Field (Life ed) 62:6 J1 28; 5 Ag 4 '33; Weekly Underw 129:193 J1 29 '33; East Underw 34:1+ Ag 4 '33

Placed in receiver's hands. Nat Underw (Life ed) 37:6 Je 9; 2+ Je 30 '33

Receivers approve mutualization for Royal Union Life. Ins Field (Life ed) 62:5-6+ N 10 '33; East Underw 34:1+ N 10 '33; Weekly Underw 129:901+ N 11 '33

Receivership. Ins Field (Life ed) 62:6 Je 9; 5 Je 16; 5-6 Je 30; 5-6 J1 7 '33

**ROYALTIES**

Soviet pays royalties. Business Week p27 S 2 '33

**ROYCE, Sir Henry, 1863-1933**

Sketch. *por* Engineering 135:470-1 Ap 28 '33; Engineer 155:428 Ap 28 '33

**RUBBER**

Commercial uses of rubber, Thiokol and Duprene with oil and solvents; abstract. W. L. White. Rubber Age 33:69 My '33

Effect of temperature and frequency on the dielectric constant, power factor, and conductivity of compounds of purified rubber and sulphur. A. H. Scott, A. T. McPherson and H. L. Curtis. *diags* U S Bur Stand J Research 11:173-209 Ag '33

Fortschritte der gummi- und gummiwarenherstellung. Zeit Ver Deutsch Ing 77:25-6 Ja 7 '33

Gases from thermal decomposition of common combustible materials. J. C. Olsen, G. E. Ferguson and L. Scheflan. *il* Ind & Eng Chem 25:599-603 Je '33

Insulating tape production; rubber and rubberless types. F. A. Middleton. Elec R (Lond) 112:590-1 Ap 28 '33

Machining non-metallic materials. Am Mach 77:629 S 27 '33

Microporous rubber. H. Beckmann. India Rubber W 87:43-4 Ja '33

New packing rules for rubber in effect. Rubber Age 33:264 S '33; Same. India Rubber W 89:52 O '33

Oil-proof rubber. W. L. White. Chemicals 38:9 Ag 21 '33; Abstract. Mach 39:800 Ag '33

Oil-resisting rubber; abstract. E. Karsten. Mech Eng 55:632-3 O '33

Oil resisting rubber; physical and chemical means for affecting internal structure. W. J. S. Naunton, M. Jones and W. F. Smith. Chem Age (Lond) 29:372 O 21 '33

Pale-colored vulcanized rubber varnishes. Rubber Age 33:64 My '33

Performite, a new rubber insulation. Rubber Age 33:64 My '33

Photoelastic study of rubber. J Fr Inst 215:745-6 Je '33; Same. Rubber Age 33:106 Je '33

Physical structure of elastic colloids. W. F. Busse. J Phys Chem 36:2373-9 D '32

Rubber. W. A. Williams. 23p Institute of chemistry of Great Britain and Ireland, 30, Russell square, London, W.C.1. '33

Rubber and automobiles. C. Macbeth. 111p loose-leaf Rubber growers' assn, inc, London '33

Rubber and gutta percha. F. A. Middleton. Elec R (Lond) 111:774-5 N 25 '32

Rubber from the guayule shrub; abstract. J. H. Doering. Science 78:sup S 15 '33

Rubber greases. Rubber Age 32:135-6 N 25 '32

Rubber membrane for the telephone. Science 78:sup O 6 '33

Rubber tennis courts. Rubber Age 32:247 Ja 10 '33

Rubber under tension and its function as thread in a golf ball. I. T. Gorman. India Rubber W 88:25-6 My; 37-9 Je; 28-30+ J1; 31-2 Ag '33

Softened rubber. Plastic Prod 9:281 S '33

Use of rubber in the printing industry. G. L. Riddell. Rubber Age 32:245-7; Discussion. 247 Ja 10 '33

Vibration-absorbing materials. *il* Mach 40:99-100 O '33

See also

Dyes and dyeing—	Rubber plants and
Rubber	planting
Ebonite	Rubber thread
Gutta percha	Rubberized fabrics
Rubber factories	Shoes, Rubber
Rubber goods	Tires, Automobile
Rubber industry and	Tires, Rubber
trade	Vulcanization
Rubber latex	

**Aging**

Effect of accelerators and antioxidants on electrical characteristics and water absorption of vulcanized rubber insulation. J. H. Ingman, C. W. Scharf and R. L. Taylor. *il* diags Ind & Eng Chem 25:83-7 Ja '33

Effect of curing temperature on quality of vulcanized rubber. N. A. Shepard and J. N. Street. Ind & Eng Chem 24:574-9 My '32; Excerpts. India Rubber W 87:38 Mr '33

Mechanism of rubber aging. B. L. Johnson and F. K. Cameron. *il* Ind & Eng Chem 25:1151-2 O '33

**Analysis**

Determining dirt in crude rubber. A. V. Aphanassiev. India Rubber W 88:40 My '33

Microscopic examination of rubber and other solid technical products. F. H. Roninger, jr, bibliog *il* Ind & Eng Chem Anal ed 5:251-3 J1 15 '33

**RUBBER—Analysis—Continued**

Volumetric determination of free sulphur in rubber. J. A. Robertson and J. Young. Soc Chem Ind J 52:296T S 15 '33; Same. India Rubber W 89:40 D '33

**Bibliography**

Rubber bibliography. Published in monthly numbers of India rubber world

**Chemistry**

Accomplishments of the Perkin medalist, George Oenslager. H. L. Trumbull. Ind & Eng Chem 25:230-2 F '33; Same. Soc Chem Ind J (Chem & Ind) 52:95-8 F 3 '33; Excerpts. Oil Paint & Drug Rep 123:53 Ja 9 '33; India Rubber W 88:31-2+ Ap '33

A.C.S. rubber division meeting; abstracts of papers. Rubber Age 32:380-1 Mr '33; India Rubber W 88:39-40 Ap '33; Oil Paint & Drug Rep 123:40 My 22 '33

A.C.S. rubber division meeting; abstracts of papers. India Rubber W 88:43-4 S '33; Rubber Age 33:253-5 S '33

A.C.S. rubber division New York group meeting, Oct. 6. Il India Rubber W 89:39-40 N '33

Bentonite; application in water dispersions of rubber and in latex compounding. India Rubber W 87:37 Mr '33

Century of technical progress in the rubber industry. N. A. Shepard. bibliog Il Ind & Eng Chem 25:35-41 Ja '33

Latex; chemical revolution in rubber. W. J. Murphy. Il Chem Markets 31:513-17 D '32

Organic accelerators. G. Oenslager. Il Ind & Eng Chem 25:232-7 F '33; Same. Soc Chem Ind J (Chem & Ind) 52:91-5 F 3 '33; Excerpts. Oil Paint & Drug Rep 123:15+ Ja 9 '33

Preparation and crystallization of pure ether-soluble rubber hydrocarbon; composition, melting point, and optical properties. W. H. Smith, C. P. Saylor and H. J. Wing. bibliog diags pls U S Bur Stand J Research 10:479-92 Ap '33

Separation and identification of sol rubber hydrocarbons. T. Midgley, jr. and A. L. Henne. J Phys Chem 36:2880-4 D '32

**See also**

Vulcanization

**Chlorination**

Applications of chlorinated rubber; Tornosit and anti-corrosion paints. J. H. Frydlander. Chem Age (Lond) 28:352 Ap 22 '33

Chlorinated rubber. India Rubber W 87:46 F '33

Chlorinated rubber. diag India Rubber W 88:36 Ap '33

No illusions about chlorinated rubber. W. Krumhaar. Chem Age (Lond) 28:507-8 Je 3 '33

**Coloring**

See Dyes and dyeing—Rubber

**Curing**

New rubber curing process; addition of Ratnasara to latex. Chem Markets 32:336 Ap '33

**See also**

Vulcanization

**Dispersion**

Bardol; rubber softener. Rubber Age 32:244 Ja 10 '33

**Manufacture**

Century of technical progress in the rubber industry. N. A. Shepard. bibliog Il Ind & Eng Chem 25:35-41 Ja '33

Deodorization of vulcanized rubber. H. P. Stevens and E. J. Parry. India Rubber W 88:23-4 Ag '33

Dispersibility of gas black. R. P. Allen and F. K. Schoenfeld. bibliog Il Ind & Eng Chem 25:994-7, 1102-6 S-O '33

Effect of acicular zinc oxide on the physical properties of a rubber compound. M. K. Easley. Il Rubber Age 33:103-5 Je '33

Industrial uses of rubber latex. D. F. Twiss. Soc Chem Ind J (Chem & Ind) 52:410-16 My 12 '33; Excerpt (Chemical treatment of rubber latex). Chem Markets 33:133-5 Ag '33

Low sulfur compounding. A. A. Somerville and W. F. Russell. diags Ind & Eng Chem 25:449-55 Ap '33

Oil resisting rubber; physical and chemical means for affecting internal structure. W. J. S. Naunton, M. Jones and W. F. Smith. Chem Age (Lond) 29:372 O 21 '33

Plasticity control. F. A. Middleton. diag India Rubber W 88:29-30 My '33

Rubber industry now uses variety of petroleum naphthas as solvents. Oil & Gas J 31:88 Mr 30 '33

Slate flour in rubber mixings; abstract. J. R. Scott. India Rubber W 89:40 O '33

Some factors involved in the Banbury mixing of zinc oxide in rubber stocks. W. C. Mathews and G. S. Haslam. bibliog Il Rubber Age 32:206-10 D 25 '32

Toxic substances in the rubber industry. P. A. Davis. Rubber Age 33:63-4 My '33

Trend in rubber equipment development. I. T. Gurman. Il Rubber Age 33:201-4, 256-8 Ag-S '33

Zinc oxide in rubber. H. A. Depew. bibliog Il Ind & Eng Chem 25:370-4, 532-8 Ap-My '33

**See also**

Rubber factories

Rubber machinery

Rubber goods—Manu-  
facture

**Measurement**

Screw micrometer gages for rubber specimens. W. L. Holt. diags U S Bur Stand J Research 10:575-82 My '33

**Moisture content**

Effect of accelerators and antioxidants on electrical characteristics and water absorption of vulcanized rubber insulation. J. H. Ingmanson, C. W. Scharf and R. L. Taylor. Il diag Ind & Eng Chem 25:83-7 Ja '33

**Patents**

Coagulation of latex. J. Rossman. India Rubber W 88:31-2 Je; 33-5 Ag '33

Coloring rubber; review of United States patents. J. Rossman. India Rubber W 89:27-8 O; 27-8+ N; 35-7 D '33

Concentrating latex. J. Rossman. India Rubber W 87:28-30 F; 33-5 Mr '33

Digest of patents dealing with rubber and/or latex in road construction materials (excluding blocks). S. Morgan, comp. 58p Rubber growers assn. inc, London '33

Drying latex. J. Rossman. India Rubber W 88:31-3 S '33

Golf ball winding tape. diag India Rubber W 88:27 Jl '33

Patents and trade marks. Published in monthly numbers of India rubber world

Preservation of latex. J. Rossman. India Rubber W 88:33-5 Ap; 33-4 My '33

Recent rubber latex patents. F. Marchionna. Rubber Age 34:19-20, 73-5 O-N '33

Softened rubber. Rubber Age 33:206 Ag '33; Same. Plastic Prod 9:281 S '33

U.S. Rubber and Dunlop form pool to operate and hold latex patents. Rubber Age 32:163 D 10 '32

**Prices**

Market reviews. Published in monthly numbers of India rubber world

New York outside market-low and high spot rubber prices in cents per pound, 1926-1932. India Rubber W 87:66 F '33

New York rubber futures, 1932. Annalist 41:100 Ja 20 '33

**Testing**

Adequate specifications for rubber insulation. H. P. Seelye and E. W. Spring. Il Elec W 102:364-6 S 16 '33

Beständigkeit des hartgummis gegen aggressive flüssigkeiten. St. Reiner. Chemische Fabrik 6:375-6 S 6 '33

Chemistry of soft rubber vulcanization. B. S. Garvey, jr. and W. D. White. bibliog Ind & Eng Chem 25:1042-6 S '33

Effect of oils and chemicals on DuPrene compounds; comparison with rubber. O. M. Hayden and E. H. Krismann. Ind & Eng Chem 25:1219-23 N '33



**RUBBER—Testing—Continued**

Effect of temperature on tensile properties of vulcanized rubber. A. A. Somerville and W. F. Russell. bibliog il Ind & Eng Chem 25:1096-1101 O '33

Flexometer, an instrument for evaluating the flexural properties of cloth and similar materials. H. F. Schiefer. pl U S Bur Stand J Research 10:647-67 My '33

Hardness of rubber; a comparison of the Lhomme & Argy and of the Pusey & Jones durometers. P. Bultel. Pulp & Pa of Can 34:278 Ap '33

New machine for laboratory evaluation of fatigue of rubber compounds flexed under compression. L. V. Cooper. il diag Ind & Eng Chem Anal ed 5:350-1 S 15 '33

Rubber flexing machine. G. E. Hopkins. il India Rubber W 88:34+ S '33

Rubber under tension and its function as thread in a golf ball. T. Gurman. India Rubber W 88:28-30+ JI '33

T-50 test for state of cure. W. A. Gibbons, R. H. Gerke and H. C. Tingey. bibliog il Ind & Eng Chem Anal ed 5:279-83 JI 15 '33

**RUBBER, Artificial**

Acetylene polymers and their derivatives; 1-alkyl-2-chloro-1,3-butadienes and their polymers. R. A. Jacobson and W. H. Carothers. Am Chem Soc J 55:1624-7 Ap '33

Acetylene polymers and their derivatives; the polymerization of bromoprene. W. H. Carothers, J. E. Kirby and A. M. Collins. il Am Chem Soc J 55:789-95 F '33

Development of a new synthetic rubber. C. M. A. Stine. Soc Chem Ind J (Chem & Ind) 52:416-18 My 12 '33

Synthetic rubber superior to natural rubber for special purposes; abstract. E. R. Bridgewater. Science 78:sup9 S 15 '33

Use of thiokol for floating roofs of oil tanks. J. P. Bushnell. il Rubber Age 33:107-8 Je '33

**History**

Synthetic rubber. G. S. Whitby and M. Katz. il Ind & Eng Chem 25:1204-11 N '33 (to be cont)

**Testing**

Effect of oils and chemicals on DuPrene compounds; comparison with rubber. O. M. Hayden and E. H. Krismann. Ind & Eng Chem 25:1219-23 N '33

**RUBBER, Effect of temperature on**

Effect of temperature on tensile properties of vulcanized rubber. A. A. Somerville and W. F. Russell. bibliog il Ind & Eng Chem 25:1096-1101 O '33

**RUBBER, Electrodeposition of. See Electrodeposition of rubber****RUBBER, Sponge**

Rubber latex in industry. il Chem Age (Lond) 28:188-90 Mr 4 '33

**RUBBER coating**

Anode process for rubber articles and coatings. C. L. Beal. diags Ind & Eng Chem 25:609-13 Je '33; Excerpt. India Rubber W 88:37-8 Ag '33; Correction. Ind & Eng Chem 25:1274 N '33

Metall-gummierungen in technik und chemie. il Chemische Fabrik 6:sup 1 Je 7 '33

New method for controlling thickness of rubber coatings; Idrometer. O. P. Van Steewen. il diags Rubber Age 34:13-14 O '33

Rubber coatings for abrasion and corrosion resistance. L. Church. il Chem & Met Eng 40:467-9 S '33

Surrounding wires with rubber. il Sci Am 148:333-4 Je '33

Thickness measurements of calendered materials. R. W. Brown. il diag India Rubber W 89:35-7 N '33

**RUBBER cutters**

Bell and co. hydraulic raw rubber cutter, il Engineer 156:43 JI 14 '33

Farrel-Birmingham rubber bale cutter. il Rubber Age 33:113 Je '33

**RUBBER drying**

Drying latex. J. Rossman. India Rubber W 88:31-3 S '33

**RUBBER engines**

Wiegand's rubber heat engine installed in German museum of natural sciences. il Rubber Age 33:16 Ap '33; Can Chem & Met 17:74 Ap '33

**RUBBER exchange of New York**

Rubber exchange to merge with other New York commodity exchanges. Rubber Age 32:203-4 D 25 '32

**RUBBER factories**

Fifty years of service; history of Gutta percha and rubber ltd. il Can Min J 54:208-9 My '33  
Modern heat insulation. B. W. Wetherbee. il India Rubber W 89:25-6+ O; 33-4 N '33

**See also**

Rubber—Manufac-	Tire factories
ture	Tires, Automobile—
Rubber goods—Manu-	Manufacture
facture	

**Accidents**

Accidental injury rates in the rubber industry, 1931. India Rubber W 87:34 D '32

**Electric equipment**

Overload protection in mill line motors. A. S. Rufsvold. il Rubber Age 33:111-12 Je '33

**Employees**

Outbreak of dermatitis among workers in a rubber manufacturing plant. L. Schwartz and L. Tulipan. bibliog Pub Health Rep 48:809-14 JI 14 '33

Tire factories continue at full capacity; ten percent wage and salary increase made. Rubber Age 33:164 JI '33

**See also**

Tire factories—Em-  
ployees

**Equipment**

Description of new and improved rubber machinery and equipment. il Rubber Age 33:112-17, 158-61, 209-10, 259-60; 34:21-3 Je-O '33

Rubber machinery. il India Rubber W 88:25-9 Je; 31-4 JI; 25-7 Ag; 29-32 N '33

Trend in rubber equipment development. L. T. Gurman. il Rubber Age 33:201-4, 256-8 Ag-S '33

Why re-equip now? il Rubber Age 33:109 Je '33

**See also**

Rubber machinery

**Management**

Cutting costs by applying incentives in the production of mechanical rubber goods. E. F. Thayer. India Rubber W 87:27-8 Mr '33

Cutting production costs; applying incentives in representative departments and processes of a reclaiming plant. E. F. Thayer. India Rubber W 87:40-1 Ja; 31-2 F '33

Functioning of specifications. India Rubber W 87:37 D '32

Lubrication bills too high? Goodrich engineers cut theirs 67%. J. W. Shaver. il Factory Management 91:82-4 Mr '33

Management problems in a small rubber company; Van Cleef bros, Chicago. N. Van Cleef. Rubber Age 32:317-18 F '33

**Power**

Pioneer's vision realized; first complete electrification of entire industrial plant; Goodrich plant. N. S. Braden. il Elec J 30:410-12 O '33

**Safety devices and measures**

Accident reduction effected by Goodyear tire & rubber company. il Safety Eng 65:57 F '33  
Court of inquiry; safety playlet. il Rubber Age 32:322-4 F '33

Safety device to interlock vulcanizer door. diags India Rubber W 88:37 S '33

**Waste**

Molded goods scrap; method of reducing cured scrap percentages. E. F. Thayer. India Rubber W 88:28 Ag '33

**RUBBER gloves.** See Gloves, Rubber

**RUBBER goods**

Ebonite; the nature and properties of an important electrical material. F. A. Middleton. *il Elec R (Lond)* 112:77-8 Ja 20 '33

Hard rubber vs. synthetic resins. Chem Markets 32:236 Mr '33; Same. *India Rubber W* 87:37 Mr '33; Same. *Plastic Prod* 9:25 Mr '33

Highway safety and rubber; rubber traffic markers. *il India Rubber W* 87:29-30+ Mr '33

How molded hard rubber compares with synthetic resins. C. P. Morgan. *India Rubber W* 88:39-40 Jl '33

Latex dipped goods. J. Edwardes. *il India Rubber W* 87:37-8 Ja '33

New plastic from rubber; Goodyear's Plioform. *il Plastic Prod* 9:18 Mr '33

New rubber bathing suits. *il Rubber Age* 33:13-14 Ap '33

Open letter on ravishing rubber bathing suits. *il India Rubber W* 88:31-2 My '33

Plioform; further details. *il Rubber Age* 33:20 Ap '33

Rubber dishes; Plioform. *il Rubber Age* 32:340 F '33; *India Rubber W* 87:41 Mr '33; *Sci Am* 148:292 My '33

Scherzo in rubber; photographs by Arthur Gerlach. *Fortune* 8:40-1 O '33

X-ray equipment; protective aprons, gauntlets and fluoroscopic chairs. *il India Rubber W* 88:45 Je '33

**See also**

Fruit jar rings

Gloves, Rubber

Golf balls

Heels, Rubber

Hose

Rubberized fabrics

Shoes, Rubber

Tires, Automobile

Tires, Rubber

**Manufacture**

Anode process for rubber articles and coatings. C. L. Beal. *diags Ind & Eng Chem* 25:609-13 Je '33; Excerpt. *India Rubber W* 88:37-8 Ag '33; Correction. *Ind & Eng Chem* 25:1274 N '33

Electricity for curing is now used successfully. H. O. West. *il Rubber Age* 32:169-70 D 10 '32

Helpful hints for efficient inspection. *diags India Rubber W* 89:35-6 O '33

Industrial uses of rubber latex. D. F. Twiss. *Soc Chem Ind J (Chem & Ind)* 52:410-16 My 12 '33

Lacquer and its uses. E. M. Hayden. *Am Dyestuff Rep* 22:365-8 Je 5 '33; Same abr. *Plastic Prod* 9:191-2 Jl '33

Molded goods scrap; method of reducing cured scrap percentages. E. F. Thayer. *India Rubber W* 88:28 Ag '33

New latex development; process for the manufacture of rubber gloves, balloons, and similar rubber products. E. A. Hauser. *India Rubber W* 87:34-6 Ja '33

Odorants in rubber. M. A. Foley. *India Rubber W* 88:30+ Je '33

Technique of ebonite manufacture. F. A. Middleton. *Elec R (Lond)* 113:311 S 8 '33

Trends in rubber goods manufacturing. F. J. Maywald. *Rubber Age* 33:110 Je '33

Tubing machine versatility. W. Norris. *diags India Rubber W* 87:25-6 Mr '33

**Specifications**

Functioning of specifications. *India Rubber W* 87:37 D '32

**Transportation**

Study shows rubber traffic deserting rails. *Ry Age* 94:24 Ja 7 '33

**RUBBER goods, Mechanical**

Brewers' rubber goods. W. Norris. *il India Rubber W* 87:31-3 Ja '33

Description of Autotram rail car. *il Rubber Age* 32:374+ Mr '33

Goodyear rubber covered valves. *il Rubber Age* 33:73 My '33

Gummi in rädern für schienenfahrzeuge. P. Kremer and G. Reutlinger. *il diag Zeit Ver Deutsch Ing* 77:955-8 S 2 '33

Hard rubber equipment for the paper industry. C. K. McLeod. *il Pulp & Pa of Can* 34:617-19 O '33

New car with resilient wheels. C. F. Hirshfeld. *il diags Elec Traction* 29:321-5+ O '33

Other rubber-cushioned wheels undergo tests. *diag Transit J* 77:154 My '33

Railway rubber goods. W. Norris. *il India Rubber W* 88:27-8 My; 33-4 Je '33

Re-inforced Dexonite. Chem Age (Lond) 29:174 Ag 19 '33

Rubber and its use in pulp and paper mills. *il Pulp & Pa of Can* 34:611-14+ O '33

Rubber belting a boon to industry. H. B. O'Neill. *il Pulp & Pa of Can* 34:615-16 O '33

Rubber conveyor belts in mines; improvements in manufacture and operation. J. Cunningham. *Mech Handling* 20:55-6 F '33

Rubber in many forms plays an important part in every department of petroleum industry. L. G. E. Bignell. *Oil & Gas J* 32:16+ O 5 '33

Rubber joints in gas mains. *il Gas J (Lond)* 201:809-10 Mr 29 '33; Abstract. *Am Gas J* 139:32+ S '33

Rubber matrix material. *India Rubber W* 88:35 Ag '33

Rubber printing plates. *il India Rubber W* 88:29-30+ S '33

Rubber printing rollers. C. L. Travers. *Rubber Age* 33:15 Ap '33

Selection and testing of rubber covered rolls for the textile industry. C. P. McHugh. *Am Dyestuff Rep* 22:188-93 Mr 13 '33

Silenced trolley cars; scientific application of rubber suspensions. *India Rubber W* 89:25-6 N '33

Use of rubber in Autotram cushion wheel. C. W. Bedford. *il diag Rubber Age* 32:372-3 Mr '33; Abstract. *Mach* 39:596 My '33

Use of rubber in the printing industry. G. L. Riddell. *Rubber Age* 32:245-7; Discussion. 247 Ja 10 '33

**See also**

Rubber lining

Shock absorbers

**Manufacture**

Cutting costs by applying incentives in the production of mechanical rubber goods. E. F. Thayer. *India Rubber W* 87:27-8 Mr '33

**Specifications**

A.S.T.M. approves changes in rubber specifications and accepts new method of test. *Rubber Age* 34:23 O '33

**RUBBER heels.** See Heels, Rubber

**RUBBER industry and trade**

Crude rubber in review, 1932. C. C. Johnston. *Rubber Age* 32:241 Ja 10 '33

Filling in the blind spots in the rubber industry's statistical background; government services. E. G. Holt. *Rubber Age* 32:283-4 Ja 25 '33

Is rubber restriction in the offing? J. P. Bushnell. *Rubber Age* 33:247-8 S '33

Outlook for rubber; competition of native rubber must be met by decreased production cost on plantations. E. Miller. *Rubber Age* 32:371 Mr '33

Rubber; a raw material essential to our industries. Index 12:223-5, 228-30 N '32

Rubber; an uncontrolled raw material correcting its own excess of supply. C. C. Johnston. *Annalist* 41:296+ F 24 '33

Rubber situation. *Economist* 117:659-60 O 7 '33

Rubber trade outlook for 1933. E. G. Holt. *Rubber Age* 33:57-9+ My '33

Trends in rubber production. E. G. Holt. *Rubber Age* 32:131-2 N 25 '32

**See also**

Dunlop rubber com-

pany

Firestone tire and

rubber company

Goodrich, B.F., com-

pany

Goodyear tire and

rubber company

United States rubber

company

**Advertising**

Chasing the chiseler; Goodrich policy advertising. A. Bradbury. *il Ptr Ink* 162:3-4 Mr 16 '33

**Exhibits**

Making tires at World's fair; Firestone exhibit. *il Rubber Age* 33:207-8 Ar '33

New York rubber group holds exhibit of new rubber products. *il Rubber Age* 34:27-8 O '33



**RUBBER industry and trade—Continued****Securities**

Tire companies, 1930-1932. Mag of Wall St Manual p41 Mr 6 '33

**Statistics**

Automobile and rubber statistics. Published in monthly numbers of Survey of current business

1932 survey; United States consumption of crude and reclaimed rubber. India Rubber W 88:35-6 Je '33

Rubber in 1932. Economist 116:132-3 Ja 21 '33

Rubber industry. Bradstreet's 61:181 Ja 28 '33

Rubber, 1932. Economist 116:sup41 F 18 '33

Rubber transactions increased. C. Slaughter. Comm & Fin 22:31 Ja 11 '33

**Canada**

Position of the rubber industry. F. A. Warren. Can Chem & Met 17:16 Ja '33; Same cond. Rubber Age 32:328 F '33

**Dutch East Indies**

Export crops, 1931. India Rubber W 87:58 D '32

Remilling native rubber. India Rubber W 88:51 Ap '33

**Europe**

Rubber industry in Europe. Published in monthly numbers of India rubber world

**Far East**

Rubber industry in Far East. Published in monthly numbers of India rubber world

**Germany**

1932 tire industry. India Rubber W 89:49 N '33

**Great Britain**

India tyre reconstruction. Economist 117:681 O 7 '33

Market for rubber goods in the United Kingdom. Rubber Age 32:212 D 25 '32

**Russia**

Rubber in soviet Russia. R. E. Spicer. il India Rubber W 87:39+ Ja '33

**United States**

Activity broadening in rubber goods industry. Dun & Bradstreet 41:10-12 S '33

Akron and NRA; drop in tire demand accounts for layoffs. Business Week p12 S 23 '33

Census of manufactures, 1931; rubber goods other than tires, inner tubes, and boots and shoes. Rubber Age 32:132 N 25 '32

Combined losses of Goodyear, Goodrich and U.S. rubber co. amount to \$17,790,908. Rubber Age 32:383+ Mr '33

Foreign tariff walls against American rubber goods. J. P. Bushnell. Rubber Age 33:11-12, 60+ Ap-May '33

Heavy stocks handicap the rubber industry. Dun & Bradstreet 41:34-6 Ap '33

Industrial snapshots. J. Backman and A. L. Jackson. Barron's 13:7 O 2 '33

Profits in inventory appreciation. India Rubber W 89:36 O '33

Rubber. Bradstreet's 60:1557+, 1703; 61:388 N 26, D 24 '32, F 25 '33

Rubber industry. P. J. Engel. Bradstreet's 61:179-80 Ja 28 '33

Rubber industry codes. India Rubber W 89:45 N '33

Rubber industry in America. Published in monthly numbers of India rubber world

Rubber industry speeds up production to care for increasing trade demands. Rubber Age 33:68 My '33

60,000,000 tires will be needed in 1933. W. O'Neil. Rubber Age 32:248 Ja 10 '33; Same. India Rubber W 87:36 Ja '33

U. S. crude and waste rubber imports for 1932; tabulation. India Rubber W 87:58 F '33

**RUBBER latex**

Coagulation of latex. J. Rossman. India Rubber W 88:31-2 Je; 33-5 Ag '33

Compounding latex paints. India Rubber W 88:40 My '33

Concentrating latex. J. Rossman. India Rubber

W 87:28-30 F; 33-5 Mr '33

Difficulties with latex. F. H. Cotton. India

Rubber W 87:31-2 Mr '33

Drying latex. J. Rossman. India Rubber W

88:31-3 S '33

Dyes for rubber latex. K. Pfister. Oil Paint

& Drug Rep 123:26 Ap 10 '33

Impregnation of textiles with latex. W. J. R.

Hauser. il Rubber Age 32:242-4 Ja 10 '33;

Excerpts. Am Dyestuff Rep 22:119-20 F 13

'33; Abstract. Textile World 83:587 Mr '33;

Discussion. Am Dyestuff-Rep 22:120-8 F 13

'33

Industrial uses of rubber latex. D. F. Twiss.

Soc Chem Ind J (Chem & Ind) 52:410-16 My

12 '33; Excerpt (Chemical treatment of rubber latex). Chem Markets 33:133-5 Ag '33

Latex—a short review. J. McGavack. Rubber

Age 33:106 Je '33

Latex and its industrial applications. F.

Marchionna. 1061p \$15 Rubber Age, 250 W

57th St, New York '33

Latex and textiles; serum; adhesion: anti-

oxidants. Textile Col 55:774-5 N '33

Latex as a bonding agent. W. H. Stevens.

India Rubber W 88:28+ Ap '33

Latex; chemical revolution in rubber. W. J.

Murphy. il Chem Markets 31:513-17 D '32

Latex compounding apparatus. diags India

Rubber W 88:37 My '33

Latex dipped footwear. India Rubber W 87:44

F '33

Latex dipped goods. J. Edwardes. il India

Rubber W 87:37-8 Ja '33

Latex; its preparation, problems and possi-

bilities. W. H. Birchard. Can Chem & Met

17:45-7 Mr '33

Latex process. India Rubber W 88:54 S '33

Latex processing; preparation of vulcanized

latex. India Rubber W 88:36 Je '33

Modifying the properties of textile materials

by treatment with rubber. A. J. Hall. Tex-

tile Col 55:187 Mr '33

Moulded goods from latex. Chem Age (Lond)

28:265 Mr 25 '33

New latex development; process for the man-

ufacture of rubber gloves, balloons, and sim-

ilar rubber products. E. A. Hauser. India

Rubber W 87:34-6 Ja '33

Preparation of vulcanizable latex. Rubber

Age 33:66 My '33

Preservation of latex. J. Rossman. India Rub-

ber W 88:33-5 Ap; 33-4 My '33

Recent rubber latex patents. F. Marchionna.

Rubber Age 34:19-20, 73-5 O-N '33

Rubber latex. Engineering 136:153-4 Ag 11

'33

Rubber latex. H. P. Stevens and W. H.

Stevens. 155p [bibliog p144-7] [patents p81-

143] Rubber growers' assn, inc, London '33

Rubber latex in industry. il Chem Age (Lond)

28:188-90 Mr 4 '33

Rubber thread; extruded latex thread com-

pared with cut thread. E. A. Murphy. il

diag India Rubber W 88:25-7+ Ap '33

Treating latex. diag India Rubber W 87:27

F '33

Trend of latex equipment development. G. D.

Kratz. il Rubber Age 33:157-8 Jl '33

Use of latex in the beater. A. R. Melker.

Paper Tr J 96:23 Ap 13 '33

**RUBBER lining**

Recent practical adaptations of rubber lining

for high temperature service. H. E. Fritz.

diags Chem Markets 33:236-7 S '33

Rubber in the chemical trade; its substitution

for lead; abstract. N. Swindin. Chem Age

(Lond) 28:14 Ja 7 '33

Rubber linings for rotary grinding mills. W.

E. Bennett. il diags Min & Met 14:399-400

S '33

Use of ebonite in chemical works. Chem Age

(Lond) 28:266 Mr 25 '33

Vibration-absorbing materials; Triflex. il

Mach 40:100 O '33

Vulcalock rubber-lined valve resists corrosion

and abrasion. diag Gas Age 71:456 Ap 29

'33; Ry Mech Eng 107:302-3 Ag '33

**RUBBER machinery**

Description of new and improved rubber

machinery and equipment. il Rubber Age

33:112-17, 158-61, 209-10, 259-60; 34:21-3 Je-O

'33

**RUBBER machinery—Continued**

- Improved dipping machines. diags India Rubber W 88:40 S '33  
 Latex compounding apparatus. diags India Rubber W 88:37 My '33  
 Latex rubber thread making. diag India Rubber W 88:24 Ag '33  
 New machines and appliances. Published in monthly numbers of India rubber world  
 Rubber machinery. il India Rubber W 88:25-9 Je; 31-4 Jl; 25-7 Ag; 29-32 N '33  
 Sebastian rubber-roll grinding machine. il Mach 40:52 S '33  
 Trend of latex equipment development. G. D. Kratz. il Rubber Age 33:157-8 Jl '33

**RUBBER models.** See Models, Rubber**RUBBER patents.** See Rubber—Patents**RUBBER plantations investment trust**

- Ordinary meeting, 24th, London, May 11. Economist 116:1032, 1042 My 13 '33

**RUBBER plants and planting**

- Bud grafting heveas; producing pure strain seed from superior trees. il India Rubber W 88:29-30 Ap '33  
 Future rubber planting; editorial. India Rubber W 87:36 Mr '33  
 Planting statistics of the Far East. India Rubber W 88:52 Ap '33  
 Rejuvenating old trees. India Rubber W 88:51 Ap '33

**RUBBER research**

- Development of a new synthetic rubber. C. M. A. Stine. Soc Chem Ind J (Chem & Ind) 52:416-18 My 12 '33  
 Research on rubber at Bureau of standards; how it can be continued. L. J. Briggs. Rubber Age 33:205-6 Ag '33  
 Versuche mit rohgummi als baustoff. A. Frank. Zeit Ver Deutsch Ing 77:400 Ap 15 '33

**RUBBER rolls.** See Rolls, Rubber**RUBBER shoes.** See Shoes, Rubber**RUBBER sponges**

- French rubber sponges. India Rubber W 87:53 Mr '33

**RUBBER stamps**

- Rubber stamp; a chemistry project. H. R. Williams. il diags J Chem Educ 10:278-82 My '33

**RUBBER technologists**

- American rubber technologists; biographical data. India Rubber W 87:48 Ja; 40 F '33

**RUBBER thread**

- Apparatus for all rubber latex thread. diag India Rubber W 88:36 Je '33  
 Covered rubber threads. G. Rice. il India Rubber W 88:38 S '33  
 Golf ball winding tape. diag India Rubber W 88:27 Jl '33  
 Latex rubber thread making. diag India Rubber W 88:24 Ag '33  
 Method of calculating the size of square rubber thread. W. Bertram. il Mellian 5: 196-7 O '33  
 Properties of rubber threads used in textiles. W. Davis. pls Textile Inst J 24:T44-53 Ja '33  
 Rubber thread; extruded latex thread compared with cut thread. E. A. Murphy. il diag India Rubber W 88:25-7+ Ap '33  
 Rubber under tension and its function as thread in a golf ball. I. T. Gurman. India Rubber W 88:25-6 My; 37-9 Je; 28-30+ Jl; 31-2 Ag '33

**RUBBER tires.** See Tires, Rubber**RUBBER toys**

- Rubber playthings. il India Rubber W 89:29-30 O '33  
 Rubber, the life of the party, in the guise of amusing novelties. il India Rubber W 88:39 S '33

**RUBBER waste**

- Ground vulcanized scrap molding. India Rubber W 87:46 F '33  
 Soles and heels from scrap rubber. il India Rubber W 89:33-4 O '33

**RUBBER workers**

- Indian labour in Ceylon; the effects of the economic crisis. Int Labour R 28:62-73 Jl '33

*See also*

- Rubber factories— Employees      Tire factories—Employees

**RUBBER yarn**

- Rubber textiles take on a new form and offer new possibilities; Lastex. il Textile World 83:50-1 Ja '33; Same. India Rubber W 87:23-4 F '33

**RUBBERIZED fabrics**

- Comparison of methods for the determination of small amounts of copper in textiles. W. M. Scott. bibliog Am Dyestuff Rep 22:605-10 O 9 '33  
 Contribution to the problem of impregnating fabrics with rubber; abstract. E. A. Hauser and H. Huenemoeder. Soc Dyers & Col J 49:270 Ag '33  
 Embossing fabrics; relief ornamentation of rubber fabrics. W. Norris. il India Rubber W 88:25-7 Jl '33  
 Impregnation of textiles with latex. W. J. R. Hauser. il Rubber Age 32:242-4 Ja 10 '33; Excerpts. Am Dyestuff Rep 22:119-20 F '33 '33; Abstract. Textile World 83:587 Mr '33; Discussion. Am Dyestuff Rep 22:120-3 F '33  
 Latex and textiles; serum; adhesion: anti-oxidants. Textile Col 55:774-5 N '33  
 New method for controlling thickness of rubber coatings; Idometer. O. P. Van Steewen. il diags Rubber Age 34:13-14 O '33  
 Problems of the proofing industry. S. G. Byam. Am Dyestuff Rep 22:358-61 Je 5 '33; Abstract. India Rubber W 88:39 My '33; Discussion. Am Dyestuff Rep 22:361-2 Je 5 '33  
 Public is ready for better smelling rubber raincoats. D. A. Laird. il Rubber Age 33: 153-4+ Jl '33  
 Rainspotting of rayon fabrics. Mellian 5: 117+ Je-Jl '33  
 Rubberized suede cloth. S. G. Byam. il Rubber Age 32:133-4 N 25 '32  
 Some notes on rubberizing textiles. Textile Col 55:270-1 Ap '33  
*See also*  
 Carpets, Rubber-backed  
 Elastic fabrics
- RUBERYTHRIC acid**  
 Natural glycosides; ruberythric acid. E. T. Jones and A. Robertson. Chem Soc J p1167-9 S '33
- RUBIDIUM**  
 Fortschritte 1930-1932 auf dem gebiete der freien alkalimetalle. H. Alterthum and R. Rompe. bibliog Angew Chemie 46:547-3 Ag 26 '33  
 Phasentheoretisch interessante wässrige selzsysteme; die gewinnung des rubidiums aus carnallit. J. D'Ans. Angew Chemie 46:491-3 Jl 22 '33
- RUBIDIUM iodides**  
 Solid polyiodides of the alkali metals. N. S. Grace. bibliog J Phys Chem 37:347-60 Mr '33
- RUBY glass.** See Glass, Colored
- RUDDERS**  
 By stream lining rudders speed of motorship Empire State is increased. Marine R 63:31 Je '33  
 Edo automatic water rudders. diags Aviation Eng 8:24 Ja '33  
*See also*  
 Airplanes—Rudders
- RUGS**  
 Building promotion ideas for department stores; Bigelow-Sanford rugs. Ptr Ink 163: 64-6 Je 8 '33  
 Carpet industry to put quality label into effect. il Ptr Ink 161:68 D 29 '32  
 Pattern inspiration found in weave structure. il Textile World 83:1432-3 Ag '33  
 These rug displays make retail salesman's job easier. il Ptr Ink 164:84-5 Jl 27 '33



## RUGS—Continued

## Advertising

Dealer catalog is kept up to the minute; new designs, on gummed paper, and semi-annual supplement; Mohawk rugs. *il* *Ptr Ink* 163: 52-3 *Je* 15 '33  
Twin mats for dealer advertising; 50-50 cooperative plan for Argonne rug. *il* *Ptr Ink* 164:76-7 *S* 28 '33

## Manufacture

Sheep and Shuttleworths, whose corporate expression is the Mohawk carpet mills, inc. *il* *Fortune* 7:42-8, 76, 78, 80-1 *Ja* '33

## Testing

Comparison of value in soft floor coverings. A. G. Ashcroft. *il* *Melliand* 4:447-9, 511-13, 573-5, 632-4, 678-80, 721-4 *O* '32-Mr '33  
Special testing machines aid research at Bigelow-Sanford carpet co. *il* *Textile World* 83: 1266 *Jl* '33

## RUHR river

Clarifying the Ruhr for public consumption. *Pub Works* 64:32 *Ja* '33

## RULE of the road

Bad road manners materially reduce efficiency of highways. M. McClintock. *Roads & Sts* 75:500 *D* '32

## RUMANIA

## See also

Gold mines and min- Petroleum industry  
ing—Rumania and trade—Rumania  
Mines and mineral  
resources—Ru-  
mania

## Commerce

Roumania and oil. *Economist* 117:268-9 *Ag* 5 '33

## Economic conditions

Economic conditions in Roumania. R. J. E. Humphreys. *Engineering* 136:327 *S* 22 '33  
Economic troubles of Roumania. *Engineering* 134:593 *N* 18 '32  
Roumania in 1932. *Economist* 116:sup21-2 *F* 18 '33

## RUN-OFF

Comprehensive storm sewer system for Dallas, Tex. *il* *map Eng N* 110:216-19 *F* 16 '33  
Estimating flood crest run-off. S. L. Moyer. *diag Pub Works* 63:19-20+ *O* '32; 64:12 *Jl* '33  
Forest cover and the water yield. W. G. Hoyt and H. C. Troxell. *Science* 78: sup6 *Ag* 11 '33  
Forests and stream flow. W. G. Hoyt and H. C. Troxell. *Am Soc C E Proc* 58:1037-66 *Ag* '32; Discussion. 58:1288-93, 1614-18, 1811-36; 59:376-9, 484-94, 607-16, 835-40, 1149-66 *S*, N-D '32, F-My, S '33  
Predicting runoff by snow surveys. *il* *Elec West* 70:149-51 *My* '33  
Runoff and erosion studied in tests in California. *Eng N* 110:711 *Je* 1 '33

## See also

Drainage  
Rain and rainfall  
Stream flow

RURAL electrification. See Electric service, Rural

RURAL hygiene, See Hygiene, Rural

RUSSELL, Henry Norris, 1877-

Portrait. *Sci Am* 148:133 *Mr* '33

## RUSSIA

Climatic factors in the development of civilization in Russia. E. Huntington. *Science* 77: sup7 *F* 17 '33

First to go back. I. Skariatina. 316p \$2.75 Bobbs-Merrill '33

Nationalism in the Soviet Union. H. Kohn. 164p \$2.50 Columbia univ. press '33

Observations and experiences of an American engineer in soviet Russia. W. Bagga-ley. *il* *Stevens Ind* 50:24-7 *Mr* '33

Physician's tour in soviet Russia. J. Purves-Stewart. 175p \$1 Stokes '33

Red virtue. E. Winter. 332p [bibliog p319-24] \$3 Harcourt '33

Russia in transition. E. M. Friedman. 614p [bibliog p583-99] \$5 Viking press '32

Russia/U.S.S.R. P. Malevsky-Malevitch. 712p \$10 William Farquhar Payson, New York '33

Soviet scene. F. Griffin. 279p Macmillan co. of Canada, St Martin's House, Toronto '32

Stalin's ladder; war & peace in the Soviet Union. E. Tobenkin. 308p \$2.50 Minton, Balch & company, New York '33

This Russian business. E. T. Brown. 255p \$2.75 Houghton '33

Tragedy of Russia. W. Durant. 164p \$1.25 Simon and Schuster, New York '33

Youth in soviet Russia. K. Mehnert. 270p \$2 Harcourt '33

## See also

Accounting—Russia	Insurance, Social—Russia
Agriculture—Russia	Labor and laboring classes—Russia
Chemical industries—Russia	Petroleum industry and trade—Russia
Copyright—Russia	Plastic industries—Russia
Electric industries—Russia	Textile industry—Russia
Hydroelectric plants—Russia	Wheat—Russia
Industrial manage-ment—Russia	

## Bibliography

Russia, the Soviet way. R. C. Brooks. 44p pa 35c American library assn, Chicago '33

## Commerce

\$4 millions for Moscow; Washington encourages sale of cotton to Soviets with R.F.C. credit. *Business Week* p22-3 *Jl* 8 '33

German ease Soviet credit terms. *Business Week* p20-1+ *Mr* 1 '33

Import possibilities of the Soviet Union. J. A. Lambert. *Ann Am Acad* 168:240-3 *Jl* '33

Is Moscow pinched? *Business Week* p22-3+ *Mr* 22 '33

Moscow pays; plans to continue to do business here. *Business Week* p24 *N* 30 '32

Our trade with the Soviets; some pros and cons in connection with possible recognition of Russia. S. A. Weart. *Barron's* 13:18 *Jl* 10 '33

Reciprocal trade with the Soviet Union. C. A. James. *Ann Am Acad* 168:235-9 *Jl* '33

Rubles and recovery; an analysis of American trade with Soviet Russia. *Credit & Fin Management* 35:28 *N* '33

Russia gets credit, may get recognition. *Forbes* 32:10 *Jl* 15 '33

Russian fantasy; Wall Street dreams of a triangular trade. *Business Week* p24 *Ap* 5 '33

Russian market. *Business Week* p26-7 *S* 23 '33

Russian orders. *Business Week* p8-9 *O* 28 '33

Soviet business. *Business Week* p24 *Ag* 19 '33

Soviet Union foreign trade, 1930-1931. *Chem Age (Lond)* 27:513 *N* 26 '32

U.S.A. and the U.S.S.R.; how to revive our trade with the Soviets. E. B. Dietrich. *Barron's* 13:5 *Ja* 9 '33

What about Russia? several American industries are pushing plans to get more Soviet orders; details of Germany's trade with Moscow. *Business Week* p22-3+ *F* 1 '33

What the Russian market means. W. P. Mangold. *il* *Adv & Sell* 21:15-16+ *S* 14 '33

## Commercial policy

Policies in regard to oil barter arrangements between Canada and Russia. R. B. Bennett. *Oil & Gas J* 31:22+ *F* 9 '33

Russian oil for Canada in new plan for barter. *Oil Paint & Drug Rep* 123:46 *Ja* 9 '33

Trend of Soviet-German commercial relations and its significance. E. D. Foster. *Harvard Business R* 11:376-85 *Ap* '33

## Economic conditions

In place of profit; social incentives in the Soviet Union. H. F. Ward. 460p \$2.50 Scribner '33

Quest of the Romanoff treasure. A. Hammer. 241p W. F. Payson, New York '32

Russia in 1932. *Economist* 116:sup16-17 *F* 18 '33

**RUSSIA—Economic conditions—Continued**

Russia revisited. *Economist* 116:1178-9, 1234-5 Je 3-10 '33  
 Uncle Sam ponders as Ivan goes industrial. G. L. Lacher. *Iron Age* 131:16-18, 21+ Ja 5 '33

**Economic history**

Economic history of soviet Russia. L. Lawton. 2v \$6.50 Macmillan '32

**Economic policy**

Internationalization of scientific knowledge as a factor in world economic recovery. A. P. M. Fleming. *Civil Eng* 3:502 S '33; Same. *Mech Eng* 55:492 Ag '33

**Five-year plan, 1928-1932**

At the end of Russia's first five-year plan; failures and consequences. *Annalist* 41:35 Ja 13 '33  
 Failure of the five-year plan. G. Hirschfeld. *Barron's* 13:8+ Ja 2 '33  
 Five year plan. *Economist* 116:169-70 Ja 28 '33  
 Five-year plan and the regulation of the labour market in the U.S.S.R. *Int Labour R* 27:349-77 Mr '33  
 Red economics, by W. Duranty and others. G. Dobbert, ed. 327p Houghton '32  
 Russian notes. C. M. Lloyd. 40p L. and Virginia. Woolf at the Hogarth press, London '32  
 Soviets summarize accomplishments. *Iron Age* 132:15 O 26 '33

**Five-year plan, 1933-1937**

Russian machine construction programme. V. V. Kuibysheff. *Engineering* 135:288 Mr 10 '33  
 Second five-year plan. *Elec R* (Lond) 112:242 F 17 '33  
 Second Soviet five-year plan. *Mach* 39:524 Ap '33  
 Surpass America! A. M. Wasbauer. *Am Mach* 77:613-15 S 27 '33

**Foreign relations**

Litvinov scores for Moscow at the London conference. *Business Week* p24 Jl 15 '33  
 Return of Russia. *Economist* 117:800-1 O 28 '33  
 Russia and her neighbours. *Economist* 117:65-6 Jl 8 '33

**Great Britain**

Moscow and after. *Economist* 116:847-8, 855 Ap 22 '33  
 So this is Moscow; Metropolitan-Vickers sabotage case. *Business Week* p26 Ap 12 '33  
 Soviet-British break. *Business Week* p19 My 3 '33

**United States**

Recognition of Soviet expected to involve major sales of equipment for expansion of industry. C. O. Willson. *il Oil & Gas J* 32:11-12 N 9 '33  
 Recognize Russia. *Business Week* p25 Ap 19 '33  
 Soviets invited to Washington. *Business Week* p8 O 28 '33

**Industries and resources**

Bearings for the Soviets. F. Schubert. *il Am Mach* 77:229-32, 273-6, 296-9, 334-7, 369-72 Ap 12-Je 7 '33  
 La centrale hydro-électrique du Dniéprostroi et le centre industriel du Dniépro-combinat (Russie méridionale). M. Gorfinkel. *map Génie Civil* 101:656-7 D 31 '32  
 Chemical progress in the U.S.S.R. A. Hirsch. *il map Chem & Met Eng* 39:590-3 N '32

**Politics and government**

World revolution and the U.S.S.R. M. T. Florinsky. 264p \$2 Macmillan '33

**Social conditions**

On guard for the Soviet Union. M. Gorki. 173p \$1.50 International pub, New York '33

**RUTHENIUM**

Refining platinum metals. M. Schwitter. *Brass W* 28:229, 247 N-D '32

**RUTHRAUFF, Wilbur B.**

Notes on shears; Wilbur B. Ruthrauff and Frederick B. Ryan. R. K. Leavitt. *por Adv & Sell* 21:22-3+ Jl 20 '33

**RUUD, Edwin, 1854-1932**

Sketch. *por Am Gas Assn Mo* 15:19 Ja '33

**RYAN, Frederick B.**

Notes on shears; Wilbur B. Ruthrauff and Frederick B. Ryan. R. K. Leavitt. *por Adv & Sell* 21:22-3+ Jl 20 '33

**S****SAAR valley**

*See also*  
 Iron industry and trade—Saar valley

**SABIN, Charles Hamilton, 1868-1933**

Sketch. *Comm & Fin* 22:910 O 18 '33; *Trust Companies* 57:410 O '33

**SACCHARIFICATION**

*See also*  
 Cellulose  
 Sugars  
 Wood saccharification

**SACCHARIMETERS**

Recommendations for use of a 26.026-gram normal weight for Ventzke scale saccharimeters. C. A. Browne and R. T. Balch. *Ind & Eng Chem Anal ed* 5:283 Jl 15 '33

**SACCHARINIC acids**

C<sub>4</sub>-saccharine acids; further attempts to prepare 2,2'-dihydroxyisobutyric acid; 2,3-dihydroxybutyric acid lactone from glycidol; the preparation of the two iodohydrins of glycerol. J. W. E. Glattfeld and R. Klaas. *Am Chem Soc J* 55:1114-19 Mr '33

C<sub>4</sub>-saccharinic acids; the preparation and resolution of *dl*-threo-1,2-dihydroxybutyric acid. J. W. E. Glattfeld and J. W. Chittum. *Am Chem Soc J* 55:3663-8 S '33

**SACO river, Maine**

Blasting a cutoff channel on the Saco river. L. D. Barrows. *il map Eng N* 111:198 Ag 17 '33

**SACRAMENTO, California****Water supply**

Sacramento sets new standards in pre-treatment. H. N. Jenks. *il diags Eng N* 111:1-5 Jl 6 '33

**SACRAMENTO river**

Sacramento river basin, 1931. 583p Calif. Dept. of public works, Division of water resources, Sacramento '33

Salinity in Sacramento river delta area reviewed. R. Matthew. *Eng N* 110:460-1 Ap 13 '33

**SAFE deposits**

Five vault safeguards. I. M. Templeman. *Bankers Mo* 50:23-4+ Ja '33

How to handle box renters. J. Janis. *Bankers Mo* 49:729-30+ D '32

Identification records for renters of safe deposit vaults. *il Management Methods* 61:616 N '32

Recording safe deposit transactions. *il Bankers M* 126:607-10 Je '33

*See also*  
 Insurance, Safe deposit box

**SAFETY at sea**

Highest standard of safety in ship construction set by S. S. Washington. *il Marine Eng* 38:198-207+ Je '33

Structural hazards on shipboard that lead to personal injuries. S. D. McComb. *East Underw* 33:32+ N 25 '32; *Excerpts, Weekly Underw* 127:1010-12 N 26 '32; *Abstracts, Marine R* 62:23-4 D '32; *Marine Eng* 37:514 D '32; *Engineering* 135:111 Ja 27 '33



**SAFETY at sea—Continued**

Urges conformation to safety convention. D. W. Todd. Weekly Underw 129:764 O 21 '33  
Urges ratification of the safety convention. A. M. Tode. Weekly Underw 128:766+ Ap 22 '33

Wireless regulations; importance emphasized in court in connection with the liability of a tug-owner. Weekly Underw 127:1051 D 3 '32

*See also*

Lifeboats  
Lighthouses

Ships—Fires and fire protection  
Shipwrecks

**SAFETY awards**

Ten thousand dollar safety award announced by H. F. Sinclair of Consolidated oil corp. Safety Eng 64:216 N '32

**SAFETY belts**

Safety belt as a warning signal to a pilot. diags Sci Am 149:124 S '33

**SAFETY bonus**

Prizes, awards and bonuses. A. H. Trestrail. il Safety Eng 65:85-6 Mr '33

**SAFETY campaigns**

Agents' safety work big casualty feature; National bureau of casualty & surety underwriters. A. W. Whitney. Weekly Underw 128:78+ Ja 7 '33

Safety program of the American legion. Safety Eng 66:90 S '33

September proclaimed as safety month by thirty-four governors. East Underw 34:31 S 1 '33

State governors promote traffic safety. Safety Eng 66:83-4 S '33

**SAFETY car heating and lighting company**

Safety Car looks to the future. Econostat 1: 11+ Je 24 '33

**SAFETY codes**

American standard safety codes. Monthly Labor R 36:1068-9 My '33

Ladder safety code. H. D. Bender. il Nat Safety N 27:23-4 Ap '33

Relation of safety codes to industrial accident prevention. T. J. Duffy. U S Bur Labor Statistics Bul 577:103-8 '33; Same. Safety Eng 66:5-6+ Jl '33; Discussion. U S Bur Labor Statistics Bul 577:108-11 '33

Report of I.A.I.A.B.C. committee on safety and safety codes. U S Bur Labor Statistics Bul 577:10-12 '33

Safety codes and management. P. G. Agnew. Nat Safety N 27:23-4 Ja '33

Transfer of safety-code work from Bureau of standards to American standards association. Monthly Labor R 37:581-2 S '33; Same. Safety Eng 66:132 O '33

**SAFETY committees**

Exceptional accident reduction record; Sayles Biltmore bleacheries. Safety Eng 65:51 F '33

How traffic vigilance committee of St Louis safety council is lessening accidents. R. Hoffmann. Weekly Underw 128:241 F 4 '33

Insurance costs came down with accident rates. G. M. Gerlach. Nat Safety N 27:33 Je '33

Safe operation of pressure stills; methods employed in eastern refinery. W. B. Murphy. Oil & Gas J 31:11-13 D 29 '32

**SAFETY congresses**

Annual Greater New York safety conference. 4th. G. M. McAlinsh. Nat Safety N 27:48+ Ap '33

California accident prevention conference. C. M. Cole. Safety Eng 66:15 Jl '33

International conference on mine safety research at Buxton, England, July, 1931. G. S. Rice. plans U S Bur Mines Information Circ 6670:1-19 '32

Maine's fifth annual industrial safety conference, Augusta, Nov. 2. Safety Eng 64:212, 214 N '32

Proceedings of accident prevention convention in Canada. Safety Eng 65:198 Je '33

West Virginia traffic safety conference. A. C. Carruthers. Safety Eng 65:13-15 Ja '33

**SAFETY contests**

Announce winning railroads in employee safety contest. Nat Safety N 27:32 My '33

Cities win safety honors; first National traffic safety contest. S. J. Williams. Nat Safety N 27:17-18+ Ap '33

Depression doesn't stop New York industries; accident prevention campaign of Associated industries of New York state, inc. F. Redmond. Nat Safety N 27:53-4 F '33

Employers mutuals present safety trophy. W. P. Wamser. il Safety Eng 64:218 N '32

Extra hazards didn't stop them; Wisconsin steel works of the International harvester company. C. T. Fish. Nat Safety N 27:29+ Je '33

Fifth state-wide safety drive in Massachusetts. Safety Eng 65:205 Je '33

Fifty annual inter-plant safety contest in New Jersey. Safety Eng 64:217 N '32

Five years of progress in accident prevention; Philadelphia electric company. R. M. Godwin. il Safety Eng 65:157-9 My '33; Same cond. Nat Safety N 27:26-7 My '33

45 trophies awarded in sectional safety contests. Nat Safety N 28:52-3+ N '33

Maintaining safety interest. R. A. Shaw. Safety Eng 64:257 D '32

Making transportation safer in the Capital. C. T. Fish. il Nat Safety N 26:28-30+ D '32

Management is responsible for industrial accidents; fifth annual statewide interplant safety contest in New Jersey. J. Roach. Safety Eng 65:99-100 Mr '33

Methods of organizing and conducting industrial safety contests. 20p Policyholders service bureau, Metropolitan life insurance co, New York '33

National safety competition of 1932. W. W. Adams. U S Bur Mines Rep of Invest 3219: 1-17 '33

National safety competition of 1932; mines and quarries. W. W. Adams. il Explosives Eng 11:168-73 Je '33

Prizes, awards and bonuses. A. H. Trestrail. il Safety Eng 65:85-6 Mr '33

Safety honors awarded Corrgan, Republic, Pittsburgh steel products. Steel 93:19 O 9 '33

Trophies have been won by 92 cement plants. Nat Safety N 28:20 S '33

Warner company celebrates winning of sand and gravel safety trophy. R. Dinsmore. Rock Prod 35:37-9 N 19 '32

**SAFETY devices and measures**

Accident analysis. Safety Eng 65:199-200 Je '33

Accident costs a vital factor in department management. J. C. Henny. Safety Eng 66: 59-60 Ag '33

Accident prevention in highway construction. T. W. Walton. Roads & Sts 75:501-3 D '32

Clean-up drive reduces accidents. R. A. Shaw. Safety Eng 66:85 S '33

Common sense accident prevention. G. L. Gardiner. il Nat Safety N 26:11-12+ D '32

Economic value of accident prevention work. A. W. Whitney. Safety Eng 64:207-8 N '32

Education and discipline in the accident prevention program. J. A. Voss. Blast F & Steel Pl 21:31 Ja '33

Electronic tubes safeguard lives. E. H. Vedder. il Nat Safety N 27:23-4 F '33

Excerpts from National safety congress papers. Nat Safety N 28:28-9 N '33

Following through with safety; handling of explosives. T. Marvin. Explosives Eng 11: 341-3 N '33

Foreman the factor in safety observance. F. M. Gillies. Iron Age 132:27 O 19 '33

How accident costs can be controlled. P. D. Betterley. System and Management Methods 62:414-15+ S '33

How irritating secretary reduced accident total of hotel chain. H. W. Heinrich. East Underw 33:32 D 2 '32

Industrial safety in the new deal. A. C. Carruthers. Safety Eng 66:53-4 Ag '33

Medical department presents the case for safety. A. F. Lecklider. Nat Safety N 27: 14-16+ Ja '33

More powerful than sunlight; ultra-violet rays in industry and protection against their harmful effects. M. J. Dorcas. il Nat Safety N 28:16-18+ N '33

**SAFETY devices and measures—Continued**

- Promoting safety in highway construction. H. D. Immel. *Il Roads & Sts* 76:187-9 My '33
- Safety and economy in heavy construction. R. J. Reigeluth. 237p McGraw-Hill '33
- Safety director or production assistant? W. C. James. *Nat Safety N* 27:53 Ja '33
- Safety for women workers. M. Anderson. *Il Nat Safety N* 27:25-7 F '33
- Safety is better than compensation. R. B. Morley. *U S Bur Labor Statistics Bul* 577: 113-15; Discussion. 115-18 '33
- Safety pays the small plant, too; Louisville car wheel and railway supply company. R. L. Schmitt. *Nat Safety N* 28:16+ Ag '33
- Safety tour where safety's double sure. H. W. Lormor. *Il Factory Management* 91:136-8 Ap '33
- Safety—whose responsibility? Maintenance Eng 90:432-3; 91:22-3, 56 N '32, Ja-F '33
- Safety work isn't costly. N. M. Stott. *Nat Safety N* 28:166 S '33
- Something worth fighting for. H. A. Spears. *Nat Safety N* 27:33-4+ Mr '33
- Static electricity in nature and industry. P. G. Guest. *diags U S Bur Mines Bul* 368: 1-98 [bibliog p90-8] '33
- Those minor and near injuries. W. J. Brennan. *Il Nat Safety N* 27:11-12+ Je '33
- We can't afford to let up. F. L. Ball. *Nat Safety N* 28:11-12 Jl '33
- Why backs ache. S. M. Roberts. *Il Nat Safety N* 27:20-2+ Ja '33

**See also**

- |                       |                       |
|-----------------------|-----------------------|
| Accidents, Industrial | Insurance, Automobile |
| Acid handling         | —Preventive work      |
| Air brakes            | Insurance, Casualty—  |
| American district     | Preventive work       |
| telegraph protec-     | Insurance, Fire—Pre-  |
| tion service          | ventive work          |
| Automobile drivers    | Ladders               |
| Automobile driving    | Lightning arresters   |
| Chicago—World's       | Lightning protection  |
| fair, 1933—Safety     | Mine rescue work      |
| provisions            | Motor truck drivers   |
| Electric protective   | Railroads—Signals     |
| apparatus             | Respiratory appara-   |
| Eye—Protection        | tus                   |
| Factories—Light-      | Safety at sea and     |
| ing                   | other headings be-    |
| Fire protection       | ginning Safety        |
| First aid in illness  | Shoes, Safety         |
| and injury            | Street lighting       |
| Floors—Anti-slip sur- | Trade unions—Safety   |
| faces                 | work                  |
| Gas masks             | Traffic regulations   |
| Hand—Protection       | Traffic signals       |
| Head—Protection       | Workmen's compen-     |

also subdivision Safety devices and measures or Safety measures under special subjects, e.g.

- |                       |                      |
|-----------------------|----------------------|
| Aviation              | Paper mills          |
| Blasting              | Petroleum industry   |
| Boiler plants         | and trade            |
| Chemical plants       | Petroleum refineries |
| Coal mines and min-   | Presses              |
| ing                   | Railroads            |
| Electric equipment    | Refrigeration and    |
| Electric utilities    | refrigerating ma-    |
| Gas appliances        | chinery              |
| Handling of materials | Roads                |
| Ice industry          | Street railroads     |
| Mining engineering    | Window cleaning      |

**Bibliography**

- Safety library. M. M. Wells. Published in monthly numbers of National safety news

**Psychological aspects**

- Hospital's chronic customers. C. L. Ferguson. *Nat Safety N* 27:23-4 Mr '33
- Mental processes and medical science. W. S. Ash. *Il Nat Safety N* 26:13-14+ D '32
- We all like to help. G. A. Kuechenmeister. *Nat Safety N* 27:36+ My '33
- Worker's views on accident psychology. G. McFann. *Nat Safety N* 27:55-6+ F '33

**SAFETY education**

- Campaign to reduce kite flying hazards. *Il Elec West* 70:10-11 Ja '33
- Course of study in safety education for all grades. (Bul, 1932, no 15) 192p [bibliog p180-2] Alabama. Dept. of education, Montgomery '32
- Demonstrating electric safety. E. H. Eitel. *diags Nat Safety N* 28:16-18 Jl '33
- Public and home safety work by an industrial organization. H. A. Reninger. *Safety Eng* 65:101 Mr '33
- Safety in physical education in secondary schools. F. S. Lloyd. 167p [bibliog p141-3] National bureau of casualty and surety underwriters, New York '33
- Safety train visits schools. *Il Nat Safety N* 27:27 My '33
- Training children in fire prevention. *Safety Eng* 64:267; 65:25-6 D '32-Ja '33

**See also**

- |                     |                     |
|---------------------|---------------------|
| Moving pictures in  | Safety instructions |
| safety education    | and training        |
| Radio broadcasting— |                     |
| Safety programs     |                     |

**SAFETY engineering**

- Educating the small plant in safety. W. J. Brennan. *Safety Eng* 65:213-14; 66:13 Je-Jl '33
- Elimination of eye hazards through engineering revision. L. Resnick. *Il Safety Eng* 66:7-9 Jl '33
- If I were the boss. B. C. Jacobs. *Nat Safety N* 27:34+ F '33
- Our depression safety problems. J. R. Craig. *Nat Safety N* 27:27-8 Je '33
- What have we to sell? S. R. Sjoberg. *Nat Safety N* 26:48-9 D '32
- You can't stop accidents with wall mottoes. V. Scobie. *Il Bus Transportation* 12:313-14 Ag '33

**See also**

- |                       |
|-----------------------|
| Accidents, Industrial |
| —Reports              |
| Safety inspection     |

**SAFETY equipment**

- Head and eye protection. F. Willson. *Safety Eng* 65:33-4 Ja '33
- Protective clothing in the mining industry. R. D. Currie and W. J. Fene. *U S Bur Mines Information Circ* 6724:1-15 '33; Excerpts. *Safety Eng* 66:43-8 Ag '33
- Safety had its own World's fair. C. H. Miller. *Il Nat Safety N* 28:23-4+ N '33

**See also**

- |                      |                     |
|----------------------|---------------------|
| Clothing, Protective | Industrial safety   |
| Gloves, Safety       | equipment manu-     |
| Head—Protection      | facturers' associa- |
|                      | tion                |

**SAFETY glass.** See Glass, Safety

**SAFETY gloves.** See Gloves, Safety

**SAFETY in the home**

- These safety building methods will help eliminate accidents in homes. J. M. Dorsey. *diags Am Bld* 55:38-9+ S '33

**SAFETY inspection**

- How to make safety inspections. C. M. Senft. *Safety Eng* 65:163-4 My '33

**SAFETY instructions and training**

- Accident prevention boosts sales 2½ million units; General baking co. *Food Ind* 5:272 Jl '33
- Art of teaching safety. C. B. Boulet. *Nat Safety N* 27:17-18+ Je '33
- Can the worker be trained in accident prevention? J. D. Hackett. *Safety Eng* 65:49-50 F '33
- How to talk to drivers about traffic safety. J. R. Craig. *Safety Eng* 65:165-6 My '33
- Prevention of accidents requires study of men. D. L. Cross. *Oil & Gas J* 31:42 Ap 13 '33
- Safety instruction cards. *Il diags Nat Safety N* 27:48-51 Ja; 46-9 F; 30-1 Ap; 30-1 My; 30-1 Je; 30-1 Jl; 30-1 Ag; 28-9 S; 46-7 O; 30-1 N '33
- Sound objectives for the vocational school. J. A. McCarthy. *Nat Safety N* 28:25-6 Ag '33
- Stop hand-tool accidents! S. DeHart. *Il Factory & Ind Management* 83:470 D '32



**SAFETY instructions and training**—*Continued*  
Through the plant gate; the adventures of three men in a safety-minded shop. W. J. Brennan. *il Nat Safety N 27:15-17+* Mr '33  
Training and supervision as a means of reducing losses. W. G. Cole. *Safety Eng 65: 87-8* Mr '33

#### SAFETY isles

Detroit installs new type of safety zone. A. P. Gardner. *Eng N 110:433* Ap 6 '33  
Improved safety isles at Salt Lake City. W. D. Beers. *il Transit J 77:507* O '33  
Increasing the efficiency of vehicular traffic movement. E. J. McIlraith and others. *Transit J 77:386-7* O 10 '33

#### SAFETY lamps, Electric

Portable electric lamps for animal haulage in Alabama. F. E. Cash and C. E. Saxon. *U S Bur Mines Information Circ 6712:1-5* '33  
Reduced mine accidents with better lighting. W. C. Owings. *Elec W 102:343* S 9 '33

#### SAFETY laws and legislation

Governor Pinchot signs safety glass protection bill. *Safety Eng 65:197* Je '33  
Labor laws of the state of New Jersey and their enforcement. J. Roach. *il Safety Eng 66:19-20, 56, 58* Jl-Ag '33  
New safety glass law in New York state; cases of eye injuries caused by flying glass in automobile accidents. *il Safety Eng 65: 161-2* My '33  
Text of safety glass bill as passed by Nebraska. *Safety Eng 65:204* Je '33

*See also*

Workmen's compensation

#### SAFETY movement

Danger of drastic economies in safety education. A. W. Whitney. *Safety Eng 65:96* Mr '33  
Industry gains from community safety consciousness. H. D. Immel. *Nat Safety N 27: 11-12+* F '33  
Is the public interested? G. D. Newton. *Nat Safety N 27:27-8+* Ja '33  
Labor's support of industrial safety and industrial standards. M. Woll. *Safety Eng 65:211-12* Je '33  
Mystery deaths. A. C. Carruthers. *Safety Eng 65:89-90* Mr '33  
President, National safety council, address. J. I. Banash. *Nat Safety N 28:23-4+* O '33  
Safety at the quarter century mark. A. H. Young. *Nat Safety N 28:19-20+* Jl '33  
Safety program for the Y.M.C.A. J. R. Craig. *Nat Safety N 27:29+* Mr '33  
Safety's contribution to civilization. W. B. Phillips. *il Nat Safety N 28:9-10+* N '33

*See also*

Automobile driving

#### SAFETY organization

In organization there is strength; methods employed in du Pont plants. G. H. Miller. *Nat Safety N 27:19-20+* Je '33  
Safety first department; Ontario paper co. W. L. Eliason. *il Pulp & Pa of Can 34:400* Je '33  
What can a small plant do? A. D. Lynch. *Nat Safety N 27:27+* Mr '33  
Who will be the winner? R. L. Schmitt. *Blast F & Steel Pl 21:255-7* My '33

*See also*

Safety committees

#### SAFETY posters

Bulletin board. Published in monthly numbers of National safety news  
Home-made posters are an effective aid. E. N. Brown. *il Nat Safety N 26:40* D '32  
Issues of National safety news in which posters were illustrated; subject index. *Nat Safety N 27:38* F '33  
New wrinkle in poster displays; cut-out figures at the annual Safety congress. *il Nat Safety N 28:38, 40+* N '33  
Safety posters. E. S. Beaumont. *il Am Gas Assn Proc 1932:66-70*  
What do you expect of your bulletin boards? R. T. Solensten. *il Nat Safety N 27:13-14+* My '33

**SAFETY shoes.** See Shoes, Safety

#### SAFETY valves

Board of trade rules for safety valve areas. *Engineer 155:500* My 19 '33

#### Testing

Tank car safety valve tester. A. Skinner. *il Ry Mech Eng 106:506* D '32

**SAFETY zones.** See Safety isles

#### SAFEGWAY stores, inc.

Common stocks for income and price appreciation. *Mag of Wall St 51:283* D 24 '32  
Cuts disbursements to earnings. *Barron's 12: 14* D 19 '32  
Speculative audit; favorable and unfavorable factors affecting common-stock values. *Barron's 13:12* My 29 '33

#### SAFRANINE

Studies on oxidation-reduction; simple safranines. R. D. Stiehler, Tung-Tou Chen and W. M. Clark. *Am Chem Soc J 55:891-907* Mr '33

#### SAGGERS

Clays for saggors. *J Fr Inst 216:241-2* Ag '33  
Selection of clays for saggors of predetermined resistance to thermal shock and prediction of sagger life in service. R. A. Heindl and L. E. Mong. *Am Cer Soc J 16:601-6* N '33

#### SAGINAW, Michigan

##### Water supply

Tuning up the Saginaw water plant. *Eng N 109:686-7* D 8 '32

#### SAILING vessels

Sailing ships through the ages. F. B. Harnack. 63p De La More press, London '33  
Segelschulschiff Gorch Fock. *diags Zeit Ver Deutsch Ing 77:886-7* Ag 12 '33

#### ST CLOUD, Minnesota

##### Water supply

Ammonia-chlorine process in St Cloud. C. L. Ehrhart. *Am Water Works Assn J 25:859-66* Je '33

#### ST CROIX island

##### Sanitary affairs

St Croix's rainiest year causes an epidemic of malaria. E. B. Shaw. *Science 76:566-7* D 16 '32

#### ST FRANCIS river

St Francis river bed ownership. *Can Eng 65:11* O 3 '33

#### ST JOHN, New Brunswick

St John town planning scheme. *Can Eng 63: 26* N 15 '32

##### Harbor

Work in progress on harbour extensions at St John. *il Engineer 155:650* Je 30 '33

#### ST JOSEPH, Michigan

##### Water supply

Pumping station and filtration plant at St Joseph. F. G. Gordon. *il Am Water Works Assn J 25:832-7* Je '33

#### ST JOSEPH, Missouri

##### Rapid transit

Maintenance methods and practices which won the first award for small city companies; St Joseph railway, light, heat and power company. *il Bus Transportation 12:62-6* Ja '33

#### ST LAWRENCE river

##### Power utilization

Beauharnois development of the St Lawrence river. W. S. Lee. *il diags plan map Elec Eng 52:377-84* Je '33  
St Lawrence river power development; discussion at meeting of engineering societies in Chicago. *Can Eng 65:11-12* Ag 1 '33  
St Lawrence tied to promotion of domestic load. *Elec W 101:389-91* Mr 25 '33  
Uncle Sam's prodigious power project; practical economic aspects. H. Corey. *Pub Util 10:603-11* N 24 '32

**ST LAWRENCE river**—Power utilization—*Cont.*  
Water-power development of the St Lawrence river; with cost data. D. W. Mead. maps Am Soc C E Proc 59:965-82 Ag '33; Abstracts. Eng N 111:21 Jl 6 '33; Power 77:346-7 Jl '33; Discussion. T. H. Hogg. Am Soc C E Proc 59:983-96 Ag '33; Eng N 111:21 Jl 6 '33

**ST LAWRENCE waterway and power project.**  
Buffalo chamber of commerce opposes St Lawrence waterway. Ry Age 93:714+ N 19 '32

Cost allocations asked in seaway treaty. Elec W 100:841 D 24 '32

Great Lakes—Saint Lawrence seaway project. W. N. Pelouze; R. H. Aishton. map Nation's Business 21:20-3+ F '33

Lake carriers opposed to St Lawrence waterway. Marine R 63:32 Ja '33

No U.S. gain from St Lawrence seaway. R. S. Copeland. Ry Age 95:70-1 Jl 1 '33

Port development on the Great Lakes for the accommodation of traffic through the proposed St Lawrence shipway and the Lakes to the Gulf waterway. E. M. Markham. Can Eng 65:15-18 O 10 '33

St Lawrence; opponents of the treaty have probably made too strong a case for proponents to get it through the short session of Congress. Business Week p18 N 30 '32

St Lawrence shipway opposed by the Association of railway executives. Barron's 12:6 D 5 '32

St Lawrence treaty favorably reported by Senate committee. Eng N 110:232 F 16 '33

St Lawrence waterway; a highly controversial navigation and power project. Index 13:159-64 S '33

St Lawrence waterway described as waste of money; hearings before the Senate foreign relations committee on the treaty with Canada. Ry Age 93:741-3 N 26 '32

St Lawrence waterway opposed. Ry Age 93:701-2+ N 19 '32

St Lawrence waterway treaty. Ry Age 93:874-6 D 10 '32

Why the St Lawrence waterway? A. D. Adams. il map Sci Am 148:314-16 Je '33

*See also*

St Lawrence river—  
Power utilization

**ST LOUIS, Missouri**

City growth and decay revealed by census figures. H. W. Green. maps Eng N 110:187-90 F 9 '33

St Louis center of cooling belt, survey indicates. maps Heating-Piping 5:346-7 Jl '33

#### Railroads

Depresses tracks formerly elevated to eliminate grade crossings; St Louis Wabash project. il diag map Ry Age 95:359-62 S 9 '33

Grade separation project in St Louis. L. R. Bowen. il plan Civil Eng 3:623-5 N '33

Illinois Terminal improves freight facilities; construction of a modern terminal at St Louis. il map plans Ry Age 95:523-6+ O 14 '33

St Louis electric terminal improves schedule speed. il Elec Traction 28:452-3 N '32

#### Rapid transit

Transit in St Louis; 2,143 street cars, buses and taxicabs. il Transit J 77:49 F '33

**ST LOUIS-San Francisco railway**

'Frisco valued at \$209,446,179. Barron's 13:6 Ja 16 '33

**ST MAURICE river**

Upper St Maurice power reserve. C. R. Lindsey. Can Eng 64:11 Je 6 '33

**ST NAZAIRE, France**

#### Harbor

Sliding caissons for 1,148-ft. lock at St Nazaire. il diag Engineering 136:165-6 Ag 18 '33

**ST PAUL, Minnesota**

City hall and Ramsey county courthouse: views and plans. Am Arch 143:35-46 Jl '33

New city hall and esplanade added to St Paul civic center. G. H. Herrold. il map Eng N 110:410-11 Mr 30 '33

#### Rapid transit

Transit in the twin cities. il Transit J 77:305 O '33

#### Sewerage

Sewerage district set up for St Paul and Minneapolis. Eng N 110:542 Ap 27 '33

#### Streets

Bond issues aid street work in St Paul. G. H. Herrold. il Civil Eng 3:226-8 Ap '33

#### Water supply

St Paul's successful water works. il Pub Works 64:25 Jl '33

**ST PAUL fire and marine insurance company**  
Annual statement, 68th, year ended Dec. 31. Ins Field (Fire ed) 62:8 Ja 26 '33

**ST REGIS paper company**

St Regis' utility investments. Econostat 1:12+ My 20 '33

**ST THOMAS, Ontario**

#### Water supply

St Thomas plant. W. C. Miller. Am Water Works Assn J 25:1096-1101 Ag '33; Same. Can Eng 64:72-5 Mr 28 '33

**SAL hepatica**

For it's always fair weather and smooth sailing in the plant that deals with hygroscopic materials—if it is air conditioned; Bristol-Myers plant. L. K. Urquhart. il Factory Management 91:189-90 My '33

**SALAD dressing**

Soy-bean paste as an emulsifying agent. A. M. Field, B. H. Alexander and E. B. Sylvanus. Science 77:91 Ja 20 '33

#### Advertising

Kraft plants hum to meet demand as Miracle Whip goes national. il Sales Management 33:172 Ag 15 '33

National distribution for new Kraft salad dressing. Ptr Ink 164:6 Jl 27 '33

Nujol for salads. il Ptr Ink 164:35 S 7 '33

Salad dressing or mayonnaise: which shall it be? Kraft and Best foods begin competitive advertising campaign. il Ptr Ink 164:6+ Jl 13 '33

Word war; mayonnaise and salad dressing are arguing in public. Business Week p20 Ag 26 '33

**SALADINO, C., and sons, inc.**

When the customers vote their preferences; silk strings for tennis rackets. F. Saladino. il Ptr Ink 163:72-5 Je 8 '33

**SALARIES**

Corporation salaries and bonuses in theory and in actual recent practice. P. M. Payne. bibliog Annalist 42:605-10 N 10 '33

New York salary lists again before commission. Elec W 102:163 Ag 5 '33

Now the upturn has arrived—how are you handling salary increases? J. H. MacDonald. System and Management Methods 62:304 Jl '33

Salaries in fire departments of principal cities in the United States, December 1932. tables Monthly Labor R 36:1336-64 Je '33

Salaries of scientific men working under the British government. Science 78:355-6 O 20 '33

Survey of salary incentive plans. Management R 22:49 F '33

*See also*

Executives—Salaries  
Government employees—Salaries  
Librarians—Salaries  
Municipal employees—Salaries  
Railroads—Salaries

Salesmen—Salaries and commissions  
Social workers—Salaries  
Teachers—Salaries  
Wages

**SALERNI process.** See Coal distillation—Salerni process



**SALES**

- Law of the sale of goods. C. G. Austin. 158p \$1.50 Pitman '32  
 NRA explains price adjustments under the President's reemployment agreement. Rand McNally Bankers Mo 50:630 N '33  
 Protection against decline. E. H. Killheffer. Chem Markets 32:25-6 Ja '33  
 Questions and answers with problems and illustrative matter on the law of sales. J. M. Henderson. 80p Callaghan '33

*See also*

- Arbitration  
 Contracts  
 Exclusive agencies  
 Payment  
 Price fixing, Resale  
 Returned goods

**SALES, Conditional**

- Indiana Supreme court rules on merchandising. Elec W 102:582 N 4 '33  
 Law of conditional sales in New Jersey, with statutes and procedure thoroughly annotated. I. Le Wine. 432p Soney & Sage co, Newark, N.J. '33  
 Law of hire and hire-purchase. A. A. Pereira. 227p Butterworth & co, ltd, London '32

*See also*

- Consignment selling  
 Instalment plan

**SALES, Special**

- How Squibb weeks doubled business for 3,000 dealers. C. Eddy. il Sales Management 32: 151-3+ F 15 '33  
 Manufacturer holds retail sale; odds and ends are disposed of in the home town. H. L. Harrison. Ptr Ink 162:84-5 Ja 12 '33  
 Pranks and profits; Gimbel's no-profit sale. Business Week p11 Mr 8 '33

**SALES campaigns**

- Andrews finds new bonanza; 50,000 unit-a-day volume from \$5 to \$300 lighter. L. M. Hughes. il Sales Management 33:443+ N 1 '33  
 "Buy now" drive needs "sell now" support. J. L. Scott. Ptd Salesmanship 62:20-1 S '33  
 Compression tester breaks all sales records for Hastings piston rings. L. B. Colby. il Sales Management 33:311 O 1 '33  
 Depression reveals 83 per cent of market is neglected; American Radiator merchandises Arcola to old homes. B. A. Grimes. Ptr Ink 165:33-5 O 5 '33  
 Executives are salesmen's aides in this prosperity drive; International business machines corporation. T. J. Watson. Ptr Ink 164:16-18 Ag 17 '33  
 GE sells 2,000 carloads of refrigerators in 60-day man hunt. A. R. Hahn. Sales Management 33:13-15+ J1 1 '33  
 Good merchandising is answer to profitless selling; Safeway stores. R. W. Doe. Ptr Ink 164:56-7, 60-1 J1 20 '33  
 Hidden business is dug out by co-operative effort; how five electrical contractors in town of 30,000 got customers. il Ptr Ink 161: 47-8 D 29 '32  
 How this new product covered nation in three years; Perstik. il Ptr Ink 164:56-7 J1 27 '33  
 Losers stand to win in this contest; Kelvinator corp. V. C. Woodcox. Ptr Ink 165:44-5 O 19 '33  
 Manufacturers and stores unite to promote "Q" to prosperity. il Sales Management 31: 434 N 15 '32  
 Off-season drive for better sales; Williams oil-o-matic. il Ptr Ink 165:76 N 2 '33  
 104 per cent of a summer sales quota; Westinghouse Master builders' contest. D. E. Thompson. il Ptd Salesmanship 62:22-5 S '33  
 Planning the fall sales campaign. J. C. Aspley. Ptd Salesmanship 61:325-7 Ag '33  
 RCA Victor challenges summer slump. il Ptr Ink 163:24-5 Je 8 '33  
 Selective campaign for a specialized product; Skelgas joined with dealers in an eight-week drive. il Ptr Ink 164:60-2 Ag 31 '33  
 Suggestions for local lighting sales. M. E. Skinner. Elec W 102:336-8 S 9 '33  
 This sales drive won 800 new dealers; General timber service, inc. H. D. Bates. il Ptr Ink 163:36-7+ My 11 '33

- Tin can giants widen oil invasion; win Sinclair, Tide Water, Gulf. il Sales Management 33:256+ S 15 '33  
 Twenty leading companies act to harness public confidence. Sales Management 32:322-3 Ap 1 '33

- Two million braves let loose; Seminole tissue sales soar. L. B. Colby. il Sales Management 33:211-12 S 1 '33

- Warner salesmen smash through in drive to meet company crisis. Sales Management 32:120+ F 1 '33

- What! no goat feathers? Guardian men write \$1,259,555 insurance in one-day drive. Sales Management 32:13+ Ja 1 '33

- Why January 1933 was the best January we ever had; Abbott laboratories. J. F. Stiles, jr. il Management Methods 62:111-13+ Mr '33

- Why Mayer's quality wieners outsell 44 cheap competitors. L. B. Colby. il Sales Management 32:56+ Ja 15 '33

- Wrigley rewards users with \$1 bills; total may be \$2,500,000. Sales Management 31:526 D 15 '32

*See also*

- Advertising campaigns  
 Buy now campaigns

**SALES conferences**

- Airport sales meetings on 6,000-mile swing lift air-way volume. il Sales Management 32:263 Mr 15 '33  
 Johns-Manville uses phonograph records and pictures. K. R. Dyke. Ptr Ink 163:25-8 Ap 6 '33  
 Monday sales meetings smash weekend blues. O. F. Rost. il Adv & Sell 21:34+ Ag 31 '33  
 Time-table planning for sales meetings. E. V. Walsh. Ptr Ink Mo 26:57-9 Ap '33  
 Twelve ideas for a live sales meeting. Sales Management 33:14-15 J1 1 '33

**SALES contests**

- Baseball contest jumps ice-box sales 135% for City ice and fuel co. Sales Management 33:260 S 15 '33  
 Big offensive contest that gets salesmen to double up on calls. Sales Management 33: 350+ O 10 '33  
 Billy-goat lends atmosphere to a sales contest; Insulite company. R. P. Dodds. Ptr Ink 164:78-81 S 28 '33  
 Contest for 7,500 salesmen; Westinghouse refrigerator drive. E. Peterson. il Ptr Ink 164:75-8 Ag 24 '33  
 Depression contest increases sales 28 per cent; Standard register company. J. N. Griffith. Ptr Ink 161:32-3 D 15 '32  
 Five contests to head off the hot weather slump. R. E. Smallwood. il Sales Management 32:560-1+ Je 1 '33  
 Hit and strike contest; Lawler automobile company. Management Methods 62:173-4 Ap '33  
 How a contest helped to better the hot weather slump; Addressograph-multigraph corporation. System and Management Methods 62:350 Ag '33  
 Industry is watching midsummer gas refrigerator contest. C. Barnes. il Gas Age 72:155-6 Ag 26 '33  
 Mr Bennett becomes King Koko amid regal pomp and splendor. Sales Management 32: 124 F 1 '33  
 Nation's electrical wholesalers begin victory contest. Sales Management 32:26 Ja 1 '33  
 104 per cent of a summer sales quota; Westinghouse Master builders' contest. D. E. Thompson. il Ptd Salesmanship 62:22-5 S '33  
 Organized excitement plan adds 100,000 MCF in 90 days. A. E. Schwarz. il Gas Age 71: 81-2 Ja 28 '33  
 Outside advertisers help promote a sales contest; special number of "Life Aetna-izer." il Ptr Ink Mo 26:27+ Je '33  
 Pep for salesmen. Ptr Ink 164:32 J1 27 '33  
 Planning salesmen's contests that click. E. B. Weiss. Adv & Sell 21:19+ S 28 '33  
 Plenty of entrants, yes; but how about the sales? Ptr Ink 161:63-4 N 24 '32

**SALES contests—Continued**

- Quota realized: 190 per cent; four-month "Gold Rush" brings General electric supply corporation \$854,500 in new lamp contracts. *Ptr Ink* 165:29+ N 2 '33
- Sales drive succeeds through use of long distance telephone; National cash register company. *System and Management Methods* 62:355-6 Ag '33
- Stimulating jobbers' salesmen. R. E. Smallwood. *Sales Management* 32:576+ Je 1 '33
- Ten tested ideas for your spring sales contest. *Sales Management* 32:156-7+ F 15 '33
- This club builds enthusiastic sales force; Norge corporation. J. H. Knapp. *Ptr Ink* 165:85, 88-9+ O 5 '33
- This national sales contest has local managers; Hotpoint using a co-operative plan. *il Ptr Ink* 162:40-2 Mr 9 '33
- 20 plans that inspire men to fight for orders. A. R. Hahn. *il Sales Management* 31:511-13+; 32:19-20+ D 15 '32-Ja 1 '33
- 20,000 direct-mail sets sold in gold rush campaign; Servel sales, inc. W. P. Jones. *il Ptd Salesmanship* 61:13-15 Mr '33
- Warner salesmen smash through in drive to meet company crisis. *Sales Management* 32:120+ F 1 '33
- Washington gas light company has its own new deal. H. M. Brundage, jr. *il Gas Age* 72:239-40 S 9 '33
- White club. *Ptr Ink* 162:71 Mr 23 '33
- Zenith trebles volume by contest to educate salesmen in quality. E. A. Tracey. *Sales Management* 32:226 Mr 1 '33

**SALES contests, Association**

- Companies enter cash prize contest to sell gas refrigerators. *Am Gas Assn Mo* 15:377-8 S '33

**SALES contests, Dealers'**

- Humor in the sales contest; radio company appeals to the national sport of France. *il Ptr Ink* 164:56 Jl 13 '33
- This two-way contest reached both dealer and consumer; Coleman stoves. D. Gridley. *Ptr Ink* 165:43+ O 12 '33

**SALES contests, Employees'**

- Employee contest builds sales. *Management Methods* 62:63 F '33
- Employees send prospects to dealers by this plan. *Ptr Ink* 161:74 D 8 '32
- Product consciousness is aim of this employee contest; Standard Oil products. *Ptr Ink* 161:71 D 15 '32
- We've led them to water and oh, how they drink! R. E. Williams. *Gas Age* 70:603 D 3 '32

**SALES control areas. See Market areas****SALES conventions**

- Eddy's successful sales convention. *Pulp & Pa of Can* 34:174 F '33
- Enthusiasm in dealers, how DeSoto generates it. B. C. Foy. *il Ptr Ink* 162:3-4+ Ja 19 '33
- Microphone in chain store; sales meeting listens in at Nela Park. *il Ptr Ink* 164:87-8 Ag 17 '33
- 1932 sales convention for a force of nine men; National mineral company. J. H. Braden. *Ptr Ink Mo* 25:21+ D '32
- Our salesmen helped formulate our new policies; Propper-McCallum hosiery co. L. Propper. *Ptr Ink Mo* 26:27-8 Ap '33
- Profit-building sales conventions on a restricted budget; conference by mail. H. T. Bussmann. *Ptr Ink* 161:69-70+ N 17 '32
- Sales conventions, 1933 style. J. J. McCarthy. *Ptr Ink* 164:69+ Jl 27 '33
- Sales-meeting plans of 1933 offer broad selection. A. H. Little. *il Ptr Ink* 164:51, 53-6 Ag 10 '33
- Stunts to sell advertising to the salesmen. *Ptr Ink* 164:37-8 S 28 '33
- This sales meeting program does seven jobs; Benedict mfg. co. L. E. Barnes. *Ptr Ink Mo* 26:25-6 Mr '33

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Dealer conventions

**Plays**

- Making the sales story basis of effective plays. *Ptr Ink* 162:40 Mr 2 '33

- When the convention-planner turns dramatist. *Ptr Ink* 163:24-5 Je 22 '33

**SALES costs**

- Find ratio of direct selling costs to sales lower; advertising rises. *Sales Management* 32:562+ Je 1 '33
- How to control profits while reducing sales costs. S. A. Weart. *Ptr Ink Mo* 27:22-3 N '33
- Memo, on sales expense. F. L. Scott. *il Adv & Sell* 20:17 D 22 '32
- Now, more than ever, the sales budget must come first. *Ptr Ink* 161:60-1 D 22 '32
- Selling costs due for drop. L. D. H. Weld. *Ptr Ink* 164:17-19 S 7 '33
- Selling costs of industrial companies. *Ptr Ink* 165:77 O 5 '33

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Salesmen—Expenses

**Accounting**

- Accurate sales costs as determining factor in merchandising policy. J. A. Austin. *il Textile World* 83:393-4 F 28 '33
- How sales cost figures point way to greater profits. C. H. Hatch. *Ptr Ink* 165:3-5+ O 19 '33
- Marketing cost does not belong in minimum price. A. T. Falk. *Ptr Ink* 165:63-6 O 12 '33
- Pricing goods to protect profit under NRA costs. A. W. Rucker. *Sales Management* 33:397-8 O 20 '33
- Why marketing cost should be part of production. L. D. H. Weld. *Ptr Ink* 165:63-5 O 19 '33

**SALES departments**

- As the advertising manager said to the sales manager; Woodbury company and Jergens company. H. J. Emptage and R. V. Beucus. *il Ptr Ink* 161:25-8 D 1 '32
- More sales for your money; Miller, Franklin & company. C. H. Hatch. *Ptr Ink* 164:49+ Ag 17 '33
- Production and sales; importance of close cooperation between departments. E. S. Byng. *Electrician* 110:158 F 3 '33
- Two-part sales management; dividing direction of department into plan-control and man-control. M. K. Powers. *Ptr Ink* 164:17-20 S 21 '33

**See also**

Sales promotion departments

**SALES estimates**

- How Grinnell forecasts sales five months in advance. M. S. Sullivan. *Sales Management* 32:508+ My 15 '33
- Installation and operation of sales budgets. H. E. Howell. *Management R* 21:355-62 D '32; *Abstract. Factory & Ind Management* 83:306 Ag '32
- Need of budgets and sales forecasts. S. Roberts. *Rubber Age* 32:369-70 Mr '33

**See also**

Production and sales, Coordination of

**SALES letters**

- Action in letters. C. McPherson. *il Ptd Salesmanship* 60:434-6+ F '33
- Bausch & Lomb to make sales correspondents letter conscious. *Sales Management* 33:414 O 20 '33
- Better returns from fewer letters; International harvester company. H. McJohnston. *Ptr Ink* 162:80-1 Ja 19 '33
- Correspondent delivers a catalog. *il Ptd Salesmanship* 61:93 Ap '33
- Customer writes prospect in this letter campaign; Nunn, Bush & Weldon series to shoe retailers. *Ptr Ink* 163:47-9+ My 4 '33
- Direct mail results; results for a legal service. *Ptr Ink Mo* 27:55 N '33
- Do our letters sustain attention long enough to arouse interest? T. Thrift. *Ptd Salesmanship* 60:448-50+ F '33
- Do we take our letters too seriously? C. McPherson. *Ptd Salesmanship* 60:300-2 D '32
- Famous letter series of 25 years ago; for Hart, Schaffner & Marx. *il Ptd Salesmanship* 60:433 F '33



SALES letters—*Continued*

- Fitting letters into their proper place in the direct-mail campaign. C. A. Bates. Ptd Salesmanship 60:442-3+ F '33
- Friendly reminder and a follow up. il Sheet Metal Worker 24:283-4 S '33
- Get that sales letter off to a flying start. R. J. Dudley. Ptr Ink Mo 26:69+ F '33
- How Frigidaire builds business with direct mail; 12,000,000 pieces have been used this year to reach salesmen, owners and prospects. F. R. Pierce. Ptr Ink 165:48-9, 52-3 O 5 '33
- How to dictate letters that prove their case. E. Bigelow. il System and Management Methods 62:344-6+, 392-3+, 444-5+, 496-7+ Ag-N '33
- How to link the prospect's desire to possess with our desire to sell. T. Thrift. il Ptd Salesmanship 61:16-19+ Mr '33
- How to start off on the right foot. T. Thrift. Ptd Salesmanship 60:357-9+ Ja '33
- Impersonal letters with a human touch; a railroad sells its crack train to the hometown folk. il Ptr Ink 161:71-3 N 24 '33
- Let somebody else do the talking sometimes! W. H. Snead. il Ptd Salesmanship 62:106-8 O '33
- Letter to new car purchasers helps gasoline sales. Nat Pet N 25:30 Ag 30 '33
- Letters help increase Oshkosh profits for 1932, 53 per cent over '31. J. L. Scott. il Ptd Salesmanship 60:426-7 F '33
- Letters succeed when fine art failed; Haag washing machines. G. E. Mitchell. il Ptd Salesmanship 61:22-4 Mr '33
- Letters that back up the catalog. C. McPherson. il Ptd Salesmanship 61:80-3+ Ap '33
- Letters that give prospects a chance to be clever. F. H. Meeks. Ptr Ink Mo 27:22+ O '33
- Letters to start the new year off right. L. E. Frailey. Ptd Salesmanship 60:373-5+ Ja '33
- Little attention-getters make effective sales letters. D. Gridley. Ptr Ink 162:70-2 Mr 2 '33
- Long and short of it. Ptr Ink 162:82 Mr 30 '33
- Long letters without headlines pull best, this study shows; summary made by International Nickel. Ptr Ink 162:33-5 Mr 23 '33
- Mail plan brings results; Joseph I. Schwartz company. Management Methods 62:119 Mr '33
- Mr. Moore faces the facts; common sense is the best economics. L. Moore. Ptr Ink 162:15-16 Ja 12 '33
- Modern sales letter policy and practice. il Ptr Ink Mo 27:53-6+ Ag '33
- More sales punch in letters to dealers. D. Gridley. il Ptr Ink 163:33-6 Ap 6 '33
- Never write a letter without a reason! R. E. Ramsay. Ptd Salesmanship 60:451-3+ F '33
- New start letters. J. Carr. il Ptd Salesmanship 60:437-9, 459 F '33
- New tempo in sales letters. il Ptd Salesmanship 60:421-5 F '33
- Sales letters. M. Droke. Published in semi-monthly numbers of Sales management
- Sales letters that dealers like to use. B. F. Berfield. Ptr Ink 161:60-2 D 1 '32
- Sales letters that get action from industrial buyers; Lincoln electric company. A. F. Davis. Ptr Ink Mo 27:21+ S '33
- There's a balance-sheet difference in the kind of letters you dictate. B. Bigelow. il Management Methods 62:254-5 Je '33
- These letters dig up forgotten sales; Comfort coal-lumber co. gets cooperation of manufacturers. H. Blauvelt. Ptr Ink Mo 26:83-4 Ja '33
- These simple mailing pieces sell, and pull inquiries; Savogran remover and bleacher. Ptr Ink 163:80-1 My 25 '33
- Three letters brought returns of 59 per cent; National educators finance company, Oklahoma City. J. E. Wolf. il Ptd Salesmanship 60:214-15+ N '32
- To sell successfully by mail—know well the three P's. B. Bigelow. il System and Management Methods 62:300-1+ Jl '33
- Tricks that emphasize arguments in the sales letter; color, italics, etc. D. Gridley. Ptr Ink 164:39-41 Jl 13 '33
- Two letters that appeal to women. D. H. Colcord. il Ptd Salesmanship 60:454+ F '33
- 2,200 new accounts at a cost of 20 cents each; Coward shoe company of Boston. B. Crowell. Sales Management 31:429-30 N 15 '32
- Unexpected enclosures that dramatize the sales points stressed in the letters; how W. F. McLaughlin and company introduces Manor house coffee to grocers and housewives. A. Barkley. il Ptd Salesmanship 60:428-9 F '33
- Variety in letters. Ptr Ink Mo 26:86 Ja '33
- What is the secret of a good dealer letter? Nebraska cement company. A. R. Hahn. Sales Management 32:110 F 1 '33
- When writing dealers about new price rises. D. Gridley. Ptr Ink 164:82-3+ S 21 '33
- Why lead a horse to water if we can't make him drink? T. Thrift. Ptd Salesmanship 61:90-2+ Ap '33
- Winners of the June problem; sales letter for retail shoe store. Ptd Salesmanship 61:348-9 Ag '33
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| Complaints        | —Letters to salesmen |
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- Lost customers**
- Inactive account letter award. Management Methods 62:220, 239 My '33
- Inactive accounts letter. System and Management Methods 62:350-1 Ag '33
- Letters to win back lost customers. Ptr Ink 164:51-4 S 7 '33
- To revive comatose customers. C. H. Frankenberg. Ptr Ink Mo 27:17-18 S '33
- Signatures**
- Company or individual names as sales letter signatures. Ptr Ink 165:52 O 26 '33
- Let somebody else do the talking sometimes! W. H. Snead. il Ptd Salesmanship 62:106-7 O '33
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- Adventures of a sales detective. C. E. Haring. il Nation's Business 21:44+ O '33
- Are you gambling with manpower? L. M. Stewart. Sales Management 32:216 Mr 1 '33
- Ask the salesmen, they know. W. H. Snead. Ptr Ink 165:74+ O 26 '33
- Blames manager for salesmen's cold feet, wobbly knees. H. Hode. Ptr Ink 162:83-4 Ja 19 '33
- Easy sales—or we're not interested; experience of a publishing company with printing trade and other sellers. Adv & Sell 20:19-20+ F 2 '33
- Executives are salesmen's aides in this prosperity drive; International business machines corporation. T. J. Watson. Ptr Ink 164:16-18 Ag 17 '33
- For the sales manager: 25 checking points on reconstruction selling. M. L. Wilson. il Adv & Sell 21:28+ Ag 31 '33
- Four sales fundamentals for 1933; how Chrysler is meeting extraordinary condition. J. W. Frazer. Ptr Ink 161:68-70 D 1 '32
- 14 checks on salesmen's waste time. Ptr Ink Mo 25:39-40+ D '32
- General foods corporation effects sales decentralization through 172 directive offices. Sales Management 32:263 Mr 15 '33
- General Motors commands; what centralized control has accomplished in its first year. Business Week p12-13 F 22 '33
- How Allen-Ingraham develop champion quota-busters. R. C. Hill. Sales Management 32:203-5+ Mr 1 '33
- How General Foods built up mass selling plan; protected quality, improved packages, scientific pricing and continued advertising. C. Francis. Ptr Ink 162:25-8 Mr 9 '33
- How Indiana gas utilities use planned selling. F. Merish. Gas Age 70:704-5 D 31 '32
- How salesmen can be induced to analyze their work. E. C. Sparver. Ptr Ink Mo 27:57+ Jl '33

**SALES management—Continued**

- How 6 companies licked depression sales problems. *Ptr Ink* Mo 26:17-19+ F '33
- How to sell in 1933! H. F. Merrill. *Forbes* 31: 8-10 Ja 1 '33
- How to sell power; Philadelphia electric company. J. F. Gaskill. *Elec W* 101:459-61 Ap 8 '33
- How to use science in sales management. W. N. Polakov. *Management Methods* 62:68-9+ F '33
- How we found tip top sales opportunity in a rock bottom year; Walter Drey organization and Monarch typewriters. W. Drey. *il Sales Management* 32:318-19+ Ap 1 '33
- Importance of factory cooperation in selling. H. E. Fritz. *Rubber Age* 33:17-18 Ap '33
- In defense of salesmen; Timken automatic company. E. V. Walsh. *Adv & Sell* 21:26+ J1 6 '33
- Increasing profits through better management of salesmen. *Sales Management* 33: 349-50+ O 10 '33
- Introduction to sales management. H. R. Tisdal. 418p \$3.50 McGraw-Hill '33
- Little "go" signs; local steps of progress may better a business generally. R. Giles. *il Adv & Sell* 20:16 Ja 5 '33
- Making the star salesman into a junior executive. *Ptr Ink* 163:36-8 My 4 '33
- Now, more than ever, the sales budget must come first. *Ptr Ink* 161:60-1 D 22 '32
- Plans for promoting closer field supervision of salesmen. *Management R* 22:57-8 F '33
- Reducing the cost of selling; purchasing agents suggest ways. D. Gridley. *Ptr Ink* Mo 27:27-8+ Ag '33
- Reverse pep talk. A. Bradbury. *Ptr Ink* Mo 26:19 Ap '33
- Salesmen help form policies in this company; Addressograph company. W. K. Page. *Ptr Ink* 161:17-19 N 24 '32
- Selling the salesman. R. Giles. *Adv & Sell* 21:26+ O 12 '33
- Sherwin-Williams cuts clerical work of salesmen; seeks more selling time. H. D. Whittlesey. *Sales Management* 32:104 F 1 '33
- Taylor society finds marketing direction still unscientific. S. E. Thompson. *Sales Management* 31:488 D 1 '32
- Team selling is profitable these days; one man sets the stage, the other presents the case. J. A. Murphy. *Adv & Sell* 20:21 Mr 16 '33
- Telephone sales meeting. *Ptr Ink* 163:28 Je 8 '33
- This club builds enthusiastic sales force; Norge corporation. J. H. Knapp. *Ptr Ink* 165:85, 88-9+ O 5 '33
- This plan bolsters salesmen's slipping morale; canvassers precede regular sales force. C. B. Larrabee. *Ptr Ink* 162:69-71 F 23 '33
- Today's four-point job for sales managers. M. G. O'Harra. *Ptr Ink* 163:68-9 Je 8 '33
- Too proud to sell. A. Glim. *Ptr Ink* 161:3-4+ D 29 '32
- 20 plans that inspire men to fight for orders. A. R. Hahn. *il Sales Management* 31:511-13+; 32:19-20+ D 15 '32-Ja 1 '33
- What check-up do you make on your sales department? W. C. Rohdenburg. *il Management Methods* 62:256-7 Je '33
- When one of my salesmen gets off his feed. E. Gordon. *Sales Management* 32:467-8+ My 1 '33
- When salesmen must be fired, let the home office do it. J. N. Griffith. *Ptr Ink* 162:64 Ja 12 '33
- Why Bristol-Myers' men stick. E. A. Means. *Sales Management* 32:507+ My 15 '33
- Write your own selling code! H. E. Blood. *Forbes* 32:23 O 15 '33
- You can't man delivery trucks with salesmen—or can you? F. DeArmond. *il Adv & Sell* 21:24-5+ S 28 '33

**See also**

**Advertising**  
**Automobile industry and trade—Salesmen**  
**Automobiles, Salesmen's**  
**Dealer helps**

**Display of merchandise**  
**Employees as salesmen**  
**Follow-up systems**  
**Gas companies—Salesmen**

**Marketing**  
**Production and sales,**  
**Coordination of**  
**Prospect lists**  
**Sales contests**  
**Sales conventions**  
**Sales manuals**  
**Sales policies**

**Sales promotion**  
**Sales quotas**  
**Sales records**  
**Sales territories**  
**Salesmanship**  
**Salesmen**  
**Salesmen's reports**

**Definition**

What is sales management? P. Salisbury. *Sales Management* 32:475+ My 1 '33

**Letters to salesmen**

- Getting ready for better things. W. V. Dougherty. *Ptr Ink* 162:40 Mr 16 '33
- Honest sentiment has a place in letters to salesmen. F. H. Meeks. *Ptr Ink* 165:55-6+ N 9 '33
- Keeping faith with NRA; a letter to De Long salesmen. C. R. Wiers. *Ptr Ink* 164:69-70+ S 28 '33
- More letters from Frank Trufax to his salesmen. A. J. Newman. *Adv & Sell* 20:22+ N 24 '32
- Sales director Bloom answers a lamentation from "Alibi Ike." F. H. Bloom. *Sales Management* 32:514 My 15 '33
- Salesmen letters from an outsider; Folger coffee company creates the character Jack Straw. F. Atha. *il Ptr Ink* 161:30-1 D 29 '32
- Seven points to remember in campaign letters to, salesmen. *il Ptd Salesmanship* 60:440-1 F '33
- These letters give salesmen ideas. R. E. Benedict. *il Ptr Ink* Mo 26:24-6 My '33

**SALES managers**

- Building future executives through revised policy for sales supervisors; Timken-silent automatic company. *Sales Management* 33: 352 O 10 '33
- Building up the sale; 1933 conditions call for expert direction and help from executives. J. H. Rand, jr. *Ptr Ink* 164:35-6 Ag 31 '33
- Talks with farmers guide this sales manager's sales plan; D. D. Strite, New York wire cloth company. J. A. Murphy. *Sales Management* 33:263-4 S 15 '33

**SALES manuals**

- Making the sales manual click. *Ptr Ink* 161: 58-9 D 29 '32

**SALES manuals, Retail**

- Sales help that the dealer asks for; Kuppenheimer informal booklet of selling facts. M. M. Lebensburger. *Ptr Ink* 165:27-8 O 19 '33
- Three selling plans for dealers; American blower co. instructs its retailers. *Ptr Ink* 164:61+ J1 27 '33

**SALES meetings. See Sales conferences; Sales conventions****SALES mergers. See Sales policies—Combination selling****SALES plays. See Sales conventions—Plays****SALES policies**

- Advertising experience I found most interesting; Robert Burns and Owl cigars. F. J. Ross. *Ptr Ink* 163:33+ Ap 13 '33
- Boom-year sales volume in a slump-year market; Ebeling & Reuss. L. M. Hughes. *il Sales Management* 32:102-3+ F 1 '33
- Bootleg wholesalers—frenzied selling's new threat. J. O. Nilan. *Ptr Ink* Mo 26:39-40+ Ja '33
- Built-in quality wins mass sales; Wirecraft snubs price cutters. *Sales Management* 33: 123 Ag 1 '33
- Business marshals men and media; heavy sales drives on. *Sales Management* 33:202-3 S 1 '33
- Connecticut rental-purchases helped sell water heaters. *Gas Age* 71:227+ Mr 4 '33
- Credit plan increases Canada Dry volume 60 per cent in May. *Sales Management* 33:36 J1 1 '33
- Criticism of conditions in the marketing division. P. M. Miskell. *Oil & Gas J* 31:10+ Ap 6 '33; Same. *Nat Pet N* 25:20-2 Ap 5 '33; Excerpt. *Pet Age* 27:16-17+ Ap '33
- Dealer bonus increases Ingram's outlets 20%. *Sales Management* 33:340 O 10 '33



**SALES policies—Continued**

- Deflate the sales manager's big bag of tricks; abstracts. B. Lichtenberg. *Ptr Ink* 163:53-4 My 18 '33; *Adv & Sell* 21:21 My 11 '33
- Excerpts from West Penn range and wiring policy. *Elec W* 100:752 D 3 '32
- Firestone renews his fight on private-brand tires. *Ptr Ink* 163:58-60+ Ap 6 '33
- Goods priced for profit sell easier than at cut price; O-Cedar. P. H. Erbes, Jr. *il Ptr Ink* 164:3-4+ Ag 24 '33
- Henry Ford begins to appreciate the value of sales incentives. *Sales Management* 31:432+ N 15 '32
- Hires concentrates to beat beer; Coca-Cola finds going tougher. *Sales Management* 33:122 Ag 1 '33
- How Northern Indiana evaluates gas load-building activities. S. Jenks. *Gas Age* 72:381-2+, 405-6+, 427-8+ O 21-N 4 '33
- How sales cost figures point way to greater profits. C. H. Hatch. *Ptr Ink* 165:3-5+ O 19 '33
- How to rate sales capacity as a factor in commercial credits. C. D. Murphy. *il Rand McNally Bankers Mo* 50:136-8+ Mr '33
- How to sell in 1933! H. F. Merrill. *Forbes* 31:8-10 Ja 1 '33
- Increasing profits through more efficient sales control plans. *Sales Management* 33:384+ O 10 '33
- Manufacturer holds retail sale; odds and ends are disposed of in the home town. H. L. Harrison. *Ptr Ink* 162:84-5 Ja 12 '33
- Needed: sales-mindedness. R. Dickinson. *Ptr Ink Mo* 27:13-14 S '33
- Profit sharing with salesmen doubled this jobber's sales in five years; the House of Krasne. L. M. Hughes. *Sales Management* 31:466-7+ D 1 '32
- Retailers' viewpoint on business. M. L. Wilson and W. M. Hart. *Adv & Sell* 20:21-2+ D 22 '32
- Sales ideas that work to-day. H. F. Merrill. *il Forbes* 31:10 Ja 15 '33
- Sales planning for August. *il Sales Management* 33:70-1 JI 15 '33
- Sales shoe leather, past and present; number of salesmen's calls received by A. B. Farquhar co. H. A. Russell. *Iron Age* 130:754-5 N 17 '32; Same. *Ptr Ink* 161:57-8 D 8 '32
- Second lines create dealer antagonism; intensive work on established products better than pushing new line under another name. *Ptr Ink* 161:36 N 17 '32
- Selling policies that have succeeded in weathering the depression; Timken silent automatic company. E. V. Walsh. *Ptd Salesmanship* 61:242-3+ Je '33
- Some problems in sales ethics. W. H. Gardner. *Nation's Business* 21:28 Je '33
- Sonotone sales hit new high under specialty sales plan. L. M. Hughes. *il Sales Management* 33:306-7+ O 1 '33
- Sound selling policy is often a forgotten asset as advertising theme. D. W. Northup. *Ptr Ink* 163:41-2 My 4 '33
- Stronger selling plan for weaker markets keeps sales and profits soaring; Lederer manufacturing company. Detroit. A. B. McWood. *Sales Management* 32:478+ My 1 '33
- This plan pulled 1,600 lame duck accounts out of the red. M. S. Sullivan. *Sales Management* 32:163+ F 15 '33; Summary. 33:344 O 10 '33
- This sales drive won 800 new dealers; General timber service, Inc. H. D. Bates. *il Ptr Ink* 163:36-7+ My 11 '33
- Today's path to profits—tested, planned selling; General foods corp. C. Francis. *il Management Methods* 62:163-5+ Ap '33
- Turning 1933 sales opportunities into gold. J. C. McCoy. *Sales Management* 32:11-12+ Ja 1 '33
- Using consumer inquires to open new territories. *Ptr Ink* 162:69+ F 2 '33
- Whoopie advertising takes a tailspin; Nash motors company. E. H. McCarty. *Ptr Ink Mo* 26:21-2+ Mr '33
- Why Borden stopped giving free equipment to dealers. L. M. Hughes. *il Sales Management* 33:106-7 Ag 1 '33
- Why not let agents, dealers help get better gasoline prices? evils of cents per gallon commissions. B. L. Meece. *Nat Pet N* 25:36-8 F 8 '33
- Will federal cooperation work? sales executives are not agreed; conference of Sales executives' club of New York. *Sales Management* 32:524+ My 15 '33

**See also**

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|----------------------|----------------------|
| Advertising allow-   | Price fixing         |
| ances                | Price fixing, Resale |
| Advertising policies | Price policies       |
| Canvassing           | Private brands       |
| Cash business        | Products, Improved   |
| Catalogs             | Returned goods       |
| Christmas business   | Sales management     |
| Consignment selling  | Sales promotion      |
| Dealer helps         | Sales territories    |
| Dealer relations     | Sales units          |
| Dealer selection     | Salesmen, Retail—    |
| Discount, Trade      | Bonuses (manufac-    |
| Display of merchan-  | turers')             |
| dize                 | Salesmen as collec-  |
| Exclusive agencies   | tors                 |
| Family of products   | Samples (merchan-    |
| Guaranty of goods    | dizing)              |
| Instalment plan      | Service (in indus-   |
| Jobbers              | try)                 |
| Marketing            | Side lines           |
| Premiums (merchan-   | Trade-in policies    |
| dizing)              |                      |

**Combination selling**

- New deal in coffee; McLaughlin's utensil offer. *il Ptr Ink* 163:39-40 Ap 6 '33
- Sales merger gives sectional firm national coverage; Brown & Wells neckwear sold with Faultless pajamas. R. Wells. *Ptr Ink* 162:59-60 F 9 '33

**Ensemble selling**

- Trend toward grouped selling of household textiles. *il Textile World* 82:1180 D '32

**Free goods**

- Discredited free deal. H. Deutsch. *il Adv & Sell* 20:13-15 F 2 '33
- Free deal as seen by a manufacturer and a retailer. J. L. Lascoff; D. A. Haggerty. *Ptr Ink Mo* 26:41-2+ F '33
- How one company ended free deal charge-back nuisance; Wm. S. Merrell company. T. Merrell. *Ptr Ink* 164:41-2 S 14 '33
- Why Mennen has abolished free goods. *Ptr Ink* 162:69-70 Ja 12 '33

**Selective selling**

- Accurate sales costs as determining factor in merchandising policy. J. A. Austin. *il Textile World* 83:393-4 F 28 '33
- Business needs the courage to refuse to sell. C. B. Larrabee. *il Ptr Ink* 161:3-4+; Discussion. 6 N 24 '32
- Majestic's master dealer plan of selective selling. E. Butt. *il Ptd Salesmanship* 60:233-6+ N '32
- Shearing the marketing zones. H. A. Haring. *il Adv & Sell* 21:17-18+ JI 20 '33
- Trend toward grouped selling of household textiles. *il Textile World* 82:1180 D '32

**See also**

- Dealer selection
- Marketing—Sectional distribution

**Small orders**

- How 17,000 small accounts were made profitable; direct mail to supplement calls by salesmen. L. Stephenson. *Ptr Ink* 163:25-7 Ap 13 '33

**SALES portfolios. See Salesmen's portfolios****SALES promotion**

- Building promotion ideas for department stores; Bigelow-Sanford rugs. *Ptr Ink* 163:64-6 Je 8 '33
- Evaluating national co-ordinated promotional programs. J. E. Davidson. *Elec W* 101:762-3 Je 10 '33
- Food foundation builds consumer acceptance for chain; Kroger grocery & baking company. *Ptr Ink* 162:96-9 Ja 19 '33

**SALES promotion—Continued**

- Increasing profits through better management of sales promotion. M. Droke. Sales Management 33:377-8+ O 10 '33
- New selling plans to bring results. H. F. Merrill. *il* Forbes 32:8-10 N 1 '33
- Retailers' sales pick-up speeded by manufacturer's salesmen; J. A. Folger & co. F. Atha. *il* Ptr Ink 165:25-7 O 12 '33
- Sales planning for June. Sales Management 32:518-19 My 15 '33
- This plan gets dealers to suggest related sales; Savogran company's paint can stores; Bigelow-Sanford rugs. Ptr Ink 163:17-19 Je 8 '33
- Why sales promotion is essential as a selling aid. C. H. Lang. Ptr Ink 162:72-3+ Mr 23 '33
- Why store-wide promotion plans are turned down. Ptr Ink Mo 26:53 Ap '33
- Wrigley rewards users with \$1 bills; total may be \$2,500,000. Sales Management 31:526 D 15 '32

*See also*

Employees as sales promoters

**SALES promotion departments**

- Advertising in overalls; Republic steel corporation. L. S. Hamaker. *il* Ptr Ink Mo 26:28-9+ My '33

**SALES quotas**

- Check plan for breaking jobber quotas. Sales Management 33:384 O 10 '33
- Pep for salesmen. Ptr Ink 164:32 Jl 27 '33
- Quota-setting. L. E. Barnes. Ptr Ink 164:16-18 Ag 10 '33
- Science versus guesswork in 1933 sales quotas. E. St. E. Lewis. Sales Management 32:51-3 Ja 15 '33
- Why these companies will not use sales quotas next year. A. M. Howe. Ptr Ink Mo 25:49-50 D '32

**SALES records**

- Card records simplify bookkeeping work; Hygienic products company. Management Methods 62:117-18 Mr '33
- For better sales control; American cynamid and chemical corp. *il* Management Methods 62:263-4 Je '33
- How simple factual analysis gives us real sales control; Eli Lilly and company. C. F. Eveleigh. System and Management Methods 62:348-9+ Ag '33
- How to use science in sales management. W. N. Polakov. Management Methods 62:68-9+ F '33
- Prospect record file for branch offices; General refrigeration sales company. *il* System 62:502 N '33
- Sales and records at B.Z.B. knitting company go hand in hand. C. L. St. Clair. *il* Textile World 82:1174-5 D '32
- Sales tickets for 7 years; Troxel brothers hardware co. System and Management Methods 62:399 S '33

**SALES research**

- Are our bread and butter accounts being neglected? Sales Management 32:61+ Ja 15 '33

*See also*

Market research  
Market surveys

**SALES rooms**

- Keying textile selling offices to modern merchandising. *il* Textile World 82:991-4 N '32
- Planning sales and office buildings for public service companies. J. B. Rodgers. *il* plans Arch Rec 72:397-409 D '32

**SALES statistics**

- How simple factual analysis gives us real sales control; Eli Lilly and company. C. F. Eveleigh. System and Management Methods 62:348-9+ Ag '33
- Record system to eliminate guesswork in setting sales policies; Diamond crystal salt co. Sales Management 33:384+ O 10 '33

*See also*

Sales estimates

**SALES tax**

- Add sales taxes to gasoline prices in Middle West states. Oil & Gas J 32:33 Jl 6 '33

- California tax row. Business Week p16-17 N 4 '33
- Canada likes the sales tax. F. S. Chalmers. *il* Nation's Business 20:30-1+ D '32
- Distribution groans under increasing taxation. A. G. Buehler. Adv & Sell 21:24+ O 12 '33
- Domestic allotment=sales tax; prospects of farm relief legislation in the present session become dubious. Business Week p18-19 D 28 '32
- General rules and regulations relating to Retailers' occupation tax act. 24p Illinois dept. of finance, Springfield '33
- General-sales tax reconsidered. A. G. Buehler. Barron's 12:3+ D 26 '32
- Illinois printers hit by sales levy. J. R. Bowman. Inland Ptr 91:43 Ap '33
- Interpretation of New York sales tax. Iron Age 131:787 My 18 '33
- Mississippi general sales tax; how it works. J. W. Bell, G. Guyton and R. L. Sackett. Univ of Mississippi Bul Ser 30, no 3:1-48 '33
- Must prevent misuse of highway funds by other income. Rock Prod 35:34 N 19 '32
- New York retail sales tax law; regulations covering sales in interstate commerce. System and Management Methods 62:309-10 Jl '33
- New York sales tax data. Oil Paint & Drug Rep 123:18+ Je 5 '33
- Painful sales tax in Michigan. Business Week p10 Jl 15 '33
- Sales tax. E. R. Rankin, comp. North Carolina Univ Extension Bul v 12, no 5:1-87 [bibliog p82-7] '33 (50c)
- Sales tax and materials used in advertising. Ptr Ink 163:16 Je 29 '33
- Sales tax effective in New York beginning May 1. Oil Paint & Drug Rep 123:58 Ap 24 '33
- Sales tax fiasco in Illinois. Business Week p9 My 24 '33
- Sales tax for plumbing and heating dealers. Dom Eng 141:52 My '33
- Sales tax forced to front. Business Week p4-5 N 30 '32
- Sales tax may become means to establish profitable selling. Sales Management 32:577 Je 1 '33
- Sales tax rebellion; Illinois' attempt to collect occupational tax from utilities. Business Week p 14 Ag 26 '33
- Sales tax strategy; New York and Oklahoma. Business Week p10-11 My 3 '33
- Sales tax threatens business. H. Stearns. Adv & Sell 20:24 Mr 30 '33
- State general sales tax acts. 142p Commerce clearing house, inc, Chicago '33
- Tarheel sales tax. Business Week p15 Ag 12 '33
- Tax ten times greater than sales. C. Henke. Ptr Ink 163:36 Je 15 '33
- Taxation without discrimination. F. Hobbs. *il* Am Bankers Assn J 25:26-7+ Ap '33
- Taxes of the hour; Illinois. Business Week p8-9 Ap 12 '33
- Who pays New York state retail sales tax? application of tax to sheet metal trade. Sheet Metal Worker 24:292-3 S '33
- Wholesalers must pay emergency sales tax in Pennsylvania. M. F. Burger. Dom Eng 140:109-11 D '32
- Why the sales tax is bad. A. P. Canning. Comm & Fin 22:137 F 1 '33

**Bibliography**

- List of references on the sales tax. 29 numb *il* U. S. Library of Congress, Reading room, Washington '32 (typew)

**SALES territories**

- How to cut the commission man's territory painlessly. P. Hillery. *il* Adv & Sell 21:22 Ag 31 '33
- When salesmen can't make their drawing accounts; study of adding sidelines or increasing territories. G. W. Potter. Ptr Ink 162:17-20 Mr 9 '33

*See also*

Salesmen—Routing



**SALES units**

Two full pints idea doubles unit of sale;  
 Clicquot club company. H. E. Kimball. *il*  
*Ptr Ink* 161:10+ N 17 '32

*See also*

Package goods

**SALESMANSHIP**

Absurdities of 100 per cent. salesmanship.  
 Economist 116:453-4 Mr 4 '33; Discussion.  
 116:514-15 Mr 11 '33

Action in letters. C. McPherson. *il* *Ptd Sales-*  
*manship* 60:434-6+ F '33

Air express encounters a sales problem of its  
 own. R. M. Combs, jr. *il* *Ptd Salesmanship*  
 60:290-1+ D '32

And so Mr. Ellsworth didn't buy. F. Ells-  
 worth. *Ptr Ink* 161:78 N 24 '32

Ask for that order. H. Kerkow. *Sales Man-*  
*agement* 32:605 Je 15 '33

Before you sell, size up your man. R. E. W.  
 Harrison. *Management Methods* 61:643-4+,  
 698-9; 62:42-3 N '32-Ja '33

Better selling methods from science. G. L.  
 Shurtle. *Pet Age* 27:31-2 Ag '33

Bill brings home the bacon. *Sales Manage-*  
*ment* 33:67 JI 15 '33

Blames manager for salesmen's cold feet,  
 wobbly knees. H. Hode. *Ptr Ink* 162:83-4 Ja  
 19 '33

Buyer's side of briefcase story. E. J. Mur-  
 phy. *Ptr Ink* 162:57-8 F 2 '33

Consumer confidence; a neglected asset in  
 selling. C. H. Eyles. *Ptr Ink* 163:3-4+ Ap  
 27 '33

Contractor uses customers to sell others. *il*  
*Dom Eng* 141:55-6+ My '33

Do you reach the men who hold the purse  
 strings? H. Kerkow. *Sales Management* 32:  
 573 Je 1 '33

Don't judge a man's assets by his looks. B.  
 Crowell. *il* *Sales Management* 32:433 Ap  
 20 '33

Easy sales—or we're not interested; experi-  
 ence of a publishing company with print-  
 ing trade and other sellers. *Adv & Sell* 20:  
 19-20+ F 2 '33

Even Ty Cobb had his no hit streaks. B.  
 Crowell. *Sales Management* 32:101 F 1 '33

Faint heart ne'er won fair order. B. Crowell.  
*Sales Management* 31:465 D 1 '32

Find the "no" man! A. H. Deute. *Ptr Ink*  
 164:92, 94-5 Ag 24 '33

Find the "no" man first. D. W. Taylor. *Elec*  
*W* 100:853-4 D 24 '32

For the salesman: 25 checking points on re-  
 construction selling. M. L. Wilson. *il* *Adv*  
*& Sell* 21:24+ S 14 '33

Frank talk to salesmen about the NRA. S.  
 Norvell. *Sales Management* 33:250-1 S 15 '33

Fundamentals of salesmanship. R. G.  
 Walters. 2d ed 416p South-western pub. co.  
 Cincinnati '32

Gallery, T. H. Beck. H. Powel. *il* *Adv & Sell*  
 21:22-3+ Je 8; 28+ Je 22 '33

George Brown, salesman extraordinary; con-  
 ducts his own direct-mail campaign. *il* *Ptr*  
*Ink* Mo 27:27 JI '33

Getting one dealer to sell another. F. L.  
 Scott. *il* *Adv & Sell* 21:26+ O 26 '33

Guarding against blunders of the novice sales-  
 man. G. J. Thiessen. *Ptr Ink* 162:62-4 F 23  
 '33

How much do you really know about your ter-  
 ritory? P. W. Combs. *Sales Management* 32:  
 210 Mr 1 '33

If I were a salesman. W. E. McFee. *Ptr*  
*Ink* 164:55-7 Ag 31 '33

Is he a prospect? E. V. Walsh. *Dom Eng* 140:  
 93-5 D '32

Is railway passenger service properly sold?  
*il* *Ry Age* 95:457-60+ S 30 '33

Keeping faith with NRA; a letter to De Long  
 salesmen. C. R. Wiers. *Ptr Ink* 164:69-70+  
 S 28 '33

Kind of salesmen not to be. L. Bussmann.  
*Adv & Sell* 20:26+ Ja 5 '33

Make every order produce another; chain  
 prospect chart. *Sales Management* 33:168  
 Ag 15 '33

Make your own luck. B. Crowell. *il* *Sales*  
*Management* 31:515 D 15 '32

Maxims of a star salesman. R. B. Douglass.  
*Sales Management* 32:250 Mr 15 '33

Mr Bowker's first 4,000 miles of selling hope  
 and fertilizer. L. M. Hughes. *Sales Man-*  
*agement* 32:248-9 Mr 15 '33

Net profits—the key to 1933 industrial equip-  
 ment sales. H. P. Bailey. *Ptr Ink* 161:62-4 D  
 29 '32

New deal for selling. *Forbes* 31:4 Je 1 '33

Nothing sells like figures. R. Giles. *il* *Adv &*  
*Sell* 21:30+ S 28 '33

One-track salesmen and wary buyers. H.  
 Kerkow. *il* *Sales Management* 33:105 Ag 1  
 '33

Other salesmen teach us. M. L. Lane. *East*  
*Underw* 34:60-1 pt 2 S 22 '33

Research, salesmanship and tomorrow's mar-  
 kets. J. H. Van Deventer. *Ptr Ink* 163:76-8  
 Ap 27 '33

Sales trepidation. R. Dickinson. *Ptr Ink* Mo  
 26:23+ Ja '33

Salesman with briefcase like hunter with gun.  
 F. L. Bellows. *Ptr Ink* 163:72 Ap 20 '33

Scientific salesmanship. E. F. Armstrong.  
*Chem Age* (Lond) 29:281 S 23 '33

Scientific salesmanship; and Readings in  
 salesmanship. C. Bennett. 702p American  
 efficiency bureau, St Louis '33

Selling one product by showing others; the  
 Brown company sales talk centers on Solka.  
*il* *Adv & Sell* 21:52 S 14 '33

Should salesmen carry briefcases on first call?  
 W. B. Edwards. *Ptr Ink* 161:49-50 D 22 '32

Star salesmen the depression couldn't lick.  
*Sales Management* 33:16-17, 45-7, 110-11,  
 130-1, 318, 320+ JI 1, Ag 1, O 1 '33

Textbook of salesmanship. F. A. Russell. 2d  
 ed 428p McGraw-Hill '33

These salesmen annoy me. H. N. Barbour.  
*Ptr Ink* 161:17-20 D 22 '32

This salesman was dumb, but his orders were  
 many; and Rube Wardell and his pack of  
 obstacle cards. A. H. Deute. *Ptr Ink* 164:  
 69-70 Ag 3 '33

Too proud to sell. A. Glim. *Ptr Ink* 161:3-4+  
 D 29 '32

Wanted: consumer-minded salesmen. R. Giles.  
*Adv & Sell* 20:30+ N 24 '32

When the buyer is sour on the house. B.  
 Crowell. *Sales Management* 33:252 S 15 '33

Why salesmen fall down. H. D. Ellenbogen.  
*il* *Ptr Ink* Mo 26:30+ F '33

Why star salesmen are stars. J. A. Murphy.  
*Adv & Sell* 21:30+ Ag 17 '33

Why the salesman often fails to get the  
 order. *Ptr Ink* 163:64-5+ Ap 13 '33

Why the salesman with an idea gets the  
 order. H. A. Russell. *Ptr Ink* 163:15-16 My  
 11 '33

*See also*

Advertising  
 Advertising, Solicit-  
 ing of  
 Advertising and  
 salesmen  
 Business  
 Buying habits  
 Canvassing  
 Consignment selling  
 Employees as sales-  
 men  
 Family of products  
 Guaranty of goods  
 Insurance, Life—  
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Insurance agents  
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 Merchandizing  
 Order blanks  
 Package goods  
 Sales contests  
 Sales conventions  
 Sales letters  
 Sales management  
 Salesmen  
 Salesmen, Retail  
 Salesmen's portfolios  
 Samples (merchan-  
 dizing)

**Approach**

Selling through buyers blues. R. Giles. *Adv*  
*& Sell* 20:21-2 Ap 27 '33

**Bibliography**

Salesmanship and salesmanagement. (Busi-  
 ness literature, v 5, no 4) 3p Business  
 branch, Public library, Newark, N. J. '32

**Demonstrations**

Air-conditioning trailers build dealer distribu-  
 tion; Trane company. N. Downey. *il* *Ptr*  
*Ink* 163:58-9 Je 29 '33

Central Illinois light company, Peoria, sells  
 floodlighting by demonstration. *il* *Elec* W  
 101:66 Ja 14 '33

**SALESMANSHIP—Demonstrations—Continued**

Demonstrating a hidden sales point; this plan helped get national distribution in ninety days; United States gypsum company. *il* Ptr Ink Mo 25:19 D '32

Drama has a definite place in this selling plan; Loose-Wiles salesmen are taught simple showmanship. W. W. Wachtel. *Ptr* Ink 163:17-19 My 4 '33

Field idea boosts sales; Maytag washing machines. *il* Ptr Ink Mo 27:62 Jl '33

Mrs. Consumer witnesses an execution; Purina fly spray. W. Sample. *il* Ptr Ink 164:32-3 Ag 17 '33

Off with the new—on with the old. R. W. Fox. *Ptr* Ink 163:26-8 Je 8 '33

Productive Saturdays for salesmen; demonstrations in grocery stores by company salesmen. *Ptr* Ink 161:44 D 8 '32

Sales-story proof for the eyes of the buyer. E. Biggs. *Ptr* Ink 164:71-2+ Jl 20 '33

Selling outdoor lighting by demonstration. G. K. Hardacre. *il* Elec W 102:628-30 N 11 '33

Three million road demonstrations in two months. E. H. Shanks. *il* Ptd Salesmanship 61:143-5 My '33

See also

Department stores—  
Manufacturers' demonstrations

**Graphic aids**

What salesmen can learn from graphic selling. D. Gridley. *Ptr* Ink 161:80-2 D 1 '32

See also

Salesmen's portfolios

**Group selling**

When a group does the buying, how shall I sell? J. A. Murphy. *Iron Age* 130:911+ D 15 '32

**Moving picture aids**

Tough sales problems the new sales films are solving. *il* Sales Management 33:26-8 Jl 1 '33

**Number of calls**

These New Zealand salesmen must make 20 calls daily. C. L. Rollo. *Ptr* Ink 162:59-60 Ja 12 '33

**Photographic aids**

This story to dealers is told with still film; Devoe & Raynolds co. *il* Ptr Ink 163:32-4 Je 15 '33

**Price problem**

New sales angles will conquer unbranded merchandise. *Ptr* Ink 162:72 Ja 26 '33

Salesman who turns pale when someone mentions price. B. Crowell. *Sales Management* 32:509 My 15 '33

You've got to shade your price! A. J. Newman. *Ptr* Ink Mo 26:40+ F '33

**Service**

Go-givers displace go-getters in present-day selling. A. Bradbury. *Ptr* Ink 163:25-8 My 4 '33

**Service to dealers**

How General Foods salesmen help their dealers sell. J. F. Brownlee and C. Whiteman. *il* Sales Management 32:551-3 Je 1 '33

Retailers' sales pick-up speeded by manufacturer's salesmen; J. A. Folger & co. F. Atha. *il* Ptr Ink 165:25-7 O 12 '33

Spare-time activities for salesmen. *Ptr* Ink Mo 26:54-5 Ap '33

**Standardized sales talk**

Getting salesmen to use the standardized sales talk. A. H. Little. *Ptr* Ink 163:76-8+ Je 22 '33

Standardized selling talk, model 1933. W. G. Campbell. *il* Ptr Ink Mo 27:15-16+ Ag '33

**Telephone calls**

Phone selling plans pull orders at minimum cost. *Sales Management* 33:358 O 10 '33

**SALESMANSHIP, Retail**

How Armstrong shows retailers their faults. *il* Ptr Ink Mo 27:26+ Ag '33

I "shop" the ads. B. F. Peik. *il* Adv & Sell 21:26+ Je 8 '33

Male demonstrator. A. C. Hazel. *Elec R (Lond)* 113:258 Ag 25 '33

Why our salespeople don't work with you. C. E. Dulcan. *Ptr* Ink Mo 26:61-2 F '33

**SALESMEN**

Ask the salesmen, they know. W. H. Snead. *Ptr* Ink 165:74+ O 26 '33

Blue birds? hotels report an increase in number of salesmen on the road. *Business Week* p13 My 17 '33

Salesmen for the electrical industry provided for in agreements. *Monthly Labor R* 37:331 Ag '33

Selling as a career—Mr Bloom's letter to a job-seeker. *Sales Management* 31:520+ D 15 '32

Spare-time activities for salesmen. *Ptr* Ink Mo 26:54-5 Ap '33

Star salesmen the depression couldn't lick. *Sales Management* 33:16-17, 45-7, 110-11, 130-1, 318, 320+ Jl 1, Ag 1, O 1 '33

These salesmen annoy me. H. N. Barbour. *Ptr* Ink 161:17-20 D 22 '32

Thumb-nail talk about the profession of selling. B. Crowell. *Sales Management* 32:324 Ap 1 '33

See also

Advertising, Soliciting of

Advertising and salesmen

Automobile industry and trade—Salesmen

Canvassers

Canvassing

Drivers as salesmen

Electric utilities—

Salesmen

Employees as salesmen

also Beck, Thomas Hambly

Gas companies—Salesmen

Insurance, Life—Agents

Insurance agents

Purchasing—Treatment of salesmen

Sales contests

Sales conventions

Sales management

Sales quotas

Sales territories

Salesmanship

**Advance cards and letters**

Dramatizing the salesman's call; Agfa Ansco corporation. A. Bradbury. *il* Ptr Ink 163:72-3 My 18 '33

**Advertising**

George Brown, salesman extraordinary; conducts his own direct-mail campaign. *il* Ptr Ink Mo 27:27 Jl '33

**Bonuses**

Retroactive bonus helps to cut turnover on the sales force. *Sales Management* 33:352 O 10 '33

These salesmen pay expenses out of special bonuses; Puritan soap company. J. F. Bush. *jr.* *Ptr* Ink 161:17-19 D 1 '32

**Expenses**

Are you paying too much for salesmen's auto allowances? *Sales Management* 32:559+ Je 1 '33

Autos face new competition in scrip books; many firms to return western salesmen to travel by railroad. *il* Sales Management 32:153-9+ F 15 '33

Equitable allowances for the salesman-owned car. *Ptr* Ink 163:66-8 Je 15 '33

Flat allowances for salesmen's cars cause padding. D. Gridley. *Ptr* Ink 164:84-5 S 7 '33

If you want scrip books in the eastern territory, speak up, sales managers! *Sales Management* 32:108 F 1 '33

Plans that cut waste out of the salesmen's expense account. W. B. Edwards. *il* Ptr Ink Mo 25:30-1+ D '32

Sales management's crusade bears fruit: western roads approve scrip mileage books. *map* *Sales Management* 32:14-15+ Ja 1 '33

Salesman's Saturday night; ways of getting him to send in a more shipshape expense report. F. Atha. *Ptr* Ink 165:33-4+ N 9 '33

Salesmen win; Western railroads revived the bargain mileage book. *Business Week* p18 Ja 18 '33



**SALESMEN—Expenses—Continued**

These salesmen pay expenses out of special bonuses; Puritan soap company. J. F. Bush, jr. *Ptr Ink* 161:17-19 D 1 '32  
 Tipping salesman. *Ptr Ink* 162:36 Ja 12 '33  
 Travel costs drop in South; four more roads follow L & N in 2-cent coach fare test. *Sales Management* 32:326-7+ Ap 1 '33  
 Western railroads report heavy sale of scrip books; L & N. line asks I.C.C. for 2-cent coach fare. *Sales Management* 32:211-12+ Mr 1 '33  
 Western scrip books. *Sales Management* 32:253+ Mr 15 '33  
 When entertaining expenses may be deducted in tax reports. J. J. Wechsler. *Ptr Ink* 163:68-9 Je 1 '33  
 Will the eastern railroads wait for the government to force reductions in rates? *Sales Management* 32:470 My 1 '33

*See also*

Automobiles, Salesmen's

**Gifts to buyers**

Salesmen at Christmas. W. B. Edwards. *Ptr Ink* 161:10+ D 8 '32

**Law**

Traveling salesmen required to secure peddler's license under Arkansas city ordinance. *Monthly Labor R* 35:1352-3 D '32

**Rating**

Appraising salesmen. C. G. Crabb. *Ptr Ink* 164:3-4+ S 7 '33; Reply. R. M. Dowling. 165:82 O 12 '33; Discussion. (Defends idea of customer check on salesmen). T. Seideman. 165:77 O 26 '33

**Routing**

Greater sales at less cost when we tried selective routing. A. D. Brush. maps *Sales Management* 33:72-3+ Jl 15 '33

**Salaries and commissions**

Costs of commission selling. H. A. Haring. *Adv & Sell* 21:15+ O 12 '33  
 Fitting the salesmen's compensation to today's conditions. W. B. Edwards. *Ptr Ink* Mo 26:25-6+ Ja '33  
 How 25 companies are paying their salesmen this year. *Management R* 22:58 F '33  
 Paying salesmen with commission on sales can't be justified. *Ptr Ink* 165:40-1 O 19 '33  
 Straight commission takes it on the nose. P. Hillery. *Adv & Sell* 21:23 Je 22 '33  
 There are twelve basic plans for compensating salesmen. *Ptr Ink* 163:67-8 My 18 '33  
 Why I'm 100 per cent sold on straight commission. W. Drey. *Sales Management* 32:603-4+ Je 15 '33

*See also*

Salesmen, Jobbers'—Salaries and commissions

**Selection**

Chart rates success chances for prospective salesmen; Guardian Life tests a new plan. B. Crowell. *Sales Management* 33:212-13+ S 1 '33  
 Five simple tests for prospective salesmen. E. S. Jeffries. *Sales Management* 33:355 O 10 '33  
 Good news for college men; one big corporation inquires about their value to business. *Ptr Ink* 164:25 S 7 '33  
 How Plymouth picks its salesmen. H. G. Mook. *Ptr Ink* 163:37 Je 22 '33  
 One-third fewer salesmen; no slump in coverage; Puritan soap company. J. F. Bush, jr. *Ptr Ink* Mo 26:18 F '33  
 Salesmen's psychological tests. R. S. Schultz. *Adv & Sell* 21:28 O 26 '33  
 Selling through agents. M. A. Berman. *Adv & Sell* 20:19-20+ D 22 '32; 19-20+ Ja 5 '33  
 Six things experience has taught me about hiring men. J. Oliver. *Sales Management* 33:259-60+ S 15 '33  
 Yes, selection of salesmen can be scientific process. D. Gridley. *Ptr Ink* 164:37+ Jl 20 '33

**Training**

Before you sell, size up your man. R. E. W. Harrison. *Management Methods* 61:643-4+, 698-9 N-D '32  
 Does it pay to attempt to train seasoned salesmen? J. Oliver. *Sales Management* 33:410+ O 20 '33  
 Drama has a definite place in this selling plan; Loose-Wiles salesmen are taught simple showmanship. W. W. Wachtel. *Ptr Ink* 163:17-19 My 4 '33  
 Film plan meets wide line training problem; Westinghouse electric and manufacturing company. *il Sales Management* 33:356 O 10 '33  
 Four-point program for building a sound sales training plan. J. Oliver. *Sales Management* 33:314+ O 1 '33  
 Getting salesmen to merchandise a window display service; Jarman shoe company. C. P. Clark. *il Ptr Ink* Mo 26:31+ Ja '33  
 Getting salesmen to use the standardized sales talk. A. H. Little. *Ptr Ink* 163:76-8+ Je 22 '33  
 Our rookie salesmen must face prospects in 3 days; Rex Cole, inc. L. R. Hills. *il Sales Management* 32:600-1+ Je 15 '33  
 Plymouth's sales chief tells his men how to double their incomes. H. G. Mook. *Sales Management* 32:602 Je 15 '33  
 Sales education at the Philadelphia gas works company. H. M. Swonger. *il Gas Age* 70:672+ D 24 '32  
 Solar-Sturges book plan helps salesmen learn more about selling. R. H. Strickland. *Sales Management* 32:229 Mr 1 '33  
 Standard Brands trains route men through film program. *il Sales Management* 33:422-3 O 20 '33  
 Training of salesmen in the home office and in the field; abstract. W. S. Merrell. *Oil Paint & Drug Rep* 123:30 My 22 '33  
 Training the new salesman; abstract. *Management R* 21:376-7 D '32  
 We are giving sales training to technical men; Cleveland heater co. F. H. Leder. *Ptr Ink* Mo 26:29+ F '33  
 We taught our salesmen the A B C's; Selby shoe company. A. H. TePas. *Ptr Ink* Mo 26:19+ F '33  
 Well trained salesmen are necessary under the new deal. B. Houston. *Nat Pet N* 25:42+ O 25 '33  
 Work-analysis plan cuts waste selling time. *Sales Management* 33:354-5 O 10 '33

*See also*

Insurance, Life—Salesmen, Retail—  
 Agents—Training Training  
 Sales manuals

**SALESMEN, Jobbers'**

Bigger and better orders trail showings of new Black & Decker film; portable electric hammers and saws. R. Black. *Sales Management* 32:325+ Ap 1 '33  
 Check plan for breaking jobber quotas. *Sales Management* 33:384 O 10 '33  
 Factory management of distributors' salesmen. L. A. Gilson. *Ptr Ink* Mo 26:73 F '33  
 Fewer contests—more ideas—for jobbers' salesmen. *Ptr Ink* 161:20 N 17 '32  
 Impressing a sales story on 500 jobbing organizations; a talking motion picture, Black & Decker mfg. co. R. D. Black. *Ptr Ink* Mo 26:27+ My '33  
 One way to find out what readers read; Three minute cereals company. C. B. Trost. *il Ptd Salesmanship* 60:314-16+ D '32  
 Report of N.W.D.A. on selling methods. *Oil Paint & Drug Rep Extra ed* 124:23-4 O 11 '33  
 Sixteen ways to help jobbers' salesmen sell. *Ptr Ink* 162:52-4 Ja 12 '33  
 Stimulating jobbers' salesmen. R. E. Smallwood. *Sales Management* 32:576+ Je 1 '33

**Salaries and commissions**

Profit sharing with salesmen doubled this jobber's sales in five years; the House of Krasne. L. M. Hughes. *Sales Management* 31:466-7+ D 1 '32

**SALESMEN, Retail**

Comparative wages in chain and independent stores, 1929 and 1931. Monthly Labor R 37: 943-5 O '33

**Bonuses (manufacturers')**

Cosmetic demonstrator tells how to beat the demonstration game. il Adv & Sell 21:16-17+ O 12 '33

Excommunicated p.m. M. K. Allison. il Adv & Sell 21:24+ Ag 31 '33

Salesgirl's story of switching. il Adv & Sell 21:13-14+ S 14 '33

**Salaries and commissions**

Retail bonus plan sells higher priced merchandise; Sheaffer urges wider use. Sales Management 33:152 Ag 15 '33

**Training**

Do you build salesmen—or bully them? Elec West 69:235-6 D '32

Educating retail clerks by letter campaign; Wamsutta Mills series of eighteen messages. D. Gridley. Ptr Ink 164:58, 60-1 Ag 3 '33

Four ways of getting the clerk to co-operate. H. Falvey. Ptr Ink 163:33 My 11 '33

How Super-Shell doubled its sales in one month; policy of fitting advertising and sales work to consumer needs. P. Ryan. il Adv & Sell 21:40+ O 26 '33

I "shop" the ads. B. F. Peik. il Adv & Sell 21:26+ Je 8 '33

Retail clerks don't want to be educated. Ptr Ink 163:35-6 Ap 27 '33

Tell 'em and sell 'em; Hart Schaffner & Marx booklet for dealers' salesmen. Ptr Ink 162:62 F 2 '33

200 per cent sales increase; prize contest for retail salesmen, Zenith radio corporation. E. A. Tracey. Ptr Ink 162:68 Mr 2 '33

Why our salespeople don't work with you. C. B. Dulcan. Ptr Ink Mo 26:61-2 F '33

**SALESMEN, Specialty**

What the voluntary chains think of the manufacturer. Ptr Ink 163:64+ Ap 6 '33

**SALESMEN and credit**

Credits and the salesman. V. W. Hosmer. Credit & Fin Management 35:26 N '33

How planning speeded up collections and reduced bad debt losses; Standard Brands. Management Methods 62:166-7 Ap '33

**SALESMEN as collectors**

When salesmen make collections. A. H. Little. Ptr Ink 163:60-2 Ap 27 '33

**SALESMEN'S automobiles. See Automobiles, Salesmen's****SALESMEN'S bulletins**

How Frigidaire builds business with direct mail; 12,000,000 pieces have been used this year to reach salesmen, owners and prospects. F. R. Pierce. Ptr Ink 165:48-9, 52-3 O 5 '33

These bulletins help the salesmen really to know company; Coopers, Inc. C. B. Larabee. Ptr Ink 164:102-6 Ag 17 '33

This code educates salesmen in company's advertising; twelve major propositions, subscribed to by Shell representatives. Ptr Ink 164:27-8 S 7 '33

Weekly bulletin that keeps the sales training plan alive; Remington Rand, Inc. C. F. Price. Sales Management 33:114+ Ag 1 '33

**SALESMEN'S calls****Statistics**

Sales shoe leather, past and present; number of salesmen's calls received by A. B. Farquhar co. H. A. Russell. Iron Age 130:754-5 N 17 '32; Same. Ptr Ink 161:57-8 D 8 '32

**SALESMEN'S equipment**

Better sales equipment makes better salesmen. il Adv & Sell Management 33:154 Ag 15 '33

**See also**

Salesmen's portfolios

Sample cases

**SALESMEN'S magazines**

How and whys of running a sales force magazine; Life Aetna-izer. R. H. Pierce. il Ptr Ink 163:62-4 Je 1 '33

Profitable house publication with only 150 circulation; the Folger way. F. Atha. Ptr Ink Mo 27:29+ Ag '33

**SALESMEN'S portfolios**

Buyer's side of briefcase story. E. J. Murphy. Ptr Ink 162:57-8 F 2 '33

Drama in the sales story; Printz-Biederman co, Cleveland. il Ptr Ink 162:60 Ja 26 '33

Getting the salesman to tell the whole story; the Petroleum heat & power company designs a dealer's portfolio. il Ptr Ink 163: 36-8 Je 1 '33

How visual selling sold \$40,000,000 worth of insurance. G. E. Mitchell. il Ptd Salesmanship 61:292-3 JI '33

Klingler scraps portfolios. Ptr Ink 164:40 S 28 '33; Discussion (Keep the salesmen's data books!). J. B. Rodgers. 165:102 O 12 '33

Pocket portfolio salesmen will use. E. Whitmore. il Ptd Salesmanship 60:212-13 N '32

Sales portfolio that opens new accounts; American brakeblok corporation. G. E. Mitchell. il Ptd Salesmanship 61:158-9 My '33

Should salesmen carry briefcases on first call? W. B. Edwards. Ptr Ink 161:49-50 D 22 '32

Standard presentation speeds Lionel sales. Sales Management 33:362-3 O 10 '33

Visual presentations for industrial salesmen. 22p. 7 pl National industrial advertisers assn, 537 So. Dearborn st, Chicago '33

Visual selling puts cub, dub and star on same plane. Ptr Ink 162:44 Mr 30 '33

Visual selling works on small dealers, too. W. A. Haise. Ptr Ink 163:72-4 Ap 27 '33

**See also**

Advertising portfolios

**SALESMEN'S reports**

How detailed records of calls control salesmen's work. H. L. Smith. il Ptr Ink Mo 27:20-1+ Ag '33

How 200 firms handle salesmen's reports. il Sales Management 33:362-3 O 10 '33

Salesman's Saturday night; ways of getting him to send in a more shipshape expense report. F. Atha. Ptr Ink 165:33-4+ N 9 '33

Salesmen's reports tailor-made; at least, they should be. Ptr Ink 164:81+ Ag 17 '33

These salesmen's reports travel in cartons; graven on wax cylinders. F. Goodchild. Ptr Ink 164:32 Ag 31 '33

Used salesmen in market research in developing new product; Babcock & Wilcox co.'s new firebrick. B. & W. 80 Junior. Iron Age 131:752 My 11 '33

**SALESWOMEN**

Woman demonstrator. M. G. Reading. Elec R (Lond) 113:216-17 Ag 18 '33

**Training**

All about babies in this sales course by mail; Earnshaw knitting company. Ptr Ink 163: 82-4 My 11 '33

**SALICYLALDEHYDE**

Case of ketonic activity of acetic anhydride, and the condensation of salicylaldehyde with benzoylacetone. R. J. W. Le Fèvre and J. Pearson. Chem Soc J p1197-1200 S '33

Phototropic and thermotropic anils from 5-bromosalicylaldehyde. C. M. Brewster and L. H. Millam. Am Chem Soc J 55:763-6 F '33

**SALICYLIC acid**

Organic compounds of selenium; the action of selenium oxychloride upon esters of salicylic acid. R. E. Nelson, R. A. Schroeder and W. R. Bunting. Am Chem Soc J 55: 801-3 F '33

Relative strength of benzoic and salicylic acids in alcohol-water solutions. J. O. Halford. Am Chem Soc J 55:2272-8 Je '33

Syntheses of glucosides; methyl salicylate vicianoside (? violutoside). A. Robertson and R. B. Waters. Chem Soc J p2770-1 N '32

**SALINA, Kansas****Rapid transit**

Serving the small city; Salina street railway. R. A. Hickey. il Transit J 77:303-4 O '33



**SALINE** waters. See Water supply—Salinity

# **SALIVA**

Amylase of human saliva. *J Fr Inst* 216:628 N '33

# **SALMON**

Putting the silver horde into tins. *L. A. Luther, il plan Comp Air M* 33:4119-22 My '33

# **SALT**

Absorption of NaCl, KCl and KI in the far ultraviolet. *A. Smith, diag Phys R* 44:520-3 O 1 '33

Action of salt solutions on wood cellulose. *E. Richter, Ind & Eng Chem* 25:316-18 Mr '33

Atomic mass of sodium; the sodium chloride-silver ratio. *C. R. Johnson, J Phys Chem* 37:923-33 O '33

Brines of Ohio. *W. Stout, R. E. Lamborn and D. Schaaf, il Ohio Geol S Bul* 37:1-123 '32

Calibration of an infrared spectrometer with a rocksalt prism. *P. C. Cross, R Sci Instr* 4:197-9 Ap '33

Cements and well cementing; effect of chlorides on the setting and hardening of cement. *A. Reid and J. T. Evans, Inst Pet Tech J* 18:992-1006 D '32

Dielectric losses in rocksalt. *P. L. Bayley, diag Phys R* 43:355-7 Mr 1 '33

Effect of salt on boil-off in silk soaking. *R. Hart, Am Dyestuff Rep* 22:301-2 My 8 '33; Same. *Melliand* 5:68-9 My '33; Same. *Textile Col* 55:378-9 Je '33; Same abr. *Textile World* 83:926 My '33

Experimental salt-clay-gravel road; Elmsdale, N.S. *G. D. Macdougall, il Can Eng* 64:19-20 My 30 '33

How to prevent caking in powdered foods. *H. V. Moss, Food Ind* 5:133 Ap '33

Japanese alkalies. *C. E. Mullin, Chem Markets* 32:320 Ap '33

Maintenance of salt-clay highways; experiments with salt in the surface treatment of roads in Nova Scotia. *A. R. Chambers, Can Eng* 63:13-15 D 6 '32

Mechanism of corrosion of iron in sodium chloride solution; effect upon the potential of the iron of adding organic substances to the brine. *E. G. R. Ardagh, R. M. B. Roome and H. W. Owens, bibliog diag Ind & Eng Chem* 25:1116-21 O '33

Mid-continent brine yields salt, bromine, calcium chloride, and epsom salt. *il Chem & Met Eng* 40:414-16 Ag '33

Needle-shaped crystals of sodium chloride. *W. S. Hinegardner, il Am Chem Soc J* 55:1461-2 Ap '33

New inorganic heat carrier for super-temperature heating; NS fluid. *T. Kayser, Chem & Met Eng* 40:353-4 Jl '33; Same. *Chem Age (Lond)* 29:229-30 S 9 '33; Abstract. *Sci Am* 149:242-3 N '33

Pinch of salt to tons of chemicals. *W. J. Murphy, il Chem Markets* 32:311-16 Ap '33

Plasticity of rocksalt and its dependence upon water. *R. B. Barnes, Phys R* 43:82-3 Ja 1 '33; Discussion. 43:366-7, 765-6; 44:308-9 Mr 1, My 1, Ag 15 '33

Preparation of reststrahlen plates and the reflection power of powders. *R. B. Barnes, Phys R* 43:31-3 Ja 1 '33

Purification of brine by ammoniation. *W. C. Hsieh, E. O. Wilson and T. P. Hou, Ind & Eng Chem* 25:165-7 F '33

Record system to eliminate guesswork in setting sales policies; Diamond crystal salt co. *Sales Management* 33:384+ O 10 '33

Removal of salt from caustic soda produced by diaphragm cells. *J. H. Hubel and L. E. Sweetland, Can Chem & Met* 17:52 Mr '33

Salt for icy roads. *G. E. Gollop, Can Eng* 64:16 Ap 4 '33

Salt used to liquefy cupola slag. *B. M. Sulo, Metal Prog* 23:43 My '33

Salt was once monetary standard. *Refrig W* 68:26-7 Je '33

There's a merchandising lesson in salt. *il Ptr Ink* 162:65-6 F 16 '33

Tricalcium phosphate as a caking inhibitor in salt and sugar. *H. V. Moss, T. W. Schilb and W. G. Warning, bibliog il diag Ind & Eng Chem* 25:142-7 F '33

Use of salt in track switches. *Transit J* 77:30 Ja '33

See also

Salt mines and mining

## Analysis

Separation and determination of the alkali metals using perchloric acid; perchloric acid and chloroplatinic acid in the determination of small amounts of potassium in the presence of large amounts of sodium. *G. F. Smith and J. L. Gring, Am Chem Soc J* 55:3957-61 O '33

## Statistics

Salt, bromine and iodine in 1932. *A. T. Coons, Chemicals* 33:4 Jl 10 '33

Salt output in 1932. *Oil Paint & Drug Rep* 123:22 My 22 '33

**SALT cake.** See Sodium sulfates

## SALT domes

Developing commercial oil production on Gulf Coast salt domes is long, costly undertaking. *N. Williams, Oil & Gas J* 31:12+ Mr 16 '33

Origin of the anhydrite cap rock of American salt domes. *M. I. Goldman, U S Geol S Professional Pa* 175-D:83-94, pl 24-42 '33

Study of overhanging salt on various domes of coastal Texas and Louisiana areas. *S. A. Judson and R. A. Stamey, diag map Oil & Gas J* 32:16, 30 O 12; 18, 22 O 19; 16+ N 9; 18-19 N 23 '33

## SALT lakes

Heavy water in stagnant seas. *E. B. Washburn, Science* 78:sup8 S 1 '33

## SALT mines and mining

Mining rock salt in British Isles. *A. M. Hoffmann, il Comp Air M* 37:4001-2 D '32

Rigid enforcement of safety rules makes Retsof 3-time winner; Retsof mine, Retsof, N.Y. *T. F. Courthope, il map Explosives Eng* 11:303-5 O '33

**SALT spray test.** See Corrosion and anti-corrosives—Testing

## SALTING-out effect

Salting-out and salting-in of weak acids; the activity coefficients of the molecules of ortho, meta and para chlorobenzoic acids in aqueous salt solutions. *A. Osol and M. Kilpatrick, Am Chem Soc J* 55:4430-40 N '33

Salting-out and salting-in of weak acids; the activity coefficients of the molecules of ortho, meta and para-hydroxybenzoic acids in aqueous salt solutions. *A. Osol and M. Kilpatrick, Am Chem Soc J* 55:4440-4 N '33

Salting out of non-electrolytes from aqueous solutions. *P. M. Gross, bibliog Chem R* 13:91-101 Ag '33

**SALTPETER.** See Potassium nitrate

**SALTPETER, Chile.** See Sodium nitrate

## SALTS

Hygroscopicity of fertilizer salts; reciprocal salt pairs. *A. R. Merz and others, Ind & Eng Chem* 25:136-8 F '33

Ternary systems: water, tertiary butanol and salts at 25°. *P. M. Ginnings, E. Herring and B. Webb, Am Chem Soc J* 55:875-8 Mr '33

See also

Chlorides  
Crystallization  
Electrolytes  
Halides

Nitrates  
Phosphates  
Salt  
Sulfates

Ionization, Electrolytic

## SALTS, Complex

Complex metallic salts of sulphamide; an optically active inorganic salt. *F. G. Mann, Chem Soc J* p412-19 Ap '33

## SALTS, Double

Equilibria in the systems  $(\text{NH}_4)_2\text{SO}_4\text{-NiSO}_4\text{-H}_2\text{O}$ ,  $(\text{NH}_4)_2\text{SO}_4\text{-CoSO}_4\text{-H}_2\text{O}$ ,  $(\text{NH}_4)_2\text{SO}_4\text{-ZnSO}_4\text{-H}_2\text{O}$ ,  $\text{Na}_2\text{SO}_4\text{-NiSO}_4\text{-H}_2\text{O}$ , and  $\text{Na}_2\text{SO}_4\text{-CoSO}_4\text{-H}_2\text{O}$ , at 25°. *R. M. Caven and W. K. Gardner, Chem Soc J* p943-6 Ag '33

**SALTS, Double—Continued**

Optical properties of the double salt  $(\text{NH}_4)_2\text{SO}_4 \cdot \text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ . A. R. Merz, J. O. Hardesty and S. B. Hendricks. *Am Chem Soc J* 55:3571-3 S '33

**SALTS, Fused**

Free energy of reactions involving the fused chlorides and bromides of lead, zinc and silver. E. J. Salstrom. *Am Chem Soc J* 55:2426-8 Je '33

Junction potentials between glass and salts in fusion. H. B. Elkins and G. S. Forbes. *Am Chem Soc J* 55:3250-60 Ag '33

Thermodynamic properties of fused salt solutions; zinc bromide in lead bromide. E. J. Salstrom. *Am Chem Soc J* 55:1029-36 Mr '33

**SALVAGE**

Cutting steel under water by using oxygen-hydrogen torch. C. Kandel. *il Mach* 39:369-73 F '33

Eight years' salvage work at Scapa Flow. E. F. Cox. *il diags Inst Mech Eng Proc* 123:327-43 '32; Abstracts. Engineering 134:686-7 D 9 '32; Engineer 154:592-3 D 9 '32

Lutine salvors thought to be nearing ship's treasure room. *East Underw* 34:37 O 20 '33

Salvage; method of raising the steamship Segovia at the yards of the Newport News shipbuilding and drydock company. H. F. Norton. *diags Marine Eng* 37:511-13 D '32; Abstracts. Marine R 62:23 D '32; Engineering 135:113-14 Ja 27 '33

Salvage of submarine M 2 D. J. Munro. *Engineer* 154:475-6 N 11 '32

Ship ashore; adventures in salvage. D. Young. 311p J. Cape, London '32

S.S. President Madison raised by unique methods. R. C. Hill. *il Marine R* 63:14 Je '33

Sunken treasure is the popular quest. *Weekly Underw* 128:678 Ap 8 '33

When ships go down; more wonders of salvage. D. Masters. 356p Eyre and Spottiswoode, London '32

**SALVAGE (clothing).** See Clothing and dress—Repair

**SALVAGE (fires)**

More customers than merchandise; Underwriters salvage company. *Nat Underw* 37:3+ Ja 19 '33

New York fire patrol saves underwriters millions of dollars each year. E. N. Eager. *il East Underw* 33:59-60 D 9 '32

Practical salvage suggestions for the fire department. D. H. Shire and L. J. Murphy. *il Iowa State College Eng Ext Serv Bul* 112:1-38 '32

Salvaging a burned pier for Cunard line in New York. R. T. Betts. *il diags plan Civil Eng* 3:550-4 O '33

**SALVAGE (waste, etc.)**

Careful salvaging of waste materials is salient economy measure; Westinghouse electric & mfg. co. C. B. Auel. *il Steel* 92:23-6 F 6 '33

Cars scrapped in giant baling press, melted in huge open-hearth. *il Iron Age* 131:352-3+ Mr 2 '33

Chicago auto salvage plan is now placed in operation. *Nat Underw* 37:2+ Ap 20 '33

Compresses old automobiles to bales of charging box size. *il Steel* 91:24 D 19 '32

Design ingenuity turns waste materials into items buyers grab; Chase brass and copper, Patchogue-Plymouth, H. C. White company and others. R. S. McFadden. *il Sales Management* 32:606-7+ Je 15 '33

Reclaiming leaky castings; abstract. W. M. Corse. *Mech Eng* 55:184-5 Mr '33

Salvaging of equipment and materials; series prepared by subcommittee of Purchasing and storeroom committee, National accounting section, N.E.L.A. *il N E L A Bul* 20:7-9, 66-9+ Ja-F '33

Salvaging undersized armature bearings and worn axle collars. F. V. Skelley. *il Transit J* 77:124 Ap '33

Saving \$15,000 with conveyors; Chevrolet plant in Bay City, Mich. E. J. Tournier. *il plan Am Mach* 77:204-5 Mr 29 '33

See also

Oil reclamation	Sand, Foundry—Rec-
Railroads—Scrap ma-	lamation
terial	Scrap material
Refuse, Utilization of	Scrap metal
	Waste products

**SALVARSAN**

Relation of arsenoxide content to toxicity of fresh and old samples of arsphenamine. S. M. Rosenthal and T. F. Probey. *bibliog Pub Health Rep* 48:969-76 Ag 11 '33

**SALVATION army**

Financial statement may be best charity appeal; Salvation army uses cold figures. *Ptr Ink* 162:57-8 Mr 2 '33

**SALVES.** See Ointments

**SAMARIUM**

Absorption spectra of the samarium ion in solids; absorption of  $\text{Sm}(\text{BrO}_3)_3 \cdot 9\text{H}_2\text{O}$  and a partial energy-level diagram for the  $\text{Sm}^{+++}$  ion as it exists in crystalline  $\text{Sm}(\text{BrO}_3)_3 \cdot 9\text{H}_2\text{O}$ . F. H. Spedding and R. S. Bear. *il Phys R* 44:287-95 Ag 15 '33

Line spectrum of samarium ion in crystals and its variation with the temperature. S. Freed and J. G. Harwell. *il Am Chem Soc J* 55:54-62 Ja '33

More radioactive elements. K. K. Darrow. *R Sci Instr* 4:328-9 Je '33

Observations on the rare earths; the transference numbers of the chlorides of neodymium, samarium and gadolinium. G. Hughes and others. *Am Chem Soc J* 55:3236-42 Ag '33

Radioactivity of lanthanum, neodymium and samarium. W. F. Libby and W. M. Latimer. *Am Chem Soc J* 55:433 Ja '33

**SAMARIUM bromate**

Absorption spectra of the samarium ion in solids; absorption of  $\text{Sm}(\text{BrO}_3)_3 \cdot 9\text{H}_2\text{O}$  and a partial energy-level diagram for the  $\text{Sm}^{+++}$  ion as it exists in crystalline  $\text{Sm}(\text{BrO}_3)_3 \cdot 9\text{H}_2\text{O}$ . F. H. Spedding and R. S. Bear. *il Phys R* 44:287-95 Ag 15 '33

Crystallography of some compounds of gadolinium and samarium. A. Pabst. *Am J Sci* 5th ser 26:72-9 Jl '33

**SAMES, Charles MacCaughy, 1866-1933**

Sketch. *por Mech Eng* 55:249 Ap '33

**SAMPLE cases**

How Cenol got salesmen to show the full line to every prospect. *Sales Management* 33:360 O 10 '33

Outside sales kits as dealer aids. *il Ptr Ink Mo* 25:57 D '32

**SAMPLES (merchandizing)**

How leading firms use mass plan advertising. *Sales Management* 33:368-9 O 10 '33

It's easy to give away goods; advertising agent finds requests for coupons and samples not so desirable. G. L. Kinter. *Ptr Ink* 162:25-7 F 9 '33

Kreml introduces sister-product through "outsert" sampling plan. *Sales Management* 32:604 Je 15 '33

Messenger services used; centralized facilities prove economical. *il Management Methods* 62:219 My '33

Premium and sampling value in combination deals. *Ptr Ink* 161:44 D 1 '32

Sample-with-sale plan wins 60,000 outlets for Sunshine cereal in first 4 months. *il Sales Management* 33:78 Jl 15 '33

Smokers set advertising theme of new 5-cent cigar; Van Dyck program; advertising follows distribution. A. M. Howe. *il Ptr Ink* 162:6+ Mr 9 '33

Successful sampling requires select lists; Campana Italian balm. L. Anson. *il Ptd Salesmanship* 60:237-9+ N '32

This sampling campaign weighs at point of sale; An-Tabs and Thymoline. L. Aue. *il Ptr Ink* 165:60-1 N 9 '33

See also

Package goods—  
Sampler packages



**SAMPLING***See also*

- |                     |                |
|---------------------|----------------|
| Coal sampling       | Soil sampling  |
| Feed water sampling | Steam sampling |
| Gas sampling        | Water sampling |
| Ore sampling        |                |

**SAMPLING (statistical methods)**

- Analytical interpretation of straw-vote samples. W. L. Crum. *Am Statis Assn J* 28: 152-63 Je '33  
 Quality control of a product made possible by analysis of test data. D. Harvey. *bibliog Elec J* 30:147-50 Ap '33

**SAN ANTONIO, Texas****Rapid transit**

- San Antonio bus plan inaugurated. *il map Transit J* 77:75-7 Mr '33

**Sewerage**

- San Antonio sewage treatment plant; with cost data. W. S. Stanley. *il plan Water Works & Sewerage* 80:21-3 Ja '33  
 Sludge drying beds. San Antonio sewage treatment plant. W. S. Stanley. *il Water Works & Sewerage* 80:123-4 Ap '33

**SANATORIUMS**

- Sanatoriums de Sancellemoz. J. F. Audouin and A. L. Racapé. *il Soc Ing Civils Bul* 85: 1073-6 S '32

**SAN AUGUSTIN plains, New Mexico**

- Extinct Lake San Augustin, Mexico. W. E. Powers. *Science* 77:51-2 Ja 13 '33

**SAND**

- Development of sand and gravel deposits. J. R. Thoenen. *bibliog diags U S Bur Mines Information Circ* 6689:1-50 '33  
 L'extraction des sables de glacière à Nemours (Seine-et-Marne). *diag Génie Civil* 102:307-8 Ap 1 '33  
 Flow of simple fluids through porous materials. G. H. Fancher and J. A. Lewis. *bibliog il diags Ind & Eng Chem* 25:1139-47 O '33  
 Flow of water in sand. E. M. Taylor and H. L. Uppal. *il Engineer* 156:107-8 Ag 4 '33  
 Hydraulics of rapid filter sand. R. Hulbert and D. Feben. *Am Water Works Assn J* 25: 19-45 Ja '33; *Abstract. Eng N* 109:647-50 D 1 '32; *Discussion. Am Water Works Assn J* 25:45-65 Ja '33  
 Importance of experience; some problems in the utilisation of waste sand. W. R. Ormandy. *Chem Age (Lond)* 28:111 F 11 '33  
 Measurement of the permeability of porous media for homogeneous fluids. R. D. Wyckoff and others. *il diag R Sci Instr* 4:394-405 J1 '33  
 Possible improvements in sand and gravel production methods. E. Shaw. *bibliog Rock Prod* 36:38-40 Ag '33  
 Prospecting and exploration for sand and gravel. J. R. Thoenen. *bibliog diags map U S Bur Mines Information Circ* 6668:1-52 '32  
 Rounding of beach sands. G. R. MacCarthy. *Am J Sci* 5th ser 25:205-24 Mr '33  
 Settling velocities of gravel, sand, and silt particles. W. W. Rubey. *bibliog Am J Sci* 5th ser 25:325-38 Ap '33  
 Studies in agitation; sand concentration as function of sand size and agitator speed. A. M. White and S. D. Sumerford. *Ind & Eng Chem* 25:1025-7 S '33  
 Successful one-man silica sand operation. E. Shaw. *il Rock Prod* 36:17-18 Ja '33

*See also*

- |                    |                      |
|--------------------|----------------------|
| Bituminous sand    | Sand blast and other |
| Concrete-Aggregate | headings beginning   |
| gate               | Sand                 |
| Quicksand          | Silica               |

**Testing**

- Detecting organic impurities in sand with photo-electric cell; abstract. H. W. Leavitt and W. S. Evans. *Rock Prod* 36:27 O '33

**Transportation***See also*

- Railroads—Rates—  
 Sand

**SAND, Foundry**

- Application of A.F.A. sand testing by the producer. C. M. Hardy. *Iron Age* 132:14 J1 27 '33

- Control features steel foundry; Detroit steel casting co. F. G. Steinebach. *il Foundry* 61: 22+ F '33

- Course features sand control. Foundry 61:37+ Ag '33

- Grain structure control insures mold permeability control. H. W. Dietert and F. Valtier. *Iron Age* 132:11, 62 J1 27 '33; *Abstract. Foundry* 61:37 Ag '33

- Handling materials in a brass shop; Hawthorne works of the Western electric co. D. G. Anderson and B. F. McAuley. *il Foundry* 61:28-9+ F '33

- Pneulec sand milling and mixing machine. *il diag Engineering* 136:234 S 1 '33

- Producing small steel castings. R. Burke. *diags Foundry* 61:22-3+ O '33

- Properties and testing of foundry sands. Metal Ind 31:368-9 N '33

- Temperature affects molding sand. S. O. V. Nilsson. *il diag Foundry* 61:10-12+ Mr '33

*See also*

- Molds (for casting)

**Reclamation**

- Recovers core sand from sand blast; Cleveland foundry of the Aluminum company of America. *il Iron Age* 131:943 Je 15 '33  
 Sand handling system effects labor and material savings and improves product; Massillon steel casting co. F. L. Prentiss. *il Iron Age* 130:840-1+ D 1 '32

- SAND and gravel association, National.** *See* National sand and gravel association

**SAND blast**

- Apparatus for cleaning under sides of cars. H. Korn. *il Transit J* 77:217-18 J1 '33

- Nails given sand blast treatment show increased holding power. Steel 91:26 N 28 '32

- Preparing shafts for metal coating. *il Steel* 93:26-7 J1 10 '33

- Recovers core sand from sand blast; Cleveland foundry of the Aluminum company of America. *il Iron Age* 131:943 Je 15 '33

- Sand and air. M. Ten Eyck. *il Glass Ind* 14: 35-9 Mr '33

- Sand and metallic abrasive blasting as an industrial health hazard. J. J. Bloomfield and L. Greenburg. *bibliog il J Ind Hygiene* 15:184-204 J1 '33

- Sand blast for cleaning metal surfaces. A. S. Jamieson. *diag Power Pl Eng* 37:398 S '33

- Sand blast for cleaning parts. *il Elec Trac-tion* 29:163 Je '33

- Steel beer barrels blast cleaned preparatory to finishing. *il Iron Age* 132:26 Ag 10 '33; *Steel* 93:34 Ag 7 '33

- Using sand blast machine to produce rough faced brick of hard materials. *il Brick & Clay Rec* 83:131-2 O '33

**SAND cleaning**

- Removing foreign materials from sand and gravel by use of concentrating tables. F. Sinclair. *il Rock Prod* 36:60-1 Ag '33

**SAND drying**

- Drying of solids; mechanism of drying of clays. T. K. Sherwood and E. W. Comings. *bibliog il Ind & Eng Chem* 25:311-16 Mr '33

**SAND handling**

- Basalt rock co.'s sand and gravel plant at Haldsburg, Calif. E. Moyer. *il diags plan Rock Prod* 36:17-26 J1 '33

- Control features steel foundry; Detroit steel casting co. F. G. Steinebach. *il Foundry* 61: 22+ F '33

- Handle sand and molds on conveyors; Westinghouse foundry. *il plan Foundry* 60: 12-14+ D '32

- Handling materials in a brass shop; Hawthorne works of the Western electric co. D. G. Anderson and B. F. McAuley. *il Foundry* 61:28-9+ F '33

- Sand handling system effects labor and material savings and improves product; Massillon steel casting co. F. L. Prentiss. *il Iron Age* 130:840-1+ D 1 '32

*See also*

- Sand pumping

**SAND industry**

Facts about sand and gravel industry. H. H. Hughes and F. E. Berquist. *Rock Prod* 36:47 My '33

**Statistics**

Value and tonnage of concrete materials and highway and building construction, 1918-1932; chart. *Rock Prod* 36:25 F '33

**SAND lime brick**

Effect of carbon dioxide on the strength of some building materials. G. E. Bessey. *Soc Chem Ind J* 52:288T-93T S 15 '33

Use of sucrose in sand-lime brick. W. A. Hamor and others. *Am Cer Soc J* 16:187-91 Ap '33

**SAND-lime brick association**

Annual convention, 28th, Detroit, Jan. 17. *Rock Prod* 36:52 Ja '33

**SAND mixers**

Simpson improved sand mixer. *il Iron Age* 132:23 JI 20 '33

**SAND pumping**

Production of aggregates from river gravels in the plains region. J. H. Ruckman. *il diags Rock Prod* 35:17-20 D 10 '32

Sand pump dredging; the bar of the river Gironde. *il diags map Engineer* 155:340-3 Ap 7 '33

**SAN DIEGO, California****Water supply**

Non-slip hydraulic-fill dam for San Diego. H. N. Savage. *il diags plan Eng N* 111:33-6 JI 13 '33

**SANDING machines**

Porter-Cable belt sander for wood and other materials. *il Iron Age* 132:31 O 12 '33

**SANDPAPER**

Electrostatic process improves sandpaper. *diag Elec W* 102:413 S 23 '33

Sandpaper manufactured by a new process. *Transit J* 77:287 S '33

Schleifleistung und arbeitsvermögen von sandpapier; eine grundlage für die berechnung von walzenschleifmaschinen. W. Walter. *il Zeit Ver Deutsch Ing* 77:713-17 JI 1 '33

There is no sand in sandpaper; electrocoating process. *il diag Sci Am* 149:216-17 N '33

**SANDSTONE**

Quarry as viewed by an engineer; sandstone production at Amherst, Ohio. E. D. Cassel. *il Civil Eng* 3:620-2 N '33

**SANDUSKY, Ohio**

Ports of Sandusky, Huron, and Lorain, Ohio. (Lake ser. 8) 156p U. S. War dept. Corps of engineers, Army, Washington '32

**SANFORIZING. See Textile fabrics—Shrinkage****SAN FRANCISCO, California**

Portfolio of pastels by Zdzislaw Czermanski. *Fortune* 7:22-6 Ja '33

**Architecture**

Chinese Y.W.C.A. building, San Francisco; views. *Architecture* 67:195-8 Ap '33

**Bridges**

Golden Gate bridge officially started with ceremonies. *il Eng N* 110:328-9 Mr 9 '33

**Harbor**

Details of a pier demolition job; China Basin, San Francisco. E. F. Ward. *il diags Explosives Eng* 10:375-8 D '32

**Public buildings**

Electricity plays leading role in civic opera group; San Francisco's new War memorial opera house and Veterans' building. *il Elec West* 70:20-7 Ja '33

**Public works**

30-hr. week on municipal work adopted in San Francisco; wage scale. *Eng N* 110:35 Ja 5 '33

**Rapid transit**

Transit in San Francisco. *il Transit J* 77:183 Je '33

**Water supply**

Hazardous tunneling at Hetch Hetchy. *il diags*

*Eng N* 110:701-4 Je 1 '33

San Francisco's Hetch Hetchy project. L. A. Luther. *il map Comp Air M* 38:4156-62 JI '33

**SAN FRANCISCO Bay bridges**

Bay bridge progress at San Francisco. *il Eng N* 111:464-6 O 19 '33

Bombing out subaqueous rock at Golden Gate bridge pier. *il Eng N* 111:93-5 JI 27 '33

Complete unit bid prices, four contracts on San Francisco-Oakland bridge. *Eng N* 110:393-4 Mr 23 '33

Concrete placing begins on Golden Gate bridge pier. *il Eng N* 110:761-2 Je 8 '33

Concreting equipment and methods on San Francisco-Oakland Bay bridge. *Pub Works* 64:41 N '33

Contracts 3 and 5, San Francisco Bay bridge; unit prices. *Eng N* 110:516 Ap 20 '33

Golden Gate bridge. *diags plan Engineer* 156:164-6 Ag 18 '33

Golden Gate bridge work makes progress. *il Eng N* 111:7-8 JI 6 '33

Pacific coast aggregates gets big contract for the substructure of the Golden Gate bridge. *Rock Prod* 36:25 Ap '33

Sampling and soil tests for Bay bridge, San Francisco. D. E. Moran. *il diags Eng N* 111:404-6 O 5 '33

San Francisco Bay bridge start assured by legislative action. *Eng N* 110:171-2 F 2 '33

**SAN FRANCISCO Bay district****See also**

Unemployment—San Francisco Bay district

**SANGAMON river**

Decatur cleanses the Sangamon river. W. D. Hatfield. *Civil Eng* 3:498-500 S '33

**SAN GORGONIO pass, California**

Land forms of San Gorgonio pass, southern California. R. J. Russell. *il maps Univ of Calif Pub in Geography* v 6, no 2:23-121 '32

**SANITARY districts**

Cast iron pipe trunk sewers in Washington suburban sanitary district; comparison with concrete sewers. R. B. Morse. *il Water Works & Sewerage* 80:192-6 Je '33

Chicago sanitary district costs reduced under changed plans. *Eng N* 110:347 Je 29 '33

Chlorination at Downers Grove, Ill. helps solve sewage works odor and stream pollution problems. H. F. Ferguson and W. H. Wisely. *il diags Water Works & Sewerage* 80:200-2 Je '33

Control of sewage condition by chlorination; disposal plant of the Los Angeles county sanitation districts. F. D. Bowls and A. P. Banta. *il map Water Works & Sewerage* 79:369-74 N '32

Joint sewerage works described at New York sewage association. *Eng N* 111:541-2 N 2 '33

Joint trunk sewers for the Hackensack district in New Jersey. G. W. Fuller. *il map Civil Eng* 2:763-6 D '32

New water plant stresses pre-treatment; Mahoning Valley sanitary district. G. G. Dixon. *il diags map plan Eng N* 110:395-9 Mr 30 '33

Sanitary district blames delay on Chicago tax tangle. *Eng N* 109:602-3 N 17 '32

Sanitary district of Chicago and the depression. *Pub Works* 64:22 Je '33

Sewerage district set up for St Paul and Minneapolis. *Eng N* 110:542 Ap 27 '33

State held responsible; Supreme court decision in case of sanitary district of Chicago. *Eng N* 111:55 JI 13 '33

Washington suburban sanitary district. H. R. Hall. *Am Water Works Assn J* 25:163-76; Discussion. 177-80 F '33

**SANITARY engineering**

Mechanical developments in municipal sanitation. W. Ralsch. *il Mech Eng* 55:363-8 Je '33

Planning sewage systems for public health requirements. J. C. Keith. *Can Eng* 63:21-3 D 13 '22



**SANITARY engineering—Continued**

Progressive fight against typhoid fever in Canada. N. J. Howard. Can Eng 63:29-32 N 15 '32

Public health congress and exhibition, Is-  
lington, Nov. 14-19. Il diags Engineering  
134:649-52 D 2 '32

Public health engineering in Quebec. T. J.  
Lafrenière. Can Eng 65:9-10+ Ag 29 '33;  
Same. Am Water Works Assn J 25:1245-50  
S '33

Willamette Valley sanitary program outlined  
in report. Eng N 111:322-3 S 14 '33

Work of the state sanitary engineer; ab-  
stract and discussion. E. S. Tisdale. Water  
Works & Sewerage 80:294 Ag '33

*See also*

Drainage	Smoke prevention
Dust removal	Snow removal
Filters and filtration	Street cleaning
Heating	Trade waste
Municipal engineer- ing	Ventilation
Plumbing	Water pollution
Refuse collection	Water purification
Refuse disposal	Water supply
Sewage disposal	Water supply engi- neering
Sewerage	

**SANITARY ware***See also*

Bathroom fixtures

**Manufacture**

Enamels of standard colors for vitreous china  
sanitary ware at cone 6. K. M. Kautz. Am  
Cer Soc J 16:192-8 Ap '33

**SANITARIAN**

Bacteriology and sanitary science for stu-  
dents in pharmacy, chemistry and allied  
sciences. L. Gershenfeld. 2d rev ed 493p  
Lea & Febiger, Philadelphia '33

Canadian public health association annual  
meeting, Toronto, May 16-17. Can Eng 64:  
20-1 My 23 '33

*See also*

Air conditioning	Refuse disposal
Disinfection and dis- infectants	Sanitary engineering
Dust removal	Sewage disposal
Factory sanitation	Sewerage
Hygiene	Ships—Sanitation
Hygiene, Industrial	Smoke prevention
Mine sanitation	Street cleaning
Mosquitoes	Trade waste
Plumbing	Ventilation
Public health	Water purification
	Water supply

**SANITATION, Rural***See also*

Hygiene, Rural

**SAN JUAN, Puerto Rico****Architecture**

Sixteenth century new-world palace abandons  
charcoal and candles for electricity; La  
Fortaleza, government house in Puerto  
Rico. D. O. Bergey. Il N E L A Bul 19:738-  
41 D '32

**SAN JUAN Archipelago**

Light penetration in the waters of the San  
Juan Archipelago. C. L. Utterback and J.  
W. Boyle. diag map Opt Soc Am J 23:333-8  
O '33

**SANTA BARBARA, California**

Santa Barbara; the case for unified architec-  
ture. Il Arch Forum 59:84-5+ JI '33

**SANTA CATALINA Island**

Marine terraces on Santa Catalina Island. W.  
S. T. Smith. Il Am J Sci 5th ser 25:123-36 F  
'33

**SANTA FE railway. See Atchison, Topeka and Santa Fe railway****SANTA MONICA mountains**

Glacial epochs of the Santa Monica moun-  
tains, California. W. M. Davis. bibliog diags  
map Geol Soc Bul 44:1041-1133, pl 40-56 O  
'33

**SAP**

Rate of sap flow in plants. Science 78:sup6-7  
JI 14 '33

**SAP stains**

Tests of chemical treatments for control of  
sap stain and mold in southern lumber. R.  
M. Lindgren, T. C. Scheffer and A. D.  
Chapman. Ind & Eng Chem 25:72-5 Ja '33

**SAPONIFICATION**

Catalytic effect of caustic alkali on the al-  
coholysis and hydrolysis of fats. G. K. Rowe.  
Soc Chem Ind J 52:49T-52T F 24 '33

New method for the determination of the  
saponification value of waxes and fats. J.  
M. F. Leaper. Textile Col 55:601-2+ S '33

Saponification of diarylnitrosamines and at-  
tempts to prepare a salt of aquo-ammononi-  
trous acid. W. C. Fernelius and G. W.  
Watt. Am Chem Soc J 55:3482-5 Ag '33

**SAPONINE**

Über die physiologischen wirkungen der  
saponine; abstract. L. Kofler. Angew Chemie  
46:428 Je 24 '33

**SAPOTOXIN**

Isolation of sapotoxins from the tubers of  
tannia, xanthosoma atrovirens, and some  
notes on their toxic effects; abstract. A.  
Clark and R. B. Waters. Soc Chem Ind  
J (Chem & Ind) 52:271 Mr 24 '33

**SAPPHIRES, Synthetic**

Synthetic corundum for jewel bearings. E.  
G. Sandmeier. Il Inst E E J 72:505-8, pl  
1-6 Je '33; Same cond. Electrician 110:34-6  
Ja 13 '33; Abstract. Elec R (Lond) 112:47-  
8 Ja 13 '33; Discussion. Inst E E J 72:508-  
14 Je '33

**SARANAC LAKE, New York****Sewerage**

Construction of the new sewage treatment  
plant at Saranac Lake. H. W. Taylor. Water  
Works & Sewerage 79:391-2 N '32

**SARDINE oil. See Pilchard oil****SARDINES**

Occurrence and origin of lead in canned  
sardines; abstract. L. H. Lampitt and H. S.  
Rooke. Soc Chem Ind J (Chem & Ind) 52:  
819 O 13 '33; Same. Chem Age (Lond) 29:  
353 O 14 '33

**Advertising**

Mr Sardine steps out. Il Ptr Ink 164:68 S 28  
'33

**SAROTHTA gentianoides L.**

Chemical examination of the volatile oil of  
sarothta gentianoides L. and the detection  
therein of normal nonane. M. T. Bogert  
and S. J. Marion. bibliog Il Am Chem Soc  
J 55:4187-94 O '33

**SASKATOON, Saskatchewan**

New concrete bridge at Saskatoon over South  
Saskatchewan river. C. J. Mackenzie. Il  
diag Can Eng 64:5-9 Mr 21 '33

**SATURN (planet)**

White spot on Saturn. Science 78:sup6 Ag 18  
'33

**SAUSAGE**

Sausage manual and text book for uninspec-  
ted factories. 96p Oppenheimer casing co,  
Chicago '33

**SAUSAGE casings****Advertising**

Even sausage casings can have consumer ac-  
ceptance; Visking advertising directed to  
meat dealers' trade. Il Ptr Ink 163:75-6+  
Ap 20 '33

**SAVING**

As I see it; safeguard the saver. C. Benedict.  
Mag of Wall St 51:561 Mr 18 '33

Do savings hamper prosperity? S. N. Whit-  
ney. Comm & Fin 22:788 S 13 '33

Does thrift really pay? Nation's Business 21:  
64+ Ap '33

Fifty ways to save money. M. McCaw. 145p  
\$1.50 Longmans '33

Fortune builder; nine little stories which will  
help us to understand youth, sometimes  
called our best prospect. E. P. Hermann.  
Spectator 131:6-7+ S 14 '33

Making the most of your income. H. A.  
Blodgett. 180p \$1.50 Macmillan '33

**SAVING—Continued**

- Personal economics. M. R. Leonard. 124p  
Belmont Independent, Belmont, Ia. '32  
Thrift and training. L. F. Smith, ed. (Leadership ser. v 17) 350p Univ. society, inc, New York '33  
Thrift cycle; statistical evidence in defense of saving. E. C. Harwood. Am Bankers Assn J 25:20+ Ja '33  
Wise spending and wise saving. J. Stamp. Barron's 12:20 N 21 '32

**See also**

- |                                |                       |
|--------------------------------|-----------------------|
| Advertising copy—              | Hoarding              |
| Thrift appeal                  | Insurance, Industrial |
| Building and loan associations | Old age pensions      |
| Christmas clubs                | Pensions, Industrial  |
| Credit unions                  | Savings banks         |
| Employees as stockholders      | Savings deposits      |

**SAVINGS banks**

- Analysis of the investment laws of eleven of the states in which mutual savings banks are located (revised to include 1932 legislative changes). 134p National assn. of mutual savings banks, New York '32 [lithographed]  
Central bank for mutual banks; Savings banks trust company. Am Bankers Assn J 26:63 Ag '33  
Central bank for New York savings banks. Bankers M 125:648 D '32  
Central fund for savings deposits. W. E. Albig. map Am Bankers Assn J 25:20-1+ Mr '33  
Co-operating with mutual savings banks; Savings bank trust co. and Institutional securities corp. Barron's 13:19 Jl 17 '33  
Machinery for aiding N.Y.'s savings banks is set up. Arch Forum 59:246+ S '33  
Maintaining confidence in the savings dollar; abstract. O. C. Lester. Bankers M 127:440-2 O '33  
Safe banks; New York's mutual savings institutions. Business Week p13-14 F 15 '33  
Savings banks demonstrate stability. D. R. James. Dun & Bradstreet 41:2-3 Ap '33  
Significance of the savings banks trust company to the savings business in New York state; abstract. O. W. Roosevelt. Bankers M 127:438-40 O '33  
Tardy relief for savings banks; pointed publicity stings tape bound R.F.C. into action. Econostat 1:5 O 14 '33  
Trust company organized by New York savings banks. Trust Companies 57:76 Jl '33

**See also**

- |  |  |
|--|--|
| American bankers' association—Savings division | National association of mutual savings banks |
| Banks and banking—Savings departments          | Postal savings banks                         |
| Building and loan associations                 | Savings deposits                             |
|  | School savings banks                         |

**Investments**

- Legal list in the light of recent investment experience. P. A. Benson. Trust Companies 57:289-92 S '33; Excerpts. Bankers M 127:431-6 O '33  
Plan for liquidating mortgage loans; three classes of debtors and how to deal with them. D. E. Smith. il Burroughs Clearing House 17:14-16 S '33  
Removal of railroad legal bonds from Connecticut savings bank list. Barron's 13:19 Ja 9 '33  
Utility bonds in the savings bank crucible. Elec W 102:151-2 Jl 29 '33

**SAVINGS deposits**

- Central fund for savings deposits. W. E. Albig. map Am Bankers Assn J 25:20-1+ Mr '33  
Gain in mutual savings bank deposits and surplus. Bankers M 127:246-7 S '33  
How we hold 70% of savers. J. V. Holdam. Bankers Mo 50:15-16+ Ja '33  
Savings bank deposit in trust; suit. Bankers M 126:588-91 Je '33  
Savings deposits and depositors, in banks and trust companies of the United States for the years 1927 and 1932 with a summary of the intervening years. 8p pa 25c American bankers assn. New York '32

- Savings deposits in mutual savings banks off only one-half per cent. Bankers M 126:216 Mr '33  
\$24,281,346,000 in 44,352,106 savings accounts; annual summary. W. E. Albig. Am Bankers Assn J 25:33-5+ D '32  
Waiver agreements with depositors. F. L. Garlock. Am Bankers Assn J 25:21+ F '33

**See also**

- |                                       |                          |
|---------------------------------------|--------------------------|
| Banks and banking—Savings departments | Savings banks            |
| Christmas clubs                       | Taxpayers' savings clubs |

**Insurance plans**

- Inaugurate combination of savings and life insurance; Investors finance & thrift corporation joins with United insurance co. in the contract. Nat Underw (Life ed) 37:6 Ja 13 '33

**Interest**

- Federal reserve board's regulation Q, series of 1933; payment of interest on deposits. Fed Res Bul 19:571-4 S '33  
Interest rates on time deposits. Am Bankers Assn J 26:68 O '33  
Lower interest from savings likely in New York. Barron's 13:13 Ja 30 '33  
New interest policy needed. O. H. Wolfe. il Bankers Mo 49:734-5+ D '32

**SAWATCH mountains**

- Structure of the Sawatch range. J. T. Stark and F. F. Barnes. maps Am J Sci 5th ser 24:471-80 D '32

**SAWMILLS****Equipment**

- Mill operates on full-time schedule; new mill of the Seaboard lumber co. il Elec West 70:12-13 Ja '33

**SAWS**

- Atkins' instruction books tap untried market; use of company's tools by amateurs. C. H. Holland. Ptr Ink 165:25-6+ N 2 '33  
Hilfsmittel zur griffzeitverminderung an vollgattern. F. Braunschirn. il diags Zeit Ver Deutsch Ing 77:367-72 Ap 8 '33  
Konstruktionsgrundsätze beim bau von vollgattern. F. Braunschirn. il diags Zeit Ver Deutsch Ing 77:765-9 Jl 15 '33  
Lynx motor saw. il Engineer 156:169 Ag 18 '33  
Mechanism for converting rotary into reciprocating motion. R. A. Gleason. diags Mach 39:769-71 Ag '33  
Safety saw for tree limbs. G. F. Harden. diags Elec W 101:294 Mr 4 '33

**SAWS, Metal working**

- Antifriction bearings for hot and cold saws. F. Waldorf. diags Blast F & Steel Pl 21:368-71, 419-21+ Jl-Ag '33  
Figures on sawed surfaces. K. Honda. il diag Metal Prog 24:54-5 O '33  
Hacksaw frame design. il Engineering 135:556-7 My 19 '33  
Herbert heavy duty gate sawing machine. il Engineer 156:144-5 Ag 11 '33; Engineering 136:156 Ag 11 '33  
Herbert light hacksawing machine. il Engineering 135:342 Mr 24 '33  
McKinney high-speed saw operated pneumatically or hydraulically. il Mach 39:419 F '33  
Monoplex cut-off saw. il Am Mach 77:674 O 11 '33  
New machine is developed abroad to cut large diameter pipe. il Gas Age 70:641 D 10 '32  
New Manchester saw. il Engineer 155:176 F 17 '33

- Noble and Lund cold sawing machines. il Engineer 154:451 N 11 '32  
Russell cold circular saw with hydraulic feed. Engineering 135:209, pl 10 F 24 '33

**Manufacture**

- Experience with tungsten carbide saws. il Iron Age 132:31+ O 19 '33  
Hack-saw blade works of Messrs. James Neill and company (Sheffield), limited. Engineering 136:29-31, pl 2 Jl 14 '33



**SAWS, Metal working—Continued****Sharpening**

Hanchett no. 21 automatic slitter-saw grinder. *il Am Mach* 77:575-6 Ag 30 '33; *Iron Age* 132:24 Ag 31 '33; *Mach* 40:60 S '33

**SCAFFOLDING, Steel**

Steel supplants wood for scaffolding in Hollywood studios. *il Iron Age* 132:17 Ag 10 '33

**SCALES**

Crane scale indicates hoist capacity requirements. W. C. Sutton. *il Maintenance Eng* 90:461 D '32

First-year sales on new scale equal total for previous ten years. R. S. McFadden. *il Sales Management* 32:62 Ja 15 '33

Hard steel pivots and bearings; precision scales require advanced metallurgy. W. J. Burr. *il Metal Prog* 23:36-40 F '33

Kron co. redesigns line of automatic dial scales. *il Iron Age* 130:766 N 17 '32

Toledo automatic batching scale. *il India Rubber W* 87:37 F '33

**See also**

Balances

Track scales

Weighing machines

**SCALING. See Boiler scale; Iron—Scaling; Steel—Scaling****SCANDINAVIA**

Inter-Scandinavian coöperation. E. C. Bellquist. *Ann Am Acad* 168:183-94; Discussion. W. Westergaard. 194-6 J1 '33

Nordic solidarity. *Economist* 117:859 N 4 '33

**Commerce**

Anglo-Scandinavian trade. *Economist* 116:60-1, 108-9 Ja 14-21 '33

**Economic conditions**

Scandinavia in 1932. *Economist* 116:sup23-4 F 18 '33

**SCARLET fever**

Preparation of a scarlet fever streptococcus toxoid and its use in active immunization. M. V. Veldee. *bibliog Pub Health Rep* 48: 549-65 My 26 '33

**SCATTERING of electrons. See Electrons—Reflection, scattering, etc.****SCATTERING of light. See Light, Scattering of****SCHACHT, Hjalmar, 1877-**

Reichsbank head. *Business Week* p23-4 Mr 29 '33

**SCHAEFFER acid**

Method of analysis of mixtures of Schaeffer and F acids: effect of these acids in depressing the phenol-water critical solution temperature. D. G. Kerr. *Soc Chem Ind J* 52:336T-8T O 13 '33

**SCHEDULES**

Block scheduling moves orders, minimizes inventories; Bauer & Black. *Factory & Ind Management* 83:471-3 D '32

Die festsetzung und ueberwachung von terminen. *Stahl & Eisen* 53:893-4 Ag 24 '33

Making flow production flow. H. Glese. *il Factory Management* 91:272-4 J1 '33

**See also**

Motor bus lines—

Schedules

Street railroads—

Schedules

**SCHIFF bases**

Reduction studies of Schiff bases; the condensations of certain secondary aromatic amines with formaldehyde in acid solution; nuclear or N-methylations by means of formaldehyde. E. C. Wagner. *bibliog Am Chem Soc J* 55:724-31 F '33

**SCHISTS**

Further notes on the Salisbury district of Connecticut. W. M. Agar. *Am J Sci* 5th ser 25:385-9 My '33

Occurrence of mylonites in the crystalline rocks of Georgia. G. W. Crickmay. *bibliog il map Am J Sci* 5th ser 26:161-77 Ag '33

**See also**

Slate

**SCHMON, Arthur Albert, 1895-**

President and general manager of the Ontario paper company limited. por Pulp & Pa of Can 34:360 Je '33

**SCHOLARSHIPS and fellowships**

Beit memorial fellowships; annual report. *Science* 78:161-2 Ag 25 '33

Carnegie research grants. *Engineer* 155:495 My 19 '33

Charles A. Coffin fellowship awards, 1933-34. *Gen Elec R* 36:337 J1 '33

Fellowships of the Charles Lathrop Pack forest education board. *Science* 77:363 Ap 14 '33

Industrial fellowships of Mellon institute during 1932-33. W. A. Hamor. *Science* 77:503 My 26 '33

Leverhulme scholarships. *Science* 78:206 S 8 '33

National fellowships at the Johns Hopkins university. *Science* 77:109 Ja 27 '33

National research fellowships in the biological sciences. *Science* 77:577 Je 16 '33

Post-graduate scholarships. *Soc Chem Ind J (Chem & Ind)* 52:513-17 Je 23 '33

**SCHOLLER process. See Wood saccharification****SCHOOL advertising**

Public relations for the public schools. J. F. Waller. 112p MacCrellish & Quigley co, Trenton, N.J. '33

**SCHOOL architecture. See School buildings****SCHOOL buildings**

Alteration of old school properties. H. C. Roberts. *il plans Arch Rec* 73:111-17 F '33

American school and university; 1932-1933. 5th annual ed 450p American school pub. corp. 470 4th av, New York '32

Der neue schulbau im in- und ausland, grundlagen, technik, gestaltung. J. Vischer. 100p Julius Hoffman verlag, Stuttgart, Germany; Review by H. R. Konrad. *Arch Rec* 73:sup 10+ F '33

Northampton polytechnic institute extension building. *il Electrician* 109:743-4 D 9 '32; *Engineering* 134:692 D 9 '32

Representative city elementary school buildings of Illinois erected, 1924-1931. 153p Illinois. Dept. of public instruction, Springfield '31

School building in California to be regulated by the state. *Eng N* 110:569-70 My 4 '33

School building in Paris. *il plan Arch Forum* 58:297-8 Ap '33

Standards for elementary school buildings. G. D. Strayer and N. L. Engelhardt. 181p [bibliog p167-71] Teachers college '33

Vienna kindergarten. *il Arch Forum* 57:503-7 D '32

We must build schools. J. O. Betelle. *Arch Rec* 74:162-3 S '33

**Bibliography**

Bibliography of school buildings, grounds and equipment. Smith and Noffsinger. pts 2-3 182p; 130p pa ea 50c University bookstore, Bloomington, Indiana '33

**Designs and plans**

Administration building, Lower Merion school district, Ardmore, Pa. *Architecture* 68:33-6 J1 '33

Cherry Hills school, Denver, Colorado. *Arch Rec* 73:329-31 My '33

Chouinard school of art, Los Angeles; and grade school at Western Springs, Illinois; views and plans. *Arch Rec* 74:368-71 N '33

Elementary school in Amlie-Dietrichsweg in Hamburg. *Arch Forum* 58:140-2 F '33

Portfolio of current architecture. *il plans Arch Rec* 74:195-205 S '33

Richard E. Byrd school, Glen Rock, N.J. *Arch Forum* 58:46-7 Ja '33

Rindge technical high school, Cambridge, Mass. H. G. Ripley. *Arch Forum* 59:263-72 O '33

School in Hilversum and Schuttersweg, and open air school in Arnhem, Holland. *Arch Forum* 59:299-302 O '33

**SCHOOL buildings—Continued****Electric equipment**

- Applied sense in school design. *il Elec West* 70:90-1 Mr '33  
 Electricity and education; the Northumberland Heath senior school, Erith. F. Evans. *il Elec R (Lond)* 113:341-2 S 15 '33  
 Merchant Taylors' school at Sandy Lodge. *il Elec R (Lond)* 112:731, 742 My 26 '33

**Equipment**

- School days; selling steel ceilings for school buildings. N. O. Hexamer. *il Sheet Metal Worker* 24:174-5 Je '33  
 Steam, power and hot water for the Hill school, Pottstown, Pa. R. S. Fitch. *il Power* 77:300-1 Je '33

**Fires and fire protection**

- Fire insurance with special reference to school protection. A. W. Nelson. *East Underw* 34:22 Jl 21 '33

**Floors**

- Unique floor slab uses two kinds of concrete; long-span, light-weight construction in new Pine Plains, N.Y. school. *il diags Eng N* 111:565-6 N 9 '33

**Heating and ventilation**

- Air-conditioning with relation to comfort, health, and efficiency. E. R. Hayhurst. *bibliog J Ind Hygiene* 15:109-15 Mr '33  
 Gas heating shows savings in Salt Lake City schools. H. Barker. *il Heat & Ven* 30:24-8 Je '33  
 Heating a school with gas effects savings. M. S. Sullivan. *il Gas Age* 71:111-12+ F 4 '33  
 Roof ventilators automatically controlled. *il Sheet Metal Worker* 24:224-5 Jl '33  
 Toledo schools expel high heating costs. S. R. Lewis. *Heating-Piping* 5:12-13 Ja '33

**Lighting**

- Dual-purpose lighting in Ohio schools; Laurel school, Shaker Heights, Ohio. *illum Eng Soc Trans* 28:557-8 Jl '33  
 Scholarship improved by adequate light. *Elec W* 102:347 S 9 '33  
 School lighting; abstract. C. A. Hughes. *Electrician* 110:303 Mr 3 '33  
 Smethwick's enterprise; extending the applications of gas on the district. *il Gas J (Lond)* 201:196-9 Ja 25 '33  
 Standards of school lighting with suggested requirements for a school lighting code. *il illum Eng Soc Trans* 28:21-56 Ja '33  
 Urges windowless schools to protect youths' eyes. D. W. Atwater. *illum Eng Soc Trans* 28:635-6 S '33

**SCHOOL children**

- Growth and the economic depression; a study of the weight of elementary school children in 1921-27 and in 1933. C. E. Palmer. *bibliog Pub Health Rep* 48:1277-92 O 20 '33  
 New X-ray process may materially cut down tuberculosis mortality. *il East Underw* 34:8 Mr 10 '33  
 Scholarship improved by adequate light. *Elec W* 102:347 S 9 '33  
 Seasonal variation of average growth in weight of elementary school children. C. E. Palmer. *Pub Health Rep* 48:211-33 [bibliog p 232-3] Mr 3 '33  
 Variations of growth in weight of elementary school children, 1921-28. C. E. Palmer. *bibliog Pub Health Rep* 48:993-1005 Ag 18 '33

**Transportation****See also**

- Motor bus lines,  
 School

**SCHOOL finance**

- Custody of school funds. F. F. Beach. 159p [bibliog p155-9] \$1.75 Teachers college '33  
 Educational returns at varying expenditure levels. O. E. Powell. 54p \$1.50 Teachers college '33  
 Expenditures for education; an important factor in increasing government costs. *Index* 13:72-3, 76-9 Ap '33

- Report of National conference on the financing of education. 73p National education assn, 1201 16th st, N.W. Washington, D.C. '33

**Bibliography**

- Bibliography on educational finance, 1923-1931. C. Alexander and T. Covert. U S Office of Educ Bul 1932, no 15:1-343 '32

**SCHOOL libraries**

- Preparatory school library. O. H. McPherson. *Lib J* 58:252-4 Mr 15 '33  
 Secondary-school library. U S Office of Educ Bul 1932, no 17:1-110 '33

**SCHOOL savings banks**

- School savings banking during school year of 1931-1932; thirteenth annual report on systems throughout the United States. 31p pa 25c American bankers assn, New York '32  
 School savings banking during school year of 1932-1933; fourteenth annual report on systems throughout the United States. 31p pa 25c American bankers assn, New York '33  
 School savings, 1932-33. W. E. Albright. *Am Bankers Assn J* 26:71 N '33

**SCHOOL shops****Accidents**

- Teacher liability in the school shop. R. D. Fleming. *Spectator* 131:11+ Jl 27 '33

**SCHOOLHOUSES. See School buildings****SCHOOLS****See also**

- |                           |                              |
|---------------------------|------------------------------|
| Colleges and universities | Mining schools and education |
| Education                 | Radio in education           |
| Engineering colleges      |                              |

**SCHOONOVER, C. L.**

- President and general manager, Warren tool corp. *por Steel* 92:12 Ja 9 '33

**SCHRAFFT'S. See Shattuck, F. G., company****SCHUCHARDT, Rudolph Frederick, 1875-1932**

- Sketch. W Soc E J* 38:53-4 F '33

**SCHUSTER, Sir Felix, 1854-**

- Distinguished London banker. *por Bankers M* 126:360-1 Ap '33

**SCHUSTER, M. Lincoln**

- This copy solves the small space problem; Simon and Schuster column. J. Lewis. *Ptr Ink* 165:84+ N 2 '33

**SCIENCE**

- American science. *Science* 78:36 Jl 14 '33  
 Appeal of science to the community; abstracts. A. Findlay. *Soc Chem Ind J (Chem & Ind)* 52:121-2 F 10 '33; *Chem Age (Lond)* 28:123 F 11 '33; *Discussion. Soc Chem Ind J (Chem & Ind)* 52:122-3 F 10 '33  
 Chemistry; its interrelations with other sciences. H. S. Taylor. *Ind & Eng Chem* 25:495-7 My '33  
 College physical science. P. McCorkle and J. A. Lewis. 158p State teachers college, Science dept, West Chester, Pa. '33  
 Electrical age, being further everyday marvels of science. V. H. L. Searle. 229p E. Benn, Ltd, London '32  
 Engineer and a Century of progress. H. P. Charlesworth. *Elec Eng* 52:445-8 Jl '33  
 Everyday problems in science. C. J. Pieper and W. L. Beauchamp. *rev ed* 734p Scott, Foresman and co, Chicago '33  
 Internationalization of scientific knowledge as a factor in world economic recovery. A. P. M. Fleming. *Civil Eng* 3:501-2 S '33; *Same abr. Mech Eng* 55:491-2 Ag '33  
 Major mysteries of science. H. G. Garbedian. 355p Covici, Friede, New York '33  
 Must science ruin economic progress? J. Stamp. *Engineer* 156:294 S 22 '33

- Pacific division of the American association for the advancement of science, 17th annual meeting, Salt Lake City, June 12-15. *Science* 78:322-7, 352-5 O 13-20 '33

- Quotations from the walls of the Hall of science at the Century of progress exposition. *J. Chem Educ* 10:666 N '33

- Readings from modern science. W. J. Branson, ed. 269p 3s 6d G. G. Harrap & co, Ltd, London '32



**SCIENCE—Continued**

Relation of science to industry. W. R. Whitney. Harvard Business R 11:445-56 J1 '33

Science and civilization. G. S. Ford. 29p pa 25c Univ. of Minnesota press, Minneapolis '33

Science and human life. J. B. S. Haldane. 287p \$2.50 Harper '33

Science at the Century of progress exposition. Science 77:sup8-10 Je 2 '33

Science in a Century of progress. il diag Power Pl Eng 37:242-5 Je '33

Science in relation to the community; abstracts. A. Findlay. Chem Age (Lond) 27: 505 N 26 '32; Soc Chem Ind J (Chem & Ind) 51:961-2 N 18 '32

Science in the changing world. M. Adams, ed. 286p \$2 Century co. '33

Science of everyday life. E. F. Van Buskirk and E. L. Smith. 620p Houghton '33

Scientific theory and religion. E. W. Barnes. 685p \$4 Macmillan '33

Shall we stop scientific progress? R Sci Instr 4:519-20 O '33

This surprising world. G. Heard. 157p 3s 6d Cobden-Sanderson, London '32

Ursprung und auswirkung wissenschaftlicher ideen. M. Planck. Zeit Ver Deutsch Ing 77: 185-90 F 25 '33

Use of resources today's need. E. F. Marsiglio. Oil Paint & Drug Rep 123:21 Mr 13 '33

**See also**

Astronomy	Meteorology
Bacteriology	Microscope and microscope
Biological chemistry	Mineralogy
Biological physics	Optics
Botany	Paleobotany
Chemistry	Paleontology
Crystallography	Physics
Geology	Scientific research
Mathematics	Technology
Metallography	

also American association for the advancement of science

**Bibliography**

Doctorates conferred in the sciences by American universities, 1931-1932. C. Hull and C. J. West, comps. Nat Research Council Reprint & Circ Ser 104:1-59 '32 (50c)

Standard catalog for public libraries; annual supplements. p225-85 Wilson, H. W. '32

**See also**

Scientific literature

**History**

Conquest of the physical world. B. Davis. Science 76:613-17 D 30 '32

Great men of science. P. Lenard. 389p \$3 Macmillan '33

Heroic age of science. W. A. Heidel. (Carnegie inst. of Wash. Pub. no442) 203p Williams & Wilkins '33

New learning; a contribution to a general view of the world. F. J. E. Raby, ed. 333p I. Nicholson & Watson, Ltd, London '33

University studies, Cambridge, 1933. H. Wright, ed. 294p 10s 6d I. Nicholson & Watson, Ltd, London '33

**Methodology**

Rôle of analysis in scientific investigation. D. Johnson. Geol Soc Bul 44:461-93 Je '33; Same abr. Science 77:569-76 Je 16 '33

**Periodicals**

Dissemination of scientific knowledge. E. Leifson. Science 76:624 D 30 '32

High cost of German medical and scientific periodicals. E. R. Cunningham. Science 77: 409-10 Ap 28 '33

Medical library association; report of committee, etc. Lib J 58:704-5 S 1 '33; Excerpt. Science 78:139-40 Ag 18 '33

**Philosophy**

Anatomy of modern science. B. Bavink. 683p [bibliog p649-61] G. Bell & sons Ltd, London '32

Future of science in civilization. H. T. F. Rhodes. Soc Chem Ind J (Chem & Ind) 52: 366 Ap 28 '33

Guide to modern thought. C. E. M. Joad. 268p \$1.75 Stokes '33

New background of science. J. Jeans. 301p \$2.50 Macmillan '33

Universe of science. H. Levy. 224p \$2 Century co. '33

Where is science going. M. Planck. 221p \$2.75 W. W. Norton & co, New York '32

**Study and teaching**

Experimental study of superstitions and other unfounded beliefs as related to certain units of general science. O. W. Caldwell and G. E. Lundeen. 138p Teachers college '32

Instruction in science. U S Office of Educ Bul 1932, no 17:1-63

Some essentials of an elementary science unit. G. V. Bruce. J Chem Educ 10:484-6 Ag '33

Some suggestions on demonstration. L. F. Pinkus. Science 78:364 O 20 '33

Sound motion picture in science teaching. P. J. Rulon. 236p [bibliog p 109-10] \$2.50 Harvard univ. press '33

Survey course of the physical sciences for college freshmen. W. V. Norris. J Chem Educ 10:631-4 O '33

Tours through the world of science. W. T. Skilling. 758p McGraw-Hill '33

**SCIENCE (periodical)**

Adrenal glands in an editor's office. J. M. Cat-tell. Science 77:428-30 My 5 '33

SCIENCE advisory board. See National research council—Science advisory board

**SCIENCE and state**

Curtailment of scientific work under the government. Science 77:600; 78:122-3, 162-3 Je 23, Ag 11, 25 '33

Most profitable investment of the federal government. W. Davis. Science 77:sup8-9 Ap 14 '33

Reductions in the federal budget for scientific work. Science 76:561 D 16 '32

**See also**

Government research  
United States—Geo-  
logical survey

**SCIENTIFIC American (periodical)**

Scientific American and its intimate connection with the progress of aviation. il Sci Am 149:166-7 O '33

**SCIENTIFIC apparatus and instruments**

David Rittenhouse, physicist. T. D. Cope. J Fr Inst 215:287-97 Mr '33

**See also**

Aeronautic instruments  
Optical instruments  
Physical instruments  
Biological apparatus  
Physiological apparatus  
Chemical apparatus  
Surveying instruments  
Electric apparatus  
and appliances  
Electric instruments  
Volumetric apparatus

**Advertising**

Dialog that sounds real because it is real; Taylor instrument companies. E. E. Way. il Ptr Ink 164:27-8 Ag 24 '33

**Bibliography**

Abstracts of instrument literature. Published in monthly numbers of Review of scientific instruments

**Exhibitions**

Century of progress; review of various industrial, engineering and scientific exhibits. il Power Pl Eng 37:233-62 Je '33

Old Ashmolean museum, Oxford; early instruments. il Engineering 135:533-6 My 19 '33

Royal society's conversazione. il Engineer 155: 523 My 26 '33; Engineering 135:566-8, 602-3 My 26-Je 2 '33; Electrician 110:671-2 My 26 '33; Elec R (Lond) 112:738 My 26 '33; Soc Chem Ind J (Chem & Ind) 52:455-6 My 26 '33

SCIENTIFIC crime detection laboratory. See Northwestern university—Scientific crime detection laboratory

**SCIENTIFIC education***See also*

Chemical education  
Science—Study and teaching

**SCIENTIFIC expeditions**

Expeditions; importance of the amateur explorer. T. D. A. Cockerell. *Science* 78:384-5 O 27 '33

North India expedition of Yale university. *Science* 76:534-5 D 9 '32

Preliminary report on the Yale North India expedition. H. de Terra. *map Science* 77:497-500 My 26 '33

Rainbow bridge-Monument Valley expedition. *Science* 78:118-19 Ag 11 '33

Scientific work in China. A. B. D. Fortwyn. *Science* 76:458-9 N 18 '32

University expedition to study the natives of Central Australia. J. B. Cleland. *Science* 77:260-1 Mr 10 '33

*See also*

Botanical exploration

**SCIENTIFIC literature**

Can a publication be camouflaged? N. E. Stevens. *Science* 77:239 Mr 3 '33

Co-operation in science. S. C. Bradford. *Engineer* 156:360-1 O 13 '33

Dissemination of scientific knowledge. E. Lefson. *Science* 76:624 D 30 '32

International indexing of scientific and technical papers. S. C. Bradford. *Engineering* 135:119-22 F 3 '33

**SCIENTIFIC management. See Industrial management****SCIENTIFIC method**

Scientific method and social relations. B. E. Schaar. *Science* 76:551-7 D 16 '32

Social sciences and scientific method in the administration of justice. S. Glueck. *Ann Am Acad* 167:106-18 My '33

*See also*

Science—Methodology

Study and teaching

Survey course of the physical sciences for college freshmen. W. V. Norris. *J Chem Educ* 10:631-4 O '33

**SCIENTIFIC property**

Establishment of priority in scientific discoveries. C. A. Browne. *Science* 76:454-6 N 18 '32

University patents. A. Gregg. *Science* 77:257-9 Mr 10 '33

**SCIENTIFIC research**

Application of science to industry. F. B. Jewett. *W Soc E J* 38:214-23 Ag '33

Application of scientific research to industrial problems. *Chem Age (Lond)* 28:209-11 Mr 11 '33

Crisis in scientific research and the way out. S. Tschachotin. *Science* 77:426-7 My 5 '33

Die entwicklung der forschung in den jahren 1931 und 1932. E. Koenemann. *Zeit Ver Deutsch Ing* 77:329-35 Ap 1 '33

Heckscher grants at Cornell university. *Science* 77:207 F 24 '33

International research institution proposed for work in Central Asia. R. C. Andrews. *Science* 76:sup8 D 23 '32

Most profitable investment of the federal government. W. Davis. *Science* 77:sup8-9 Ap 14 '33

National academy of sciences; address at the annual dinner, Washington, April 25. W. W. Campbell. *Science* 77:549-52 Je 9 '33

Der nationale forschungsrat Italiens. G. de Thierry. *Zeit Ver Deutsch Ing* 77:1110-12 O 14 '33

Papers read before the Chicago meetings of the American association for the advancement of science. *Science* 77:sup6-8 Je 30 '33

Les recherches scientifiques en France. A. Ranc. *Chimie & Ind* 29:1464-76 Je '33

Research and human welfare. E. P. Poste. *Am Cer Soc J (Bul)* 16:81-2 Ap '33

Rôle of analysis in scientific investigation. D. Johnson. *Geol Soc Bul* 44:461-93 Je '33; Same abr. *Science* 77:569-76 Je 16 '33

Science, pure and applied; developments in 1932. *Mech Eng* 54:845-6 D '32

Scientific method and social relations. B. E. Schaar. *Science* 76:551-7 D 16 '32

Scientific work in China. A. B. D. Fortwyn. *Science* 76:458-9 N 18 '32

Twelve man-made obstructions to research. H. P. Gillette. *Roads & Sts* 76:297-8 Ag '33

University patents. A. Gregg. *Science* 77:257-9 Mr 10 '33

Ursprung und auswirkung wissenschaftlicher ideen. M. Planck. *Zeit Ver Deutsch Ing* 77:185-90 F 25 '33

Value of research. R. E. Rose. *Am Dyestuff Rep* 22:493-7 Ag 14 '33

Value of scientific research to agriculture. H. A. Wallace. *Science* 77:475-80 My 19 '33

*See also*

Aeronautic research	Microscopy and microscopy
Agricultural research	Petroleum research
Ceramic research	Physical research
Chemical research	Refrigeration research
Electric research	Rubber research
Engineering research	Scientific property
Geological research	Textile research
Industrial research	
Laboratories	
Medical research	
Metallurgical research	

*also* Association to aid scientific research by women; Great Britain—National physical laboratory, Teddington; National research council; National research council of Canada; United States—Standards, Bureau of; Wisconsin alumni research foundation

**SCIENTIFIC societies**

Annual session of German scientific men and physicians. *Science* 76:509-10 D 2 '32

*See also*

American association for the advancement of science	Ohio academy of science
---	-------------------------

**SCIENTISTS**

American men of science; a biographical directory. J. M. Cattell and J. Cattell, eds. 5th ed 1278p \$12 Science press, New York '33

Distribution of American men of science in 1932. J. M. Cattell. *Science* 77:264-70 Mr 10 '33

Engineering and science in Westminster Abbey. E. C. Smith. *Engineering* 136:225-7 S 1 '33

Gallery of endocrine workers from Descartes to Zondek; portraits. *Fortune* 8:92-3 N '33

Heroes of science. J. Cottler and H. Jaffe. 217p Little '33

In honor of Professor Elihu Thomson. H. Cushing. *Science* 78:24-6 Jl 14 '33

Manchester scientists of former days; chemists. J. R. Partington. *Soc Chem Ind J (Chem & Ind)* 52:478-82 Je 9 '33

Need of opportunity for exceptional ability. J. M. Cattell. *Science* 77:491-2 My 19 '33

Salaries of scientific men working under the British government. *Science* 78:355-6 O 20 '33

**Public relations**

Public service as an element in the life of the American scientist; duty of scientists in relation to the alcohol problem. Y. Henderson. *Science* 77:584-5 Je 16 '33

**Germany**

Scientific situation in Germany. *Science* 77:528-9 Je 2 '33

**SCISSORS****Manufacture**

Precision machining in surgical scissors production; Bard-Parker co. H. R. Simonds. *il diag Iron Age* 131:660-3 Ap 27 '33

**SCLEROSCOPE**

Standardisation of the scleroscope test for specification use. R. Genders. *diag Engineer* 155:sup [Metallurgist] 46-7 Je 30 '33



**SCOTLAND***See also*Electricity supply—  
Scotland**SCOTT, Howard**

Portrait. Business Week p20 Ja 25 '33

**SCOTT, Thomas M.**Star salesmen the depression couldn't lick.  
por Sales Management 33:45-6 Jl 1 '33**SCOTT, Sir Walter**Centennial of Sir Walter Scott's financial victory. F. W. Ganse. Trust Companies 55:  
567-9 N '32Why Sir Walter Scott, novelist, and philosopher, fascinates business men. G. Blackall.  
por East Underw 34:43, 93 pt 2 S 22 '33**SCRAP material**Small shop scrap pile. F. H. Colvin. il Am  
Mach 77:567 Ag 30 '33*See also*

Cotton waste

Railroads—Scrap

material

Salvage (waste, etc.)

Scrap metal

Waste fuel

Waste paper

**SCRAP metal**Alloy steel scrap problem must be solved.  
K. Steinbacher. Iron Age 130:sup16 N 17  
'32Baling scrap metal for re-use. il Comp Air  
M 38:4177 Jl '33Copper wire scrap. R. G. Arend. Engineer  
156:71 Jl 21 '33Europe breaks scrap iron in armored blasting  
pits. R. Feuchtinger. il Explosives Eng 11:  
106-7 Ap '33; Abstract. Steel 92:52 Ap 10  
'33Nonferrous physical metallurgy; review of  
literature shows wide variety of work. W.  
Romanoff and T. A. Wright. Min & Met 14:  
37 Ja '33Secondary metals, 1932. T. A. Wright. Metal  
Ind 31:10 Ja '33Steel industry faces growing scrap scarcity.  
L. B. Lindemuth. charts Iron Age 131:988-  
90 Je 22 '33Treatment of copper wire scrap. E. R. Thews.  
diag Engineer 155:381-2 Ap 14 '33Treatment of platinum-iridium scrap. C.  
Campbell. Chem Age (Lond) 29:sup9-10 Ag  
5 '33*See also*Automobiles—Wreck-  
ingMachinery—Wreck-  
ingRailroads—Scrap ma-  
terial

Salvage (waste, etc.)

**Prices**Composite prices of the Iron Age, 1898-1932;  
graph. Iron Age 131:19-20 Ja 5 '33Iron and steel scrap; market history; tabula-  
tion. Steel 92:113-16 Ja 2 '33Scrap prices at an all-time low level. C. E.  
Wright. Iron Age 131:5-6 Ja 5 '33Statistical record of iron and steel; monthly  
average prices 1916 to 1932. Iron Age 131:  
89-91 Ja 5 '33**SCRAP metal industry**Exports turn spotlight on scrap; look for new  
supplies. Steel 92:11-12+ Ap 10 '33Scrap and the copper market. S. Tzach. Eng  
& Min J 134:293-5 Jl '33Scrap and the lead market. S. Tzach. Eng  
& Min J 134:371-3 S '33Scrap code calls for 40 hours, 37½c. Steel 93:  
12 Jl 10 '33**Statistics**Scrap the only item to gain in iron and steel  
exports in 1932. Iron Age 131:144 Ja 19 '33**SCRAPERS**Sauerman bros. new scraper for use behind  
tractor. il Eng & Contr 71:263 N '32Underground scraping equipment. L. Eaton.  
diags Eng & Min J 134:151-6 Ap '33**SCREENING**Determination of average particle size from  
the screen-analysis of non-uniform particu-  
lar substances. T. Hatch. J Fr Inst 215:27-  
37 Ja '33Large crushing and screening plant reflects  
engineering progress; Hudson River stone  
corporation. L. A. Slattery. il diags plans  
Eng & Min J 134:2-10 Ja '33  
Screen testing ores by hand. Eng & Min J  
134:149-50 Ap '33*See also*Coal screening  
Coke screeningPaper making—  
Screening**SCREENS**Abbe engineering co.'s wedge-wire screens in  
many profiles. il Eng & Min J 134:124 Mr  
'33Centrifugal screen for paper pulp. il Engineer-  
ing 134:780-1 D 30 '32Electrically vibrated screens. J. Dummelow. il  
Elec R (Lond) 112:76 Ja 20 '33Flatlock screen. J. D. Galloway. il Can Min  
J 54:387-9 O '33Importance of efficient screening equipment;  
some recent developments. il Chem Age  
(Lond) 29:375-6 O 21 '33Installation of pulsators on Bird pulp screens.  
A. E. Parrett. Pulp & Pa of Can 34:32 Ja  
'33Maintenance of crushing and screening ma-  
chinery. F. W. R. Williams. il Chem Age  
(Lond) 28:261-2 Mr 25 '33New dirt removal methods in stuff prepara-  
tion. F. K. Becker. Paper Tr J 97:43-6 Jl  
13 '33New screening devices. il Eng & Min J 134:  
303 Jl '33Proposed standard instrument for classifica-  
tion of papermaking fibers according to  
length. G. D. O. Jones and others. il diag  
Paper Tr J 96:29-36 Ap 27 '33Tyler vibrating screen. il diag Coal Age 38:  
107-8 Mr '33Vibrating screens. il diags Mech Handling 20:  
29-31, 64-7, 103-4, 133-5, 163-5, 205-6 Ja-Je  
'33*See also*

Coke screening

Sieves

Sewage disposal—  
Screening**Standards**Industrial sieves and screens; a new British  
standard specification. Chem Age (Lond)  
28:353 Ap 22 '33Standardizing sieve openings. Rock Prod 36:30  
My '33Wire diameters for screens used by aggregate  
industry to be standardized. Rock Prod 36:  
57 F '33**SCREENS (architecture)**Portfolio of bank screens. Architecture 67:47-  
62 Ja '33**SCREENS, Door and window**

Frameless fly screen. il Am Bld 55:45 My '33

**SCREW caps**How strong is a woman? can she unscrew  
the tops from jars and bottles. M. L. Carr.  
Food Ind 5:86-7, 138-40, 170-1+ Mr-My '33**SCREW machines**Machineability of screw machine stock. H. W.  
Graham. il Mach 39:793-5 Ag '331¼-in. four-spindle automatic bar machine. il  
diags Engineering 134:676-8, 684, pl 25 D 9  
'32Piercing in a screw machine. E. Wittmann.  
diag Am Mach 77:409-10 Je 21 '33Screw machine work; pullouts for drills. Am  
Mach 77:661 O 11 '33Second operation on automatic screw ma-  
chines. C. W. Hinman. Am Mach 77:232 Ap  
12 '33Standardizing automatic screw machine cams.  
C. W. Hinman. Am Mach 77:264 Ap 26 '33Straddle-milling turret tool for automatic  
screw machines. C. W. Hinman. diag Am  
Mach 76:1232 D 21 '32Threading lobes on screw machine cams.  
C. W. Hinman. Am Mach 77:728 N 8 '33**SCREW threads**Der berührungsfehler von gewinden. G.  
Berndt. Zeit Ver Deutsch Ing 77:1147-8 O  
21 '33Common defect in screw threads. H. W.  
Bearce. Am Mach 77:148 Mr 1 '33

**SCREW threads—Continued**

- Experimental investigation of the friction of screw threads. C. W. Ham and D. G. Ryan. *il diags Ill U Eng Exp Sta Bul* 247:1-60 '32; Summary. *Mech Eng* 55:309-10 My '33
- Special thread forms and their uses. C. Reimschuessel. *diags Am Mach* 77:648-50 O 11 '33
- Versuche an einer neuartigen schrauben-sicherung. W. Kamm. *diags Zeit Ver Deutsch Ing* 76:1181-2 N 26 '32

*See also*

Thread cutting

**Standards**

- Acme screw threads and tools. W. Whitney. *diag Am Mach* 77:242-3 Ap 12 '33

**Testing**

- Tests on threaded sections show exact strengthening effect of threads. E. M. Slaughter. *il Metal Prog* 23:18-20 Mr '33

**SCREWS**

- Die dauerhaltbarkeit von schraubenverbindungen und mittel zu ihrer steigerung. A. Thum und H. Wiegand. *diags Zeit Ver Deutsch Ing* 77:1061-3 S 30 '33
- Parker-Kalon self-tapping cap screws. *diags Am Mach* 77:161 Mr 1 '33

**Manufacture**

- Cold forming the stainless steels. A. E. R. Peterka. *il Metal Prog* 24:35-8 O '33
- Free-cutting screw stock. *Mach* 40:98 O '33
- Heading properties of brass wire as it varies with composition and temper. D. K. Cramp-ton. *il diags Metal Prog* 23:20-4 Mr '33

**Standards**

- Present screw standards have reduced the number of screws carried in stock. E. C. Shanks. *Mach* 39:476 Mr '33

**Testing**

- Dauerbiegeversuche mit schraubenbolzen. K. Schraivogel. *il diags Stahl & Eisen* 52:1189-93 D 1 '32
- Recommended practice for testing bolts, screws, nuts, studs, and pins. *Metal Prog* 23:25-6+ Mr '33

**SCRIP**

- Barter and scrip. *il Am Bankers Assn J* 25:35-6, 66-8 Mr '33
- Business without money. *il Forbes* 31:13-14 F 1 '33
- Cement-bound macadam road project financed by scrip in Mason City, Iowa. *il Concrete* 41:3-4 O '33
- Clearing house scrip: will history repeat itself? historical summary. *Forbes* 31:13-14 Mr 15 '33
- Cooperative self-help activities among the unemployed. *Monthly Labor R* 36:449-95 Mr '33
- Emergency money. *Comm & Fin* 22:229-30 Mr 8 '33
- Employer required to redeem scrip in cash on regular pay day. *Monthly Labor R* 36:1073-4 My '33
- Foreign exchange regulations—scrip issue in Germany. *Economist* 117:671-2 O 7 '33
- Men without money. W. Weishaar and W. W. Parrish. *illp \$1 Putnam* '33
- Scrip problems: Detroit's municipal money. *Business Week* p13 J1 22 '33
- Unique scrip and currency issued during the recent national banking holiday; exhibit at the Chase national bank of New York. *il Trust Companies* 56:575 My '33
- What'll we use for money? barter-now move-ments and home-made currency. *il Business Week* p10-11 Ja 11 '33
- Wooden money. *Comm & Fin* 22:107 Ja 25 '33

**Printing**

- Bank holiday pays some printers; emergency scrip, later destroyed, produced in many communities. A. N. Jackson. *il Inland Ptr* 91:23-4 Ap '33

**SCRIPPS, Edward Wyllis, 1854-1926**

- E. W. Scripps. N. D. Cochran. 315p \$3 Har-court '33

**SCRIPT type.** *See* Type and type founding—Script type

**SCULPTURE**

- Creating colossi in terra cotta; how poly-chrome terra cotta statuary of unprece-dented size was made for the Pennsyl-vania museum of art. *il Am Arch* 143:63-6 J1 '33
- Main entrance, British Empire building, Rockefeller Center, New York; views. *Am Arch* 143:50-1 J1 '33
- Mountain sculpture; use of dynamite in carv-ing Mount Rushmore memorial. G. Borg-lum. *il Sci Am* 148:7-9 Ja '33
- Portfolio of Gothic niches. *il Architecture* 68:301-16 N '33
- Portfolio of the eagle in sculpture. *il Archi-tecture* 67:293-308 My '33
- Sculpture on the Joslyn memorial, Omaha, Neb.; illustrations. *Architecture* 67:99-100 F '33
- Story of Rockefeller Center; allied arts. E. Clute. *il Arch Forum* 58:128-32 F '33
- Two granite pylons; San Francisco stock ex-change; views. *Am Arch* 143:19 My '33

*See also*

Bronzes  
Statues

**SCULPTURE, Assyrian**

- Art of a hard, cruel people; Assyrian art antiques in Metropolitan museum of art, New York. *il Sci Am* 149:8 J1 '33

**SEA level**

- Determining site elevations; how the Geodetic survey provides mean sea level data. *Can Eng* 65:12 O 3 '33

**SEA power**

*See also*

Disarmament  
Navies

**SEA urchins, Fossil**

- Ancestry of echini. H. L. Clark. *Science* 76:591-3 D 23 '32

**SEA walls**

- Sea waves in the laboratory studied as aid to sea-wall design. *Science* 78:sup9 Ag 4 '33

*See also*

Breakwaters  
Dikes (engineering)  
Docks  
Harbors  
Jetties

**SEA walls, Concrete**

*See also*

Breakwaters, Con-crete

**SEA water**

- Analysis and composition of fatty material produced by the decomposition of herring in sea water; theory of origin of petroleum in sedimentary deposits. R. C. Wells and E. T. Erickson. *Am Chem Soc J* 55:333-41 Ja '33
- Bacterial and chemical factors in lime deposi-tion at Tortugas, Florida. H. Gee. *il Nat Research Council Bul* 89:79-82 '32
- Boron content of sea water. E. G. Moberg and M. W. Harding. *Science* 77:510 My 26 '33
- Bromine to be made from seawater in North Carolina; Ethyl-Dow chemical company. *Oil Paint & Drug Rep* 124:16 Ag 14 '33
- Corrosion of metals in salt solutions and sea-water. G. D. Bengough. *il diag Soc Chem Ind J* (Chem & Ind) 52:195-210, 228-39, pl 1-4 Mr 10-17 '33
- Dyed wool fast to sea water; abstract. G. Rudolph. *Textile Col* 55:617-18 S '33
- Lithium in sea water. B. D. Thomas and T. G. Thompson. *diag Science* 77:547-8 Je 2 '33
- Model law for motion of salt water through fresh. M. P. O'Brien and J. Chernoff. *il diags Am Soc C E Proc* 58:1769-88 D '32; Discus-sion. 58:531-4, 688-91, 882-4, 1020-3, 1336-9 Mr-My, Ag, O '33

- New industry to recover bromine from the sea; Ethyl-Dow plant. *Ind & Eng Chem News ed* 11:244 Ag 20 '33; *Automotive Ind* 69:214 Ag 19 '33; *Nat Pet N* 25:17-18 Ag 16 '33

- Photochemical nitrification in sea water. C. E. ZoBell. *Science* 77:27-8 Ja 6 '33



**SEA water—Continued**

- Photometric investigation of Nessler reaction and Witting method for determination of ammonia in sea water. H. E. Wirth and R. J. Robinson. *bibliog Ind & Eng Chem Anal ed* 5:293-6 S 15 '33
- Radioactivity of sea water. D. Devaputra, T. G. Thompson and C. L. Utterback. p358-66 Univ. of Washington, Seattle '32
- Relation of the buffer mechanism of sea water to the solubility of calcium carbonate. D. M. Greenberg and E. G. Moberg. *Nat Research Council Bul* 89:73-4 '32
- Sur l'or de l'eau de mer. A. Gourévitch. *Chimie & Ind* 29:284 F '33

*See also*

- |                                  |                               |
|----------------------------------|-------------------------------|
| Concrete, Effect of sea water on | Ocean                         |
| Marine structures                | Steel, Effect of sea water on |
| Metals, Effect of sea water on   |                               |

*Analysis*

- Determination and occurrence of fluorides in sea water. T. G. Thompson and H. J. Taylor. *Ind & Eng Chem Anal ed* 5:87-9 Mr 15 '33
- Microdetermination of calcium in sea water. P. L. Kirk and E. G. Moberg. *diag Ind & Eng Chem Anal ed* 5:95-8 Mr 15 '33
- Scientific problems of Canadian fisheries; some chemical aspects of the work of the Pacific biological station, Nanaimo, B.C. N. M. Carter. *il Can Chem & Met* 17:188-90 S '33

**SEADROME ocean dock corporation**

- Seadrome corporation asks NRA for millions to bridge Atlantic. *il map Iron Age* 132:41 O 19 '33

**SEADROMES. See Airports, Floating****SEAGROVE, Gordon**

- Sailor come home. L. McGivena. *Adv & Sell* 20:22-3, 40-1 Mr 16 '33

**SEAL oil**

- Cracking Alaskan fur-seal oil. G. Egloff and E. F. Nelson. *Ind & Eng Chem* 25:386-7 Ap '33

**SEAMEN**

- How far workmen's compensation acts can apply to maritime law, interstate commerce, and the doctrine of extraterritoriality. S. B. Horowitz. *bibliog U S Bur Labor Statistics Bul* 577:119-26; Discussion. 137-46 '33
- Number of alien seamen on American vessels. *Marine R* 63:20 Je '33
- Sailor's guide. *Fortune* 7:8 Ja '33
- Ship officers and good cargo handling; the mate's point of view. E. Johnson, jr. *Marine R* 63:28-9 Ja '33
- Wages of seamen, 1932. *Monthly Labor R* 36:176-8 Ja '33

**SEAPLANE bases**

- New suburbs for New York; seaplane terminals near heart of New York. *il Aviation* 32:292-3 S '33
- New York city seaplane terminal. *Aero Digest* 22:24 Je '33

**SEAPLANES**

- Curtiss Condor with twin floats. *il Aero Digest* 23:43-4 N '33
- Hydro-aviation. G. A. Crocco. *Aviation Eng* 8:17-18 F '33
- Notes on take-off calculations. M. Watter. *Aero Digest* 22:18-19+ My '33
- Savoia-Marchetti S.55X seaplane. *il diags Aero Digest* 23:56-7 Ag '33
- Seaplane research. H. M. Garner. *bibliog il diags Roy Aeronautical Soc J* 37:830-55; Discussion. 855-63 O '33
- Several of the new flying boats, twin float seaplanes and amphibians seen at the Paris aero show; diagrams. *Aero Digest* 22:44 Ja '33
- Some notes on the construction of the Macchi-Castoldi M.C. 72 seaplane. M. Castoldi. *il diags Aero Digest* 23:44-5 S '33
- Waco model UIC seaplane. H. R. Perry. *il diags Aero Digest* 22:38 Je '33

*See also*

- Airplanes, Amphibian
- Flying boats

**Floats**

- Giant floats for Admiral Byrd's Condor. *il Aviation* 32:329, 333 O '33
- Interpretation of data of model basin tests on aircraft floats. H. C. Richardson. *Aero Digest* 23:46-7 Ag '33
- Stearman 81 on Edo floats. *il Aviation* 32:253-4 Ag '33

**Landing**

- Stothert and Pitt 50-ton cantilever crane for launching and landing seaplanes. *il Engineer* 156:119 Ag 4 '33

**Launching**

- Stothert and Pitt 50-ton cantilever crane for launching and landing seaplanes. *il Engineer* 156:119 Ag 4 '33

**Refueling**

- Mothership for south Atlantic flyers; Luft Hansa's floating fueling station. *Aviation* 32:161 My '33

**Rudders**

- Edo automatic water rudders. *diags Aviation Eng* 8:24 Ja '33

**Testing**

- Hydrodynamics of marine aircraft. J. H. Lowery. *il diags Roy Aeronautical Soc J* 37:423-34 My '33
- New methods of research in aeronautics. H. E. Wimperis. *il diag Roy Aeronautical Soc J* 36:1000-5 D '32

**SEARCHLIGHTS**

- Effect of the spectral transmission of the atmosphere upon visibility by artificial light. M. G. Bennett. *Illum Engr* 26:75-80 Mr '33
- Searchlight efficiency. *il Sci Am* 148:235 Ap '33

**SEARS, Roebuck and company**

- Companies which should show large gains in earnings. *Mag of Wall St* 52:279-80 Jl 8 '33
- Farm bill to aid Sears. *Econostat* 1:11, 23 Jl 15 '33
- How the mail-order companies fared. *Barron's* 13:9 Ja 9 '33
- Lost \$2,543,651; results in period to January 28. *Barron's* 13:8 Mr 6 '33
- Mail-order basement; agency sales plan. *Business Week* p12 S 30 '33
- Moving from red ink to black. *Mag of Wall St* 52:530 S 16 '33
- 1932 loss. *Barron's* 13:14 Ja 2 '33
- Speculative audit; favorable and unfavorable factors affecting common-stock values. *Barron's* 13:12 Ag 21 '33

**SEASHORE***See also*

- |                 |                  |
|-----------------|------------------|
| Bathing beaches | Shore lines      |
| Beaches         | Shore protection |
| Coast changes   |                  |

**SEASIDE resorts. See Bathing beaches****SEASONAL industries**

- Akron and NRA; drop in tire demand accounts for layoffs. *Business Week* p12 S 23 '33
- Best industries for fall advertising. *Ptd Salesmanship* 61:328-30 Ag '33
- English study of unemployment in seasonal trades. *Monthly Labor R* 36:81 Ja '33

*See also*

- |   |                         |
|---|-------------------------|
| Side lines  | Winter construction     |
| Stabilization in industry                                   |                         |
| <i>also names of seasonal industries and products, e.g.</i> |                         |
| Bananas   | Ice industry            |
| Building trades   | Refrigerators, Electric |
| Coal trade  |                         |
| Hats  |                         |

**SEASONAL variation (statistics)**

- Adjusting for the changing date of Easter in economic series. J. Homan. *Am Statis Assn J* 28:328-32 S '33
- Revised and improved seasonal adjustment for electric power output. D. W. Ellsworth. *Annalist* 40:869 D 30 '32

**SEASONAL variation (statistics)—Continued**

Seasonal variation; how it is measured and what it means in the chemical industries. J. Kalish. *Chem Markets* 33:27-9 Jl '33

Seasonal variations in money in circulation. Fed Res Bul 18:735-46 D '32

Standard deviation as a measure of the intensity of seasonal adjustment. R. von Huhn. *Am Statis Assn J* 28:70-5 Mr '33

**SEATING**

They sit or stand and are better operators for the change in posture. W. R. Mullee. *il Factory Management* 91:313-14 Ag '33

**SEATON, Roy Andrew, 1884-**

President of the Society for the promotion of engineering education, 1932-33. por J Eng Educ 24:4-5 S '33

**SEATRIN lines, incorporated**

I.C.C. finds Seatrain lines not a railroad extension. H. F. Lane. *Marine Eng* 38:308 Ag '33

I. C. C. holds hearing on Seatrain lines, inc. Ry Age 93:716 N 19 '32

Seatrain lines complain to I.C.C. Ry Age 94:123 Ja 28 '33

Seatrain see-saw dog-fight between the seatrains and their land and water rivals. *Business Week* p18+ F 1 '33

**SEATRAINS**

Seatrain bridge crane. W. C. Raube. *il Marine Eng* 38:326-9+ S '33

Seatrain New York. *il diag Marine R* 63:18 Ap '33

Seatrain see-saw dog-fight between the seatrains and their land and water rivals. *Business Week* p18+ F 1 '33

Significance of car-carrying ships. G. F. Gardner. *Harvard Business R* 11:512-18 Jl '33

**SEATS**

*See also*

Automobiles—Seats

**SEATTLE, Washington**

*See also*

Unemployment—Seattle, Washington

**Bridges**

Lenora Street viaduct. C. Cavanagh. *il Am Concrete Inst J* 4:185-8 D '32

Open-mesh steel deck for Seattle bascule. *diags Eng N* 109:624 N 24 '32

Seattle remodels its University bridge. J. A. Dunford. *il diags Eng N* 111:439-40 O 12 '33

University bridge, Seattle. *il Engineering* 136:231 S 1 '33

Widened bascule bridge has decking of steel mesh. R. C. Hill. *il Steel* 92:26+ My 22 '33

**Harbor**

Cargo handling facilities at Seattle for Grace line steamers. H. E. Stocker. *il Marine R* 63:30-2 Mr '33

**Sewerage**

Freeing Lake Washington from sewage. map Eng N 110:714 Je 1 '33

**Water supply**

Design and construction of the West Seattle reservoir. S. De Moss. *Am Water Works Assn J* 25:508-14 Ap '33

**SEAWATER. See Sea water****SEAWEED**

*See also*

Agar  
Algae

**SECRETARIES, Private**

Medical secretary. M. G. Morse. 162p [bibliog p155-6] \$1.50 Macmillan '33

Questions & answers on secretarial practice. E. J. Hammond. 4th ed 242p Pitman '32

**SECTIONAL distribution. See Marketing—Sectional distribution****SECURITIES**

Answers to inquiries. Published in bi-weekly numbers of Magazine of Wall Street

Ask Econostat; authoritative digests of important business information. *Econostat* 1:22-3 Ap 8 '33 [cont weekly]

Control of the security-investment system. G. W. Edwards. *Harvard Business R* 12:1-11 O '33

Curb curbed; new rules on trading in unlisted stocks and bonds. *Business Week* p17-18 Jl 29 '33

Exchange reform and the whip; no evidence that reforms were made under Washington pressure. J. S. Lawrence. *Econostat* 1:8-10 Ag 12 '33

Finance—security and money markets. Published in monthly numbers of Survey of current business

Gauging the prospect for corporate profits; the investor views the outlook in leading industries. J. C. Clifford. *Mag of Wall St* 61:326-8 Ja 7 '33

Handled with care; second credit protection fund. K. W. Fraser. *Credit & Fin Management* 35:18+ Mr '33

Interpretation of trust investment factors; checking up on sources of data and information. W. P. Davis. *Trust Companies* 65:557-62 N '32

Investment and finance; a monthly survey of current developments affecting the bank investment market. Published in monthly numbers of the Bankers magazine

Investment policies and inflation. D. Langmuir. *Trust Companies* 57:127-9 Ag '33

Investment portfolio for 1933. W. Gates. *Mag of Wall St* 61:380+ Ja 21 '33

Investor and the conference. *Economist* 116:1307-8 Je 17 '33

Investor pays. M. Lowenthal. 406p \$2.50 Knopf '33

Investors returning to first principles. W. W. Horner. *Bankers M* 126:46-9 Ja '33

Jordan on investments. D. F. Jordan. 2d rev ed 425p Prentice-Hall, inc. '33

Lessons in investment; recouping a loss. W. H. Russell. *Comm & Fin* 22:185 F '22 '33

National bank security holdings, 1914-31. W. H. Steiner and O. Lasdon. *J of Business* 6:95-112 Ap '33

News of foreign securities. Published in weekly numbers of *Annalist*

Oliphant's studies in securities. 7th issue 158p James H. Oliphant & co, 61 Broadway, N.Y. '33

Quarterly index of security offerings. *Annalist* 41:140-1, 583; 42:104-5, 533+ Ja 20, Ap 21, Jl 21, O 20 '33

Report of I.B.A. industrial securities committee. *Inv Banking* 3:93-6 N 25 '32

Security listings at record low in 1932. *Baron's* 13:8 F 6 '33

Security prices and security issues. Published in monthly numbers of Federal reserve bulletin

Soundest financial investments. R. W. Babson. *Forbes* 32:7-8 Jl 1 '33

Understanding investment. A. Cragg. 346p \$2 Dodd '33

Wall Street pointers. Published in semi-monthly numbers of *Forbes*

What facts about new security issues are most useful in determining investment value? seven answers. *Am Bankers Assn J* 25:43-5 Je '33

What to consider when buying securities today. A. T. Miller. 152p Magazine of Wall street, New York '32

*See also*

Airplane industry and

trade—Securities

Automobile industry

and trade—Securi-

ties

Banks and banking—

Investments

Banks and banking—

Stock

Bonds

Electric utilities—

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## SECURITIES—Continued

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 Speculation

Steel industry and trade—Securities  
 Stock exchange  
 Stockholders  
 Stocks  
 Taxation of securities  
 Trusts and trustees—Investments

## Advertising

Advertising and the new Securities act. *Ptr Ink* 163:68-70 Je 29 '33  
 Advertising and the Securities act. *H. Stearns. il Adv & Sell* 22:22+ N 9 '33  
 Industry's new sales job; Washington will ease the Securities act strictures on advertising. *Business Week* p18+ O 14 '33  
 New deal financial advertising; Boston Edison offers new issue with copy that tells all the facts. *Ptr Ink* 163:85 Ap 27 '33  
 Newspaper's position under the Securities act. *P. S. Hanna. il Adv & Sell* 21:21 S 28 '33  
 Securities—act rule for class A-1 advertising. *Ptr Ink* 165:76-7+ O 19 '33  
 Securities law not dangerous. *E. G. Crisswell. Rand McNally Bankers Mo* 50:421 Ag '33  
 Stock advertisements take new form. *Forbes* 32:9 Ag 1 '33  
 What the Securities act has done to financial advertising. *C. Noble. Ptr Ink* 164:3-4+ S 14 '33

## Engraving and printing

Psychological monopoly; American bank note co. *il Fortune* 7:44-7+ My '33

## Law

A. B. C. of the Securities act 1933, with a commentary pertaining to registration statements and to the prospectus as required by the act. *E. H. Newfield. 96p* \$3 *E. H. Newfield, 82 Beaver st., New York* '33  
 Advertising and the new Securities act. *Ptr Ink* 163:68-70 Je 29 '33  
 Advertising and the Securities act. *H. Stearns. il Adv & Sell* 22:22+ N 9 '33  
 Agents liable under Securities act. *G. L. Kappes. East Underw* 34:1+ S 29 '33  
 As I see it; more protection is demanded. *C. Benedict. Mag of Wall St* 51:513 Mr 4 '33  
 Benefits of security regulation. *F. M. Gordon. Inv Banking* 4:4-8 O 7 '33  
 Corporate fiduciaries and the Securities act. *G. Pantaleoni, jr. Trust Companies* 57:377-80+ O '33  
 Corporate securities act. 24p California dept. of investment, Sacramento '33  
 Development and future trends in state security regulation. *J. E. Dalton. Harvard Business R* 12:23-34 O '33  
 Double-edged legislation. *J Account* 55:246-8 Ap '33  
 Economic and legal aspects of the securities act of 1933. *A. H. Dean. Inv Banking* 4:18-31 O 7 '33  
 Effect of the Securities act on industrial financing. *W. F. Gephart. Trust Companies* 57:279-84 S '33  
 Federal securities act; legal opinion upon the meaning and operation of the Act. *A. H. Dean. Fortune* 8:50-2, 97-102+ Ag '33  
 Federal Securities act manual. *G. C. Thorpe and C. B. Ellis. 422p W. H. Anderson co, Cincinnati* '33  
 Federal securities act of 1933. 137p International bank, Washington, D.C. '33  
 Federal securities act of 1933; how it was adopted, how it operates, and what some of its effects may be. *G. A. Brownell. Barron's* 13:3, 9 Jl 10 '33  
 Federal securities act; origin of the Act and its anticipated social and financial effects. *F. Frankfurter. Fortune* 8:53-5, 106, 108-9+ Ag '33  
 Great exposure to liability under the new Federal securities act; company executives, however, view hazards as too great for insurance coverage. *East Underw* 34:31 Ag 25 '33  
 Handbook of the Securities act of 1933. (Legislative handbook series volume 1) *S. Michelet. various paging Simon Michelet, Washington, D.C.* '33  
 Headlights for the investor. *J. S. Lawrence. Econostat* 1:8-10 Ap 8 '33  
 How can Securities act be made workable? *G. A. Brownell. Barron's* 13:3+ N 6; 9 N 13 '33  
 Illinois commission voids securities used in unlawful manipulation. *Pub Util* 11:131-2 Ja 19 '33  
 Illinois securities law. *E. J. Hughes, comp. 40p Illinois secretary of state, Springfield* '33  
 Interpreting the Securities act. *J Account* 56:241-7 O '33  
 National blue sky control. *A. A. Berle, jr. il Am Bankers Assn J* 25:14-16+ My '33  
 National securities act restricting new capital issues. *Bankers M* 127:447-8 O '33  
 New Federal securities act; how it affects the financial policies of the utilities. *W. M. Wherry. Pub Util* 12:123-35 Ag 3 '33  
 New Securities act. *A. S. Riley; P. V. Keyser. Bankers M* 127:169-70 Ag '33  
 New securities act; a digest of its provisions and its penalties. *C. R. Rosenberg, jr. Burroughs Clearing House* 17:9+ Ag '33  
 Newspaper's position under the Securities act. *P. S. Hanna. il Adv & Sell* 21:21 S 28 '33  
 No new securities; severity of liability clauses makes present law unworkable. *Business Week* p20-1 S 23 '33  
 Other people's money; President recommends going off the buyer-beware standard. *Business Week* p9 Ap 5 '33  
 Prospectus law. *Economist* 116:305-6 F 11 '33  
 Public regulation in origination and distribution of securities; with a chart of blue sky laws. *W. C. Breed. Inv Banking* 3:183-96 F 21 '33  
 Public utility financing under the new deal; Securities act of 1933. *G. B. Ruddick. Pub Util* 12:400-6 S 28 '33  
 Regulation by legislation which seeks protection for utility investors. *S. Bent. Pub Util* 11:718-23 Je 8 '33  
 Report of I.B.A. legislation committee. *F. M. Knight. Inv Banking* 3:123-8 D 2 '32  
 Rules and regulations under the Securities act of 1933. 8p U.S. Federal trade commission, Washington '33  
 Securities act; administration leaders explore possibilities of modifying act. *Business Week* p21-2 O 21 '33  
 Securities act of 1933. *B. B. Bane. Inv Banking* 4:12-17 O 7 '33  
 Securities act of 1933 and Corporation of foreign bondholders act, 1933. *Fickeisen & Richardson. 95p Parker, Stone & Baird co, Los Angeles* '33  
 Securities act of 1933; text and analysis. *P. V. Keyser. Inv Banking* 3:212-49 Je 5 '33  
 Securities-act rule for class A-1 advertising. *Ptr Ink* 165:76-7+ O 19 '33  
 Securities bill. *Business Week* p14 Jl 8 '33  
 Securities in cellophane; bill guarantees nothing except that buyers shall have complete information. *Business Week* p6 My 24 '33  
 Tipster sheets to be rigidly examined. *Barron's* 13:4 Jl 24 '33  
 Trade commission releases rules on Securities act. *Ptr Ink* 164:62 Jl 13 '33  
 Trend of blue sky laws. *R. C. Osgood. Inv Banking* 3:144-55 D 28 '32  
 Truth in securities. *Business Week* p13-14 Jl 15 '33  
 Two months of the Securities act. *P. McCrea. Nation's Business* 21:38+ N '33  
 Uncle Sam safeguards the investor. *C. H. March. Mag of Wall St* 52:514-15+ S 16 '33  
 Virginia securities law and several other laws relating to distribution of securities. 36p Securities division, State corporation commission, Richmond, Va. '32  
 What about maturities? an immediate problem under the Securities act. *Business Week* p18-19 S 30 '33  
 What is truth in securities? actual operation of the Securities act brings a flock of questions. *Business Week* p18-19 S 9 '33  
 What the new Securities act means to investors, to business, and to directors. *R. F. Brown. Mag of Wall St* 52:12-13+ Ap 29 '33

**SECURITIES—Law—Continued**

What the Securities act has done to financial advertising. C. Noble. *Ptr Ink* 164:3-4+ S 14 '33

What the Securities act may do. Nation's Business 21:39-40, 42 J1 '33

**Lost securities**

Lost securities bonds. M. Hubbert. *Weekly Underw* 128:1204-6 Je 24 '33

**Prices**

Actuaries' index—new Economist service. Economist 116:1361-2, 1364 Je 24 '33

Inflation, values, and prices; what happened in France—possibilities in the U.S.A. J. H. Wood. *Earron's* 13:3, 6-7 S 25 '33

London active security prices and yields. Published in weekly numbers of the Economist  
Price movements in principal countries. Published in monthly numbers of Federal reserve bulletin

**Valuation**

Engineer's view of investment banking reforms. G. M. Dexter. *Mech Eng* 55:275-8, 352-4 My-Je '33

**See also**

Insurance companies

**—Investments—****Valuation**

Stocks—Valuation

**Canada**

Canada now offers protection to its small investors. *Econostat* 1:6 J1 8 '33

Canadian investments show stability. *Comm & Fin* 22:34 Ja 11 '33

News of Canadian securities. Published in weekly numbers of *Annalist*

Outstanding Canadian securities. *Bankers M* 126:155 F '33

**France**

Practical lessons from inflations abroad; fate of Europe's investors during currency inflation in France and Germany. M. Winkler. *il Mag of Wall St* 52:618-20+ O 14 '33

**Germany**

Bird in hand; Germans are finding it profitable to buy their dollar bonds in New York at depreciated prices and sell them in Berlin. *Business Week* p24 D 28 '32

Germany's debtors. *Business Week* p21+ J1 1 '33

Practical lessons from inflations abroad; fate of Europe's investors during currency inflation in France and Germany. M. Winkler. *il Mag of Wall St* 52:618-20+ O 14 '33

**Great Britain**

Actuaries' index—new Economist service. Economist 116:1361-2, 1364 Je 24 '33

British banks cooperate with security distributors. D. Spring-Rice. *Rand McNally Bankers Mo* 50:334-5 J1 '33

British investment markets. D. Spring-Rice. *il Rand McNally Bankers Mo* 50:278-9+ Je '33

Capital issues in 1932. Economist 115:1228-9 D 31 '32

Conversion issues and the embargo. Economist 116:34-5 Ja 7 '33

Gilt-edged prospects. Economist 117:371-2 Ag 19 '33

Half-year's new capital. Economist 117:117-18 J1 15 '33

Investment in stocks and shares. E. D. Kisan and L. D. Williams. 214p \$2.50 Pitman '33

London active security prices and yields. Published in weekly numbers of the Economist  
Price of new capital. Economist 116:228-9 F 4 '33

Quarter's new capital. Economist 116:679-80 Ap 1 '33

Quarter's new capital. Economist 117:616-18 S 30 '33

Stock exchange in 1932. Economist 115:1244-5 D 31 '32

Total value of listed securities. Economist 116:817 Ap 15 '33

**United States**

American security news. Published in weekly numbers of *Annalist*  
London buying; England's United States investments. *il Fortune* 8:32-3, 124-7+ S '33  
New corporate financing in 1932. *Mag of Wall St Manual* p32 Mr 6 '33

**See also**

Bonds, Government

**—United States**

**SECURITY** life insurance company of America  
Chicago probors on Security Life trail. *Ins Field* (Life ed) 62:5+ F 3 '33

**SEDGWICK, Ellery**

As I sailed, as I sailed. H. Powel. *por Adv & Sell* 20:20-1+ Mr 2 '33

**SEDIMENTATION (chemistry)**

Die kornzusammensetzung als kenngrösse staubförmigen arbeitsgutes. H. W. Gonell. *bibliog il diag* *Chemische Fabrik* 6:227-33 My 31 '33

Particle analysis of cement and gypsum by sedimentation. W. C. Riddell. *il diag Rock Prod* 36:30-1 O '33

Sedimentation of fine particles in liquids; a survey of theory and practice. R. F. Stewart and E. J. Roberts. *Chem Age* (Lond) 29:345-6; Discussion. 346-7 O 14 '33

**See also**

Particles

Sedimentation apparatus

**SEDIMENTATION and deposition**

"Catskill" sedimentation in Pennsylvania. B. Willard. *Geol Soc Bul* 44:495-515 [bibliog p511-15] Je '33

Cumulative curves and histograms. E. W. Galliher. *Am J Sci* 5th ser 26:475-8 N '33

Fundamental limits to the sizes of clastic grains. C. K. Wentworth. *Science* 77:633-4 Je 30 '33

Land movements and sedimentation. M. Y. Williams. *Geol Soc Bul* 43:993-1002 D '32

Origin and environment of petroleum source sediments. M. E. Kelly. *Inst Pet Tech J* 19:117-41 [bibliog p141] F '33

Origin and environment of source sediments of petroleum. P. D. Trask. H. E. Hammar and C. C. Wu. 323p [bibliog p309-10] \$6 Gulf pub. co, Houston, Texas '32

Relation of volcanism to diatomaceous and associated siliceous sediments. N. L. Taliaferro. *Univ of Calif Pub Geological Sciences* v 23, no 1:1-56 '33

Report of the committee on sedimentation, 1930-1932. bibliog *il Nat Research Council Bul* 89:1-229 '32 (\$1)

Results of the American petroleum institute research project on origin and environment of source sediments. P. D. Trask. *il diag Am Pet Inst Proc* 14M(4):19-30; Discussion. 30-1 My '33

Sedimentation and sedimentology. H. Wadell. *Science* 77:536-7 Je 2 '33

Sedimentation in Red river below the mouth of Washita river. V. H. Jones. *map Iowa Univ Studies in Natural History* v15, no4: 1-30 '33

Sediments of the continental shelves. F. P. Shepard. *maps Geol Soc Bul* 43:1017-39 D '32

Settling velocities of gravel, sand, and silt particles. W. W. Rubey. *bibliog Am J Sci* 5th ser 25:325-38 Ap '33

Treatise on sedimentation. W. H. Twenhofel. 2d ed rev 926p Williams & Wilkins co, Baltimore '32

**See also**

Erosion  
Rocks

Silt  
Varves

**Bibliography**

Chemical papers bearing on sedimentation. G. Steiger. *Nat Research Council Bul* 89:102-5 '32

Report of the committee on sedimentation, 1930-1932; introduction. W. H. Twenhofel. *Nat Research Council Bul* 89:5-19 '32



**SEDIMENTATION and deposition—Bibliography**  
—*Continued*

Report on some work on sediments done in Germany in 1931. H. Becker. Nat Research Council Bul 89:82-9 '32

Research on sediments by British scientists during 1930-1932: summary of progress. H. B. Milner. Nat Research Council Bul 89: 126-33 [bibliog p130-3] '32

**SEDIMENTATION apparatus**

Determines sub-sieve fineness of Portland cement. E. W. Reed-Lewis. *il diag Concrete* 41:14-16 F '33

Super cement fineness analyzer. S. Rordam. *diag Concrete* 41:9-10 O '33

**SEDIMENTS**

Delta method for studying microscopic sediments. W. E. Allen. *Science* 76:572-3 D 16 '32

**SEEDING**

Seeding California's rice fields by air. *il Aviation* 32:199 Je '33

**SEEDS**

Flotation removes noxious weed seeds from clover. *Comp Air M* 33:4065 F '33

Study of some Indian seed fats: mowha (*basia latifolia*) and tamal (*garcinia morella*) fats. D. R. Dhingra, G. L. Seth and P. C. Speers. *bibliog Soc Chem Ind J* 52:116T-18T Ap 28 '33

*See also*

Cottonseed

Flaxseed

**Germination**

*See Germination*

**Testing**

Peat mats for germination tests of forest tree seeds. P. C. Wakeley. *Science* 76:627-8 D 30 '32

**SEEPAGE**

Formula developed for determining canal seepage losses. S. Shulits. *Eng N* 111:433 O 12 '33

**SEISMOGRAPHS**

Reporting earthquakes. *Science* 77:sup5 F 24 '33

**SEISMOMETRY**

Destructive earthquake motions measured for first time; accelerometer records at three stations in southern California. N. H. Heck and F. Neumann. *Eng N* 110:804-7 Je 22 '33

Strong-motion records of Long Beach earthquake. N. H. Heck. *Eng N* 110:442-3 Ap 6 '33

**SELACHYL alcohol**

Unsaponifiable matter from the oils of elasmobranch fish; the structure of batyl and selachyl alcohols. W. H. Davies, I. M. Heilbron and W. E. Jones. *Chem Soc J* p165-7 F '33

**SELECTED industries, inc.**

Rearranges its list. *Barron's* 13:7 JI 17 '33

Report for 1932. *Barron's* 13:14 Ja 23 '33

**SELECTIVE selling.** *See Sales policies—Selective selling***SELENIOUS acid**

Determination of zirconium in steels; selenious acid method. S. G. Simpson and W. C. Schumb. *Ind & Eng Chem Anal ed* 5:40-2 Ja 15 '33

**SELENIUM**

Magnesium-alloy protection by selenium and other coating processes. G. D. Bengough and L. Whitby. *Engineering* 136:399 O 6 '33; Discussion. 136:419 O 13 '33

Selenium in the determination of phosphorus and nitrogen in phospholipides. F. E. Kurtz. *Ind & Eng Chem Anal ed* 5:260 JI 15 '33

Selenium ruby glass; preparation and X-ray study. M. H. Bigelow and A. Silverman. *bibliog Am Cer Soc J* 16:214-19 My '33

Structural changes produced in the selenium dehydrogenation method; ring changes in *spiro*-compounds. G. R. Clemo and J. Ormston. *Chem Soc J* p352-3 Ap '33

Use of a selenium-mercuric oxide combination in determination of nitrogen in feed materials. L. V. Taylor, jr. *Ind & Eng Chem Anal ed* 5:263 JI 15 '33

**SELENIUM cells**

Blocking-layer selenium cells. G. P. Barnard. *Illum Engr* 26:163 Je '33

**SELENIUM compounds**

Organic compounds of selenium; the action of selenium oxychloride upon esters of salicylic acid. R. E. Nelson, R. A. Schroeder and W. R. Bunting. *Am Chem Soc J* 55:801-3 F '33

Organic selenium compounds; a new type of aromatic selenium halide. D. G. Foster. *Am Chem Soc J* 55:822-9 F '33

Production of dimethyl selenide by penicillium brevicaulis (*scopulariopsis brevicaulis*); abstract. F. Challenger and H. E. North. *Soc Chem Ind J (Chem & Ind)* 52:505 Je 16 '33

Selenium as an insecticide. E. M. Nelson, A. M. Hurd-Karrer and W. O. Robinson. *Science* 78:124 Ag 11 '33

Selenium; insecticide material for controlling red spider. C. B. Gnadinger. *bibliog Ind & Eng Chem* 25:633-7 Je '33

**SELENIUM dioxide**

Action of selenium dioxide on sterols and bile acids; abstract. R. K. Callow and O. Rosenheim. *Soc Chem Ind J (Chem & Ind)* 52:272-3 Mr 24 '33

Action of selenium dioxide on sterols and bile acids; ergosterol and dihydroergosterol. R. K. Callow and O. Rosenheim. *Chem Soc J* p337-90 Ap '33

Preparation of tri-para-tolylselenonium chloride by means of the Friedel-Crafts reaction with selenium dioxide. J. H. Crowell and W. E. Bradt. *Am Chem Soc J* 55:1500-2 Ap '33

Selenium dioxide, a new oxidising agent; its reaction with some alcohols and esters. S. Astin, A. C. C. Newman and H. L. Riley. *Chem Soc J* p391-4 Ap '33

**SELENIUM fluorides**

Thermochemical constants of the hexafluorides of sulfur, selenium and tellurium. D. M. Yost and W. H. Claussen. *Am Chem Soc J* 55:885-91 Mr '33

**SELENIUM halides**

Organic selenium compounds; a new type of aromatic selenium halide. D. G. Foster. *Am Chem Soc J* 55:822-9 F '33

**SELENIUM oxychloride**

Organic compounds of selenium; the action of selenium oxychloride upon esters of salicylic acid. R. E. Nelson, R. A. Schroeder and W. R. Bunting. *Am Chem Soc J* 55:801-3 F '33

**SELENONIUM compounds**

Phenylmethylselenetene mercuri-iodide. M. P. Balfe and H. Phillips. *Chem Soc J* p127-8 F '33

**SELF service stores**

*See also*

Vending machines

**SELFRIDGE, Harry**

Cosimo di Selfridge. *il Fortune* 8:68-73, 102, 105-6, 109 S '33

**SELFRIDGE and company**

Cosimo di Selfridge. *il Fortune* 8:68-73, 102, 105-6, 109 S '33

Selfridge finance. *Economist* 116:420 F 25 '33

**SELSYN apparatus**

High pressure steam research at Purdue university. H. L. Solberg. *diags W Soc E J* 37: 306-8 D '32

Refinement in controls marks Radio City music hall. *il diags Elec W* 102:277-82 Ag 26 '33

Remote control of pressure in gas mains. *il diag Gas J (Lond)* 202:410-11 My 17 '33

Synchronous ties. H. A. Winne. *il diags Gen Elec R* 36:129-35 Mr '33

**SEMICARBAZONES**

- Hydrolysis of acetonesemicarbazone. J. E. W. Rhodes. *diag Chem Soc J* p204-8 F '33  
 Semicarbazone formation, and the incomplete dissociation of a salt of the ammonium type. P. D. Bartlett. *Am Chem Soc J* 55:741-9 F '33

**SEMI-COKE.** See Coke—Semi-coke**SEMI-CONDUCTORS.** See Electric conductors—Semi-conductors**SEMI-DIESEL engines****Manufacture**

- Swedish semi-Diesel manufacture. A. E. Fristedt. *il diags Am Mach* 77:140-3 Mr 1 '33

**SEMI-PORCELAIN.** See Pottery—Manufacture**SEMIQUINONES**

- Potentiometric studies on semiquinones. L. Michaelis and E. S. Hill. *Am Chem Soc J* 55:1481-94 Ap '33

**SENEGAL***See also*

- Kaolakh, Senegal

**SENSES and sensation**

- Cutaneous sensation. S. W. Ranson. *biolog Science* 78:395-9 N 3 '33  
 New physiology of sensation. W. Burridge. 70p [biblog p68] Oxford '32

*See also*

- Color sense  
 Sight

**SENER, Herbert Almon, 1868-**

- American contemporaries. S. Avery. *por Ind & Eng Chem* 25:710-11 Je '33

**SEPARATION**

- Das absieben von suspensionen. W. Büche. *Chemische Fabrik* 6:240-2 Je 7 '33  
 Formation of muscovite in soils, and refinements in specific gravity separations. N. J. Volk. *biolog diag Am J Sci* 5th ser 26:114-29 Ag '33

- Separation of powdered material; abstract. R. Lessing. *diag Rock Prod* 35:31 N 19 '32

- Separation technique improves in every department. *diags Chem & Met Eng* 40:260-2 My '33

*See also*

- |                        |                             |
|------------------------|-----------------------------|
| Distillation apparatus | Flotation process           |
| Dust                   | Magnetic separation of ores |
| Dust removal           | Ore treatment               |
| Electric precipitation | Osmosis                     |
| Elutriation            | Sedimentation (chemistry)   |
| Filters and filtration | Separators                  |

**SEPARATORS**

- New dirt removal methods in stuff preparation. F. K. Becker. *Paper Tr J* 97:48-6 Ji 13 '33

- Precipitation tank; Messers. Robert Boby, limited. *diags Engineering* 135:243 Mr 3 '33

- Separation technique improves in every department. *diags Chem & Met Eng* 40:260-2 My '33

- Tar and liquor separator. A. R. Anderson. *Gas J (Lond)* 201:148-9 Ja 18 '33

- Use of Ter Meer type centrifugal separators in salt works. R. W. Miller. *il diag Soc Chem Ind J (Chem & Ind)* 52:368-70 Ap 28 '33

*See also*

- |  |                         |
|--|-------------------------|
| Air separators                               | Oil separators          |
| Centrifugal machines                         | Screens                 |
| Classifiers                                  | Sedimentation apparatus |
| Cream separators                             | Sieves                  |
| Evaporators                                  | Steam separators        |
| Filters and filtration (technical chemistry) |                         |

**SEQUOYIN**

- Crystalline coloring compounds in redwood extract. E. C. Sherrard and E. F. Kurth. *Am Chem Soc J* 55:1728-32 Ap '33

**SERGE**

- Finishing low quality crossbred serges in cream and white. G. L. Atkinson. *Textile Col* 55:628-30 S '33

**SERPENTINE**

- Problem of serpentinization and the origin of certain chrysotile asbestos, talc and soapstone deposits. H. H. Hess. *il diags Econ Geol* 28:634-57 N '33

*See also*

- Chrysotile

**SERUM**

- Additional studies on the relationship of the viruses of Rocky Mountain spotted fever and Sao Paulo exanthematic typhus. G. E. Davis and R. R. Parker. *biolog Pub Health Rep* 48:1006-11 Ag 18 '33

- Alleged transformation of serum albumin into serum globulins. S. B. Hooker and W. C. Boyd. *Science* 76:517 D 2 '32

- Antiprothrombin and globulins. I. P. Earle and P. E. Howe. *Science* 77:213-14 F 24 '33

- Further studies on the relationship of the viruses of Rocky Mountain spotted fever and Sao Paulo exanthematic typhus. R. R. Parker and G. E. Davis. *Pub Health Rep* 48:839-43 Ji 21 '33

- Protective value of convalescent sera of Sao Paulo exanthematic typhus against virus of Rocky Mountain spotted fever. R. R. Parker and G. E. Davis. *biolog Pub Health Rep* 48:501-7 My 12 '33

- Shwartzman phenomenon; factors complicating its use in the testing of antimeningococcal serum. A. M. Pabst and S. E. Branham. *biolog Pub Health Rep* 48:639-51 Je 9 '33

**SERVANTS**

- Note on the servant problem. *il Fortune* 6:48-9 D '32

- Reduction of social-insurance contributions for domestic servants in Germany. *Monthly Labor R* 37:561-2 S '33

**SERVICE (in industry)**

- Easy sales—or we're not interested; experience of a publishing company with printing trade and other sellers. *Adv & Sell* 20:19-20+ F 2 '33

- Free service and its abuses. *Ptr Ink* 161:85 D 8 '32

- Is the dealer losing his birthright to the service man? A. Hirose. *il Adv & Sell* 21:21+ Ji 20 '33

- New model opens new markets; Copeland refrigerators. W. D. McElhinny. *il Ptr Ink* 162:26-8 Mr 23 '33

- Restyling service—a new development in merchandising; Youngstown pressed steel co. G. Armstrong. *il diag Iron Age* 131:97-8+ Ja 12 '33

- Trend toward expansion of free service in industrial sales. J. H. Macleod. p1-16; Discussion. 16-24 American management assn, New York '33

*See also*

- |                            |                           |
|----------------------------|---------------------------|
| Banks and banking—Service  | Gas companies—Service     |
| Dealer helps               | Oil fuel industry—Service |
| Electric utilities—Service | Railroads—Service         |

**SERVICE pipes.** See Water pipes—Service pipes**SERVICES**

- Biggest janitor; American building maintenance company. *Business Week* p15 Ja 18 '33

*See also*

- Information service

**SERVITUDES**

- Servitudes of international law. F. A. Váli. 254p [biblog p247-8] 12s 6d P. S. King & son, Ltd, London '33

**SESQUITERPENES**

- Dehydrogenation of the sesquiterpenes of wintera colorata. J. McVillie. *Am Chem Soc J* 55:2462-5 Je '33

- Essential oil of libocedrus bidwillii. K. S. Birrell. *Soc Chem Ind J* 51:397T-8T D 9 '32

**SEVERN barrage.** See Hydroelectric plants—England**SEVERN river, England**

- Severn barrage model experiments; abstracts A. H. Gibson. *il Engineer* 155:623-4, 626 Je 23 '33; *Engineering* 135:599-600 Je 2 '33



**SEWAGE**

Pollution of Lake Michigan; survey of sources of pollution. A. E. Gorman. il diag map Civil Eng 3:519-22 S '33

See also

Sewage sludge

**Analysis**

Standard methods for the examination of water and sewage. 7th ed 180p American public health assn, New York '33

Studies on the nature and amount of the colloids present in sewage; the influence of the pH value on the physical properties of sewage liquors. E. V. Mills. Soc Chem Ind J 51:374T-30T N 11 '32

**Testing**

Chemical control of sewage chlorination; the use and the value of the *o*-tolidine test. C. Lea. Soc Chem Ind J 52:245T-50T Ag 11 '33

Immersion turbidimeter and sludge blanket detector. D. E. Bloodgood. diag Water Works & Sewerage 80:144-5 Ap '33

Oxygen demand test and its application to sewage treatment; abstract. J. K. Hoskins. Water Works & Sewerage 80:372 O '33

Use of Kohlrausch sugar flasks in determinations of biochemical oxygen demand. I. C. Hall. diag Ind & Eng Chem Anal ed 5:76 Ja 15 '33

**SEWAGE, Utilization of**

Recovery of wool grease from sewage; Bradford corporation Esholt works. H. Wenter-Smith. il Chem Age (Lond) 29:125-7 Ag 5 '33

Sewage-plant effluent for boiler water; new activated-sludge plant for Herington, Kan.; water contract with the Rock Island railroad. diags plans Eng N 111:521-3 N 2 '33

Sewage treatment for obtaining park irrigating water. F. McQueen. il Pub Works 64:16-17 O '33

See also

Sewage sludge—Gas production      Sewage sludge as fertilizer

**SEWAGE disposal**

Advertising for degree of effluent. S. I. Zack. Water Works & Sewerage 80:302-3 Ag '33

Beautification of sewage treatment works sites. L. E. Burnside. il Pub Works 63:9-10+ D '32

Bloomington's sewage disposal plant wins heated campaign. Concrete 41:15 Ag '33

Chemical engineering trends in sewage treatment. F. W. Mohlman. Chem & Met Eng 40:29 Ja '33

Comparison of treatment of fresh and stale sewages; abstract. W. Rudolfs. Water Works & Sewerage 80:132 Ap '33

Construction of the new sewage treatment plant at Saranac Lake. H. W. Taylor. Water Works & Sewerage 79:391-2 N '32

Construction of Wards Island sewage treatment works ahead of schedule. R. H. Gould. il Civil Eng 3:154-7 Mr '33

Dearborn Michigan sewage treatment plant and its operating results; abstract. M. B. Owen. Water Works & Sewerage 80:18 Ja '33

Decatur cleanses the Sangamon river. W. D. Hatfield. Civil Eng 3:498-500 S '33

Development of a chemical process of sewage treatment; abstract. G. H. Gleason and A. C. Loonam. il Water Works & Sewerage 80:50-2; Discussion. 52 F '33

Dorco developments. il diags Water Works & Sewerage 80:229-31 Je '33

Effect of some constituents of coke-oven effluents on the rate of decomposition of sewage. E. A. Southgate. Soc Chem Ind J 52:1T-4T Ja 13 '33

Fifteenth annual Texas water works short school; a digest of papers on sewage topics. Water Works & Sewerage 80:97-8 Mr '33

First year of sewage treatment plant operation—the hardest; abstract. A. R. Hollett. Water Works & Sewerage 80:18-19 Ja '33

Freeing Lake Washington from sewage. map Eng N 110:714 Je 1 '33

German practice in sewage disposal. K. Imhoff. Soc Chem Ind J (Chem & Ind) 52:104-6 F 3 '33

Heating top sludge to produce a more uniform rate of digestion in heated sludge digestion tanks. H. W. Taylor. diags Pub Works 64:16-18 Ap; 10-12 Jl '33

Helpful hints on sewage works operation. F. M. Veatch. bibliog Pub Works 64:23-4 Je '33

Influence of the discharge of sewage on minute forms of stream life; abstract. W. C. Purdy. Water Works & Sewerage 80:24-5 Ja '33

Interceptor and sewage disposal works at Fort William, Ont. R. O. Wynne-Roberts. il diags plans Can Eng 63:17-20 D 13 '32

Large scale sludge digestion experiments at Baltimore. C. E. Keefer. bibliog il diag Water Works & Sewerage 80:81-5 Mr '33

Link-Belt sewage treatment equipment. il Water Works & Sewerage 80:232 Je '33

Machinery for dealing with sewage. H. R. Lupton. il Engineering 136:396-8 O 6 '33

Mancunium, new sewage sludge steamer. il Engineer 155:280-1 Mr 17 '33

Maryland-Delaware water and sewerage association; abstracts of papers read at 7th annual meeting. Water Works & Sewerage 80:203-6 Je '33

Mechanical developments in municipal sanitation. W. Raisch. il Mech Eng 55:363-7 Je '33

Mechanical equipment in sewage treatment works. A. P. Folwell. il diags plan Pub Works 63:13-16 Je; 18-20 Jl; 18-21 Ag; 12-14 S; 22-4 O; 21-3, 47 N; 18-20 D '32; 64:14-16 Ja; 18-20+ F; 20-2 Mr; 41-2, 44 Ap; 11-13 My; 21-2 Je '33

Meeting of New England sewage works association, Bridgeport, Conn. Oct. 17. Water Works & Sewerage 79:381-3 N '32

Mother Nature forestalls a bond issue; sewage disposal in streams under lava bed in Gooding, Idaho. K. Provost. il Explosives Eng 11:174-5 Je '33

Motor-driven disintegrator breaks up sewage solids at Bournemouth, England; abstracts. H. R. Homewood. diag plan Eng N 111:380 S 28 '33; Pub Works 64:22 S '33

New chemical sewage purification process. E. A. C. Smith. flow sheet il Water Works & Sewerage 79:420-1 D '32

New sewage works association discussed at meeting in Toronto. Can Eng 63:17 D 20 '32

New York state sewage works association meeting, Rochester, June 9-10. Water Works & Sewerage 80:262-4 Jl '33

Non-odorless, non-bacterial sewage treatment. A. R. Putnam. Pub Works 64:10 S '33

Operation of a small sewage treatment plant. F. G. Browne. Pub Works 64:39-40 Jl '33

Operation of the new sewage treatment plant at Princeton, N. J.; abstract. I. E. Riker. Water Works & Sewerage 80:131-2 Ap '33

Osaka, Japan's great industrial center, includes modern sewage disposal in vast development program. I. W. Mendelsohn. il Pub Works 64:18-19 N '33

Performance of the Laughlin process of sewage treatment. E. Hurwitz and S. I. Zack. il Water Works & Sewerage 80:117-20 Ap '33

Present trends in sludge disposal. R. A. Allton. Water Works & Sewerage 80:25 Ja '33

Problem of stream cleansing. A. L. Fales. il Civil Eng 3:493-5 S '33

Progress made on large engineering projects; sewage treatment and drainage systems. il Eng N 110:156 F 2 '33

Purification of sewage by natural processes. W. E. Adeney and A. G. G. Leonard. Engineering 136:423-4 O 13 '33

Recent advances in chemical treatment of sewage. F. W. Mohlman. Pub Works 64:20 N '33; Correction. 64:16 D '33

Recent progress in sewage treatment. G. W. Fuller. il Water Works & Sewerage 80:37-42 F '33

Safeguarding health by sewage disposal; three New Jersey communities reduce water bills by recirculating effluent. C. H. Vivian. il diag Comp Air M 38:4218-22 S '33

**SEWAGE disposal—Continued**

- Salvage of existing structures permits economical rehabilitation of obsolete sewage works. F. M. Veatch. *il plan Pub Works* 64:9-10 Ap '33
- San Antonio sewage treatment plant; with cost data. W. S. Stanley. *il plan Water Works & Sewerage* 80:21-3 Ja '33
- Sewage collection and treatment at Lancaster, Pa.; abstract. J. F. Laboon and J. N. Chester. *Water Works & Sewerage* 80:371-2 O '33
- Sewage disposal at Spartanburg, S.C. G. W. White. *il Water Works & Sewerage* 80:327-9 S '33
- Sewage disposal by way of the Illinois river. L. Pearse. *il map Civil Eng* 3:485-9 S '33
- Sewage disposal for New Jersey coast resorts. C. G. Wigley. *il Civil Eng* 2:743-5 D '32
- Sewage disposal problem of interest—and a case at law. *Water Works & Sewerage* 80:65 F '33
- Sewage disposal: symposium at British association for the advancement of science meeting, Leicester. *Engineer* 156:264-5 S 15 '33; *Engineering* 136:339-40 S 22 '33
- Sewage gas perfumed at German plant. *diag Pub Works* 64:40 Ja '33
- Sewage notes from Schenectady. *Pub Works* 64:38 Jl '33
- Sewage treatment and disposal. J. D. Watson. *Engineering* 136:283-4 S 15 '33
- Sewage treatment and disposal; a new American process developed by G. H. Gleason and A. C. Loonam. *Soc Chem Ind J (Chem & Ind)* 52:346-7 Ap 21 '33
- Sewage treatment in New York state; abstract. C. C. Agar. *Water Works & Sewerage* 80:370 O '33
- Sewage-treatment problem at Duluth. J. Wilson. *il map Civil Eng* 3:527-9 S '33
- Sewage-treatment topics feature program of Central states sewage works association. *Eng N* 111:514-15 O 26 '33
- Sewage treatment troubles and remedies; discussion at 7th annual conference of the Pennsylvania sewage works association. *Pub Works* 64:48 O '33
- Sewage treatment works of Souderton, Pa. C. F. Mebus. *il Water Works & Sewerage* 80:265-6 Jl '33
- Sewerage finance and treatment problems discussed at New York state sewage works association 5th annual meeting. *Eng N* 110:130 Ja 26 '33
- Sewerage system of Tokyo, Japan. I. W. Mendelsohn. *il Pub Works* 64:27-8 S '33
- Sludge drying beds. San Antonio sewage treatment plant. W. S. Stanley. *il Water Works & Sewerage* 80:123-4 Ap '33
- Some aspects of chemical precipitation in sewage treatment. A. Potter. *il Water Works & Sewerage* 80:367-8 O '33
- Studies of sewage disposal involving bathing beach and shellfish pollution; abstract. E. B. Phelps and E. K. Phelps. *Water Works & Sewerage* 79:392-3 N '32
- Studies on the nature and amount of the colloids present in sewage. E. V. Mills. *Soc Chem Ind J* 51:255T-60T, 349T-55T, 374T-80T Jl 29, O 14, N 11 '32
- Third-year operation data of the Aurora sewage-works. *Eng N* 111:67-8 Jl 20 '33
- Treatment and utilisation of sludge. F. C. Vokes. *il diags Engineering* 136:317-18 S 15 '33
- Treatment plant at Princeton, unifies sewage disposal. T. M. Curry, jr. *il plan Water Works & Sewerage* 80:77-80 Mr '33
- Trouble hour symposium. *Water Works & Sewerage* 80:369-70 O '33
- Up-to-date sewage treatment plants in Jefferson county, Alabama. H. H. Hendon. *il plan Pub Works* 64:13-14 Mr '33
- Utilization of by-products of sewage disposal. J. R. Rumsey. *il Water Works & Sewerage* 80:241-5 Jl '33
- Water supply and sanitary engineering in 1932. *Engineer* 155:25-6 Ja 6 '33
- Water supply of Delaware county menaced. H. M. Freeburn. *diag maps Civil Eng* 2:756-60 D '32

Willamette Valley sanitary program outlined in report. *Eng N* 111:322-3 S 14 '33

**See also**

- |                     |                  |
|---------------------|------------------|
| Plumbing            | Sewer design     |
| Refuse disposal     | Sewer gas        |
| Sewage flow         | Sewer pipes      |
| Sewage incinerators | Sewerage         |
| Sewage pumping      | Sewers, Concrete |
| Sewage sludge       | Trade waste      |
| Sewage tanks        | Water pollution  |

**Activated sludge method**

- Activated sludge blanket depth detector. S. Vermilye. *diag Water Works & Sewerage* 80:34-5 Ja '33; Discussion. W. Donaldson. 80:68 F '33
- Activated sludge plant for a small community. E. H. Darling. *il plan Can Eng* 63:19-21 N 15 '32
- Bio-aeration or activated sludge. J. Haworth. *il Engineering* 136:284-6 S 15 '33; Abstract. *Engineer* 156:264 S 15 '33
- Controlling bulking of activated sludge. R. N. Clark. *il Pub Works* 64:37-8 Mr '33
- Five years' operation of the Milwaukee activated sludge plant. *il Pub Works* 64:10-11 N '33
- Grand Island skates on activated ice. C. Hehnke. *il Water Works & Sewerage* 80:96 Mr '33
- Milwaukee plans extension to activated-sludge plant. *il diag plans Eng N* 111:98-101 Jl 27 '33
- New activated sludge treatment plant, Newark, N.Y. G. D. Holmes. *il plan Water Works & Sewerage* 80:159-62 My '33
- New method of concentrating activated sludge. R. F. Goudey and S. M. Bennett. *il Water Works & Sewerage* 80:179-80 My '33
- Operating experiences at the Collingswood activated sludge plant. C. W. Dare. *il Water Works & Sewerage* 80:130-1 Ap '33
- Power production from sludge gas at Springfield, Ill.; with cost data. W. B. Walravem. *il diag Water Works & Sewerage* 80:151-6 My '33; Same cond. *Eng N* 110:682-3 My 25 '33
- Reducing the cost of activated sludge treatment. E. B. Besselièvre. *il Water Works & Sewerage* 80:364-6 O '33
- Sewage patent valid, says District court in Milwaukee case. *Eng N* 110:264 F 23 '33
- Sewage-plant effluent for boiler water; new activated-sludge plant for Herington, Kan.; water contract with the Rock Island railroad. *diags plans Eng N* 111:521-3 N 2 '33
- Sewage plant, Sparta, Ill. rebuilt to treat rayon wastes. U. F. Turpin. *il plan Eng N* 109:780-2 D 29 '32
- Sewage treatment at High Point, N.C.; operating and analytical data. E. H. Moss and C. W. Mengel. *il tables Water Works & Sewerage* 79:433-8 D '32
- Sewage treatment for obtaining park irrigating water. F. McQueen. *il Pub Works* 64:16-17 O '33

**Aeration**

- Aërobie and anaërobie decomposition of sewage solids; effect of seeding with aërated sludge. H. Heukelekian. *Ind & Eng Chem* 25:1162-3 O '33
- Inhoff-tank effluent aerated to reduce load on filters. W. R. Drury. *Eng N* 109:752 D 22 '32
- Pre-aeration of sewage by air diffusion. F. C. Roe. *il diags Pub Works* 64:15-16 Jl '33
- Sewage treatment with ferrous sulphate and aeration. P. B. Streander. *Pub Works* 64:29 Mr '33
- Some things learned about sewage aeration by diffused air; abstract. F. C. Roe. *Water Works & Sewerage* 80:262 Jl '33

**Bibliography**

- Digestion tank. *Pub Works* 64:15-16+ S '33 [cont monthly]

**Chlorination**

- Chemical control of sewage chlorination; the use and value of the o-tolidine test. C. Lea. *Soc Chem Ind J* 52:245T-50T Ag 11 '33



**SEWAGE disposal—Chlorination—Continued**

- Chlorination at Downers Grove, Ill. helps solve sewage works odor and stream pollution problems. H. F. Ferguson and W. H. Wisely. *il diags Water Works & Sewerage* 80:200-2 Je '33
- Chlorination controls foaming Imhoff tanks; experiences at Stockton, Calif. F. West. *il Water Works & Sewerage* 80:137 Ap '33
- Chlorination of sewage for prevention of septicity. J. Haworth. *Soc Chem Ind J* 52:293T-6T S 15 '33
- Chlorine absorption by sewage sludge. W. Rudolfs. *Water Works & Sewerage* 80:69 F '33
- Control of sewage condition by chlorination; disposal plant of the Los Angeles county sanitation districts. F. D. Bowlus and A. P. Banta. *il map Water Works & Sewerage* 79:369-74 N '32
- Developments in sewage chlorination; abstract. A. E. Griffin. *Water Works & Sewerage* 80:133 Ap '33
- Diagram for cost of sewage chlorination. C. E. Keefer. *Water Works & Sewerage* 80:245 JI '33
- Economical sewage treatment plant, Dundee, N.Y. J. Strowbridge. *il plans Water Works & Sewerage* 80:375-7 O '33
- Prechlorination of sewage for odor control. G. C. Fox. *Pub Works* 64:36 My '33
- Prevention of ponding on sewage filters by means of chlorine treatment. J. Haworth. *Soc Chem Ind J (Chem & Ind)* 52:297-9 Ap 7 '33
- Regulation of chlorine application in sewage odor control work; methylene blue test. A. E. Griffin. *Water Works & Sewerage* 80:218-19 Je '33
- Some effects of sewage chlorination on the receiving stream; abstract. H. G. Baity. *Water Works & Sewerage* 80:19 Ja '33

**Cost**

- Cost analysis of the Ensley sewage treatment plant, Birmingham, Alabama. H. H. Hendon and M. E. Borriss. *il Water Works & Sewerage* 80:275-9 Ag '33
- Cost of sewage treatment at Schenectady; abstract of report. M. M. Cohn. *Water Works & Sewerage* 80:261 JI '33
- Costs at five sewage treatment plants in Illinois. H. E. Hudson, Jr. *il Water Works & Sewerage* 80:254-8 JI '33
- Diagram for cost of sewage chlorination. C. E. Keefer. *Water Works & Sewerage* 80:245 JI '33
- Estimating cost of sewage treatment. *Pub Works* 64:39-40 F '33
- Power production from sludge gas at Springfield, Ill.; with cost data. W. B. Walraven. *il diag Water Works & Sewerage* 80:151-6 My '33; Same cond. *Eng N* 110:682-3 My 25 '33
- Sewage-plant effluent for boiler water; new activated-sludge plant for Herington, Kan.; water contract with the Rock Island railroad. *diags plans Eng N* 111:521-3 N 2 '33

**Filtration**

- Chemical treatment of sewage as adjunct to sprinkling filter operation. J. R. Downes. *il Water Works & Sewerage* 80:166-7 My '33
- Effect of different media on trickling filter unloading. W. Rudolfs and N. S. Chamberlin. *Civil Eng* 3:210-12 Ap '33
- Experiences in operating Dunbar sewage filters. H. L. Thackwell. *il diags Eng N* 109:676-7 D 8 '32
- Mechanical equipment in sewage treatment works. A. P. Folwell. *il diags plan Pub Works* 63:18-20 D '32
- Operating data on sprinkling filters; abstract and discussion. I. O. Lacy. *Water Works & Sewerage* 80:133-4 Ap '33
- Prevention of ponding on sewage filters by means of chlorine treatment. J. Haworth. *Soc Chem Ind J (Chem & Ind)* 52:297-9 Ap 7 '33
- Research at the sewage treatment plant, the Pennsylvania state college. A. A. Ormsby. *Pennsylvania State College Eng Exp Sta Bul* 41:1-23 [biblog p21-2] '32

- Sewage treatment at High Point, N.C.; operating and analytical data. E. H. Moss and C. W. Mengel. *il tables Water Works & Sewerage* 79:433-8 D '32
- Studies on the nature and amount of the colloids present in sewage; the influence of the pH value on the physical properties of sewage liquors. E. V. Mills. *Soc Chem Ind J* 51:374T-80T N 11 '32
- Vacuum filtration of sewage at Rockville Centre, N.Y. W. G. Taylor. *il Water Works & Sewerage* 80:283-6 Ag '33
- Wright vacuum filter for sewage or effluent filtration. *diag Water Works & Sewerage* 80:147 Ap '33

**Finance**

*See Sewerage—Finance*

**Fires and fire protection**

- Explosion and health hazards in sewage works operation; abstract and discussion. G. W. Jones. *Water Works & Sewerage* 80:50 F '33

**Iron chloride treatment**

- Clarification of sewage with ferric chloride; developments at Palo Alto, Calif. R. A. Stevenson. *il Water Works & Sewerage* 80:89-91 Mr '33
- Ferric chloride coagulation of sewage. E. F. Eldridge. *Water Works & Sewerage* 80:335-6 S '33
- Study of ferric chloride treatment of sewage at Grand Rapids, Mich. E. F. Eldridge and N. G. Damoose. *il Water Works & Sewerage* 80:207-10 Je '33

**Laws and regulations**

- State held responsible; Supreme court decision in case of sanitary district of Chicago. *Eng N* 111:55 JI 13 '33

**Odor removal**

- Regulation of chlorine application in sewage odor control work; methylene blue test. A. E. Griffin. *Water Works & Sewerage* 80:218-19 Je '33

*See also*

- Sewage disposal—  
Chlorination

**Patents**

- Sewage patent valid, says District court in Milwaukee case. *Eng N* 110:264 F 23 '33

**Screening**

- Screenings digester developed by Pacific flush tank co. *il Water Works & Sewerage* 80:147 Ap '33

**SEWAGE flow**

- Bailey sewage meters. *il Water Works & Sewerage* 80:71 F '33

**SEWAGE incinerators**

- Grit and screenings incineration plant at Milwaukee, Wis. D. W. Townsend. *il plans Water Works & Sewerage* 80:317-21 S '33
- Sewage solids incineration discussed. *Water Works & Sewerage* 79:382-3 N '32
- Sludge disposal by incineration. M. J. Blew. *il Pub Works* 64:39-40 Ag '33

**SEWAGE pumping**

- Automatic pumping plant at Hamilton, Ont. *il Can Eng* 64:21 Ap 25 '33
- Automatic sewage pumping; control of oil-engine driving pump. *diag Elec R (Lond)* 113:46-7 JI 14 '33
- Dearborn sewage sludge pumped through long pipe line. G. E. Hubbell. *Eng N* 111:343 S 21 '33
- Sewage pumping installations; main drainage of Georgetown, British Guiana. G. H. Humphreys and I. M. E. Aitken. *Engineering* 135:417 Ap 14 '33

**SEWAGE pumps**

- Chicago pump company screw-feed centrifugal pump designed for handling sludge. *diag Water Works & Sewerage* 80:71 F '33
- Control of electric pumps. F. J. Taylor. *diags Elec R (Lond)* 113:276-7 S 1 '33
- Mechanical equipment in sewage treatment works. A. P. Folwell. *il diags Pub Works* 64:19-20+ F '33
- Simplex adjustable flow sludge pump. *diag Water Works & Sewerage* 80:381 O '33

**SEWAGE sludge**

Aerobic and anaerobic decomposition of sewage solids. H. Heukelekian. *Ind & Eng Chem* 25:1162-4 O '33

Chemical treatment of sludges to facilitate drying; abstract. C. C. Agar. *Water Works & Sewerage* 79:395 N '32

Chlorine absorption by sewage sludge. W. Rudolfs. *Water Works & Sewerage* 80:69 F '33

Dearborn sewage sludge pumped through long pipe line. G. E. Hubbell. *Eng N* 111:343 S 21 '33

Heating top sludge to produce a more uniform rate of digestion in heated sludge digestion tanks. H. W. Taylor. *diags Pub Works* 64:16-18 Ap; 10-12 Jl '33

Mechanical dewatering of sewage sludges; abstract and discussion. E. D. Flynn. *Water Works & Sewerage* 80:372 O '33

Mechanical equipment in sewage treatment works; disposing of sludge. A. P. Folwell. *il diags Pub Works* 64:14-16 Ja; 18-20+ F '33

New method of concentrating activated sludge. R. F. Goudey and S. M. Bennett. *il Water Works & Sewerage* 80:179-80 My '33

Present trends in sludge disposal; abstract. R. A. Allton. *Water Works & Sewerage* 80:25 Ja '33

Sludge disposal by incineration. M. J. Blew. *il Pub Works* 64:39-40 Ag '33

Sludge drying beds. San Antonio sewage treatment plant. W. S. Stanley. *il Water Works & Sewerage* 80:123-4 Ap '33

Tanks for separate sludge digestion. C. R. Velzy. *Engineer* 155:281 Mr 17 '33

*See also*

Sewage disposal—  
Activated sludge  
method

**Gas production**

Factors in the production of methane gas from sewage sludge; employed for heating digesters, generating steam and operating gas engines. R. O. Wynne-Roberts. *diags Can Eng* 64:25-7 Ja 3 '33

Large scale sludge digestion experiments at Baltimore. C. E. Keefer. *il diag Water Works & Sewerage* 80:81-5 Mr '33

Mechanical equipment for continuous fermentation of fibrous materials. A. M. Buswell and C. S. Boruff. *bibliog diags Ind & Eng Chem* 25:147-9 F '33

Power production from sludge gas at Springfield, Ill.; with cost data. W. B. Walraven. *il diag Water Works & Sewerage* 80:151-6 My '33; Same cond. *Eng N* 110:682-3 My 25 '33

Sewage gas perfumed at German plant. *diag Pub Works* 64:40 Ja '33

Stabilization of paunch manures and packing-house screenings. C. S. Boruff. *bibliog diag Ind & Eng Chem* 25:703-6 Je '33

Treatment and utilisation of sludge. F. C. Vokes. *il diags Engineering* 136:317-18 S 15 '33

Utilization of by-products of sewage disposal. J. R. Rumsey. *Water Works & Sewerage* 80:244 Jl '33

Variations in production of sewage gas. H. W. Taylor. *diags Pub Works* 63:34 D '32

*See also*

Sewage tanks—Gases

**SEWAGE sludge as fertilizer**

Houston, Texas, turns waste into profit. F. W. Sultan, jr. *il Comp Air M* 38:4106-7 Ap '33

Sewage to fertilizer in gas-fired rotary dryers; Houston, Texas. J. B. Nealey. *flow sheet il diag Am Gas Assn Mo* 15:106-7 Mr '33

Utilization of by-products of sewage disposal. J. R. Rumsey. *il Water Works & Sewerage* 80:243-4 Jl '33

**SEWAGE tanks**

Construction of Wards Island sewage treatment works ahead of schedule. R. H. Gould. *il Civil Eng* 3:154-7 Mr '33

Heating top sludge to produce a more uniform rate of digestion in heated sludge digestion tanks. H. W. Taylor. *diags Pub Works* 64:16-18 Ap; 10-12 Jl '33

Intercepting sewers and storm stand-by tanks at Columbus, Ohio. J. H. Gregory and others. *il diags plans Am Soc C E Proc* 59:1289-1324 O '33

Large-scale sludge digestion experiments at Baltimore. C. E. Keefer. *bibliog il diag Water Works & Sewerage* 80:81-5 Mr '33

Metal forms feature construction of sewage disposal plant. *il Concrete* 41:17-18 F '33

Milwaukee plans extension to activated-sludge plant. *il diag plans Eng N* 111:98-101 Jl 27 '33

Salvage of existing structures permits economical rehabilitation of obsolete sewage works. F. M. Veatch. *il plan Pub Works* 64:9-10 Ap '33

Tanks for separate sludge digestion. C. R. Velzy. *Engineer* 155:281 Mr 17 '33

**Cleaning**

Sludge pumping experiences. D. Y. McDowell. *Pub Works* 63:38 D '32

**Gases**

Hazards due to gases at sewage treatment works; abstract. R. R. Sayers. *Water Works & Sewerage* 80:24 Ja '33

Sewage gas and a simple method of analysis. C. C. Agar. *Water Works & Sewerage* 80:99-100 Mr '33

**SEWER cleaning**

Cleaning sewers and catch basins; abstract. J. H. Brooks, jr. *Water Works & Sewerage* 80:374 O '33

**SEWER design**

Comprehensive storm sewer system for Dallas, Tex. *il map Eng N* 110:216-19 F 16 '33

Determining stresses in semi-elliptical sewers. C. D. Williams. *Eng N* 110:242-3 F 23 '33

Giving consideration to sewer maintenance during design and construction. E. H. Ruehl. *Water Works & Sewerage* 80:306-7 Ag '33

Intercepting sewers and storm stand-by tanks at Columbus, Ohio. J. H. Gregory and others. *il diags plans Am Soc C E Proc* 59:1289-1324 O '33

**SEWER explosions**

Explosions in municipal sewers. *Weekly Underw* 128:253 F 4 '33

**SEWER gas**

Generation of hydrogen sulphide in sanitary sewers. F. D. Bowls and A. P. Banta. *diags map Water Works & Sewerage* 80:141-3 Ap '33

Sewage gas and a simple method of analysis. C. C. Agar. *Water Works & Sewerage* 80:99-100 Mr '33

**SEWER lining**

Uses 359,800 sq. ft. clay liners for intercepting sewer. G. E. Edgerton. *il Brick & Clay Rec* 82:201-2 Je '33

**SEWER pipes**

Cast iron pipe and fittings for sewer connections. H. R. Devilbiss. *Water Works & Sewerage* 80:171-3 My '33

Cast iron pipe trunk sewers in Washington suburban sanitary district; comparison with concrete sewers. R. B. Morse. *il Water Works & Sewerage* 80:192-6 Je '33

Dearborn sewage sludge pumped through long pipe line. G. E. Hubbell. *Eng N* 111:343 S 21 '33

Giving consideration to sewer maintenance during design and construction. E. H. Ruehl. *Water Works & Sewerage* 80:306-7 Ag '33

Paved-invert pipe for sewers. *il Can Eng* 65:9 O 24 '33

**Manufacture**

Manufacturing sewer pipe with de-aired clay. C. R. Austin. *Brick & Clay Rec* 82:173, 176 My '33

Use of tribarium aluminate in structural clay products. W. K. Carter and R. M. King. *Am Cer Soc J* 16:265-8 Je '33

**SEWER pipes, Concrete**

What Australia thinks of concrete sewer pipe. *Brick & Clay Rec* 83:128-9 O '33

**Manufacture**

Centrifugally spun concrete sewer pipes. F. H. Gibbs. *il Can Eng* 63:25-30 D 13 '32



**SEWER pipes, Vitrified clay**

Providing a more efficient joint for vitrified clay pipe; Slipseal joint. *il Brick & Clay Rec* 82:60-1 F '33

**SEWERAGE**

Building sewers in winter with city welfare labor; Duluth, Minn. *Eng N* 110:81 Ja 19 '33

Century of progress installing plumbing to serve million persons daily. *il Dom Eng* 141:34-5 Mr '33

Completing the longest continuous gravity sewer in the United States. S. S. Ball. *il Pub Works* 64:9-10+ F '33

Comprehensive storm sewer system for Dallas, Tex. *il map Eng N* 110:216-19 F 16 '33

Connecting sewer while in service. *Pub Works* 64:16 F '33

Excavating close to building without underpinning; deep sewage regulator alongside shallow foundation. W. O. Johnson. *il diags Eng N* 111:376-7 S 28 '33

Generation of hydrogen sulphide in sanitary sewers. F. D. Bowlus and A. P. Banta. *diags map Water Works & Sewerage* 80:141-3 Ap '33

Intercepting sewers and storm stand-by tanks at Columbus, Ohio. J. H. Gregory and others. *il diags plans Am Soc C E Proc* 59:1289-1324 O '33

Inverted sewage syphon under Don river. R. O. Wynne-Roberts. *plan Can Eng* 64:18-19 Ja 31 '33

Joint sewerage works described at New York sewerage association. *Eng N* 111:541-2 N 2 '33

Non-corrodible materials are desirable in sewerage construction. *il Pub Works* 64:21-2 O '33

Planning sewerage systems for public health requirements. J. C. Keith. *Can Eng* 63:21-3 D 13 '32

Reinforced concrete subway on Jean Talon street, Montreal. *Can Eng* 65:7-8 O 3 '33

Supporting a sewer across unstable ground. *il Pub Works* 64:14 F '33

Surveying under compressed air; holing-through sewer tunnel headings at Columbus, Ohio. O. Bonney. *diags Civil Eng* 3:31-3 Ja '33

Washington suburban sanitary district. H. R. Hall. *Am Water Works Assn J* 25:163-76; Discussion. 177-80 F '33

Water supply and sewerage facilities for the World's fair, Chicago. P. Hansen and T. M. Niles. *il maps plans Eng N* 110:273-7 Mr 2 '33

Water supply, sewerage and sewage disposal in the Chicago metropolitan area; a report to the Civic affairs council. *W Soc E J* 38:102-6 Ap '33

Water supply system and sewers at Flin Flon, Man. F. E. Simmons. *il diag Can Eng* 64:25-7 F 28 '33

Water system at Flin Flon. J. P. de Wet. *Can Min J* 54:70-1 F '33

Water works and sewerage systems in the township of Nepean; cost data. G. W. Smith. *il Can Eng* 65:9-12 Ag 15 '33

West Middlesex sewerage scheme. *il map Engineer* 155:274, 278-80 Mr 17 '33

*See also*

Pipe laying	Sewer design
Plumbing	Sewer pipes
Sanitary districts	Sewers, Brick
Sanitary engineering	Sewers, Concrete
Sewage disposal	Trade waste
Sewage flow	Water pollution
Sewage sludge	

*also* subdivision Sewerage under names of cities, e.g. New York (city)—Sewerage

**Contracts**

Difficult sewer tunnel built by welfare labor; emergency form of cost-plus-fixed-fee contract, Newton, Mass. W. P. Morse. *il Eng N* 110:376-7 Mr 23 '33

**Cost**

Cast iron pipe trunk sewers in Washington suburban sanitary district; comparison with concrete sewers. R. B. Morse. *il Water Works & Sewerage* 80:192-6 Je '33

**Estimates**

Expressing a storm-sewer lateral job in man-hours. *Eng N* 111:400 O 5 '33

**Finance**

Application of the sewer rental law; abstract and discussion. J. L. Fertig. *Water Works & Sewerage* 80:370-1 O '33

Assessing for storm sewers. C. V. Davis. *diags Pub Works* 64:21-2 Ag '33

Facts and fancy in sewerage financing; abstract. A. Wolman. *Water Works & Sewerage* 80:48-9; Discussion. 49-50 F '33

Ohio cities adopt sewer rental plan. *Water Works & Sewerage* 80:91 Mr '33

P.W.A. officials talk about activities in water and sewage works. *Pub Works* 64:25+ N '33

Sewage works financing; abstract. C. W. Smedberg. *Water Works & Sewerage* 80:18 Ja '33

Sewer assessment practice in Massachusetts. P. F. Howard. *Boston Soc C E J* 20:139-49 S '33

Sewer rental laws for North Dakota. M. H. Atkinson. *Pub Works* 64:47 Ja '33

Sewerage finance and treatment problems discussed at New York state sewerage works association 5th annual meeting. *Eng N* 110:130 Ja 26 '33

**Maintenance and repair**

Copper sulphate treatment kills roots in sewers. J. W. McAmis. *Water Works & Sewerage* 80:102 Mr '33

Giving consideration to sewer maintenance during design and construction. E. H. Ruehl. *Water Works & Sewerage* 80:306-7 Ag '33

Helpful hints on sewer-condition surveys. A. W. Consoer and U. F. Turpin. *il Eng N* 110:533-5 Ap 27 '33

*See also*

Sewer cleaning

**Safety devices and measures**

Safety methods in sewer works; abstract. A. Kinsella. *Water Works & Sewerage* 80:373-4 O '33

**New Jersey**

Joint trunk sewers for the Hackensack district in New Jersey. G. W. Fuller. *il map Civil Eng* 2:763-6 D '32

Sewage disposal for New Jersey coast resorts. C. G. Wigley. *il Civil Eng* 2:743-5 D '32

**SEWERS, Brick**

Reinforced brick masonry on Dearborn sewer system. C. H. Fork. *diags Eng N* 109:749-50 D 22 '32

**SEWERS, Concrete**

Improving concrete quality by paying bonuses to contractors on group of sewerage structures. M. H. Klegerman. *il Eng N* 111:434-7 O 12 '33

Liner plates 18 years old show little corrosion; old Passaic Valley sewer, Newark, N.J. J. S. Unger. *il Eng N* 110:337-8 Mr 16 '33

*See also*

Sewer pipes, Concrete

**SEWING machine machinists**

Agreement of sewing-machine machinists, Philadelphia. *Monthly Labor R* 36:1292 Je '33

**SEWING machines****Advertising**

How a house organ grew up to be a trade journal; the Union special machine company and The Needle's Eye. J. R. Armstrong. *il Ptd Salesmanship* 61:177+ My '33

**SEX**

Sex control. R. Goldschmidt. *Science* 76:sup9 D 2 '32

Sexual abstinence as a biological question. H. M. Parshley. *Sci Am* 148:283-4+ My '33; Reply. I. W. Cox. 149:109+ S '33

**SEXTANT**

Experiments with the bubble sextant at sea. E. O. Hulburt. *il diag Opt Soc Am J* 23:143-8 Ap '33

New aircraft-sextant for use with visible horizon. L. Becker. *diags Roy Aeronautical Soc J* 37:703-7 Ag '33

**SHADOWGRAPHS**

Engineering features of a pageant. *il diag Engineer* 155:630-2 Je 23 '33

**SHAFT sinking**

Development and mining, seven thousand feet the objective; McIntyre Porcupine mines. D. E. Keeley. *il diags Eng & Min J* 134:459-60, 469-71 N '33

Macassa shaft. G. A. Howes. *il Can Min J* 54:33-7 Mr '33

Shaft sinking at the United States mine. N. S. Christensen. *diags plans Min & Met* 14:325-7 Ag '33

Shaft sinking by freezing; Swansea power station. W. L. Lowe-Brown. *il diags Engineer* 155:516-19, 526 My 26 '33

Shaft-sinking methods and costs, and cost of plant and equipment at the Macassa mine, Kirkland Lake, Ontario. G. A. Howes and C. F. Jackson. *diags U S Bur Mines Information Circ* 6674:1-10 '32

Shaft sinking methods, practices, and costs of the Consolidation coal co. at its no. 261 mine, Caretta, McDowell county, W. Va. L. E. Kelley. *diags U S Bur Mines Information Circ* 6602:1-15 '32; Same. *Explosives Eng* 11:274-82 S '33

Shaft-sinking on a churn-drill hole. H. A. Neustaeder. *il diags plan Eng & Min J* 134:207-8 My '33

Shaft-sinking practices and costs. J. F. Johnson. *Min & Met* 14:221 My '33

Sinking and equipment of the no. 2 shaft at Minas de Matahambre; with cost data. D. D. Homer and R. H. Cromwell. *il diags map plans Explosives Eng* 2:38-62 F '33

Swansea power station; preliminary operations in shaft sinking by the freezing process. *il Electrician* 109:619 N 11 '32; *Engineer* 154:491 N 11 '32; *Engineering* 134:561 N 11 '32

*See also*

Drilling and boring  
(earth and rocks)  
Mine shafts

**SHAFTING**

American standard shaft couplings; data sheet. *diags Mach* 39:696A Jl '33

Choosing the right drive. W. Staniar. *il Iron Age* 132:10-13 Ag 17 '33

Permissible variation in sizes of cold-finished bar stock and shafting; data sheet. *Mach* 40:136A N '33

*See also*

Belting  
Power transmission  
Pulleys

**SHAFTS**

Dimensions for four- and six-spline shaft fittings, S.A.E. standards; data sheet. *Mach* 40:8A S '33

Helical gears on oblique shafts. A. B. White. *Am Mach* 77:618-19 S 27 '33

Repairing and aligning Diesel engine shafts. J. J. McDougall. *il diags Power Pl Eng* 37:141-2 Mr '33

Stiffness of shafts; simplified method of calculation. F. A. W. Livermore. *Automobile Eng* 23:202 Je '33

Whirling of a shaft with skew stiffness. D. Robertson. *Engineer* 156:152-3, 179-81, 213-14 Ag 18-S 1 '33

*See also*

Crankshafts

**Manufacture**

Precision grinding machines. *il diags Engineer* 154:612-14 D 16 '32

Preparing shafts for metal coating. *il Steel* 93:26-7 Jl 10 '33

Rotary fixture for milling tongues on shafts. *diags Mach* 39:589 My '33

Turning time for shafts of various diameters and lengths. C. F. Scribner. *chart Mach* 39:284-5 D '32

**Testing**

Fatigue of shafts having keyways. R. E. Peterson. *il diags Am Soc T M Proc* 32 pt 2: 413-19; Discussion. *Dec* '32

**SHAFTS, Mine.** *See* Mine shafts

**SHAKERS****Industries**

Community industries of the Shakers. (New York state museum handbook 15) E. D. Andrews. 322p University of the state of New York, Albany '33

**SHAKESPEARE** calendars. *See* Calendars

**SHAKESPEARE** memorial theater, Stratford-on-Avon

Lighting of the Shakespeare memorial theatre. *il Illum Engr* 26:15-16+ Ja '33

**SHALE**

Entrapped gases as a factor in stratification. R. E. Birch. *il Am J Sci* 5th ser 25:406-14 My '33

Jetting solidifies large embankment; method employed on the Cincinnati Union Terminal project. *il Ry Age* 94:41-3 Ja 14 '33

Marine fossils from the top of the New Albany shale of Indiana. J. W. Huddle. *il Am J Sci* 5th ser 25:303-14 Ap '33

Mineralogy of typical North Carolina clays and shales. W. L. Fabianic and N. H. Stolte. *Am Cer Soc J* 16:6-11 Ja '33

New synthetic stone, rostone. H. C. Pepper, R. L. Harrison and R. N. Shreve. *bibliog il Ind & Eng Chem* 25:719-22 Jl '33

Shales and brick clays of Georgia. R. W. Smith. *map Am Cer Soc J* 16:36-44 Ja '33

*See also*

Oil shales

**SHAMPOO**

From barber shop to drug store; how advertising has helped Fitch's shampoo. W. C. Lamb. *il Ptr Ink* 163:5-6 Je 1 '33

Kreml introduces sister-product through "outsert" sampling plan. *Sales Management* 32: 604 Je 15 '33

**SHANGHAI****Aurora university**

Une œuvre d'éducation française en extrême-Orient: l'université l'Aurore, de Chang-hai. R. P. H. Belval. *Génie Civil* 102:477-8 My 20 '33

**SHANNAHAN, John N.** 1872-

Named head of Midland united co. *por Am Gas Assn Mo* 15:18 Ja '33; *Transit J* 77:33, 36 Ja '33

**SHANNON** bill. *See* Government accounting

**SHAPERS**

Butler 18-in. stroke crank-operated shaping machine. *il Engineering* 135:154-5 F 10 '33

Butler machine tool company; two interesting shapers. *il Engineer* 155:52-3 Ja 13 '33

Old shaper. A. E. Granville. *il Am Mach* 76: 1204f D 7 '32

Ormerod 32in. heavy duty crank shaper. *il Engineer* 156:42 Jl 14 '33

Shaper effectively used in machining die-blocks. *il Mach* 39:283 D '32

Shaper set-up for forming a key integral with the bore. F. W. Curtis. *il Mach* 39:696 Jl '33

Traveling-carriage support for use in machining heavy work on shaper. H. H. Henson. *il Mach* 39:529 Ap '33

**SHARK leather**

Booklet that developed a new industry; Ocean leather corporation instructs shark fishermen. L. R. Moresi. *il Ptr Ink Mo* 27:42+ S '33

**SHARKS**

Booklet that developed a new industry; Ocean leather corporation instructs shark fishermen. L. R. Moresi. *il Ptr Ink Mo* 27:42+ S '33

**SHARPENING**

Hanna adopts shop practice for tool sharpening. *il Coal Age* 38:244 Jl '33

Hot miller; novel equipment for drill sharpening. *Eng & Min J* 133:641 D '32

How long between grinds? R. C. Deale. *diags Am Mach* 77:517-21 Ag 16 '33

Lawn mower grinder. *il Engineer* 155:50 Ja 13 '33



**SHARPENING—Continued**

Rogers knife grinder equipped with time clock control. *il* Iron Age 132:26 Ag 10 '33;  
Am Mach 77:543 Ag 16 '33

*See also*

Saws, Metal working  
—Sharpening

**SHARPNESS**

Measuring sharpness of razor blade edges. P. N. Peters. *il* diags Metal Prog 24:18-22 N '33

**SHATTUCK, Frank G., company**

Low price stocks that can be purchased now for later appreciation. Mag of Wall St 51:217 D 10 '32

Moderate risks for large profits. Mag of Wall St 51:340+ Ja 7 '33

Schrafft's; largest food purveyor of its kind. Business Week p12 Ap 5 '33

**SHAVING cream**

New Ivory product. Ptr Ink 163:33 Je 22 '33

**Advertising**

Colgate-Palmolive twins. *il* Ptr Ink 164:17 S 14 '33

How Mennen advertises two competing products. *il* Ptr Ink 162:69 Mr 16 '33

Shaving cream features cool moments in sport. *il* Ptr Ink 162:32 F 2 '33

Williams makes brushless shave. *il* Ptr Ink 164:68 Jl 27 '33

**SHAW, George Bernard**

Letting George do it. S. Bell. Comm & Fin 22:351 Ap 19 '33

**SHAWINIGAN chemicals, limited**

Canada's most important synthetic organic chemical industry. A. F. G. Cadenhead. *il* Chem & Met Eng 40:184-8 Ap '33

**SHAWINIGAN FALLS, Quebec****Water supply**

Filtration plant and distribution system. *il* Can Eng 65:11-14+ N 7 '33

**SHAWLS**

Textile industries of Kashmir. A. F. Barker. *il* Textile Col 55:243-4 Ap '33

**SHEARS (machines)**

Antrieb von exzenter-werkzeugmaschinen. H. Grünbaum. Zeit Ver Deutsch Ing 76:1123-9 N 12 '32

Cisaillés à lames circulaires pour border les tôles, séparées ou en paquet. L. de Feydeau. *il* diag Génie Civil 101:528-30 N 26 '32

Fliegende scheren. F. Christ. *il* Stahl & Eisen 53:78-9 Ja 19 '33

Niagara M series shears. *il* Am Mach 77:451 Jl 5 '33; Iron Age 131:1044-5 Je 29 '33; Mach 39:740 Jl '33

Pels & co. rotary shears; abstract. Mech Eng 55:640-1 O '33

Quickwork no. 230 welded steel rotary shear. *il* Am Mach 77:579 Ag 30 '33; Mach 40:47-8 S '33; Iron Age 132:27 O 5 '33

Schatz squaring shear with slide arranged to return at any point of stroke. *il* Iron Age 131:547 Ap 6 '33; Am Mach 77:256 Ap 12 '33; Mach 39:615-16 My '33

Streine continuous-holddown conveyor-type slitting shear. *il* Am Mach 77:735 N 8 '33; Mach 40:243-4 D '33

Umlaufende scheren. J. Gassen. *il* diags Stahl & Eisen 53:227-8 Mr 2 '33

Williams, White & co.'s rotary shear for straight and curved cutting of ¾-in. plate. *il* Iron Age 132:35 N 2 '33

**SHEBOYGAN, Wisconsin****Water supply**

4,000,000 gallon elevated storage project. A. H. Miller. *il* diags Water Works & Sewerage 80:311-16 S '33

Location record for distribution system. A. H. Miller. Am Water Works Assn J 25:327-30; Discussion. C. S. Gruetzmacher. 331-6 Mr '33

**SHEEP**

Cause of fatal disease in young lambs. H. H. Heller. Science 77:sup9 Je 9 '33

Inheritance of kemp in blackface sheep. D. M. Bryant. bibliog Textile Inst J 24:T309-16 Ag '33

Karakul sheep; review. P. G. Frölich. Textile Inst J 24:p110-12 Je '33

Pre-natal check in the birthcoat of the New Zealand Romney lamb. F. W. Dry. Textile Inst J 24:T161-6 Ap '33

Wool growth stimulation: is it possible? Textile Col 55:542 Ag '33

*See also*

Wool

**SHEET iron**

Effect of zinc oxide on sheet-iron cover-enamel properties. L. D. Fetterolf. Am Cer Soc J 16:319-24 Jl '33

Some sheet-iron ground-coat reboil and bond studies using several enameling stocks. H. E. Ebright, C. D. Clawson and J. T. Irwin. *il* Am Cer Soc J 16:305-11 Jl '33

Thermal expansion of sheet-iron ground-coat enamels. A. I. Andrews and R. K. Smith. Am Cer Soc J 16:328-37 Jl '33

X-ray investigation of the opacifying compounds present in sheet-iron cover enamels. A. I. Andrews and J. P. Breen. Am Cer Soc J 16:325-7 Jl '33

*See also*

Sheet steel

**Standards**

Thicknesses and weights of steel and open-hearth iron sheets; data sheet. Mach 39:760a Ag '33

**SHEET metal**

Cold rolling of sheets and of tinplate. W. Trinks. diags Blast F & Steel Pl 21:315-20, 359-61 Je-Jl '33

Copper product perfected; Anaconda makes sound sheets by electrolysis. B. H. Strom. diags Eng & Min J 134:281-2 Jl '33

More uses for copper. Sci Am 149:225 N '33

Production of electrolytic copper sheets. A. Eyles. Metal Ind 31:53 F '33

*See also*

Sheet iron

Sheet steel

Tin plate

**Prices**

Metals, tin plate and galvanized sheets; monthly prices 1913-1932. Iron Age 131:92 Ja 5 '33

Thirty-five years of prices of black and galvanized sheets, at Pittsburgh, and zinc. New York, 1898-1932; graph. Iron Age 131:29-30 Ja 5 '33

**Standards**

Wire and sheet-metal gage applications; data sheet. Mach 39:248A D '32

**Testing**

Autographic stress-strain curves of deep-drawing sheets. R. L. Kenyon and R. S. Burns. bibliog *il* diags Am Soc Steel Tr Trans 21:577-601; Discussion. 601-12 Jl '33

**SHEET metal, Corrugated**

Strength of aluminum corrugated sheet. *il* Eng N 110:705 Je 1 '33

**SHEET metal, Enameled**

Enameled sheets offer advantages for small steel buildings. *il* plans Steel 91:23-5 N 21 '32

Enameled sinks pressed from heavy-gage steel sheets; Youngstown pressed steel co. *il* Steel 93:28 Ag 7 '33; Business Week p 14 Ap 5 '33

High salvage value in porcelain Mid-continent station, Tulsa. *il* Nat Pet N 25:42 N 8 '33

Porcelain enameled houses. *il* Metal Ind 31:171 My '33

Porcelain-sheet for gas stations. *il* plan Architecture 66:356 D '32

Unique example of enameling; exhibit of the Republic steel corporation at the Century of progress. *il* Sheet Metal Worker 24:257 Ag '33

**SHEET metal handling**

Photo-electric trigger controls sheet catcher. G. A. Caldwell. *il* Elec W 102:152-3 Jl 29 '33.

**SHEET metal houses**

Air conditioning in model house at Century of progress, il plan Sheet Metal Worker 24: 149-50 My '33

Copper houses; plans. Arch Forum 59:sup40 O '33

First copper house being erected at Lake Delta, near Rome, N.Y. il Sheet Metal Worker 24:291 S '33

See also

Steel houses

**SHEET metal shops**

How to trim shop windows. A. C. Miller, il diags Sheet Metal Worker 24:41-2+, 68-9, 107-8+ F-Ap '33

Story of two shops, il Sheet Metal Worker 23:469-70 N '32

See also

Sheet metal working machinery

**Accounting**

Sales, profits, losses. Sheet Metal Worker 24: 193 Je '33

**Management**

Depression busting by arc welding; interview with Frank A. McCloud. A. F. Davis, il Sheet Metal Worker 24:181-2+ Je '33

Estimating air-conditioning fittings and duct work. Sheet Metal Worker 24:3-5 Ja '33

Going after repairs and renewals. Sheet Metal Worker 24:18-19 Ja '33

Practical time-keeping system, il Sheet Metal Worker 24:70-1 Mr '33

Sheet metal contract blank, il Sheet Metal Worker 24:113-14, 147-8, 178+, 216 Ap-Jl '33

Why we have a composition roof on our house, il Sheet Metal Worker 24:79-80 Mr '33

**SHEET metal trade**

Advantages in having distinctive stationery, il Sheet Metal Worker 24:247-9 Ag '33

Code of fair competition for the roofing and sheet metal contractors. Sheet Metal Worker 24:280-2, 298 S '33

Combating traveling mechanics. Sheet Metal Worker 24:83-4 Mr '33

Construction industry, roofing and sheet metal contracting division, code of fair competition as submitted on Sept. 13, 1933 and revised on Sept. 27, 1933. Sheet Metal Worker 24:315-17 O '33

Get business in November, il Sheet Metal Worker 24:324-5 O '33

National joint conference at Detroit; general and group meetings of roofing, slate, sheet metal and warm air heating interests, Jan. 11-14. Sheet Metal Worker 24:20-2 Ja '33

Possibilities of corrosion resisting metals. L. S. Hamaker. Sheet Metal Worker 24:185-6+ Je '33

School days; selling steel ceilings for school buildings, N. O. Hexamer, il Sheet Metal Worker 24:174-5 Je '33

Sheet metal and warm air heating contractors association annual convention, Indianapolis, Jan. 17-19. Sheet Metal Worker 24:55-6 F '33

Status of the sheet metal code. Sheet Metal Worker 24:239-40+ Ag '33

To make September busy. Sheet Metal Worker 24:253-4+ Ag '33

What has been done in 1932; what may be done in 1933, il Sheet Metal Worker 23:504-6 D '32

Who pays New York state retail sales tax? application of tax to sheet metal trade. Sheet Metal Worker 24:292-3 S '33

See also

Ceilings, Steel

**Advertising**

Be a D. S. (do something) in 1933, il Sheet Metal Worker 23:509-10 D '32

Business-getting helps for shop owners, il Sheet Metal Worker 24:33-40 F '33

Example of timely advertising; use of jig-saw puzzle, il Sheet Metal Worker 24:71+ Mr '33

Friendly reminder and a follow up, il Sheet Metal Worker 24:283-4 S '33

Going after repairs and renewals. Sheet Metal Worker 24:18-19 Ja '33

Story of two shops, il Sheet Metal Worker 23:469-70 N '32

**SHEET metal work**

Adjustable forming die, J. W. Gerdel, diags Am Mach 77:118-19 F 15 '33

Beer dispensing equipment, il plan Sheet Metal Worker 24:139-41 My '33

Bulging a sheet-metal cap in a solid die, F. W. Curtis, diags Am Mach 39:719 Jl '33

Combination blanking and forming die for U-shaped clasps, V. Waitkus, diags Mach 39:588-9 My '33

Controlling expansion and contraction in gas-welding sheet metals, il Sheet Metal Worker 23:488 N '32

Corrosion-resisting steel sinks formed in one operation, il Steel 92:26 Ja 30 '33

Drawing dies for making rings from flat stock, W. C. Betz, diags Mach 39:395-6 F '33

Drawing in a single-action press, J. R. Cornelius, diag Am Mach 76:834 Jl 6 '32; Discussion, 76:1073-4, 1135-6; 77:247 O 12, N 9 '32, Ap 12 '33

Elbows and angles, O. W. Kothe, diags tables Sheet Metal Worker 24:242-4+, 285-7, 294, 321-3+ Ag-O '33

Fabricating and finishing metal stamped ware; National enameling & stamping co, Milwaukee, J. B. Nealey, il Steel 92:21-3 Mr 27 '33

Ford's experience with rustless steel, J. L. McCloud, il Iron Age 132:10-11+ Jl 13 '33

How new metals are making new work for sheet metal men; remodeling a bar room, il diags Sheet Metal Worker 24:211-12+ Jl '33

Make and sell neon signs, G. S. Wells, il Sheet Metal Worker 23:487+, 531-2 N-D '32

Making beer dispensing equipment, il diags Sheet Metal Worker 24:170-1+ Je '33

Making illuminated house numbers, il Sheet Metal Worker 24:10 Ja '33

Modern beer dispensing equipment; illustrations, Sheet Metal Worker 24:222-3 Jl '33

Neon signs—patent regulations and sales suggestions, G. S. Wells, il Sheet Metal Worker 24:9+ Ja '33

One-piece tee drawn and expanded from flat stock, C. S. Schwaeble, diags Mach 39:729-31 Jl '33

Plastic drawing of sheet steel into shapes, E. V. Crane, il diags Am Soc Steel Tr Trans 21:155-75; Discussion, 175-80 F '33

Press tools for a sheet-steel casing, H. S. Taylor, diags Am Mach 77:151-2 Mr 1 '33

Press tools for riveting sheet-metal boxes, A. Beusch, diag Am Mach 77:186-7 Mr 15 '33

Progressive tools for piercing, counter-sinking and blanking, C. Kugler, diag Am Mach 77:282 Ap 26 '33

Small size paint spray booth, F. H. Stebbins, plan Sheet Metal Worker 23:521+ D '32

Threads used in rolled sheet metal, W. H. Burt, Am Mach 77:363 Je 7 '33

Trend to metal in remodeling, il diags Sheet Metal Worker 24:327-8+ O '33

Turning and facing thin metal disks, M. Jacker, diags Mach 39:465-6 Mr '33

Über ziehpresen, O. Kühner, il diags Zeit Ver Deutsch Ing 77:469-74 My 6 '33

Unusual press job, J. J. McHenry, diag Am Mach 77:409 Je 21 '33

What should this fitting cost? diag Sheet Metal Worker 24:45-6, 85-6 F-Mr '33

Workability of high brass sheet influenced by hardness, ductility and grain size, M. H. Medwedeff, il Metal Prog 23:18-22 F '33

See also

Air pipes	Rolling mills
Boilers, Range	Sheet iron
Exhaust systems	Sheet steel
Lubrication and lubricants (sheet metal work)	Shells (metal work)
Pipes	Stamping
Presses	Tin cans
Punching	Tubes
Rolling (metal work)	Ventilators
	Water tanks



## SHEET metal work—Continued

## Pattern making

New York trade school's textbook on pattern drafting for heat and vent work. W. Neubecker, 88p New York trade school, New York '32

Pattern for floodlight shade. F. L. Ogilvie. diags Sheet Metal Worker 23:482 N '32

Pattern for hexagonal to round mold. F. L. Ogilvie. Sheet Metal Worker 24:117 Ap '33

## Tables, calculations, etc.

Blank development for press operations. J. J. McHenry. diags Am Mach 77:236-7 Ap 12 '33; Discussion. C. W. Hinman. 77:630-1 S 27 '33

Sheet metal workers' problems; estimating amount of stock required to make a given number of pieces. W. B. Francis. diag Metal Ind 31:93 Mr '33

## SHEET metal work, Architectural

Metal siding used on large warehouse. il Sheet Metal Worker 24:263 Ag '33

Metal used liberally on residence. il Sheet Metal Worker 24:241 Ag '33

Not just another steel ceiling; details of fastening ceiling to hollow tile. il diag Sheet Metal Worker 23:525-6 D '32

Opportunities with stainless. il Sheet Metal Worker 23:516-17+ D '32

Opportunity is knocking; selling sheet metal roofing. G. D. Myers. il Sheet Metal Worker 23:507-8 D '32

Protecting polished stainless steel during building construction. C. C. Snyder. Sheet Metal Worker 24:2 Ja '33

Service, not first cost, real measure of value. il Sheet Metal Worker 24:37 F '33

Sloping vs. the flat roof. il Sheet Metal Worker 24:319-20 O '33

Steel partitions; present and future possibilities. J. G. Mapes. il Metal Prog 23:20-2 Je '33

Tiles with sheet metal surface. diag Sheet Metal Worker 24:259 Ag '33

## See also

Aluminum, Structural	Finials
Aluminum work,	Flashing
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Ceilings, Steel	Roofing, Copper
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tectural	

## SHEET metal working machinery

Hard-facing reduces die costs; dies and parts of drum-making machinery made of machine steel. il Mach 39:630-2 Je '33

Machine renders sheets free from stretcher strains. J. D. Knox. il diag Steel 92:26-7 Ap 24 '33

Power press drawing devices designed for small movement. il Mach 39:679 Je '33

Sheet metal working; two recent introductions in equipment for the body building shop. il Automobile Eng 23:248 Jl '33

## See also

Presses  
Punching machinery  
Swaging machines

## SHEET piling

Bulkhead built of sheet piling. il Steel 92:27 Mr 20 '33

Concrete wall with sheetpile cutoff replaces levee at Helena, Ark. H. V. Pittman. il diags plan Eng N 110:780-4 Je 15 '33

Design of steel sheet-piling bulkheads. R. P. Pennoyer. il diags Civil Eng 3:615-19 N '33

Driving long Z-sheeting for deep-water bulkhead. F. R. Harris. il diags Eng N 110:592-3 My 11 '33

Interlocking sheet piling guards fog signal station from heavy seas. il Steel 93:27 Jl 10 '33

Resistance of sheet piling to overturning; results of experimental work on bulkheads. D. P. Krynine and R. W. Abbott. il diags Civil Eng 3:263-5 My '33

Sheeting interlocked on barge for cofferdam wall; concrete multiple-arch highway bridge across the Mohawk river between Cohoes and Waterford, N.Y. diag Eng N 110:191 F 9 '33

Steel sheetpile jetty at Pensacola. E. K. Foster and D. E. Young. il diags map Eng N 111:489-91 O 26 '33

## SHEET steel

Age hardening in low carbon strip steel. E. B. Whittemore. Am Soc Steel Tr Trans 21:571-6 Je '33; Same. Metal Prog 22:50-2 O '32

Aging of mild steel sheets. R. O. Griffiths, R. L. Kenyon and R. S. Burns. il Blast F & Steel Pl 21:312-14+ Je '33; Same cond. Steel 92:23-5 My 29 '33; Same cond. Iron Age 131:861-2; Discussion. 878 Je 1 '33

Aging of mild steel sheets. A. Hayes. Automotive Ind 69:116-18, 158 Jl 29-Ag 5 '33

Comparison of sheet and strip steels for difficult stampings. E. S. Lawrence. Am Soc Steel Tr Trans 21:119-38[bibliog p136-8] F '33

Development of magnetic sheet steels. W. E. Ruder. Gen Elec R 36:406-8 S '33

Effect of normalizing on the grain structure and physical properties of automobile sheet steel. W. F. McGarrity and H. V. Anderson. il Am Soc Steel Tr Trans 21:139-50; Discussion. 150-4 F '33

Enameled sinks pressed from heavy-gage steel sheets; one-piece milk can; Youngstown pressed steel co. il Steel 93:28 Ag 7 '33

Evolution of the sheet steel industry. W. H. Melaney. Blast F & Steel Pl 21:25-31 Ja '33

Formation of columnar crystals in steel sheets after normalisation. F. Kinský. bibliog Iron & Steel Inst J 127:209-21, pl 17-19 no 1 '33; Abstract. Engineering 135:542 My 19 '33; Discussion. Iron & Steel Inst J 127:222-8 no 1 '33; Engineering 135:542 My 19 '33

Gas furnaces condition air to prevent rust on sheet stocks. il Steel 93:28 Ag 14 '33

Important reclassification of flat-rolled steel; prices. Iron Age 132:26R-26V S 21 '33

Lubricants used in deep drawing of sheet steel. M. Reswick. Am Soc Steel Tr Trans 21:181-91; Discussion. 191-2 F '33

Machine renders sheets free from stretcher strains. J. D. Knox. il diag Steel 92:26-7 Ap 24 '33

Manufacture of steel sheets. J. Bryden. il Blast F & Steel Pl 20:721-2+, 774-7+, 841-2+, 896-7+ S-D '32

Metal forms for floor become finished ceiling. il Iron Age 132:27 S 14 '33

New base for phenolic resin laminating; Robertson bonded-metal. P. W. Jenkins and A. W. Coffman. il Plastic Prod 9:183-6 Jl '33

New deep drawing steel. A. H. Hayes. Iron Age 132:27-8 Jl 13 '33

New forms of steel appear. il Iron Age 131:36-8 Ja 5 '33

Nickel-clad steel sheets, strip and wire. il Iron Age 131:787 My 18 '33

Plastic drawing of sheet steel into shapes. E. V. Crane. il diags Am Soc Steel Tr Trans 21:155-75; Discussion. 175-80 F '33

Presidential address before Iron and steel institute. W. R. Lysaght. Iron & Steel Inst J 127:35-47, pl 1 no 1 '33; Abstracts. Engineering 135:524-5 My 12 '33; Engineer 155:448-9 My 5 '33

Pressed steel sinks. il Business Week p 14 Ap 5 '33

Prices tell market history; tabulation. Steel 92:118 Ja 2 '33

Principles of lubrication in cold drawing sheet steel. H. A. Montgomery. Am Soc Steel Tr Trans 21:557-64 Je '33; Same cond. Am Mach 76:1056-8 O 12 '32; Abstracts. Iron Age 130:615+ O 20 '32; Mach 39:348-50 Ja '33; Discussion. Am Soc Steel Tr Trans 21:564-70 Je '33

Production of Sherrite steel sheets. Engineering 135:584 My 26 '33; Abstract. Mech Eng 55:505 Ag '33

Sheet steel caps close pipe line. il Steel 93:25 O 16 '33

**SHEET steel—Continued**

Some effects of the amount and rate of deformation on a low carbon strip steel. J. Winlock and A. E. Lavergne. *il Am Soc Steel Tr Trans* 21:109-15; Discussion, 116-18 F '33

Stainless-clad steel adapted to tonnage production. S. L. Ingersoll. *il Steel* 92:28+ F 6 '33

Stamped plumbing fixtures open new market for sheet steel; recent development of the Briggs mfg. co. *il Iron Age* 131:518 Mr 30 '33

Steel panel construction for silos and smoke stacks. *il Iron Age* 131:855 Je 1 '33

*See also*

Barrels, Steel                      Steel plates  
Steel, Automobile

**Standards**

Thicknesses and weights of steel and open-hearth iron sheets; data sheet. *Mach* 39: 760a Ag '33

**Testing**

Elongation values on thin sheet metal. R. L. Kenyon. *Engineer* 154:sup[Metallurgist] 187-8 D 30 '32

**SHEETS**

This label has convenience and sales appeal; Pequot sheets. *il Ptr Ink* 162:27-8 Ja 19 '33

**Advertising**

Asks consumers for a vote of confidence—and gets it; coupon enables Wamsutta mills to answer low-price cries of dealers. *Ptr Ink* 161:10+ D 1 '32

Educating retail clerks by letter campaign; Wamsutta Mills series of eighteen messages. D. Gridley. *Ptr Ink* 164:58, 60-1 Ag 3 '33

This testimonial campaign is self-perpetuating; Pequot mills. *il Ptr Ink* 165:98-9 O 12 '33

**SHELL transport and trading company**

Annual general meeting, London. *Economist* 116:1374 Je 24 '33

**SHELL union oil corporation**

Report, 1932. *Economist* 116:1145 My 27 '33

Shell turns loss into profit. *Econostat* 1:14-15+ My 20 '33

Standard Oil and Shell, long rivals, go home to roost together. *Sales Management* 33:424 O 20 '33

Van der Woude, president; Durkee and van Senden, vice presidents. *por Oil & Gas J* 32:32 O 19 '33

**SHELLAC**

Dilution of shellac varnish. A. C. Langmuir. *Chem & Met Eng* 40:314 Je '33

Lac research. *Soc Chem Ind J (Chem & Ind)* 52:694 Ag 25 '33

Lokombitsika; a natural resin unknown to us. L. W. Greene. *Plastic Prod* 9:14 Mr '33

Nature and constitution of shellac; effect of small amounts of certain impurities. W. H. Gardner. *bibliog il Ind & Eng Chem* 25:550-4 My '33

Nature and constitution of shellac; preparation of heavy metal soaps of refined bleached shellac. W. H. Gardner, W. F. Whitmore and H. J. Harris. *bibliog Ind & Eng Chem* 25:696-9 Je '33

Plastics; shellac and natural resin types and their uses. A. J. Gibson. *Soc Chem Ind J* 52:supS8, S10-12 My 19 '33

**Analysis**

Nature and constitution of shellac; determination of acid number. H. Weinberger and W. H. Gardner. *bibliog Ind & Eng Chem Anal ed* 5:267-70 Ji 15 '33

**Statistics**

Gums, shellac, waxes. Published in weekly numbers of Oil, paint and drug reporter

**SHELLFISH**

Occurrence of the paralytic shell-fish poison in the common sand crab. H. Sommer. *Science* 76:574-5 D 16 '32

*See also*

Oysters  
Shrimps

**SHELLS (metal work)**

Blank development for press operations. J. J. McHenry. *diags Am Mach* 77:236-7 Ap 12 '33; Discussion. C. W. Hinman. 77:630-1 S 27 '33

Finding the size and shape of blanks for irregular shells. C. Weslow. *diags Am Mach* 77:123 F 15 '33

Forming three lugs simultaneously around a circular shell. E. L. Soltner. *diag Mach* 39: 720 Ji '33

Indenting die for brass shells. J. E. Fenno. *diags Mach* 40:26-7 S '33

Mechanism for feeding six shells per second; container caps. J. Waitkus. *diags Mach* 39: 458-61 Mr '33

Nine press operations per stroke at ninety strokes per minute; eyelet press and shell threader. E. Lay. *diags Mach* 39:572-5 My '33

Plastic drawing of sheet steel into shapes. E. V. Crane. *il diags Am Soc Steel Tr Trans* 21:155-75; Discussion, 175-80 F '33

Shells drawn from rustless steel. J. J. McHenry. *Am Mach* 77:460-1 Ji 19 '33

Stamping automobile parts of stainless sheet; Ford radiator shells and headlamps. J. L. McCloud. *il Metal Prog* 24:23-6 N '33

Tools for deep drawing in a single-action press. C. F. Henderson. *diags Am Mach* 77: 87 F 1 '33

*See also*

Boilers  
Sheet metal work  
Tanks, Steel

**Testing**

Compressed air and vacuum test for detecting leaks in drawn shells. H. W. Boehly. *diag Mach* 39:474 Mr '33

**SHELLS (projectiles). See Projectiles****SHELVING**

More convenience, less handling because of adjustable shelving. *il Factory Management* 91:232-3 Je '33

**SHENANDOAH corporation**

Shenandoah-Blue Ridge statement for 1932. *Barron's* 13:8 Ja 30 '33

**SHENANDOAH life insurance company**

Sale of Shenandoah shares is clarified. *Ins Field (Life ed)* 62:5-6 Ap 14 '33

**SHERMAN, Henry C.**

Award of the medal of the American institute of chemists. *Science* 77:346 Ap 7 '33; *por Oil Paint & Drug Rep* 123:29 Ap 10; 51 Je 5 '33; *Chemicals* 38:1-2 Ap 17 '33

**SHERMAN antitrust law**

Sherman act. *J Account* 55:368-9 My '33

**SHERWIN-WILLIAMS company**

Opportunities in stocks that have not yet discounted their earnings recovery. *Mag of Wall St* 52:234+ Je 24 '33

**SHIELDING in radio measurements. See Radio measurements****SHINAVAR, Charles B.**

Star salesmen the depression couldn't lick. *por Sales Management* 33:110, 130 Ag 1 '33

**SHIP decoration**

Conte di Savoia. *il Arch Forum* 58:279-90 Ap '33

Phenol resin gives new tool to marine engineers; S. S. Washington. F. E. Brill. *il Plastic Prod* 9:189-90 Ji '33

Ship-furnishing and decoration. W. A. Gibson-Martin. 225p *Journal of commerce, Liverpool* '32

T. S. S. Washington features new fire-resistant paneling. J. R. Fitzpatrick. *il Marine Eng* 38:208-13 Je '33

**SHIP model tanks**

Hamburg tank association summer meeting. *Engineering* 136:45-6 Ji 14 '33; *il Engineer* 156:14-15 Ji 7 '33

N.P.L. test tank; electrical equipment for shipbuilding research at Teddington. *Electrician* 109:699 N 25 '32

National physical laboratory; William Froude laboratory; testing of ship forms and ship propulsion. *Engineering* 136:201-2 Ag 25 '33



**SHIP model tanks—Continued**

- New ship model basin proposed with modern facilities. *Marine R* 63:34 N '33  
 New tank at Teddington. *il diags Engineer* 154:506-7, 512, 532-3 N 18-25 '32  
 Newport News shipbuilding and drydock company model testing tank. *il diag Marine Eng* 38:409-10 N '33  
 Proposed new ship model basin. *Marine Eng* 38:408+ N '33  
 Ship-model tank at the National physical laboratory. *il diag Engineering* 134:630-1 N 25 '32

**Equipment**

- Einrichtung zum schleppen von modellen mit hohen geschwindigkeiten. H. M. Weitbrecht. *il diags Zeit Ver Deutsch Ing* 76:1119-22 N 12 '32

**SHIP models**

- Tests on three geometrically similar ship models; abstracts. H. E. Saunders. *Marine Eng* 37:521 D '32; *Marine R* 62:21-2 D '32; Discussion. *Marine Eng* 37:521-3 D '32

*See also*

- Ships—Model testing

**SHIP plates**

- Bestimmung der dicke von schiffsplatten und kesselwänden mit röntgenstrahlen. O. Fischer. *il diag Zeit Ver Deutsch Ing* 76:1158 N 19 '32  
 Plating for tankers of wrought iron. R. W. Morrell. *diags Marine Eng* 38:360-7 O '33  
 Stress distributions in fusion joints of plates connected at right angles; abstract and discussion. E. G. Coker and R. Russell. *Engineering* 135:442-3 Ap 21 '33  
 Using X-ray to determine thickness of plating. H. R. Isenburger. *Marine R* 63:31 My '33

**SHIP propulsion**

- Conte di Savoia, quadruple-screw liner. *il Engineering* 135:423-6, 436, pl 28 Ap 21 '33  
 Improvements in marine engineering. D. W. Niven. *Marine R* 63:19-22 Ja '33  
 Measurements of speed, power, wind resistance, maneuvering ability, deflection, strains. G. Kempf. *il Marine Eng* 38:86-9 Mr '33; Abstract. *Marine R* 62:21 D '32  
 Modern cargo-ship machinery. J. H. King. *Marine Eng* 38:51-5; Discussion. 66-70 F '33  
 Modern marine machinery. *Engineering* 134:713-14 D 16 '32  
 National physical laboratory; William Froude laboratory; testing of ship forms and ship propulsion. *Engineering* 136:201-2 Ag 25 '33  
 Performance of Standard Oil tankers. R. L. Hague. *Marine Eng* 38:22-6 Ja '33; Discussion. 38:32, 64-5 Ja-F '33  
 Propulsion turbines and gears for Panama Mail steamships; abstracts. A. R. Smith. *Marine R* 62:24 D '32; *Engineering* 135:112 Ja 27 '33; Discussion. *Marine Eng* 38:29-30 Ja '33  
 Screw-propeller experiments with models of coasters; abstracts and discussion. F. H. Todd. *Engineer* 155:397 Ap 21 '33; *Engineering* 135:468 Ap 28 '33  
 Speed and power of ships. D. W. Taylor. rev ed 366p Press of Ransdell, inc, Washington, D.C. '33

*See also*

- |                             |                        |
|-----------------------------|------------------------|
| Boilers, Marine             | Motor ships            |
| Diesel engines, Marine      | Propellers             |
| Gas and oil engines, Marine | Ship resistance        |
| Marine engines              | Steam turbines, Marine |
|                             | Steamboats             |

**SHIP propulsion, Electric**

- Acklam Cross, oil-electric tug. *il Engineer* 156:239-40 S 8 '33; *Engineering* 136:241-2 S 8 '33  
 Acklam Cross trials; first British Diesel-electric tug. A. C. Hardy. *Electrician* 111:280 S 8 '33  
 Developments in the electrical industry during 1932; marine equipment. J. Liston. *il Gen Elec R* 36:10-15 Ja '33  
 Diesel-electric tugboats; the first two British examples. A. Regnaud. *il diag Elec R* (Lond) 113:549-50 O 20 '33

- Electric ship propulsion. *Elec R* (Lond) 111:703 N 11 '32

- Electric ship propulsion systems and control. G. O. Watson. *Engineer* 154:508-9 N 18 '32; Abstracts. *Elec R* (Lond) 111:745-6 N 18 '32; *Electrician* 109:639 N 18 '32; *Engineering* 135:236 F 24 '33

- Electric developments in marine applications. H. C. Coleman. *Marine R* 63:22 F '33

- Electricity in transportation, 1932-33. *Elec Eng* 52:770 N '33

- Le ferry-boat Scilla, pour la traversée du détroit de Messine. *il diags Génie Civil* 103:417-20 O 28 '33

- Growth of electricity in ships; abstract. F. Johnston. *il Elec R* (Lond) 112:193 F 10 '33

- Marine electricity; auxiliary loads; the refrigerated ship. A. C. Hardy. *il Electrician* 111:257 S 1 '33

- Marine electricity; Diesel-electric activity; two important British tugs. A. C. Hardy. *il diag Electrician* 111:83 Jl 21 '33

- Marine electricity; Diesel-electric propulsion in icebreakers and train ferries. A. C. Hardy. *plan Electrician* 110:155 F 3 '33

- Marine electricity; machinery of Normandie now on trial. A. C. Hardy. *il Electrician* 110:701 Je 2 '33

- Marine electricity; progress in 1932. A. C. Hardy. *il Electrician* 110:101-2 Ja 27 '33

- La propulsion électrique des navires. *Génie Civil* 102:498-500 My 27 '33

- Queen of Bermuda; features of the latest British turbo-electric ship. A. C. Hardy. *il diag Electrician* 110:213-14 F 17 '33

- Queen of Bermuda; one of the most completely electrified ships in the world. *il Elec R* (Lond) 112:239 F 17 '33

- Queen of Bermuda, turbo-electric liner. *il plan Engineer* 155:190-2, 216-17, 222 F 24-Mr 3 '33

- Scilla, Diesel-electric ferry. *Elec R* (Lond) 113:613 O 27 '33

- Several outstanding vessels launched in 1932. *il Elec J* 30:16-18 Ja '33

- Shipbuilding and marine engineering. A. C. Hardy. *Engineer* 156:266-7 S 15 '33

- Tug Lectro completed. *Electrician* 111:444, 501 O 13, 27 '33; *Engineering* 136:448 O 20 '33

- Turbo-electric drive. *diag Marine Eng* 38:227-8 Je '33

- Wistaria, lighthouse tender, Diesel-electric drive. *il diag Marine R* 63:15 Jl '33

- Y.T.119, Diesel electric tug, all-welded construction. *il diag Marine R* 63:24 My '33

*See also*

- Electric boats

**SHIP railroads. See Slipways****SHIP resistance**

- Beitrag zur ausbildung von schiffsformen. G. Weinblum. *Zeit Ver Deutsch Ing* 76:1149-54 N 19 '32

- Effect of wind on ship performance; abstracts and discussion. G. Hughes. *Engineer* 155:397 Ap 21 '33; *Engineering* 135:467-8 Ap 28 '33

- Photographic study of the mechanism of a ship's wake; abstract. T. B. Abell. *Engineering* 135:469 Ap 28 '33

- Resistance of flat surfaces moving through a fluid; abstract. K. E. Schoenherr. *Marine R* 62:24 D '32; Discussion. *Marine Eng* 38:27-8 Ja '33

- Wind resistance of ships tested at Case school. *il Marine Eng* 38:344 S '33; Same. *Marine R* 63:15 S '33

**SHIP subsidies**

- Baltic conference opposes subsidies. *East Underw* 34:29 Jl 14 '33

- Report of World economic conference; shipping subsidies. *Economist* 117:sup8 Jl 29 '33

- Ship subsidy; graft in ship subventions. *Business Week* p14 O 7 '33

**SHIPBUILDING**

- Ausländische forschung auf dem gebiet des schiffbaus und ihre auswertung für deutsche verhältnisse. G. Weinblum. *Zeit Ver Deutsch Ing* 77:1065-9 S 30 '33

- Communication covering Dr Foerster's Practical steel shipbuilding. W. P. Roop. *Marine Eng* 38:111-12 Mr '33

## SHIPBUILDING—Continued

- Developments in the construction of submarines; United States submarine Cachalot. G. C. Weaver. *il Marine Eng* 38:44-7 F '33
- Effect of treaties on naval strength. *il Marine Eng* 38:398-401 N '33
- Die Hamburger schiffahrt in den letzten 50 Jahren; technische entwicklung des schiff- und schiffsmaschinenbaues. E. Goos. *Zeit Ver Deutsch Ing* 76:1137-40 N '32
- High strength steel; comparison of liners proposed to be built of special high strength steel and of mild steel. E. P. Trask. *il diags Marine Eng* 38:240-8+ J1 '33; Correction. 38:302 Ag '33
- Jahresversammlung der Schiffbautechnischen gesellschaft, Berlin. *Zeit Ver Deutsch Ing* 76:1275-6 D 24 '32
- Lancement du nouveau paquebot Normandie, de la Compagnie générale transatlantique. O. Quéant. *il Génie Civil* 101:445-51 N 5 '32
- Latest data on new marine work. Published in monthly numbers of Marine review
- New hull form is developed for increased economy by Sir Joseph W. Isherwood. *Marine R* 63:20-1 Mr '33
- Rivets of 18-8 chrome-nickel steel finding use in hull construction. *Steel* 92:27 Mr 20 '33
- Ship construction and repair news. Published in monthly numbers of Marine engineering and shipping age
- Shipbuilding and marine engineering. A. C. Hardy. *Engineer* 156:266-7 S 15 '33
- Shipbuilding and marine engineering in 1932. *il Engineer* 155:19-22, 40-2, supp 2, 7 Ja 6-13 '33
- Sir Joseph Isherwood develops a new ship form. *Marine Eng* 38:94-5 Mr '33; Abstract. *Mech Eng* 55:312 My '33
- X-ray and gamma-ray inspection as used in ship construction. H. R. Isenburger. *bibliog il Marine Eng* 38:137-9, 148 Ap '33

## See also

- |                    |                  |
|--------------------|------------------|
| Barges             | Shipyards        |
| Freight ships      | Steam turbines,  |
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| Rudders            | stroyers         |
| Ship propulsion    | Towboats         |
| Ship resistance    | Warships         |
| Ships              | Yachts           |

## History

- Shipbuilding history, 1750-1932. 212p 10s 6d  
A. Stephen & sons, ltd, Linthouse, Govan,  
Glasgow '33

## Safety devices and measures

- Accidents in the shipping industry reduced by careful supervision. R. R. Howard. *il Marine R* 63:15-16 O '33

## Statistics

- Orders exceed launchings in world shipbuilding, first quarter, 1933. *Marine R* 63:20 My '33
- Quarterly report of Lloyd's register of shipping. *Marine Eng* 38:430 N '33; *Engineer* 156:379 O 20 '33; *Marine R* 63:38 N '33
- Quarter's shipbuilding returns. *Engineer* 155:384 Ap 14 '33
- Quarter's shipbuilding returns issued by Lloyd's register of shipping. *Engineer* 155:68 Ja 20 '33
- Review of shipbuilding during the past year. H. G. Smith. *Marine R* 63:29 F '33
- Ship construction fell 65 per cent in 1932. *Iron Age* 131:131 Ja 19 '33
- Shipbuilding, 1932. *Economist* 116:54-5 F 18 '33
- World shipbuilding declines, orders exceed launchings according to Lloyd's register of shipping, quarter ended June 30. *Marine R* 63:22 Ag '33
- World shipbuilding lower in last quarter, 1932. *Marine R* 63:25 F '33
- World's shipbuilding drops 50 percent in 1932. *Marine Eng* 38:116+ Mr '33
- World's shipbuilding; Lloyd's annual summary. table *Engineering* 135:234-5 F 24 '33

## Welding operations

- All-welded Diesel-electric self-unloader for Dolomite products company of Rochester, N.Y. R. H. Macy. *il diags Marine Eng* 38:286-7 Ag '33
- Constructional tests on mild steel sections with electrically welded joints; abstract. P. B. Haigh. *Engineer* 155:394-5 Ap 21 '33; Excerpt. *Engineering* 135:442 Ap 21 '33; Discussion. *Engineer* 155:396-7 Ap 21 '33; *Engineering* 135:443 Ap 21 '33
- Dolomite No. 1, largest all-welded steel freighter. *il diags Marine R* 63:16-18+ S '33
- First all-welded vessel, Peter G. Campbell, launched on the Tyne. *Marine R* 63:31+ Je '33
- Great Lakes Engineering builds a welded cruiser. D. True. *il diags Marine Eng* 38:135-6 Ap '33
- New Sun welding and annealing plant. *il Nat Pet N* 24:78+ N 16 '32
- Ship construction by welding. J. L. Adam. *Elec R (Lond)* 112:309 Mr 3 '33
- Special river-sea bulk cargo arc-welded ship. G. F. D. Wahl and H. E. Johns. *diags Marine Eng* 38:48-9 F '33
- Stress distributions in fusion joints of plates connected at right angles; abstract and discussion. E. G. Coker and R. Russell. *Engineering* 135:442-3 Ap 21 '33
- Use of electric arc welding in warship construction; abstracts. C. S. Lillicrap. *diags Engineering* 135:419-21 Ap 14 '33; *Engineer* 155:409-10 Ap 21 '33; Discussion. *Engineering* 135:442-3 Ap 21 '33; *Engineer* 155:396-7 Ap 21 '33
- Weldera, steel sloop built by arc welding. *il Marine Eng* 38:410 N '33
- Welding; results of United States navy tests on welded longitudinal seams for shell plating. L. C. Bibber. *Marine Eng* 37:507-8+ D '32; Abstracts. *Marine R* 62:22 D '32; *Engineering* 135:111 Ja 27 '33; Discussion. *Marine Eng* 37:523-4 D '32
- Wm. F. Kenny, welded barge, built on reverse channel system. *il diag Marine Eng* 38:223-4 Je '33

## Europe

- Better feeling in foreign shipping. F. C. Bowen. *Marine R* 63:16-17+ Ag '33
- European shipping is still hopeful. F. C. Bowen. *Marine R* 63:18-19+ F '33
- European shipping makes headway; cruise ships and cargo liners active. F. C. Bowen. *Marine R* 63:18-19+ My '33
- Prospects of European shipbuilding revival. *Marine Eng* 38:343-4 S '33

## France

- Plea for co-operation. R. Fould. *Engineer* 154:477 N 11 '32
- S. S. Normandie. *il Marine Eng* 38:284-5 Ag '33

## Great Britain

- Engineering outlook; marine engineering. *Engineering* 135:413-14 Ap 14 '33

## Russia

- Soviet ships. *il Marine Eng* 38:107-8 Mr '33

## United States

- American shipbuilding in fiscal year 1933. *Marine Eng* 38:338 S '33
- Code of fair practice is presented by shipbuilders and shiprepairers. *Marine R* 63:13+ Ag '33
- Hearings held on shipbuilding code. H. F. Lane. *Marine Eng* 38:280-2 Ag '33
- Merchant type steel vessels over 100 tons under construction in American shipyards during 1932; tabulation. *Marine R* 63:38-9 Ap '33
- Naval shipbuilding program contracts awarded. *Marine R* 63:11-12 S '33; Abstract. *Marine Eng* 38:352 S '33
- Need replacement program for cargo shipping. H. L. Ferguson. *Marine R* 63:10 F '33
- New shipbuilding program for U. S. coast guard. *Marine R* 63:25 O '33
- Presidential address at Society of naval architects and marine engineers. J. H. Gardner. *Marine R* 62:19-20 D '32



**SHIPBUILDING—United States—Continued**

Private yards should build major portion of proposed naval program. H. G. Smith. *Marine Eng* 38:172 My '33

Progress in transportation by water during the past one hundred years. J. H. Gardner. *Marine R* 63:19-20+ Ag '33; Same cond. *Civil Eng* 3:441-3 Ag '33

Shipbuilders demand a forty-hour week; editorial. *Marine Eng* 38:395-7 N '33

Shipbuilding and ship repairing rules; code administration. *Marine R* 63:11+ O '33

Shipbuilding code; text. *Marine Eng* 38:279+ Ag '33; Same. *Marine R* 63:13-14 S '33

Shipbuilding declines during 1932 in United States shipyards. *Marine Eng* 38:2-3 Ja '33

Shipbuilding in American shipyards during 1932. *il Marine R* 63:12-26+ Ap '33

Shipbuilding regulations. *Marine Eng* 38:415-18 N '33

Thirty-seven ships to be built under naval program. H. F. Lane. *Marine Eng* 38:238-9 Jl '33

Trammell bill authorizing naval construction. H. F. Lane. *Marine Eng* 38:160-1 My '33

*See also*

National council of American shipbuilders

**SHIPMENT of goods**

Invoice handling costs lowered; Abbott laboratories. *Management Methods* 62:219-20 My '33

*See also*

Chemicals—Transportation

Coal—Transportation

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**SHIPPING**

All departments must co-operate for increased business and profits. H. E. Stocker. *Marine R* 63:32-3 My '33

Baltic conference opposes subsidies, urges ratification of convention on ship-owners' liability. *East Underw* 34:29 Jl 14 '33

Intercoastal shipping takes traffic from railroads. *il Ry Age* 93:819-21 D 3 '32

Merchant fleets of the world. *Economist* 117:170-1 Jl 22 '33

Merchant ships and shipping. E. W. Blockside. 259p 12s 6d E. Benn, Ltd, London '33

Optimism and confidence returns as shipping slowly forges ahead. R. S. Dollar. *Marine R* 63:13 Ja '33

Shipping schedules deflated; big lines make many adjustments. *Business Week* p22-3 N 23 '32

Short history of the world's shipping industry. C. E. Fayle. 320p \$3.50 Dial press, 152 W. 13th st, New York '33

To Thorold and Chicago by boat. H. L. Beauvais. *il Pulp & Pa of Can* 34:403-4 Je '33

United Fruit; the Great White Fleet. *Fortune* 7:123-7 Mr '33

World mercantile shipping crisis; analysis of British point of view. A. H. Jansson. *il Marine R* 63:8-14+ Jl '33

*See also*

Barges

Carriers

Freight and freightage

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Harbors

Insurance, Marine

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Railroads—Waterways competition

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Train ferries

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Waterways

**Claims**

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Insurance, Marine—Adjustment of claims

**Rates**

Intercoastal tanker rates regulated. *Nat Pet N* 25:31 Mr 22 '33

Ocean freights raised. *Oil Paint & Drug Rep* 123:38 F 6 '33

**Safety measures**

Accidents in the shipping industry reduced by careful supervision. R. R. Howard. *il Marine R* 63:15-16 O '33

**Statistics**

Lloyd's register year book; summary. *Engineer* 156:59-60 Jl 21 '33

Record of traffic at principal American ports for past year. Published in monthly numbers of *Marine review*

**Canada**

Canadian coastwise trade excludes all but British ships. *Weekly Underw* 128:1183 Je 24 '33

**Europe**

Better feeling in foreign shipping. F. C. Bowen. *Marine R* 63:16-17+ Ag '33

European shipping is still hopeful. F. C. Bowen. *Marine R* 63:18-19+ F '33

European shipping makes headway; cruise ships and cargo liners active. F. C. Bowen. *Marine R* 63:18-19+ My '33

**Great Britain**

Engineering outlook; marine engineering. *Engineering* 135:413-14 Ap 14 '33

Peninsular and Oriental. *Economist* 115:1199-1200 D 24 '32

Shipping, 1932. *Economist* 116:sup55-6 F 18 '33

**Great Lakes**

Imperial preference diverts cargoes from American vessels on Great Lakes. *Marine R* 63:21 O '33

Marketers building terminals on inland waterways. E. L. Barringer. *Nat Pet N* 25:35-6 Jl 19 '33

Port development on the Great Lakes for the accommodation of traffic through the proposed St Lawrence shipway and the Lakes to the Gulf waterway. E. M. Markham. *Can Eng* 65:15-18 O 10 '33

Up and down the Great Lakes. Published in monthly numbers of *Marine review*

*See also*

Lake carriers' association

**United States**

American shipping holds its own. *il Bradstreet's* 61:217-19 Ja 28 '33

Eastman studies control of water, motor transport. *Ry Age* 95:437-8 S 23 '33

National merchant marine conference, 6th, Washington, Jan. 4-5. *Marine R* 63:11-14 F; 11-16 Mr '33; *Marine Eng* 38:42-3 F '33

Progress in transportation by water during the past one hundred years. J. H. Gardner. *Marine R* 63:19-20+ Ag '33; Same cond. *Civil Eng* 3:441-3 Ag '33

Record of traffic at principal American ports for past year. Published in monthly numbers of *Marine review*

Regulation of intercoastal commerce. H. C. Kidd. *Pittsburgh Univ Bur of Business Research Monographs* no 2:1-87 '32

Shipping code; difficult problem for the shipowner. A. H. Jansson. *Marine R* 63:8-10 S; 10-11 O '33

United States intercoastal shipping conference. I. M. Bettman, jr. *Harvard Business R* 12:116-24 O '33

**SHIPS**

Little ships. J. S. Hughes. 187p Dutton '33

Progress in transportation by water during the past one hundred years. J. H. Gardner. *Marine R* 63:19-20+ Ag '33; Same cond. *Civil Eng* 3:441-3 Ag '33

Several outstanding vessels launched in 1932. *il Elec J* 30:16-18 Ja '33

Shipbuilding and marine engineering in 1932. *il Engineer* 155:19-22, supp 2, 7 Ja 6 '33

Shipbuilding in American shipyards during 1932. *il Marine R* 63:12-26+ Ap '33

**SHIPS—Continued**

Story of the ship. G. M. Boumphrey. 96p  
\$1 Macmillan '33

*See also*

Barges  
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Towboats  
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**Auxiliary machinery**

Modern cargo-ship machinery. J. H. King.  
Marine Eng 38:51-5; Discussion. 66-70 F '33

Ships' deck machinery; the development of the Ward-Leonard system of control. R. H. Jackson. *il* diags Elec R (Lond) 112:445-6 Mr 31 '33

*See also*

Electric driving—  
Ships' auxiliaries

**Cost of operation**

Consideration of the improved forms of modern cargo steamers and the effect on their operating cost due to their low fuel consumption. J. T. Batey and J. L. Batey. *diag* Marine R 63:21-2+ My '33; Same. *Engineering* 135:393-4 Ap 7 '33; *Abstract. Engineer* 155:372 Ap 14 '33; *Discussion. Engineering* 135:415 Ap 14 '33; *Engineer* 155:369-70 Ap 14 '33

**Electric equipment**

Caribia, first of two, twin screw, German motorships. *il* diags Marine R 63:10-14 My '33  
Conte di Savoia; noteworthy electrical installation—the Sperry gyro-stabilisers. *il* Electrician 109:833-4 D 30 '32

Electric motors, generators on ships; how to keep them in good condition. F. V. Smith. *Marine R* 63:19-20 S '33; Same. *Power Pl* Eng 37:461-3 N '33

Electrical developments in marine applications. H. C. Coleman. *Marine R* 63:22 F '33; *Abstract. Marine Eng* 38:37 Ja '33

Electrical equipment in H.M.S. Nelson. *il* Electrician 111:139 Ag 4 '33

Electricity applied to ships; a review of progress. F. Johnston. *Inst E E J* 72:141-6 F '33

Electricity in transportation; 1932-33. *Elec Eng* 52:770 N '33

Electricity on ships; installation on the Italia Flotte Riunite liner Rex. *Electrician* 110:416 Mr 31 '33

Fires on ships; abstract. E. L. Champness. *Electrician* 109:638 N 18 '32

Growth of electricity in ships; abstract. F. Johnston. *il* Elec R (Lond) 112:193 F 10 '33

Marine electricity; auxiliary loads; the refrigerated ship. A. C. Hardy. *il* Electrician 111:257 S 1 '33

Marine electricity; modern technique. A. C. Hardy. *Electrician* 110:587 My 5 '33

Queen of Bermuda. *il* Electrician 110:294-5 Mr 3 '33

Queen of Bermuda; one of the most completely electrified ships in the world. *il* Elec R (Lond) 112:239 F 17 '33

Shipping and engineering exhibition; increasing applications of electricity in marine engineering. A. Regnaud. *il* Elec R (Lond) 113:347-8 S 15 '33

Ships' deck machinery; the development of the Ward-Leonard system of control. R. H. Jackson. *il* diags Elec R (Lond) 112:445-6 Mr 31 '33

Ships' electric cables. J. Dummelow. *Elec R* (Lond) 112:592 Ap 28 '33

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Electric driving—  
Ships' auxiliaries

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Electric

**Equipment**

Caribia und Cordillera, die doppelschraubenfracht- und fahrgastmotorschiffe der Hamburg-Amerika-linie. E. Goos. *diags plans Zeit Ver Deutsch Ing* 77:161-70 F 18 '33

Castings speed fastest cabin liner, T. S. S. Manhattan. *il* Foundry 60:48+ N '32

Marine electrolysis eliminator. *diags Marine Eng* 38:385-6 O '33

Queen of Bermuda, turbo-electric liner. *il* *diags Engineer* 155:252-3 Mr 10 '33

Rope; how to use and care for on shipboard. J. G. Bisset. *il* *Marine R* 63:22-3+ S '33

Talking picture and address system installed on the liner Manhattan. W. Whitmore. *il* *Marine R* 63:20-1 F '33

*See also*

Boilers, Marine

**Fires and fire protection**

L'Atlantique burns at sea; salvaged by French. *Marine R* 63:17 F '33

Automatic sprinklers for fires at sea. *Weekly Underw* 128:679 Ap 8 '33; *Discussion. A. M. Duxsey. 128:766-7 Ap 22 '33*

Une évolution dans l'aménagement des paquebots; le lancement du Président-Doumer. O. Quéant. *il* *Génie Civil* 102:117 F 4 '33

Fire at sea. A. M. Duxsey. *il* *Marine Eng* 38:254-8 JI '33

Fire detection and extinguishing aboard ship. *Engineer* 154:544 N 25 '32

Fires on ships; abstract. E. L. Champness. *Electrician* 109:638 N 18 '32

How shipboard fires may be controlled. K. M. Walker. *Weekly Underw* 128:386+ F 25 '33

Les incendies à bord des paquebots; l'incendie du paquebot l'Atlantique. O. Quéant. *il* *Génie Civil* 102:53-7 Ja 21 '33

Jute cargo fires. *Weekly Underw* 129:648 O 7 '33

London underwriters aroused by succession of liner fires. A. C. Blackall. *East Underw* 34:28+ Ja 20 '33

Loss of the Atlantique. *Engineer* 155:46 Ja 13 '33

Marine report of N.F.P.A. is issued. *East Underw* 34:29 My 5 '33

Les mesures prises ou à prendre pour augmenter la sécurité contre l'incendie des paquebots; arrêté ministériel du 22 janvier 1933. O. Quéant. *Génie Civil* 102:137-9 F 11 '33

New fire prevention rules for vessels. *Weekly Underw* 128:1043 Je 3 '33

New French rules to prevent fires on ships. *East Underw* 34:32 F 10 '33

Offers suggestions to prevent ship fires. A. R. T. Woods. *East Underw* 34:32 N 3 '33

La prévention de l'incendie à bord des navires. Kling. *Génie Civil* 103:409-10 O 21 '33

La protection contre les fumées et les gaz, dans les incendies de navires. *diags Génie Civil* 103:70 JI 15 '33

Ship fire losses a vital problem here. *East Underw* 34:16+ Ja 13 '33

T.S.S. Washington features new fire-resistant paneling. J. R. Fitzpatrick. *il* *Marine Eng* 38:208-13 Je '33

U.S. Supreme court decides important case; shipowners are not liable for any fire losses unless by own neglect. *East Underw* 33:14+ D 16 '32; *Same abr. Weekly Underw* 127:1205+ D 24 '32

Use of bulkheads to restrict fire area. *Weekly Underw* 128:954+ My 20 '33

Ship fire losses a vital problem here. *East Underw* 34:16+ Ja 13 '33

T.S.S. Washington features new fire-resistant paneling. J. R. Fitzpatrick. *il* *Marine Eng* 38:208-13 Je '33

U.S. Supreme court decides important case; shipowners are not liable for any fire losses unless by own neglect. *East Underw* 33:14+ D 16 '32; *Same abr. Weekly Underw* 127:1205+ D 24 '32

Use of bulkheads to restrict fire area. *Weekly Underw* 128:954+ My 20 '33

Ship fire losses a vital problem here. *East Underw* 34:16+ Ja 13 '33

T.S.S. Washington features new fire-resistant paneling. J. R. Fitzpatrick. *il* *Marine Eng* 38:208-13 Je '33

U.S. Supreme court decides important case; shipowners are not liable for any fire losses unless by own neglect. *East Underw* 33:14+ D 16 '32; *Same abr. Weekly Underw* 127:1205+ D 24 '32

Use of bulkheads to restrict fire area. *Weekly Underw* 128:954+ My 20 '33

Ship fire losses a vital problem here. *East Underw* 34:16+ Ja 13 '33

T.S.S. Washington features new fire-resistant paneling. J. R. Fitzpatrick. *il* *Marine Eng* 38:208-13 Je '33

U.S. Supreme court decides important case; shipowners are not liable for any fire losses unless by own neglect. *East Underw* 33:14+ D 16 '32; *Same abr. Weekly Underw* 127:1205+ D 24 '32

Use of bulkheads to restrict fire area. *Weekly Underw* 128:954+ My 20 '33

Ship fire losses a vital problem here. *East Underw* 34:16+ Ja 13 '33

T.S.S. Washington features new fire-resistant paneling. J. R. Fitzpatrick. *il* *Marine Eng* 38:208-13 Je '33

U.S. Supreme court decides important case; shipowners are not liable for any fire losses unless by own neglect. *East Underw* 33:14+ D 16 '32; *Same abr. Weekly Underw* 127:1205+ D 24 '32

Use of bulkheads to restrict fire area. *Weekly Underw* 128:954+ My 20 '33

**Food supply**

*See* Ships—Steward departments

**Fuel**

Factors that influence a ship's fuel consumption. F. V. Smith. *Marine Eng* 38:173-5 My '33

**Heating and ventilation**

Allen electro-wind turbine ventilator. *il* *Marine R* 63:31 My '33



**SHIPS**—Heating and ventilation—*Continued*

- Deaerating heater for marine service. *il diag*  
 Marine Eng 38:301-2 Ag '33; Same *abr.*  
 Marine R 63:30 S '33  
 How to minimize sweating by ventilation control. A. W. Young. Marine R 63:30 Ja '33

**Kitchens**

- Passenger ship galleys and pantries. D. J. Barry. Marine Eng 38:103-5 Mr '33

**Measurement**

- Origin of term "ton" in ship measurements. Weekly Underw 127:1110-11+ D 10 '32  
 Tonnage measurement; abstract and discussion. G. Nilsson. Engineer 155:370-1 Ap 14 '33; Engineering 135:441-2 Ap 21 '33

**Model tanks**

*See Ship model tanks*

**Model testing**

- Effect of local hollowing forward with varying type of sections and length of entrance; abstract and discussion. A. F. Lindblad. Engineering 135:469 Ap 28 '33  
 Experiment and practice in merchant ship design, ancient and modern. G. S. Baker. Marine R 63:17-18+ Je '33  
 Screw-propeller experiments with models of coasters; abstract and discussion. F. H. Todd. Engineer 155:397 Ap 21 '33; Engineering 135:468 Ap 28 '33  
 Tests on three geometrically similar ship models; abstracts. H. E. Saunders. Marine Eng 37:521 D '32; Marine R 62:21-2 D '32; Discussion. Marine Eng 37:521-3 D '32  
 Wind resistance of ships tested at Case school. *il* Marine Eng 38:344 S '33; Same. Marine R 63:15 S '33

*See also*

Ship model tanks

**Painting**

- Die aufgaben des chemikers bei der bekämpfung des schiffsbewuchses. W. Neu. bibliog Angew Chemie 46:227-9 Ap 22 '33  
 Compositions for the protection of ships. H. W. Keenan. Chem Age (Lond) 28:99; Discussion. 99-100 F 4 '33  
 Peacetime activities of the Chemical warfare service. R. E. Sadtler. Chem Ind 33:301-2 O '33  
 Turning war gases to useful purposes. C. Moran. *il* Comp Air M 38:4199-201 Ag '33

**Performance**

- Comparison of ship performances by rating index. S. E. Slocum. chart Marine Eng 38:132-4+ Ap '33  
 Comparisons of merchant ship performance. L. A. Kniskern. Marine Eng 38:128-31 Ap '33  
 Factors that influence a ship's fuel consumption. F. V. Smith. Marine Eng 38:173-5 My '33  
 Mariposa and Monterey performance. J. E. Burkhardt. Marine R 62:32-3 D '32; Same. Marine Eng 38:56-7 F '33; Abstract. Engineering 135:113 Ja 27 '33; Discussion. Marine Eng 38:30-1 Ja '33

*See also*

Ship resistance

**Radio apparatus**

*See Radio apparatus on ships*

**Reconstruction**

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Motor ships—Steam-boat conversion

**Repair**

- Iron steamboats. H. M. Wick. *il* plans Marine Eng 38:249-53+ Jl '33  
 Shipbuilding regulations. Marine Eng 38:415-18 N '33

*See also*

Dry docks

**Safety**

*See Safety at sea*

**Sanitation**

- Rat harborage and its relation to the spread of bubonic plague. B. E. Holsendorf. Pub Health Rep 48:535-8 My 19 '33  
 Rat infestation of ships out of commission. C. L. Williams. Pub Health Rep 48:89-90 Ja 27 '33

**Speed**

- By stream lining rudders speed of motorship Empire State is increased. Marine R 63:31 Je '33  
 Measurement of speed at sea. *il* diags Engineer 156:182-4 Ag 25 '33  
 Speed of cargo ships. G. S. Baker. Engineer 155:217-18 Mr 3 '33  
 Tricolor, the fastest cargo ship. *il* plan Marine Eng 38:259-61 Jl '33

**Stability**

- Conte di Savoia; noteworthy electrical installation—the Sperry gyro-stabilisers. *il* Electrician 109:833-4 D 30 '32  
 Conte di Savoia, quadruple-screw liner. *il* diags Engineering 135:345-8, 507-8, pl 23 Mr 31, My 12 '33  
 Gyroscopic stabilisation of ships. P. P. Schilovsky. Engineering 134:689-90 D 9 '32; Discussion. A. S. Rawlings. 135:53-4 Ja 13 '33; Reply. 135:107 Ja 27 '33  
 Gyro-stabilizers; installation of three units on the new S.S. Conte di Savoia. *il* diag plan Marine Eng 37:504-6 D '32  
 Motora ship stabilizer developed by Japanese engineer. *il* diags Marine Eng 38:376-9 O '33  
 Preliminary calculations of the sizes of gyroscopes required to stabilise a ship; abstracts. P. Schilovsky. Engineer 155:419 Ap 28 '33; Engineering 135:470 Ap 28 '33; Discussion. Engineer 155:419-20 Ap 28 '33; Engineering 135:470, 573 Ap 28, My 26 '33  
 Stability; study of transverse stability of ships to determine the degree of safety in damaged condition. J. C. Niedermair. Marine Eng 37:509-10 D '32; Abstracts. Marine R 62:23 D '32; Engineering 135:111 Ja 27 '33; Discussion. Marine Eng 37:524-5 D '32  
 Stabilizing the Conte di Savoia. F. P. Hodgkinson. *il* Marine Eng 38:122-5+ Ap '33

*See also*

Gyroscope  
 Ships—Vibration

**Steering gear**

*See Steering gear*

**Steward departments**

- Boxes for ship's stores. W. Spofford. Marine Eng 38:106 Mr '33  
 Passenger ship galleys and pantries. D. J. Barry. Marine Eng 38:103-5 Mr '33

**Telephone**

- Splash-proof 'phones for aircraft carrier. *il* Sci Am 149:79-80 Ag '33

**Testing**

- Measurements of speed, power, wind resistance, maneuvering ability, deflection, strains. G. Kempf. *il* Marine Eng 38:86-9 Mr '33; Abstract. Marine R 62:21 D '32; Discussion. Marine Eng 37:519 D '32  
 Screw propeller experiments with models of coasters; abstract and discussion. F. H. Todd. Engineer 155:397 Ap 21 '33  
 Trial analysis methods. A. S. Pitre. Marine Eng 37:516-17 D '32; Abstract. Marine R 62:20-1 D '32; Discussion. Marine Eng 37:517-19 D '32

*See also*

Ships—Model testing

**Vibration**

- Suggested method for minimizing vibrations in ships. C. E. Inglis. diags Engineering 135:445-6 Ap 21 '33; Abstract. Engineer 155:445 My 5 '33; Discussion. Engineering 135:485 My 5 '33

**SHIPS, Iron and steel**

- High strength steel; comparison of liners proposed to be built of special high strength steel and of mild steel. E. P. Trask. *il* diags Marine Eng 38:240-8+ Jl '33; Correction. 38:302 Ag '33

**SHIPS, Iron and steel—Continued**

Iron steamboats. H. M. Wick. il plans Marine Eng 38:249-53+ J1 '33

Merchant type steel vessels over 100 tons under construction in American shipyards during 1932; tabulation. Marine R 63:38-9 Ap '33

Plating for tankers of wrought iron. R. W. Morrell. diags Marine Eng 38:360-7 O '33

**SHIPWRECKS**

China clay carried on the Exeter City contributed to her total loss. Weekly Underw 128:194 Ja 25 '33

Marine casualties to United States vessels; United States coast guard report. Weekly Underw 127:1242-3 D 31 '32

Ships lost in 1932 mark great increase. Weekly Underw 129:316 Ag 19 '33

**SHIPYARDS**

La cale de lancement de 310 mètres des Chantier et Ateliers de Saint-Nazaire-Penhoët. P. Fastier. il diags Génie Civil 102:293-6 Ap 1 '33

See also

Shipbuilding

**Equipment**

New Sun welding and annealing plant. il Nat Pet N 24:78+ N 16 '32

Shipyard installs annealing and X-ray inspection equipment; Sun shipbuilding & dry dock co. P. E. Shaver. il Steel 91:21-3 D 19 '32; Same. Marine R 62:34-5 D '32

**SHIRT factories****Employees**

Labor in the shirt industry, 1933. Monthly Labor R 37:499-510 S '33

**SHIRTS**

Dated shirt; year's guarantee. Business Week p9-10 Ap 12 '33

Objectives for shirts; Cluett, Peabody & co. Forbes 31:22 F 1 '33

Something extra; tailored shirts. il Business Week p10 Mr 15 '33

**Advertising**

Front page shirt advertising. il Ptr Ink 162:72 Ja 5 '33

Show the dealer how to meet price-cutters; old man specific lends a hand in a business-paper campaign by Cluett-Peabody & company. Ptr Ink Mo 26:23 F '33

**SHOCK absorbers**

How to sell shock absorber service. J. B. Rathbun. Pet Age 26:30-1+ N '32

Independent wheel suspension. G. Brouhiet. diags S A E J 33:342-5 O '33

Inertia-control of shock-absorber action. diag Automotive Ind 67:817-18 D 24 '32

Monroe direct-action shock absorber. diag Automotive Ind 69:487 O 21 '33

New Buicks use Delco-Lovejoy shock absorbers. diag Automotive Ind 67:707+ D 3 '32

New features in shock absorbers with inertia control. C. H. Kindl. il diags S A E J 32:172-6; Discussion. S. P. Hess. 176 My '33

Spicer introduces direct acting hydraulic shock absorber; also offers self-operating Powerflo clutch. A. F. Denham. il diags Automotive Ind 68:722-5 Je 17 '33

See also

Airplanes—Shock absorbers

**SHOE factories****Employees**

Hours and earnings in the shoe industry in Germany in March, 1932. Monthly Labor R 35:1411-12 D '32

Labor turn-over in the boot and shoe industry, 1931 and 1932. Monthly Labor R 37:893-5 O '33

Recent official enquiries into wages and hours of work in various industries in Germany. Int Labour R 28:536-9 O '33

Shoe cutters, Auburn, Me.; award and decision. Monthly Labor R 36:569-70 Mr '33

Wages and hours of labor in the boot and shoe industry, 1910 to 1932. U S Bur Labor Statistics Bul 579:1-111 '33

**Equipment**

See also

Shoe machinery

**SHOE industry and trade**

Dated shoes. il Ptr Ink 164:104 S 14 '33

Getting salesmen to merchandise a window display service; Jarman shoe company. C. P. Clark. il Ptr Ink Mo 26:31+ Ja '33

How shall we get higher price in changing market? Walter Booth shoe company. H. O. Leiser. il Ptr Ink 163:3-4+ Je 1 '33

Sales slump stops as advertised brand is pushed; Curtis shoe company. J. A. Curtis. il Ptr Ink 162:16-18 F 23 '33

Shoe buyer's manual. V. K. Cameron, ed. 144p Gill publications, inc, Boston '33

Southern accent; International Shoe. il Fortune 7:71-4+, 84, 86 Mr '33

This plan pulled 1,600 lame duck accounts out of the red. M. S. Sullivan. Sales Management 32:163+ F 15 '33; Summary. 33:344 O 10 '33

**Advertising**

Catalog plan that solves the merger tangle. R. W. Johnson. il Ptd Salesmanship 61:108-9+ Ap '33

Customer writes prospect in this letter campaign; Nunn, Bush & Weldon series to shoe retailers. Ptr Ink 163:47-9+ My 4 '33

No fussy photography here. il Ptr Ink 162:52 Mr 9 '33

These letters build dealer support and co-operation; Wolverine shoe & tanning corp. D. Gridley. Ptr Ink 162:54-6 Ja 5 '33

This house organ born at the depth of the depression; D. Myers and sons, Wheel of style. T. A. Newhoff. il Ptd Salesmanship 62:26+ S '33

2,200 new accounts at a cost of 20 cents each; Coward shoe company of Boston. B. Crowell. Sales Management 31:429-30 N 15 '32

Whipped cream and red cherries and catalogs; Nunn, Bush & Weldon shoe co. il Ptr Ink Mo 26:26 Ap '33

Why Douglas shoe has gone back to 1876 prices. il Ptr Ink 163:36-7 Ap 20 '33

Winners of the June promotion; sales letter for retail shoe store. Ptd Salesmanship 61:348-9 Ag '33

**Statistics**

Shoe retailing. 46p U. S. Bur of the census, Washington '33

**China**

Czech shoes for China; Batá plans far-flung store chain. Business Week p25 Ap 26 '33

**United States**

Boot and shoe production in the United States, monthly, 1919-1932. Bradstreet's 61:227 Ja 28 '33

Improvement in shoe industry continues. R. Brennan. Dun's R 41:2-4 F 11 '33

Shoe industry had a good year. Barron's 13:10 Ja 16 '33

Shoe industry making largest gain in years. Dun & Bradstreet 41:19-21 Ag '33

Shoe industry optimistic; financial strength and prospects good. G. V. Kenton. Bankers Mo 50:13-14 Ja '33

Shoe production resists depression; 1932 output but little changed from boom years. Bradstreet's 61:285 F 4 '33

**SHOE machinery**

And there's a company called Compo. il Fortune 8:42-3, 114-15 S '33

But business is always good; United shoe machinery corporation of Boston. il Fortune 8:34-41, 110-13 S '33

Shoe manufacturing machinery and some special problems in its design; abstracts and discussion. J. Gouldbourn. Engineering 136:368 S 29 '33; Engineer 156:292 S 22 '33

**SHOES**

Self-shining shoes; new process of finishing leather lubricates the surface from the inside. Business Week p9 Ap 12 '33

See also

Heels

Heels, Rubber

Soles, Leather

Soles, Rubber



**SHOES—Continued****Manufacture**

But business is always good; United shoe machinery corporation of Boston. *il* Fortune 8:34-41, 110-13 S '33

*See also*  
Shoe factories

**SHOES, Rubber**

Footwear stocks as of March 1, 1933. Rubber Age 33:65-6 My '33

Latex dipped footwear. *India Rubber W* 87:44 F '33

Rubber footwear from 1882 to 1932. *il* Rubber Age 32:375-7 Mr '33

Varnishes and lacquers for rubber footwear. D. D. Wright. *Ind & Eng Chem* 25:140-1 F '33; Same. Rubber Age 32:325-6 F '33

**SHOES, Safety**

How feet get hurt. W. H. Tipton. *il* Nat Safety N 27:25-6 Ja '33

Safety foot notes. *il* Nat Safety N 27:33+ Je '33

**SHOOTING**

Measurement of steadiness: a new apparatus and results on marksmanship. R. H. Seashore and R. D. Adams. *bibliog diag Science* 78:285-7 S 29 '33

*See also*  
Rifle shooting

**SHOPPING areas**

Survey of a retail trading area; Champaign-Urbana district. F. M. Jones. *il* U Bur Business Research Bul 44:1-32 '32; Abstract. Sales Management 32:66+ Ja 15 '33

**SHOPPING centers.** *See* Business districts

**SHOPS**

*See also*

Electric railroads—

Shops

Electric shops (repair)

Locomotive shops

Machine shops

Plumbing shops

Railroads—Shops

Repair shops

Sheet metal shops

Street railroads—

Shops

**SHORE lines**

Glacial epochs of the Santa Monica mountains, California. W. M. Davis. *bibliog diag map Geol Soc Bul* 44:1041-1133, pl 40-56 O '33

Sediments of the continental shelves. F. P. Shepard. *maps Geol Soc Bul* 43:1017-39 D '32

*See also*  
Coast changes

**SHORE protection**

Beach-erosion studies by Federal board. *diag map Eng N* 111:281-3 S 7 '33

Save the golden band of ocean beaches! New Jersey beaches have taxable valuation of \$4,000,000 a mile. V. Gelineau. *il* *diag maps Eng N* 110:765-71 Je 15 '33

Sea defences and reclamation of land from the sea. M. Du-Plat-Taylor. *il* *Engineering* 136:372-4 S 29 '33; Abstract. *Engineer* 156:293 S 22 '33

*See also*

Breakwaters

Bulkheads

Dikes (engineering)

Flood control

Groins

Harbors

Jetties

Levees

Rivers—Bank protection

Sea walls

**SHORING and underpinning**

*See also*

Building

Foundations

**SHORT circuits**

Behavior of industrial control devices under short circuit. B. W. Jones. *il* *Gen Elec R* 36:441-6 O '33

Calculation of short circuits. *diag Electrician* 111:64, 92, 120, 149 J1 14-Ag 4 '33

Decrement of short-circuit currents. C. F. Wagner. *diag Elec J* 30:113-16, 169-72, 205-11 Mr-May '33

Fault currents low with heavy power capacity. H. W. Papst. *il* *Elec W* 102:208-9 Ag 12 '33

Power limit of a transmission system. W. S. Peterson. *diag Elec Eng* 52:569-72 Ag '33

Reyrolle short-circuit testing station. *il* *plans Engineering* 136:432-4, pl 15 O 20 '33

Short circuit opens knife switch. S. Ein. *diag Elec W* 101:233 F 18 '33

Short-circuit testing of switchgear. *il* *diag Engineering* 136:212-14, pl 9 S 1 '33

Short-circuit tests prove primary network. R. J. Salisbury and H. S. Moore. *diag Elec W* 100:849-51 D 24 '32

System performance tested with 600 short circuits; Indianapolis power & light company. E. G. Ralston and E. H. Klemmer. *il* *diag Elec W* 101:192-5 F 11 '33

Unsymmetrical short circuits. *Electrician* 111:262, 290, 321, 346 S 1-22 '33

Uses of synchronous machine quantities in system studies. W. M. Hanna. *Gen Elec R* 36:116-28 Mr '33

**SHORT selling**

Short-selling the U. S. A. D. M. Bruner. 315p John C. Winston co, Philadelphia '33

*See also*

Speculation

Stocks—Short selling

**SHORTENING (cookery)**

Hydrogenated shortening for cake bakers. *il* *Sci Am* 149:78 Ag '33

Shortening value of plastic fats. J. D. Fisher. *Ind & Eng Chem* 25:1171-3 O '33

Sorely tried lard; battle for the shortening market. *Business Week* p11 My 10 '33

**Statistics**

Shortenings (not lard), vegetable cooking oils and salad oils, 1929 and 1931. *Food Ind* 5:51 F '33

**SHORTHAND**

Rubicam manual of shorthand as developed and taught in the Rubicam business school. 3d ed 49p Rubicam business school, St Louis '33

**Bibliography**

Shorthand books in the New York public library. K. Brown and D. C. Haskell, comps. *N Y Pub Lib Bul* 36:243-9, 439-57, 521-30, 572-86, 646-52, 703-20, 779-86, 842-9; 37:69-76, 148-56, 223-35, 311-24, 526-38, 633-44, 699-714, 800-21, 902-26, 991-1006, 1069-76 Ap, Je-D '32, Ja-Ap, Je-D '33 (to be cont)

**SHORTHAND reporting**

Manual of talking machine dictation and transcription. C. H. Marshall. 99p Marshall fluency shorthand reporting course, 2261 Ocean av, Brooklyn, N.Y. '32

**SHOTGUNS.** *See* Guns**SHOVELING machines**

Byers small shovel handles heavy rock work. *il* *Pub Works* 64:31 F '33

Portable mine loader for use in close quarters. A. M. Hoffmann. *il* *Comp Air M* 38:4064-5 F '33

Shovel places concrete for Delaware road; bottom-dump bucket substituted for dipper. *il* *Eng N* 111:202-3 Ag 17 '33

*See also*

Electric shovels

Excavating machinery

Trenching machinery

**SHOW cards**

Mr Sardine steps out. *il* *Ptr Ink* 164:68 S 28 '33

Six months' quota that was reached the first month; Y and E record chest. D. W. Duffield. *il* *Ptd Salesmanship* 62:36-7 S '33

*See also*

Advertising cards

**SHOW windows**

Check list for buying window displays. N. J. Leigh. *il* *Adv & Sell* 20:23 D 22 '32

Display advertising makes the window shopper bus-travel minded. *il* *Bus Transportation* 12:274-5 J1 '33

Display window advertising. H. A. Franklin. *il* *Refrig W* 68:21-3 My '33

Dominant window displays. *Sales Management* 32:24 J1 1 '33 [cont monthly]

Eight cardinal virtues of a good window display. J. H. Knapp. *il* *Ptd Salesmanship* 62:41-3+ S '33

**SHOW windows—Continued**

- Flexible point-of-sale material is best liked by dealers. *il Adv & Sell* 163:27-8 Je 15 '33
- Getting salesmen to merchandise a window display service; Jarman shoe company. C. P. Clark. *il Ptr Ink* Mo 26:31+ Ja '33
- Give dealers window displays they really want; Elgin national watch company. F. R. Brodsky. *il Ptr Ink* 162:40-1 Ja 5 '33
- How they sell in Helsingfors. *il Ptr Ink* 164:45 Ji 27 '33
- How will it look in the window. H. Deutsch. *il Adv & Sell* 20:sup [Adv Arts] 23-5 Mr '33
- Modern book windows in Germany. K. Kùp. *il Adv & Sell* 20:sup [Adv Arts] 22 Mr '33
- Point-of-sale advertising in 1933. *il Ptr Ink* Mo 26:51-8+ Je; 27:36-8 Ji '33
- Point-of-use display wins 3,000,000 sales in 10-month period. *il Sales Management* 32:72 Ja 15 '33
- Routing displays among department stores. *Ptr Ink* Mo 25:50 D '32
- Stewart-Warner's new display plan does three worth-while things. G. E. Mitchell. *il Ptd Salesmanship* 60:281-4 D '32
- There's a trick to window displays. *diags Elec West* 70:16-17 Ja '33
- This display is good for both large and small dealers. M. C. Jossem. *Ptr Ink* 161:55-6 N 24 '32
- Three window displays for Marcus and company, New York jewelers, designed by William Okie, jr. *Adv Arts* p36 S '33
- Vacant windows put to work. *Ptr Ink* 164:45 Ag 10 '33
- Whispering windows sell shoes. *Adv & Sell* 20:50 F 16 '33
- Window displays that select prospects. F. D. Gonda. *il Ptr Ink* Mo 25:46+ D '32
- Window displays that tie in with advertising. *il Ptd Salesmanship* 61:156-7 My '33
- Window lights. Published in Publishers' weekly, last number of each month

*See also*

- |                    |                                     |
|--------------------|-------------------------------------|
| Banks and banking— | Gasoline service stations—Show win- |
| Show windows       | dows                                |
| Gas companies—Show | Manikins, Show win-                 |
| windows            | dow                                 |

**Dressing**

- Bayer, Ipana and Luckies test new window technique in Chicago. *il Sales Management* 33:264 S 15 '33
- Dyeing fabrics for the window display industry. G. Rice. *Textile Col* 55:682+ O '33
- How \$10 made a new show room. C. B. Mathews. *il Dom Eng* 141:34-5+ Ap '33
- How to trim shop windows. A. C. Miller. *il Sheet Metal Worker* 24:41-2+, 68-9, 107-8+ F-Ap '33
- To lay out show window. J. T. Narbett. *diags Am Bld* 54:37 Ja '33
- Why do people stop and read window displays? S. Bratesman. *il Am Gas J* 139:13-14 Ag '33
- Window display realism. S. Bratesman. *il Am Gas J* 138:14 Ja '33

**Frost and condensation**

- Windows that sweat. J. Fletcher. *il plan Dom Eng* 141:38-40 My '33

**Lighting**

- Demonstration show window sells lighting. *il Elec W* 101:620-1 My 13 '33
- Display windows; interesting silhouette method of lighting at Selfridge's. *il Electrician* 109:649 N 18 '32
- How to trim shop windows. A. C. Miller. *il diags Sheet Metal Worker* 24:41-2+ F '33
- Lighting of shops and stores. C. C. Hosmer. *il diags Arch Forum* 58:353-6 My '33
- Stage flexibility applied to windows. *il Elec West* 69:236 D '32
- Stage lighting technique eliminates window glare. *il Elec W* 101:458 Ap 8 '33
- Testing specifications for lighting equipment. *illum Eng Soc Trans* 28:512-25 Je '33

**Motion displays**

- Four displays that attract by the force of action. A. D. Luse. *il Ptd Salesmanship* 61:20-1 Mr '33

**Prize contests**

- Dozen ideas for making window display contests pay. *Sales Management* 33:375-6 O 10 '33
- How 15 companies operated window display contests; chart. *Sales Management* 33:371 O 10 '33
- How J. & J. got display in 1,000 drug windows. *il Sales Management* 33:374-5 O 10 '33
- Window display contests for dealers. *Ptr Ink* 161:20 D 29 '32

**SHOWROOMS**

- L. C. Chase & co. display rooms, New York city; views and plan. *Arch Rec* 73:336-9 My '33

*See also*

- Electric utilities—  
Showrooms

**Lighting**

- New electricity showrooms, Hull corporation electricity department, Ferensway. *il illum Engr* 26:133 My '33

**SHREDDED wheat****Advertising**

- Larger Shredded wheat campaign. *Ptr Ink* 163:59 My 4 '33

**SHREVEPORT, Louisiana****Rapid transit**

- Trolley bus wins back auto riders. E. Jacobs. *il Elec Traction* 29:264-5 S '33

**SHRIMPS**

- Study of canned shrimp with reference to the presence of vitamins A, B and D. M. C. Moore and H. W. Moseley. *bibliog Science* 78:368-9 O 20 '33
- Survey of the shrimp industry by the Bureau of fisheries. *Science* 78:231-2 S 15 '33

**SHRINKAGE**

- Some notes on the nature of clay; drying shrinkage. F. H. Norton. *diags Am Cer Soc J* 16:86-92 [bibliog p 91-2] F '33

**SHRINKAGE of lumber. See Lumber—Shrinkage****SHRINKAGE of metals**

- Gases and shrinkage. *Engineer* 155:sup [Metallurgist] 33-4 Je 30 '33
- Melting high test non-shrinking pearlitic iron. H. H. Judson. *il Metal Prog* 23:20-4 Ap '33
- Prevent losses with proper gates and risers. P. Dwyer. *diags Foundry* 61:31-2+ Ag '33
- Shrinkage—melt to cold metal. K. Honda. *Metal Prog* 23:50-1 Ap '33

**SHRINKAGE of textiles***See also*

- Textile fabrics—  
Shrinkage

**SHRYER, Herbert, 1882-1933**

- Sketch. por Burroughs Clearing House 17:1 My '33

**SHUBERT theatre corporation**

- Reorganization committee draws up plan for purchase of properties by new corporation. *Barron's* 13:21 F 20 '33

**SHUTTERS (photography). See Photography—Apparatus and supplies****SHWARTZMAN phenomenon**

- Shwartzman phenomenon; factors complicating its use in the testing of antimeningococcic serum. A. M. Pabst and S. E. Branham. *bibliog Pub Health Rep* 48:639-51 Je 9 '33

**SIAM***See also*

- Railroads—Siam  
Wages—Siam

**SIBERIA***See also*

- Steel works—Siberia



**SICKNESS**

Causes of illness in 9,000 families, based on nation-wide periodic canvasses, 1928-1931. S. D. Collins. map Pub Health Rep 48:283-308 Mr 24 '33; Abstract. Monthly Labor R 36:1065-7 My '33

Comparability of sickness records of public utilities. D. K. Brundage. Pub Health Rep 48:1095-1103 S 8 '33

Incidence of illness among male industrial employees in 1932 as compared with earlier years. D. K. Brundage. Pub Health Rep 48:869-71 Jl 28 '33

Incidence of illness and the receipt and costs of medical care among representative families. I. S. Falk, M. C. Klem and N. Sinal. 327p \$3 Univ. of Chicago press '33

Sickness among male industrial employees during the second quarter of 1932. D. K. Brundage. Pub Health Rep 47:2219-21 N 25 '32

Sickness among male industrial employees during the third quarter of 1932. D. K. Brundage. Pub Health Rep 47:2297-8 D 16 '32

Sickness among male industrial employees during the final quarter of 1932. D. K. Brundage. Pub Health Rep 48:322-3 Mr 31 '33

Sickness among male industrial employees during the first quarter of 1933. Pub Health Rep 48:789-91 Jl 7 '33

Sickness among male industrial employees during the second quarter of 1933. D. K. Brundage. Pub Health Rep 48:1191-3 S 29 '33

Sickness and the economic depression. G. St J. Perrott, S. D. Collins and E. Sydenstricker. Pub Health Rep 48:1251-64 O 13 '33

See also

Diseases	Medical service
Health	Public health
Hygiene	

**SIDE LINES**

Busy the year round; Crosley reorganizes plant, people, and products; counterbalances one seasonal product with another. L. C. Morrow. il Factory Management 91:343-5 S '33

When salesmen can't make their drawing accounts; study of adding sidelines or increasing territories. G. W. Potter. Ptr Ink 162:17-20 Mr 9 '33

See also

Diversification in industry	Products, Accessory Products, New
-----------------------------	-----------------------------------

**SIDECARS.** See Cycle cars**SIDENER, Charles Frederick**

American contemporaries. P. H. M.-P. Brinton. por Ind & Eng Chem 25:1179-80 O '33

**SIDEWALKS**

See also

Pavements

**SIEBEL, J. E. 1845-1919**

Siebel-Schwarz memorial. Refrig Eng 26:189+ O '33

**SIEGMUND, Frank**

Star salesmen the depression couldn't lick. por Sales Management 33:45 Jl 1 '33

**SIEMENS**

Anwendungsmöglichkeiten von Siemensit in der chemischen technik. J. Schmauser. il diag Chemische Fabrik 6:119-22 Mr 15 '33

High-temperature refractory. Chem & Met Eng 40:214 Ap '33

New refractory, Siemensit will not fuse at cone 42; German product made from ferro-chrome furnace slag. Brick & Clay Rec 82:88 Mr '33

**SIERRA DE JIMULCO**

Reconnaissance studies in the Sierra de Jimulco, Mexico. L. B. Kellum. il fold map Geol Soc Bul 43:541-64 S '32

**SIERRA LEONE**

See also

Iron ores—Sierra Leone

**SIERRA NEVADA**

Palisade glacier of the High Sierra of California. O. D. Von Engel. il map Geol Soc Bul 44:575-99 Je '33

Sierra Nevada as a co-magmatic region. A. A. Fitch. Am J Sci 5th ser 24:481-95 [bibliog p 494-5] D '32

**SIEVES**

Das absieben von suspensionen. W. Büche. Chemische Fabrik 6:240-2 Je 7 '33

Screen testing ores by hand. Eng & Min J 134:149-50 Ap '33

See also

Screens

Standards

Industrial sieves and screens; a new British standard specification. Chem Age (Lond) 28:353 Ap 22 '33

The  $\sqrt{10}$  as an aperture ratio for a universal standard sieve series. P. E. Masters. diag Engineering 135:65-6 Ja 20 '33

**SIGHT**

Accommodation, pupillary width and stimulus distance. E. Freeman. Opt Soc Am J 22:729-34 D '32

Amazing process of vision. H. N. Russell. il Sci Am 148:20-1 Ja '33

Dependency of visual acuity upon stimulus-distance. M. Luckiesh and F. K. Moss. diag Opt Soc Am J 23:25-9 Ja '33

Effect of intensity of illumination on the near point of vision and a comparison of the effect for presbyopic and non-presbyopic eyes. C. E. Ferree and G. Rand. Illum Eng Soc Trans 28:590-611 Jl '33

How good are industry's eyes? M. Davidson. Nat Safety N 27:17-18+ My '33

Human seeing-machine. M. Luckiesh and F. K. Moss. bibliog il Illum Eng Soc Trans 27:699-722; Discussion. 722-4 N '32

Human seeing-machine. M. Luckiesh and F. K. Moss. bibliog J Fr Inst 215:629-54 Je '33

Illuminating engineering and the optician; abstracts. F. Goodenough. Engineering 134:611 N 18 '32; Gas J (Lond) 200:142 O 12 '32

Lateral dominance and visual fusion. C. A. Selzer. 119p [bibliog p111-19] Harvard univ. press '33

Lighting for effective seeing. L. V. James. diag Elec Eng 52:543-6 Ag '33

Means for determining the percentage loss of vision, and recent developments for its aid. C. J. Saks. Weekly Underw 128:1154+ Je 17 '33

Measurement of visual acuity. R. J. Lythgoe and D. E. Corkill. (Special report ser. no 173) 85p Medical research council, London '32

Seeing and highway safety. M. Luckiesh. Nat Safety N 28:33-6+ O '33

Transition from daylight to artificial light. C. E. Ferree and G. Rand. Nat Safety N 27:62 Mr '33; Same. Illum Eng Soc Trans 28:376-7 Ap '33

Variation of visual performance with different levels of daylight illumination. K. Y. Tang. il Illum Eng Soc Trans 28:354-67; Discussion. 368-73 Ap '33

Visual acuity and sodium-vapor light. M. Luckiesh and F. K. Moss. diag J Fr Inst 215:401-10 Ap '33

Visual acuity under sodium light. M. Luckiesh. Elec W 102:61-2 Jl 8 '33; Same. Illum Eng Soc Trans 28:694-5 S '33

See also

Blind	Lighting
Color blindness	Optics, Physiological
Color sense	Visibility
Eye	

**SIGN painting**

Signing 'em up; the how and why of building up sign and lettering business. 165p Trade-ways, inc, New York '33

**SIGNALS and signaling**

See also

Aviation—Signals	Light signals
Beacons	Radio signals
Electric signals	Railroads—Signals
Fire alarms	Traffic signals

**SIGNATURES.** See Sales letters—Signatures

## SIGNS

- Bent glass signs. C. E. Avery. *il Glass Ind* 14:99 S '33  
 Display signs help sell accessories as operators service cars. W. F. Lowe. *il Nat Pet N* 25:14-15 Ag 30 '33  
 Hanging signs in Stockholm; illustrations. *Am Arch* 143:42-3 My '33  
 Large uses of steel in small ways; sign stands. *il Steel* 93:40 O 16 '33

*See also*

- Electric signs  
 Road signs  
 Traffic signs

## Lighting

- Comparative visibility of standard luminous and nonluminous highway signs. F. W. Mills. *il Pub Roads* 14:109-28 S '33; Summary. *Roads & Sts* 76:358 O '33

## SILAGE

- Storage of fodder; means of preventing fermentation. *Chem Age (Lond)* 27:599 D 24 '32

## SILICA

- Adhesion tension. F. E. Bartell and C. E. Whitney. *diag J Phys Chem* 36:3115-26 D '32  
 Adhesion tension; pressure of displacement method. F. E. Bartell and H. J. Osterhof. *bibliog il diag J Phys Chem* 37:543-52 My '33  
 Behavior of unstable or monotropic forms in the system alumina-silica and related systems. A. B. Peck. *il Am Cer Soc J* 16:68-75 Ja '33  
 Blend of silica and Portland cement modifies quality of concrete. *Concrete* 41:5-6 O '33  
 Canadian kaolin silica products limited. W. M. Goodwin. *il Can Min J* 54:377-80 O '33  
 Die einwirkung von quarz und alkalisilicaten auf alkalicarbonat; abstract. C. Kröger. *Angew Chemie* 46:388-9 Je 24 '33  
 Equilibria in the system alumina-silica. R. B. Sosman. *Am Cer Soc J* 16:60-8 Ja '33  
 Feldspar and silica processing. A. J. McDermid. *flow sheet il Eng & Min J* 134:105 Mr '33  
 Leucite as a source of alumina, potash and silica. G. A. Blanc. *il diags Inst Chem Eng Trans* 9:49-62 '31  
 Machine for winding springs of vitreous silica. H. W. Weinhardt. *il R Sci Instr* 4:350-2 Je '33  
 Schmelzbereiche von siliciumdioxid-glasoxyd-systemen und einige daraus zu ziehende schlüsse. M. Hollenweger and H. Rumpelt. *il diags Angew Chemie* 46:662-7 O 21 '33  
 Silica as a refractory material. C. N. Withersow. *Brick & Clay Rec* 82:123-4+, 164-5, 171, 203-9 Ap-Je '33  
 Solid-liquid-air contact angles and their dependence upon the surface condition of the solid. F. E. Bartell and A. D. Wooley. *diags Am Chem Soc J* 55:3518-27 S '33  
 Symposium on the physical chemistry of the alumina-silica refractories. R. B. Sosman and others. *il Am Cer Soc J* 16:54-76 Ja '33  
 Symposium (second) on the physical chemistry of the alumina-silica refractories. B. E. Warren and others. *Am Cer Soc J* 16:412-21 S '33  
 System,  $\text{CaO-FeO-SiO}_2$ . N. L. Bowen, J. F. Schairer and E. Posnjak. *il diags Am J Sci* 5th ser 26:193-284 S '33  
 Volatile transport of silica. J. W. Greig, H. E. Merwin and E. S. Shepherd. *il Am J Sci* 5th ser 25:61-73 Ja '33  
 X-ray diffraction patterns of mullite. E. Posnjak and J. W. Greig. *il Am Cer Soc J* 16:569-83 N '33

*See also*

- Diatomaceous earth  
 Quartz  
 Sand
- Analysis*
- Control tests for the treatment of feed and boiler water. J. K. Rummel. *bibliog Am Water Works Assn J* 24:2004-24 D '32  
 Determination of alumina and silica in steel by the hydrochloric acid residue method. J. G. Thompson and J. S. Acken. *U S Bur Stand J Research* 9:615-23 N '32
- See also*
- Silica brick  
 Silica gel

- Effect of the presence of perchloric acid in the proximate analysis of limestone. F. H. Fish and F. M. Taylor. *J Chem Educ* 10:246-7 Ap '33

- Quantitative bestimmung von  $\text{CaO}$ ,  $3\text{CaO.SiO}_2$ ,  $2\text{CaO.SiO}_2$ ,  $3\text{CaO.2SiO}_2$ ,  $\text{CaO.SiO}_2$  und  $\text{SiO}_2$  nebeneinander. W. Jander and E. Hoffmann. *Angew Chemie* 46:76-80 Ja 28 '33

- Quantitative determination of quartz (free silica) in dusts. A. Knopf. *Pub Health Rep* 48:183-90 F 24 '33

## SILICA, Fused

- Fused silica; numerous applications in the electrical industry. *Electrician* 111:175 Ag 11 '33  
 Thermal conductivity and the plate efficiency in a rectifying column; Vitreosil, cast iron and Alpac. C. F. Warden. *diags Soc Chem Ind J (Chem & Ind)* 51:405T-11T D 23 '32  
 Vitreosil equipment of buildings. *il Chem Age (Lond)* 29:378 O 21 '33  
 Vitreosil in the chemical industry. *il Chem Age (Lond)* 27:486 N 19 '32

## SILICA brick

- Constitution and thermal expansion of silica coke-oven brick after service. J. B. Austin and R. H. H. Pierce, jr. *diags Am Cer Soc J* 16:102-6 F '33  
 Experiences of silica in a continuous vertical plant. O. A. Ternes. *Gas J (Lond)* 201:146-8 Ja 18 '33; Discussion. C. R. F. Threlfall. 201:459 F 22 '33  
 Feuertester mörtele zum flicken von silika-koksöfen. E. Comblés. *diags Stahl & Eisen* 53:984-8 S 21 '33  
 Improving open-hearth furnace design. W. C. Buell, jr. *diags Steel* 91:26+ D 19 '32; 93:32-3 Jl 10 '33  
 Insulation of open hearth furnaces. E. F. Entwisle. *Blast F & Steel Pl* 21:308-11 Je '33; Excerpts. *Steel* 92:27-9 My 29 '33; *Iron Age* 131:862-3 Je 1 '33; *Brick & Clay Rec* 83:17-18+ Jl '33  
 Research and refractory materials. A. T. Green. *Gas J (Lond)* 204:86-7 O 4 '33

## SILICA gel

- Adsorption of hydrogen by silica gel at elevated temperatures. L. H. Reyerson. *Am Chem Soc J* 55:3105-8 Ag '33  
 Developments in air conditioning; A. G. A. subcommittee report. *flow sheets Am Gas Assn Proc* 1932:527-32  
 Influence of combined oxygen on the determination of vapor isothermals on porous solids. L. J. Burrage. *J Phys Chem* 37:735-44 Je '33  
 Platinized silica gel as an oxidation catalyst in gas analysis; oxidation of hydrogen and carbon monoxide. K. A. Kobe and E. J. Arveson. *Ind & Eng Chem Anal ed* 5:110-12 Mr 15 '33  
 Removal of sulphur compounds from petroleum distillates. H. N. Holmes, A. L. Elder and N. Beeman. *diags J Phys Chem* 36:2981-93 D '32  
 Silica gel in solvent recovery. *il Chem Age (Lond)* 28:480 My 27 '33  
 Silica-gel plant air conditions Chicago building; residence of M. A. Hirschl. *flow diag il Heat & Ven* 30:22-3 S '33  
 Summer air conditioning with gas heat energy; cost data. E. D. Milner. *flow sheets il Am Gas Assn Mo* 15:85-9 Mr '33  
 Sur la décomposition pyrogénée du cyclohexane et du cyclohexène en présence de silicagel. A. Mailhe. *Chimie & Ind* 29:759-65 Ap '33

*See also*

- Silicic acid
- SILICA gel corporation  
 Goes into hands of a receiver. *Oil Paint & Drug Rep* 123:22 My 1 '33

## SILICATES

- Chapters in crystal chemistry for college freshmen; the structure of the silicates. C. W. Stillwell. *bibliog J Chem Educ* 10:667-74 N '33  
 Compilation of phase-rule diagrams of interest to the ceramist and silicate technologist. F. P. Hall and H. Insley. *diags bibliog Am Cer Soc J* 16:459-567 O '33



**SILICATES—Continued**

Effect of organic grinding media on water-soluble silica frits. H. B. Barlett and K. Schwartzwalder. *Am Cer Soc J* 16:452-4 S '33

Role of silicon and aluminum in complex silicates. B. E. Warren. *diags Am Cer Soc J* 16:412-17 S '33

System,  $\text{CaO-FeO-SiO}_2$ . N. L. Bowen, J. F. Schairer and E. Posnjak. *il diags Am J Sci* 5th ser 26:193-284 S '33

System,  $\text{Ca}_2\text{SiO}_4\text{-Fe}_2\text{SiO}_4$ . N. L. Bowen, J. F. Schairer and E. Posnjak. *il Am J Sci* 5th ser 25:273-97 Ap '33

See also

Aluminum silicates  
Andalusite  
Glass  
Kaolin

Sodium silicates  
Vermiculite  
Wyomingite  
Zeolites

**SILICIC acid**

Electrical conductivity of silicic acid gel mixtures during gelation. C. B. Hurd and H. J. Swanker. *Am Chem Soc J* 55:2607 Je '33

Silicosis and the metabolism of silicic acid. E. J. King. *Can Chem & Met* 17:146-7 Jl '33

Studies on silicic acid gels; the effect of the addition of some solutes on the time of set. C. B. Hurd and D. H. Carver. *bibliog J Phys Chem* 37:321-9 Mr '33

Study of gels by physical methods. E. Hutschek. *il diags J Phys Chem* 36:2994-3009 D '32

Versuche zur zerlegung leichtsiedender kohlenwasserstoffgemische in ihre komponenten mit hilfe von kiesel säure-gel. H. Hofmeier and H. Meiner. *Angew Chemie* 46:229-32 Ap 22 '33

**SILICON**

Deoxidizers for brass alloys. C. Vickers. *il Foundry* 60:20-1+ D '32

Graphitic silicon, heat-treatment, and the electrical conductivity of aluminium; abstract and discussion. L. H. Callendar. *Engineering* 135:327 Mr 24 '33

Die zunderbildung auf dynamoblechen mit höherem siliziumgehalt. H. Fromm. *il Stahl & Eisen* 53:326-8 Mr 30 '33; Discussion. 53: 803-4 Ag 3 '33

**Analysis**

Determining aluminum, silicon and chromium oxides in corrosion-resisting steels. C. M. Johnson. *Iron Age* 132:24-5+ S 21 '33

**SILICON alloys**

Fortschritte im leichtmetallguss für hohe beanspruchungen; entwicklung einer aushärtbaren aluminiumgusslegierung auf siluminbasis. G. Sachs. *diags Zeit Ver Deutsch Ing* 77:115-20 F 4 '33

Recent advances in silumin castings. G. Sachs. *Chem Age (Lond)* 28:sup21-2 Ap 1 '33

**SILICON bronze. See Bronze****SILICON carbide**

Classification and definition of specialized refractories. H. E. White. *Am Cer Soc Bul* 12:252-6 Ag '33

Improves wire baker economy with refractory combustion chamber formed from silicon carbide tile. *diag Steel* 93:32 S 18 '33

Silicon carbide refractory has carbon bond. *Steel* 93:27 S 11 '33

Tercoed; a new refractory brick for electric furnaces. G. S. Diamond. *Electrochem Soc Trans* 63 (preprint 31):323-6 My '33; Abstract. *Iron Age* 131:896+ Je 8 '33

**SILICON compounds**

Organic derivatives of silicon; steric effects of the cyclohexyl group. N. W. Cusa and F. S. Kipping. *Chem Soc J* p1040-3 Ag '33

See also

Silica  
Silicates

**SILICON dioxide. See Silica****SILICON fluorochlorides**

Fluorochlorides of silicon. H. S. Booth and C. F. Swinehart. *Am Chem Soc J* 54:4750-1 D '32

**SILICON halides**

Preparation of triethylsilicon halides. E. A. Flood. *Am Chem Soc J* 55:1735 Ap '33

**SILICON monoxide**

Rotational analysis of ultraviolet bands of silicon monoxide. P. G. Saper. *Phys R* 42: 498-508 N 15 '32

**SILICON steel**

Alloys of iron and silicon. E. S. Greiner, J. S. Marsh and B. Stoughton. 457p \$5 McGraw-Hill '33

Development and use of the alloy irons and steels. *Min & Met* 14:339 Ag '33; Same abr. *Iron Age* 132:66 Ag 3 '33

Development of magnetic sheet steels. W. E. Kuder. *Gen Elec R* 36:406-8 S '33

Formulas for magnetic hysteresis losses; magnetic properties of different grades of silicon sheet steel. S. S. Sidhu. *bibliog Elec Eng* 52:625-30 S '33

Further contribution on the constitution of the Fe-C-Si system. A. Kříž and F. Pobofil. *diag Iron & Steel Inst J* 126:323-49, pl 33-4 no 2 '32

Mono-crystal Barkhausen effects in rotating fields. F. J. Beck, jr. and L. W. McKeehan. *diags Phys R* 42:714-20 D 1 '32

Remarkable properties of cromansil steels. *Mach* 39:798 Ag '33

Silicon steel for North Dakota highway bridge. *diags Pub Works* 63:12 D '32

Silicon steel strip is annealed in continuous electric furnace; Republic steel corporation. A. N. Otis. *il Steel* 93:21-3 N 13 '33

Walzversuche an kohlenstoff- und siliziumlegierten stählen bei mittleren temperaturen. W. Lueg. *Stahl & Eisen* 53:810-12 Ag 3 '33

See also

Chromium manganese  
silicon steel

**SILICON tetrafluoride**

Silicon tetrafluoride volatilization. W. D. Armstrong. *bibliog diags Ind & Eng Chem Anal ed* 5:315-17 S 15 '33

**SILICOSIS. See Lungs—Dust diseases****SILICOTUNGSTIC acid**

Determination of basic dyestuffs by means of silicotungstic acid. E. B. Johnson. *Soc Chem Ind J* 52:354T O 27 '33

**SILK**

Black carpet beetle. N. D. White. *il Am Dyestuff Rep* 21:683-4+ D 5 '32

Combination of silk and wool with positive and negative ions. M. Harris. *U S Bur Stand J Research* 10:475-8 Ap '33; Same. *Am Dyestuff Rep* 22:273-4+ Ap 24 '33

Eliminating shade variation in silk hosiery. *il Textile World* 82:974 N '32

Gases from thermal decomposition of common combustible materials. J. C. Olsen, G. E. Ferguson and L. Scheffan. *il Ind & Eng Chem* 25:599-603 Je '33

Isoelectric point of silk. M. Harris. *Textile Col* 55:47-8 Ja '33

Raw silk and throwing. P. Wilson. *Am Dyestuff Rep* 22:269-71 Ap 24 '33

Silks. C. E. Mullin. *Textile Col* 54:819-21+ D '32

Some cases of mildew on silk-cellulose acetate materials. F. V. Davis. *Textile Inst J* 24:T86-9 F '33

See also

Dyes and dyeing—  
Silk  
Silk fabrics  
Silk manufacture and trade

Silk mills  
Silk printing  
Silk weaving  
Silk yarn

**Analysis**

Analysis of weighted silk. R. T. Mease. *diags U S Bur Stand J Research* 9:669-77 N '32; Same. *Textile Col* 55:121-4+ F '33

Analytical methods for weighted natural silk; abstract. W. Weltzien and A. Schotte. *Soc Dyers & Col J* 49:274 Ag '33

**Delustering**

Delustering of silk hosiery. L. S. Zisman. *Am Dyestuff Rep* 22:263-4 Ap 24 '33

**SILK—Continued****Grading**

Average-size deviation; its influence on the evenness of silk. W. P. Seem. *il Textile World* 83:736-7; Discussion. 738 Ap '33

See also

Silk—Standards

**Standards**

New seriplane standards. D. E. Douty. *il Melland* 5:163-4 Ag-S '33; Same. *Textile World* 83:1627-8 S '33

**Testing**

Checking up on the silkworm. G. Lockhart. *il Sci Am* 149:120-1 S '33

Rapid method of determining the nature of mixability of raw silk. C. W. Meyers. *Am Dyestuff Rep* 22:644-5 O 23 '33

**SILK, Artificial**

Chemical costs control rayon output. S. B. Hunt. *il Chem Markets* 31:503-4 D '32

Defects in artificial silk goods. *Am Dyestuff Rep* 22:347 My 22 '33

Hollow filament viscose silk; a review of the Celta product. *Textile Col* 55:106+ F '33

Present state of our knowledge of cellulose research; abstract. H. Mark. *Ind & Eng Chem News ed* 11:21 Ja 20 '33

Rayon digest. Published in monthly numbers of *Textile world*

Rayon industry. H. De W. Smith. *Am Dyestuff Rep* 22:610-13 O 9 '33

Rayon is better; improvements in strength, fineness, pliability, and other properties. *Textile World* 83:1590-1 S '33

Rayon issue dominates at Silk association dinner. *Textile World* 83:209 F 14 '33

Rayon rides fashion wave; Silk association wonders whether it shouldn't change its name. *Business Week* p18 Mr 1 '33

La soie du Chardonnnet ou soie au nitrate. E. Berl. *il Chimie & Ind* 28:1272-6 D '32

Some aspects of the structure and properties of the rayons. H. De W. Smith. *diags Am Soc T M Proc* 32 pt 2:749-61 '32; Same. *Am Dyestuff Rep* 21:529-34 Ag 29 '32; Discussion. *Am Soc T M Proc* 32 pt 2:762-3 '32

Some cases of mildew on silk-cellulose acetate materials. F. V. Davis. *Textile Inst J* 24: T86-9 F '33

Studies in viscose cross-sections; abstract. A. Jaeger. *Am Dyestuff Rep* 21:713 D 5 '32

Swiss family Dreyfus; Celanese corp. of America. *il Fortune* 8:50-5, 139-44 O '33

Tendered cellulose fibers and alkali treatments; effects of alkalies on overbleached cotton and rayon materials. *Textile Col* 55:232-3+ Ap '33

See also

Bleaching—Silk, Artificial Dyes and dyeing—Silk, Artificial

Cellulose Silk, Artificial—Printing

Cellulose acetate ing

Dyes and dyeing—Cotton—artificial silk

**Advertising**

Bell-wether merchandising; Viscose company used Fifth avenue as starting point to get national acceptance. J. A. Spooner. *il Ptr Ink Mo* 26:19+ Je '33

Discovering and recognizing the real market; Tubize Chatillon corporation. R. Dickinson. *il Ptr Ink* 161:25-7 D 22 '32

**Analysis**

Chemical analysis of rayons; the micro-determination of metals in commercial rayon yarns. B. P. Ridge, M. Corner and H. S. Cliffl. *bibliog Textile Inst J* 24:T293-308 Ag '33

**Cleaning**

Disadvantages of the non-flammable solvents. W. Brown. *Chem Markets* 33:229-31 S '33

Dry-cleaning solvents. W. Brown. *Soc Dyers & Col J* 49:43-4 F '33; Excerpt. *Textile Col* 55:330 My '33

**Definishing**

Definishing of artificial silk; abstract. K. Walter. *Am Dyestuff Rep* 21:714 D 5 '32

**Delustering**

Controlled delustering as a finish. *Textile Col* 55:744-5 N '33

Delustering rayon; abstract. *Textile Col* 55: 183-4 Mr '33; Same. *Chem Markets* 32:336 Ap '33

Delustering the synthetic yarns. C. E. Mullin. *Textile Col* 55:443-5 Jl '33

Developments in acetate rayon delustering; recent patent literature. *Chem Age (Lond)* 29:212 S 2 '33

Dull-luster acetate silk patents. C. E. Mullin. *Textile Col* 55:657-60, 735-8+ O-N '33

Method for evenly delustering acetate rayon. *Textile Col* 55:473-4 Jl '33

Notes on dyeing, finishing, etc. of rayon. *Melland* 4:725 Mr '33

Rayon dyeing and finishing; delustered rayon. H. Green. *Am Dyestuff Rep* 22:410-12+ Jl 3 '33

Some examples of modern finishing machinery development. W. J. Norton. *diag Textile Inst J* 24:P231-2 S '33

Three new delustering processes for acetate rayon. A. J. Hall. *Textile Col* 55:621 S '33

**Fabrics**

Coming; creaseless textiles. *Plastics* 8:417+ N '32

Creping rayon fabrics. *Textile Col* 55:618 S '33

Development of warp loom knitted fabrics. W. Davis. *il Melland* 4:550-3 D '32

Domino crepe joins style parade. B. D. Blackman. *il Textile World* 83:920 My '33

Failles; a review of current types. B. D. Blackman. *il Textile World* 83:1436 Ag '33

Great French dressmakers recognize synthetic yarns. *Textile World* 82:1012-13 N '32

Highlights of advanced French synthetic textiles. *il Melland* 5:215 O '33

Impoverishment of rayon. A. J. Hall. *Textile Col* 55:187-8 Mr '33

Manufacture of matelassé. B. D. Blackman. *il Textile World* 83:603-6 Mr '33

New chiffon and triple sheer fabrics of Bemberg. C. K. Seid. *samples Melland* 5:70-1 My '33

New developments abroad in rayon and spun rayon fabrics—artificial furs. *il Melland* 5: 75 My '33

New developments abroad in rayon and spun rayon knitted fabrics. *il Melland* 5:31 Ap '33

New developments in rayon and spun rayon; rayon laces and embossed velvet. *il Melland* 5:173 Ag-S '33

New entries lend interest to summer suitings. *il Textile World* 83:568-9 Mr '33

New fabrics of rayon and spun rayon. *il Melland* 4:583, 637, 689 D '32-F '33

Pacific and Sayles now producing anti-crease fabrics. *il Textile World* 83:742 Ap '33

Rainspotting of rayon fabrics. *Melland* 5: 117+ Je-Jl '33

Rayon crepe threads and fabrics; manufacture; abstract. W. A. Dickie and R. W. Moncrieff. *Textile Inst J* 24:A37 Ja '33

Rayon fabrics of today. C. C. Mattmann, jr. *il Textile World* 83:1605-8 S '33

Some faults in finished fabrics. P. Bean. *pls Textile Inst J* 24:P194-201; Discussion. P202-3 Ag '33

Weave technique in rayon fabrics. E. Graebner. *il Melland* 5:118-20 Je-Jl '33

**Finishing**

Finishing of artificial silk. *Am Dyestuff Rep* 22:31-2 Ja 2 '33

Improved finishes attest to advances in processing rayon yarns and fabrics. *il Textile World* 83:1600-1 S '33

Lacquer finish on rayon fabrics demands expert handling. R. W. Merrill. *il diag Textile World* 83:743 Ap '33

Mercerization of rayon fabrics. E. Schuelke. *Am Dyestuff Rep* 22:457-8 Jl 17 '33



**SILK, Artificial—Finishing—Continued**

- Mercerizing artificial silk; prevention of damage to the fibre. Textile Col 55:773+ N '33
- Rayon dyeing and finishing. B. L. Hathorne. Am Dyestuff Rep 22:239-40, 259-60+, 291-4, 318-19, 325-7, 353-4+, 382-4+, 410-12+, 455-6, 481-2, 508-9, 533-5, 553-6, 627-8, 654, 655-8, 693-4, 709-12+ Ap 10-S 11, O 23-N 20 '33
- Rayon in hosiery benefits particularly from dull luster. C. Epps. il Textile World 83:1602-3 S '33
- Saco-Lowell rayon slasher. il Melland 5:123-4 Je-Jl '33
- Stentering in finishing viscose rayon fabrics; abstract. M. Coyaoud. Textile Col 55:257-8 Ap '33
- Synthetic resins and anti-crease cellulosic materials. E. Clayton. Soc Dyers & Col J 48:295-8 N '32
- Treating viscose crepe fabrics with alkalis; abstract. L. Kollman. Textile Col 55:544 Ag '33

*See also*

Silk, Artificial—Delustering

**History**

- Acetyl-cellulose; past and present; abstract. A. Eichengruen. Am Dyestuff Rep 22:460-1 Jl 17 '33

**Identification**

- Analysis of cotton and viscose rayon mixtures. B. P. Ridge and K. Turner. Soc Chem Ind J 52:86T-8T Mr 31 '33
- Cupro- and viscose silks; their differentiation. A. Zart. Am Dyestuff Rep 22:349 My 22 '33
- Determination of artificial silk (viscose) in mixtures of artificial silk and cotton waste. P. McGregor and C. F. M. Fryd. Textile Inst J 24:T103-4 F '33; Same. Textile Col 55:339+ My '33
- Differentiation of rayons; chemical, microscopical and ultra-violet tests. H. Yorke. Textile Col 55:313-15+ My '33

**Knit goods**

- Fulling rayon-worsted knit goods. W. E. Herrick. Textile World 83:1254 Jl '33
- New developments abroad in rayon and spun rayon knitted fabrics. il Melland 5:31 Ap '33
- New problems in processing acetate fabrics faced by knit goods dyer. E. F. Cleveland. il Textile World 83:734 Ap '33
- Rayon dyeing and finishing. B. L. Hathorne. Am Dyestuff Rep 22:318-19, 325-7, 353-4+, 382-4+ My 8-Je 19 '33
- Rayon underwear; new knitting technic embraces larger cones, magazine feed, etc. J. Turner. il Textile World 83:1604 S '33
- Well-scoured fabrics lighten burden of knit-goods dyer. E. F. Cleveland. il diags Textile World 83:57 Ja '33

**Luster**

- Loss of luster of acetate silk in hot baths. W. Stahl. Am Dyestuff Rep 22:431-2+ Jl 3 '33

*See also*

Silk, Artificial—Delustering

**Manufacture**

- Artificial fibers containing nitrogen. F. Ohl. Am Dyestuff Rep 22:320-2 My 8 '33
- Causes of defects in rayon goods. E. Graebner. il Melland 5:9-10 Ap '33
- Conditioning rayon crepe is important throwing operation. il Textile World 83:923 My '33
- Drying-oil size for rayon yarn. A. J. Hall. Textile Col 55:41 Ja '33
- Formaldehyde and acetate rayon. Textile Col 55:399 Je '33
- Formaldehyde in the treatment of textile materials. A. J. Hall. Am Dyestuff Rep 22:379-81, 399-401 Je 19 '33
- Fortschritte in der chemie der kunstseide 1930-1933. D. Krüger. bibliog Angew Chemie 46:311-23 Je 3 '33
- High twist and use of rayon add to throwsters' problems. il Textile World 83:59 Ja '33

Humidity and viscose rayon; effect on strength and extensibility. Textile Col 55:404-5 Je '33

Improvements in the manufacture of acetate rayon. Textile Col 54:834 D '32

Improving highly stretched acetate rayon. A. J. Hall. Textile Col 55:189 Mr '33

Manufacture and dyeing of cotton and rayon materials; the past year's technical developments. Chem Age (Lond) 28:49-51 Ja 21 '33

Methods of manufacturing rayon; factors affecting dye affinity. W. B. Sellars. Am Dyestuff Rep 22:131-4 F 13 '33

Modifying viscose rayon by treatment with formaldehyde. Textile Col 55:259-60 Ap '33

Notes on dyeing, finishing, etc. of rayon. Melland 4:725 Mr '33

Rayon dyeing and finishing. B. L. Hathorne. Am Dyestuff Rep 22:169-72, 203-4+, 239-40, 259-60+, 291-4, 318-19, 325-7, 353-4+, 382-4+, 410-12+, 455-6, 481-2, 508-9, 533-5, 553-6, 627-8, 654, 655-8, 693-4, 709-12+ Mr 13-S 11, O 23-N 20 '33

Rayon manufacture at Jedburgh. il Chem Age (Lond) 29:76-7 Jl 22 '33

Rayon methods improved to meet higher standards. il Textile World 83:414-15 F 28 '33

Rayon on cotton machines; desirable modifications easily made in spoolers and warpers. A. I. Metart. Textile World 83:1257 Jl '33

Rayon throwster faces many problems in handling pigmented yarn. E. T. Rump. il Textile World 83:1262-3 Jl '33

Reduced operating costs mark progress in rayon throwing. S. H. Gilston. il Textile World 83:1596 S '33

Sewage plant, Sparta, Ill. rebuilt to treat rayon wastes. U. F. Turpin. il plan Eng N 109:780-2 D 29 '32

Sizing rayon warps. D. A. Gryder. il Textile World 83:1598-9 S '33

Some causes of uneven dyeing rayon. C. E. Mullin. Textile Col 55:99-100 F 33

Throwing of rayon yarns. T. R. Jewett. il Melland 5:145-8, 199-200, 238-40 Ag-S-N '33

Wages and hours of labor in rayon and other synthetic yarn manufacturing, 1932. Monthly Labor R 36:607-12 Mr '33

Wages and hours of labor in the manufacture of silk and rayon goods, 1931. U S Bur Labor Statistics Bul 568:1-67 '32

Water-treatment problem at Princeton rayon co. solved in unusual manner. E. P. Schinman and S. B. Applebaum. il diags Textile World 83:1096-7 Je '33

Year's technical developments in rayon manufacture. H. DeW. Smith. il Textile World 83:1592-3 S '33

*See also*

Dyes and dyeing—

Silk, Artificial

**Merchandizing**

Constructive idea for merchandising rayon fabrics; the value of a trade name. Melland 4:582 D '32

Expansion of quality outlets is 1934 keynote in rayon merchandising. il Textile World 83:1594-5 S '33

**Moisture content**

Humidity and viscose rayon; effect on strength and extensibility. Textile Col 55:404-5 Je '33

**Oiling**

Rayon oils; properties, markets and uses of lubricants and softeners on synthetic yarns. C. E. Mullin. Chem Markets 33:129-32 Ag '33

**Patents**

Alleged infringement of artificial silk patents; British celanese, ltd. v. Courtaulds, ltd. Chem Age (Lond) 27:438, 459-60, 480-1, 510-11, 533-4, 557-8, 577-8, 606; 28:141, 437, 461, 489, 512 N 5-D 24 '32, F 18, My 13-Je 3 '33

British Celanese appeal dismissed; judgment in favour of Courtaulds, ltd. Chem Age (Lond) 29:sup 13-14 Jl 1 '33

Dull-luster acetate silk patents. C. E. Mullin. Textile Col 55:657-60, 735-8+ O-N '33

**SILK, Artificial—Patents—Continued**

Judgment in the cellulose acetate silk patent action; British celanese ltd. vs. Courtaulds ltd. F. M. Rowe. Soc Dyers & Col J 49: 134-45 My '33

Mercerizing artificial silk; prevention of damage to the fibre. Textile Col 55:773+ N '33  
New Jersey zinc co. obtains Singmaster delustering patents. Ind & Eng Chem News ed 11:174 Je 10 '33

New Jersey zinc co. wins patent suit on rayon pigment. Oil Paint & Drug Rep 123:26 Ap 10 '33; Same. Rubber Age 33:24 Ap '33

**Printing**

Acid dyes for printing viscose; abstract. W. Taussig. Textile Col 55:45-6 Ja '33

Discharging acetate rayon. Textile Col 55: 471-2 Jl '33

Manufacture and dyeing of cotton and rayon materials; the past year's technical developments. Chem Age (Lond) 28:49-51 Ja 21 '33

Print-works methods for bleaching cotton-rayon fabrics. R. Cottrell. Textile World 83:1271 Jl '33

Printing and bleaching rayon and construction of leno weave piece goods. A. C. Estey. diags Textile Col 55:49-52, 101-3+ Ja-F '33

Printing of wool viscose. Textile Col 55:92 F '33

White and colored discharges on acetate silks. Textile Col 55:322 My '33

**Spinning**

Cuprammonium spinning technique; wet spinning of acetate rayon. F. Ohl. Chem Age (Lond) 29:356 O 14 '33

High speed rayon spinning. H. Jentgen. il Melland 4:493-5, 545-9 N-D '32

Rayon spinning; British patents. Textile Inst J 24:A440, A442-7 S '33

Spinning of artificial silk under tension, by O. Faust. Review. Am Dyestuff Rep 22:587-8 S 25 '33

Staple rayon spun successfully on cotton machinery. A. E. Oxley. il Textile World 83:44-5 Ja '33

Throwing of rayon yarns. T. R. Jewett. il Melland 5:199-200 O '33

**Statistics**

1932 rayon statistics. Chem Markets 32:119 F '33

Post-war progress in various industries. O. Wilson. Ind & Eng Chem 25:106-7 Ja '33

Rayon essays production control to aid its position. Chem & Met Eng 40:44 Ja '33

Rayon information. Textile Col 55:202 Mr '33

Rayon output; estimate for 1933. Textile World 83:1589 S '33

Rayon production. Chem Ind 33:334 O '33

Rayon production off only 10%. Textile World 83:211 F 14 '33

Synthetic yarns' growth in world industry. C. E. Mullin. Chem Markets 32:211-15 Mr '33; Same. Textile Col 55:303-6+ My '33

World's rayon production figures. Textile Col 55:616 S '33

**Testing**

Acetyl-cellulose; determination of quality by fractional precipitation. F. Ohl. Am Dyestuff Rep 22:28-9 Ja 2 '33

Significance of tensile tests on viscose rayon. J. M. Preston. Am Dyestuff Rep 22:677-8+ N 6 '33

Tensile strength and fluidity in cuprammonium hydroxide solution of chemically modified rayon and cotton yarns; oxidation by hypochlorite solutions. B. P. Ridge and H. Bowden. bibliog diag tables Textile Inst J 23: T319-66 D '32

Wearing qualities of synthetic yarn lining fabrics and methods used in testing. C. L. Simon. il Melland 5:13-14, 58-9, 108-10 Ap-Je-Jl '33; Abstract. Textile World 83: 576-7 Mr '33

**Waste**

Rayon waste and some of the difficulties in dyeing it. C. E. Mullin. Textile Col 55:225-7+ Ap '33

Rayon-woolen blends; successful combinations depend on careful selection of rayon wastes. H. R. Woodward. il Textile World 82:973 N '32

**Weaving**

How to weave rayon. H. R. Mauersberger. il Melland 4:629-31 Ja '33

New material makes possible more looms per weaver in silk and rayon weaving. H. Mikula. Melland 5:166 Ag-S '33

Printing and bleaching rayon and construction of leno weave piece goods. A. C. Estey. diags Textile Col 55:49-52 Ja '33

Rayon methods improved to meet higher standards. il Textile World 83:414-15 F 28 '33

Rayon neckties; better weaving would further increase demand. J. Picone. il Textile World 82:975 N '32

Rayon triple sheers must have required flat appearance. J. Chittick. il Textile World 83:1823 O '33

Weaving performance; how it was analyzed in a silk and rayon mill. O. Bitzenhofer. Textile World 83:744-5 Ap '33

Will weaving cones become universal? B. L. Hathorne. Melland 4:724 Mr '33

**Weighting**

Artificial silk weighting. K. Swoboda. Am Dyestuff Rep 22:30-1 Ja 2 '33

**Winding**

Throwing of rayon yarns. T. R. Jewett. il Melland 5:145-8 Ag-S '33

**Yarn**

Chemical analysis of rayons; the micro-determination of metals in commercial rayon yarns. B. P. Ridge, M. Corner and H. S. Cliff. bibliog Textile Inst J 24:T293-308 Ag '33

Delustering the synthetic yarns. C. E. Mullin. Textile Col 55:443-5 Jl '33

Dull-luster acetate silk patents. C. E. Mullin. Textile Col 55:657-60, 735-8+ O-N '33

Larger skeins and cones influence handling of rayon in cotton mills. P. Allen. diag Textile World 83:1597 S '33

New rayon spindle. F. Klages. diag Melland 5:74 My '33

Rayon oils; properties, markets and uses of lubricants and softeners on synthetic yarns. C. E. Mullin. Chem Markets 33:129-32 Ag '33

Synthetic yarns' growth in world industry. C. E. Mullin. Chem Markets 32:211-15 Mr '33; Same. Textile Col 55:303-6+ My '33

Tensile strength and fluidity in cuprammonium hydroxide solution of chemically modified rayon and cotton yarns; oxidation by hypochlorite solutions. B. P. Ridge and H. Bowden. bibliog diag tables Textile Inst J 23: T319-66 D '32

Throwing of rayon yarns. T. R. Jewett. il Melland 5:145-8, 199-200, 238-40 Ag-S-N '33

**Yarn mixtures**

Analysis of cotton and viscose rayon mixtures. B. P. Ridge and K. Turner. Soc Chem Ind J 52:86T-8T Mr 31 '33

Determination of artificial silk (viscose) in mixtures of artificial silk and cotton waste. P. McGregor and C. F. M. Fryd. Textile Inst J 24:T103-4 F '33; Same. Textile Col 55:339+ My '33

Rayon-woolen blends; successful combinations depend on careful selection of rayon wastes. H. R. Woodward. il Textile World 82:973 N '32

**Great Britain**

British Celanese. Economist 117:873 N 4 '33

British Celanese developments. Chem Age (Lond) 27:439 N 5 '32

British Enka artificial silk company, limited, 8th ordinary general meeting. Economist 116:823 Ap 15 '33

Rayon trade organisation; new section of Manchester chamber of commerce. Chem Age (Lond) 28:211 Mr 11 '33



**SILK, Artificial—Continued****Japan**

Japanese rayon industry; facts and figures on the manufacture of rayon yarns in Japan. C. E. Mullin. Textile Col 55:532-5 Ag '33  
 Japanese rayon production. Textile Col 55:254 Ap '33

**United States**

American rayon installed capacity by plant & process; tabulation. Textile World 83:1468 Ag '33  
 Growth of rayon usage in cotton mills. S. B. Hunt. Comm & Fin 22:365-6 Ap 19 '33  
 Lower production costs and expanding markets. W. W. Hay. Mag of Wall St 53:79-80+ N 11 '33  
 Rayon production off only 10%. Textile World 83:211 F 14 '33  
 Rayon statistics. Textile Col 55:633 S '33  
 Rayon weaving and rayon yarn code hearings. Textile World 83:1420-1+ Ag '33  
 Silk and rayon position. R. W. Scott. Textile World 82:961 N '32  
 Where the rayon industry stands today. map Chem & Met Eng 40:421 Ag '33

**SILK, Insulating**

Insulations; varnished sheets, tapes, sleeveings, etc. H. Warren. Electrician 110:184-6 F 10 '33

**SILK association of America, incorporated**

Annual dinner, 61st, New York, Jan. 19. Textile World 83:209 F 14 '33  
 Fashion data clearing-house established. Textile World 83:56 Ja '33

**SILK fabrics**

Designing silk fabrics. W. Markham. il Mel-liand 4:674-5 F '33  
 Domino crepe joins style parade. B. D. Blackman. il Textile World 83:920 My '33  
 Failles; a review of current types. B. D. Blackman. il Textile World 83:1436 Ag '33  
 Fashion data clearing-house established by Silk association. Textile World 83:56 Ja '33  
 Frosted georgette, attractive fabric which may become a staple. B. D. Blackman. il Textile World 82:1160-1 D '32  
 Manufacture of matelassé. B. D. Blackman. il Textile World 83:603-6 Mr '33  
 Meeting style trend; how silk or rayon designer should plan new fabrics. C. C. Mattmann, jr. il Textile World 83:1814 O '33  
 Usual degumming methods prove harmful to silk-wool unions. H. H. Mosher. il Textile World 82:980-1, 1170-1 N-D '32

*See also*

Bedford cord  
 Silk, Insulating  
 Silk printing

**SILK machinery**

Machine soaking of silk. F. J. Caya. il Am Dyestuff Rep 22:265-6 Ap 24 '33  
 Rocker-shaft trouble satisfactorily remedied on silk and rayon looms. H. E. Wenrich. diags Textile World 83:69 Ja '33  
 Silk conditioning; Belmont hosiery borrows machine from shoe industry. il Textile World 83:1270 Jl '33

**SILK manufacture and trade**

Advance layout of work important in throwing. S. H. Gilston. Textile World 82:1164 D '32  
 Boil-off of silk. B. S. Hillman. Textile Col 55:13-17+ Ja '33  
 Conditioning thrown silk. il Textile World 83:1106 Je '33  
 Degumming agents; soaps and boil-off oils. Textile World 83:67 Ja '33  
 Degumming of natural silk in presence of acetate silk. H. Schmidt. Textile Col 55:387 Je '33  
 Degumming of real silk; abstract. J. Stockhausen. Textile Col 55:402-3 Je '33  
 Degumming silk; abstract. J. Stockhausen. Textile Col 55:46 Ja '33  
 Effect of salt on boil-off in silk soaking. R. Hart. Am Dyestuff Rep 22:301-2 My 8 '33; Same. Melland 5:68-9 My '33; Same. Textile Col 55:378-9 Je '33; Same abr. Textile World 83:926 My '33

Machine soaking of silk. F. J. Caya. il Am Dyestuff Rep 22:265-6 Ap 24 '33  
 Processing of thrown silk. Am Dyestuff Rep 22:231-2 Mr 27 '33; Same. Melland 5:27+ Ap '33

Silk and rayon position. P. Gerli. Textile World 82:961 N '32

Silk digest. Published in monthly numbers of Textile world  
 Silk technology; progress in throwing and weaving. il Textile World 83:412-13 F 28 '33  
 Statistics favor silk. J. Lewine. Comm & Fin 22:28 Ja 11 '33  
 Tangled silk. Business Week p24 S 2 '33

*See also*

Silk, Artificial—  
 Manufacture  
 Silk machinery  
 Silk mills  
 Silk weaving  
 Silk weighting

**Statistics**

Silk, 1932. Economist 116:sup46 F 18 '33

**Tables, calculations, etc.**

Take-up in throwing. Textile World 83:777 Ap '33

**Japan**

Japanese delegation visits United States. Textile World 83:1646 S '33  
 Japanese, studying rayon issue, may finance silk promotion in United States. il Textile World 83:575 Mr '33  
 Silk—what the Japanese government is doing to aid an ailing industry. Bradstreet's 61:202-3 Ja 28 '33

**United States**

Industrial snapshots; wool—silk—cotton. J. Backman and A. L. Jackson. Barron's 13:5 S 18; 6 N 6 '33

**SILK mills****Electric equipment**

Electric motors; new types for silk spinning. H. C. E. Jacoby. Electrician 110:457 Ap 7 '33  
 Revised silk mill drive brings benefits. C. W. Turner. Elec W 102:437 S 30 '33

**Employees**

Reduction of fatigue in throwing increases efficiency. D. G. Thompson. Textile World 83:1443 Ag '33  
 Silk strike chronology. Textile World 83:1848 O '33  
 Tangled silk. Business Week p24 S 2 '33  
 Wages and hours of labor in the manufacture of silk and rayon goods; 1931. U S Bur Labor Statistics Bul 568:1-57 '32

**Management**

Analyzing silk warping; increasing efficiency by attention to operative, machine, and material. O. W. Bitzenhofer. diags Textile World 83:1810-11 O '33  
 Departmental analysis effects economies in winding silk and rayon in Germany. O. Bitzenhofer. Textile World 83:220-1 F 14 '33  
 Knowledge and tact indispensable to silk examiner. J. G. Halsey. il Textile World 82:976-7 N '32  
 Plugging the leaks in silk dyeing and finishing plants. W. R. Clendinning. il Textile World 83:582-3, 930-1 Mr, My '33  
 Weaving performance; how it was analyzed in a silk and rayon mill. O. Bitzenhofer. Textile World 83:744-5 Ap '33

**SILK printing**

Application and discharge styles of silk printing. W. M. Scott. il Textile World 83:79-82 Ja '33  
 Application of indigosols to wool and silk. Textile Col 55:194-5 Mr '33  
 Crinkled prints in the making for spring present mill problems. il Textile World 82:978 N '32  
 Spires and silks. il Adv & Sell 21:sup[Adv Arts]24+ My '33

**SILK weaving**

Analyzing silk warping; increasing efficiency by attention to operative, machine, and material. O. W. Bitzenhofer. diags Textile World 83:1810-11 O '33

**SILK weaving—Continued**

Frosted georgette, attractive fabric which may become a staple. B. D. Blackman. *il Textile World* 82:1160-1 D '32

Knowledge and tact indispensable to silk examiner. J. G. Halsey. *il Textile World* 82: 976-7 N '32

New material makes possible more looms per weaver in silk and rayon weaving. H. Mikula. *Melliand* 5:166 Ag-S '33

Velveteen and corduroy; cotton constructions and some weaves suitable for silk. G. R. Robertshaw. *il diags Textile World* 83:1260-1 JI '33

Warping hard-twist silk—suggestions for economies. H. E. Wenrich. *diag Textile World* 83:1264 JI '33

Weaving performance; how it was analyzed in a silk and rayon mill. O. Bitzenhofer. *Textile World* 83:744-5 Ap '33

**SILK weighting**

Analysis of weighted silk. R. T. Mease. *diags U S Bur Stand J Research* 9:669-77 N '32; Same. *Textile Col* 55:121-4+ F '33

**SILK yarn**

Mildew in silk; problems in hosiery yarns. D. S. Chamberlin. *bibliog Melliand* 5:25-7, 51-2 Ap-May '33

**Testing**

Improved United States testing company tester for determining twist and twist take-up. A. L. Brassell. *il Melliand* 5:167-8 Ag-S '33

**SILLIMANITE**

Minerals with the composition of  $Al_2O_3 \cdot SiO_2$ . H. Insley. *Am Cer Soc J* 16:58-60 Ja '33

Structure of sillimanite and related materials. W. H. Taylor. *Am Cer Soc J* 16:418-20 S '33

**SILOS**

Steel panel construction for silos and smoke stacks. *il Iron Age* 131:855 Je 1 '33

**SILT**

New type of silt sampler developed for water studies. A. H. Frazier. *il Eng N* 111:491 O 26 '33

Problem of soil in transportation at the Colorado river. S. L. Rothery. *il plans Am Soc C E Proc* 58:1639-59 D '32; Discussion. 59:682-7, 866-81, 1014-19, 1185-91 Ap-May, Ag-S '33

Progressive silting of a river delta studied; tidal model built to predict conditions at mouth of Rangoon river, Burma. H. H. Wheaton. *il plan Civil Eng* 3:89-91 F '33

Settling velocities of gravel, sand, and silt particles. W. W. Rubey. *bibliog Am J Sci* 5th ser 25:325-38 Ap '33

**SILUMIN**

Fortschritte im leichtmetallguss für hohe beanspruchungen; entwicklung einer aus-härtbaren aluminiumgusslegierung auf siluminbasis. G. Sachs. *diags Zeit Ver Deutsch Ing* 77:115-20 F 4 '33

Recent advances in silumin castings. G. Sachs. *Chem Age (Lond)* 28:sup21-2 Ap 1 '33

**SILVER**

Conditions affecting the freezing temperature of silver. W. F. Roeser and A. I. Dahl. *diag U S Bur Stand J Research* 10:661-8 My '33

Economic aspects of gold and silver; a review of recent publications by the United States Bureau of mines, together with three papers, by S. Turner. *bibliog U S Bur Mines Information Circ* 6740:1-13 '33

Economic importance of silver. F. B. Cook. 35p Frank B. Cook, Terminal bldg, Salt Lake City, Utah '33

Electrolysis of silver-bearing thiosulfate solutions. K. Hickman, W. Weyerts and O. E. Goehler. *bibliog il diags Ind & Eng Chem* 25:202-12 F '33

Fine structure of electron diffraction beams from a gold crystal and from a silver film on a gold crystal. H. E. Farnsworth. *Phys R* 43:900-6 Je 1 '33

Higher valence states of silver. M. S. Ebert; E. L. Rodowskas and J. C. W. Frazer. *Am Chem Soc J* 55:3056-7 JI '33

Magnetic susceptibilities of lead, silver and their alloys. C. G. Montgomery and W. H. Ross. *Phys R* 43:358-60 Mr 1 '33

Probabilities of K-electron ionization of silver by cathode rays. D. L. Webster, W. W. Hansen and F. B. Duveneck. *diags Phys R* 43:839-58 Je 1 '33

Silver, an analysis of factors affecting its price. Y. S. Leong. 168p [bibliog p157-62] Brookings institution, Washington, D.C. '33

Silver as a lining for processing plant; abstract. D. McDonald. *Chem Age (Lond)* 28: 140 F 18 '33

Silver market dictionary. H. M. Bratter. 202p Commodity exchange, inc, New York '33

Solubility of silver in mercury. R. E. DeRight. *bibliog diag J Phys Chem* 37:405-16 Ap '33

Thermodynamic properties of solid solutions of gold and silver. A. Wachter. *Am Chem Soc J* 54:4609-17 D '32

Wave-lengths of the silver, molybdenum, copper, iron and chromium  $K\alpha$  lines. J. A. Bearden. *Phys R* 43:92-7 Ja 15 '33

X-ray line intensities and cathode-ray retardation in thick targets of silver. D. L. Webster, W. W. Hansen and F. B. Duveneck. *bibliog Phys R* 44:258-64 Ag 15 '33

**Analysis**

Modified method for cation group 1. R. W. Gelbach. *J Chem Educ* 10:621 O '33

**SILVER acetylide**

Action du choc des électrons sur l'azoture de plomb et sur l'acétylure d'argent; remarques théoriques sur la décomposition thermique des explosifs. H. Muraour. *Chimie & Ind* 30:39-40 JI '33

**SILVER alloys**

Die galvanische versilberung von phosphorhaltigem grundmetall. Moser, K. W. Fröhlich and E. Raub. *il Angew Chemie* 46:562-5 S 2 '33

Magnetic susceptibilities of lead, silver and their alloys. C. G. Montgomery and W. H. Ross. *Phys R* 43:358-60 Mr 1 '33

Solubility of oxygen in gold and in certain silver-gold alloys. F. J. Toole and F. M. G. Johnson. *bibliog J Phys Chem* 37:331-46 Mr '33

Stainless silver. *Business Week* p11 S 2 '33

Structure analogies of alloys. A. Westgren. *il diags Am Soc Steel Tr Trans* 20:507-28 D '32

Structure of electrodeposited alloys; the effect of current density and temperature of deposition on the structure of silver-cadmium deposits. C. W. Stillwell and H. I. Feinberg. *bibliog Am Chem Soc J* 55:1864-70 My '33

X-ray analysis of electrodeposited alloys. C. W. Stillwell. *il Metal Ind* 31:47-50 F '33

**See also**

Silver solder

**SILVER as money**

Best year for gold and the worst for silver. S. Turner. *Min & Met* 14:4-6 Ja '33

Career of gold and silver since 1817. H. M. Bratter. *Am Bankers Assn J* 25:31-2+ D '32

Commodity prices and silver. K. Pittman. *Min Cong J* 19:11-12+ F '33

Economic salvation via silver. *Bradstreet's* 61: 41 Ja 14 '33

Inflation and silver. J. S. Lawrence. *Econostat* 1:8-10+ Ap 29 '33

Is free silver the way out? V. Allen, jr. *Bankers M* 126:124-6 F '33

Letter from Sir Henri Deterding. *Nation's Business* 21:16 Mr '33

Mining industry will watch London conference. *Eng & Min J* 134:260 Je '33

Monetary use of silver in 1933. H. M. Bratter. *U S Bur For & Dom Com Trade Promotion Ser* 149:1-142 '33

More silver money; many countries revert to wider use of silver in their currency systems. *Business Week* p24 Ja 4 '33

Should we turn to silver? H. M. Bratter. *bibliog 28p pa 25c Univ. of Chicago press* '33

Silver agreement reached at London. *Eng & Min J* 134:341 Ag '33

Silver and the foreign debt payments. 29p 5c Supt. of doc. '33



**SILVER as money—Continued**

Silver coinage. *Am Bankers Assn J* 26:59 Ag '33

Silver; Europeans show surprising lack of interest in silver coins. *Business Week* p17-18 Ja 25 '33

Silver, just silver. *il map Fortune* 8:56-63, 98, 101-6 Jl '33

Speculative analysis of silver. J. S. Lawrence. *Econostat* 1:8-10+ Je 17 '33

What of the money metals? *Comm & Fin* 22: 85 Ja 18 '33

Will 1933 have a silver lining? *Bradstreet's* 61:138 Ja 28 '33

Will silver be remonetized? G. E. Anderson. *Mag of Wall St* 51:567+ Mr 18 '33

**SILVER bromate**

Medium effect of various solvents upon silver bromate at 25°. B. B. Owen. *Am Chem Soc J* 55:1922-8 My '33

**SILVER bromide**

Free energy of reactions involving the fused chlorides and bromides of lead, zinc and silver. E. J. Salstrom. *Am Chem Soc J* 55: 2426-8 Je '33

**SILVER carbonate**

Heat capacities of sodium carbonate and bicarbonate and silver carbonate at low temperatures. C. T. Anderson. *Am Chem Soc J* 55:3621-3 S '33

**SILVER chloride**

Atomic mass of sodium; the sodium chloride-silver ratio. C. R. Johnson. *J Phys Chem* 37: 923-33 O '33

Free energy of reactions involving the fused chlorides and bromides of lead, zinc and silver. E. J. Salstrom. *Am Chem Soc J* 55: 2426-8 Je '33

Solubility of silver chloride in nitric acid at 0°. C. R. Johnson and G. W. Low, jr. *Am Chem Soc J* 55:2262-5 Je '33

Solubility of silver chloride in water at 0°. C. R. Johnson and G. A. Hulett. *diag Am Chem Soc J* 55:2258-62 Je '33

Thermodynamics of aqueous hydrochloric acid solutions from electromotive force measurements. H. S. Harned and R. W. Ehlers. *bibliog Am Chem Soc J* 55:2179-93 Je '33

**SILVER compounds**

Some arsine derivatives of silver salts. G. J. Burrows and R. H. Parker. *Am Chem Soc J* 55:4133-5 O '33

Studies of electrolytic polarisation; amines of copper, silver, zinc, and cadmium. S. Glasstone. *Chem Soc J* p2849-57 D '32

**SILVER halides**

Influence of halides upon the extinction coefficients, and its bearing upon the constitution, of silver halides in fusion. G. S. Forbes and H. B. Elkins. *diag Am Chem Soc J* 55:3272-7 Ag '33

Preparation and properties of silver sols by reduction of silver halides with formaldehyde. T. I. Taylor and W. H. Cone. *Am Chem Soc J* 55:3512-15 S '33

**SILVER hydroxide**

Solubility of silver oxide in water, in alkali and in alkaline salt solutions; the amphoteric character of silver hydroxide. H. L. Johnston, F. Cuta and A. B. Garrett. *bibliog diag Am Chem Soc J* 55:2311-25 Je '33

**SILVER industry and trade**

Metal manufacturing and finishing industries of the United States. A. Bregman. *Metal Ind* 31:51-3 F '33

Outlook for silver; present and future. C. W. Handy. *Min & Met* 13:519-20 D '32

Proposed agreement among eight nations to restrict the sale of silver for a four-year period signed by delegates at the World economic and monetary conference in London. *Min Cong J* 19:8 S '33

Silver agreement reached at London. *Eng & Min J* 134:341 Ag '33

Silver and the Economic conference. T. E. G. Gregory. *Economist* 117:218-19 Jl 29 '33

Silver, just silver. *il map Fortune* 8:56-63, 98, 101-6 Jl '33

Silver market. H. M. Bratter. *fold map U S Bur For & Dom Com Trade Promotion Ser* 139:1-95 [bibliog p94-5] '32

Unappreciative metal. F. E. Tyng, jr. *il Am Bankers Assn J* 26:26-7 S '33

*See also*

Silver as money

**Statistics**

Precious metals, 1932. G. H. Niemeyer. *Metal Ind* 31:10 Ja '33

Production of gold and silver in the United States in 1932. *Min Cong J* 19:15 F '33

Silver, 1932. *Economist* 116:sup52 F 18 '33

**SILVER iodate**

Potential of the silver-silver iodate electrode at 25°. J. N. Pearce and V. I. Wirth. *Am Chem Soc J* 55:3569-71 S '33

**SILVER metallurgy**

Practical test manipulation; handling the cupellation furnace. C. C. Downie. *Soc Chem Ind J (Chem & Ind)* 52:777-8 S 29 '33

Progress in concentrating Tintic Standard silver-lead ore; flotation and gravity concentration. C. A. Schempp. *Min & Met* 14: 291-2 Jl '33

Silver-lead smelting progress in Chihuahua, Mexico. H. R. MacMichael. *Min & Met* 14: 93-4 F '33

*See also*

Cyanide process

**SILVER mines and mining**

Best year for gold and the worst for silver. S. Turner. *Min & Met* 14:4-6 Ja '33

**Mexico**

Mexican gambusino in El Tigre. W. A. Wasley. *il Min & Met* 14:187-9 Ap '33

Mining methods and costs at Fresnillo, Zacatecas, Mexico. A. Livingston. *diags plans U S Bur Mines Information Circ* 6661:1-31 '32

**New Guinea**

Chemical migration; post-mine phenomena in New Guinea. R. Blanchard. *il map Eng & Min J* 134:365-8, 425-8 S-O '33

**Ontario**

Sun also sets; Cobalt declining. L. McFarlane. *il Can Min J* 54:51-2 F '33

**SILVER nitrate**

Electrometric studies of the precipitation of hydroxides; the constitution of ammoniacal solutions of (a) silver nitrate, (b) silver oxide. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p1050-3 Ag '33

Two-component salt mixtures of lead nitrate with thallium or silver nitrate. H. M. Glass, K. Laybourn and W. M. Madgin. *Chem Soc J* p2713-15 N '32

**SILVER ores**

Chemical migration; post-mine phenomena in New Guinea. R. Blanchard. *il map Eng & Min J* 134:365-8, 425-8 S-O '33

Relation between silver content and tetrahydrite in the ores of the North Cananea mining co, Cananea, Sonora, Mexico. H. V. Warren. *Econ Geol* 27:737-43 D '32

**SILVER oxide**

Electrometric studies of the precipitation of hydroxides; the constitution of ammoniacal solutions of (a) silver nitrate, (b) silver oxide. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p1050-3 Ag '33

Solubility of silver oxide in water, in alkali and in alkaline salt solutions; the amphoteric character of silver hydroxide. H. L. Johnston, F. Cuta and A. B. Garrett. *bibliog diag Am Chem Soc J* 55:2311-25 Je '33

**SILVER plating**

Die galvanische versilberung von phosphorhaltigem grundmetall. Moser, K. W. Fröhlich and E. Raub. *il Angew Chemie* 46:562-5 S 2 '33

**SILVER solder**

Brazing alloys containing silver. *Chem Age (Lond)* 28:sup35 Je 3 '33

Metals brazed with silver solders. A. Eyles. *Power* 77:146-7 Mr '33

**SILVER solder—Continued**

Zur anwendung von silberschlagloten in der chemischen industrie. R. J. Snelling and E. R. Thews. *Chemische Fabrik* 6:443-5 O 25 '33

**SILVER sulfide**

Photographic properties of silver sulfide; print-out effect; photographic aspect. K. Hickman and W. Weyerts. *il diags J Fr Inst* 216:591-627 [bibliog p627] N '33

**SILVER vanadate**

Physicochemical studies of complex acids; the precipitation of metallic vanadates, with a note on Moser and Brandl's method of estimating vanadium. H. T. S. Britton and R. A. Robinson. *Chem Soc J* p512-17 My '33

**SILVERING**

Applications of silver processed incandescent lamps with technical data. J. D. Whittaker. *diags Illum Eng Soc Trans* 28:418-30; Discussion. 431-6 My '33

Silvering of automobile headlamp bulbs. G. S. Santmyers. *Metal Ind* 31:277-9 Ag '33

**SILVERSMITHING**

Domestic silver of Great Britain and Ireland. E. Wenham. 186p [bibliog p176] Oxford '31  
John Coney, silversmith, 1655-1722. H. F. Clarke. 92p Houghton '32

**SILVERWARE**

Anti-tarnish cloth; patents and tests. T. C. Coté. *diag Textile Col* 55:316-18 My '33  
Century of progress in finishing silverware. *il Platers' Guide* 29:18-19 My '33

International silver co. the world's largest silver-plater. *il Fortune* 7:70-5+ Ap '33

More parties; more silverware; certified coupon plan. *Ptr Ink* 164:28 Ag 17 '33

Silver protecting cloth. *Sci Am* 149:78-9 Ag '33

This plan builds repeat sales for the dealer; International silver company certified coupon plan. *il Ptr Ink* 165:10-11 O 26 '33

**Advertising**

Advertising success story, 1933; Black, Starr & Frost-Gorham. E. E. Calkins. *il Adv & Sell* 21:30 Jl 6 '33

Basic theme need never be discarded; copy, layouts and illustrations should be changed. B. L. Dunn. *il Ptr Ink Mo* 26:25-6+ Je '33

Gorham campaign to stress sterling. *il Ptr Ink* 163:56 Ap 20 '33

Oneida advertises for its workers. *il Ptr Ink* 161:45 N 17 '32

**Manufacture**

Hardening impression dies. W. E. Snow. *diags Mach* 39:697-9, 790-2 Jl-Ag '33

**SIMMS petroleum company**

Attractive low-priced speculations. *Mag of Wall St* 53:32 O 28 '33

**SIMPSON, William, 1869-1933**

Sketch. *Engineering* 135:71-2 Ja 20 '33

**SIMPSON, William Haskell, 1858-1933**

Sketch. *Ptr Ink* 163:20 Je 22 '33

**SINANATHROPUS pekinensis**. See Man, Prehistoric**SINE bar**

Sine bar with balls instead of plugs. W. Gray. *diag Am Mach* 77:634-5 S 27 '33

**SINE plates**

Compound sine plate. H. W. Boehly. *diags Am Mach* 77:540 Ag 16 '33; Discussion. J. E. Hyler. 77:665 O 11 '33

Four-point sine plate for rapid and accurate lay-out work. A. E. Mougey. *diags Mach* 40:25-6 S '33

**SINGER and company**

Singer and company. *Economist* 117:589 S 23 '33

**SINGER manufacturing company**

Helped by NRA. *Econostat* 1:12, 32 O 7 '33

**SINGLE tax**

Freedom for mothers. J. O. Smith. 212p Dorrance & co, inc, Philadelphia '33

Letting George do it. S. Bell. *Comm & Fin* 22:351 Ap 19 '33

Plenty vs. scarcity. J. Dewey. *Comm & Fin* 22:751-2 Ag 30 '33

**SINKING funds**

Electrical trade costing; creating a sinking fund. S. H. Withey. *Electrician* 110:216 F 17 '33

**SINKS**

Corrosion-resisting steel sinks formed in one operation. *il Steel* 92:26 Ja 30 '33

Enameled sinks pressed from heavy-gage steel sheets; Youngstown pressed steel co. *il Steel* 93:28 Ag 7 '33

Line of acid resisting steel sink. *il Dom Eng* 141:109-10 Je '33

Pressed steel sinks. *il Business Week* p 14 Ap 5 '33

Stamped plumbing fixtures open new market for sheet steel; recent development of the Briggs mfg. co. *il Iron Age* 131:518 Mr 30 '33

**Advertising**

Try reworking that dormant list of inquiries; mailings to 18,723 old prospects bring 511 replies at \$1.30 each; Monel metal sinks. E. Peterson. *Ptr Ink Mo* 26:48+ Ja '33

Uses consumer market as an industrial demonstrator; International Nickel continues sampling idea with increased advertising of new monel metal tanks and heaters. R. Dickinson. *il Ptr Ink* 163:62-5 Je 29 '33

**SINTERING**

Composition and deoxidation of iron oxide sinters. T. L. Joseph, E. P. Barrett and C. E. Wood. *bibliog Blast F & Steel Pl* 21: 147-50, 207-10, 260-3, 321-3+ Mr-Je '33

Sintering of iron ores; latest scientific principles at the new Ford motor works. *il Chem Age (Lond)* 29:sup16-17 S 2 '33

Sintering of tungsten. *Engineer* 155:sup[Metal-lurgist] 2-3 F 24 '33

**SIPHONS**

Concrete siphons and canal linings feature irrigation system; Otis Orchards irrigation district, Washington. G. W. Hitchcock. *il Concrete* 41:13 Ag '33

Inverted sewage syphon under Don river. R. O. Wynne-Roberts. *plan Can Eng* 64:18-19 Ja 31 '33

Laws of syphon flow. P. Davies. *Engineering* 135:115-16 Ja 27 '33

**Testing**

Behavior of siphons. J. C. Stevens. *il diags Am Soc C E Proc* 59:925-44 Ag '33; Discussion. 59:1654-6 D '33

**SIRUPS**

Production of a palatable artichoke sirup. F. A. Dykins and others. *bibliog Ind & Eng Chem* 25:937-40, 1165-8 Ag, O '33

Solubility of sucrose in beet house sirups. R. J. Brown and A. R. Nees. *Ind & Eng Chem* 25:555-8 My '33

**See also**

Corn sirup

Maple sirup

**Analysis**

Determination of moisture in sirups and viscous materials. E. W. Rice and P. Bole-racki. *Ind & Eng Chem Anal ed* 5:11-12 Ja 15 '33

Effect of reversion products and amino compounds on sucrose determinations in cane products. F. W. Zerbán and C. A. Gamble. *bibliog Ind & Eng Chem Anal ed* 5:34-5 Ja 15 '33

**SISSON, Francis Hinckley, 1871-1933**

Portrait. *Bankers M* 127:sup12 O '33

Sketch. *por Ptr Ink* 164:38 S 21 '33; *Comm & Fin* 22:816 S 20 '33; *Trust Companies* 57:310 S '33; *Am Bankers Assn J* 26:45 N '33

**SIZING (textiles)**

Drying-oil size for rayon yarn. A. J. Hall. *Textile Col* 55:41 Ja '33

Enzymes for textile purposes. J. E. Evans. *Soc Dyers & Col J* 49:250-6 Ag '33

Johnson cotton system warp sizer, especially designed for synthetic yarns and spun silk. *il Melliand* 4:726 Mr '33

Quantitative determination of starch as sizing. B. X. Herman. *Am Dyestuff Rep* 22:511-14+ Ag 28 '33

Sizing, finishing and printing materials. G. F. Dalenoord. *Textile Col* 55:671-4+ O '33



**SIZING (textiles)—Continued**

Sizing rayon warps. D. A. Gryder. *il Textile World* 83:1598-9 S '33  
Starches and dextrans for sizing, finishing, and printing. *il Textile World* 83:229 F 14 '33

See also  
Cotton sizing

**Testing**

Modern and practical tests applied to the sizing materials. *Textile Col* 55:54 Ja '33

**SIZING** of paper. See Paper sizing

**SKATING rinks**

Grand Island skates on activated ice. C. Hehnke. *il Water Works & Sewerage* 80:96 Mr '33

Thaws rink ice at saving of \$116 and 42 hours. E. L. Weber. plans Heating-Piping 5:145-6 Mr '33

**SKELLY oil company**

Skelly oil co. and Lewis production co. buy favored oil leases in Osage. *Oil & Gas J* 32:32 N 2 '33

**SKIDS**

Economies effected by skid shipments point way to other savings. H. E. Stocker. *Marine R* 63:46-8 Ap '33

**SKILL**

Skill. F. L. Watson. *Inst Mech Eng Proc* 123:761-6 '32

**SKIN**

Cutaneous sensation. S. W. Ranson. bibliog *Science* 78:395-9 N 3 '33  
Measurement of skin color. G. D. Williams. *Science* 78:192-3 S 1 '33

**Diseases**

Dermatitis from chemicals used in removing velvet pile. L. Schwartz and L. Tulipan. *Pub Health Rep* 48:872-5 J1 28 '33

Industrial dermatoses. F. Wise and M. B. Sulzberger. *Safety Eng* 65:27-30, 67-8, 70 Ja-F '33

Inherent sensitivity of the skin to nickel and cobalt; abstract. S. G. Stewart. *J Ind Hygiene* 15:sup81 J1 '33

New disease caused by a yeast-like organism. G. H. Hansmann and J. R. Schenken. *Science* 77:sup8 My 12 '33

Occupational dermatitis and ring worm. M. R. Mayers. *Safety Eng* 66:69-70 Ag '33

Occupational skin diseases; abstract. O. L. Levin. *J Ind Hygiene* 15:sup80-1 J1 '33

Oil dermatitis. W. J. McConnell. *Nat Safety N* 28:34+ N '33

Outbreak of dermatitis among workers in a rubber manufacturing plant. L. Schwartz and L. Tulipan. bibliog *Pub Health Rep* 48:809-14 J1 14 '33

Outbreak of dermatitis in cotton mills due to varnish. L. Schwartz and C. L. Pool. *J Ind Hygiene* 15:214-25 J1 '33; Abstract. *Nat Safety N* 28:44 S '33

Prevention of industrial diseases of the skin. H. Haldin-Davis. *Soc Chem Ind J (Chem & Ind)* 52:575-8 J1 14 '33; Abstract. *Chem Age (Lond)* 28:509 Je 3 '33

Treatment of print works dermatitis. J. R. Hannay. *Soc Dyers & Col J* 48:255 S '32; Same. *Textile Col* 55:34 Ja '33; Discussion. *Soc Dyers & Col J* 48:255-6 S '32

What determines compensability for skin diseases among industrial workers? C. P. McCord. *U S Bur Labor Statistics Bul* 577:205-17 '33; Same cond. *Safety Eng* 66:27-30+ J1 '33; Discussion. *U S Bur Labor Statistics Bul* 577:217-24 '33

**SKIN effect**

Skin effect in rectangular conductors. H. C. Forbes and L. J. Gorman. *diag Elec Eng* 52:636-9 S '33; Discussion. H. B. Dwight. 52:724-5 O '33

**SKIN foods****Analysis**

Analysis of mixtures of fats and waxes. H. D. Murray. *Soc Chem Ind J* 51:393T-4T D 9 '32

**SKIN friction**

Skin friction of various surfaces. S. D. Gehman and G. D. Mallory. bibliog *il diag J Fr Inst* 216:339-50 S '33

**SKIN temperature.** See Temperature, Animal and human

**SKINNER, Frank W.** 1858-1932

Sketch. *Engineering* 135:54 Ja 13 '33

**SKULL**

Ear region and the foramina of the cynodont skull. G. G. Simpson. bibliog *diags Am J Sci* 5th ser 26:285-94 S '33

Skull change. H. Mortimer. *Science* 77:sup6 Je 23 '33

**SKY**

Radiation of the night sky. V. M. Slipher. *Science* 77:sup8-9 My 5 '33

**SKYLIGHTS**

Various skylight construction details; working drawings. J. G. Stewart. *Architecture* 67:162 Mr '33

**SKYSCRAPERS.** See High buildings

**SKYWRITING**

Night sky writing; the Savage projector. *il Electrician* 109:609 N 11 '32

Report from the select committee on sky-writing together with the Proceedings of the committee, Minutes of evidence, appendices and index. [Parliament, 1932. H. of C. Repts. and papers]. 213p H. M. Stationery office, London '32

**SLABS, Concrete.** See Concrete slabs

**SLAG**

Blast-furnace slag long accepted as concrete aggregate. *Concrete* 41:5-6 S '33

Blast furnace smelting practice. A. J. MacDonald. *Blast F & Steel Pl* 20:883-6; 21:103-6, 157-8 D '32, F-Mr '33

Brosius slag granulating machine recovers the iron. *il Iron Age* 130:993 D 29 '32; *Steel* 92:24 F 20 '33; *Blast F & Steel Pl* 20:902 D '32

Effect of different media on trickling filter unloading. W. Rudolfs and N. S. Chamberlain. *Civil Eng* 3:210-12 Ap '33

Electrolytic extraction of slag from iron and carbon steel; abstract. R. Treje and C. Benedicks. *Chem Age (Lond)* 29:251 S 16 '33

Fluxing of [coal] ashes and slags as related to the slagging-type furnace; abstract. P. Nicholls and W. T. Reid. *Soc Chem Ind J* 51:sup1110 D 23 '32

Das gleichgewicht  $\text{FeO} + \text{Ni} \rightleftharpoons \text{NiO} + \text{Fe}$  im schmelzfluss. H. Senf. *Stahl & Eisen* 53:451-2 My 4 '33

Inclusions in acid electric steel. H. D. Phillips. *Foundry* 61:21-2+ My '33

Perrin steel deoxidising process. R. Perrin. *Engineering* 135:674 Je 23 '33

Physical chemistry of steelmaking; abstract. C. H. Herty, jr. *Steel* 93:30; Discussion. 30-1 O 30 '33

Producing glass from furnace slag. C. A. Basso. *Chem & Met Eng* 40:309 Je '33; Same abr. *Manuf Rec* 102:68 Ja '33

Salt used to liquefy cupola slag. B. M. Suslov. *Metal Prog* 23:43 My '33

Semi-transparent glass from blast furnace slag. *Glass Ind* 13:195+ D '32

Straight limestone slag in cupola; abstract. R. H. Bancroft and A. C. Myers. *Iron Age* 131:1043 Je 29 '33

Ueber den zerfall von hochofenschlacke. F. Hartmann. *il Stahl & Eisen* 53:509-10 My 11 '33

Ueber die reaktionen zwischen technischen roheisensorten und ihren schlacken. W. Dinkler. *Stahl & Eisen* 53:1089-90 O 19 '33

Untersuchungen über das verhalten von erhärtetem hochofenzement gegen sulfatlösungen und salzarmes wasser. R. Grün and H. Beckmann. *Angew Chemie* 45:739-43 N 26 '32

Waylite, a blast-furnace slag concrete material. *il Iron Age* 130:847 D 1 '32

**Testing**

Ueber stahl- und schlackentemperaturen bei basischen Siemens-Martin-schmelzungen. E. Schröder. *Stahl & Eisen* 53:873-81; Discussion. 881-4 Ag 24 '33

**SLAG (in boilers)**

Action of waste wood and oil fuel on refractories. K. G. Skinner and N. L. Field. *il Brick & Clay Rec* 81:204+ D '32

Action of waste-wood ash on refractories when used with auxiliary oil-firing. K. G. Skinner and N. L. Field. *il diags Am Cer Soc J* 16:393-403 Ag '33

Deslagging boiler tubes with water. *diag Power* 77:141 Mr '33

Refractory service, with particular reference to boiler furnaces. J. Walker. *diags Engineering* 135:34-7 Ja 13 '33; *Abstract. Mech Eng* 55:184 Mr '33

Removal of ash as molten slag; abstract. K. M. Irwin. *Power* 76:335 Mid-D '32

**SLAG** wool. See Mineral wool

**SLATE**

Contact metamorphism of the slates of Minnesota by granite and by gabbro magmas. F. F. Grout. *il map Geol Soc Bul* 44:989-1039 [bibliog p1033-9], pl 38-9 O '33

Effects of certain silicate dusts on the lungs. W. C. Dreessen. *il J Ind Hygiene* 15:66-78 Mr '33

Slate flour in rubber mixings; abstract. J. R. Scott. *India Rubber W* 89:40 O '33

Slate in Pennsylvania. C. H. Behre, Jr. 400p Pennsylvania Dept. of internal affairs, Topographic and geologic survey, Harrisburg '33

Tungsten-carbide tools for drilling slate and marble. J. M. Highducheck. *il diag Mach* 39:407-8 F '33

**SLAUGHTERING and slaughterhouses**

Labor productivity and displacement in the slaughtering and meat-packing industry. *Monthly Labor R* 35:1018-25 N '32

Wages and hours of labor in the slaughtering and meat-packing industry, 1931. U S Bur Labor Statistics *Bul* 576:1-165 '33

**SLEEP**

Agglomeration theory of sleep; abstract. W. D. Bancroft. *Science* 76:522 D 2 '32

**SLEEPING cars**

Are the railways capitalizing on Pullman service? *il Ry Age* 95:395-8+ S 16 '33

Pullman all-aluminum compartment, observation-lounge car. *il plan Ry Age* 94:823-6 Je 10 '33

Two aluminum passenger cars on exhibit at Chicago. *il diags Ry Mech Eng* 107:185-91+ Je '33

See also

Pullman porters

**SLEEPING sickness (epidemic encephalitis)**

See Encephalitis, Epidemic

**SLEET**

See also

Electric lines—Sleet problem

**SLIDE rule**

Log-log slide rule. *diag Engineer* 155:346-7 Ap 7 '33

Slide nomograms applied to gas-works routine calculations. T. H. Blakeley. *il Gas J (Lond)* 200:860-1 D 28 '32

Slide rule magnifying attachment. *il Engineer* 156:342 O 6 '33

Slide rules for calculating gas flow meter charts. F. H. Day. *il Gas Age* 72:258-60 S 16 '33

Thornton compound interest slide rule. *Engineering* 135:277 Mr 10 '33

Use of the slide rule in calculating hydrogen-ion concentration and pH values. M. C. Sanz. *il Ind & Eng Chem Anal ed* 5:218 My 15 '33

**SLIME**

Slime and mussel control in surface condensers and circulating-water tunnels; abstract. S. T. Powell. *Mech Eng* 55:511-12 Ag '33

**SLIPS (ceramics)**

Terra cotta slip coatings. S. J. McDowell. *diag Am Cer Soc J* 16:134-40 Mr '33

Use slip to produce grey brick—clay mixtures make buff and grey colors. L. P. Collin. *Brick & Clay Rec* 83:24+ Jl '33

**SLIPWAYS**

650-ton marine turntable slipway, port of Lorient-Kéroman, Brittany. *il diags Engineering* 135:559-61, 572, 629-30, pl 33 My 26, Je 9 '33

Le slipway de 650 tonnes, à garages rayonnants, du port de pêche de Lorient. *il diags Génie Civil* 103:221-5 S 2 '33

**SLOAN, Alfred Pritchard**

Five who may rule industry with Roosevelt. *por Sales Management* 32:622 Je 15 '33

**SLOAN, Robert Patrick, 1874-**

Vice-president of the I.E.E. *por Electrician* 111:363 S 29 '33

**SLOGANS**

Big idea in slogans. K. Goode. *Adv & Sell* 20:21-2 D 8 '32

Clearing house of slogans. *Ptr Ink* 161:82 N 24 '32; 162:82 F 9; 163:64 My 25; 164:82 Jl 20 '33

More slogan questions. *Ptr Ink* 164:96-7 S 14 '33

New products—new slogans. *Ptr Ink* 163:81 Ap 27 '33

Slogan, slogan—who owns the slogan? How ninety consumers identified twenty advertised phrases. R. A. Zinn. *Ptr Ink Mo* 26:45-6 F '33

What makes a good slogan? *Ptr Ink* 162:68 Mr 23 '33

**SLOT machines, Gambling**

You can't beat 'em. A. P. Peck. *il Sci Am* 147:350-1+ D '32

**SLOT machines, Vending. See Vending machines****SLOTS**

Fixture for cutting slots at right angles in one operation. C. W. Hinman. *diags Mach* 40:158-60 N '33

Fixture for slotting bodies of special cocks. C. C. Tomney. *diags Am Mach* 77:635 S 27 '33

**SLOTING machines**

Butler precision tool-room slotting machine. *il Engineering* 135:303-4 Mr 17 '33; *Engineer* 155:228 Mr 3 '33

**SLUMS**

Basis for procedure in slum clearance. A. C. Holden. *diags Arch Rec* 73:217-21 Mr '33

Housing and slum-clearance projects eligible for loans and subsidies. *Arch Rec* 74:157-9 S '33

Housing—where, when, and how? H. Wright. *il diags plans Architecture* 68:1-32 Jl '33

National conference on slum clearance held in Cleveland, July 6-7. *Eng N* 111:58-9 Jl 13 '33

Policies governing housing and slum-clearance projects; National conference on slum clearance, Cleveland, July 6-7. *Arch Rec* 74:87-9 Ag '33

Preparedness for slum clearance; federal aid. J. H. Millar. *il Civil Eng* 3:506-7 S '33

Slum clearance vs. the community. W. S. Parker. *il Arch Rec* 72:347-51 D '32

**SMALL business. See Business—Small business****SMALL loans. See Loans, Small****SMALL orders. See Sales policies—Small orders****SMALL space advertisements. See Advertisements, Small space****SMALL town stores. See Retail trade—Small town stores****SMALLPOX**

Decline in smallpox reported by Metropolitan. *Spectator* 131:14 Ag 31 '33

Smallpox incidence in the United States. *Pub Health Rep* 48:265-6 Mr 17 '33

**SMELL**

See also

Odors

**SMELTING**

Blast furnace smelting practice. A. J. MacDonald. *Blast F & Steel Pl* 20:883-6; 21:103-6, 157-8, 215+, 258-9+ D '32, F-My '33

Bolivian blismuth industry. T. L. Johnston. *flow sheet il diag map Min & Met* 14:333-8 Ag '33



**SMELTING—Continued**

How gas fuel has been applied at the Tooele smelter. J. B. Nealey. *il Min & Met* 14: 375-6 S '33

Scrap and the lead market. S. Tzach. *Eng & Min J* 134:371-3 S '33

Silver-lead smelting progress in Chihuahua, Mexico. H. R. MacMichael. *Min & Met* 14: 93-4 F '33

Smelting and refining technique at Port Pirie, Australia. O. H. Woodward. *flow sheets Eng & Min J* 134:140-4 Ap '33

Smelting of complex white metal residues. *Chem Age (Lond)* 28:sup17-18 Mr 4 '33

*See also*

Blast furnaces	Metallurgy
Furnaces, Metallurgical	Ore treatment
	Slag

**SMELTING works**

Concentration and lead smelting at Midvale, Utah; illustrations. *Eng & Min J* 134:248-9 Je '33

Copper reduction. C. R. Kuzell, comp. *Min & Met* 14:45-8 Ja '33

Recovery of smelter dust and oxide at a secondary metals plant. W. Romanoff and C. O. Thieme. *il diag Min & Met* 14:425-7 O '33

*See also*

Blast furnaces

**Equipment**

How gas fuel has been applied at the Tooele smelter. J. B. Nealey. *il Min & Met* 14: 375-6 S '33

Monterrey smelter uses natural gas. J. B. Nealey. *il Eng & Min J* 134:233-4 Je '33

New conveyor practice at smelting works. A. F. Beasley. *il diag Mech Handling* 20: 304-6 S '33

**SMITH, A. O., corporation**

A. O. Smith deficit lowered. *Econostat* 1:13+ My 6 '33

Companies emerging from the red. *Mag of Wall St* 52:179 Je 10 '33

**SMITH, Courtland N.**

Most interesting advertising job I ever did. *por Ptr Ink* 162:41-2 Mr 23 '33

**SMITH, David Eugene**

Honor bestowed on Dr David Eugene Smith by the Shah of Persia. F. E. Brasch. *Science* 78:384 O 27 '33

**SMITH, Frank E. 1876-**

Sketch. *por Soc Chem Ind J (Chem & Ind)* 52:29 Ja 13 '33

**SMITH, Jonas Waldo, 1861-1933**

Sketch. *por Eng N* 111:483 O 19 '33

Tribute. T. Merriman. *por Civil Eng* 3:642 N '33

**SMITH, W. W. 1882-**

Chief engineer, Federal shipbuilding & dry dock co. B. K. Price. *por Marine R* 62:44 D '32

**SMOKE**

Colloid correlation principle. S. C. Blacktin. *Soc Chem Ind J (Chem & Ind)* 52:372-3, 544-5 Ap 28, Je 30 '33

Dusts, smokes, mists, and fogs. S. C. Blacktin. *Soc Chem Ind J (Chem & Ind)* 51:1006-7 D 2 '32; Discussion. 51:1042-3, 1077-8 D 16, 30 '32

Effects of smoke and fumes on buildings. F. Baines. *Electrician* 111:91 Jl 21 '33

Loss of light due to smoke in Baltimore, Md. from October, 1929 to September, 1930. J. E. Ives. *Pub Health Rep* 48:113-25 F 3 '33

Occurrence of lead, copper, zinc, and arsenic compounds in atmospheric dusts, and the sources of these impurities. J. T. Dunn and H. C. L. Bloxam. *Soc Chem Ind J* 52: 189T-92T Je 30 '33

Smoke-density scales. H. E. Bumgardner. *Mech Eng* 55:200 Mr '33

Smoke point of kerosine. *diags Inst Pet Tech J* 19:812-14 S '33

*See also*

Combustion  
Flue dust  
Fuel

**SMOKE abatement association**

Annual meeting, 27th, Chicago, June 20-23. *Power Pl Eng* 37:341 Ag '33

**SMOKE prevention**

Foyer économiseur fumivore pour chauffage central. J. Delanoue. *il diags Génie Civil* 102: 90-1 Ja 28 '33

Gas man looks at the smoke nuisance. H. Obermeyer. *il Gas Age* 72:238+ S 9 '33

Grundsätzliches zur technischen abgas- und rauchschädenfrage und zu den aussichten auf ihre lösung. H. Wislicenus. *Angew Chemie* 46:104-5 F 11 '33

Human side of smoke abatement. W. G. Christy. *il Mech Eng* 55:347-51 Je '33; Discussion. 55:650-1 O '33

Light sensitive cells; their use in the development of smoke prevention equipment. *Electrician* 110:335 Mr 10 '33

Principles in power plant operation essential to smoke abatement. A. E. Grunert. *il Power* 77:542-3 O '33

Pure air; current research projects. *Power* 77: 263-4 My '33

Refinery smoke nuisance abated by photronic cell. J. A. Murphy. *Oil & Gas J* 31:32 My 4 '33

Smog—and what's being done about it. *diag Power* 77:358 Jl '33

Smoke abatement; abstract. V. R. Chadwick. *Chem Age (Lond)* 27:580-1 D 17 '32

Smoke abatement; detection of soot and sulphur gases. *Electrician* 111:402 S 29 '33

Smoke abatement in New York harbor. *Marine Eng* 38:261 Jl '33; Same. *Marine R* 63:27 Jl '33

Smoke abatement is possible by improved combustion. W. G. Christy. *Marine R* 63:36 O '33

Smoke and flue dust. *Power* 77:231 My '33

Smoke and pure air activities mark time. *Power* 77:25 Ja '33

Smoke, cinder, fly ash; symposium at A.S.M.E. meeting, Chicago. *Power* 77:343-4 Jl '33

Smokiness of oil-burning orchard heaters. W. R. Schoonover and F. A. Brooks. *Calif Agric Exp Sta Bul* 536:1-67 '32

Stop that smoke! H. Obermeyer. 289p [bibliog p271-8] \$2.50 Harper '33; Review by F. W. Parsons. *Am Gas Assn Mo* 15:316+ Ag '33; Review by E. E. Free. *Pub Util* 12:342 S 14 '33

Suggests Recovery act funds be used to abate smoke nuisances. H. C. Murphy. *Heating-Piping* 5:401 Ag '33

*See also*

Chimneys	Locomotives—
Combustion	Smoke problem
Electric precipitation	

**SMOKE recorders**

Brown smoke density meter. R. D. Bean. *il diag Blast F & Steel Pl* 21:166-7 Mr '33

Instrument for measuring smoke. *il diag Engineer* 156:40 Jl 14 '33

Smoke density indicating and recording equipment. *il Marine Eng* 38:401 N '33

Smoke detection. A. Tyler; H. M. Ford. *il diag Engineer* 155:606-7 Je 16 '33

**SMOKELESS powder**

Sur les stabilisants et gélatinisants dans les poudres sans fumée. M. Giua and G. Guastalla. *Chimie & Ind* 29:268-77 F '33

**Moisture content**

Méthode pratique et rapide de dosage du taux d'humidité dans la poudre sans fumée. T. Smisniewicz and W. Wykowski. *il Chimie & Ind* 28:1289-96 D '32

**SMOKING***See also*

Cigaretts  
Cigars

**SMOKING of meat**

Chemical changes in the fat of frozen and chilled meat; the effect of smoking and the influence of atmospheric humidity on the keeping properties of bacon. C. H. Lea. *Soc Chem Ind J* 52:57T-63T Mr 3 '33

**SNAILS**

Storage sac for capsule reinforcement in neritidae. E. A. Andrews. *Science* 78:39-41 J1 14 '33

**SNAKE meat**

Snakes in Arcadia. *Fortune* 8:4+ J1 '33

**SNAKE river, Idaho**

Fine gold and platinum of Snake river, Idaho. T. H. Hite. *il Econ Geol* 28:256-65 [bibliog p264-5] My '33

Special features of fine gold from Snake river, Idaho. T. H. Hite. *il Econ Geol* 28: 636-91 N '33

**SNAKES**

Locomotion of snakes. W. Mosauer. *diags Science* 76:583-5 D 23 '32

See also

Venom

**SNAPDRAGONS**

Phytophthora disease of snapdragons. M. R. Harris. *Science* 78:152 Ag 18 '33

**SNOW**

Snow, natural enemy of railroads and cities. *il Fortune* 7:37-41, 90 F '33

**SNOW fences**

Snow removal and winter road maintenance in Ontario. W. L. Saunders. *Roads & Sts* 76:382-3 O '33; Same. *Can Eng* 65:6 D 12 '33

**SNOW plows**

Caterpillar snow plow. F. H. Higgins. *il Can Eng* 64:27 Ja 3 '33

III° Concours international de chasse-neige du Touring-club de France (21-23 février 1933). J. Thomas. *il map Génie Civil* 102:256-8 Mr 18 '33

**SNOW removal**

Equipment for snow removal in Michigan. B. C. Tiney. *il Pub Works* 63:30+ D '32

Maintenance of highways in winter. G. R. Marston. *Can Eng* 64:58+ Mr 7 '33

Organization for snow removal in Michigan. B. C. Tiney. *Pub Works* 64:25 F '33

Snow removal and winter road maintenance in Ontario. W. L. Saunders. *il Roads & Sts* 76:382-6 O '33; Same. *Can Eng* 65:5-9 D 12 '33; Discussion. J. A. Duchastel. 65:69 S 19 '33

Snow removal method and equipment on mountain highways of California. *il Roads & Sts* 76:346, 348-50 S '33

Snow removal methods and costs in Minnesota. *Pub Works* 64:25-6 F '33

Snow removal methods in the village of South Orange. I. T. Redfern. *map Pub Works* 64:26+ O '33

Snow removal on county roads. J. B. Dunkley. *Can Eng* 64:24 Ap 4 '33

Snow removal requires equipment and men *il Pub Works* 64:25+ O '33

III° Concours international de chasse-neige du Touring-club de France (21-23 février 1933). J. Thomas. *il map Génie Civil* 102:256-8 Mr 18 '33

See also

Railroads—Snow	Street railroads—
protection and re-	Snow protection
moval	and removal

**SNOW surveys**

Predicting runoff by snow surveys. *il Elec West* 70:149-51 My '33

Snow-surveyor of the Sierras; Dr J. E. Church, jr. S. Paine. *il Sci Am* 148:26-7 Ja '33

**SNUFF**

Snuff firms increase earnings. *Barron's* 13:9 Ap 3 '33

**SOAP**

Capillary activity and adsorption of soaps. J. Mikumo. *Soc Chem Ind J* 52:65T-ST Mr 10 '33

Conductivity in the three-component system oleic acid-potassium oleate-water. J. W. McBain and A. Stewart. *Chem Soc J* p928-32 Ag '33

Detergency of alkaline salt solutions; deflocculating and emulsifying power. F. D. Snell. *Ind & Eng Chem* 25:162-5 F '33

Detergency of alkaline salt solutions; laboratory comparison in simulation of laundry practice. F. D. Snell. *bibliog il Ind & Eng Chem* 25:1240-6 N '33

Mechanism of detergency; properties required in concentrated soap solutions. P. L. Mann. *Am Dyestuff Rep* 22:297-8 My 8 '33

Middle soap. R. H. Ferguson and A. S. Richardson. *bibliog il Ind & Eng Chem* 24: 1329-36 D '32

Phase rule equilibria of acid soaps; anhydrous acid potassium laurate. J. W. McBain and M. C. Field. *bibliog diag J Phys Chem* 37:675-84 Je '33

Phase-rule equilibria of acid soaps; anhydrous acid potassium oleate. J. W. McBain and A. Stewart. *Chem Soc J* p924-8 Ag '33

Phase-rule equilibria of acid soaps; anhydrous acid sodium palmitates. J. W. McBain and M. C. Field. *pl Chem Soc J* p920-4 Ag '33

Quality of water and soap consumption; cost data. H. W. Hudson. *Am Water Works Assn J* 25:645-54 [bibliog p 653-4] My '33

Some aspects of boundary lubrication by soap solutions. R. C. Williams. *diag J Phys Chem* 36:3108-14 D '32; Abstract. *Mech Eng* 55: 124-5 F '33

Study of the constitution of aqueous solutions of the hydrogen soap, cetyl sulfonic acid. J. W. McBain and R. C. Williams. *bibliog Am Chem Soc J* 55:2250-7 Je '33

Sulfonated higher alcohols; new detergents; comparison with soap. D. H. Killeffer. *Ind & Eng Chem* 25:138-40 F '33

Ultrafiltration of soap solutions. J. W. McBain, Y. Kawakami and H. P. Lucas. *Am Chem Soc J* 55:2762-9 J1 '33

See also

Castile soap

Soap, Substitutes for

Sodium oleate

Testing

Evaluation of washing agents containing oxygen. K. Brauer. *Melliand* 5:111-14, 160-1, 246-7 Je-J1—Ag-S, N '33

**SOAP, Liquid**

Liquid soap that won't jell. *Sci Am* 148:106-7 F '33

**SOAP, Metallic**

Nature and constitution of shellac; preparation of heavy metal soaps of refined bleached shellac. W. H. Gardner, W. F. Whitmore and H. J. Harris. *bibliog Ind & Eng Chem* 25:696-9 Je '33

**SOAP, Substitutes for**

Gardinols. *Textile Col* 54:835 D '32

Sulphonated alcohol products. S. Lenher. *il Am Dyestuff Rep* 22:13-16; Discussion. 16-18 Ja 2 '33

Sulphonated fatty alcohols. S. Lenher. *Am Dyestuff Rep* 21:693-5 D 5 '32; Excerpts. *Chem Markets* 32:127-8 F '33; Discussion. *Am Dyestuff Rep* 21:695-6; 22:21-4 D 5 '32, Ja 2 '33

**SOAP, Textile**

Degumming agents; soaps and boil-off oils. *Textile World* 83:67 Ja '33

Development of textile detergents. *Textile Col* 55:538+ Ag '33

Examination of chemical auxiliaries in the textile trades. A. H. Pettinger. *Textile Col* 55:334-5 My '33

Getting the most from soap. W. W. Bray. *Am Dyestuff Rep* 22:175-9; Discussion. 179-84 Mr 13 '33

Monopole soap in the finishing of blue-linen (indigo). *Textile Col* 55:600 S '33

Monopole soap in the finishing of cotton linings and ordinary cotton cloth generally. *Textile Col* 55:482 J1 '33

Monopole soap in the finishing of fancy woven goods. *Textile Col* 55:515 Ag '33

Monopole soap in the finishing of flannelettes. *Textile Col* 55:379 Je '33

Monopole soap in the finishing of linen. *Textile Col* 55:346 My '33

Monopole soap in the finishing of mattress tickings. *Textile Col* 55:271 Ap '33

Rise in the clouding-point in soap solutions. *Am Dyestuff Rep* 22:236 Mr 27 '33

Study of the dry-cleaning bath. C. L. Bird. *Soc Dyers & Col J* 49:316-19 O '33



**SOAP bubbles**

Floodlighted soap bubbles. L. C. Porter and J. P. Ditchman. *il diags Gen Elec R* 36: 458-60 O '33; Excerpts. *Sci Am* 150:38 Ja '34

**SOAP factories**

Dunston soap works. *il Chem Age (Lond)* 29:55 Jl 15 '33

**Equipment**

Mechanical handling devices used in the manufacture of soap. G. F. Zimmer. *il diags Mech Handling* 20:309-12 O '33

**SOAP industry and trade**

Colgate puts salesmen on trucks to provide immediate delivery. *Sales Management* 32: 126 F 1 '33

Soap, glycerin code has lengthy hearing. *Oil Paint & Drug Rep* 124:15-16+ O 9 '33; Discussion. C. D. Poland. 124:14 O 23 '33

Soap-glycerin code signed by President; administration provisions. *Oil Paint & Drug Rep* 124:36A N 13 '33

Soaps and cosmetics; an enterprising branch of the chemical industry. *Index* 13:120-4 Je '33

**Advertising**

Appeal inventory and copy tests bring multiplied sales; Packer manufacturing co. E. A. Olds, jr. *il Ptr Ink* 163:3-4+ Je 29 '33

Chipso and Gold Dust photographs. *Ptr Ink* 164:50 S 21 '33

New soap enters advertising ranks; Kirk program. *il Ptr Ink* 163:32 My 18 '33

Shun M. S. warns P. & G. *il Ptr Ink* 164:12 Ag 10 '33

**Statistics**

Post-war progress in various industries. O. Wilson. *Ind & Eng Chem* 25:108-9 Ja '33

**Canada**

Soaps, cleansers output lower in Canada in 1931. *Oil Paint & Drug Rep* 123:19 Ja 9 '33

**SOAP manufacture**

History and development of the soap industry. W. H. L. Leverhulme. *Chem Age (Lond)* 28:159-60 F 25 '33

Mechanical handling devices used in the manufacture of soap. G. F. Zimmer. *il diags Mech Handling* 20:309-12 O '33

Middle soap. R. H. Ferguson and A. S. Richardson. *bibliog il Ind & Eng Chem* 24: 1329-36 D '32

**See also**

Soap factories

**SOAP wrapping paper**

Soap wrap paper testing report. *Paper Tr J* 96:35 Ja 19 '33

**SOAPSTONE**

Hydrothermal metamorphism of an ultrabasic intrusive at Schuyler, Virginia. H. H. Hess. *il diags Am J Sci* 5th ser 26:377-408 O '33

Problem of serpentinization and the origin of certain chrysotile asbestos, talc and soapstone deposits. H. H. Hess. *il diags Econ Geol* 28:634-57 N '33

Die verlustarme steatitmasse frequenta. E. Albers-Schönberg. *Zeit Ver Deutsch Ing* 77: 1077-8 S 30 '33

**Analysis**

Über eine rationelle methode zur analyse natürlicher magnesiumsilicate. M. Bichowsky and J. Gingold. *Angew Chemie* 45:785-7 D 17 '32

**SOCIAL conditions**

Man in the modern age. K. Jaspers. 243p \$2.50 Holt '33

We move in new directions. H. A. Overstreet. 284p \$3 W. W. Norton & co, inc, New York '33

**See also**

United States—Social conditions

**SOCIAL ethics**

Individual and the community. W. Liao. 314p [bibliog p303-8] \$3.75 Harcourt '33

Moral man and immoral society. R. Niebuhr. 284p \$2 Scribner '32

**SOCIAL problems**

Business implications of recent social trends. W. J. Donald. *Management R* 22:131-5 My '33

Community pays for bad housing, President's committee reports. *Safety Eng* 65:39 Ja '33

Fall of the birth rate and its effects on social policy. L. Hersch. *Int Labour R* 28:153-67 Ag '33

Great technology; social chaos and the public mind. H. Rugg. 308p \$2.50 Day '33

Progressive social action. E. T. Devine. 225p \$1.75 Macmillan '33

Recent social trends in the United States; report of the President's research committee on social trends. \$10 2v McGraw-Hill '33; Review. *Int Labour R* 28:499-517 O '33

Social pathology. J. L. Gillin. 612p \$3.75 Century co. '33

Social trends. E. E. Hunt. *Mech Eng* 55: 234-6 Ap '33

We move in new directions. H. A. Overstreet. 284p \$3 W. W. Norton & co, inc, New York '33

WOR forum book. S. T. Granik, ed. 273p \$3 Falcon press, inc, New York '33

**See also**

Child labor  
Community centers  
Cost of living  
Housing  
Immigration and emigration  
Labor and laboring classes

Old age pensions  
Pensions, Industrial  
Prohibition  
Public health  
Unemployment  
Woman—Employment

**Bibliography**

Selected list of books on social subjects published in 1932. 6p Russell Sage foundation, 130 E. 22d st, New York '33

**SOCIAL progress**

Scientific method and social relations. B. E. Schaar. *Science* 76:551-7 D 16 '32

Technology and social progress. W. Rautenstrauch. *Paper Tr J* 96:36-43; Discussion. 43-6 Ap 13 '33

**SOCIAL psychology**

Institutional behavior. F. H. Allport. 526p Univ. of North Carolina press, Chapel Hill '33

Mind and money. J. T. MacCurdy. 319p Faber & Faber ltd, London '32

**SOCIAL register**

Social register; the practices, profits, and predecessors of a \$600,000 business. *il Fortune* 7:40-3+ Mr '33

**SOCIAL research**

Addenda on research material of International labor office. *Ann Am Acad* 166:190-4 Mr '33

Dual nature of research activities of the International labor office. L. Magnusson. *Ann Am Acad* 166:107-13 Mr '33

Humanistic studies and library support urged. F. M. Becket. *Elec Eng* 52:584-5 Ag '33

Methods and technical problems of the committee on the costs of medical care. M. M. Davis. *Am Statis Assn J* 28:sup92-7 Mr '33

Research barriers in the South. W. Gee. 192p \$2.25 Century co. '32

**SOCIAL sciences**

Library problem with respect to social science source materials. J. Mayer. *Lib J* 58:348-52 Ap 15 '33

Social sciences and scientific method in the administration of justice. S. Glueck. *Ann Am Acad* 167:106-18 My '33

**See also**

Economics  
Sociology

**Bibliography**

Social science abstracts; Index for 1932. p2103-345 Social science abstracts, inc, 611 Fayerweather hall, Columbia univ, New York '33

**Study and teaching**

Social studies instruction in the secondary schools. R. E. Swindler. 348p Prentice-Hall, inc. '33

**SOCIAL sciences—Study and teaching—Cont.***Bibliography*

Bibliography on the teaching of the social studies. E. C. Bye, comp. rev ed 104p pa 60c Wilson, H. W. '33

**SOCIAL statistics**

Social statistics. R. C. White. 471p Harper '33

**SOCIAL surveys**

Economic and social survey of Washington county. B. B. Dulaney. Virginia U Record Extension Ser v 17, no 6:1-107 '32  
Use of census tracts in analyzing the population of a metropolitan community. H. W. Green. Am Statis Assn J 28:sup147-53 Mr '33

*See also*

Unemployment surveys

**SOCIAL work**

Hand book of Kansas social resources. 302p Kansas conference of social work, Topeka '32

How to help. 74p National women's committee, Welfare and relief mobilization, 570 Lexington av, '33

Interviews; a study of the methods of analyzing and recording social case work interviews. 84p [bibliog p83-4] pa \$1 American assn. of social workers, 130 E. 22d st, New York '31

Libraries of social work. B. F. Hulseman. Lib J 58:549-50 Je 15 '33

Proceedings of the National conference of social work at the fifty-ninth annual session held in Philadelphia, Pennsylvania, May 15-21, 1932. 694p \$3 Univ. of Chicago press '33

Rural community and social case work. J. C. Brown. 165p Family welfare assn. of America, New York '33

Social case work; an outline for teaching. M. A. Cannon and P. Klein, eds. 626p \$5 Columbia univ. press '33

Social case work; generic and specific; an outline; a report of the Milford conference. 92p pa \$1 American assn. of social workers, 130 E. 22d st, New York '31

Social work ethics. L. J. Elliott. 48p \$1 American assn. of social workers, New York '31

Social work year book, 1933. F. S. Hall, ed. second issue 680p \$4 Russell Sage foundation, New York '33

Some basic statistics in social work. P. Klein and R. Voris. 218p \$3.50 Columbia univ. press '33

Training in family social work agencies; report of committee on training. 58p [bibliog p56-8] Family welfare assn. of America, New York '33

*See also*

Church and labor  
Legal aid societies

**Directories**

Directories of agencies. (In Social work year book, 1933, p569-652). F. S. Hall, ed. p569-652 \$4 Russell Sage foundation, New York '33

Social service directory and year book, Chicago 1933. 324p Council of social agencies of Chicago, 203 North Wabash av, Chicago '33

**SOCIAL workers****Salaries**

Salaries of social workers in Chicago family welfare and relief agencies. H. R. Jeter. Monthly Labor R 37:945-6 O '33

**SOCIALISM**

Essays in Fabian socialism. B. Shaw. rev 326p Constable and co. Ltd, London '32

From capitalism to socialism. J. A. Hobson. 53p Hogarth press, London '32

Great delusion; some facts about government in business. E. Greenwood. 238p \$2.50 Harper '33

Recovery through revolution. S. D. Schmalhausen, ed. 504p [bibliog p343] Covici, Friede, New York '33

Socialism. (In Capitalism and its alternatives, p181-288) [bibliog p181-97]. J. E. Johnsen, comp. (Handbook ser 4, v 4) \$2.40 Wilson, H.W. '33

Socialist planning and a socialist program; a symposium. H. W. Laidler, ed. 256p Falcon press, New York '32; Review. Pub Util 10:641-2 N 24 '32

State socialism in Victoria. F. W. Eggleston. 354p P. S. King & son, Ltd, London '32

Toward a united front. L. Samson. 276p \$2.50 Farrar & Rinehart, inc, New York '33

Way out: what lies ahead for America. U. Sinclair. 108p \$1 Farrar & Rinehart, inc, New York '33

We need not worry about socialism. M. Sykes. Comm & Fin 22:814 S 20 '33

*See also*

Communism  
International, Third

**SOCIALISM in France**

Beginnings of Marxian socialism in France. S. Bernstein. 229p [bibliog p215-27] \$2.50 Elliot pub. co, 33 W. 42d st, New York '33

Finance commission—socialist proposals. Economist 116:176-7 Ja 28 '33

**SOCIETIES**

Citizens' organizations and the civic training of youth. B. L. Pierce. 428p [bibliog p353-408] \$2 Scribner '33

*See also*

Benefit societies	Scientific societies
Chemical societies	Technical societies
Engineering societies	Trade associations
Professional associations	Trade unions

**Accounting**

*See also*  
Professional associations—Accounting

**Directories**

Organizations in the field of public administration; a directory. 203p [bibliog p202-3] Public administration clearing house, 850 E. 58th st, Chicago '32

**SOCIETY**

Newport, Rhode Island. il map Fortune 8:56-67+ S '33

**SOCIETY, Primitive**

Social anthropology. P. Radin. 432p [bibliog p411-13] \$3.50 McGraw-Hill '32

**SOCIETY for research on meteorites**

Organization meeting. Science 78:185 S 1 '33

**SOCIETY for the promotion of engineering education**

Annual meeting, 41st, Chicago, June 26-30. J Eng Educ 24:22-38 S '33

Fortieth anniversary meeting, Chicago. Eng N 111:71-2 J1 20 '33

Origin. A. N. Talbot. J Eng Educ 24:39-43 S '33

**SOCIETY of automotive engineers**

Annual meeting, Detroit, Jan. 23-26. S A E J 32:sup11-35+ F '33; Automotive Ind 68:125-31+ F 4 '33

International automotive engineering congress, Chicago, Aug. 28-Sept. 4. S A E J 30:sup9-47 O '33; Oil & Gas J 32:16+ S 7 '33; Nat Pet N 25:25-6 S 13 '33

Personnel of S.A.E. committees for 1933. S A E J 32:sup45-8 F '33

Reports of committees. S A E J 32:sup41-4 F '33

Standards groups go into action with energetic 1933 plans. S A E J 32:sup18-19 Mr '33

**SOCIETY of chemical industry**

Annual general meeting, 52d, Newcastle-on-Tyne, July 10-14. Soc Chem Ind J (Chem & Ind) 52:574, 592-601, 211T-19T, 613-18 J1 14-28 '33; Chem Age (Lond) 29:47-52 J1 15 '33; Gas J (Lond) 203:155 J1 19 '33

**SOCIETY of dyers and colourists**

Annual meeting, 49th, Leicester, March 31. Il diags Soc Dyers & Col J 49:161-8 Je '33

List of honorary members, members, associates and junior members, 31st December, 1932. Soc Dyers & Col J 48:sup343-56: D '32



**SOCIETY of naval architects and marine engineers**

Annual meeting, 40th, New York, Nov. 17-18.  
Marine Eng 37:515-25; 38:27-32, 64-70 D '32-  
F '33; Marine R 62:19-26 D '32

**SOCIETY of rheology**

Annual meeting, 4th, Atlantic City, Dec. 27-  
28, 1932. Mech Eng 55:242 Ap '33

**SOCIOLOGY**

Beginnings of to-morrow. H. A. Miller. 310p  
[bibliog p289-305] \$2.50 Stokes '33  
Community and society. L. D. Osborn and  
M. H. Neumeyer. 468p American book co,  
New York '33

Culture and human behavior. S. Winston.  
249p [bibliog p233-41] Ronald press '33

Introduction to sociology. E. B. Reuter and  
C. W. Hart. 548p \$3.50 McGraw-Hill '33

Introductory sociology. C. H. Cooley, R. C.  
Angell and L. J. Carr. 516p [bibliog p490-  
502] \$3.50 Scribner '33

Methods of social study. S. Webb and B.  
Webb. 263p \$2.75 Longmans '32

Obligation of universities to the social order;  
addresses and discussion. 503p New York  
university press, Washington square, New  
York '33

Our social world; an introduction to social life  
and social problems. G. A. Wallis and W. D.  
Wallis. 372p \$1.60 McGraw-Hill '33

Principles of sociology. E. T. Hiller. 661p \$3.50  
Harper '33

Social problems and social processes; selected  
papers from the proceedings of the American  
sociological society, 1932. E. S. Bogardus,  
ed. 154p \$1.50 Univ. of Chicago press '33

Sociology and education; an analysis of the  
theories of Spencer and Ward. E. P. Kimball.  
323p [bibliog p315-18] Columbia univ.  
press, New York '32

**See also**

Cities and towns	Labor and laboring
Civilization	classes
Communism	Liquor traffic
Crime and criminals	Population
Economics	Social problems
Family	Social psychology
Heredity	Socialism
Immigration and emi- gration	Unemployment

**History**

Generic evil; a study of the process of evolution  
of society, from a remote past to a  
distant future. M. I. Fruchs. 489p Christo-  
pher pub. house, Boston '33

**SOCIOLOGY, Rural**

Rural social trends. E. de S. Brunner and J.  
H. Kolb. 386p \$4 McGraw-Hill '33

Rural sociology in its economic, historical  
and psychological aspects. C. C. Taylor. rev  
ed 708p \$3.25 Harper '33

**SOCKETS.** See Wire rope fastenings**SOCONY-VACUUM corporation**

Socony-Vacuum cuts loss. Econostat 1:13+  
My 13 '33

Standard Oil units plan merger of Far East  
trade. Oil Paint & Drug Rep 124:48 N 13  
'33

**SODA ash**

Desulphurisation and refinement of cast iron.  
N. L. Evans. Engineering 135:59-60 Ja 13  
'33; Abstract and discussion. Chem Age  
(Lond) 27:548 D 10 '32

Japan to supply own caustic soda and soda  
ash this year. Chemicals 38:12 F 20 '33

Japanese alkalies. C. E. Mullin. Chem  
Markets 32:320 Ap '33

**Statistics**

Alkalies fare better than business in general.  
Chem & Met Eng 40:34-5 Ja '33

**SODA fountains**

How Sunkist triple checked a market survey;  
sale of extractors. W. B. Geissinger. Ptr  
Ink 163:60-2 My 18 '33

**SODA fountains, Outdoor**

Nedick's orange drink stand, Seventh avenue  
and 47th street, New York. il Illum Eng Soc  
Trans 27:770 D '32

**SODIUM**

Action of sodium upon trimethylgallium and  
dimethylgallium chloride in liquid ammonia.  
C. A. Kraus and F. E. Toonder. diag Am  
Chem Soc J 55:3547-54 S '33

Atomic mass of sodium; the sodium chloride-  
silver ratio. C. R. Johnson. J Phys Chem  
37:923-33 O '33

Cleaning sodium metal. E. B. Wilson. J  
Chem Educ 10:395 Jl '33

Constitution of metallic sodium. E. Wigner  
and F. Seitz. Phys R 43:804-10 My 15 '33

Fortschritte 1930-1932 auf dem gebiete der  
freien alkalimetalle. H. Alterthum and R.  
Rompe. Angew Chemie 46:306-11 [bibliog  
p310-11] Je 3 '33

Isotopes of sodium and cesium. C. B. Dollins  
and E. R. Bishop. Am Chem Soc J 55:  
4372-4 N '33

Magnetic rotation spectrum of the red bands  
of sodium. W. R. Fredrickson and C. R.  
Stannard. bibliog il Phys R 44:632-7 O 15  
'33

Nuclear spin and magnetic moment of  
sodium from hyperfine structure. C. M.  
Van Atta and L. P. Granath. il Phys R  
44:60-1 Jl 1 '33

Nuclear spin of sodium. I. I. Rabi and V. W.  
Cohen. Phys R 43:582-3 Ap 1 '33

Pressure effects of foreign gases on the  
sodium D-lines. H. Margenau and W. W.  
Watson. il Phys R 44:92-8 Jl 15 '33

Reaction of aromatic ketones with sodium;  
the structure of the so-called metal ketyls.  
W. E. Bachmann. Am Chem Soc J 55:1179-  
88 Mr '33

Removal of positive ions by electroösmose  
apparatus. E. Bartow and M. A. Fry. Ind &  
Eng Chem 25:336-8 Mr '33

Separation and determination of the alkali  
metals using perchloric acid; perchloric acid  
and chloroplatinic acid in the determination  
of small amounts of potassium in the  
presence of large amounts of sodium. G. F.  
Smith and J. L. Gring. Am Chem Soc J 55:  
3957-61 O '33

Sodium. H. N. Gilbert and others. bibliog il  
diags Ind & Eng Chem 25:735-41 Jl '33

Sodium in pipes successful as electrical con-  
ductor. R. H. Boundy. il Elec W 100:852 D  
24 '32

Spectra of potassium and sodium in the  
mercury arc. D. A. Wells and I. Balinkin.  
il diags Opt Soc Am J 23:105-8 Mr '33

Spin of the sodium nucleus. J. Joffe and H.  
C. Urey. Phys R 43:761 My 1 '33

**Analysis**

Contribution to the study of oil-field water  
analysis; estimation of sodium by di-  
hydroxytartaric acid. A. H. K. Radly and  
C. E. Wood. Inst Pet Tech J 19:845-62 O '33

Volumetric determination of uranium with  
potassium dichromate as reagent and the  
application of the method to the indirect  
titration of minute quantities of sodium. I.  
M. Kolthoff and J. J. Lingane. Am Chem  
Soc J 55:1871-6 My '33

**SODIUM acetate**

Dissociation constants of organic acids; ace-  
tic acid. G. H. Jeffery and A. I. Vogel. Chem  
Soc J p2829-38 D '32

**SODIUM alcoholates**

Action of sodium alcoholate and of sodium  
amalgam on aromatic pinacols. W. E. Bach-  
mann. Am Chem Soc J 55:355-61 Ja '33

Photochemical reduction of ketones to hy-  
drols. W. E. Bachmann. Am Chem Soc J  
55:391-5 Ja '33

**SODIUM alloys**

Action of sodium alcoholate and of sodium  
amalgam on aromatic pinacols. W. E. Bach-  
mann. Am Chem Soc J 55:355-61 Ja '33

Are liquid sodium amalgams colloidal? H. E.  
Bent. bibliog J Phys Chem 37:431-6 Ap '33

Mechanism of reduction by sodium amalgam  
and alcohol; the reduction of aromatic ke-  
tones to hydrols. W. E. Bachmann. Am  
Chem Soc J 55:770-4 F '33

Sodium-lead alloys; the structure of the com-  
pound known as Na<sub>2</sub>Pb. C. W. Stillwell and  
W. K. Robinson. Am Chem Soc J 55:127-9  
Ja '33

**SODIUM aluminate**

- Aluminate size. J. J. Healy, jr. and C. P. Dyer. Paper Tr J 96:29-31 Mr 23 '33
- Effect of sodium aluminate on consistency and acid resistance of some acid-resistant enamels. G. H. McIntyre and others. *il Am Cer Soc J* 16:315-18 Jl '33
- High-temperature preparation and the optical properties of sodium aluminate. K. Kammermeyer and A. B. Peck. *Am Cer Soc J* 16:363-6 Ag '33
- Role of sodium aluminate in accelerating the separation of solid phases during water-softening operations. L. M. Clark and L. S. Price. *Soc Chem Ind J* 52:35T-44T F 10 '33
- Sodium aluminate in water treatment; principle and advantages of the Alfloc system. *Chem Age (Lond)* 28:308-9 Ap 8 '33

**SODIUM amide**

- Conductance of bases in liquid ammonia. W. W. Hawes. *diag Am Chem Soc J* 55:4422-30 N '33

**SODIUM amytal**

- Some factors influencing the susceptibility of albino rats to injections of sodium amytal. D. H. Barron. *Science* 77:372-3 Ap 14 '33

**SODIUM benzoate**

- Chlorination of sodium benzoate; abstract, with discussion. J. C. Smith. *Soc Chem Ind J* (Chem & Ind) 52:467-8 Je 2 '33
- Effect of carbon dioxide and sodium benzoate on vitamin C content of orange juice. A. F. Morgan, C. I. Langston and A. Field. *bibliog Ind & Eng Chem* 25:1174-6 O '33

**SODIUM borates**

- Investigations of the setting of plaster of Paris; sodium and potassium borates and their effects on the setting. C. S. Gibson and R. N. Johnson. *Soc Chem Ind J* 51:399T-403T D 16 '32

*See also*

- Borax  
Sodium perborate

**SODIUM bromate**

- Die wirkung von chlorat, bromat und jodat auf pflanzenwuchs. M. Hessenland, F. Fromm and L. Saalman. *Angew Chemie* 46:577-9 S 9 '33

**SODIUM bromide**

- Thermodynamics of ionized water in potassium and sodium bromide solutions. H. S. Harned and W. J. Hamer. *Am Chem Soc J* 55:4496-507 N '33

**SODIUM bromoacetate**

- Hydrolysis of salts of the halogen-substituted aliphatic acids in aqueous solution. H. M. Dawson and N. B. Dyson. *Chem Soc J* p49-56 Ja '33

**SODIUM carbonates**

- Absorption of carbon dioxide in sodium carbonate-bicarbonate solutions. C. R. Harte, jr., E. M. Baker and H. H. Purcell. *flow sheet Ind & Eng Chem* 25:528-31, 1128-32 My, O '33

- Contribution à la théorie des tours d'absorption; cas particulier: absorption de NO<sub>2</sub> dans les solutions de carbonate de soude. W. Hennel. *Chimie & Ind* 29:1042-4 My '33

- Decomposition of dilute sodium carbonate solutions at temperatures between 147° and 243° C. F. G. Straub and R. F. Larson. *bibliog diag Ind & Eng Chem* 24:1416-19 D '32

- Detergency of alkaline salt solutions; laboratory comparison in simulation of laundry practice. F. D. Snell. *bibliog il Ind & Eng Chem* 25:1240-6 N '33

- Effect of sodium carbonate on low-temperature reduction of iron ores. G. C. Williams and R. A. Ragatz. *Ind & Eng Chem* 24:1397-1400 D '32

- Heat capacities of sodium carbonate and bicarbonate and silver carbonate at low temperatures. C. T. Anderson. *Am Chem Soc J* 55:3621-3 S '33

- Initial absorption rates of carbon dioxide by water and by dilute sodium carbonate solutions. H. S. Davis. *diag Ind & Eng Chem* 25:1023-5 S '33

- Interfacial tension between asphaltic materials and solutions of alkaline inorganic salts. R. N. Traxler and C. U. Pittman. *Ind & Eng Chem* 24:1391-3 D '32

- Rapid preparation of anhydrous Na<sub>2</sub>CO<sub>3</sub> for use in acidimetry. G. F. Smith and V. R. Hardy. *J Chem Educ* 10:507-8 Ag '33

- Reaction of pyrex glass with Na<sub>2</sub>CO<sub>3</sub>. E. Poling and G. R. Yohe. *J Chem Educ* 10:242 Ap '33

- Soda for high-pressure boilers; abstract. F. G. Straub. *Power* 77:345-6 Jl '33

- System sodium carbonate-calcium carbonate-water. C. R. Bury and R. Redd. *Chem Soc J* p1160-2 S '33

- System: sodium iodate, sodium carbonate, water. H. W. Foote and J. E. Vance. *Am J Sci* 5th ser 25:499-502 Je '33

*See also*

- Baking powder  
Soda ash

**Manufacture**

- Demonstration of the Solvay process in the laboratory. A. W. Hooton. *il diag J Chem Educ* 10:437 Jl '33

- Looking back at 50 years in ammonia-soda alkali industry. E. N. Trump. *flow sheet Chem & Met Eng* 40:126-9 Mr '33

- Purification of brine by ammoniation. W. C. Hsieh, E. O. Wilson and T. P. Hou. *Ind & Eng Chem* 25:165-7 F '33

**SODIUM chlorate**

- Experiments with chemical weed killers. J. E. Howitt and W. M. Gammon. *Can Eng* 64:15-16 Ap 4 '33

- Die wirkung von chlorat, bromat und jodat auf pflanzenwuchs. M. Hessenland, F. Fromm and L. Saalman. *Angew Chemie* 46:577-9 S 9 '33

*See also*

- Sodium perchlorate

**SODIUM chloride. See Salt****SODIUM citrate**

- Colloid chemistry of the nervous systems. W. D. Bancroft and J. E. Rutzler, jr. *J Phys Chem* 36:3162-74 D '32

**SODIUM cobaltinitrite**

- Determination of potassium by sodium cobaltinitrite. J. E. Schueler and R. P. Thomas. *bibliog Ind & Eng Chem Anal* 5:163-5 My 15 '33

- Determination of potassium by the cobaltinitrite method and its application in agricultural analysis. A. H. Lewis and F. B. Marmoy. *Soc Chem Ind J* 52:177T-82T Je 23 '33

**SODIUM compounds**

- Blue sodium salt of rhodamine-B and some related substances. W. R. Brown and F. A. Mason. *Chem Soc J* p1264-9 S '33

- Course of addition of sodium enol alkylmalonic esters to phenyl isothiocyanate. J. Ross. *Am Chem Soc J* 55:3672-7 S '33

- Course of addition of the sodium enolates of malonic and methylmalonic esters to benzalacetophenone and to crotonic ester. A. Michael and J. Ross. *Am Chem Soc J* 55:1632-46 Ap '33

- Isolation of a sodium sulfuric acid ester of galactan from irideae laminarioides (rhodophyceae). W. Z. Hassid. *bibliog Am Chem Soc J* 55:4163-7 O '33

- Mechanism of the Wurtz-Fittig reaction; the direct preparation of an organosodium (potassium) compound from an RX compound. H. Gilman and G. F. Wright. *Am Chem Soc J* 55:2893-6 Jl '33

- Properties of electrolytic solutions; conductance of sodium trimethylstannide and of the sodium salts of certain phenols and thiols in liquid ammonia. C. A. Kraus and E. G. Johnson. *Am Chem Soc J* 55:3542-7 S '33

- Value of 1931 sales decreased 23.8 percent. *Oil Paint & Drug Rep* 122:20 N 21 '32

**SODIUM dithionate**

- Activity coefficients of hydrochloric acid in aqueous solutions containing either sodium dithionate or perchloric acid. P. G. Murdoch and R. C. Barton. *Am Chem Soc J* 55:4074-9 O '33



**SODIUM ethoxide**

Acetoacetic ester condensation; the reaction product of certain aliphatic esters and sodium ethoxide. J. M. Snell and S. M. McElvain. *Am Chem Soc J* 55:416-21; Discussion. H. Scheibler. 425-6 Ja '33

Study of the cyclization of a series of  $\alpha,\omega'$ -dicarbethoxydialkylmethylamines through the acetoacetic ester condensation. E. A. Prill and S. M. McElvain. *Am Chem Soc J* 55:1233-41 Mr '33

**SODIUM ethyl**

Two reactions of gaseous methyl and ethyl. J. H. Simons and M. F. Dull. *diags Am Chem Soc J* 55:2696-701 Jl '33

**SODIUM ethylene dimercaptide**

Cyclic and polymeric compounds from the reactions of ethylene mercaptan with polymethylene halides. N. B. Tucker and E. E. Reid. *Am Chem Soc J* 55:775-81 F '33

**SODIUM fluoride**

Changes in the teeth of white rats given water from a mottled enamel area compared with those produced by water containing sodium fluoride. W. H. Sebrell and others. *Pub Health Rep* 48:437-45 [bibliog p444-5] pl 1-2 Ap '33

Chromium plating bath with the fluoride ion. A. Perlenfein. (Engineering and science ser no. 39) 36p [bibliog p27-9] Rensselaer polytechnic institute, Troy, N.Y. '33

Effect of temperature on the intensity of X-rays scattered by powdered sodium fluoride. J. J. Shonka. *bibliog diag Phys R* 43:947-54 Je 15 '33

**SODIUM hydrosulfite. See Sodium hyposulfite****SODIUM hydroxide**

Absorption of barium hydroxide, sodium hydroxide and water by cellulose, from aqueous barium hydroxide and from mixed solutions. S. M. Neale and W. A. Stringfellow. *Textile Inst J* 24:T30-4 Ja '33

Alkalies fare better than business in general. *Chem & Met Eng* 40:34-5 Ja '33

Alpha-celluloses from different wood sources. R. A. Gortner and J. J. McNair. *bibliog Ind & Eng Chem* 25:505-10 My '33

Caustic soda and the pulp and paper industry. *Paper Tr J* 95:21-3 D 29 '32

Caustic soda still indispensable in petroleum refining. J. F. Middleton. *Nat Pet N* 25:29-30-4 Ja 18 '33

Checking caustic corrosion with nickel and its alloys. H. E. Searle and R. Worthington. *Chem & Met Eng* 40:528-30 O '33

Cut-throat competition in caustic soda faces Japanese. *Chemicals* 37:12 N 14 '32

Detergency of alkaline salt solutions; defloculating and emulsifying power. F. D. Snell. *Ind & Eng Chem* 25:162-5 F '33

Detergency of alkaline salt solutions; laboratory comparison in simulation of laundry practice. F. D. Snell. *bibliog Ind & Eng Chem* 25:1240-6 N '33

Electrolytes for hydrogen-oxygen cells. W. S. Kirkpatrick, B. P. Sutherland and C. H. Wright. *Electrochem Soc Trans* 63 (preprint 25):251-9 My '33; *Abstract. Elec W* 102:59 Jl 8 '33

Extraction of phenols from caustic solutions. E. B. Kester. *diag Ind & Eng Chem* 24:1121-5; 25:1148-50 O '32, O '33

Heat capacity and related thermodynamic properties of aqueous solutions; lithium and sodium hydroxides at 25°. F. T. Gucker, jr. and K. H. Schminke. *Am Chem Soc J* 55:1013-19 Mr '33

Interfacial tension between asphaltic materials and solutions of alkaline inorganic salts. R. N. Traxler and C. U. Pittman. *Ind & Eng Chem* 24:1391-3 D '32

Investigation of the alkali lyes obtained by boiling flax. M. M. Tschilikin. *il Melland* 4:615-16, 676-7 Ja-F '33

Japan to supply own caustic soda and soda ash this year. *Chemicals* 38:12 F 20 '33

Linen cellulose complex; the effects of alkaline hydrolysis. E. Butterworth and H. A. Elkin. *bibliog diag Textile Inst J* 24:T10-29 Ja '33; *Abstract. Textile Col* 55:330-1 My '33

Operation of Cerini dialysers for the recovery of caustic soda solutions containing hemi-cellulose. D. J. Eynon. *Soc Chem Ind J* 52:173T-5T Je 16 '33

Preparation of sodium hydroxide solutions of low carbonate content by centrifugation. N. Allen and G. W. Low, jr. *bibliog Ind & Eng Chem Anal* ed 5:192 My 15 '33

Preventing escape of mercaptans in reclaiming caustic soda used in washing gasoline recovered from refinery gases. W. Mendius. *Am Pet Inst Proc (Refining div)* p38 Je '32

Reactions of aldoxime derivatives with bases; the reactions of certain acetyl- $\beta$ -aldoximes with alkali. C. R. Hauser and C. T. Sullivan. *Am Chem Soc J* 55:4611-13 N '33

Removal of corrosion products from iron. T. J. Finnegan and R. C. Corey. *Ind & Eng Chem Anal* ed 5:89-90 Mr 15 '33

Removal of salt from caustic soda produced by diaphragm cells. J. H. Hubel and L. E. Sweetland. *Can Chem & Met* 17:52 Mr '33

Sorption of sodium hydroxide on cellulose and wood. R. Richardson and O. Maass. *J Phys Chem* 36:3064-73 D '32

X-ray investigations of the penetration of electrolytes into wood. L. Thomassen and D. W. McCready. *il Paper Tr J* 97:42-3 O 12 '33

**Manufacture**

Electrolytic plant of the Canadian international paper company at Temiskaming, Que. J. Hedalen. *Electrochem Soc Trans* 63 (preprint 19):183-9 My '33

Flowsheet of the electrolytic process for liquid chlorine, caustic soda and synthetic muriatic acid. *Chem & Met Eng* 40:466 S '33

Inception and development of electrolytic alkali manufacture. E. A. LeSueur. *Electrochem Soc Trans* 63 (preprint 30):315-22 My '33

Serving the Northwest with alkalis; Tacoma electrochemical co. J. H. Baker. *il Chem & Met Eng* 40:177-9 Ap '33

**SODIUM hypobromite**

Cleavage of carbonyl compounds by alkalies; the action of hypobromite solutions on beta-diketones. C. F. Woodward and R. C. Fuson. *Am Chem Soc J* 55:3472-5 Ag '33

**SODIUM hypochlorite**

Better ways to sterilize equipment. P. D. Widmer. *il Food Ind* 5:310-11 Ag '33

Electrolytic apparatus for the production of antiseptic sodium hypochlorite solution. O. R. Sweeney and J. E. Baker. *il Iowa State College Eng Exp Sta Bul* 111:1-31 '33

Hypochlorites as disinfectants (disinfectants and foodstuffs). H. Rawlinson. *Soc Chem Ind J (Chem & Ind)* 52:71-4 Ja 27 '33

Promoter action in the catalytic decomposition of sodium hypochlorite solutions. J. R. Lewis and F. Seegmiller. *J Phys Chem* 37:917-21 O '33

Some observations on the pH values of hypochlorite solutions. L. P. Lynch and C. R. Nodder. *Textile Inst J* 23:T309-13 N '32

**Analysis**

Estimation of alkalies in hypochlorite bleach liquors. *Textile Col* 55:331-4 My '33

**Manufacture**

Electrolytic plant of the Canadian international paper company at Temiskaming, Que. J. Hedalen. *Electrochem Soc Trans* 63 (preprint 19):183-9 My '33

**SODIUM hyposulfite**

Sodium hyposulfite rag cooking process. S. Lenher. *Paper Tr J* 96:28-32 Ja 19 '33

**SODIUM iodate**

System: sodium iodate, sodium carbonate, water. H. W. Foote and J. E. Vance. *Am J Sci* 5th ser 25:499-502 Je '33

System: sodium iodate, sodium oxalate, water. H. W. Foote and J. E. Vance. *Am J Sci* 5th ser 26:16-18 Jl '33

Ternary systems; sodium iodide, potassium iodide and water; sodium iodide, sodium iodate and water. A. E. Hill, H. S. Willson and J. A. Bishop. *Am Chem Soc J* 55:520-6 F '33

**SODIUM iodate**—*Continued*

Die Wirkung von chlorat, bromat und jodat auf pflanzenwuchs. M. Hessenland, F. Fromm and L. Saalman. *Angew Chemie* 46:577-9 S 9 '33

**SODIUM iodide**

Conductivity of sodium iodide solutions at 25° and the limiting conductance of the iodide ion. P. A. Lasselle and J. C. Aston. *il Am Chem Soc J* 55:3067-71 Ag '33

Liberation of iodine from alkali iodides by means of oxygen of the air through the intervention of nitrous gases. R. L. Datta. *Soc Chem Ind J* 52:350T O 20 '33

Ternary systems; sodium iodide, potassium iodide and water; sodium iodide, sodium iodate and water. A. E. Hill, H. S. Willson and J. A. Bishop. *Am Chem Soc J* 55:520-6 F '33

**SODIUM lamp.** See Electric lamps, Sodium vapor**SODIUM mellitate**

Solubility of thallous iodate in solutions of sodium mellitate. C. F. Failey. *Am Chem Soc J* 55:3112-16 Ag '33

**SODIUM metasilicate.** See Sodium silicates**SODIUM methyl**

Two reactions of gaseous methyl and ethyl. J. H. Simons and M. F. Dull. *diags Am Chem Soc J* 55:2696-701 JI '33

**SODIUM morrhuate**

By-product sodium morrhuate. S. Caspe. *bibliog Ind & Eng Chem* 25:1177 O '33

**SODIUM nitrate**

Chile moves toward home nitrate control. *Oil Paint & Drug Rep* 123:15+ F 6 '33

Chilean nitrate tax restoral is protested. *Oil Paint & Drug Rep* 123:14+ Ap 10 '33

Chilean trade in nitrate and copper; the result of bad business policies. *Chem Age (Lond)* 28:51 Ja 21 '33

Cosach dissolution reasons are stated. *Oil Paint & Drug Rep* 123:15+ Ja 23 '33

Cosach effects some operating economies. *Oil Paint & Drug Rep* 122:17 N 28 '32

Cosach is to be liquidated. *Business Week* p29 Ja 11 '33

Cosach liquidation is ordered by Chile. *Oil Paint & Drug Rep* 123:14 Ja 9 '33

Cosach liquidation law gives committee control. *Oil Paint & Drug Rep* 123:22 Mr 6 '33

Cosach reorganisation. *Chem Age (Lond)* 28: 452 My 20 '33; *Economist* 116:1030 My 13 '33

Cosach reorganisation. *Economist* 117:184-5 JI 22 '33

Lautaro nitrate. *Economist* 115:1251 D 31 '32

Linear thermal expansion of a single crystal of sodium nitrate. J. B. Austin and R. H. H. Pierce, jr. *diag Am Chem Soc J* 55:661-8 F '33

Nitrate developments. *Economist* 117:678-9 O 7 '33

Nitrate import plan changed by France. *Oil Paint & Drug Rep* 122:15 N 21 '32

Nitrate sale; France buys another 10,000 tons from the United States. *Business Week* p20 Ja 11 '33

Origin of Chile saltpetre. *Chem Markets* 32: 525 Je '33

**SODIUM nitrite**

Fatal poisoning with sodium nitrite. H. B. Arbuckle and O. J. Thies, jr. *bibliog Ind & Eng Chem News* ed 11:202 JI 10 '33; Same. *Textile Col* 55:620 S '33

Tariff commission upheld in refusal to disclose soda nitrite cost data. *Oil Paint & Drug Rep* 123:17+; *Editorial comment.* 15 F 13 '33

**SODIUM nitroferricyanide**

Simple reversible photochemical experiment. L. W. Grote and J. H. Barnett. *J Chem Educ* 10:43-4 Ja '33

**SODIUM oleate**

Defecancy of alkaline salt solutions; defloculating and emulsifying power. F. D. Snell. *Ind & Eng Chem* 25:162-5 F '33

Diffusion of colloidal electrolytes. M. E. L. McBain. *Am Chem Soc J* 55:545-51 F '33

Lubricating properties of greases from petroleum oils. F. H. Rhodes and H. D. Allen. *diags Ind & Eng Chem* 25:1275-80 N '33

Wetting, spreading, and emulsifying agents for use with spray fluids; a partial phase rule investigation of the miscible oil system phenol-water-sodium oleate-toluene. R. M. Woodman. *Soc Chem Ind J* 52:185T-8T Je 23 '33

Ceric sulfate as a volumetric oxidizing agent; indicator methods for the standardization and use of ceric sulfate. H. H. Willard and P. Young. *Am Chem Soc J* 55:3260-9 Ag '33

System: sodium iodate, sodium oxalate, water. H. W. Foote and J. E. Vance. *Am J Sci* 5th ser 26:16-18 JI '33

Absorption spectra of cobaltous compounds; the alkali oxide-boric oxide glasses. W. R. Brode. *Am Chem Soc J* 55:939-47 Mr '33

See also Sodium peroxide

Phase-rule equilibria of acid soaps; anhydrous acid sodium palmitates. J. W. McBain and M. C. Field. *pl Chem Soc J* p920-4 Ag '33

Bleaching with peroxides. P. W. Hargreaves. *Textile Col* 55:43-4 Ja '33

Activity coefficients of hydrochloric acid in aqueous solutions containing either sodium or potassium perchlorate. S. J. Bates and J. W. Urnston. *Am Chem Soc J* 55:4068-73 O '33

Bleaching with peroxides. P. W. Hargreaves. *Textile Col* 54:842-4; 55:43-4 D '32-Ja '33

Microbomb for determination of organic halogens. F. E. Beamish. *diags Ind & Eng Chem Anal* ed 5:348-9 S 15 '33

Die regeneration der atemluft in gasschutzgeräten durch alkalisuperoxyde. A. Hloch. *Angew Chemie* 46:45-7 Ja 14 '33

Soda phosphate industry organizes an institute. *Oil Paint & Drug Rep* 124:18 JI 17 '33

Calgon fellowship is established at Mellon institute. *Oil Paint & Drug Rep* 124:23 Ag 14 '33

Defecancy of alkaline salt solutions; defloculating and emulsifying power. F. D. Snell. *Ind & Eng Chem* 25:162-5 F '33

Interfacial tension between asphaltic materials and solutions of alkaline inorganic salts. R. N. Traxler and C. U. Pittman. *Ind & Eng Chem* 24:1391-3 D '32

Lime, phosphate, soda, how much? W. J. Ryan. *Power* 76:286-7; 77:71 D '32, F '33

Die nachenthärtung des speisewassers mit phosphat innerhalb der wasserreinigung. W. Wesly. *Angew Chemie* 46:19-20 Ja 7 '33

Studies of phosphates; some complex orthophosphates of sodium and a bivalent metal, and some orthophosphate solid solutions. H. Bassett and W. L. Bedwell. *Chem Soc J* p877-82 JI '33

Tri-sodium phosphate; use in boiler feed water treatment; abstract. Kroemer. *Chem Age (Lond)* 27:479 N 19 '32; Same. *Chem Markets* 32:239 Mr '33

Analysis

Control tests for the treatment of feed and boiler water. J. K. Rummel. *bibliog Am Water Works Assn J* 24:2004-24 D '32

Manufacture

Phosphoric acid and phosphates; manufacturing processes in Germany. Kufferath. *Chem Age (Lond)* 29:189 Ag 26 '33

SODIUM phthalate

Equilibrium in the system, sodium phthalate, phthalic acid and water. S. B. Smith and W. A. Sturm. *Am Chem Soc J* 55:2414-19 Je '33



**SODIUM pinacولات**

Reaction between aromatic ketones and sodium; reactions of sodium pinacولات. W. E. Bachmann. *Am Chem Soc J* 55:2827-30 J1 '33

**SODIUM silicates**

Detergency of alkaline salt solutions; defloculating and emulsifying power. F. D. Snell. *Ind & Eng Chem* 25:162-5 F '33

Detergency of alkaline salt solutions; laboratory comparison in simulation of laundry practice. F. D. Snell. *bibliog il Ind & Eng Chem* 25:1240-6 N '33

Gel formation in sodium metasilicate solutions. M. J. Prucha and C. A. Getz. *Ind & Eng Chem* 25:68-72 Ja '33

Influence of small amounts of dissolved silicates on the conductance of conductivity water and very dilute solutions of electrolytes. T. I. Taylor. *bibliog J Phys Chem* 37:765-77 Je '33

Interfacial tension between asphaltic materials and solutions of alkaline inorganic salts. R. N. Traxler and C. U. Pittman. *Ind & Eng Chem* 24:1391-2 D '32

Sodium silicates, colloidal and crystalline. J. G. Vail. *bibliog J Chem Educ* 10:418-20 J1 '33

Use of silicates in the textile industry. W. Stericker. *Am Dyestuff Rep* 22:8-10; Discussion. 10-13 Ja 2 '33

**SODIUM sulfates**

Bisulphate-ion catalysis in the hydrolysis of esters. H. M. Dawson, E. R. Pycocock and E. Spivey. *Chem Soc J* p291-6 Mr '33

Cooking process; cooking wood with sodium sulfate. S. I. Aronovsky and R. A. Gortner. *il Ind & Eng Chem* 25:305-10 Mr '33

Equilibria in the systems  $(\text{NH}_4)_2\text{SO}_4\text{-NiSO}_4\text{-H}_2\text{O}$ ,  $(\text{NH}_4)_2\text{SO}_4\text{-CoSO}_4\text{-H}_2\text{O}$ ,  $(\text{NH}_4)_2\text{SO}_4\text{-ZnSO}_4\text{-H}_2\text{O}$ ,  $\text{Na}_2\text{SO}_4\text{-NiSO}_4\text{-H}_2\text{O}$ , and  $\text{Na}_2\text{SO}_4\text{-CoSO}_4\text{-H}_2\text{O}$ , at 25°. R. M. Caven and W. K. Gardner. *Chem Soc J* p943-6 Ag '33

Nomograph for rapid calculation of sulfate-carbonate ratios. R. T. Sheen. *Ind & Eng Chem Anal ed* 5:276-7 J1 15 '33

Recherches sur l'importance des sulfates comme engrais. G. Bertrand and L. Silberstein. *il Chimie & Ind* 29:255-7 F '33

Sodium sulphate from Nevada mine finds ready market. P. C. Rich. *il Eng & Min J* 134:252-3 Je '33; Same cond. *Chem & Met Eng* 40:304-5 Je '33

See also

Gardinals

Sodium thiosulfate

**Analysis**

Analysis of salt cake. *Paper Tr J* 97:33-5 N 2 '33

**SODIUM sulfide**

Alteration of pyrite to pyrrhotite by alkali sulphide solutions. R. E. Stevens. *Econ Geol* 28:1-19 Ja '33

Formation of sodium thiosulfate from the oxidation of sodium sulfides by means of an aromatic nitro compound. J. L. Bullock and G. S. Forbes. *Am Chem Soc J* 55:232-8 Ja '33

Methodische fortschritte bei visuellen leitfähigkeitstitionen und -messungen. G. Jander and H. Schorstein. *diags Angew Chemie* 45:701-3 N 5 '32

**SODIUM sulfites**

Alpha-celluloses from different wood sources. R. A. Gortner and J. J. McNair. *bibliog Ind & Eng Chem* 25:505-10 My '33

Comparison of organic inhibitors in chain reactions; photo-polymerization of vinyl acetate; the autooxidation of sodium sulfite; photolysis of hydrogen peroxide. K. Jeu and H. N. Alvea. *Am Chem Soc J* 55:575-88 F '33

**SODIUM tetraborate. See Borax****SODIUM tetrathionate**

Sodium tetrathionate and methylene blue in cyanide and carbon monoxide poisoning. J. H. Draize. *Science* 78:145 Ag 18 '33

**SODIUM thiosulfate**

Cooking process; cooking wood with sodium thiosulfate. S. I. Aronovsky and R. A. Gortner. *il Ind & Eng Chem* 25:1260-5 N '33

Electrolysis of silver-bearing thiosulfate solutions. K. Hickman, W. Weyerts and O. E. Goehler. *bibliog il diags Ind & Eng Chem* 25:202-12 F '33

Formation of sodium thiosulfate from the oxidation of sodium sulfides by means of an aromatic nitro compound. J. L. Bullock and G. S. Forbes. *Am Chem Soc J* 55:232-8 Ja '33

Studies in electrolytic oxidation; further experiments on the electrolytic oxidation of sodium thiosulfate. S. Glasstone and A. Hickling. *Chem Soc J* p2800-7 N '32; Discussion. *Soc Chem Ind J (Chem & Ind)* 51:944-5 N 11 '32

**SODIUM trimethylstannide**

Properties of electrolytic solutions; conductance of sodium trimethylstannide and of the sodium salts of certain phenols and thiols in liquid ammonia. C. A. Kraus and E. G. Johnson. *Am Chem Soc J* 55:3542-7 S '33

**SODIUM triphenylgermanide**

Preparation of some derivatives of triphenylgermanium by means of sodium triphenylgermanide. C. A. Kraus and C. S. Sherman. *bibliog Am Chem Soc J* 55:4694-7 N '33

Properties of electrolytic solutions; conductance of sodium triphenylstannide, sodium triphenylgermanide and sodium triphenylmethide in liquid ammonia. C. A. Kraus and W. H. Kahler. *diag Am Chem Soc J* 55:3537-42 S '33

**SODIUM triphenylmethide**

Properties of electrolytic solutions; conductance of sodium triphenylstannide, sodium triphenylgermanide and sodium triphenylmethide in liquid ammonia. C. A. Kraus and W. H. Kahler. *diag Am Chem Soc J* 55:3537-42 S '33

**SODIUM triphenylstannide**

Properties of electrolytic solutions; conductance of sodium triphenylstannide, sodium triphenylgermanide and sodium triphenylmethide in liquid ammonia. C. A. Kraus and W. H. Kahler. *diag Am Chem Soc J* 55:3537-42 S '33

**SODIUM vanadate**

Physicochemical studies of complex acids; the precipitation of metallic vanadates, with a note on Moser and Brandt's method of estimating vanadium. H. T. S. Britton and R. A. Robinson. *Chem Soc J* p512-17 My '33

**SODIUM vinylacetylide**

Acetylene polymers and their derivatives; sodium vinylacetylide and vinyl ethynylcarbinols. W. H. Carothers and R. A. Jacobson. *Am Chem Soc J* 55:1097-1101 Mr '33

**SOIL acidity**

Methods for determining the total acidity of soils. I. A. Denison. *U S Bur Stand J Research* 10:413-26 Mr '33

**SOIL analysis**

Calibration and salt error of the antimony electrode; its application in soil reaction measurements. N. J. King. *bibliog Ind & Eng Chem Anal ed* 5:323-7 S 15 '33

Combustion train for the determination of total carbon in soils. T. H. Hopper. *diags Ind & Eng Chem Anal ed* 5:142-3 Mr 15 '33

Determination of potassium by the cobaltinitrite method and its application in agricultural analysis. A. H. Lewis and F. B. Marmoy. *Soc Chem Ind J* 52:177T-82T Je 23 '33

Formation of muscovite in soils, and refinements in specific gravity separations. N. J. Volk. *bibliog diag Am J Sci* 5th ser 26:114-29 Ag '33

Methods for determining the total acidity of soils. I. A. Denison. *U S Bur Stand J Research* 10:413-26 Mr '33

Petrographic methods for soil laboratories. W. H. Fry. *U S Agric Tech Bul* 344:1-96 '33

Studies of the vertical distribution of easily soluble phosphorus in soils; abstract. G. N. Ruhnke. *Can Chem & Met* 16:296 D '32

Winogradsky spontaneous culture method for determining certain soil deficiencies. A. W. Young. *Iowa Agric Exp Sta Research Bul* 157:1-24 '33

**SOIL analysis—Continued****Mechanical analysis**

Comments on the hydrometer method of mechanical analysis. R. C. Thoreen. bibliog diags Pub Roads 14:93-105 Ag '33

**SOIL disinfection**

Chlorpicrin injurious to greenhouse plants. G. H. Godfrey. Science 77:583 Je 16 '33  
Electric soil sterilization found promising. A. V. Krewatch and G. W. Kable. Elec W 101: 453 Ap 8 '33  
Sterilization of soils electrically is sure. il Elec West 69:239 D '32

**SOIL mechanics**

Baugrundforschung. A. Hertwig. diags Zeit Ver Deutsch Ing 77:550-6 My 27 '33  
Bearing power of clay is determinable. W. S. Housel. Eng N 110:244-7 F 23 '33  
Design and construction of rolled-earth dams; description of field and laboratory methods. R. R. Proctor. il Eng N 111:286-9 S 7 '33  
Design and construction of rolled-earth dams; fundamental principles of soil compaction. R. R. Proctor. il Eng N 111:245-8 Ag 31 '33  
Earths and foundations; progress report of special committee, American society of civil engineers. il diags Am Soc C E Proc 59: 777-820 My '33; Discussion. 59:1054-67, 1207-20, 1358-72, 1461-74, 1648-50 Ag-D '33  
Festigkeitsuntersuchungen bei staedämmen. R. Seifert. Zeit Ver Deutsch Ing 77:361-5 Ap 8 '33  
Soil action under load shown by test. D. P. Krynine. il Eng N 109:782-4 D 29 '32  
Some shear phenomena in a loaded soil mass. D. P. Krynine. il diags plan Civil Eng 3: 574-6 O '33

**See also**

Earth pressure  
Foundation soils

Landslides

**SOIL moisture**

Design and construction of rolled-earth dams; description of field and laboratory methods. R. R. Proctor. il Eng N 111:286-9 S 7 '33  
Design and construction of rolled-earth dams; fundamental principles of soil compaction. R. R. Proctor. il Eng N 111:245-8 Ag 31 '33

**SOIL pipes**

Story of the soil pipe code. W. A. Brecht. Dom Eng 142:30+ N '33

**Standards**

Standardization of cast-iron soil pipe and fittings. Mech Eng 54:877-8 D '32

**SOIL protection. See Terracing****SOIL sampling**

Sampling and soil tests for Bay bridge, San Francisco. D. E. Moran. il diags Eng N 111: 404-6 O 5 '33

**SOILS**

Application of pipe coating and corrosion research to southern soils. S. Ewing. Am Gas Assn Mo 15:298-300 Jl '33; Same abr. Gas J (Lond) 203:353-4 Ag 16 '33  
Arsenic fungi of Gosio. C. Thom and K. B. Raper. Science 76:548-50 D 9 '32  
Chemistry and agriculture. A. Lauder. Soc Chem Ind J (Chem & Ind) 52:771-7 S 29 '33

La pédologie ou science des sols. E. Lemaire. diags map Génie Civil 101:474-7, 495-7 N 12-19 '32

Phycomycetes, ascomycetes and fungi imperfecti in Oklahoma soil. R. L. Todd. Science 76:464 N 18 '32

Soil corrosion survey gives valuable data as aid in selecting proper type of coating. W. Denman. Oil & Gas J 31:12 D 22 '32

Soluble sesquioxides and organic matter from alkali treatments on soils. G. T. Shaw and R. R. McKibbin. Science 77:411-12 Ap 28 '33

**See also**

Agricultural chemistry  
Agriculture  
Clay  
Drainage  
Earthwork  
Erosion

Fertilizers  
Foundation soils  
Irrigation  
Reclamation of land  
Roads—Subgrades  
Sand  
Soil analysis

**Chemical consolidation**

Chemische bodenverfestigung und -abdichtung im tunnelbau. W. Sichert. il diags Zeit Ver Deutsch Ing 77:905-7 Ag 19 '33

**Phosphorus content**

Availability of soil phosphorus. L. C. Harlow. Can Chem & Met 17:206-7 O '33

**Testing**

Comments on the hydrometer method of mechanical analysis. R. C. Thoreen. bibliog diags Pub Roads 14:93-105 Ag '33  
Design and construction of rolled-earth dams; description of field and laboratory methods. R. R. Proctor. il Eng N 111:286-9, 348-51 S 7, 21 '33  
Practical method for taking and preserving soil cores. W. I. Watkins. il diags Roads & Sts 76:228-30 Je '33

**SOLAR eclipses. See Eclipses, Solar**

**SOLAR radiation**

Cause of variation in the solar constant. H. P. Gillette. Water Works & Sewerage 80: 109 Mr '33

Determination of sun effect on summer cooling loads. G. A. Hendrickson and J. H. Walker. diag Heat & Ven 30:20-3 Je '33  
Forecasts of solar variation. C. G. Abbot. Smithsonian Miscellaneous Collections v 89, no 5:1-5 '33

How can the sun affect business? L. V. Burton. Food Ind 5:107-8 Mr '33

Intensity and spectral distribution of solar radiation in New Orleans. H. Laurens and H. S. Mayerson. Opt Soc Am J 23:133-42 Ap '33

Light intensity at different depths in lake water. H. A. Erikson. il diag Opt Soc Am J 23:170-7 [bibliog p 177] My '33

Light penetration in the waters of the San Juan Archipelago. C. L. Utterback and J. W. Boyle. diag map Opt Soc Am J 23:333-8 O '33

Measurements of ultra-violet solar radiation in various localities. W. W. Coblenz, R. Stair and J. M. Hogue. bibliog U S Bur Stand J Research 10:79-88 Ja '33

Scouting for a site for a solar-radiation station. A. F. Moore. Smithsonian Miscellaneous Collections v 89, no 4:1-23, pl 1-4 '33

Solar variations and atmospheric pressure. H. H. Clayton. Science 77:568 Je 9 '33

Surface absorption of heat from solar radiation. F. G. Hechler and E. R. Queer. il diag Refrig Eng 25:86-91 F '33; Abstract. Heat & Ven 30:39 Mr '33; Discussion. Refrig Eng 25: 91+ F '33

Variations in visible solar light during submarine measurements. C. L. Utterback. Science 77:118-19 Ja 27 '33

Visible and ultraviolet in the light obtained from the sun. W. Kuerth and R. D. Miller. Illum Eng Soc Trans 28:347-53 Ap '33

**SOLAR spectrum. See Spectrum, Solar**

**SOLAR system**

Limits of the solar system. H. N. Russell. il Sci Am 148:144-5 Mr '33

**See also**

Earth  
Sun

**Motion in space**

Absolute motion of the solar system and the orbital motion of the earth determined by the ether-drift experiment. D. C. Miller. Science 77:587-8 Je 16 '33

Ether-drift experiment and the determination of the absolute motion of the earth. D. C. Miller. il diags Rs Mod Phys 5:203-42 Jl '33

**SOLDER and soldering**

Metallverbindung. G. Falck. Zeit Ver Deutsch Ing 77:251-2 Mr 4 '33

Soft soldering dairy equipment. il Am Mach 77:474-5 Jl 19 '33

Soldering short cut. il Factory & Ind Management 84:64 F '33

**See also**

Brazing  
Silver solder  
Welding



**SOLDER and soldering—Continued****Analysis**

Determination of small quantities of antimony in solder in presence of iron. C. W. Anderson. *Ind & Eng Chem Anal ed* 55:2 Ja 15 '33

**SOLDERING lugs**

Soldering lugs are standardized. H. C. Anderson. *diags Elec W* 101:62 Ja 14 '33

**SOLDIERS' bonus**

Bonus vs. bonus. *Ptr Ink* 161:30 D 15 '32

Pushing the fight against wasteful spending by government. A. I. Findley. *Iron Age* 130: 833-4+ D 1 '32

Veterans' relief. *il Fortune* 7:34-41, 96-103 Ja '33

What has been done to veterans. *Nation's Business* 21:21-2+ Ag '33

**SOLENOIDS**

Power for circuit breaker solenoids; rectox type of rectifier. W. W. Brainard. *il diags Elec J* 30:189-91 My '33

Radio physics course. A. A. Ghirardi. *diags Radio N* 14:750-1; 15:46-7 Je-Jl '33

Ruggles-Klingemann solenoid operated gate valve. *il Power Pl Eng* 37:102 F '33

Trombetta high-speed solenoids. *Mach* 39:544 Ap '33

**SOLES, Leather**

Calculus helps cut waste in cutting of soles; abstract. A. T. McKay. *J Fr Inst* 215:117-18 Ja '33

**SOLES, Rubber****Manufacture**

Soles and heels from scrap rubber. *il India Rubber W* 89:33-4 O '33

**SOLID carbon dioxide. See Carbon dioxide, Solid****SOLIDS**

Cooperative phenomena. F. Zwicky. *Phys R* 43:270-8 F 15 '33

Dipole rotation in crystalline solids. C. P. Smyth and C. S. Hitchcock. *Am Chem Soc J* 54:4631-47 D '32

Effect of crystal symmetry and chemical composition on the energy levels of solids. F. H. Spedding and G. C. Nutting. *il Am Chem Soc J* 55:496-504 F '33

Physics of solids. B. E. Warren. *R Sci Instr* 4:520-3 O '33

Problem of the solid state of matter. F. Zwicky. *Mech Eng* 55:427-32 Jl '33

Symposium at Leningrad on the structure of solid bodies. *Science* 76:510-11 D 2 '32

**See also**

Expansion (heat)

Particles

Melting points

Solutions, Solid

**SOLUBILITY**

Activity coefficients of salts in anhydrous acetic acid solutions from solubility measurements. A. W. Scholl, A. W. Hutchison and G. C. Chandlee. *Am Chem Soc J* 55: 3081-8 Ag '33

Calculating SO<sub>2</sub>'s behavior toward water. D. S. Davis. *Chem & Met Eng* 39:615-16 N '32

Chemical constitution of oil-soluble basic bismuth salts. A. P. T. Easson and F. L. Pyman. *Soc Chem Ind J* 52:97T-9T Ap 7 '33

Distribution method for the determination of the dissociation pressures of salt ammoniates. R. P. Seward. *diag Am Chem Soc J* 54:4598-605 D '32

Distribution of methylamine between water and chloroform and the existence of methylamine complexes of the metal-amine type. W. A. Felsing and S. E. Buckley. *bibliog J Phys Chem* 37:779-86 Je '33

Equilibrium in binary systems under pressure; the influence of pressure on the solubility of ammonium nitrate in water at 25°. L. H. Adams and R. E. Gibson. *Am Chem Soc J* 54:4520-37 D '32

Freezing point-solubility relations of geometrical isomers; the dynamic isomerism of the anisaldoximes. E. L. Skau and B. Saxton. *J Phys Chem* 37:197-207 F '33

Further studies on acetic acid-acetate solutions. A. W. Davidson and W. Chappell. *Am Chem Soc J* 55:3531-7 S '33

Liquid ammonia as a solvent; the solubility of inorganic salts at 25°. H. Hunt and L. Boncyk. *Am Chem Soc J* 55:3528-30 S '33

Optical properties, densities, and solubilities of the normal formates of some metals of group II of the periodic system. F. W. Ashton, D. F. Houston and C. P. Saylor. *diags U S Bur Stand J Research* 11:233-53 [bibliog p252-3] Ag '33

Paradoxical solubility phenomenon with gelatin. C. E. Larson and D. M. Greenberg. *Am Chem Soc J* 55:2798-9 Jl '33

Rate of solution of marble in dilute acids. C. V. King and Cheng Ling Liu. *bibliog Am Chem Soc J* 55:1928-40 My '33

Rate of solution of methane in quiescent liquid hydrocarbons. R. D. Pomeroy and others. *bibliog diag Ind & Eng Chem* 25: 1014-19 S '33

Salting out of non-electrolytes from aqueous solutions. P. M. Gross. *bibliog Chem R* 13:91-101 Ag '33

Solubilities of sparingly soluble salts using large volumes of solvents; the solubility of lead sulfate. R. B. Purdum and H. A. Rutherford, jr. *Am Chem Soc J* 55:3221-3 Ag '33

Solubility law for ideal solutions and its application to a water-salt system. A. W. Davidson. *J Chem Educ* 10:234-7 [bibliog p236-7] Ap '33

Solubility of barium nitrate in water. J. N. Friend and W. N. Wheat. *Chem Soc J* p501-2 My '33

Solubility of ethyl alcohol in gasoline. O. C. Bridgeman and D. Querfeld. *diag Ind & Eng Chem* 25:523-5 My '33

Solubility of hydrogen and natural gas in oils at high operating temperature and pressure. V. Ipatieff, jr, V. P. Teodorovitch and I. M. Levine. *diag Oil & Gas J* 32:14+ O 5 '33

Solubility of inulin. E. Yanovsky and R. M. Kingsbury. *Am Chem Soc J* 55:3658-63 S '33

Solubility of metallic lithium in liquid ammonia at low temperatures. W. C. Johnson and M. M. Piskur. *J Phys Chem* 37:93-9 Ja '33

Solubility of nitrates in anhydrous acetic acid. A. W. Davidson and H. A. Geer. *Am Chem Soc J* 55:642-9 F '33

Solubility of nitrogen and hydrogen in aluminium; abstract. P. Röntgen and H. Braun. *Engineer* 154:sup[Metallurgist] 185-7 D 30 '32

Solubility of nitrogen in liquid ammonia at 25° from 25 to 1000 atmospheres. R. Wiebe and T. H. Tremearne. *diags Am Chem Soc J* 55: 975-8 Mr '33

Solubility of nitrogen in water at 50, 75 and 100° from 25 to 1000 atmospheres. R. Wiebe, V. L. Gaddy and C. Heins, jr. *diag Am Chem Soc J* 55:947-53 Mr '33

Solubility of oxygen in gold and in certain silver-gold alloys. F. J. Toole and F. M. G. Johnson. *bibliog J Phys Chem* 37:331-46 Mr '33

Solubility of salts in H<sup>2</sup>O. H. S. Taylor, E. R. Caley and H. Eyring. *Am Chem Soc J* 55:4334-5 O '33

Solubility of silver chloride in nitric acid at 0°. C. R. Johnson and G. W. Low, jr. *Am Chem Soc J* 55:2262-5 Je '33

Solubility of silver chloride in water at 0°. C. R. Johnson and G. A. Hulett. *diag Am Chem Soc J* 55:2258-62 Je '33

Solubility of silver in mercury. R. E. De-Right. *bibliog diag J Phys Chem* 37:405-16 Ap '33

Solubility of silver oxide in water, in alkali and in alkaline salt solutions; the amphoteric character of silver hydroxide. H. L. Johnston, F. Cuta and A. B. Garrett. *bibliog diag Am Chem Soc J* 55:2311-25 Je '33

Solubility of sucrose in beet house sirups. R. J. Brown and A. R. Nees. *Ind & Eng Chem* 25:555-8 My '33

Solubility of thallous iodate and thallous chloride in the presence of amino acids. C. F. Failey. *Am Chem Soc J* 55:4374-8 N '33

**SOLUBILITY—Continued**

- Solubility of thallous iodate in solutions of sodium mellitate. C. F. Failey. *Am Chem Soc J* 55:3112-16 Ag '33
- Solubility of thiourea in water, methanol, and ethanol. L. Shnidman. *bibliog J Phys Chem* 37:693-700 Je '33
- Solubility relations of barium sulfate in aqueous solutions of strong electrolytes. E. W. Neuman. *Am Chem Soc J* 55:879-84 Mr '33
- Solubility relationships among optically isomeric salts; the camphorates of alpha-para-tolylethylamine. A. W. Ingersoll and F. B. Burns. *Am Chem Soc J* 54:4712-15 D '32
- Solubility relationships among optically isomeric salts; the mandelates and alpha-bromocamphor- $\pi$ -sulfonates of alpha-phenylethylamine and alpha-para-tolylethylamine. A. W. Ingersoll, S. H. Babcock and F. B. Burns. *Am Chem Soc J* 55:411-16 Ja '33
- Solubility studies; the solubilities of certain slightly soluble organic compounds in water. P. M. Gross, J. H. Saylor and M. A. Gorman. *Am Chem Soc J* 55:650-2 F '33
- Some properties of electrolytes in the solvent sulfuric acid. L. P. Hammett and A. J. Deyrup. *bibliog Am Chem Soc J* 55:1900-9 My '33
- Structure of gelatin sols and gels; the insolubilization of gelatin by heat. S. E. Sheppard and R. C. Houck. *J Phys Chem* 36:2885-900 D '32
- See also  
Electrolytes  
Solution (chemistry)
- SOLUTION (chemistry)**
- Approach to the modern theory of solutions. J. R. Sampey. *J Chem Educ* 10:677-8 N '33
- Changes of chemical potential in concentrated solutions of certain salts. R. E. Gibson and L. H. Adams. *diag Am Chem Soc J* 55:2679-95 Jl '33
- Effect of ethylene glycol upon the activity of sulfuric acid in aqueous solutions. H. M. Trimble and P. F. Ebert. *diags Am Chem Soc J* 55:958-68 Mr '33
- Electrostriction produced by salts in some aliphatic alcohols. W. C. Vosburgh, L. C. Connell and J. A. V. Butler. *Chem Soc J* p933-42 Ag '33
- Equilibrium in liquid systems of three components. W. T. Reburn and W. N. Shearer. *Am Chem Soc J* 55:1774-9 My '33
- Free energy of the normal aliphatic alcohols in aqueous solution. J. A. V. Butler, D. W. Thomson and W. H. MacLennan. *Chem Soc J* p674-86 Je '33
- Freezing points of aqueous solutions; potassium, sodium and lithium chlorides and bromides. G. Scatchard and S. S. Prentiss. *Am Chem Soc J* 55:4355-62 N '33
- Frequency variation of the dielectric constant of dilute non-aqueous solutions. J. L. Oncley and J. W. Williams. *diags Phys R* 43:341-54 Mr 1 '33
- Kinetics of reactions in solution; the interaction of potassium hydroxide and the alkyl halides in ethyl alcohol. G. H. Grant and C. N. Hinshelwood. *Chem Soc J* p258-61 Mr '33
- Objective study of dilute aqueous solutions of uni-univalent electrolytes. S. S. Prentiss and G. Scatchard. *bibliog Chem R* 13:139-46 Ag '33
- Phasentheoretisch interessante wässrige salzsysteme; die gewinnung des rubidiums aus carnallit. J. D'Ans. *Angew Chemie* 46:491-3 Jl 22 '33
- Photolysis of solutions of alkali metals in liquid ammonia. R. A. Ogg, Jr, P. A. Leighton and F. W. Bergstrom. *bibliog diags Am Chem Soc J* 55:1754-66 My '33
- Physical laws of perfect solutions applied to properties of mixed petroleum hydrocarbons. W. K. Lewis. *Oil & Gas J* 32:20 O 26 '33
- Physicochemical studies of complex formation involving weak acids; alkaline solutions of thorium tartrate. H. T. S. Britton and W. E. Batrick. *Chem Soc J* p5-9 Ja '33

- Primary salt effects in reactions in which the substrate is neutral. N. N. T. Samaras. *bibliog J Phys Chem* 37:437-41 Ap '33
- Relative strength of benzoic and salicylic acids in alcohol-water solutions. J. O. Halford. *Am Chem Soc J* 55:2272-8 Je '33
- Simple method for accurate determinations of vapor pressures of solutions. D. A. Sinclair. *bibliog J Phys Chem* 37:495-504 Ap '33
- Solubility law for ideal solutions and its application to a water-salt system. A. W. Davidson. *J Chem Educ* 10:234-7 [bibliog p236-7] Ap '33
- System ethyl alcohol- $n$ -heptane at 30°C. J. B. Ferguson, M. Freed and A. C. Morris. *J Phys Chem* 37:87-91 Ja '33
- System: sodium iodate, sodium carbonate, water. H. W. Foote and J. E. Vance. *Am J Sci* 5th ser 25:499-502 Je '33
- Systems of sulfur dioxide and hydrogen derivatives of benzene. W. F. Seyer and E. G. King. *diags Am Chem Soc J* 55:3140-9 Ag '33
- Ternary systems constituted by mercuric chloride, water, and an alkaline-earth chloride or cupric chloride. H. Bassett and others. *Chem Soc J* p151-64 F '33
- Ternary systems: water, tertiary butanol and salts at 25°. P. M. Ginnings, E. Herring and B. Webb. *Am Chem Soc J* 55:875-8 Mr '33
- Thermodynamic properties of fused salt solutions; zinc bromide in lead bromide. E. J. Salstrom. *Am Chem Soc J* 55:1029-36 Mr '33
- Über die beeinflussung der brechung von flüssigkeitsgemischen durch geringe säuremengen. T. Tomonari. *Angew Chemie* 46:269-71 My 13 '33
- Viscosity of aqueous solutions as a function of the concentration. G. Jones and S. K. Talley. *diags Am Chem Soc J* 55:624-42 F '33
- Viscosity of aqueous solutions as a function of the concentration; potassium bromide and potassium chloride. G. Jones and S. K. Talley. *Am Chem Soc J* 55:4124-5 O '33

## See also

- |                   |               |
|-------------------|---------------|
| Boiling points    | Electrolytes  |
| Colloids          | Ions          |
| Crystallization   | Precipitation |
| Diffusion         | Solubility    |
| Dilution, Heat of | Solvents      |
| Electrolysis      |               |

**SOLUTION, Heat of**

- Calcium nitrate; heats of dilution of solutions of calcium nitrate in water. W. W. Ewing and A. N. Rogers. *Am Chem Soc J* 55:3603-9 S '33
- Heat capacity, heat of sublimation, and heat of solution of phosphorus pentoxide. M. Frandsen. *diags U S Bur Stand J Research* 10:35-58 Ja '33
- Heat of solution of water vapour in various solvents. R. P. Bell. *Chem Soc J* p2905-11 D '32

**SOLUTIONS, Preparation of**

- Alignment chart for plant dilution problems. N. M. Wickstand. *Chem & Met Eng* 40:487 S '33
- Simple time-savers in the preparation of solutions. L. A. Munro. *J Chem Educ* 10:120 F '33

**SOLUTIONS, Solid**

- Compilation of phase-rule diagrams of interest to the ceramist and silicate technologist. F. P. Hall and H. Inley. *diags bibliog Am Cer Soc J* 16:459-567 O '33
- Liquidus and solidus studies; the ternary system  $\text{Ba}(\text{NO}_3)_2\text{-Ca}(\text{NO}_3)_2\text{-KNO}_3$ . K. Laybourn and W. M. Madgin. *Chem Soc J* p236-40 Mr '33
- Liquidus and solidus studies; the ternary system  $\text{KNO}_3\text{-NH}_4\text{NO}_3\text{-Pb}(\text{NO}_3)_2$ . H. M. Glass, K. Laybourn and W. M. Madgin. *Chem Soc J* p199-202 F '33
- Solid solutions. *Engineer* 156:sup[Metallurgist] 53 Ag 25 '33
- Studies of phosphates; some complex orthophosphates of sodium and a bivalent metal, and some orthophosphate solid solutions. H. Bassett and W. L. Bedwell. *Chem Soc J* p877-82 Jl '33
- System,  $\text{CaO-FeO-SiO}_2$ . N. L. Bowen, J. F. Schairer and E. Posnjak. *il diags Am J Sci* 5th ser 26:193-284 S '33



**SOLUTIONS, Solid—Continued**

- Ternary systems; sodium iodide, potassium iodide and water; sodium iodide, sodium iodate and water. A. E. Hill, H. S. Willson and J. A. Bishop. *Am Chem Soc J* 55:520-6 F '33
- Thermodynamic properties of solid solutions of gold and silver. A. Wachter. *Am Chem Soc J* 54:4609-17 D '32
- X-ray studies of very complex mixtures of long chain compounds. E. Ott and D. A. Wilson. *Science* 78:16-17 JI 7 '33

**SOLUTIONS, Standard**

- Ceric sulfate as a volumetric oxidizing agent; indicator methods for the standardization and use of ceric sulfate. H. H. Willard and P. Young. *Am Chem Soc J* 55:3260-9 Ag '33
- Electrometric studies of the precipitation of hydroxides; standardization of acid solutions by means of mercuric oxide. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p9-10 Ja '33
- Equilibrium in the system, sodium phthalate, phthalic acid and water. S. B. Smith and W. A. Sturm. *Am Chem Soc J* 55:2414-19 Je '33
- Measurement of the conductance of electrolytes; a redetermination of the conductance of standard potassium chloride solutions in absolute units. G. Jones and B. C. Bradshaw. *bibliog Am Chem Soc J* 55:1780-1800 My '33
- New methods of standardizing acids and alkalis. A. H. Pettinger. *Textile Col* 55:93-4 F '33
- SOLVAY process.** See Sodium carbonates—Manufacture
- SOLVAY process company**  
Looking back at 50 years in ammonia-soda alkali industry. E. N. Trump. *flow sheet Chem & Met Eng* 40:126-9 Mr '33
- SOLVENTS**  
Acetamide as a solvent. O. F. Stafford. *Am Chem Soc J* 55:3987-8 O '33
- Aliphatic alcohols and their derivatives; an important group of solvents. *Chem Age (Lond)* 28:486 My 27 '33; Same. *Plastic Prod* 9:281 S '33
- Application of solvent extraction methods for the improvement of lubricating oil quality. J. W. Poole and J. M. Wadsworth. *flow sheet Oil & Gas J* 32:49-50, 52 O 26 '33
- Camphor substitutes; with a check-list of patents. I. Mellon. *il Plastic Prod* 9:323, 325 O '33
- Carbon adsorption process of solvent recovery. H. Griffiths. *il Chem Age (Lond)* 28:481-2 My 27 '33
- Centrifuge dewaxing with trichlorethylene. C. F. Pester. *Am Pet Inst Proc* 14M(3):4-6 My '33; Same. *Oil & Gas J* 32:52-4 My 25 '33; Abstract. *Nat Pet N* 25:36-7 My 17 '33
- Change in the transformation temperature of copper sulfate at 56°C. with the solvent medium. H. J. Abrahams and W. W. Lucasse. *J Phys Chem* 37:521-4 Ap '33
- Le charbon actif et ses applications industrielles. A. Godel. *il Chimie & Ind* 29:3-17 Ja '33
- Commercial application of chlorex process in the manufacture of high grade motor oils. W. H. Bahlke, A. B. Brown and F. F. Diwoky. *il diag Oil & Gas J* 32:60-+ O 26 '33
- Comparison of high solvent value petroleum solvents. *Oil Paint & Drug Rep Extra* ed 122:39 N 29 '32
- Demand for special solvents increases with improvement in tire shipments. *Oil & Gas J* 32:28 Je 15 '33
- Developments in naphthalene removal by spraying solvent; based on the work of the laboratory of Cracow gas works and of W. J. Piotrowski and J. Winkler. G. Malecki. *diags Gas Age* 72:285-8 S 23 '33
- Dewaxing oils in propane solution with self-refrigeration. W. H. Bahlke, R. N. Giles and C. E. Adams. *flow diag il diag Am Pet Inst Proc* 14M(3):16-23 My '33; Excerpt. *Nat Pet N* 25:37, 38-9 My 17 '33
- Disadvantages of the non-flammable solvents. W. Brown. *Chem Markets* 33:229-31 S '33
- Distribution coefficients of some monocarboxylic acids and esters between immiscible solvents. H. J. Henriques. *Am Chem Soc J* 55:3284-8 Ag '33
- Dry-cleaning solvents. W. Brown. *Soc Dyers & Col J* 49:42-5 F '33
- Duo-sol lube extraction process eliminates acid treating. M. B. Miller. *il Nat Pet N* 25:26-8 O 11 '33; Same. *Oil & Gas J* 32:11-+ O 12 '33
- Economics of solvent recovery; Sutcliffe-Speakman system. J. G. M. Bevan. *il Chem Age (Lond)* 28:485-6 My 27 '33
- Effect of solvent on the reaction between iodine and hydrogen sulphide. M. R. A. Rao and B. S. Rao. *diag Chem Soc J* p836-9 JI '33
- Effect of the solvent on the potential of the chloranil electrode. B. O. Heston and N. F. Hall. *bibliog Am Chem Soc J* 55:4729-30 N '33
- Furan compounds; use in coating formulas. N. F. Peters. *bibliog il Plastic Prod* 9:92-6 My '33
- Furfural, an industrial raw material and solvent. A. J. Hammer. *bibliog Soc Chem Ind J (Chem & Ind)* 52:608-12 JI 28 '33
- Glimpse of the dry cleaning industry; filtration and solvent recovery problems. *il diag Chem Age (Lond)* 28:483-4 My 27 '33
- Heat of solution of water vapour in various solvents. R. P. Bell. *Chem Soc J* p2905-11 D '32
- Highly specialized petroleum naphthas replace coal tar products in paint and lacquer. R. C. Conine. *Oil & Gas J* 31:66-7 Mr 30 '33
- Impregnation varnishes; evaporation of solvents and the oxidation of varnishes used for electrical windings, etc. D. Texier. *diags Electrician* 109:666-71 N 25 '32
- Improved grade of cyclohexanone. *Chem Age (Lond)* 28:494 My 27 '33
- Industrial metal degreasing; most modern methods of removing heavy grease from metal products before plating and finishing. *diags Metal Ind* 30:473-4 D '32
- Industrial solvent recovery; the activated carbon system of Sutcliffe, Speakman & co. *il Chem Age (Lond)* 28:351 Ap 22 '33
- Leaves from the notebook of a chemical engineer; Scott solvent extraction plant. J. MacGregor. *il Chem Age (Lond)* 28:475-6 My 27 '33
- Lube solvents absorb refiners attention at A.P.I. meet. *Nat Pet N* 25:26-+ N 1 '33
- Mechanism of bimolecular reactions in solution; the addition of methyl iodide to pyridine in several solvents. H. W. Thompson and E. E. Blandon. *Chem Soc J* p1237-40 S '33
- Medium effect of various solvents upon silver bromate at 25°. B. B. Owen. *Am Chem Soc J* 55:1922-8 My '33
- Method of determining solvent properties of volatile thinners in varnishes. M. Frandsen. *Ind & Eng Chem Anal* ed 5:184-5 My 15 '33
- Methylene ether-esters; a promising group of new solvents and plasticizers. F. Walker. *Plastic Prod* 9:187-8 JI '33
- New solvent process employs centrifuge to separate raffinate and extract. J. W. Poole. *flow sheet diags Nat Pet N* 25:28, 30-5 Ag 16 '33
- New solvents and plasticizers, Howards & sons, London. *Plastic Prod* 9:200 JI '33
- New tools for industry. N. D. Harvey, jr. *Am Dyestuff Rep* 22:241-7 Ap 10 '33
- Newer chemistry of coatings. C. Ellis. *bibliog il Ind & Eng Chem* 25:125-32 F '33
- Nitrobenzene process for lubricating oils. S. W. Ferris and W. F. Houghton. *flow chart diag Am Pet Inst Proc* p82-93 sec 3 D '32; Same cond. *Oil & Gas J* 31:65-+ N 17 '32; Excerpts. *Nat Pet N* 24:25-8-+ N 30 '32; Abstract. *Automotive Ind* 68:79-80 Ja 21 '33
- Non-inflammable solvents; five products of British manufacture. *Chem Age (Lond)* 28:476 My 27 '33

**SOLVENTS—Continued**

- Petroleum as a source of paint materials; solvents, diluents and thinners. C. I. Kelly. *Chem Age (Lond)* 28:240 Mr 18 '33; Same. *Chem Markets* 32:417-18 My '33; Discussion. *Chem Age (Lond)* 28:240-1 Mr 18 '33
- Photo-change of N-chloroacetanilide in various solvents. F. W. Hodges. *Chem Soc J* p240-6 Mr '33
- Production of lubricating oils by extraction with dichloroethyl ether. J. M. Page, C. C. Buchler and S. H. Diggs. *il diag Ind & Eng Chem* 25:418-22 Ap '33; Same. *Nat Pet* N 25:35-6+ Ap 5 '33; Same. *Oil & Gas J* 31:14-15+ Ap 20 '33
- Properties of electrolytic solutions; conductance as influenced by the dielectric constant of the solvent medium. C. A. Kraus and R. M. Fuoss. *diag Am Chem Soc J* 55: 21-36 Ja '33
- Recent progress in solvent recovery technique. S. R. Price. *il Chem Age (Lond)* 28:478-80 My 27 '33
- Results obtained from use of propane during dewaxing and treating of lubricating oil. U. B. Bray, C. E. Swift and D. E. Carr. *Oil & Gas J* 32:14-16+ N 2 '33; Abstract. *Nat Pet* N 25:30-2 N 1 '33
- Review of the solvents industry in 1932. *Chem Age (Lond)* 27:626-7 D 31 '32
- Rubber industry now uses variety of petroleum naphthas as solvents. *Oil & Gas J* 31:88 Mr 30 '33
- Selective solvent applications widen in refining products of petroleum. E. H. J. Rosenberg. *Oil & Gas J* 32:27 Ag 10 '33
- Silica gel in solvent recovery. *il Chem Age (Lond)* 28:480 My 27 '33
- Solvent dewaxing of oils with benzol and acetone. F. X. Govers and G. R. Bryant. *flow diag il Am Pet Inst Proc* 14M(3):7-15 My '33; Abstract. *Nat Pet* N 25:38 My 17 '33
- Solvent recovery. W. L. Brogan. *Chem Markets* 32:226 Mr '33
- Solvent recovery by active carbon; abstract. J. C. Liddle. *Chem Age (Lond)* 27:512 N 26 '32
- Solvent treatment of distillates is now applied with success to the heavier oil fractions. A. W. Nash. *diags Oil & Gas J* 31: 52-4 Mr 30 '33
- Studies in solvent action; optical rotatory powers of  $\beta$ -octanol,  $d$ -amyl alcohol, and their derivatives. H. G. Rule, E. E. Smith and J. Harrower. *Chem Soc J* p376-87 Ap '33
- Studies in solvent action; rotatory power of ethyl tartrate in relation to the solvent, concentration, degree of association, and temperature. H. G. Rule, M. M. Barnett and J. P. Cunningham. *Chem Soc J* p1217-23 S '33
- Thermal behavior of sulfur compounds in hydrocarbon solvents; normal butyl sulfide in benzene solution. W. M. Malisoff and E. M. Marks. *bibliog Ind & Eng Chem* 25: 780-3 JI '33
- Transition points of salt hydrates in various non-aqueous solvents. W. W. Lucasse and H. J. Abrahams. *bibliog J Phys Chem* 37: 511-19 Ap '33
- Tricresyl phosphate as solvent for phenol recovery from gas-plant effluents. C. H. S. Tupholme. *Ind & Eng Chem* 25:303-4 Mr '33
- Use of furfural as the extraction solvent to make motor oils having low viscosity index. R. E. Manley, B. Y. McCarty and H. H. Gross. *flow diags bibliog plan Oil & Gas J* 32:78-9, 81-2 O 26 '33; Same cond. *Nat Pet* N 25:26-8+ O 25 '33
- Use of Agulhon's reagent in the analysis of solvents. E. C. Craven. *Soc Chem Ind J* 52:239T-42T Ag 11 '33
- Use of phenol as a selective solvent in refining lubricating oils. R. K. Stratford, H. H. Moor and O. S. Pokorny. *il plan Nat Pet* N 25:17-20+ Mr 29 '33
- Use of solvents may revolutionize manufacture of lubricants. A. L. Foster. *Nat Pet* N 25:29-31 Ag 9; 35-6 Ag 16; 34, 36 Ag 23; 21-2 Ag 30 '33

See also

Acetone  
AlcoholAlcohols  
Ammonia

Benzene	Cleaning compositions
Butyl alcohol	Glycol
Carbon disulfide	Methanol
Carbon tetrachloride	Methylene chloride
Chloroform	Trichloroethylene

**Advertising**

This company advertises its competitors' products; U. S. industrial alcohol co. L. S. Gillette. *il Ptr Ink* 164:59-62 S 28 '33

**Testing**

Standardization of kauri butanol test for paint and lacquer thinners. L. C. Beard, V. L. Shipp and W. E. Spelshouse. *bibliog Ind & Eng Chem Anal* ed 5:307-9 S 15 '33

**SONG writers**

5,000,000 songs are the commercial heritage of the American society of composers, authors and publishers. *Fortune* 7:27-33, 84, 86 Ja '33

Songwriter's dirge; Tin Pan Alley blames its own depression on the radio. *Business Week* p11-12 S 2 '33

**SOONG, T. V. (Sung Tsu-wen)**

Finance minister of the Republic of China. *pors Fortune* 7:44-6+ Je '33

**SOOT**

Occurrence of lead, copper, zinc, and arsenic compounds in atmospheric dusts, and the sources of these impurities. J. T. Dunn and H. C. L. Bloxam. *Soc Chem Ind J* 52:189T-92T Je 30 '33

See also

Smoke

**SOOT blowers**

Make soot blowing easy. C. G. Robinson. *diag Power* 77:516 O '33

Water softening and boiler practice. D. Gardner. *Gas J (Lond)* 201:52; Discussion. 52 Ja 4 '33

**SORBIC acid**

Catalytic hydrogenation of unsaturated compounds; additive mode in relation to selectivity of attack and catalyst activity. E. H. Farmer and R. A. E. Galley. *Chem Soc J* p687-96 Je '33

Modes of addition to conjugated unsaturated systems; the hydrogenation of ethyl mucronate and sorbic and  $\beta$ -vinylacrylic acids in the presence of platinum. C. K. Ingold and L. D. Shah. *Chem Soc J* p885-90 JI '33

**SORTING devices**

Electric eye sorting gives uniform grading at low cost; General bean co. Lowell, Mich. R. G. Silbar. *il Food Ind* 5:454-5 N '33

Machine for sorting disks. V. Waitkus. *diag Am Mach* 77:732 N 8 '33

Planning speeds sorting; numerical sales ticket sorting. *il Management Methods* 61: 617-18 N '32

Sorting of foods by a photoelectric tube. *Science* 78:sup9 O 20 '33

**SOUDERTON, Pennsylvania****Sewerage**

Sewage treatment works of Souderton. C. F. Mebus. *il Water Works & Sewerage* 80: 265-6 JI '33

**SOUND**

Beitrag zur akustischen werkstoffuntersuchung von stahlstäben, besonders für die herstellung von gongspielen. A. Pomp and B. Zapp. *Stahl & Eisen* 53:510-11 My 11 '33

Electric analogue of vowel production. H. Skilling. *Science* 77:604 Je 23 '33

Engineering acoustics. *Electrician* 110:16-17, 42-3, 72-3, 132-3, 162-3, 193-4, 228-9, 254, 299-300, 331-2, 360-1, 389-90, 417-18, 460-1, 491-2, 519-20, 563-4, 590-1, 624-5, 652-3, 682-3, 708-9, 741-2, 801-2, 829-30, 860-1, 111:13-14, 64-5, 92-3, 120-1, 149-50, 177-8, 208-9, 234-5, 262-3, 290-1, 321-2, 346-7, 390-1, 418-19 Ja 6-O 6 '33



## SOUND—Continued

- Introductory acoustics. G. W. Stewart. 195p  
Van Nostrand '32  
Physical principles of mechanics and acoustics. R. W. Pohl. 338p Blackie & son, ltd, London '32  
Recent developments in applied acoustics. P. E. Sabine. W Soc E J 37:314-22 D '32  
Sound insulation minus the mystery. D. P. Falconer. diags Am Bld 55:38-9+ Ap '33  
Sound waves and molecules. V. O. Knudsen and H. O. Kneser. Science 77:sup9 My 19 '33  
Survey of modern acoustics. F. R. Watson. R Sci Instr 4:268-70 My '33

## See also

- |                          |           |
|--------------------------|-----------|
| Acoustics, Architectural | Speech    |
| Chladni figures          | Vibration |
| Noise                    | Voice     |
| Soundproofing            | Vowels    |

## Absorption

- Air conditioning the broadcast plant. V. J. Gilcher. il diags Heat & Ven 30:33-5 O '33

## See also

- Sound absorbent materials

## Apparatus

- Appareils pour la mesure des réactions du sous-sol sur les fondations d'ouvrages. diags Génie Civil 102:330-1 Ap 8 '33  
Blind can read by ear. il Sci Am 148:121 F '33  
Electro-acoustical system in the Girard college chapel. T. F. Bludworth. plan Arch Rec 73:385-6 Je '33  
Perfect quality and auditory perspective in the transmission and reproduction of music. F. B. Jewett. diags Science 77:435-40 My 12 '33  
Philips sound-film equipment. il Elec R (Lond) 112:486 Ap 7 '33  
Radio and acoustics. I. J. Saxl. il diags Radio N 15:79-81+ Ag '33  
Reproduction of music by new methods. Science 77:sup6 Ap 21 '33  
Sonic marker beacon. il Aero Digest 22:45 Ap '33; Sci Am 149:32 JI '33  
Sound reproduced in perspective. il Sci Am 148:338 Je '33  
Soundograph system for gas leak detection. O. L. Smith. il diags Gas Age 71:381-3, 601-3 Ap 15, Je 10 '33

## See also

- |                         |                 |
|-------------------------|-----------------|
| Deaf, Instruments for   | Phonograph      |
| Loud speaking apparatus | Radio apparatus |
| Microphones             | Telephone       |

## Measurement

- Acoustical thresholds reconciled, but problems exist; abstracts. H. Fletcher. Elec W 101:165 F 4 '33; Elec Eng 52:199 Mr '33  
Acoustics laboratory of the Metropolitan-Vickers electrical company's research department. B. G. Churcher. il plan Engineering 135:563-6 My 26 '33  
Akustische messgeräte für praktischen gebrauch. W. Jaekel. il diag Zeit Ver Deutsch Ing 77:98-9 Ja 28 '33  
Decibel. S. J. Zand. il Aviation Eng 8:19-22 F '33  
Das lärmproblem vom standpunkt des ingenieurs. K. W. Wagner. il diags Zeit Ver Deutsch Ing 77:1-9 Ja 7 '33  
Measurement of noise. G. W. Stubbings. Elec R (Lond) 111:919-20 D 23 '32  
Measurement of noises segregated from din of confusion, marks important step to quieter cars. J. Geschelin. il diags Automotive Ind 67:676-81, 712-17 N 26-D 3 '32  
National physical laboratory; physics department. plan Engineering 136:379-81 O 6 '33  
New acoustic noise meter. il Elec R (Lond) 113:315 S 8 '33  
New alternation phonometer. H. P. Knauss and F. E. Hale. diag R Sci Instr 4:447-8 Ag '33  
Noise in power transformers. E. T. Norris. il Engineer 155:446-8, 452 My 5 '33  
Radio and acoustics. I. J. Saxl. il diags Radio N 15:79-81+ Ag '33

- Radio-noise meter and its application to the measurement of radio interference. C. R. Barhydt. il diags Gen Elec R 36:201-5 Ap '33

- Recording transmission measuring system for telephone circuit testing. F. H. Best. il diag Bell System Tech J 12:22-34 Ja '33  
Study of the frequencies of fuel knock noises. W. H. Paul and A. L. Albert. il Nat Pet N 25:24+ Ag 9 '33  
Why use soundmeters? advantages and limitations of these instruments. E. J. Abbott. il diag Mech Eng 55:281-4 My '33

## Standards

- Progress in noise measurements. P. L. Alger. Elec Eng 52:741-4 N '33  
Proposed standards for noise measurements. H. Fletcher. Elec Eng 52:744-6 N '33

## Recording and reproducing

- Amateur talking pictures and recording. B. Brown. 225p \$2.25 Pitman '33  
Collection of sound in reverberant rooms, with special reference to the application of the ribbon microphone. H. F. Olson. il diags Inst Radio Eng Proc 21:655-72 My '33  
Engineering acoustics; reproduction of reverberant sound. Electrician 110:72-3 Ja 20 '33  
Equipment and technique for home recording. W. H. Wenstrom. il diags Radio N 14:336-7+, 466-7+ D '32, F '33  
Permissible amplitude distortion of speech in an audio reproducing system. F. Massa. diags Inst Radio Eng Proc 21:682-9 My '33  
Robot clock announces time from the Paris observatory. E. Esclançon. Science 77:sup 11-12 My 26 '33  
Sound recording and reproduction. W. W. Simons. il front diags W Soc E J 38:243-59 O '33  
Three months' test on a new console receiver; Scott Imperial. il diags Radio N 14:744+ Je '33  
Vertically cut sound records. H. A. Frederick and H. C. Harrison. il diags Elec Eng 52:183-8 Mr '33  
When Mickey Mouse speaks. A. R. Boone. il Sci Am 148:146-7 Mr '33

## See also

- |                  |            |
|------------------|------------|
| Moving pictures, | Phonograph |
| Talking          |            |

## Velocity

- Velocity of sound in an absorptive gas. D. G. Bourgin. Phys R 42:721-30 D 1 '32

## SOUND absorbent materials

- Grundlegende untersuchungen über schallabsorption. E. Wintergerst and H. Klupp. diag Zeit Ver Deutsch Ing 77:91-5 Ja 28 '33  
Radio and acoustics. I. J. Saxl. il Radio N 14:711-13+ Je '33  
Surface treatment of acoustic tile. H. J. Flagg, L. K. Arnold and E. R. Whittemore. Paper Tr J 96:27-9 F 9 '33

## See also

- Soundproofing

## SOUND waves

- Chemical action of audible sound. E. W. Flodorf and L. A. Chambers. Am Chem Soc J 55:3051-2 JI '33  
How scientists are working out new radio methods for controlling machinery by sound impulses. I. J. Saxl. il diag Radio N 14:460-2+ F '33  
Magnetostriction oscillators. I. J. Saxl. il diags Radio N 15:275-6+, 336-7+ N-D '33

## See also

- Sound—Velocity  
Speech

## SOUNDING

- Boring and sounding equipment used in accelerating swamp fill subsidence. W. Schultz. il diags Explosives Eng 11:109-13 Ap '33

## See also

- Ocean bottom

## SOUNDPROOFING

- Air conditioning and sound insulation of the N.B.C. Chicago studios. V. J. Gilcher. il Heat & Ven 30:16-19 N '33

**SOUNDPROOFING—Continued**

- Air conditioning the broadcast plant. V. J. Gilcher. il diags Heat & Ven 30:33-5 O '33
- Development of a sound-isolating base for motors. E. H. Hull. il diags Gen Elec R 36:223-7 My '33
- Discussion of some of the principles of acoustical insulation. V. L. Chrisler. diags pl U S Bur Stand Circ 403:1-12 '33
- Elastic supports prevent machine noise transmission. C. C. Clymer. il diags Power 76:288-90 D '32
- Heating and ventilating airplanes without noise. P. Golding. il Heat & Ven 30:37-8 My '33
- National physical laboratory; physics department. plan Engineering 136:379-81 O 6 '33
- Neglected sense. C. B. Ryder. bibliog Architecture 66:319-24 D '32
- Noiseless car developed by Interborough rapid transit. il diag Transit J 77:281-2 S '33
- Quiet electrical machinery. J. A. Jackson. Gen Elec R 36:385-8 S '33
- Quiet within the airplane. S. J. Zand. Aviation 32:106-8 Ap '33
- Schall- und schwingungsdämmung in hochbau. W. Genest. diags Zeit Ver Deutsch Ing 77:427-8 Ap 22 '33
- Silencing aircraft. A. H. Davis. Engineer 156:316-17 S 29 '33
- Some pitfalls in supervision; insulation and acoustics. W. F. Bartels. Architecture 68:37-8 Jl '33
- Sound control in buildings of the future. P. E. Sabine. Civil Eng 3:436-9 Ag '33
- Sound insulation minus the mystery; how to correct noise-leaking walls, floors and ceilings. D. P. Falconer. diags Am Bid 55:38-9+ Ap '33
- See also*
- |                          |                           |
|--------------------------|---------------------------|
| Acoustics, Architectural | Sound absorbent materials |
|--------------------------|---------------------------|

**SOUP****Advertising**

- Campbell Soup starts biggest advertising program. Ptr Ink 164:6 S 21 '33

**SOUTH****Commerce**

- Pan-American trade alliance and the South. R. C. Jones. Manuf Rec 102:23 Ag '33

**Economic conditions**

- Human geography of the South. R. B. Vance. 596p [bibliog p512-79] Univ. of North Carolina press, Chapel Hill '32

**Industries and resources**

- Industrial expansion continues. Manuf Rec 102:30+ F '33
- New southern plants. il Manuf Rec 102:22-3 Ja '33
- Power development continues. il Manuf Rec 101:28-9 D '32
- South—America's horizon of the future. R. C. Jones. Manuf Rec 102:17 S '33
- South kicks; Blue Eagle gives the black man too much and destroys southern competitive advantages. Business Week p9-10 S 23 '33
- Where opportunity beckons. A. M. Soule. Manuf Rec 102:15 F '33

**SOUTH AFRICA***See also*

- |                                    |  |
|------------------------------------|--|
| Electric Industries—South Africa   | Mines and mineral resources—South Africa |
| Gold mines and mining—South Africa | Wages—South Africa                       |

**Economic conditions**

- South Africa in 1932. Economist 116:sup29 F 18 '33

**Native races**

- Servile conditions in Bechuanaland. Int Labour R 28:549-53 O '33

**SOUTH AMERICA****Economic conditions**

- Bank of London and South America, Limited; position and outlook. Economist 116:1159-60 D 17 '32

**SOUTH DAKOTA**

- State business ventures under fire. Concrete (mill sec) 41:44-5 F '33

**SOUTH DURHAM steel and iron company**

- Dorman Long and South Durham. Economist 116:696-8 Ap 1 '33

**SOUTH ORANGE, New Jersey****Streets**

- Snow removal methods in the village of South Orange. I. T. Redfern. map Pub Works 64:26+ O '33

**SOUTH SEA company**

- South sea bubble. G. R. I. Erleigh. 176p \$1.50 Putnam '33

**SOUTHAMPTON, England****Harbor**

- New graving dock at Southampton. Engineering 135:696-8, pl 38 Je 30 '33
- Southampton dock extensions. il map Engineering 135:611-13, 624, pl 35 Je 9 '33
- Southampton dock extensions. il plan Engineering 156:2-5, 12, 26-8, supp, 52-4 Jl 7-21 '33
- Southampton docks; electrical equipment. il Electrician 111:87 Jl 21 '33; Elec R (Lond) 113:155 Ag 4 '33

**SOUTHEASTERN underwriters association**

- Annual meeting, Virginia Beach, Va. June 7. Ins Field (Fire ed) 62:7+ Je 8 '33; Nat Underw 37:3+ Je 8 '33

**SOUTHEND, England****Water supply**

- Chelmer and Blackwater supplies of the Southend waterworks company; abstract. T. E. Hawksley and others. Engineering 135:692, 711 Je 23-30 '33

**SOUTHERN alkali corporation**

- New alkali plant at Corpus Christi. Glass Ind 14:98 S '33; Oil Paint & Drug Rep 124:24 Ag 28 '33

**SOUTHERN California Edison company, Ltd.**

- Lag of Southern California Edison. Econostat 1:13, 23 Ag 12 '33

**SOUTHERN California rift club**

- Meeting, 22d. Science 78:207 S 8 '33

**SOUTHERN newspaper publishers' association**

- Annual convention, 31st, Chattanooga, Tenn. Ptr Ink 163:32 Je 29 '33
- Committee appointments. pors Ptr Ink 164:46 Jl 12 '33

**SOUTHERN Pacific railroad**

- Annual report, year ended Dec. 31, 1932. Ry Age 94:650-3 Ap 29 '33
- Delayed recovery. Econostat 1:14-15 Ag 19 '33
- Guidebook of the western United States; part F, Southern Pacific lines, New Orleans to Los Angeles. N. H. Darton. 29 fold maps U S Geol S Bul 845:1-304 [bibliog p293-6], pl 1-49 '33
- One of the country's longest and strongest arms of usefulness. il map Ry Age 93:sup 109-12 D 3 '32
- Southern Pacific's potentialities. D. Hovey. map Barron's 13:6+ Jl 24; 6-7 Jl 31 '33

**SOUTHERN pine association**

- What a code costs; Southern pine association's code enforcement bill and set-up. Business Week p12 S 16 '33

**SOUTHERN textile association**

- Changing conditions in textiles pictured at S.T.A. silver anniversary. Textile World 83:1080-1 Je '33

**SOUTHWEST**

- Erosion; a real menace in the Southwest. B. P. Fleming. Science 78:391-5 N 3 '33
- Furniture distribution in the Gulf Southwest. W. A. Bowers. il maps U S Bur For & Dom Com Domestic Commerce Ser 76:1-153 '33

**Antiquities**

- Digging in the Southwest. A. A. Morris. 301p \$2.50 Doubleday '33

**SOUTHWESTERN ice manufacturers association**

- Annual convention, 43d, Dallas, Texas, Oct. 12-13. Refrig W 68:23-6 O '33



**SOXHLETS.** See Extraction apparatus

**SOY bean flour**

Soybean flour. *Sci Am* 149:28-9 J1 '33

**SOY bean oil**

Mechanical extraction of vegetable oil from seeds. *diag Mech Handling* 20:47-8 F '33

Soy-bean industry in the United States. A. A. Horvath. *bibliog il J Chem Educ* 10:5-12 Ja '33

Soy-bean oil; quality and yield as affected by conditions of expression. R. L. Smith and H. R. Kraybill. *il Ind & Eng Chem* 25:334-6 Mr '33

**SOY beans**

Jap and the bean-stalk. *Comm & Fin* 22:147 F 8 '33

Soy-bean industry in the United States. A. A. Horvath. *bibliog il J Chem Educ* 10:5-12 Ja '33

Soy-bean paste as an emulsifying agent. A. M. Field, B. H. Alexander and E. B. Sylvanus. *Science* 77:91 Ja 20 '33

Supply and marketing of soybeans and soybean products. C. L. Stewart and others. *il diags ill U Agric Exp Sta Bul* 386:429-542 '32

Vegetation and reproduction in the soybean. S. Austin. *Science* 78:363-4 O 20 '33

**SPACE**

Space structure and motion. G. Strömborg. *Science* 76:477-81, 504-8 N 25-D 2 '32

See also

Ether (of space)

Relativity (physics)

**SPAGHETTI**

How spaghetti is canned. D. S. Huber. *il plan Food Ind* 5:394-6+ O '33

How spaghetti sauce is made. D. S. Huber. *il Food Ind* 5:438-9 N '33

**SPAIN**

Economic conditions

Spain in 1932. *Economist* 116:sup18-19 F 18 '33

Economic policy

Spain wants Spanish telephones. *Business Week* p22-3 D 14; 24 D 21 '32

**SPALLING**

Theory of spalling. F. W. Preston. *Am Cer Soc J* 16:131-3 Mr '33; Discussion. F. H. Norton. 16:423-4 S '33

**SPANISH language**

Dictionaries

Handbook of Spanish-English and English-Spanish legal words and phrases. M. E. Bean, comp. 257p \$2.50 Appleton '33

**SPARK arresters**

Soo line tests Cyclone front end. *il diags Ry Age* 94:723-5 My 20 '33

**SPARK gap**

Capacitance of a guard-ring sphere-gap. G. Yoganandam. *Inst E E J* 71:830-2 N '32

Control of current across a spark gap by means of an external magnetic field. R. F. Earhart and H. A. Carlock. *diags J Fr Inst* 215:179-87 F '33

Enclosed coordinating gap for low-voltage circuits. E. Beck. *il diag Elec J* 30:165-6 Ap '33

Facilitating sphere-gap measurements. W. Holzer and P. Hochhäusler. *diag Elec R (Lond)* 113:443 S 29 '33

Lightning; its formation and behavior. J. J. Torok and W. R. Ellis. *il Elec J* 30:254-6 Je '33

Spark-gap breakdown. R. Hellman. *Electrician* 110:31-2 Ja 13 '33

**SPARK photography.** See Photography, Spark

**SPARK plugs**

Mixture distribution in cylinder studies by measuring spark plug temperature. H. Ra-bezzana and S. Kalmar. *il diag Automotive Ind* 66:450-4, 486-91 Mr 19-26 '32; Same. *Automobile Eng* 22:587-93 D '32

10,000 miles for a dime; Cincinnati street railway spark plugs. *Bus Transportation* 12:233 Je '33

Manufacture

Spark plug manufacture. *Automobile Eng* 23:83 Mr '33

Vanadium steel dies for spark plug manufacture. *Automotive Ind* 67:681 N 26 '32

Standards

I.A.E. standard no. 83; dimensions for 14mm. sparking plugs. *diags Automobile Eng* 23:281 Ag '33

**SPARK testing.** See Steel—Testing—Spark testing

**SPARTA, Illinois**

Sewerage

Sewage plant rebuilt to treat rayon wastes. U. F. Turpin. *il plan Eng N* 109:780-2 D 29 '32

**SPARTANBURG, South Carolina**

Sewerage

Sewage disposal at Spartanburg. G. W. White. *il Water Works & Sewerage* 80:327-9 S '33

Water supply

Water supply of Spartanburg. R. B. Simms and J. K. Marquis. *il Water Works & Sewerage* 80:177-8 My '33

**SPARTEINE**

Lupin alkaloids; the structure of lupanine and sparteine. G. R. Clemons and R. Raper. *il Chem Soc J* p644-5 Je '33

**SPEAKEASIES**

Speakeasies of New York before a camera's eye. *il Fortune* 7:52-8 Je '33

**SPECIAL assessments**

Assessing for storm sewers. C. V. Davis. *diags Pub Works* 64:21-2 Ag '33

Distribution of costs of assessable improvements; a symposium of practices in American cities. P. H. Cornick and others. *Civil Eng* 3:222-32 Ap '33

Equitable distribution of benefit assessments applied specifically to street widening projects. H. Shiffrin. *il Civil Eng* 3:158-60 Mr '33

Sewer assessment practice in Massachusetts. F. E. Howard. *Boston Soc C E J* 20:139-49 S '33

**SPECIAL libraries.** See Libraries, Special

**SPECIAL libraries association**

In union there is strength. M. C. Manley. *Special Lib* 23:399-401 N '32

Once again—an ideal! R. B. Rankin. *Special Lib* 23:396-8 N '32

Permanent book review committee. M. L. Alexander. *Special Lib* 24:59-60 Ap '33

Twenty-fifth annual conference program. *Special Lib* 24:179-82 O '33

Publication committee

Best sellers. *Special Lib* 23:401-3 N '32

**SPECIAL tool, die, and machine shop institute**  
First national convention, Cleveland, August 25-27. *Mach* 40:111 O '33

**SPECIAL weeks.** See Advertising campaigns—Special weeks

**SPECIALIZATION in industry**

Can the small shop specialize? F. H. Colvin. *Am Mach* 77:503 Ag 2 '33

Specializing the colored goods mill product. H. D. Martin. *Textile Col* 55:178+ Mr '33

**SPECIALTIES (merchandizing)**

Direct and specialty selling still have their place; developments in electrical field. A. P. Hirose. *Ptr Ink* 162:63-6 Ja 26 '33

Setting price policies for goods sold by mail. M. Droke. *Sales Management* 33:377-8+ O 10 '33

**SPECIFIC gravity**

Automatic density determinations; instruments applicable to liquid and to gases. *il Chem Age (Lond)* 27:439 N 5 '32

Construction of density standards. E. W. Blank. *J Chem Educ* 10:618 O '33

Densities of hydrocarbon mixtures. E. W. Thiele and W. B. Kay. *bibliog Ind & Eng Chem* 25:894-8 Ag '33

**SPECIFIC gravity—Continued**

- Densities of mixtures of benzene with phenylethyl alcohol and with methyl salicylate. R. C. Glowaski and C. C. Lynch, jr. *Am Chem Soc J* 55:4051-2 O '33
- Density of ammonia at reduced pressures and its relation to the atomic weight of nitrogen, the gas constant, R, and the limiting molal volume,  $V_0$ . G. Dietrichson, C. W. Orleman and C. Rubin. *diag Am Chem Soc J* 55:14-21 Ja '33
- Density of some soda-lime-silica glasses as a function of the composition. F. W. Glaze, J. C. Young and A. N. Finn. *U S Bur Stand J Research* 9:799-805 D '32
- Gravity index for lubricating oils; relation between viscosity index and viscosity-gravity constant. W. B. McCluer and M. K. Fenske. *Ind & Eng Chem* 24:1371-4 D '32
- Micro-density determination of solids and liquids. E. W. Blank and M. L. Willard. *bibliog diags J Chem Educ* 10:109-12 F '33
- Normal density of ammonia. G. Dietrichson, L. J. Bircher and J. J. O'Brien. *diags Am Chem Soc J* 55:1-13 Ja '33
- Optical properties, densities, and solubilities of the normal formates of some metals of group II of the periodic system. F. W. Ashton, D. F. Houston and C. P. Saylor. *diags U S Bur Stand J Research* 11:233-53 [bibliog p252-3] Ag '33
- Rapid method of determining the specific gravity of pigments and powders. E. J. Dunn, jr. *il Am Soc T M Proc* 32 pt 2:659-62; Discussion. 663-5 '32
- Surface tension, specific gravity of oil in place; abstract. D. T. Jones. *Oil & Gas J* 32:16 Ag 10 '33

*See also*

**Hydrometers****SPECIFIC heat**

- Chart for finding mean specific heat of air and water vapor. J. W. May. *Heating-Piping* 5:475-6 S '33
- Explosions of mixtures of hydrogen and air; the specific heats of steam at high temperatures. G. B. Maxwell and R. V. Wheeler. *Chem Soc J* p882-5 JI '33
- Extra specific heat in cuprous sulfide; specific heat of ferrous oxide. W. P. White. *Am Chem Soc J* 55:1047-53 Mr '33
- Heat capacities of *cis* and *trans* dichloroethylenes. A. R. Olson and F. W. Brittain. *diags Am Chem Soc J* 55:4063-8 O '33
- Heat capacities of gaseous mono- and dimethylamine. W. A. Felsing and F. W. Jessen. *bibliog diag Am Chem Soc J* 55:4418-22 N '33
- Heat capacities of sodium carbonate and bicarbonate and silver carbonate at low temperatures. C. T. Anderson. *Am Chem Soc J* 55:3621-3 S '33
- Heat capacity and entropy of calcium oxalate from 19 to 300° absolute; the entropy and free energy of oxalate ion. W. M. Latimer, P. W. Schutz and J. F. G. Hicks, jr. *Am Chem Soc J* 55:971-5 Mr '33
- Heat capacity and related thermodynamic properties of aqueous solutions; lithium and sodium hydroxides at 25°. F. T. Gucker, jr. and K. H. Schminke. *Am Chem Soc J* 55:1013-19 Mr '33
- Heat capacity curves of the simpler gases. H. L. Johnston, A. T. Chapman and M. K. Walker. *bibliog Am Chem Soc J* 55:153-86 Ja '33
- Heat capacity curves of the simpler gases; heat capacity, entropy and free energy of neutral OH from near zero absolute to 5000°K. H. L. Johnston and D. H. Dawson. *Am Chem Soc J* 55:2744-53 JI '33
- Heat capacity, heat of sublimation, and heat of solution of phosphorus pentoxide. M. Frandsen. *diags U S Bur Stand J Research* 10:35-58 Ja '33
- Heat capacity of gadolinium sulfate octahydrate below 1° absolute. W. F. Glaue and D. P. MacDougall. *Phys R* 44:235-6 Ag 1 '33
- Improved methods for approximating critical and thermal properties of petroleum fractions. K. M. Watson and E. F. Nelson. *bibliog Ind & Eng Chem* 25:880-7 Ag '33

- Low temperature specific heats; an improved calorimeter for use from 14 to 300°K; the heat capacity and entropy of naphthalene. J. C. Southard and F. G. Brickwedde. *diag Am Chem Soc J* 55:4378-84 N '33
- Low temperature specific heats; the calibration of the thermometer and the resistance of the platinum, platinum-10% rhodium and constantan between -259 and -190°. J. C. Southard and R. T. Milner. *Am Chem Soc J* 55:4384-91 N '33
- Method for interpolating data, based on Dühring's rule. J. H. Perry and E. R. Smith. *bibliog Ind & Eng Chem* 25:195-9 F '33
- Physico-chemical factors in high-pressure design. B. F. Dodge. *bibliog Ind & Eng Chem* 24:1353-63 D '32
- Some heat capacity data for durene, penta-methylbenzene, stilbene, and dibenzyl. J. D. Ferry and S. B. Thomas. *J Phys Chem* 37:253-5 F '33
- Specific heat of oxygen at high temperatures from ozone explosions and the energy of the  $\Delta$  level of the neutral oxygen molecule. B. Lewis and G. von Elbe. *Am Chem Soc J* 55:511-19 F '33
- Specific heat of sorbed matter. J. L. Porter and R. C. Swain. *Am Chem Soc J* 55:2792-4 JI '33
- Specific heats of aqueous solutions of potassium *n*-octoate at 15°. D. G. Davies. *Chem Soc J* p551-2 My '33
- Thermal data on organic compounds; the heat capacities, entropies and free energies of ten compounds containing oxygen or nitrogen. G. S. Parks, H. M. Huffman and M. Barmore. *Am Chem Soc J* 55:2733-40 JI '33
- Thermal equilibrium between oxygen molecules and atoms. G. von Elbe and B. Lewis. *Am Chem Soc J* 55:507-11 F '33
- Thermal properties of meat. J. H. Awbery and E. Griffiths. *diag Soc Chem Ind J* 52:326T-8T O 6 '33
- Total heats of gas oils at elevated temperatures and pressures. W. W. Gary, L. C. Rubin and J. T. Ward. *diag Ind & Eng Chem* 25:178-83 F '33

*See also*

**Vaporization, Heat of****SPECIFIC surface**

- Adsorbent properties and the specific surface of lead sulfate. I. M. Kolthoff and C. Rosenblum. *Am Chem Soc J* 55:2656-64 JI '33

**SPECIFICATIONS**

- Influence of standardization on construction specifications. J. Hinds. *Am Water Works Assn J* 25:113-23 Ja '33
- Overspecification not always justified. T. R. Harber. *Elec W* 102:407-8 S 23 '33

*See also*

**Standards, Engineering**

- also* subdivision Specifications under various subjects, e.g. Automobiles—Specifications; Building—Specifications

**SPECTACLES**

- Exaggerations on telescopic spectacles. *Sci Am* 148:165 Mr '33
- Telescopic spectacle and the new subnormal vision lens. W. Feinbloom. 45p *American journal of optometry, Minneapolis, Minn.* '33

**Advertising**

*See* Optical trade—Advertising

**SPECTROGRAPH**

- Aberrations of the concave grating at large angles of incidence. I. S. Bowen. *Opt Soc Am J* 23:313-15 S '33
- Analyzing steel with spectrograph. F. E. Roach. *il diag Metal Prog* 23:27-9 Je '33
- Application of the quartz spectrograph to the study of opaque minerals. M. H. Haycock. *il diags Econ Geol* 28:364-82 Je '33
- Comparison of the masses of He and H $\beta$  on a mass-spectrograph. K. T. Bainbridge. *il Phys R* 43:103-5 Ja 15 '33; Same. *J Fr inst* 215:201-5 F '33



**SPECTROGRAPH—Continued**

- Concave grating spectrograph, especially at large angles of incidence. J. E. Mack, J. R. Stehn and B. Edlén. *il diags Opt Soc Am J* 22:245-64; 23:184-5 My '32, My '33
- Focus of a concave grating spectrograph. D. L. MacAdam. *Opt Soc Am J* 23:178-81 My '33
- Large grazing-incidence vacuum spectrograph. F. G. Kruger. *il R Sci Instr* 4:128-30 Mr '33
- Light intensity at different depths in lake water. H. A. Erikson. *il diag Opt Soc Am J* 23:170-7 [bibliog p 177] My '33
- Metallurgical spectrum analysis. W. J. Crook. *il diags Am Soc Steel Tr Trans* 21:708-32, Ag '33
- Multiple prism glass spectrograph. D. H. Rank. *il diag Opt Soc Am J* 23:84-7 Mr '33
- Recording infrared quartz spectrograph. J. W. Ellis. *il R Sci Instr* 4:123-7 Mr '33
- Star gazing in the shop; use of spectroscope and spectrograph. C. O. Herb. *il Mach* 39: 625-8 Je '33
- X-ray reflections from a quartz piezoelectric oscillator in a Bragg spectrograph. M. Y. Colby and S. Harris. *Phys R* 42:733-4 D 1 '32

**SPECTROMETER**

- Apparatus for spectroscopic studies in the intermediate infrared region—20 to  $40\mu$ . J. Strong. *il diags R Sci Instr* 3:810-21 D '32
- Calibration of an infrared spectrometer with a rocksalt prism. P. C. Cross. *R Sci Instr* 4:197-9 Ap '33
- Ionization spectrometer for long wave-length X-rays; abstract. F. K. Richtmyer and S. Kaufman. *Science* 77:495-6 My 19 '33
- New Casella spectrometer. *il Chem Age (Lond)* 28:393 Ap 29 '33
- Wave-lengths of the silver, molybdenum, copper, iron and chromium  $K\alpha$  lines. J. A. Bearden. *Phys R* 43:92-7 Ja 15 '33

**SPECTROPHOTOMETER**

- Hilger apparatus. *il Engineering* 135:96 Ja 27 '33
- Improved means for spectroscopic investigations. *il Chem Age (Lond)* 28:70-1 Ja 28 '33

**SPECTROPHOTOMETRY**

- Application of spectrophotometric color analysis to dyeing. O. W. Pineo. *il diags Am Dyestuff Rep* 22:470-4 Jl 31 '33
- Industrial spectro-photometry; British instruments for measuring colour. *il Chem Age (Lond)* 28:449-50 My 20 '33
- Photoelectric comparator for precise and rapid measurement of reflection and transmission. C. H. Sharp and H. J. Eckweiler. *diags Opt Soc Am J* 23:246-50 Jl '33

**SPECTROSCOPE**

- Astigmatism of the concave grating. G. H. Dieke. *il diag Opt Soc Am J* 23:274-81 Ag '33
- Control through spectroscopy. E. S. Dreblow and A. Harvey. *Ind & Eng Chem* 25:823-5 Jl '33
- Device for the calibration of the variable-deviation spectroscope. C. F. Graham. *diags Ind & Eng Chem Anal ed* 5:54 Ja 15 '33
- New type of spectrographic slit. G. Fassin. *diags Opt Soc Am J* 23:186-8 My '33
- Photographic plates for use in spectroscopy and astronomy. C. E. K. Mees. *il diag Opt Soc Am J* 23:229-33 Jl '33
- Relation between the resolving power of a spectroscope and the principle of uncertainty. S. Goldman. *Opt Soc Am J* 23:70-1 F '33
- Spectroscope in the works. *il Engineer* 154: sup[Metallurgist] 184-5 D 30 '32
- Star gazing in the shop; use of spectroscope and spectrograph. C. O. Herb. *il Mach* 39: 625-8 Je '33
- World's largest spectroscope completed at Nela Park. *illum Eng Soc Trans* 28:199-200 Mr '33; *Gen Elec R* 36:290 Je '33

See also

Spectrometer

**SPECTROSCOPY**

- Thermodynamic calculations from spectroscopic data. L. S. Kassel. *Phys R* 43:364-5 Mr 1 '33

Uses of spectroscopy. *Science* 78:sup5 Jl 28 '33

See also

Spectrum analysis

**SPECTRUM**

- Atomic energy states, as derived from the analyses of optical spectra. R. F. Bacher and S. Goursmit, comps. 562p [bibliog p553-5] \$6 McGraw-Hill '32
- Attempts to observe an electron affinity spectrum. O. Oldenberg. *bibliog Phys R* 43:534-9 Ap 1 '33
- Continuous electron affinity spectrum of hydrogen. C. K. Jen. *Phys R* 43:540-7 Ap 1 '33
- Flame spectrum of carbonic oxide. W. A. Bone. *Soc Chem Ind J (Chem & Ind)* 51: 962-3 N 18 '32
- Further description and analysis of the first spectrum of xenon. C. J. Humphreys and W. F. Meggers. *U S Bur Stand J Research* 10:139-49 Ja '33
- Interaction of configurations:  $sd-p^2$ . R. F. Bacher. *Phys R* 43:264-9 F 15 '33
- Interpretation of line spectra in crystals. F. H. Spedding. *Phys R* 43:143-4 Ja 15 '33
- Langmuir award of the American chemical society to Frank Harold Spedding. *Science* 78:233 S 15 '33
- Mechanical aid to the analysis of complex spectra. G. R. Harrison. *diags R Sci Instr* 3:753-9 D '32
- New optical properties of the alkali metals; abstract. R. W. Wood. *Science* 77:459 My 12 '33
- Notes on the Stark effect. E. U. Condon. *Phys R* 43:648-54 Ap 15 '33
- Polarizabilities of ions from spectra. J. E. Mayer and M. G. Mayer. *Phys R* 43:605-11 Ap 15 '33
- Preliminary list of terms for the arc spectrum of tantalum. C. K. Kless and H. K. Kless. *table U S Bur Stand J Research* 11:277-8 Ag '33
- Pressure effects of foreign gases on the sodium D-lines. H. Margenau and W. W. Watson. *il Phys R* 44:92-8 Jl 15 '33
- Pressure shift and broadening of spectral lines. H. Margenau. *Phys R* 40:337-408; 43: 129-34 My 1 '32, Ja 15 '33
- Quantum defect of nonpenetrating orbits, with special application to Al II. J. H. Van Vleck and N. G. Whitelaw. *bibliog Phys R* 44:551-69 O 1 '33
- Reversal of the sodium line, D, in fireworks. C. S. Palmer. *Science* 78:102-3 Ag 4 '33
- Second spectrum of krypton. T. L. deBruin, C. J. Humphreys and W. F. Meggers. *U S Bur Stand J Research* 11:409-40 S '33
- Spectra of potassium and sodium in the mercury arc. D. A. Wells and I. Balinkin. *il diags Opt Soc Am J* 23:105-8 Mr '33
- Spectrum of sulphur dioxide. Tung-Ching Chow. *bibliog diag Phys R* 44:638-43; Discussion. H. D. Smyth. 690 O 15 '33
- Theory of vibrational isotope effects in polyatomic molecules. E. O. Salant and J. E. Rosenthal. *Phys R* 42:812-22 D 15 '32
- Transformations in the theory of complex spectra. G. H. Shortley. *Phys R* 43:451-8 Mr 15 '33

See also

Doppler effect  
Infra-red rays  
Light  
Raman effect  
Spectroscopie

Spectrum analysis  
Stars—Spectra  
Ultra-violet rays  
Zeeman effect

**Absorption spectra**

- Absorption and fluorescence spectra of the acid sulfates of quinine and ten of its derivatives in water and aqueous sulfuric acid solution. L. J. Heidt and G. S. Forbes. *Am Chem Soc J* 55:2701-9 Jl '33
- Absorption spectra of a series of organic molecular compounds. W. H. Hunter and E. H. Northey. *diag J Phys Chem* 37:875-87 O '33
- Absorption spectra of cobaltous compounds; the alkali oxide-boric oxide glasses. W. R. Brode. *Am Chem Soc J* 55:939-47 Mr '33

SPECTRUM—Absorption spectra—*Continued*

- Absorption spectra of gaseous charges in a gasoline engine. L. Withrow and G. M. Rassweiler. *bibliog il diag Ind & Eng Chem* 25:923-31 Ag '33
- Absorption spectra of *m*-bromophenol indophenol, 2,6-dibromophenol indophenol and guaiacol indophenol. M. M. Brooks. *Am Chem Soc J* 55:2434-5 Je '33
- Absorption spectra of the samarium ion in solids. F. H. Spedding and R. S. Bear. *il Phys R* 44:287-95 Ag 15 '33
- Absorption spectrum of chlorine dioxide. Z. W. Ku. *il Phys R* 44:376-82 S 1 '33
- Absorption spectrum of diatomic bismuth. G. M. Almy and F. M. Sparks. *il Phys R* 44:365-75 S 1 '33
- Continuous absorption of oxygen between 1750 and 1300A and its bearing upon the dispersion. R. Ladenburg and C. C. Van Voorhis. *il diag Phys R* 43:315-21 Mr 1 '33
- Continuous absorption spectrum of helium. J. P. Vinti. *Phys R* 44:524-8 O 1 '33
- Dispersion and absorption of helium. J. P. Vinti. *Phys R* 42:632-40 D 1 '32
- Effect of crystal symmetry and chemical composition on the energy levels of solids. F. H. Spedding and G. C. Nutting. *il Am Chem Soc J* 55:496-504 F '33
- Envelopes of infrared absorption bands. S. L. Gerhard and D. M. Dennison. *Phys R* 43:197-204 F 1 '33
- Far infrared absorption spectra of ammonia and phosphine gases under high resolving power. N. Wright and H. M. Randall. *Phys R* 44:391-8 S 1 '33
- Infrared absorption bands of ammonia. H. J. Unger. *Phys R* 43:123-8 Ja 15 '33
- Infrared absorption bands of methane. W. V. Norris and H. J. Unger. *Phys R* 43:467-72 Mr 15 '33
- Infrared absorption of benzene in the liquid, solid and vapor states. C. E. Leberknight. *diag Phys R* 43:967-72 Je 15 '33
- Infrared absorption spectra of certain alkalis. Sister Michael Edward O'Byrne. *diag Opt Soc Am J* 23:92-100 Mr '33
- Line spectrum of samarium ion in crystals and its variation with the temperature. S. Freed and J. G. Harwell. *il Am Chem Soc J* 55:54-62 Ja '33
- Microabsorption spectra. C. R. Naeser and B. S. Hopkins. *diag Ind & Eng Chem Anal ed* 5:358 S 15 '33
- Primary photochemical processes; the absorption spectrum and photochemical decomposition of diazomethane. F. W. Kirkbride and R. G. W. Norrish. *diag Chem Soc J* p119-26 F '33
- Structure of the X-ray K absorption limits of the elements manganese to zinc. A. H. Barnes. *Phys R* 44:141-5 Ag 1 '33
- Theory of continuous absorption of oxygen at 1450A. E. C. G. Stueckelberg. *Phys R* 42:518-24 N 15 '32
- Ultraviolet absorption bands of ammonia. J. K. Dixon. *il Phys R* 43:711-15 My 1 '33
- Ultra-violet absorption spectra of phosphine, arsine, and stibine. G. H. Cheesman and H. J. Emelius. *Chem Soc J* p2847-8 D '32
- Variation with temperature of the continuous absorption spectrum of diatomic molecules. G. E. Gibson, N. S. Bayliss and O. K. Rice. *Phys R* 44:188-200 Ag 1 '33

## Band spectra

- Band spectra measurement of mass. A. Bramley. *Phys R* 44:309-10 Ag 15 '33
- Band spectra of MgO, CaO and SrO. P. C. Mahanti. *il Phys R* 42:609-21 D 1 '32
- Barium hydride band spectra in the near infrared. W. W. Watson. *Phys R* 43:9-11 Ja 1 '33
- Energy levels and statistical weights of polyatomic molecules. D. S. Villars. *Chem R* 11:369-436 [bibliog p433-6] D '32
- Envelopes of infrared absorption bands. S. L. Gerhard and D. M. Dennison. *Phys R* 43:197-204 F 1 '33
- Further studies in the spectrum of the OH molecule; a new (2,2) band; satellite series in  $\lambda$ 3122; A-type doubling and electronic spin doubling. D. H. Dawson and H. L. Johnston. *Phys R* 43:980-91 Je 15 '33

- Intensity distribution in a band system of symmetrical triatomic molecules. Z. W. Ku. *Phys R* 44:383-90 S 1 '33
- Mass ratio of the boron isotopes from the spectrum of BO. F. A. Jenkins and A. McKellar. *il Phys R* 42:464-86 N 15 '32
- Mass ratio of the lithium isotopes from the spectrum of Li<sub>2</sub>. A. McKellar. *Phys R* 44:155-64 Ag 1 '33
- New band in the spectrum of the OH molecule. H. L. Johnston, D. H. Dawson and M. K. Walker. *Phys R* 43:473-80 Mr 15 '33
- Origin of the mercury bands at 2480A. J. G. Winans. *il Phys R* 42:800-6 D 15 '32
- Report on band-spectra of diatomic molecules. W. Jevons. 308p Physical society, London '32
- Resolution of the two difference bands of CO, near 10 $\mu$ . E. F. Barker and A. Adel. *Phys R* 44:185-7 Ag 1 '33
- Rotational analysis of the perturbed (13,15)  $2^2\Sigma^-$  band. A. E. Parker. *Phys R* 44:90-1 J1 15 '33
- Spectrum of MgF. F. A. Jenkins and R. Grinfeld. *Phys R* 43:943-4 Je 1 '33
- Structure of the third positive group of CO bands. G. H. Dieke and J. W. Mauchly. *tables Phys R* 43:12-30 Ja 1 '33
- Zeeman effect of perturbed terms in the CO angstrom bands. W. W. Watson. *il Phys R* 42:509-17 N 15 '32

## Doublets

- Further studies in the spectrum of the OH molecule; a new (2,2) band; satellite series in  $\lambda$ 3122; A-type doubling and electronic spin doubling. D. H. Dawson and H. L. Johnston. *Phys R* 43:980-91 Je 15 '33
- Inversion of doublets in alkali-like spectra. M. Phillips. *bibliog Phys R* 44:644-50 O 15 '33

## Fine structure

- Adaptation of the interferometer for hyperfine structure. G. S. Monk. *il R Sci Instr* 4:527-8 O '33
- Anomalies in hyperfine structure. S. Goudsmit and R. F. Bacher. *Phys R* 43:894-9 Je 1 '33
- Fine structure in the K X-ray absorption spectrum of bromine. S. T. Stephenson. *Phys R* 44:349-52 S 1 '33
- Fine structure of electron diffraction beams from a gold crystal and from a silver film on a gold crystal. H. E. Farnsworth. *Phys R* 43:900-6 Je 1 '33
- Hyperfine structure and isotopic constitution of tungsten. N. S. Grace and H. E. White. *Phys R* 43:1039 Je 15 '33
- Hyperfine structure and the polarization of resonance radiation; magnetic depolarization and the determination of mean lives. A. C. G. Mitchell. *Phys R* 43:887-93 Je 1 '33
- Hyperfine structure in intermediate coupling. G. Breit and L. A. Wills. *Phys R* 44:470-90 S 15 '33
- Nuclear spin of Li<sup>7</sup> from hyperfine structure data. N. M. Gray. *Phys R* 44:570-4 O 1 '33
- Partial resolution of the Be I line  $\lambda$ 4572.69 and probable spin of the Be<sup>9</sup> nucleus. A. E. Parker. *Phys R* 43:1035-6 Je 15 '33
- Paschen-Back effect of hyperfine structure and polarization of resonance radiation; cadmium (6<sup>3</sup>P<sub>1</sub>—5<sup>3</sup>S<sub>0</sub>). N. P. Heydenburg. *Phys R* 43:640-7 Ap 15 '33
- Spectroscopic search for H<sup>3</sup> in concentrated H<sub>2</sub>. G. N. Lewis and F. H. Spedding. *il Phys R* 43:964-6 Je 15 '33

## Intensity

- Effect of foreign gases upon the relative intensities of the mercury triplet  $2^3P_{012}$ — $2^3S_1$  under conditions of optical excitation. R. T. Macdonald and G. K. Rollefson. *diag Phys R* 43:177-80 F 1 '33
- Intensity distribution in a band system of symmetrical triatomic molecules. Z. W. Ku. *Phys R* 44:383-90 S 1 '33
- Line intensity and energy distribution in high and low-pressure mercury arcs. L. B. Johnson and L. Burns. *Opt Soc Am J* 23:55-9 F '33



**SPECTRUM—Intensity—Continued**

- Photographic method of measuring the relative intensities of spectral lines. K. B. Thomson and O. S. Duffendack. *Opt Soc Am J* 23: 101-4 Mr '33
- Relative intensities and transition probabilities of the K-series lines of the elements 24 to 52 by the ionization chamber method. J. H. Williams. *Phys R* 44:146-54 Ag 1 '33
- Relative intensities of the  $L_{\alpha 1}$ ,  $\beta_1$ ,  $\beta_2$ , and  $\gamma_1$  lines in tantalum, tungsten, iridium, and platinum. V. J. Andrew. *Phys R* 42:591-608 D 1 '32
- X-ray line intensities and cathode-ray retardation in thick targets of silver. D. L. Webster, W. W. Hansen and F. B. Duveneck. *bibliog Phys R* 44:258-64 Ag 15 '33

**Luminescence**

- Absorption and fluorescence spectra of the acid sulfates of quinine and ten of its derivatives in water and aqueous sulfuric acid solution. L. J. Heidt and G. S. Forbes. *Am Chem Soc J* 55:2701-9 Jl '33
- Correlation of fluorescence spectra with chemical structure of some naphthalene derivatives. A. J. Allen, R. Franklin and E. McDonald. *bibliog il J Fr Inst* 215:705-22 Je '33
- Fluorescence yield from the LIII level of uranium. R. J. Stephenson. *diag Phys R* 43:527-33 Ap 1 '33

**Magnetic rotation spectra**

- Magnetic rotation spectrum of the red bands of sodium. W. R. Fredrickson and C. R. Stannard. *bibliog il Phys R* 44:632-7 O 15 '33

**Multiplets**

- Atomic energy levels and Zeeman effect. D. R. Inglis and N. Ginsburg. *Phys R* 43:194-6 F 1 '33
- Multiplet separations and perturbed terms. N. G. Whitelaw. *Phys R* 44:544-50 O 1 '33
- Multiplets in the spectra of Cb III and Mo IV. A. Y. Eliason. *Phys R* 43:745-8 My 1 '33
- Multiplets in the spectra of O III, O IV, O V and C III. P. G. Kruger and W. E. Shoupp. *Phys R* 44:105-8 Jl 15 '33
- Spectra of the calcium I-like ions: manganese VI, iron VII, cobalt VIII and nickel IX. W. M. Cady. *Phys R* 43:322-8 Mr 1 '33
- Variable scale atomic wave functions. J. P. Vinti and P. M. Morse. *Phys R* 43:337-40 Mr 1 '33

**Recombination spectra**

- Recombination radiation in the cesium positive column. F. L. Mohler. *U S Bur Stand J Research* 10:771-80 Je '33

**Resonance**

- Resonance spectrum of bromine. H. Plumley. *Phys R* 43:495 Mr 15 '33

**Tables, etc.**

- Analysis of lanthanum spectra. (La I, La II, La III). H. N. Russell and W. F. Meggers. *U S Bur Stand J Research* 9:625-68 N '32
- Extension of the first spark spectrum of caesium (Cs II). J. Olthoff and R. A. Sawyer. *Phys R* 42:766-76 D 15 '32
- Extension of the Pd I-like isoelectronic sequence to antimony VI and tellurium VII. G. K. Schoepfle. *Phys R* 43:742-4 My 1 '33
- Long-wave arc spectra of alkalis and alkaline earths. W. F. Meggers. *pl U S Bur Stand J Research* 10:669-84 My '33
- New description and analysis of the arc spectrum of chlorine. C. C. Kiess. *U S Bur Stand J Research* 10:827-39 Je '33
- Table of arc spectrum lines. W. J. Crook. 32p pa \$2 Stanford Univ. press, Stanford University, Calif. '33
- Two criticisms; use of  $\lambda$ , for  $\lambda$  and putting of zeros in the tens columns of catalogs. C. D. Perrine. *Science* 77:20 Ja 6 '33
- Zeeman effect in the arc spectrum of nickel. H. H. Marvin and A. E. Baragar. *Phys R* 43:973-9 Je 15 '33

**SPECTRUM, Auroral**

- Auroral spectrum. J. Kaplan. *il Phys R* 42: 807-11 D 15 '32
- Auroral spectrum and the upper atmosphere; abstract. L. Vegard. *Engineering* 136:470 O 27 '33

**SPECTRUM, Infra-red**

- Apparatus for spectroscopic studies in the intermediate infrared region—20 to 40 $\mu$ . J. Strong. *il diags R Sci Instr* 3:810-21 D '32
- Calibration of an infrared spectrometer with a rocksalt prism. P. C. Cross. *R Sci Instr* 4:197-9 Ap '33
- Character of the absorption of some amines in the near infra-red. U. Liddel and O. R. Wulf. *Am Chem Soc J* 55:3574-83 S '33
- Dispersion of the Kerr electro-optic effect in the short infrared spectrum. L. R. Ingersoll and W. R. Winch. *diags Phys R* 44:399-405 S 1 '33
- Envelopes of infrared absorption bands. S. L. Gerhard and D. M. Dennison. *Phys R* 43:197-204 F 1 '33
- Far infrared absorption spectra of ammonia and phosphine gases under high resolving power. N. Wright and H. M. Randall. *Phys R* 44:391-8 S 1 '33
- Infrared absorption bands of acetylene. G. B. B. M. Sutherland. *Phys R* 43:883-6 Je 1 '33
- Infrared absorption bands of ammonia. H. J. Unger. *Phys R* 43:123-8 Ja 15 '33
- Infrared absorption bands of methane. W. V. Norris and H. J. Unger. *Phys R* 43:467-72 Mr 15 '33
- Infrared absorption of benzene in the liquid, solid and vapor states. C. E. Leberknight. *diags Phys R* 43:967-72 Je 15 '33
- Infrared absorption spectra of certain alkaloids. Sister Michael Edward O'Byrne. *diag Opt Soc Am J* 23:92-100 Mr '33
- Infrared absorption spectrum and the molecular structure of ozone. S. L. Gerhard. *Phys R* 42:622-31 D 1 '32
- Infrared absorption spectrum of hydrogen cyanide. K. N. Choi and E. F. Barker. *Phys R* 42:777-85 D 15 '32
- Infrared arc spectra of manganese and rhodium. W. F. Meggers. *U S Bur Stand J Research* 10:757-69 Je '33
- Infra-red spectra of neon, argon, and krypton. W. F. Meggers and C. J. Humphreys. *U S Bur Stand J Research* 10:427-48 Ap '33
- Infrared spectrum and the molecular structure of ozone and sulfur dioxide. R. M. Badger and L. G. Bonner. *Phys R* 43:305-6 F 15 '33
- Infrared spectrum of carbon dioxide. A. Adel and D. M. Dennison. *bibliog Phys R* 43: 716-23; 44:99-104 My 1, Jl 15 '33
- Infra-red spectrum of H<sup>2</sup>Cl; abstract. J. D. Hardy, E. F. Barker and D. M. Dennison. *Science* 76:521 D 2 '32
- Recent advances in sensitizers for the photography of the infrared. L. G. S. Brooker, F. M. Hamer and C. E. K. Mees. *bibliog il Opt Soc Am J* 23:216-22 Je '33
- Recording infrared quartz spectrograph. J. W. Ellis. *il R Sci Instr* 4:123-7 Mr '33
- Some infrared interference spectra. J. W. Ellis. *il Opt Soc Am J* 23:88-91 Mr '33

**SPECTRUM, Mass**

- Comparison of the masses of He and H<sup>1</sup> on a mass-spectrograph. K. T. Bainbridge. *il Phys R* 43:103-5 Ja 15 '33; Same. *J Fr Inst* 215:201-5 F '33
- Masses of atoms and the structure of atomic nuclei. K. T. Bainbridge. *il diags J Fr Inst* 215:509-34 My '33

**SPECTRUM, Solar**

- Coronal lines caused by oxygen. *Science* 78: sup6 N 3 '33
- Solar eclipse problems. J. H. Moore. *Science* 77:375-82 Ap 21 '33
- Stellar atmospheres. H. N. Russell. *J Sci Am* 149:204-5 N '33
- Where astronomers go when they die. H. N. Russell. *il Sci Am* 149:112-13 S '33

**SPECTRUM, Ultra-violet**

- Absorption of NaCl, KCl and KI in the far ultraviolet. A. Smith. *diags Phys R* 44:520-3 O 1 '33

**SPECTRUM, Ultra-violet—Continued**

- Apparatus for the rapid study of ultra-violet absorption spectra. J. St L. Philpot and E. H. J. Schuster. 45p Oxford '33
- Emission spectrum of molecular hydrogen in the extreme ultraviolet. C. R. Jeppesen. *il diags Phys R* 44:165-84 Ag 1 '33
- Rotational analysis of ultraviolet bands of silicon monoxide. P. G. Saper. *Phys R* 42: 498-508 N 15 '32
- Ultraviolet absorption bands of ammonia. J. K. Dixon. *il Phys R* 43:711-15 My 1 '33
- Ultra-violet absorption spectra of phosphine, arsine, and stibine. G. H. Cheesman and H. J. Emeléus. *Chem Soc J* p2847-8 D '32

**SPECTRUM, X-ray**

- Effect of particle size upon intensity in X-ray spectroscopic analysis. G. R. Fonda. *Am Chem Soc J* 55:123-7 Ja '33
- Effects of chemical combination on the X-ray emission spectrum of sulphur. J. Valasek. *Phys R* 43:612-14 Ap 15 '33
- Die entwicklung der chemischen Röntgen-spektralanalyse seit 1927. F. Voges. *bibliog diag Angew Chemie* 46:323-5 Je 3 '33
- Fine structure in the K X-ray absorption spectrum of bromine. S. T. Stephenson. *Phys R* 44:349-52 S 1 '33
- L X-ray spectrum of solid aluminum. T. H. Osgood. *Phys R* 44:517-19 O 1 '33
- Measurement of X-ray emission wave-lengths by means of the ruled grating. R. B. Wither and J. M. Cork. *il Phys R* 42:743-8 D 15 '32
- Measurement of X-ray intensities as functions of voltage up to 180 kv. D. L. Webster, W. W. Hansen and F. B. Duveneck. *il diags R Sci Instr* 3:729-49 D '32
- Natural widths of the K $\alpha$  X-ray doublet from 26Fe to 47Ag. S. K. Allison. *Phys R* 44: 63-72 Jl 15 '33
- Relation between line and continuous X-ray spectra. W. W. Hansen and K. E. Stoddard. *bibliog Phys R* 43:701-6 My 1 '33
- Relative intensities and transition probabilities of the K-series lines of the elements 24 to 52 by the ionization chamber method. J. H. Williams. *Phys R* 44:146-54 Ag 1 '33
- Relative intensities of the  $L_{\alpha 1}$ ,  $\beta_1$ ,  $\beta_2$ , and  $\gamma_1$  lines in tantalum, tungsten, iridium, and platinum. V. J. Andrew. *Phys R* 42:591-608 D 1 '32
- Secondary absorption and fine structure of X-rays as observed with a double crystal spectrometer. C. D. Cooksey and S. T. Stephenson. *Phys R* 43:670-1 Ap 15 '33
- Structure of the X-ray K absorption limits of the elements manganese to zinc. A. H. Barnes. *Phys R* 44:141-5 Ag 1 '33
- Wave-lengths of the silver, molybdenum, copper, iron and chromium K $\alpha$  lines. J. A. Bearden. *Phys R* 43:92-7 Ja 15 '33
- Weak X-ray lines of columbium and antimony. P. A. Ross and P. Kirkpatrick. *Phys R* 43:1036 Je 15 '33
- Widths of the K absorption limits in X-ray spectra; abstract. F. K. Richtmyer and S. W. Barnes. *Science* 77:459 My 12 '33
- X-ray line intensities and cathode-ray retardation in thick targets of silver. D. L. Webster, W. W. Hansen and F. B. Duveneck. *bibliog Phys R* 44:258-64 Ag 15 '33

**Satellites**

- Interpretation of X-ray satellites. H. C. Wolfe. *Phys R* 43:221-3 F 15 '33
- X-ray satellites of high atomic number elements. F. K. Richtmyer and S. Kaufman. *Phys R* 44:605-9 O 15 '33

**SPECTRUM analysis**

- Analyzing steel with spectrograph. F. E. Roach. *il diag Metal Prog* 23:27-9 Je '33
- Application of the quartz spectrograph to the study of opaque minerals. M. H. Haycock. *il diags Econ Geol* 28:364-82 Je '33
- Character of the absorption of some amines in the near infra-red. U. Liddel and O. R. Wulf. *Am Chem Soc J* 55:3574-83 S '33
- Chemical intensification of X-ray spectrograms. E. Wainer. *Phys R* 43:303 F 15 '33

Control through spectroscopy. E. S. Dreblow and A. Harvey. *Ind & Eng Chem* 25:823-5 Jl '33

- Effect of particle size upon intensity in X-ray spectroscopic analysis. G. R. Fonda. *Am Chem Soc J* 55:123-7 Ja '33
- Effects of chemical combination on the X-ray emission spectrum of sulphur. J. Valasek. *Phys R* 43:612-14 Ap 15 '33
- Die entwicklung der chemischen Röntgen-spektralanalyse seit 1927. F. Voges. *bibliog diag Angew Chemie* 46:323-5 Je 3 '33
- Die frage konstanter und reproduzierbarer elektrischer lichterzeugung für technische spektralanalyse; abstract. O. Feussner. *Angew Chemie* 46:388 Je 24 '33
- Improved means for spectroscopic investigations. *il Chem Age (Lond)* 28:70-1 Ja 28 '33
- Metallurgical spectrum analysis. W. J. Crook. *il diags Am Soc Steel Tr Trans* 21:708-32 Ag '33
- Microabsorption spectra. C. R. Naeser and B. S. Hopkins. *diag Ind & Eng Chem Anal* 5:358 S 15 '33
- Quantitative analysis by spectroscopic methods. O. S. Duffendack, R. A. Wolfe and R. W. Smith. *bibliog Ind & Eng Chem Anal* 5:226-9 Jl 15 '33
- Quantitative spectrographic studies of coprecipitation; group II elements with barium sulfate. L. Waldbauer and E. St. C. Gantz. *il Ind & Eng Chem Anal* 5:311-13 S 15 '33
- Spectrographic analysis of the Nessler-ammonia reaction; abstract. C. B. Allsopp and C. G. L. Wolf. *Soc Chem Ind J (Chem & Ind)* 52:160 F 24 '33
- Spectroscopy in the works. *il Engineer* 154: sup[Metallurgist] 184-5 D 30 '32
- Spectroscopy as an aid to coal seam examination and identification. J. O. Samuel. *Soc Chem Ind J (Chem & Ind)* 52:155-6 F 24 '33
- Spectroscopy in chemistry. H. Hunt. *J Chem Educ* 10:487-9 Ag '33
- Spectrum analysis; present limitation briefly reviewed. E. H. S. van Someren. *Chem Age (Lond)* 28:219 Mr 11 '33
- Spektralanalytische erfassung kleinster mengen; spurensuche. W. Gerlach. *il Angew Chemie* 46:557-62 S 2 '33
- Star gazing in the shop; use of spectroscope and spectrograph. C. O. Herb. *il Mach* 39: 625-8 Je '33
- Über eine einfache anordnung zur qualitativen spektralanalyse. F. G. Houtermans. *il Chemische Fabrik* 6:399 S 20 '33

**SPECULATION**

- Education of the speculator. T. H. Price. *Comm & Fin* 22:968 N 8 '33
- Longs caught short; commodity markets take their bitter medicine. *Business Week* p15-16 Jl 29; 20 Ag 5 '33
- Man who would be grain king; Edward A. Crawford. *Comm & Fin* 22:670 Ag 2 '33
- Studies in stock speculation. F. K. Dodge. *Mag of Wall St* 51:278-9+, 386-7+, 440-1+, 534-5, 582-3+, 632-3; 52:24-5+ D 24 '32, Ja 21-F 4, Mr 4-Ap 1, 29 '33

**See also**

- |                    |                |
|--------------------|----------------|
| Brokers' loans     | Securities     |
| Hedging            | Short selling  |
| Investments        | Stock exchange |
| Mississippi bubble | Wall Street    |

**SPEEDING, Frank Harold**

Langmuir award of the American chemical society. *Science* 78:233 S 15 '33

**SPEECH**

- Contribution to vowel theory. L. E. Travis and A. R. Buchanan. *Science* 77:121-2 Ja 27 '33
- Electric analogue of vowel production. H. Skilling. *Science* 77:604 Je 23 '33
- Elements of speech. J. M. O'Neill and A. T. Weaver. new rev ed 534p [bibliog p513-17] \$3 Longmans '33
- Permissible amplitude distortion of speech in an audio reproducing system. F. Massa. *diags Inst Radio Eng Proc* 21:682-9 My '33

**See also**

- Public speaking  
Vowels



## SPEED

See also

Airplanes—Speed  
Automobiles—SpeedMachinery—Speed  
Ships—Speed  
Street cars—Speed

## SPEED indicators

Measurement of speed at sea. *il* diags Engineer 156:182-4 Ag 25 '33  
New method of measuring speed. F. N. Tompkins. *diag* Elec J 30:269 Je '33

## SPEED variation

Attractive and efficient speed reducer adapted to water works and sewerage. *il* Water Works & Sewerage 80:273 J1 '33La boîte de vitesses Wilson, à trains épicycloïdaux et à préselection. *diags* Génie Civil 103:379-80 O 14 '33Brown and sons 1000 h.p. bevel increasing gears. *il* *diag* Engineer 155:331 Mr 31 '33Choosing the right drive; the variable speed units. W. Staniar. *il* Iron Age 132:18-22 O 19 '33Circle diagram—application to steel-mill drives. A. van Nierkerk. *diags* Elec J 30:405-7 O '33Davis & Thompson speed reducers with planetary gearing. *il* Iron Age 132:34+ O 19 '33DeLaval high-ratio worm-gear reduction units. *il* Mach 39:420 F '33; Power Pl Eng 37:102 F '33Efficiency tests on 600 h.p. increasing gear. H. E. Merritt. *il* *diags* Engineer 156:392 O 20 '33Eight-speed gearbox for Landis threading machines. *il* Am Mach 77:225 Mr 29 '33; Ry Mech Eng 107:141-2 Ap '33; Iron Age 131:513 Mr 30 '33Geared motor-reducer. P. W. Arnold. *il* *diags* Factory Management 91:100-2 Mr '33Gearless variable-speed transmission. R. T. Todd. *diag* Mach 39:251-2 D '32Gearmotor problems; abstract. R. S. Marthens. *Iron Age* 131:754 My 11 '33Gears and motors combine into new power unit type; Falk corporation. P. C. Day. *diags* Elec W 101:328-9 Mr 11 '33Get the speed you need with variable-voltage control. F. W. Arnola. *il* *diags* Factory Management 91:218-20 Je '33Handling plant transmission; Radicon reducer. *il* *diag* Mech Handling 20:233-4 J1 '33Hydraulic coupling and engineering co.'s infinitely variable speed driving with Vulcan-Sinclair device. *Electrician* 110:747 Je 9 '33

Hydraulic coupling for speed adjustment. Power 76:353 Mid-D '32

Hydraulic variable-speed a.c. couplings. *il* *diag* Elec R (Lond) 111:705 N 11 '32Ingenious design in variable speed transmission; P. I. V. (positive infinitely variable) transmission. *il* Sci Am 149:232+ N '33IXL motorized speed reducers. *il* Am Mach 77:159-60 Mr 1 '33Motorized speed reducers and their applications. F. Richardz. *il* Mach 39:508-9 Ap '33

Motorized speed reducers make savings in cost and weight possible. M. H. Nelson. Mach 40:111 O '33

Planigrass speed reducers. *il* Mach 40:53 S '33Rotary printing machinery; some typical applications of electric control apparatus. C. H. S. Tupholme. *il* Elec R (Lond) 111:813-14 D 2 '32Simple control makes practicable long-sought variable-speed spinning. *il* Elec J 30:29 Ja '33Speed control for Diesel-electric systems; Gebus system. *diag* Elec R (Lond) 113:454 O 6 '33

Speed reducers in the pulp and paper industry. J. A. Porter. Paper Tr J 95:31-4 D 22 '32

Squirrel cage motors; control of speed and torque. N. F. T. Saunders. *diag* Electrician 111:111-13 J1 28 '33Substituting speed control for process control. F. A. Westbrook. *il* Food Ind 5:403-4 O '33Synchronized drives without mechanical connection. H. W. Reding. *il* *diags* Elec J 30:277-80 J1 '33Variable-speed drive for worsted spinning. W. I. Bendz. *il* Textile World 83:598 Mr '33Variable speed transmission economies. J. M. Jewell. *il* Power Pl Eng 37:78-9 F '33

## SPEEDOMETERS

Alternating-current electric speedometer. *il* Elec J 30:27 Ja '33Everett-Edgcombe speedometer. *il* *diag* Automobile Eng 23:128 Ap '33Road testing speedometers. *il* Bus Transportation 12:370 S '33Watford speedometer for use on coaches and commercial vehicles. *il* Automobile Eng 23:87 Mr '33

## SPELLING

Spelling reform and decimal classification. D. Fellows. Lib J 58:610-11 J1 '33

## SPERM oil

Sperm oil and its products. Can Chem &amp; Met 17:216 O '33

## SPHAGNUM moss

Künstliche torfbildung: inkohlung von sphagnummoos. C. G. Schwalbe and K. E. Neumann. *Angew Chemie* 46:177-9 Mr 25 '33

Sphagnum bog at Fort Bragg, California. G. B. Rigg. Science 77:535-6 Je 2 '33

## SPHALERITE

Advance in flotation; sphalerite and copper minerals separated. R. E. Barthelemy. Eng &amp; Min J 134:280-1 J1 '33

Effect of particle size on flotation of sphalerite. R. L. Kidd and W. A. Wall. Min &amp; Met 14:421-2 O '33

Oxidation of jamesonite, sphalerite, and tetrahedrite. A. L. Anderson. *il* Econ Geol 27:687-703 D '32

## SPHERES

## Manufacture

18-foot welded steel sphere serves as boulder trap on new dredge. *il* Steel 93:27 N 6 '33Electrically-welded spheres. *il* Engineering 135:688 Je 23 '33

## SPHERICAL surfaces

Grinding spherical surfaces in a lathe. C. Kugler. *diags* Mach 39:718 J1 '33

## SPHERULITES

Composition and structure of artificial spherulites. H. W. Morse, J. D. H. Donnay and E. Ott. *il* Am J Sci 5th ser 25:494-8 Je '33

## SPICES

Preservative action of spices and related compounds against yeast fermentation. J. W. Corran and S. H. Edgar. *Soc Chem Ind J* 52:149T-52T My 26 '33

Spices and condiments. H. S. Redgrove. 361p [bibliog p341-5] \$4.50 Pitman '33

## Statistics

Botanical drugs, spices. Published in weekly numbers of Oil, paint and drug reporter

## SPIDERS, Red. See Red spiders

## SPIEGELEISEN

Prices tell market history, 1915-1932; tabulation. Steel 92:106 Ja 2 '33

## SPIKES (railroad)

Large uses of steel in small ways; railroad spikes. *il* Steel 92:34 F 6 '33

Railroad spikes, 1916-1932, market history; tabulation. Steel 92:121 Ja 2 '33

## SPILKER, Adolf

Dr Adolf Spilker zum 70 geburtstag; zugleich ein beitrag zur geschichte der technologie des steinkohlenteeres. H. Ihlder. *por Angew Chemie* 46:457-9 J1 8 '33

## SPILLERS, limited

Annual general meeting, Cardiff. Economist 116:1044-5 My 13 '33

## SPILLWAYS

Arizona adopts a code for dams. J. A. Fraps. *il* Civil Eng 3:197-8 Ap '33Glory Hole spillway; Owyhee River dam. A. P. Connor. *il* *diags* Power Pl Eng 37:482-3 N '33Hydraulic-model tests for Boulder Dam spillways. E. W. Lane. *il* *diags* Eng N 111:155-9 Ag 10 '33Other features of Hoover Dam project well under way. *il* *diag* Eng N 109:720-3 D 15 '32

**SPILLWAYS—Continued**

Reservoir storage above spillway level. H. K. Barrows. Civil Eng 3:233 Ap '33

See also

**Dams****SPINELS**

Study of a group of typical spinels. C. W. Parmelee, A. E. Badger and G. A. Ballam. diags Ill U Eng Exp Sta Bul 248:1-54 '32

**SPINNING**

New method for merinos reduces cost and retains quality on cotton system. H. W. Swan. Textile World 83:1624 S '33

See also

Cotton spinning	Woolen and worsted
Silk, Artificial—Spinning	spinning
	Yarn

**SPINNING machinery**

Accurate measurement of spindle speed. G. R. Stanbury. pl Textile Inst J 24:T207-11 My '33

Bobbin builder quadrant; method of adjustment on spinning and twisting machines. C. Amson. diag Melland 5:165-6 Ag-S '33

Quadrant and its influence in the shaping of the yarn body. A. Baumann. il Melland 4:611-12, 710-11 Ja, Mr '33

Recent developments in ring spinning and doubling frames. J. Tetlow. diags Textile Inst J 24:P53-9 Ap '33

Ring and traveller designs and speeds. D. Eadie. diags Textile Inst J 23:P265-78; Discussion. P278-80 D '32

Two-speed spinning frame drive increases output. Elec W 102:253 Ag 19 '33

Variable-speed drive for worsted spinning. W. I. Bendz. il Textile World 83:598 Mr '33

Whitin model E wool spinning frame. il Melland 5:253 N '33

Wicaco rayon pot spinning machine. il Melland 5:36-7 Ap '33

**Safety devices**

Preventing breakages on the mule. S. Kershaw. diags Melland 5:65-7 My '33

**SPIRAL movement in organisms**

Explanation of the cause of spiral grain in trees. E. J. Kohl. diag Science 78:58-9 Jl 21 '33

More about the spiral habit. W. Seifriz. il Science 78:361-3 O 20 '33

Physiological basis of the twisting habit in plant growth. C. P. Haskins and C. N. Moore. Science 77:283 Mr 17 '33

Problem of twisted trees. M. Copisarow. Science 77:581-3 Je 16 '33

Twisted trees and the spiral habit. W. Seifriz. Science 77:50-1 Ja 13 '33

**SPIRITUALISM**

See also

Psychical research

**SPIRO compounds**

Structural changes produced in the selenium dehydrogenation method; ring changes in spiro-compounds. G. R. Clemon and J. Ormston. Chem Soc J p352-3 Ap '33

**SPLICES. See Knots and splices****SPLINES. See Keys and keyways (machinery)****SPOKANE flood (glacial)**

New version of the Spokane flood. I. S. Allison. il maps Geol Soc Bul 44:675-722 Ag '33

**SPONGE Iron. See Iron, Sponge****SPONGE rubber. See Rubber, Sponge****SPONGES, Fossil**

Sponge spicules from the lower Ordovician of Wisconsin. C. E. Needham. Science 77:450-1 My 12 '33

**SPONGES, Rubber. See Rubber sponges****SPONTANEOUS combustion**

Lecture experiments in general chemistry; spontaneous combustion. S. Morris and A. J. W. Headlee. diag J Chem Educ 10:638 O '33

Spontaneous heating and ignition of hay and other agricultural products. C. A. Browne. Science 77:223-9 Mr 3 '33

Spontaneous ignition. Safety Eng 66:26 Jl '33

Spontaneous ignition. Safety Eng 66:64 Ag '33

Über den einfluss der korngrosse auf die oxydation und selbstentzündung von steinkohlen. K. Peters and W. Picker. bibliog Angew Chemie 46:498-503 Jl 29 '33

**SPOOLING machines**

Heart-cam roll too often neglected on spoolers and twisters. L. L. Kingsford. diags Textile World 83:574 Mr '33

**SPORES**

Simplified method of staining endospores. A. B. Schaeffer and M. Fulton. Science 77:194 F 17 '33

**SPORTING goods**

Metal aids the sportsman and camper. J. G. Mapes. il Metal Prog 24:14-18 Ag '33

\$10,000,000,000 market; NRA brings opportunity to the industry of leisure. A. H. Little. il Ptr Ink Mo 27:13-14+ N '33

See also

Golf balls

**Advertising**

Merchandise first; Wilson-Western sporting goods company. il Ptr Ink 162:64-5 Mr 2 '33

**SPORTS**

Precise timing of sporting events. C. H. Fetter and H. M. Stoller. il diag Elec Eng 52:386-91 Je '33

**SPORTS, Lighting for**

Curling by gas light. il Gas J (Lond) 201:616 Mr 8 '33

Sell the outdoors. il Elec West 71:16-17 Jl '33

**SPRAGUE, Oliver Mitchell Wentworth**

Portrait. Business Week p6 Je 7 '33

**SPRAY dyeing. See Dyes and dyeing—Spray dyeing****SPRAY painting. See Paint spraying****SPRAY residue on fruits and vegetables**

Apples of discord; strict new rules as to lead residue from sprays hold up \$1 million of western apples. Business Week p14 My 24 '33

How much poison can we eat? T. S. Harding. il Sci Am 149:197-9 N '33

Lead residue limit on fruit is reduced. Oil Paint & Drug Rep 123:15+ Ap 24 '33

Poisonous spray residues on vegetables. W. B. White. bibliog Ind & Eng Chem 25:621-3 Je '33

Symposium on insecticides. R. H. Robinson and others. Ind & Eng Chem 25:616-44 Je '33

**SPRAYING and dusting**

Tree-spraying shown as negligible hazard. Elec West 70:87 Mr '33

See also

Spraying materials

**SPRAYING apparatus**

DeVilbiss and gun. il diags Fortune 7:44-8, 114 Mr '33

DeVilbiss spray gun with simplified control. il Ry Mech Eng 107:220 Je '33

Electro-metal spraying; the Schoop process. il Electrician 110:70 Ja 20 '33

Littleford bituminous spraying unit. il Roads & Sts 76:134 Mr '33

Metalizer, gun coats anything with metal. il Sci Am 148:56 Ja '33

Milburn type M paint spray gun. il Roads & Sts 75:514 D '32; Same. Automotive Ind 68:92 Ja 21 '33

**SPRAYING materials**

Control of insects on plants by chemical means. Earl B. Alvord and H. F. Dietz. bibliog Ind & Eng Chem 25:629-33 Je '33

Explain means of improving spray oils in order to minimize the injury to growing plants. J. H. Green. il Oil & Gas J 31:8 F 2 '33

Wetting, spreading, and emulsifying agents for use with spray fluids; a partial phase rule investigation of the miscible oil system phenol-water-sodium oleate-toluene. R. M. Woodman. Soc Chem Ind J 52:185T-8T Je 23 '33

Wetting, spreading, and emulsifying agents for use with spray fluids; miscible oils. R. M. Woodman. Soc Chem Ind J 52:4T-6T Ja 13 '33



**SPRAYING materials—Continued**

Wetting, spreading, and emulsifying agents for use with spray fluids; the effect of gelatin on water losses from leaves. R. M. Woodman and H. R. Barnell. *Soc Chem Ind J* 52:352T-4T O 27 '33

Wetting, spreading, and emulsifying agents for use with spray fluids; the effect of varying proportions of water and aid to dissolution on miscible oil formation and on the character of the emulsions. R. M. Woodman. *Soc Chem Ind J* 52:351T-2T O 27 '33

See also

Insecticides  
Sulfur—Agricultural uses

**SPREADING of liquids. See Liquids**

SPRING, Sir Francis Joseph Edward, 1849-1933  
Sketch. *Engineering* 136:267-8 S 8 '33

**SPRINGFIELD, Illinois****Sewerage**

Power production from sludge gas at Springfield, Ill.; with cost data. W. B. Walraven. *il diag Water Works & Sewerage* 80:151-6 My '33; Same cond. *Eng N* 110:682-3 My 25 '33

**SPRINGFIELD, Massachusetts****Water supply**

Construction of the Cobble Mountain dam of the Springfield water works. H. H. Hatch. *il N E Water Works Assn J* 46:327-44 D '32; Same. *Eng & Contr* 71:233-8 O '32

Construction of the Cobble Mountain diversion tunnel; cost data. H. H. Hatch. *diags plan N E Water Works Assn J* 47:133-52 Je '33

Hydro-electric power development at Cobble mountain in connection with the Springfield water supply. H. A. Moody. *diag N E Water Works Assn J* 46:356-64 D '32; Abstract. *Eng N* 109:412 O 6 '32

Outline of the Springfield water works. E. E. Lochridge. *plan N E Water Works Assn J* 46:323-6 D '32; Abstract. *Water Works & Sewerage* 79:346 O '32

West Parish filtration plant of the Springfield water works. H. F. Salmond. *il N E Water Works Assn J* 46:345-55 D '32

**SPRINGS**

See also

Hot springs

**SPRINGS (mechanism)**

Aging of springs. R. W. Carson. *bibliog Am Mach* 77:202-3 Mr 29 '33

Amplitudes of non-harmonic vibrations. J. P. Den Hartog. *J Fr Inst* 216:459-73 O '33

Bending flat springs. C. Kugler. *diag Am Mach* 77:120 F 15 '33

Draft gear springs; past and present. L. E. Endsley. *diag Ry Mech Eng* 107:253-5 JI '33

How to select a helical spring. G. P. Pearce. *Am Mach* 77:588-9 S 13 '33

Hysteresis in springs. R. W. Carson. *bibliog Am Mach* 77:494-5 Ag 2 '33

Improving sensitive instrument springs. R. W. Carson and P. MacGahan. *Elec J* 30:82 F '33

Inconel springs retain load capacity at 700 deg. F. *Iron Age* 132:13 Ag 17 '33

Machine for winding springs of vitreous silica. H. W. Weinhart. *il R Sci Instr* 4: 350-2 Je '33

Schwingungen in ventillfedern. E. Lehr. *il diags Zeit Ver Deutsch Ing* 77:457-62 My 6 '33

Surging in helical valve springs. J. Dick. *Roy Aeronautical Soc J* 37:641-54 JI '33

Temperature coefficient of the moduli of metals and alloys used as elastic elements. G. H. Keulegan and M. R. Houseman. *il diags U S Bur Stand J Research* 10:289-320 Mr '33

See also

Automobiles—Springs and suspension  
Car springs  
Locomotives—Springs  
Motor trucks—Springs

**Manufacture**

Press tools for bending flat springs. F. A. Gabriel. *diag Am Mach* 76:1166 N 23 '32

Press tools for forming loops on flat springs. A. Beusch. *diag Am Mach* 76:1204f D 7 '32

Winding springs in the lathe. C. Kugler. *diag Am Mach* 77:637 S 27 '33

**Tables, calculations, etc.**

Die berechnung zylindrischer schraubenfedern. M. Bergsträsser. *Zeit Ver Deutsch Ing* 77:198 F 25 '33

Berechnung zylindrischer schraubenfedern mit rechteckigem drahtquerschnitt. G. Liesecke. *Zeit Ver Deutsch Ing* 77:425-6 Ap 22 '33

**Testing**

Alloys superior to carbon steel in endurance test of valve springs. P. M. Heldt. *diags Automotive Ind* 67:672-5+ N 26 '32

Load losses in small helical springs at elevated temperatures. F. P. Zimmerli, W. P. Wood and G. D. Wilson. *diags Am Soc Steel Tr Trans* 21:796-806 S '33

**SPRINKLING systems**

Automatically primed centrifugal pump supplies sprinkler system. M. M. Klosson. *il Power* 77:592 N '33

Inspection and control of sprinkler systems; abstract. J. A. Jensen. *Water Works & Sewerage* 80:291 Ag '33

See also

Insurance, Sprinkler leakage

**SPRUCE**

Some factors that influence the conversion of cellulosic materials to sugar. G. J. Ritter, R. L. Mitchell and R. M. Seborg. *bibliog Am Chem Soc J* 55:2989-91 JI '33

Sorption of sodium hydroxide on cellulose and wood. R. Richardson and O. Maass. *J Phys Chem* 36:3064-73 D '32

Sorption of vapors on wood and cellulose. N. H. Grace and O. Maass. *diag J Phys Chem* 36:3046-63 D '32

Studies on lignin; the identity and structure of spruce lignins prepared by different methods. F. Brauns and H. Hibbert. *bibliog Am Chem Soc J* 55:4720-7 N '33

Variations in yield and quality of sulphite pulp made of spruce from different sources. B. Johnsen and C. H. Reese. *Paper Tr J* 97:36-8 JI 6 '33

X-ray investigations of the penetration of electrolytes into wood. L. Thomassen and D. W. McCready. *il Paper Tr J* 97:42-3 O 12 '33

**SQUARE (instrument)**

Diemaker's square. L. Kasper. *diag Am Mach* 77:285 Ap 26 '33

**SQUARE root**

Short cuts to finding  $\sqrt{a^2+b^2}$ . W. J. Seeley. *Elec Eng* 52:583-4 Ag '33

**SQUASH courts**

Squash racquets and squash tennis court; working drawings. J. G. Stewart. *Architecture* 68:150 S '33

**SQUIBB, E. R., and sons**

Report for 1932. *Oil Paint & Drug Rep* 123: 37 My 8 '33

STABILITY, Chemical. See Chemical stability  
STABILITY of airplanes. See Airplane stability and stabilizers

STABILITY of ships. See Ships—Stability

**STABILIZATION in industry**

A.I.M.E. stabilization forum. E. Oliver and others. *Oil & Gas J* 31:10-11 My 11; 16-17 My 18; 32:10 Je 1; 11-12 Je 8; 14-15 Je 15; 11-13 Je 29; 9-10 JI 13; 8-10 JI 20; 11-13 JI 27; 11-12 Ag 10; 12-14 S 7; 13-14 S 14; 11-14 S 21 '33

Balancing of economic forces; second progress report to American engineering council. *Mech Eng* 55:211-24, 295-304 Ap-May '33; Same (pt. 1). *Elec Eng* 52:293-303 My '33; Discussion. L. P. Alford. *Mech Eng* 55:345-6 Je '33

**STABILIZATION in industry—Continued**

- Causes and cure of depressions. W. H. Slocomb. 131p Christopher publishing house, Boston '33
- Construction industry in the depression: attempts at stabilization. J. B. Hubbard. Harvard Business R 11:146-55 Ja '33
- Give all trade associations power to make rules, then all join. W. A. Vincent. Inland Ptr 90:33-5 D '32
- Long-range planning and the future of business. D. Friday. Il Civil Eng 3:134-6 Mr '33
- Man or money? M. J. O'Shaughnessy. 40p M. O'Shaughnessy, New York '32
- New business era. C. W. Boyce. Paper Tr J 96:18-20 My 4 '33
- New coal plan modeled after British system, Lewis bill. Business Week p9 Ja 18 '33
- Outstanding men on A.I.M.E. stabilization committee to consider industry's problems. E. Oliver. Oil & Gas J 31:8-9 Mr 2 '33
- Possibilities of industrial control. Nat City Bank p123-7 Ag '33
- Problem of economic balance. S. H. Slichter. Mech Eng 55:95-100 F '33; Discussion. 55:455-7 Jl '33
- Problems of public enterprise. W. Rautenstrauch. Il Mech Eng 55:147-50 Mr '33
- Production and purchasing power; a study in support of a view expressed in the first A.E.C. report on economic balance. C. A. Norman. Il Mech Eng 55:549-55 S '33
- Reconstruction of industry by direct action. G. P. Torrence. Mach 39:534-5 Ap '33
- Scientific management and economic planning; a philosophy and technique of progressive industrial stabilization. H. S. Person. Taylor Soc Bul 17:204-28 D '32
- Should we strive for stabilization in industry? L. M. Waite. Mach 39:344-5 Ja '33
- Stabilization. G. M. Verity. Comm & Fin 22:630 Jl 19 '33
- Stabilization of the aggregates industry. J. R. Thoenen. Rock Prod 36:20-2 Je '33
- Stabilization or insurance. L. Wolman. Ann Am Acad 165:20-3 Ja '33
- Stabilization plans and future of mineral industry feature American mining congress meeting. Coal Age 38:15-16 Ja '33
- Weather bureau for the nation's industries. L. M. Waite. Mach 39:414-15 F '33

*See also*

- |                   |                      |
|-------------------|----------------------|
| Business cycles   | Industry             |
| Economic planning | Prices—Stabilization |
| Economic policy   |                      |

**STABILIZERS.** See Airplane stability and stabilizers; Gyroscope**STADIUMS**

- Public stadium in Florence, Italy; views and plans. Arch Rec 74:105-12 Ag '33
- Stadium, Florence, Italy. Il plan Arch Forum 58:496-8 Je '33

**Lighting**

- Football by floodlight; White City stadium. Il Electrician 109:821 D 23 '32; Illum Engr 26:22 Ja '33
- Mexican sports are played at night in this new stadium in Torreon, Coahuila; illustrations. Elec J 30:102 Mr '33

**STAGE lighting**

- Color lighting for the stage. A. L. Powell. Elec W 101:648-9 My 20 '33
- Theatre lighting; Holophane installation at the Plaza theatre, Rugby. Il Electrician 110:171 F 3 '33

*See also*

- Theaters—Lighting

**STAGE mechanism**

- Electricity plays leading role in civic opera group; San Francisco's new War memorial opera house and Veterans' building. Il Elec West 70:20-7 Ja '33
- Refinement in controls marks Radio City music hall. Il diags Elec W 102:277-82 Ag 26 '33
- Rockefeller Center; three theaters to entertain Radio City crowds; International music hall. Il diags plans Eng N 109:583-6 N 17 '32

**STAINED glass**

- Ancient stained and painted glass. F. S. Eden. 2d ed enl 214p \$2.50 Macmillan '33
- Craft untouched by mass production. F. E. Mayer. Il Am Arch 143:85-8 S '33
- Stained glass for night and day; window, St. Paul's church, Chestnut Hill, Pa.; illustration. Architecture 67:164 Mr '33

**STAINLESS-clad steel.** See Steel, Stainless-clad**STAINS**

- Formation and identification of copper stains on wool; precipitation of sulphides in dyeing. N. T. White. Textile Col 55:750-1 N '33
- Microchemical methods as applied to spots on textile fibers. I. W. Grote. Am Dyestuff Rep 22:446-8 Jl 17 '33

**Removal**

- Evaluation of washing agents containing oxygen. K. Brauer. Melland 5:111-14, 160-1 Je-Jl—Ag-S '33
- Great possibilities in modern washing assistants. Am Dyestuff Rep 22:430 Jl 3 '33

*See also*

- Cleaning

**STAINS and staining (microscopy)**

- Double staining by the Cajal-Brozek method. K. Hruby. Science 77:352 Ap 7 '33
- Grasshopper eggs and the paraffin method. E. H. Slifer and R. L. King. Science 78:366 O 20 '33
- Improving the staining action of iron haematoxylin. R. T. Hance. Science 77:287 Mr 17 '33
- New fixing fluids for general purposes. A. Petrunkevitch. Science 77:117-18 Ja 27 '33
- Simplified method of staining endospores. A. B. Schaeffer and M. Fulton. Science 77:194 F 17 '33
- Use of phenosafranin for staining fungi on culture media or in host tissue. E. J. Moore. Science 77:23-4 Ja 6 '33

**STAIR building**

- Correct proportioning of stair treads and risers. E. I. Freese. diag Am Arch 143:47 Jl '33
- Modern practical stairbuilding and hand-railing for the use of workmen, builders, architects, and others. G. Ellis. Lippincott '32

**STAIRWAYS**

- Rake, riser, and tread. J. Parker. Architecture 68:283-4 N '33 (to be cont)

**STAITI, Henry T.**

- Henry Staiti's first drilling rig was a two-horse marvel, but didn't produce any oil wells. T. F. Smiley. por Oil & Gas J 32:16-4 Ag 24 '33

**STALAGMITES, Mud**

- Mud stalagmites. C. A. Malott and R. R. Shrock. Il diag Am J Sci 5th ser 25:55-60 Ja '33

**STAMP tax**

- Brokers' tax decisions; security transfers. Barron's 13:6 Ja 23 '33

**STAMPING**

- Die castings and stampings. Iron Age 131:48 Ja 5 '33
- Combination progressive and transfer die for an intricate stamping. A. Suter. Il diags Mach 39:764-7 Ag '33
- Machining by pressure. J. H. Friedman. Il Automobile Eng 22:559-60 N '32
- Principles of lubrication in cold drawing sheet steel. H. A. Montgomery. Am Soc Steel Tr Trans 21:557-64 Je '33; Same cond. Am Mach 76:1056-8 O 12 '32; Abstract. Mach 39:348-50 Ja '33; Discussion. Am Soc Steel Tr Trans 21:564-70 Je '33
- Stamped plumbing fixtures open new market for sheet steel; recent development of the Briggs mfg. co. Il Iron Age 131:518 Mr 30 '33
- Stamping automobile parts of stainless sheet; Ford radiator shells and headlamps. J. L. McCloud. Il Metal Prog 24:23-6 N '33

**STAMPING machines**

- Massey accelerator for drop stamps. Il Engineer 155:125 F 3 '33; Engineering 135:146 F 3 '33



**STANDARD alcohol company**

S. O. New Jersey forms alcohol company. Nat Pet N 24:14 N 16 '32; Oil & Gas J 31:42 N 17 '32

**STANDARD brands, incorporated**

Good earnings maintained and prospects still favorable after more than three years of depression. Mag of Wall St 51:532 Mr 4 '33  
Report for 1932. Barron's 13:13 F 13 '33  
Speculative audit; favorable and unfavorable factors affecting common-stock values. Barron's 13:14 N 13 '33  
Standard Brands' stability. Econostat 1:14-15+ My 13 '33

**STANDARD cells**

Diffusion in standard cells. G. A. Hulett and R. B. Elliott. diag J Phys Chem 37:245-52 F '33  
Effect of glass containers on the electromotive force of Weston normal cells. G. W. Vinal and M. L. Howard. diag pl U S Bur Stand J Research 11:255-75 Ag '33  
Effect of service temperature conditions on the electromotive force of unsaturated portable standard cells. J. H. Park. diag U S Bur Stand J Research 10:89-98 Ja '33  
Iodide cells; an investigation of the cadmium iodide and zinc iodide types. A. E. Salazar. Electrician 110:650 My 19 '33  
Role of finely divided mercury in the depolarizer of the standard cell. R. B. Elliott and G. A. Hulett. J Phys Chem 37:271-7 Mr '33  
Standard battery. R. B. Elliott and G. A. Hulett. J Phys Chem 37:489-93 Ap '33  
Standard-cell comparator, a specialized potentiometer. H. B. Brooks. diag pl U S Bur Stand J Research 11:211-31 Ag '33  
Weston standard cells with buffered electrolytes. R. J. Priepeke and W. C. Vosburgh. bibliog Am Chem Soc J 55:1801-9 My '33

**STANDARD investing corporation**

Speculative possibilities among investment trusts. W. Gates. Mag of Wall St 51:157-8 N 26 '32

**STANDARD of living**

Scales for measuring the standard of living. E. G. Tough and E. L. Kirkpatrick. Am Statist Assn J 28:55-63 Mr '33

*See also*

Cost of living

**STANDARD oil companies**

Product consciousness is aim of this employee contest. Ptr Ink 161:71 D 15 '32

**STANDARD oil company of California**

Bid for Richfield approved by bank committee. Oil & Gas J 31:42 N 17 '32  
California and New Jersey negotiations are officially announced at end. C. O. Willson. Oil & Gas J 32:25 O 26 '33  
California Standard's earnings maintained. Econostat 1:11+ Ap 29 '33  
Richfield bondholders favor Standard Oil offer. Nat Pet N 24:119 N 16 '32  
Stocks behind the market—ready to go. Mag of Wall St 52:124-5 My 27 '33  
Strong equities for income and profit. Mag of Wall St 52:583 S 30 '33

**STANDARD oil company of Indiana**

Annual report. Nat Pet N 25:16 My 10 '33  
Stanolind's domestic expansion. Econostat 1:12+ J1 8 '33  
Stocks which should see better prices this fall. Mag of Wall St 52:484 S 2 '33  
Suit claims S. O. Indiana officials profited on Pan-Am. deal. Nat Pet N 25:20 S 20; 13 S 27 '33

**STANDARD oil company of New Jersey**

California and New Jersey negotiations are officially announced at end. C. O. Willson. Oil & Gas J 32:25 O 26 '33  
Farish is new chairman. P. Wagner. Nat Pet N 25:28+ Je 14 '33  
Forms Standard alcohol company. Nat Pet N 24:14 N 16 '32  
Jersey substantially broadens South American operations both in producing and refining. Oil & Gas J 31:38 D 29 '32  
Make several changes in sales division. Oil & Gas J 32:29 Je 29 '33

Profit prospects improve for the giant of oils. L. Stern. il Mag of Wall St 53:76-8+, 102+ N 11 '33

Speculative audit; favorable and unfavorable factors affecting common-stock values. Barron's 13:14 S 18 '33

Standard (N.J.) makes Farish chairman of board and other officials are given promotions. A. E. Mockler. Oil & Gas J 32:10+ Je 15 '33

Standard Oil units plan merger of Far East trade. Oil Paint & Drug Rep 124:48 N 13 '33  
World depression cuts Esso's net. Econostat 1:14-15+ Je 3 '33

**STANDARD oil company of Ohio**

Annual report. W. T. Holliday. Nat Pet N 25:15-16 Ap 5 '33  
Three Standard of Ohio department heads elected vice presidents. Nat Pet N 25:18 Ag 9 '33

**STANDARD solutions. See Solutions, Standard****STANDARD surety and casualty company of New York**

Annual statement, year ended Dec. 31, 1932. Spectator 130:33 F 9 '33; East Underw 34:33 F 10 '33; Weekly Underw 128:325 F 11 '33

**STANDARDIZATION**

Advocates international standardization in testing of petroleum products. R. P. Anderson. Oil & Gas J 31:62 Mr 30 '33  
A.R.A. standardization of freight equipment. F. H. Hardin. Ry Age 95:17-18 J1 1 '33  
Case against standardisation of chemical analysis. P. F. Thompson. Chem Age (Lond) 27:523 D 3 '32  
Grosszahlforschung. H. C. Plaut. Chemische Fabrik 6:237-40 Je 7 '33  
Influence of standardization on construction specifications. J. Hinds. Am Water Works Assn J 25:113-23 Ja '33

Job standardization: its aims and installation; Westinghouse electric & mfg. co. G. J. Stegemerten. Iron Age 131:228-9+ F 9 '33

National standardization in America. P. G. Agnew. Ind Standardization 4:107-14 J1 '33

La normalisation et ses rapports avec la mobilisation industrielle. L. Graux. Génie Civil 102:490-2 My 27 '33

Numbering code for alloy steel and non-ferrous metals used in Germany. H. Diergarten. Metal Prog 22:49-50+ D '32

Significance of speed standardization. J. Decker and W. P. Acres. Mech Eng 55:246-8 Ap '33

Standardization in soviet Russia; abstract. I. Gutmann. Mech Eng 55:450 J1 '33

Standardization in the bottled gas industry. E. L. Mills. diag Gas Age 71:496-7 My 13 '33

Standardizing die construction. F. Server. diag Am Mach 77:542 Ag 16 '33

Standards yearbook, 1933. U S Bur Stand Misc Pub 139:1-255 '33

Status of piping standardization today. S. Crocker. Heating-Piping 5:455-7, 500-4, 552. 4 S-N '33

We give them what they want—but standardize just the same; oil gage procedure, AC spark plug company, Flint, Mich. M. Spear. il Factory Management 91:259-62 J1 '33

*See also*

Preferred numbers

**Terminology**

Basic terminology of standardization. M. Shereshevsky. Industrial Standardization 4:151-5 S '33

**STANDARDS**

Standard samples issued by the Bureau of standards. Ind & Eng Chem News ed 11:160-1 My 20 '33

*See also*

Electric standards  
Gas—Standards  
Screw threads—Standards

Sound—Measurement—Standards  
Textile standards

**STANDARDS, Engineering**

Code of standard practice governing professional structural engineering services adopted by the Structural engineers association of southern California. *Civil Eng* 3:245-6 Ap '33

Quality of British engineering products; British standards institution's reply to British chamber of commerce in the Argentine Republic on standard of quality of British engineering products for South American markets. *Engineer* 156:317-18 S 29 '33; Same cond. *Electrician* 111:445-6 O 13 '33

Die zahl als gütemassstab bei der werkstoffprüfung und -abnahme. A. Fry. *Stahl & Eisen* 53:901-4 Ag 31 '33

*See also*

Electric standards

Standardization

*also* subdivision Standards under special subjects, e.g. Screw threads—Standards

**STANDARDS of length**

American inch. S. Russell. *il Mech Eng* 55:177-9 Mr '33

American standard value for inch-millimeter conversion recommended at conference under auspices of the American standards association. *Steel* 91:32 D 19 '32

Length and mass comparisons. *Elec R (Lond)* 113:170 Ag 4 '33

National physical laboratory; metrology department. *il diags Engineering* 136:173-6 Ag 18 '33

Standards of length and mass. *Engineering* 136:120-1 Ag 4 '33

**STANDPIPEES**

Old stand pipe becomes unique cooling tower. *il Power* 77:173 Ap '33

Painting standpipes and elevated tanks. H. E. Newell. *Pub Works* 64:12 S '33

*See also*

Water towers

**STANDPIPEES, Steel**

Electrically welded standpipe at Lake Mohawk. *il Pub Works* 64:13 O '33

STANNOUS chloride. *See* Tin chlorides

**STARCH**

Action of aqueous alkali on starches, amyloses and modified starches. T. C. Taylor and G. M. Salzmann. *bibliog Am Chem Soc J* 55:264-75 Ja '33

Chemical and physical properties of sweet potato starch. F. H. Thurber. *bibliog il Ind & Eng Chem* 25:565-8 My '33

Chemist offers proofs of need for starch in papermaking. W. A. Nivling. *Inland Ptr* 90:38 Mr '33

Consistency changes in starch pastes. G. V. Caesar. *Ind & Eng Chem* 24:1432-5 D '32

Peace time artillery; guns for explosive treatment of starch and cellulosic materials; patents. F. J. Hopkinson. *Plastics* 8:419-20+ N '32

Potato starch. T. C. Taylor and T. J. Schoch. *bibliog diag Am Chem Soc J* 55:4248-55 O '33

Relation of concentration to action of gelatinizing agents on starch. C. E. Mangels and C. H. Bailey. *Am Chem Soc J* 55:1981-8 My '33

Relative viscosities of wheat starches. C. E. Mangels and C. H. Bailey. *il Ind & Eng Chem* 25:456-60 Ap '33

Some uses of starch products in the textile industry. H. A. Crown. *Am Dyestuff Rep* 22:668-72 N 6 '33

Starches and dextrins for sizing, finishing, and printing. *il Textile World* 83:229 F 14 '33

*See also*

Corn starch

**Analysis**

Quantitative determination of starch as sizing. B. X. Herman. *Am Dyestuff Rep* 22:511-14+ Ag 28 '33

**Manufacture**

Improved method for production of sweet potato starch. F. H. Thurber. *Ind & Eng Chem* 25:919-20 Ag '33

**Testing**

Some uses of starch products in the textile industry. H. A. Crown. *Am Dyestuff Rep* 22:668-72 N 6 '33

**STARCH dust**

Venting dust explosions. H. R. Brown and R. L. Hanson. *bibliog il Chem & Met Eng* 40:116-19 Mr '33

**STARK effect**

Notes on the Stark effect. E. U. Condon. *Phys R* 43:648-54 Ap 15 '33

**STARKS, Edwin Chapin, 1867-1932**

Sketch. F. M. MacFarland. *Science* 77:182-3 F 17 '33

**STARS**

Building model stars. H. N. Russell. *il Sci Am* 148:212-13 Ap '33

Constitution of the stars. H. N. Russell. *Science* 77:65-79 Ja 20 '33

Electromagnetic effects in stellar atmospheres. J. A. Anderson. *Elec Eng* 52:621-3 S '33

Hearing radio from the stars. K. G. Jansky. *Elec W* 102:521 O 21 '33

Irregular distribution of distant galaxies in evolutionary groups. H. Shapley. *Science* 77:sup6 F 17 '33

Measurements of a star's magnitude. A. N. Vyssotsky. *Science* 78:sup5 JI 14 '33

Nova Ophiuchi number three. *Science* 78:sup5 Ag 25 '33

Radiation reaction forces and the expanding universe. R. Gunn. *Phys R* 43:764 My 1 '33

*See also*

Astronomical photography      Astrophysics

Astronomy

Color

Absorption and space reddening in the galaxy, as shown by the colors of globular clusters; abstract. J. Stebbins. *Science* 76:520 D 2 '32

Absorption and space reddening in the galaxy from the colors of B-stars; abstract. J. Stebbins and C. M. Huffer. *Science* 77:455 My 12 '33

**Radiation**

Density of energy in the universe. S. A. Korff. *bibliog Phys R* 44:300-1 Ag 15 '33

**Spectra**

Coronal lines in Ophiuchi. *Science* 78:sup8 O 20 '33

Greatest catastrophe of all. H. N. Russell. *il Sci Am* 149:156-7 O '33

Measurement of the spectrum photographs of stars. *Science* 77:sup8 Mr 10 '33

Stellar atmospheres. H. N. Russell. *il Sci Am* 149:204-5 N '33

Suggested mechanism of class Be stars; abstract. D. B. McLaughlin. *Science* 76:520 D 2 '32

Where astronomers go when they die. H. N. Russell. *il Sci Am* 149:112-13 S '33

STATE aid to science. *See* Science and state

**STATE bonds**

Arkansas bonds; deflation of interest rates is being forced on resisting bondholders. *Business Week* p18 Ap 12 '33

Arkansas refunding operations. *Bankers M* 126:582 Je '33

Arkansas; sovereign in debt. J. P. Broderick. *Barron's* 13:6 Ap 10 '33

State and municipal bonds. W. L. Raymond. 2d ed 397p Financial pub. co, Boston '32

Study of tax-exempts. D. D. Mackey. *Rand McNally Bankers Mo* 50:201-3+ Ap-My '33

When state and municipal bonds come due. M. Sykes. *Comm & Fin* 22:315 Ap 5 '33

**STATE buildings**

*See also*

Capitols

**STATE finance**

Balancing a state's budget. S. Conner. *Weekly Underw* 127:1101 D 10 '32

Now it has quality government; reducing state expenditures in Mississippi. *Pub Serv M* 54:80 Mr '33

Our under-financed state commissions. W. E. Mosher and F. G. Crawford. *Pub Util* 10:543-52, 622-7 N 10-24 '32



**STATE finance—Continued**

Princeton survey. Special Lib 24:145-6 Ag '33  
Public works and the state; California projects. E. Hyatt. il map Eng N 110:617-20 My 18 '33

Reducing state taxes impracticable. F. Bane. Civil Eng 3:419-20 Ag '33

State grants-in-aid in Virginia. T. R. Snaveley, D. C. Hyde and A. E. Biscoe. 244p [bibliog p233-6] \$2.50 Century co. '33

States lead the way in cost reductions. J. S. Lawrence. Bradstreet's 60:1734-8 D 31 '32  
Virginia's economy measures. J. G. Pollard. Manuf Rec 101:22-3 D '32

See also state subdivisions under Finance, e.g. Finance—Arkansas; Finance—Wisconsin

**STATE governments**

Government in a depression. T. H. Reed, ed. 201p pa \$1 Univ. of Chicago press '33

Government of a state. G. S. Silzer. 411p Soney & Sage co, Newark, N.J. '33  
Reorganization of the state. L. Gulick. Civil Eng 3:420-2 Ag '33

**STATE insurance.** See Insurance, State**STATE laws**

Right of legislature to appropriate money for unemployment relief; decision of Supreme court of Washington. Monthly Labor R 37:514-15 S '33

**STATE mutual life assurance company**

Annual report, 87th. East Underw 34:10 F 3 '33

**STATE planning**

Iowa conservation plan; its bearing upon general land planning. J. L. Crane, jr. J Land & Pub Util Econ 9:247-51 Ag '33

**STATE rights**

Trend to centralization. G. Cowles. Weekly Underw 127:1106 D 10 '32

**STATEN ISLAND**

See also

Motor bus lines—  
Staten Island

**Bridges**

Bayonne bridge over Kill van Kull; views. front Arch Rec 72:361-5 D '32

**STATIC electricity.** See Electricity, Static**STATIC machines.** See Electric machines**STATIONERY**

Advantages in having distinctive stationery. il Sheet Metal Worker 24:247-9 Ag '33

Color, modern layout sell engraved stationery. pl Inland Ptr 91:62 My '33

Cotton cloth stationery. Sci Am 148:107 F '33

See also

Street railroads—Sta-  
tionery

**STATIONERY industry and trade****History**

Romance of an industry. P. J. Wielandy. 311p Press of Blackwell Wielandy co, St Louis '33

**STATISTICAL mechanics.** See Mechanics, Statistical**STATISTICAL methods**

Application of statistical method to the quality control of manufactured products; abstract. B. B. Dudding. Soc Chem Ind J (Chem & Ind) 52:185 Mr 3 '33

Construction statistics. C. Gill. Am Statis Assn J 28:31-54 Mr '33

Grosszahlforschung. H. C. Plaut. Chemische Fabrik 6:237-40 Je 7 '33

Growth curves; applications of the Pearl-Reed population curve to the growth of industrial production. W. Rautenstrauch. Mech Eng 55:433-7 Jl '33

Methods of statistical analysis. G. R. Davies and W. F. Crowder. 355p \$3.25 Wiley '33

1933 A.S.T.M. manual on presentation of data with table of squares and square roots. 45p American society for testing materials, Philadelphia '33

Pitfalls in predicting economies. H. J. Titus. Ry Age 93:732-7 N 26 '32

Principles of statistical analysis occasionally overlooked. A. G. McNish. J Fr Inst 215:697-703 Je '33

Problems met by companies that instruct their employees in statistical methodology. T. H. Brown. Am Statis Assn J 28:sup10-14 Mr '33

Secondary curves as a measure of the lag or phase difference between two primary curves. R. von Huhn. bibliog Am Statis Assn J 28:312-27 S '33

Standard error of the coefficient of elasticity of demand. H. Schultz. Am Statis Assn J 28:64-9 Mr '33

Statistical methods for research workers. R. A. Fisher. 4th ed rev & enl 307p [bibliog p300-4] Oliver and Boyd, Edinburgh '32

Statistical research in metallurgy. H. Diergarten. Metal Prog 24:46+ Ag '33

Statistics and engineering. D. W. Walton. Engineer 154:583-4, 609-10, 633-4, 661-2 D 9-30 '32

Statistics; informative curves from prosaic figures. D. Harvey. bibliog Elec J 30:110-12 Mr '33

Summation methods in fitting parabolic curves. F. F. Stephan. Am Statis Assn J 27:413-23 D '32

Tests of significance in applying Westergaard's method of expected cases to sociological data; violations of parole. S. A. Stouffer and C. Tibbitts. Am Statis Assn J 28:293-302 S '33

See also

Correlation (statistics)

Forecasting (statistical methods)

Frequency distribution

Graphic methods

Index numbers (economics)

Probabilities

Sampling (statistical methods)

Seasonal variation (statistics)

Tabulation

Time series (statistics)

Variation (statistics)

**Study and teaching**

Mathematical difficulties of students of educational statistics. R. Brown. 64p \$1.50 Teachers college '33

Some comments on materials for teaching statistics; with special reference to the use of symbols. T. O. Yntema. Am Statis Assn J 28:sup15-19 Mr '33

**STATISTICS**

Elements of statistics. W. R. Good. 28p [bibliog p 26] Ann Arbor press, Ann Arbor, Mich. '33

Introduction to the theory of statistics. G. U. Yule. 10th ed rev 434p \$5 Lippincott

Statistics in theory and practice. L. R. Connor. 371p \$3.75 Pitman '32

See also

Birth rate

Business charts

Business statistics

Census

Commercial statistics

Correlation (statistics)

Economic statistics

Financial statistics

Index numbers (economics)

also subdivision

subjects, e.g.

Accidents, Industrial

Cotton trade—Statistics

Employment—Statistics

Labor and laboring classes—Statistics

Mortality—Statistics

Industrial statistics

Judicial statistics

Market statistics

Seasonal variation (statistics)

Tabulation

United States—Central statistical board

Vital statistics

Statistics under various

Population—Statistics

Production—Statistics

Railroads—Statistics

Unemployment—Statistics

**Bibliography**

Government statistics. Special Lib 23:414-16, 450-1; 24:26-7 N '32-Ja '33

**STATISTICS, Vital.** See Vital statistics

**STATORS**

Another test for reword staters. il Elec West 69:243 D '32

**STATUES**

Welds thumb on iron statue of Vulcan. *il Foundry* 61:34 Mr '33

**STAUNTON, Virginia****Water supply**

Staunton's water supply; abstract and discussion. R. R. Catlett. *Water Works & Sewerage* 79:416-17 D '32

**STEAM**

Comparison of steam and hydrocarbon gas as distillation media in petroleum industry. G. Allen and F. T. Gardner. *diag Oil & Gas J* 31:12 My 4 '33

Equilibrium in the oxidation of liquid iron by steam and the free energy of ferrous oxide in liquid steel. J. Chipman. *diag Am Chem Soc J* 55:3131-9 Ag '33

Equilibrium of the reaction between steam and molten copper; abstract. N. P. Allen and T. Hewitt. *Engineering* 135:363 Mr 31 '33; *Discussion. Engineer* 155:294 Mr 24 '33

Explosions of mixtures of hydrogen and air; the specific heats of steam at high temperatures. G. B. Maxwell and R. V. Wheeler. *Chem Soc J* p882-5 Jl '33

Fortschritte der wärmetechnischen forschung. E. Schmidt. *diag Zeit Ver Deutsch Ing* 77:1159-61 O 28 '33

High- or low-pressure steam for heating water? *Power* 77:380-1 Jl '33

High pressure steam curing under study for eight years; tests at University of Saskatchewan. *Concrete* 41:20-1 Ja '33

Kondensation und verdampfung; neuere anschauungen und versuche. M. Jakob. *il diag Zeit Ver Deutsch Ing* 76:1161-70 N 26 '32

Live steam removes grime from car and bus equipment. C. C. Phares. *Transit J* 77:155-6 My '33; Same cond. *il Elec Traction* 29:115 Ap '33

Process of steam generation; abstract. K. Schreiber. *Mech Eng* 55:514 Ag '33

Steam-smothering and tanker safety. N. B. Musser. *Marine Eng* 38:292-4 Ag '33

Steam vs. ether in separation of acids from bacteriological media. J. B. McNair. *bibliog diag Ind & Eng Chem Anal ed* 5:62-5 Ja 15 '33

**See also**

Boilers	Steam engines
Condensers (steam)	Steam heating
Electric plants (central stations)—	Steam pipes
Steam distribution	Steam plants
Evaporators	Steam turbines
Exhaust steam	Superheated steam
Feed water purification	Thermodynamics

**Cost**

Efficient boiler management, with special reference to the cost per therm. J. Webster. *Gas J (Lond)* 202:165-7 Ap 19 '33

**Tables, calculations, etc.**

Neue ergebnisse der ausländischen wasserdampforschung. M. Jakob. *diags Zeit Ver Deutsch Ing* 77:820-2 Jl 29 '33

New equation relating the pressure and temperature of saturated steam. S. Sugawara. *Mech Eng* 55:176 Mr '33

Pressure of saturated water vapor in the range 100° to 374° C. N. S. Osborne and others. *diags pl tables U S Bur Stand J Research* 10:155-88 F '33

Steam leakage chart. E. Cowan. *Power* 77:528 O '33

Steam research; progress of work at the Massachusetts institute of technology. F. G. Keyes and L. B. Smith. *Mech Eng* 55:113-16 F '33

Sugawaras gleichungen und tafeln für wasser und wasserdampf. M. Jakob. *Zeit Ver Deutsch Ing* 76:1239-40 D 17 '32

Thermodynamic theory for steam? H. E. Longwell. *Mech Eng* 55:243-5 Ap '33

**STEAM, Natural**

Exploitation of natural steam springs in Tuscany; boric acid and borax manufacture at Larderello. *il Chem Age (Lond)* 29:348-9 O 14 '33

Les installations géothermiques de la Toscane. G. Ginori-Conti. *Soc Ing Civils Bul* 85:798-808, pl 206-7 My '32; *Abstract. Génie Civil* 101:120-1 Jl 30 '32

Natural steam springs of Tuscany; their industrial exploitation. G. Ginori-Conti. *Chem Age (Lond)* 28:431-2 My 13 '33

Putting a volcano to work. G. Ginori-Conti. *il Chem Markets* 32:520-2 Je '33

Tuscan soffionissimi. G. Ginori-Conti. *Engineering* 135:522-3 My 12 '33

**STEAM accumulators**

Load building possibilities of the latent steam boiler for use on dairy farms. D. B. Leonard. *Elec West* 70:268-9 Je '33

**STEAM boilers. See Boilers****STEAM distribution****See also**

Piping (power plants)  
Steam pipe lines  
Steam pipes

**STEAM ejectors. See Steam jets****STEAM engineering**

Bailey's handbook; universal questions and answers. A. R. Bailey. 6th ed 263p Goodheart-Willcox co, Inc. Chicago '32

Elements of heat-power engineering. pt 2-3 W. N. Barnard, F. O. Ellenwood and C. F. Hirschfeld. 871p; 419p pt 2 \$5.50; pt 3 \$4.50 Wiley '33

Elements of industrial heat. J. A. Randall and J. W. Gillon. v 1 261p \$2.75 Wiley '33

Steam and gas engineering. T. E. Butterfield, B. H. Jennings and A. W. Luce. 2d ed 488p \$4.50 Van Nostrand '33

Text book for stationary engineers; first, second, third and fourth class certificates. W. G. Beaver. 252p David McKay co, Philadelphia '33

**See also**

Boiler plants	Steam fitting
Evaporators	Steam heating
Marine engineering	Steam pipes
Mechanical engineering	Steam plants
ing	Steam turbines
Power	Steamboats
Steam engines	Superheated steam

**STEAM engines**

Anderson rotary steam engine. *il diag Engineering* 154:674 D 30 '32

Development of the traction engine. F. H. Gifford. *il Engineering* 135:639-42, 652 Je 16 '33

Drains on steam engine piping. H. J. Vander Eb. *il diags Locomotive* 39:205-9 Jl '33

Heat-extraction engine; abstract. A. F. Webster. *Mech Eng* 55:384-5 Je '33

How to find excessive oil in steam-engine exhaust. *Power* 77:272-3 My '33

Lentz engine. J. F. Paige. *il diag Marine Eng* 38:140-3 Ap '33

Reciprocating marine steam engine; Lentz engine. J. F. Paige. *Marine R* 63:23 Mr '33

Steam engine for developing mechanical and electrical energy simultaneously. *Mech Eng* 54:867 D '32

Watershed partition improves vertical steam engines. *il Marine Eng* 38:26 Ja '33

Will increased pressure, even if throttled, cause engine trouble? *Power* 77:594-5 N '33

**See also**

Alrplane engines,	Locomotives
Steam	Steam plants
Boilers	Steam turbines
Condensers (steam)	Steamboats
Exhaust steam	Superheated steam

**Binary vapor engines**

L'emploi du bromure d'aluminium anhydre dans un moteur à cycle binaire. H. Barjot. *diag Génie Civil* 102:13-14 Ja 7 '33; *Abstracts (Aluminum bromide better than mercury). Power* 77:172 Ap '33; *Mech Eng* 55:314-15 My '33

**See also**

Mercury turbines

**Design**

Stephen and sons 2,000-i.h.p. semi-uniflow marine engine. *il diags Engineering* 136:489-92 N 3 '33; *Engineer* 156:416 O 27 '33



## STEAM engines—Continued

## Failures

Engine wrecks caused by failures at crank. il  
Locomotive 39:139-40 Ja '33

## History

Arthur Woolf, Cornish engineer. R. Jenkins.  
Engineer 155:97 Ja 27 '33; Abstract. Engi-  
neering 135:109 Ja 27 '33  
George H. Corliss. J. A. Hall and G. W.  
Richardson. il diag Mech Eng 55:403-9 Jl  
'33  
Richard Trevithick. il Engineering 135:439-41  
Ap 21 '33  
Richard Trevithick, father of the high pres-  
sure steam engine. il Can Min J 54:305-7 Ag  
'33  
Trevithick memorial lecture. C. E. Inglis. il  
diags Engineer 155:416-19, 442-4 Ap 28-May  
5 '33

## Manufacture

Builds engines for 100 years; Cooper-Bessemer  
corp. Foundry 61:37 Ap '33

## Uniflow engines

Scenting flaws in proposals for payment out  
of savings. D. W. Taylor. Elec W 100:788-  
91 D 10 '32

## STEAM fitting

Bolts and nuts at high temperatures. A. C.  
MacNeish. diags Engineer 155:sup[Metal-  
lurgist] 13-14 F 24 '33  
By-pass feeder connections. R. H. Parrish.  
diags Factory Management 91:109-10 Mr  
'33  
1932 experience in modernization jobs means  
profit in '33. il Dom Eng 141:30-2+ Ja '33  
Practical piping data on modernizing. J. A.  
Masek. il Heat & Ven 30:9-12 My '33  
Selection of pressure regulators. H. L. Colby.  
il diags Heating-Piping 5:565-7 N '33  
What's wrong with this vapor heating job. W.  
W. Stevens. il diags Dom Eng 141:36-7+  
Ja '33

See also

Piping (power plants)  
Steam pipes

## Study and teaching

Training journeymen in welding; abstract. S.  
L. Land. Heat & Ven 30:38 F '33

## STEAM fittings

Hard surfacing valves for steam service at  
high temperatures. il Power 77:115 Mr '33

## STEAM generators. See Boilers

## STEAM guns. See Guns, Steam

## STEAM hammers

How to construct steam hammer foundations.  
W. C. Betz. diags Factory Management 91:  
465-6 N '33

## STEAM heaters

Deaerating heater for marine service. il diag  
Marine Eng 38:301-2 Ag '33; Same abr.  
Marine R 63:30 S '33  
Trapping unit heaters for industrial-plant  
heating. il diags Heating-Piping 5:561-4+  
N '33

## Testing

Tests of convectors in a warm wall testing  
booth. A. P. Kratz, M. K. Fahnestock and  
E. L. Broderick. diag plans Heating-Piping  
4:502-8; 5:431-4 Jl '32, Ag '33

## STEAM heating

Air conditioning a civic auditorium; exhibition  
hall and community center in Grand Rapids.  
B. A. Parks. il diags Heat & Ven 30:12-18  
Mr '33  
Air conditioning and sound insulation of the  
N.B.C. Chicago studios. V. J. Gilcher. il  
Heat & Ven 30:16-19 N '33  
Application of the eupatheoscope for measur-  
ing the performance of direct radiators and  
convectors in terms of equivalent tempera-  
ture. A. C. Willard, A. P. Kratz and M.  
K. Fahnestock. il diags plans Heating-  
Piping 5:369-75 Jl '33; Abstract. Heat & Ven  
30:40-1 S '33

Boiler provides heat energy for this air con-  
ditioning job. W. W. Hughes. il plans Dom  
Eng 141:63-7 F '33

Central steam plant and pipe tunnels keep  
heating costs down at University of Chi-  
cago. il diag plan Heating-Piping 5:90-3  
F '33

District steam heats First church of Christ,  
scientist, in Boston. R. M. Nee. diags plan  
Heat & Ven 30:36-8 Je '33

District steam heats new Milwaukee county  
court house. H. C. Kimbrough. il Heat &  
Ven 30:28-9 Mr '33

Empire State building, New York city. F. W.  
Skinner. il diags Engineering 134:703-5, 706  
D 16 '32

Government hospital in Northwest has oil-fired  
boilers; U.S. marine hospital, Seattle. C. H.  
Knowles. il Heat & Ven 30:33-6 Ap '33

Heat—power—refrigeration for the new  
Queens general hospital, New York city. il  
Power 77:568-70 N '33

Heating and ventilating a county home with  
123,000 sq. ft. of radiators: Monroe County  
home, hospital, and penitentiary, Rochester,  
N. Y. F. L. Wadsworth. il plan Heat &  
Ven 29:26-9 N; 30:3 D '32

Heating and ventilating Portland's new mu-  
seum of art. W. E. Kemery, jr. il plan  
Heat & Ven 30:16-19 My '33

Heating and ventilating problem; heating a  
lodge hall. plan Sheet Metal Worker 24:  
172-3+ Je '33

Heating and ventilating the new Cincinnati  
union terminal. L. J. Hart. il diag plan  
Heat & Ven 30:28-32 O '33

Meeting special heating needs when main  
plant is shut down; Toronto university. H.  
H. Angus. diags Heating-Piping 5:144+ Mr  
'33

Nash vacuum heating pump driven by a  
vapor turbine. diag Heating-Piping 4:801  
D '32

New Cincinnati union terminal has novel fea-  
tures. il Heating-Piping 5:337-40 Jl '33

New light on heating system corrosion. J. H.  
Walker. diags Heat & Ven 30:28-32 My '33

Le nouvel hôpital de Grange-Blanche, à Lyon;  
installations de chauffage, ventilation et  
distribution d'eau chaude. P. Durand. il  
diags plan Génie Civil 103:53-9 Jl 15 '33

Oil-fired central boiler plant shows savings  
for New Haven municipal buildings. W. W.  
Gaylord. il plan Heat & Ven 30:30-2 Ap  
'33

Planning a central heating plant for a school  
or institution. A. Kellogg. il Heating-Piping  
5:191-3+, 242-4+ Ap-May '33

Power decreased 2 per cent, coal reduced 15  
per cent; Hotel St. George, Brooklyn, N.Y.  
il Power 77:562-4 N '33

Power for the U.S. marine hospital at Seattle.  
C. H. Knowles. il diags plans Power Pl Eng  
37:160-3 Ap '33

Proper air conditions preserve museum pieces;  
heating and air conditioning of the addition  
to the Worcester art museum. C. E. Cen-  
ter. il diag Heat & Ven 30:21-5 N '33

Requirements for heating, piping and venti-  
lating work in federal buildings. G. K.  
Bringhurst. diags plans Heat & Ven 30:32-5  
Mr '33

Sells stoker, boiler and duct system for com-  
plete winter comfort. C. H. Harpst. il  
Dom Eng 142:62-4+ O '33

\$750 for piping change cuts fuel bill \$2300;  
Beth Israel hospital, Boston. W. C. Gould  
and F. A. Westbrook. il diag Heating-Pip-  
ing 5:14-15 Ja '33

Some problems on big job; double heating  
system uses steam and hot water; Chicago  
post office. W. W. Stevens. il diags Dom  
Eng 141:29-33+ Ap '33

Steam meters in the heating system. F. G.  
Austin. il Heat & Ven 29:35-8 D '32

Survey of instruments in the heating plants  
of large Chicago buildings. J. A. Masek.  
il Heat & Ven 30:9-14 O '33

Temperature gradient observations in a large  
heated space; field house at the University  
of Wisconsin. G. L. Larson, D. W. Nelson  
and O. C. Cromer. il diags Heating-Piping  
5:477-85 S '33

**STEAM heating—Continued**

- Ten-month season and summer heating demand combine to justify central heat for Duluth. *il diag Power* 77:514-15 O '33
- Toledo schools expel high heating costs. S. R. Lewis. *Heating-Piping* 5:12-13 Ja '33
- Tomorrow's house centers about automatic heat and air conditioning. *il Dom Eng* 142:60-1 S '33
- Trouble on the sun porch; heating problem. E. Brown. *diags plans Dom Eng* 142:36-9+ Ag '33
- What to do about leaky traps in a gravity heating system. *Power* 77:98-9 F '33
- Why won't this radiator heat? *plan Dom Eng* 141:33 Mr '33

*See also*

- |                               |   |
|-------------------------------|---|
| Boilers, Heating              | Steam meters                            |
| Heating                       | Steam pipes                             |
| Heating from central stations | Steam plants—Combined power and heating |
| Hot water heating             | Steam traps                             |
| Radiators                     |   |

**Condensate recovery**

- Piping arranged to save hot condensate. T. Sheehan. *diag Power* Pl Eng 37:120 Mr '33

**Control**

- At University of Colorado—master control valves save steam. W. E. Brockway and G. S. Dobbins. *il Heating-Piping* 5:556-7+ N '33
- Complete automatic temperature control in a modern residence. R. P. Dewey. *il Heat & Ven* 30:36-9 O '33
- Control reduces steam consumption 22 per cent. W. H. Meloan. *Heating-Piping* 5:351-2 Jl '33
- Steam service control reduces over- and under-heating in department store. P. A. Hyde. *plan Heat & Ven* 30:20-3 My '33

**Cost**

- Modernizing steam heating systems with pumps. J. A. Masek. *il Heat & Ven* 30:35-8 F '33
- Sale of steam requires just rate. R. Emerick. *Power Pl Eng* 37:132-3 Mr '33
- Selling modernizing by guaranteeing high return on investment. G. K. Bringhurst. *plan Heat & Ven* 30:17-21 F '33
- U. S. steam \$\$ in Baltimore; post office and customs house; estimated costs of purchased and locally generated steam. E. H. Thompson. *Power* 77:200-1+ Ap '33

**Return systems**

- Condensate and air return in steam heating systems. F. C. Houghten and J. L. Blackshaw. *il diags Heating-Piping* 5:157-64 Mr '33; *Abstract*. J. L. Blackshaw. *Power* 77:102 F '33
- Flow of condensate and air in steam-heating returns. F. C. Houghten and C. Gutberlet. *diag Heating-Piping* 4:813-22 D '32; *Abstract*. Heat & Ven 30:47 F '33
- Modernizing steam heating systems with pumps. J. A. Masek. *il Heat & Ven* 30:35-8 F '33
- What's wrong with this vapor heating job. W. W. Stevens. *il diags Dom Eng* 141:36-7+ Ja '33

**Tables, calculations, etc.**

- Correcting radiator sizes for off-standard conditions. charts. *Heat & Ven* 30:37-9 Ja '33
- Estimating steam consumption where less than 70° is maintained. R. L. Fitzgerald. *Heat & Ven* 29:33-4 D '32
- Heat output of concealed radiators. E. A. Allcut. *diags Heating-Piping* 5:267-74 My '33
- Radiator emission under off-standard conditions; charts. L. Culkin; J. N. Arnold. *Heat & Ven* 30:50a-50b Ag '33
- Testing of new heating systems in summer weather. *Dom Eng* 140:77-8 D '32
- Tests of convectors in a warm wall testing booth. A. P. Kratz, M. K. Fahnestock and E. L. Broderick. *diag plans Heating-Piping* 4:502-8; 5:431-4 Jl '32, Ag '33

**STEAM jets**

- Air-conditioning for railway passenger cars. H. K. Williams. *il diags Ind & Eng Chem* 25:13-18 Ja '33
- Compressing steam to make cold water; steam-jet refrigerating apparatus. C. H. Vivian. *il diags Comp Air M* 38:4141-6 Je '33
- Conditions air for six-floor tenant; 22 East 40th St. building of the New York trust company. M. O'Connell. *il Heating-Piping* 5:463-5+ S '33
- Control for a steam-jet air-conditioning unit. R. R. Houser. *plan Heating-Piping* 5:399-401 Ag '33; *Same*. *Am Gas J* 139:37-8 S '33
- Cooling water for air conditioning or industrial process uses with steam jet refrigeration. W. L. Fleisher. *il diag Heating-Piping* 5:77-81, 147-8+ F-Mr '33
- Developments in air conditioning; A. G. A. subcommittee report. *diag Am Gas Assn Proc* 1932:523-7
- Operating data on steam jet refrigeration for air conditioning. *Heat & Ven* 30:26 N '33
- Production of a vacuum in an air tank by means of a steam jet. F. R. B. Watson. *il diags Inst Mech Eng Proc* 124:231-65 '33; *Same*. *Engineering* 135:230-2, 233, 262-5 F 24-Mr 3 '33; *Same cond*. *Engineer* 155:192-4 F 24 '33; *Discussion*. *Inst Mech Eng Proc* 124:266-300 '33; *Engineer* 155:198 F 24 '33; *Engineering* 135:255-7 Mr 3 '33
- Radio City air conditioning includes some steam-jet refrigeration. A. Merle. *il diags Power* 77:449-52 S '33
- Steam ejector refrigeration. H. M. Graham; J. F. Kooistra. *il diags Heat & Ven* 30:22-7 F '33
- Steam-jet refrigeration. J. M. Labberton. *Marine Eng* 38:291 Ag '33
- Steam jet refrigeration and air conditioning. R. M. McQuitty and R. M. Mullen. *diag Power Pl Eng* 37:395-6 S '33
- Steam-pressure transformers; abstract. T. B. Morley. *Mech Eng* 55:258-9 Ap '33
- This restaurant is steam-cooled—its sales mount. S. S. Sanford. *il Dom Eng* 141:81-3 Je '33
- Water cooler. *il Power Pl Eng* 37:438 O '33
- STEAM meters**
- Navy competition in engineering efficiency. R. P. Luker. *il Marine Eng* 38:96 Mr '33
- Steam meters in the heating system. F. G. Austin. *il Heat & Ven* 29:35-8 D '32
- STEAM pipe coverings**
- Modern heat insulation. R. Trautschold. *il Power Pl Eng* 36:812-14 D '32
- STEAM pipe lines**
- Central steam plant and pipe tunnels keep heating costs down at University of Chicago. *il diag plan Heating-Piping* 5:90-3 F '33
- District steam heats First church of Christ, scientist, in Boston. R. M. Nee. *diags plan Heat & Ven* 30:36-8 Je '33
- Efficiency of an underground steam line. W. S. McLeish. *Heating-Piping* 5:150 Mr '33
- G. E.'s new piping for 400-lb, 750-F service electric arc welded throughout. R. Daniels. *il Heating-Piping* 5:354-7 Jl '33
- Swarthmore builds new concrete pipe tunnel. L. S. Tarleton. *il diags Heat & Ven* 30:20-2 Ag '33
- Transporting steam at 400 lb., 750 deg. F.; steam distribution system between the new mercury vapor power station and works of the General electric co. at Schenectady. R. H. Rogers. *il diags Power Pl Eng* 37:422-5 O '33
- See also*
- Heating from central stations
- STEAM pipes**
- Design of piping for flexibility by the use of graphs. E. A. Wert, S. Smith and E. T. Cope. *diag Heating-Piping* 5:405-8 Ag '33
- Does copper pipe emit heat? M. B. Lowe. *il Dom Eng* 141:40-2+ Ap '33



**STEAM pipes—Continued**

- Expansion, set of 400-lb piping are studied. W. P. Palmer. plans Heating-Piping 5:142-3+ Mr '33
- High-pressure and high-temperature steam pipe work. J. A. Aiton. il diags Engineering 134:720-3 D 16 '32; Excerpts. Engineer 154:438-9 O 28 '32
- Leak-tight joints—600 to 550,000 lb. F. E. Wertheim. il diags Heating-Piping 4:469-73, 546-9 [bibliog p549] J1-Ag '32; Discussion. 5:247-8 My '33
- New light on heating system corrosion. J. H. Walker. diags Heat & Ven 30:28-32 My '33
- Planning a central heating plant for a school or institution. A. Kellogg. il Heating-Piping 5:242-4+ My '33
- Process steam plants need carefully-designed piping. E. C. Gaston. il diags Heating-Piping 4:779-83 D '32
- \$750 for piping change cuts fuel bill \$2300; Beth Israel hospital, Boston. W. C. Gould and F. A. Westbrook. il diag Heating-Piping 5:14-15 Ja '33
- Some problems on big job; double heating system uses steam and hot water; Chicago post office. W. W. Stevens. il diags Dom Eng 141:29-33+ Ap '33
- Status of piping standardization today. S. Crocker. Heating-Piping 5:455-7 S '33
- Stopping vibration of a steam line. B. Kramer. diags Heating-Piping 4:807-8 D '32
- Supervision, proper equipment save time and money in piping maintenance. W. H. Wilson. diag Heating-Piping 5:567-8 N '33
- Thaws rink ice at saving of \$116 and 42 hours. F. L. Weber. plans Heating-Piping 5:145-6 Mr '33

*See also*

- |                               |                  |
|-------------------------------|------------------|
| Heating from central stations | Steam heating    |
| Pipe fittings                 | Steam pipe lines |
| Piping (power plants)         | Steam traps      |

**STEAM plants**

- Developments and trends in power stations. F. S. Clark. Edison Elec Inst Bul 1:150-3; Discussion. 153-6 Ag '33
- Elementary steam power engineering. E. MacNaughton. 2d ed 649p \$5 Wiley '33
- Elements of power generation. A. M. Greene, jr. 314p \$3.25 Wiley '33
- Isolated power leads activity in steam plant construction in 1932. il Power 77:2-7 Ja '33
- Mechanical engineers present research findings. Power Pl Eng 37:333-5 Ag '33
- Recent developments in electric power generation. il diags Elec Eng 52:488-503 [bibliog p 502-3] J1 '33
- Steam, air and gas power. W. H. Severns and H. E. Degler. 2d ed 480p \$4 Wiley '33
- Transatlantic trends. il diags Power 77:35-6, 48 Ja '33
- Trends in power stations. F. S. Clark. Elec W 101:766-7 Je 10 '33
- Year's power plant development in review. il diags Power Pl Eng 36:5-43 Ja '33

*See also*

- |                      |                       |
|----------------------|-----------------------|
| Boiler plants        | Piping (power plants) |
| Boilers              | Power plants          |
| Electric plants      | Steam                 |
| Exhaust steam        | Steam, Natural        |
| Feed water           | Steam engineering     |
| Feed water heaters   | Steam engines         |
| Hydroelectric plants | Steam turbines        |
| —Auxiliary plants    |                       |

**Accounting**

- Steam savings vs. investment; data sheet. Power 77:248 My '33

**Binary vapor systems**

- Coördinated production of industrial steam and utility power; Schenectady works of the General electric company. A. R. Smith. il diags plan Gen Elec R 36:300-9 J1 '33; Same abr. Blast F & Steel Pl 21:487-9, 537-9 S-O '33; Abstracts. Power 77:426-7 Ag '33; Power Pl Eng 37:354-6 Ag '33
- Heat technology turns to new mediums. plan Chem & Met Eng 40:262-3 My '33

- Mercury plants near completion. il Power 77:34 Ja '33
- Transporting steam at 400 lb., 750 deg. F.; steam distribution system between the new mercury vapor power station and works of the General electric co. at Schenectady. R. H. Rogers. il diags Power Pl Eng 37:422-5 O '33

*See also***Mercury turbines****By-product power**

- Byproduct power designs must be tailored to meet local conditions. M. K. Bryan. Power 77:116-17 Mr '33
- By-product power from industrial steam; abstract. D. M. Myers. Mech Eng 55:125 F '33
- By-product power practice abroad. C. Zublin. Power 77:431 Ag '33
- Coördinated production of industrial steam and utility power; Schenectady works of the General electric company. A. R. Smith. il diags plan Gen Elec R 36:300-9 J1 '33; Same abr. Blast F & Steel Pl 21:487-9, 537-9 S-O '33; Abstract. Power 77:426-7 Ag '33
- Development of power as a by-product; some economic characteristics of the problem as it affects a newsprint plant. diags Pulp & Pa of Can 34:507-13 Ag '33
- Economic comparison of by-product power cycles; district heating and electric generating plants. M. W. Benjamin and R. G. Felger. diags Power 77:428-9 Ag '33
- Energie-erzeugung und -verteilung vom standpunkt der wärmeverbrauchenden gross-industrie. K. Hencky. diags Zeit Ver Deutsch Ing 77:654-7 Je 24 '33
- Examples of balance in byproduct power plant design. M. K. Bryan. diags Power 77:183-5 Ap '33
- Heat + power = dollars saved. M. K. Bryan. Power 77:66-8 F '33
- How much power from process steam. N. D. Gove. Power 77:453-9 S '33
- Power from process steam. C. H. S. Tupholme. diag Ind & Eng Chem News ed 11:261-2 S 10 '33
- Power plants and industrial earnings. C. W. E. Clarke and E. B. Severs. il Manuf Rec 101:30-1 D '32
- Sugar factories as a source of surplus electric energy; abstract. S. Kaniewski. Engineering 136:206 Ag 25 '33
- Surplus power—availability, cost and economic disposal. A. G. Christie. Power Pl Eng 37:203-4 My '33; Discussion. 37:312-13, 399-400 J1, S '33
- Tendencies in future power station developments; interview with William S. Monroe. A. L. Rice. Power Pl Eng 36:8-9 Ja '33
- Turbines to fit the plant. S. H. Hemenway. il diags Chem & Met Eng 40:189-92 Ap '33; Same cond. Paper Tr J 96:28-31 Mr 30 '33

*See also***Steam plants—Combined power and process steam****Combined power and heating**

- Good housekeeping and commonsense operating methods halve fuel bill; Scribner press building. il Power 77:178-9 Ap '33
- Heat—power—refrigeration for the new Queens general hospital, New York city. il Power 77:568-70 N '33
- Power bill lowered \$60,000; oil, steam and purchased power combined for economy; Pau corporation, Chicago. E. E. Ashley. il diag Power 76:293-300 D '32
- Power decreased 2 per cent, coal reduced 15 per cent; Hotel St George, Brooklyn, N.Y. il Power 77:562-4 N '33
- Steam-Diesel possibilities in the Boston post office; with cost data. E. J. Kates. Power 77:122-3 Mr '33
- Turbines replaced by engines in Lasalle & Koch co. Toledo. O. B. H. Bonnar. diag Power Pl Eng 37:432 O '33

**STEAM plants—Combined power and heating***—Continued*

Use of condensers in factory power plants. C. L. Hubbard. diags Melliland 4:609-10, 657-9 Ja-F '33

*See also*

Electric plants (central stations)—  
Steam distribution

**Combined power and process steam**

Approach to an untouched market; process-steam users. D. W. Taylor. Elec W 101:67-70 Ja 14 '33

Choosing fuels on the basis of plant performance. G. Mankin. il Food Ind 5:221-3 Je '33

Coordinated production of industrial steam and utility power; Schenectady works of the General electric company. A. R. Smith. il diags plan Gen Elec R 36:300-9 Jl '33; Same abr. Blast F & Steel Pl 21:487-9, 537-9 S-O '33; Abstract. Power 77:426-7 Ag '33

Efficient boiler management, with special reference to the cost per therm. J. Webster. Gas J (Lond) 202:165-7 Ap 19 '33

Forstmann woolen co. adds power generation, scraps old boiler plants. F. L. Bradley. il Power 77:559-61 N '33

Forstmann woolen co. builds two modern power plants. diags Power Pl Eng 37:464-5 N '33

G. E.'s new piping for 400-lb. 750-F service electric arc welded throughout. R. Daniels. il Heating-Piping 5:354-7 Jl '33

Industrial power and steam supply for industrial establishments. G. Keeth. Power Pl Eng 37:381-2 S '33

Making steam do double duty; M. J. Whittall associates, ltd. F. E. Bailey. il Elec J 29:555-6 D '32

Making steam economically and using it efficiently; power plant of the Restigouche company, limited, Atholville, New Brunswick. L. C. Kelley. il diags Pulp & Pa of Can 33:423-7, 460-1 N '32

Mercury cycle saving estimated at 31 per cent; General Electric plant, Schenectady. A. R. Smith. Elec W 100:713 N 26 '32; Same. Mech Eng 55:127 F '33

National grain yeast corp. reequips for profit and quality. H. L. King. il Food Ind 5:134-7 Ap '33

New deal in industrial power supply; Jacob E. Decker & sons. flow sheet il diags plan Power Pl Eng 37:282-8 Jl '33

New paper mill power plant; Dartford paper mills, Kent. il Engineer 156:110, 114 Ag 4 '33; Electrician 111:170-1 Ag 11 '33; Elec R (Lond) 113:185 Ag 11 '33

Operating experience with 1800-lb. steam at Plant Carey. H. P. Stephenson. flow diag il Power 77:169-72 Ap '33; Abstract. Mech Eng 55:385-6 Je '33

Power and refrigerating plant in the brewery. F. Ophuls. Refrig W 68:19-23 Ag '33

Power for the brewery; Atlas brewing company. il diag plans Power Pl Eng 37:64-9 F '33

Process steam plants need carefully-designed piping. E. C. Gaston. il diags Heating-Piping 4:779-83 D '32

Reduction of steam load by modernizing pumping equipment; Public service electric and gas company, Newark, N.J. J. B. Boniface. diags Gas Age 71:541-4 My 27 '33

Refinery plant modernized. E. B. Severs. Power Pl Eng 37:90 F '33

Scandinavian sectional meeting of the World power conference. Engineering 136:205-8, 232-4 Ag 25-S 1 '33

60% less coal for 1933 beer. F. Ophuls and A. B. Stickney. plans Power 77:59-62 F '33

Steam and power supply; planning steam and power projects for industrial plants. V. E. Alden. Mech Eng 55:667-72 N '33

Steam for making gas; new boiler plant at the Elizabethtown consolidated gas co. at Elizabeth, N. J. il diags Power Pl Eng 37:414-17 O '33

Steam; its generation and use at the mill of the Ontario paper company, Thorold. il plan charts Pulp & Pa of Can 34:388-92-1 Je '33

Steam turbine plants in the paper industry. S. M. Green. Paper Tr J 96:40-2 Mr 2 '33 \$39,000 a year saved on coal and electricity. N. A. Curtiss. il Food Ind 5:343-5+ S '33

**Efficiency**

Bled steam; principles underlying the gain in heat economy. G. W. Bird. diag Elec R (Lond) 112:806-7 Je 9 '33

Bollers show 82-86% availability. C. F. Hirschfeld and G. U. Moran. Elec W 100:893-4 D 31 '32

Diversification is keynote of heat balance practice. plans Power Pl Eng 36:28-31 Ja '33 Die entwicklung der wärmeerzeugung. H. Schult. Zeit Ver Deutsch Ing 77:781-4 Jl 22 '33

Higher steam pressures and temperatures a challenge to engineers. M. D. Engle and I. E. Moulthrop. diags Elec Eng 52:3-9 Ja '33; Abstract. Power 77:152-3 Mr '33

Operating results of Clarence Dock station, Liverpool. Engineering 136:198-201 Ag 25 '33

Present practical limits of power station efficiency. W. S. Burge. Inst E E J 73:369-86 O '33; Excerpts. Electrician 110:381-2 Mr 24 '33; Abstract. Elec R (Lond) 112:416 Mr 24 '33; Discussion. Inst E E J 73:387-412 O '33; Electrician 110:456 Ap 7 '33; Elec R (Lond) 112:452-3 Mr 31 '33

Turbine reliability from operating records; study of 346 turbines, one to 18 yr. of operation. Power Pl Eng 37:167-8 Ap '33

**Equipment**

Advances in steam generation practice. il diags Power Pl Eng 36:10-13 Ja '33

Automatic combustion control keeps steam pressure constant. il diags Power 77:202-4 Ap '33

Battersea generating station of the London power company. il plan Engineering 135:89-92, 102, 585-7, 588, 667-8, pl 4, 34, 37 Ja 27, Je 2, 23 '33

Battersea power station. il diag Engineer 155:498-500, 502, 646-8 My 19, Je 30 '33

Boiler control; modern installation at St Denis II power station, Paris. C. J. O. Garrard. il diag Electrician 111:253-5 S 1 '33

Boiler plant and equipment development. il diags Power Pl Eng 36:14-20 Ja '33

Burlington station modernized by high-pressure top. E. Zetterquist. plan Power 77:74-5 F '33

Buzzard Point plant supplies power to Capitol. H. G. Thielscher. il diag plan Power Pl Eng 37:478-9 N '33

Buzzard Point—the year's new central station. M. W. Carty. il diag plan Power 77:505-9 O '33

Condensers and auxiliaries show little change. il Power Pl Eng 36:26-7 Ja '33

Cut your coal pile in half; power plant modernization. N. D. Gove. il Elec J 29:544-5 D '32

Deaerating heaters universal in new plants. Power Pl Eng 36:22-3 Ja '33

Development of a new type cinder catcher for the Hudson Avenue station. G. C. Cook. il diag Power 77:598-9 N '33

Dissolved-oxygen recorder at Seal Beach. C. Pettingill and E. J. Barlow. il Power 77:63 F '33

Diversification is keynote of heat balance practice. plans Power Pl Eng 36:28-31 Ja '33

Feed-water distillation at the Valenciennes power station. diag Engineering 135:116 Ja 27 '33

Flugstaubabscheidung aus rauchgasen; kritische zusammenfassung eines berichtes der Electricity commission. W. Reerink. Zeit Ver Deutsch Ing 77:770-2 Jl 15 '33

Greenwich power station; the 40,000-kW extension of the L.C.C. tramways supply. il diag Elec R (Lond) 111:700-1 N 11 '32



## STEAM plants—Equipment—Continued

- Grit emission from power stations; report of committee appointed by Electricity commissioners. *Engineering* 134:714-15 D 16 '32; *Engineer* 154:618-20 D 16 '32; *Elec R (Lond)* 111: 923 D 23 '32; *Mech Eng* 55:385 Je '33
- Higher coal-burning rates and efficiencies with less maintenance; abstract. P. W. Thompson. *Elec W* 100:854-5; Discussion. 855 D 24 '32
- Improvements at Burlington generating station. W. L. Cisler and W. P. Gavit. *il diags plan Elec Eng* 52:481-6 J1 '33
- Kidder station; Otter tail power co, North Dakota. G. W. Welsh. *il diags plan Power Pl Eng* 37:110-15 Mr '33
- Making steam do double duty; M. J. Whittall associates, ltd. F. E. Bailey. *il Elec J* 29: 555-6 D '32
- Making steam economically and using it efficiently; power plant of the Restigouche company, limited, Atholville, New Brunswick. L. C. Kelley. *il diags Pulp & Pa of Can* 33:423-7, 460-1 N '32
- Metering and control systems improved by centralization. *il Power* 77:28-9 Ja '33
- Michigan City, a station with an unique design and operating record. *il diags map Power Pl Eng* 36:796-803 D '32; Abstract. *Mech Eng* 55:128 F '33
- Modernizing a 30 year old generating station; Minneapolis power station of the Minneapolis street railways co. *il diags plans Power Pl Eng* 37:196-9 My '33
- New Blackburn Meadows generating station of the Sheffield corporation. *il diags plan Engineering* 135:456-7, 701-3, pl 29 Ap 28, Je 30 '33; *Engineer* 155:353-6, supp Ap 7 '33
- New Dunston power station. *il plan Engineer* 155:136-9, 144 F 10 '33; *Engineering* 135: 155-6, 162 F 10 '33; *Elec R (Lond)* 112:183-5 F 10 '33; *Electrician* 110:183 F 10 '33
- New Orleans steam electric station; combination gas, pulverized coal and oil burners. K. P. Kammer. *il diags Gas Age* 72:183-4 Ag 26 '33
- New turbine rejuvenates an old station; Burlington station, Public service gas and electric company, Kearney, N.J. *il Elec J* 30: 4 Ja '33
- Operating experience with 1800-lb. steam at Plant Carey. H. P. Stephenson. *flow diag il Power* 77:169-72 Ap '33
- Operation at South Amboy. R. C. Roe. *il diag Power* 77:310-11 Je '33
- Peak-load station; Pigeon House station, Dublin. R. N. Tweedy. *il diag Elec R (Lond)* 112:117-18 Ja 27 '33
- Power generation; condensed from the 1932 progress report of the A.S.M.E. power division. *il Mech Eng* 54:852-4 D '32
- Power station cost control as affected by design. C. D. Zimmerman. *Elec W* 100:699-701 N 19 '32
- Prime movers show change from past practice. *il Power Pl Eng* 36:24-5 Ja '33
- Progress in the production and transmission of heat and power. *il diags Paper Tr J* 96: 59-61+ F 16 '33
- Rehabilitating Connors Creek station. P. W. Thompson. *il Elec W* 102:570-1 O 28 '33
- Reheat—practice, operation and control. *il diags Power Pl Eng* 36:370-3, 484-6, 588-9, 703-5, 806-7; 37:379-80, 420-1 My 1, Je 15, Ag 1, O, D '32, S-O '33
- Reheating turbine installation in Japan; Sanyo Chuo hydro-electric company's station at Shikama. *il diags plans (supp) Engineer* 154: 658-61 D 30 '32
- Ring roll mill pulverising plant at the Brimsdown generating station. *il diags Engineering* 136:243-6 S 8 '33
- Spending money to save money; revised superheater baffling in the Crawford Avenue station of the Commonwealth Edison company. *diag Elec W* 102:633 N 11 '33
- Steam raising plant at Kirkstall power station, Leeds. *il diags Engineering* 134:617-19, pl 23 N 25 '32
- Tacoma completes 25,000-kw. plant; steam unit supplements Cushman hydro power during low water periods. A. F. Darland. *il diag Elec West* 70:81-4 Mr '33
- See also
- |                    |                     |
|--------------------|---------------------|
| Boilers            | Steam separators    |
| Condensers (steam) | Steam turbines      |
| Feed water heaters | Stokers, Mechanical |
| Steam engines      | Superheaters        |
- High pressure
- Die Benson-hochdruckanlage im kraftwerk Langerbrügge. L. Herry and E. Josse. *il diags Zeit Ver Deutsch Ing* 77:679-83 Je 24 '33
- La chaudière Benson, à très haute pression, de la centrale de Langerbrügge (Belgique). L. Herry. *il diags plan Génie Civil* 102:581-6 Je 24 '33
- Commercial aspects of high boiler pressures. A. G. Christie. *Power Pl Eng* 37:469-70 N '33
- Design features of Milwaukee's new 1,200-lb. station. G. G. Post. *il Elec W* 102:12-15 J1 1 '33; Abstract. *Power* 77:348-9 J1 '33
- Effect of manufactures on the electricity supply industry; discussion of high pressure steam plants. J. Morton. *Inst E E J* 72:58-60 Ja '33
- High-pressure steam in Germany. G. Leunig. *diag Power* 77:604-5 N '33
- High pressure steam research at Purdue university. H. L. Solberg. *diags W Soc E J* 37:301-13 D '32
- Higher steam pressures and temperatures a challenge to engineers. M. D. Engle and I. E. Moulthrop. *diags Elec Eng* 52:3-9 Ja '33; Abstracts. *Elec W* 101:165 F 4 '33; *Power* 77:152-3 Mr '33
- Higher steam pressures in the blast-furnace-steel-mill power plant; abstract. C. W. E. Clarke and W. P. Gavit. *Mech Eng* 55:127-8 F '33
- Highest pressure steam plant uses natural gas; Public service company of San Antonio, Texas. J. B. Nealey. *il Am Gas J* 137:29-30 S '32; Same. *Am Gas Assn Mo* 14:496-7+ D '32; Same. *Manuf Rec* 101:34-5 D '32
- Loeffler boilers in high pressure plant in Czechoslovakia; abstract. J. Havlíček. *Engineering* 136:207 Ag 25 '33
- Löffler boilers at Trebovice; abstract. B. Belohlávek. *Mech Eng* 55:641-2 O '33
- Operating experience with 1800-lb. steam at Plant Carey. H. P. Stephenson. *flow diag Power* 77:169-72 Ap '33; Abstract. *Mech Eng* 55:385-6 Je '33
- Plant for Moscow; British-made turbines for steam pressure of 1 778 lb. per sq. in. *Electrician* 110:342 Mr 10 '33
- Post-war developments in high-pressure boilers. C. H. Davy and C. H. Sparks. *diags Inst E E J* 72:461-99 [biblog p499] Je '33; Abstracts. *Engineering* 134:741-2 D 23 '32; *Elec R (Lond)* 111:888 D 16 '32; *Electrician* 109:820 D 23 '32; Discussion. *Inst E E J* 72:499-504, 596-8 Je, D '33; *Elec R (Lond)* 111:925 D 23 '32
- Power plants and industrial earnings. C. W. E. Clarke and E. B. Severs. *il Manuf Rec* 101:30-1 D '32
- Reheat temperature automatically controlled at high-pressure station. C. E. Steinbeck. *il diags Power* 77:72-3 F '33
- 2½ years' experience with 1,350-lb. steam plant; Gilbert station. J. A. Powell and G. T. Dempsey. *il Elec W* 100:716-20 N 26 '32; Abstract. *Mech Eng* 55:190 Mr '33
- Load
- Reduction of steam load by modernizing pumping equipment; Public service electric and gas company, Newark, N.J. J. B. Boniface. *diags Gas Age* 71:541-4 My 27 '33
- Standby and reserve with pulverized fuel; abstract. E. H. Tenney. *Power* 77:341-2 J1 '33
- Maintenance and repair
- Welded repairs. C. W. Brett. *il Elec R (Lond)* 113:182 Ag 11 '33

**STEAM plants—Continued****Management**

Buying coal looks easy, but isn't! an interview with G. B. Gould. Power 77:232-3, 306-7 My-Je '33; Discussion. N. T. Pef. 77:467 S '33

Steam and power supply; planning steam and power projects for industrial plants. V. E. Alden. Mech Eng 55:667-72 N '33

Steam plant rehabilitation and paper drying. F. C. Farnsworth. Paper Tr J 96:23-4 Je 8 '33

**Peak load**

New energy-storage system offers unusual features. F. Marguerre. Elec W 102:258 Ag 26 '33

New heat storage system developed in Europe. F. Marguerre. diag Power Pl Eng 37:426-7 O '33

**Process steam**

Dirty process steam; what can be done about it? S. H. Coleman. il Food Ind 5:246-7 Jl '33

Electrically heated steam generators for the process industries. S. Z. Owen. il Ind & Eng Chem 25:1078-9 O '33

How much power from process steam. N. D. Gove. Power 77:458-9 S '33

Power from process steam. C. H. S. Tupholme. diag Ind & Eng Chem News ed 11:261-2 S 10 '33

Process steam and purchased power. J. F. Gaskill. Paper Tr J 96:36-8 Mr 23 '33

Steam for process heating furnished by Foster Wheeler oil fired boiler. diag Power Pl Eng 37:389 S '33

Wirtschaftlicher ausgleich von dampfverbrauchschwankungen. E. Praetorius. Chemische Fabrik 6:163-5 Ap 12 '33

**See also**

Steam plants—Combined power and process steam

**Safety devices and measures**

One engineer's opinions on turbine-oil fires. C. R. Soderberg. Elec W 102:537 O 21 '33

**Tables, calculations, etc.**

Draft equipment must fit combustion needs. G. C. Daniels. diags Power Pl Eng 37:116-18 Mr '33

Flue-gas temperatures; a method of estimating most economical values. R. Livingstone. Elec R (Lond) 113:4 Jl 7 '33

**STEAM plants, Miniature**

Thermodynamic motor draws power from atmosphere; Cochran vacuum vapor power plant. il diag Power 76:352 Mid-D '32

**STEAM reheaters**

Reheat—practice, operation and control. il diags Power Pl Eng 36:370-3, 484-6, 588-9, 703-5, 806-7; 37:379-80, 420-1 My 1, Je 15, Ag 1, O, D '32, S-O '33

**STEAM research**

Beitrag zur frage der verwendung von heiss- und sattdampf. E. Kirschbaum. il diags Chemische Fabrik 6:309-12 Jl 19 '33

High-pressure steam-generator research: abstract and discussion. H. L. Solberg. G. A. Hawkins, and P. A. Willis. diag Power 76:335 Mid-D '32

High pressure steam research at Purdue university. H. L. Solberg. diags W Soc E J 37:301-13 D '32

Properties of steam; editorial. Engineering 135:707-8 Je 30 '33

Recent steam research in Europe. J. H. Keenan. Mech Eng 55:172-6 Mr '33

Sampling wet steam; abstract and discussion. C. C. Thomas. diag Power 76:334-5 Mid-D '32

Steam research; progress of work at the Massachusetts institute of technology. F. G. Keyes and L. B. Smith. Mech Eng 55:113-16 F '33

Steam research; progress of work at the U.S. Bureau of standards. N. S. Osborne. Mech Eng 55:116-17 F '33

Thermal research projects. Power 77:264-5 My '33

**See also**

Steam—Tables, calculations, etc.

**STEAM sampling**

Sampling wet steam; abstract and discussion. C. C. Thomas. diag Power 76:334-5 Mid-D '32

**STEAM separators**

Assure clean dry steam. W. F. Schaphorst. Power Pl Eng 37:137 Mr '33

**STEAM traps**

Armstrong steam trap. diag Oil & Gas J 32:76 Ag 10 '33

Efficient steam trap. diag Chem Age (Lond) 28:248-9 Mr 18 '33

Gestra steam trap. il diags Engineering 135:691 Je 23 '33

Improvements in traps. il Heating-Piping 5:37-8 Ja '33

Looking at the fine points of condensate removal. T. H. Rea. diags Food Ind 5:141-3 Ap '33

Steam traps. il diags Power 76:382-3 Mid-D '32

Trapping unit heaters for industrial-plant heating. il diags Heating-Piping 5:561-4+ N '33

**STEAM turbines**

Back pressure turbines. il Engineer 155:608<sup>3</sup> Je 16 '33

Belliss and Morcom midjet turbo-generators. il Engineer 155:358 Ap 7 '33

Belliss and Morcom 1,500-i.h.p. self-contained turbine set. il diag Engineering 136:293-4 S 15 '33; Engineer 156:278-9 S 22 '33

Belliss-Morcom midjet turbine; abstract. Mech Eng 55:585 S '33

Blade failures decrease; cause less turbine outage; N.E.L.A. prime movers committee report. Power 77:602-3 N '33

Burlington turbine, largest 3,600-r.p.m. unit. E. Zetterquist. diags Power 77:139-41 Mr '33

Capetown's 33-kV turbo-alternator. il Elec R (Lond) 112:449-50 Mr 31 '33

Dampferzeuger mit turbine. H. Vorkauf. il diags Zeit Ver Deutsch Ing 76:988-90 O 8 '32; Abstract (Rotary boiler-turbine installation). Mech Eng 54:869-71 D '32

Developments in the electrical industry during 1932; steam turbine-generators. J. Liston. il Gen Elec R 36:9-10 Ja '33

Dual river improves steam-plant economy. E. C. Dieffenbach. Power 77:246 My '33

High pressure plant saves \$1,000 daily; Pennsylvania sugar company. il Power Pl Eng 36:811 D '32

Higher steam pressures and temperatures a challenge to engineers. M. D. Engle and I. E. Moulthrop. diags Elec Eng 52:3-9 Ja '33

Large Ljungström set; W.P.C. visitors inspect 50,000 kW turbine at Västerås. il Electrician 111:115 Jl 28 '33

Macy's installs a 1,000-kw. mixed-pressure turbine. il Power 77:225-7 My '33

Maintaining steam turbine performance. C. R. Soderberg. il diags Elec Eng 52:748-51 N '33

Moisture problem in steam turbines; abstract. C. R. Soderberg. Power 77:345 Jl '33

New turbine rejuvenates an old station; Burlington station, Public service gas and electric company, Kearney, N.J. il Elec J 30:4 Ja '33

Picking the turbine to fit the job. N. D. Gove. diags Elec J 30:103-5 Mr '33

Plant for Moscow; British-made turbines for steam pressure of 1 778 lb. per sq. in. Electrician 110:342 Mr 10 '33

Prime movers show change from past practice. il Power Pl Eng 36:24-5 Ja '33

Siemens-Schuckertwerke 51,750-kw. base-load turbine. il Engineering 134:580-1 N 11 '32

67,200-kW turbo-alternator for the Battersea station of the London power company. il diags Engineering 135:585-7, 588, 667-8, pl 34, 37 Je 2, 23 '33; Engineer 155:546-50, 552 Je 2 '33

Steam power plant for aircraft. A. Collina. diags Aviation Eng 7:10-11 D '32



**STEAM turbines—Continued**

Steam turbine plants in the paper industry.

S. M. Green. Paper Tr J 96:40-2 Mr 2 '33

Steam turbines; current research projects. Power 77:264 My '33

Trends in turbine engineering. C. R. Soderberg. Elec W 102:501-2 O 14 '33

Turbine is damaged as oil escapes from system. Locomotive 39:132 Ja '33

Turbine reliability from operating records; study of 346 turbines, one to 18 yr. of operation. Power Pl Eng 37:167-8 Ap '33

Turbines to fit the plant. S. H. Hemenway. il diags Chem & Met Eng 40:189-92 Ap '33;

Same cond. Paper Tr J 96:28-31 Mr 30 '33

**Blades**

A.T.V. turbine blading. il Engineering 135: 289-92 Mr 10 '33

Crack sleuth; magnetic powder inspects turbine blading. F. C. Jacobs. il Power 77:238-9 My '33

Erosion tests of turbine-blade materials. C. R. Soderberg. Elec W 102:474 O 7 '33

Removing scale from turbine blades; abstract. C. R. Soderberg. Elec W 102:560 O 28 '33

Turbine blade erosion. il Power Pl Eng 37: 121 Mr '33

Washing deposits from turbine blading. Power Pl Eng 37:304 Jl '33

**Control**

Steam generation control; Hagan system of pressure-reduction and de-superheating. il diag Elec R (Lond) 111:815 D 2 '32

**Design**

Problems in steam-turbine design. C. R. Soderberg. il diags Eng Soc W Pa 48:155-85 [bibliog p184-5] Je '32; Excerpts. Power Pl Eng 36:526-7 Jl 1 '32; Elec W 99:772-7 Ap 30 '32; Discussion. Eng Soc W Pa 48:185-8 Je '32

Turbine designs to meet industrial conditions. il diags Power Pl Eng 37:70-2 F '33

Turbine efficiencies raised by detail improvements. il Power 77:13-15 Ja '33

**Efficiency**

Low turbine leaving loss not always best. Power Pl Eng 37:177 Ap '33

Testing non-condensing turbines for efficiency. G. B. Randall. il Power 76:74-5 Ag '32; Discussion. C. H. Berry. 76:259 N '32; Reply. 77:45 Ja '33

Turbine efficiencies raised by detail improvements. il Power 77:13-15 Ja '33

Turbine efficiency. S. D. Scorer. Elec R (Lond) 112:934-5 Je 30 '33

**Extraction**

Bled steam; principles underlying the gain in heat economy. G. W. Bird. diag Elec R (Lond) 112:806-7 Je 9 '33

Closed feedwater heater design. F. R. Wheeler. charts Power Pl Eng 37:200-3, 289-90 My, Jl '33

Extraction heaters in the power plant. G. A. Gaffert. Power Pl Eng 37:164-6, 346-8 Ap, Ag '33

Kidder station; Otter tail power co, North Dakota. G. W. Welsh. diag Power Pl Eng 37:113 Mr '33

**Failures**

Accidents to reaction type turbines. il Locomotive 39:170-1 Ap '33

Failure of lubrication supply on turbine. Locomotive 39:209-10 Jl '33

**Foundations**

Richtlinien für dampfturbinenfundamente in eisenbeton. E. Rausch. Zeit Ver Deutsch Ing 77:508-9 My 13 '33

**History**

Early days of the turbine. C. Turnbull. Electrician 109:607 N 11 '32

First commercial steam turbine in the United States. il Iron Age 132:25 Jl 27 '33

Historic De Laval steam turbine. il Engineering 135:713 Je 30 '33

Some early turbine reminiscences. C. Turnbull. Inst E E J 72:60-2 Ja '33

**Lubrication**

Failure of lubrication supply on turbine. Locomotive 39:209-10 Jl '33

Lubrication of ring-oiled bearing steam turbines. J. I. Clower. diags Power Pl Eng 37:466-7 N '33

New turbine oils guaranteed to last life of engines. Oil & Gas J 31:27 Mr 2 '33

One engineer's opinions on turbine-oil fires. C. R. Soderberg. Elec W 102:537 O 21 '33

**Manufacture**

Materials for steam turbines. S. D. Scorer. Elec R (Lond) 112:664 My 12 '33

New metals for turbine service. il Steel 91: 24 D 12 '32

**Reheating**

Reheat—practice, operation and control. il diags Power Pl Eng 36:370-3, 484-6, 588-9, 703-5, 806-7; 37:379-80 My 1, Je 15, Ag 1, O, D '32, S '33

Reheat temperature automatically controlled at high-pressure station. C. E. Steinbeck. il diags Power 77:72-3 F '33

Reheating turbine installation in Japan; Sanyo Chuo hydro-electric company's station at Shikama. il diags plans (supp) Engineer 154: 658-61 D 30 '32

**Testing**

Nozzles to measure turbine performance; abstract and discussion. S. A. Moss and W. W. Johnson. diag Power 76:336-7 Mid-D '32

Testing non-condensing turbines for efficiency. G. B. Randall. il Power 76:74-5 Ag '32; Discussion. C. H. Berry. 76:259 N '32; Reply. 77: 45 Ja '33

Testing of steam-turbine generating sets. A. R. Clague. diags Inst Mech Eng Proc 123:793-803 '32

**Vibration**

Stopping vibration in steam turbines. M. Phillips. Power Pl Eng 36:810-11 D '32

Vibration in turbines. G. E. Geddes. Power Pl Eng 37:224 My '33

**STEAM turbines, Marine**

Abdampfturbinenanlage für schiffe. il diags Zeit Ver Deutsch Ing 77:179-80 F 18 '33

A.T.V. turbine blading. il Engineering 135: 289-92 Mr 10 '33

Chapters in naval and marine engineering history. E. C. Smith. Engineering 134:758-9; 135:321-3 D 30 '32, Mr 24 '33

Combination back-pressure and reducing valve for special duty on Coast guard cutters. C. J. Odend'hal. diags Marine Eng 38:304-6 Ag '33

Compensated vacuum gage. C. J. Odend'hal. diags Marine Eng 38:421-2 N '33

Developments in the electrical industry during 1932; marine equipment. J. Liston. il Gen Elec R 36:10-15 Ja '33

Engine and exhaust turbine in one unit developed by White marine engineering co, England. il Power 77:65 F '33

Exhaust turbines on steamship Bergensfjord. Marine Eng 38:167 My '33

Götaverken system of using exhaust steam. il Engineering 136:406-7 O 13 '33

Point Ancha; exhaust turbine increases speed. J. S. Milne. il Marine R 63:23-4 F '33; Same. Marine Eng 38:91-2 Mr '33

Power from exhaust steam. il Power Pl Eng 37:220 My '33

Propulsion turbines and gears for Panama Mail steamships; abstracts. A. R. Smith. Marine R 62:24 D '32; Engineering 135:112 Ja 27 '33; Discussion. Marine Eng 38:29-30 Ja '33

Some early turbine reminiscences. C. Turnbull. Inst E E J 72:60-2 Ja '33

Turbo compound engine; propelling unit for small steamships. G. Bauer. il diags Marine Eng 38:320-4 S '33

See also  
Steamboats

## STEAM turbines, Marine—Continued

## Testing

Shop tests of turbo compound engine. G. Bauer. Marine Eng 38:383-5 O '33

## STEAMBOAT lines

Action on the North Atlantic. H. P. Borer. Dun & Bradstreet 41:4-6 Ag '33

Cunard-White Star. Business Week p24 My 31 '33

Fewer voyagers; reduced ocean fares failed to win more traffic. Business Week p21 Ja 25 '33

First vibrationless steamships; Grace Line. il map Comp Air M 37:3993-4000 D '32

Foreign shipping in Germany. Economist 117:360 Ag 19 '33

Peninsular and Oriental steam navigation company, 92d annual meeting, London. Economist 115:1105-6 D 10 '32

People still cruise. Business Week p22-3 Mr 15 '33

Ship fares up. Business Week p22+ D 7 '32

Ships in the news. Business Week p27 Ag 26 '33

Suggestions for better ship design to increase return on investment. Marine R 62:14-16 O '32; Discussion. J. F. Roos. 63:50 Ap '33

Transatlantic fares. Business Week p23 My 3 '33

## Advertising

Depression as advertising theme of steamship campaign. il Ptr Ink 163:51-2 Ap 27 '33  
Direct color photography applied to a map. il Adv Arts p22A-22D S '33

Endpaper shown through courtesy of the Italian line; drawing by Victor Beals. Adv Arts p18A N '33

Luxury product steams through depression waters; National Tours. R. Dellevie. il Ptr Ink 162:47-9 F 2 '33

Making advertising fads is better than following them; Cunard sells idea of taking vacation cruises. H. P. Borer. il Ptr Ink 164:33, 36-7 Jl 6 '33

Rex's record-breaking run swings ocean travel south, to Italy. Sales Management 33:224 S 1 '33

Shippers urge that European trip at bargain rates. il Adv & Sell 20:15 Ap 27 '33

Speedy Rex; speedy advertising. il Ptr Ink 164:12-13 Ag 24 '33

## Finance

P. and O. Economist 115:1199-1200 D 24 '32  
Peninsular and Oriental steam navigation company report. Economist 115:1038-9 D 3 '32

## Railroad operation

Let the railroads operate steamships. il Ry Age 93:855-6 D 3 '32

## STEAMBOATS

Arbutus, lighthouse tender, twin screw, steam drive. il diag Marine R 63:14 Ag '33

Auxiliaries electrified on Grace Line steamships. Elec Eng 52:95 F '33

Chapters in naval and marine engineering history. E. C. Smith. Engineering 134:584-6, 758-9; 135:321-3, 561-3, 657-8 N 18, D 30 '32, Mr 24, My 26, Je 16 '33

Colombia and Haiti, Colombian line steamships. il diags plans Marine Eng 38:8-21 Ja '33

Colombia for West Indies and South American service. il Marine R 63:8-12+ Ja '33

Consideration of the improved forms of modern cargo steamers and the effect on their operating cost due to their low fuel consumption. J. T. Batey and J. L. Batey. diag Marine R 63:21-2+ My '33; Same. Engineering 135:393-4 Ap 7 '33; Abstract. Engineer 155:372 Ap 14 '33; Discussion. Engineering 135:415 Ap 14 '33; Engineer 155:369-70 Ap 14 '33

Conte di Savoia. il Arch Forum 58:279-90 Ap '33

Conte di Savoia, new Italian liner; largest ship with gyroscopic stabilizer. il Marine R 63:17 Ja '33

Conte di Savoia; noteworthy electrical installation—the Sperry gyro-stabilisers. il Electrician 109:833-4 D 30 '32

Conte di Savoia, quadruple-screw liner. il diags Engineering 135:345-8, 423-6, 436, 507-8, 598, 606-7, pls 23, 28 Mr 31, Ap 21, My 12, Je 2 '33

Developments in the electrical industry during 1932; marine equipment. J. Liston. il Gen Elec R 36:10-15 Ja '33

Electricity on ships; installation on the Italia Flotte Riunite liner Rex. Electrician 110:416 Mr 31 '33

Fiona, cargo steamer. il diag Engineer 155:508 My 19 '33

First vibrationless steamships; Grace Line. il map Comp Air M 37:3993-4000 D '32

High pressure steam unit for staysail ketch. Marine R 63:19 Mr '33

Highest standard of safety in ship construction set by S. S. Washington. il Marine Eng 38:198-207+ Je '33

Iron steamboats. H. M. Wick. il plans Marine Eng 38:249-53+ Jl '33

Lancement du nouveau paquebot Normandie, de la Compagnie générale transatlantique. O. Quéant. il Génie Civil 101:445-51 N 5 '32

Lurline; Manhattan; Santa Rosa; Antigua; Seatrain New York; Colombia; Escanaba; Acadia. il diags Marine R 63:14-21 Ap '33

Mancunium, new sewage sludge steamer. il Engineer 155:280-1 Mr 17 '33

Nenana, Alaska stern-wheeler for freight, passengers. R. C. Hill. il Marine R 63:20-1 Jl '33

Normandie, French liner. il Engineer 154:477, 484 N 1 '32

Normandie, French superliner launched. il Marine R 62:27-9 D '32

Normandie, world's largest ship. Science 77:sup9-10 Ja 13 '33

Operation of refrigeration on shipboard; S.S. President Hoover. J. E. Budd. il Refrig Eng 26:14 Jl '33

Les paquebots Rex et Conte di Savoia de la société Italia. il plans Génie Civil 102:149-55 F 18 '33

Point Ancha; exhaust turbine increases speed. J. S. Milne. il Marine R 63:23-4 F '33; Same. Marine Eng 38:91-2 Mr '33

Proposed combination passenger and freight vessel for Gulf Pacific mail line. diag plans Marine Eng 38:290-1 Ag '33

Pulverised-fuel firing on Japanese steamers. il Engineering 135:377-8, 384 Ap 7 '33

Queen of Bermuda; features of the latest British turbo-electric ship. A. C. Hardy. diag Electrician 110:213-14, 294-5 F 17, Mr 3 '33

Queen of Bermuda, turbo-electric liner. il plan diags Engineer 155:190-2, 216-17, 222, 252-3 F 24-Mr 10 '33

Santa Rosa. il diag plan Marine Eng 37:494-503+ D '32

Santa Rosa, first of four Grace liners completed. il Marine R 62:10-18 D '32

Several outstanding vessels launched in 1932. il Elec J 30:16-18 Ja '33

Shipbuilding and marine engineering in 1932. il Engineer 155:19-22, supp 2, 7 Ja 6 '33

Soya Maru, Japanese ice-breaking steamer. Y. Taji. il plan Marine Eng 38:162-4+ My '33

S. S. Normandie. il Marine Eng 38:284-5 Ag '33

Stoker- and pulverized-coal-fired steamships; abstract. Mech Eng 55:703 N '33

Twin-screw tug Sir Guthrie Russell. il Engineer 156:68-9 Jl 21 '33

Washington sailed on maiden voyage May 10. il Marine R 63:10-13 Je '33

## See also

Boilers, Marine  
Freight ships  
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Naval architecture  
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Shipbuilding

## Shipping

Ships  
Steam turbines,  
Marine  
Steamboat lines  
Towboats  
Warships

## History

Fate of well-known steamships. G. Aylmer. Engineer 156:140-1 Ag 11 '33

Historic voyage of the S.S. Savannah commemorated on maritime day. il Marine R 63:21+ Je '33



**STEAMBOATS—History—Continued**

Royal William, Canada's pioneer ocean steamship. *Marine Eng* 38:325 S '33

Royal William; one hundredth anniversary is celebrated. *il Marine R* 63:21 S '33

**Performance**

Mariposa and Monterey performance. J. E. Burkhardt. *Marine R* 62:32-3 D '32; Same. *Marine Eng* 38:56-7 F '33; Abstract. *Engineering* 135:113 Ja 27 '33; Discussion. *Marine Eng* 38:30-1 Ja '33

Performance of Standard Oil tankers. R. L. Hague. *Marine Eng* 38:22-6 Ja '33; Discussion. 38:32, 64-5 Ja-F '33

**STEARIC acid**

Formation of ozone in the alternating current corona discharge with tubes coated with paraffin, stearic acid and platinum. H. G. Thode and A. C. Grubb. bibliog diag *Electrochem Soc Trans* 63 (preprint 29):297-314 My '33

Ternary system: palmitic, margaric and stearic acids. R. L. Shriner, J. M. Fulton and D. Burks, jr. *Am Chem Soc J* 55:1494-9 Ap '33

**STEAROLACTONE**

Structure of unimolecular films; surface potentials of films of long chain compounds. R. J. Fosbinder and A. E. Lessig. diag *J Fr Inst* 215:425-33 Ap '33

**STEEL**

Adhesion of electrodeposited coatings to steel. A. W. Hotherhall. *il diags Electrochem Soc Trans* 64 (preprint 8):83-97 S '33

Austenitic steels; abstract. L. B. Pfeil and D. G. Jones. *Chem Age (Lond)* 28:sup27 My 6 '33

Bessemer screw steel is improved. *Steel* 93:40 O 23 '33

Continuous furnace brazing of steel. C. L. West. *il Steel* 93:25-8 O 23 '33; Excerpts. *Iron Age* 132:15-16+ J1 27 '33

Corrosion-time relationship of iron. R. F. Passano. bibliog *Ind & Eng Chem* 25:1247-50 N '33

Definition of alloy steels; German classification. H. Diergarten. *Metal Prog* 24:44-5 N '33

Employing rolled steel in construction of machinery; abstracts. H. G. Marsh. *Steel* 92:25-7 My 29 '33; *Iron Age* 131:860-1 Je 1 '33; *Engineer* 155:595-6 Je 9 '33

Festigkeitseigenschaften von stahl, stahlguss und gusseisen in der kälte. R. Walle. bibliog *il Chemische Fabrik* 6:207-11 My 17 '33

Internal friction in iron and iron alloys. R. H. Canfield. *il diags Am Soc Steel Tr Trans* 20:549-74; Discussion. 574-6 D '32

Iron and steel; a pocket encyclopedia. H. P. Tiemann. 3d ed 590p \$4 McGraw-Hill '33

Iron and steel; condensed from the 1932 progress report of the A.S.M.E. iron and steel division. *il Mech Eng* 54:850-1 D '32

Making quality steels. E. Gathmann. *Blast F & Steel Pl* 21:534, 590+ O-N '33

Materials for cold heading; structure more important than composition. H. B. Pulsifer. *il Metal Prog* 23:13-17 Mr '33

Materials for steam turbines. S. D. Scorer. *Elec R (Lond)* 112:664 My 12 '33

New knowledge on iron and steel; selected papers at the autumn meeting of the Iron and steel institute. *Chem Age (Lond)* 29:251-2 S 16 '33

Oberflächenfehler auf walzgut. H. Cramer. *il diags Stahl & Eisen* 53:973-81; Discussion. 981-4 S 21 '33

Pickling of iron and steel and the action of inhibitors. A. B. Dove. bibliog diag *Can Chem & Met* 17:192-4 S '33

Practical plasticity problems. G. M. Eaton. *il Mech Eng* 55:557-60 S '33; Discussion. 55:647-9 O '33

Research and development in car and locomotive materials. L. H. Fry. *Ry Age* 95:32+ J1 1 '33

Stähle für werkzeuge zum pressen von kunstharz. F. Rapatz. *Stahl & Eisen* 52:1271 D 22 '32

Steel and its practical applications. W. Barr and A. J. K. Honeyman. 125p Blackie & son Ltd, London and Glasgow '32

Steel for tractors; selection and heat treatment. G. C. Riegel. *il Steel* 92:28-9 Je 26 '33

What is an alloy steel?—survey of opinions and some suggestions. E. F. Cone. *Iron Age* 123:14-15+ S 14 '33

What the user should know about free-cutting steels. H. W. Graham. *Iron Age* 131:903-4+ Je 8 '33

**See also**

**Annealing**  
Bessemer process  
Boiler plates  
Bridges, Iron and steel  
Case hardening  
Chromium nickel steel  
Chromium steel  
Cobalt steel  
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Corrosion and anti-corrosives  
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Silicon steel  
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Steel, Automobile  
Steel, Cold working of  
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Steel, Hardening of  
Steel, Heat resisting  
Steel, Heat treatment of  
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Steel construction  
Steel houses  
Steel ingots  
Steel metallurgy  
Steel works  
Tool steel  
Tubes, Steel  
Tungsten steel  
Vanadium steel

**Aging**

Age hardening in low carbon strip steel. E. B. Whittemore. *Am Soc Steel Tr Trans* 21:571-6 Je '33; Same. *Metal Prog* 22:50-2 O '32

Ageing and age-hardening in metals; abstracts. C. H. Desch. *Soc Chem Ind J (Chem & Ind)* 52:403-4 My 5; Correction. 52:416 My 12 '33; *Chem Age (Lond)* 28:412 My 6 '33

Aging of mild steel sheets. R. O. Griffis, R. L. Kenyon and R. S. Burns. *il Blast F & Steel Pl* 21:312-14+ Je '33; Same cond. *Steel* 92:23-5 My 29 '33; Same cond. *Iron Age* 131:861-2; Discussion. 878 Je 1 '33

Aging of mild steel sheets. A. Hayes. *Automotive Ind* 69:116-18, 158 J1 29-Ag 5 '33

Low internal stress heat treatment. C. W. Briggs. *Am Soc Steel Tr Trans* 21:424-31; Discussion. 431-4 My '33

Rapid aging of hot steel test piece. K. Honda. *Metal Prog* 23:41+ My '33

**Analysis**

Analyzing steel with spectrograph. F. E. Roach. *il diag Metal Prog* 23:27-9 Je '33

Control through spectroscopy. E. S. Dreblow and A. Harvey. *Ind & Eng Chem* 25:824 J1 '33

Determination of alumina and silica in steel by the hydrochloric acid residue method. J. G. Thompson and J. S. Acken. *U S Bur Stand J Research* 9:615-23 N '32

Determination of aluminum in nitriding steels by the use of 8-hydroxyquinoline. H. A. Bright and R. M. Fowler. bibliog *U S Bur Stand J Research* 10:327-35 Mr '33

Determination of nonmetallic inclusions in plain carbon and manganese steels; iodine and nitric acid extraction methods. T. R. Cunningham and R. J. Price. bibliog *Ind & Eng Chem Anal ed* 5:27-9 Ja 15 '33

Determination of titanium in plain-carbon, high-chromium, and 18 chromium-8 nickel steels. T. R. Cunningham. *Ind & Eng Chem Anal ed* 5:305-6 S 15 '33

Determination of zirconium in plain carbon and alloy steels. T. R. Cunningham and R. J. Price. *Ind & Eng Chem Anal ed* 5:334-5 S 15 '33

Determination of zirconium in steels; selenious acid method. S. G. Simpson and W. C. Schumb. *Ind & Eng Chem Anal ed* 5:40-2 Ja 15 '33

Determination of zirconium in steels; selenious acid phosphate method. S. G. Simpson and W. C. Schumb. *Ind & Eng Chem Anal ed* 5:211-12 My 15 '33

**STEEL—Analysis—Continued**

- Determining aluminum, silicon and chromium oxides in corrosion-resisting steels. C. M. Johnson. *Iron Age* 132:24-5+ S 21 '33
- Development of an electrolytic method for the determination of inclusions in plain-carbon steels. G. R. Fitterer and others. *il* diags U S Bur Mines Rep of Invest 3205: 1-70 [bibliog p65-70] '33
- Le dosage de l'oxygène et des oxydes dans le fer et l'acier. *diag Génie Civil* 102:402-3 Ap 29 '33
- Indicators for determining chromium and vanadium in alloy steels; oxidized diphenylamine sulfonic acid and oxidized diphenylamine. H. H. Willard and P. Young. *bibliog Ind & Eng Chem Anal ed* 5:154-8 My 15 '33
- Neuere analytische verfahren im eisenhüttenwesen. W. Böttger. *Angew Chemie* 46:48-51 Ja 14 '33
- New method for determining molybdenum in alloy and plain steels. C. M. Johnson. *Iron Age* 132:16-17 JI 13 '33
- New procedures for chromium and vanadium in alloy steels. H. H. Willard and P. Young. *Ind & Eng Chem Anal ed* 5:158-62 My 15 '33
- New rapid determination of aluminum in corrosion-resisting and plain steels. C. M. Johnson. *Iron Age* 132:14-17 Ag 17 '33
- New rapid determination of titanium in corrosion-resisting and plain steels. C. M. Johnson. *Iron Age* 132:16-19 Ag 24 '33
- Nitrogen content of some standard-sample steels. J. G. Thompson and E. H. Hamilton. U S Bur Stand J Research 9:593-5 N '32
- Oxide analysis by iodine extraction in steel making problems; abstract and discussion. J. J. Egan, W. Crafts and A. B. Kinzel. *Iron Age* 131:396-7 Mr 9 '33
- Reduction of oxides in the graphite vacuum fusion method of analysis for oxygen. N. A. Ziegler. *Min & Met* 14:260 Je '33
- Spectroscopic estimation of nickel, manganese and chromium in steels. F. Twyman and A. Harvey. *Iron & Steel Inst J* 126:397-407 no 2 '32; Same. *Engineering* 134:487-8 O 21 '32; Discussion. *Iron & Steel Inst J* 126: 408-12 no 2 '32
- Ueber die analytische bestimmung des eisenoxyduls im flüssigen stahl nach Herty, P. Herasymenko and G. Pondělík. *Stahl & Eisen* 53:381-2 Ap 13 '33
- Verfahren zur mittelbaren schnellbestimmung des im flüssigen Siemens-Martin-Stahl gelösten eisenoxyduls. H. Schenck. *Stahl & Eisen* 53:1049-51; Discussion. 1051-2, 1333 O 12, D 21 '33
- Zur bestimmung des sauerstoffs in stählen nach dem wasserstoff-reduktionsverfahren. O. Meyer. *Stahl & Eisen* 53:306-7 Mr 23 '33
- Bibliography**
- Notes on the progress of the home and foreign iron and steel industries. *Iron & Steel Inst J* 125:445-722 no 1; 126:433-688 no 2 '32; 127:477-741 no 1 '33
- Review of iron and steel literature for 1932. E. H. McClelland. *Blast F & Steel Pl* 21:140-2, 110-13 Ja-F '33; reprinted by Carnegie library of Pittsburgh
- Zeitschriften- und bücherschau nr. 1. *Stahl & Eisen* 53:96-108 Ja 26 '33 [cont monthly]
- Brittleness**
- Effect of time and temperature on the embrittling of steels; abstracts with discussion. A. M. McKay and R. N. Arnold. *Engineering* 136:417-18 O 13 '33; *Engineer* 156: 314 S 29 '33
- Embrittlement by pickling not necessarily permanent. I. G. Slater. *Iron Age* 132:72+ O 12 '33
- Embrittlement of hot-galvanized structural steel. S. Epstein. *il Am Soc T M Proc* 32 pt 2:293-374; Discussion. 375-9 '32
- Embrittlement of steel at high steam temperatures. H. A. Dickie. *Engineering* 136: 108-9 Ag 4 '33
- More light on temper brittleness. K. Honda. *diag Metal Prog* 23:43-4 Je '33
- Problem of temper-brittleness. E. Houdremont and H. Schrader. *Engineer* 156:sup [Metallurgist] 67-70 O 27 '33; Abstract. *Soc Chem Ind J* 52:sup831 O 20 '33
- Zur frage der anlasssprödigkeit. M. H. Kraemer. *Zeit Ver Deutsch Ing* 77:945 S 2 '33
- Case hardening**
- See Case hardening
- Copper content**
- Copper as an alloy in steel and iron. E. F. Cone. *Am Mach* 77:681-3 O 25 '33
- Precipitation hardening of copper steels; abstract and discussion. C. S. Smith and E. W. Palmer. *Iron Age* 131:358-9 Mr 2 '33
- Die rotbrüchigkeit kupferhaltiger stähle und ihre vermeidung. F. Nehl. *il Stahl & Eisen* 53:773-8; Discussion. 778-9 JI 27 '33
- Decarburization**
- L'altération des aciers par l'hydrogène. L. Jacqué. *Génie Civil* 101:558-9 D 3 '32
- Furnace atmospheres and steel. C. Upthegrove. *Am Gas Assn Mo* 15:181-4 My '33
- Investigation of methods of decarburizing iron-nickel-chromium alloys. R. W. Day-ton. (*Engineering and science ser no. 41*) 28p [bibliog p28] Rensselaer polytechnic institute, Troy, N.Y. '33
- Study of the effect of water vapor on the surface decarburization of steel by hydrogen with certain developments in gas purification; abstract, with discussion. C. R. Austin. *Iron Age* 132:27 O 12 '33
- Threading dies; their manufacture and cutting efficiency. J. G. Morrison. *il Iron Age* 131:314-15+ F 23 '33
- Deoxidation**
- Desoxydation von Siemens-Martin-stahl mit mangan-silizium-legierungen. H. Schenck. *Stahl & Eisen* 53:862-6 Ag 17 '33
- Efficient deoxidizer for cleaner steel. *Blast F & Steel Pl* 21:106 F '33
- Free energy of iron oxides. J. Chipman and D. W. Murphy. *bibliog il Ind & Eng Chem* 25:319-27 Mr '33
- Inclusions in acid electric steel. H. D. Phillips. *Foundry* 61:21-2+ My '33
- Making steel of a uniform quality. L. B. Lindemuth. *Iron Age* 131:540-1, 582-3 Ap 6-13 '33
- Perrin steel deoxidising process. R. Perrin. *Engineering* 135:674 Je 23 '33
- Physical chemistry of steel making; deoxidation of open-hearth steel with manganese-silicon alloys. C. H. Herty, jr. and others. 73p [bibliog p71] Mining and metallurgical advisory boards, Pittsburgh '32
- Rapid dephosphorisation and deoxidation of steel; abstracts. R. Perrin. *Engineering* 135: 483 My 5 '33; *Stahl & Eisen* 53:558-9 My 25 '33
- Ueber den desoxydationsverlauf bei der herstellung von transformatorstahl. P. Bardenheuer and G. Thanheiser. *Stahl & Eisen* 52:1176-7 N 24 '32
- Ueber die beruhigung des stahles besonders durch kalziumsilizium. C. Schwarz. *Stahl & Eisen* 53:1000-3 S 28 '33
- Use of titanium in steelmaking. G. F. Comstock. *il Blast F & Steel Pl* 21:412-14, 474-5 Ag-S '33
- Failure**
- Internal combustion engine exhaust valve failures. C. C. Hodgson. *Iron & Steel Inst J* 127:189-203 [bibliog p202-3] pl 13-16 no 1 '33; Same. *Automobile Eng* 23:223-7 Je '33; Excerpts. *Engineering* 135:580-1 My 26 '33; Discussion. *Iron & Steel Inst J* 127:204-8 no 1 '33
- Prevention of flakes in alloy steels. H. H. Ashdown. *il Metal Prog* 24:13-17+ N '33
- Finishing**
- Effect of surface finish on the fatigue limit of mild steel. J. S. Caswell. *diags Engineering* 136:154-5 Ag 11 '33
- Mechanical finishing. W. S. Barrows. *Metal Ind* 31:273-6 Ag '33
- Rolls for finishing stainless strip steel require mirror surface. E. S. Heck. *il Steel* 93:25-7 JI 3 '33



## STEEL—Continued

## Hydrogen attack

- Effect on steel of hydrogen at high pressures and temperatures. N. P. Inglis and W. Andrews. *Iron Age* 132:70+ O 12 '33
- What steel to use at high pressures and temperatures; effect of hydrogen. J. L. Cox. *Chem & Met Eng* 40:405-9 Ag '33

## Machinability

See Steel cutting

## Metallography

- Allotropy in iron and steel. R. H. Harrington and W. P. Wood. bibliog *Am Soc Steel Tr Trans* 20:529-45; Discussion. 545-8 D '32
- Alloys of iron, manganese and carbon; influence of carbon on ten per cent manganese alloys. J. F. Eckel and V. N. Krivobok. *il Am Soc Steel Tr Trans* 21:846-64 S '33
- Alloys of iron, manganese and carbon; influence of carbon on thirteen per cent manganese alloys. C. Wells and F. M. Walters, jr. *il Am Soc Steel Tr Trans* 21:830-45 S '33
- Annealing diagram. A. Jung. *Metal Prog* 24:48 S '33
- Beitrag zur kenntnis der mechanischen eigenschaften grösser schmiedestücke. E. Maurer and H. Korschan. *il Stahl & Eisen* 53:243-51, 271-9; Discussion. 279-81 Mr 9-16 '33
- Cementite-free boundaries in quenched 1% carbon steel; photomicrographs. *Metal Prog* 24:49 O '33
- Chromium-nickel-iron castings from sulphite service. G. L. Cox and F. L. LaQue. bibliog *il Paper Tr J* 96:30-6 My 4 '33
- Cold working properties of wire are reduced by pearlite. B. L. McCarthy. *il Metal Prog* 22:19-23 D '32
- Contribution to the study of inclusions in steels. A. M. Portevin and R. Perrin. *Iron & Steel Inst J* 127:153-72, pl 9-12 no 1 '33; Same cond. *Engineering* 135:528-30 My 12 '33; Abstracts. *Engineer* 155:495 My 19 '33; *Chem Age (Lond)* 28:sup27 My 6 '33; Discussion. *Iron & Steel Inst J* 127:173-87 no 1 '33; *Engineering* 135:589 Je 2 '33; *Engineer* 155:495-6 My 19 '33
- Controlled cooling to promote machinability. O. W. McMullan. *il Metal Prog* 24:25-8 S '33
- Development and application of macroetching. H. G. Keshian. *il Am Soc Steel Tr Trans* 21:289-98 [bibliog p298]; Discussion. 299-309 Ap '33
- Effect of normalizing on the grain structure and physical properties of automobile sheet steel. W. F. McGarritty and H. V. Anderson. *il Am Soc Steel Tr Trans* 21:139-50; Discussion. 150-4 F '33
- Einfluss von wasserstoff auf die As- und A<sub>1</sub>-umwandlung des eisens. H. Esser and H. Cornelius. *diag Stahl & Eisen* 53:885-6 Ag 24 '33
- Electric steel, rotary cast, bypasses semi-fining mills. J. D. Knox. *il Steel* 92:11-12+ Mr 13 '33
- Equilibrium A<sub>s</sub> and A<sub>cm</sub> points in pure carbon steels. Yap, Chu-Phay. *Am Soc Steel Tr Trans* 21:260-8 Mr '33
- Equilibrium of certain non-metallic systems; the equilibrium of the systems MnSiO<sub>3</sub>-Fe<sub>2</sub>SiO<sub>4</sub> and FeS-Fe<sub>2</sub>SiO<sub>4</sub>. J. H. Andrew and W. R. Maddocks. *Iron & Steel Inst J* 126:351-60, pl 35; Discussion. 361-3 no 2 '32
- Essential factors in conducting the macroetching test under usual practical conditions of production work. M. G. Yatsevitch. *il Am Soc Steel Tr Trans* 21:310-40; Discussion. 340-2 Ap '33
- L'évolution des inclusions dans l'élaboration des aciers. R. Perrin and A. Portevin. *Génie Civil* 102:453 My 13 '33
- Factors affecting the inherent hardenability of steel. E. C. Bain. *il Am Soc Steel Tr Trans* 20:385-428 N '32; Abstracts. *Metal Prog* 22:17-21+ N '32; *Iron Age* 130:sup20 O 13 '32
- Factors influencing the annealing of cold rolled strip steel. G. R. Brophy and L. L. Wyman. *il Am Soc Steel Tr Trans* 21:532-54; Discussion. 554-6 Je '33
- Fatigue and the hardening of steels. H. J. French. *il Am Soc Steel Tr Trans* 21:899-946 O '33
- Formation of columnar crystals in steel sheets after normalisation. F. Kinsky. bibliog *Iron & Steel Inst J* 127:209-21, pl 17-19 no 1 '33; Abstract. *Engineering* 135:542 My 19 '33; Discussion. *Iron & Steel Inst J* 127:222-8 no 1 '33; *Engineering* 135:542 My 19 '33
- Further contribution on the constitution of the Fe-C-Si system. A. Kriz and F. Pobořil. *diag Iron & Steel Inst J* 126:323-49, pl 33-4 no 2 '32
- Gefügeuntersuchung bei temperaturen bis 1100°. H. Esser and H. Cornelius. *il diag Stahl & Eisen* 53:532-5 My 18 '33
- Grain size and grain growth. M. A. Grossmann. *il Metal Prog* 24:30-4 O '33
- Growth of austenite above A<sub>c1</sub> in plain carbon steels. J. H. Whiteley. *Iron & Steel Inst J* 126:289-300, pl 27-31 no 2 '32
- Hardening transformation in manganese steels. H. Scott and J. G. Hoop. *il Am Soc Steel Tr Trans* 21:233-48; Discussion. 249-59 Mr '33
- Inclusions; their effect, solubility and control in cast steel; abstract. C. E. Sims and G. A. Lillieqvist. *il Ry Age* 94:336-7 Mr 4 '33
- Influence of hydrogen on the transformations in iron. H. Esser and H. Cornelius. *diags Am Soc Steel Tr Trans* 21:733-40 Ag '33; Discussion. R. H. Harrington. 21:896-8 O '33
- Interpretation of the deep acid etch test as applied to tool steels. J. P. Gill and H. G. Johnston. *il Am Soc Steel Tr Trans* 21:354-79 [bibliog p379]; Discussion. 379-84 Ap '33
- Iron-carbon alloys containing much sulphur. K. Honda. *diag Metal Prog* 23:44-5 Mr '33
- Martensite forms instantly. H. J. Wiester. *il Metal Prog* 23:46-8 F '33
- Martensite with ferrite and pearlite; illustrations. *Metal Prog* 24:44 S '33
- Metallography of iron and steel. C. H. Plant. 21lp [bibliog p207-8] \$3.75 Pitman '33
- Metallurgical problems arising from internal combustion engine valves. J. R. Handforth. *Iron & Steel Inst J* 126:93-131, pl 5-16a no 2 '32; Excerpts. *Automobile Eng* 22:468-75 O '32; *Engineering* 135:55-8, 83-5 Ja 13-20 '33; Discussion. *Iron & Steel Inst J* 126:132-57 no 2 '32
- Methods and equipment for study of metal structures are improved; discussion at annual meeting of the American society for steel treating. *Steel* 93:43 O 23 '33
- Microscopic study of steel with polarized light. Yap, Chu-Phay. bibliog *il Am Soc Steel Tr Trans* 21:663-72 Jl '33
- Nature of the tetragonal and cubic martensites. K. Honda and Z. Nishiyama. *diag Am Soc Steel Tr Trans* 20:464-70 N '32
- Non-metallic impurities in steel castings. F. Giolitti. *Engineer* 156:sup [Metallurgist] 60-2 Ag 25 '33
- Nouvelle théorie proposée pour la formation des aciers recuits. J. Seigle. *diags Génie Civil* 103:369-73, 400-2 O 14-21 '33
- Observations on the effect of normalizing medium manganese steels on the microstructure and physical properties. C. R. Austin. *il Am Soc Steel Tr Trans* 21:435-50; Discussion. 451-62 My '33
- Quenched and tempered martensite in 1% carbon steel; illustrations. *Metal Prog* 23:44 Ja '33
- Recovery of steel after fatigue testing. R. A. Stephen and W. R. D. Jones. *il diag Engineer* 155:sup [Metallurgist] 36-8 Je 30 '33
- Representative properties of cast medium pearlitic steels. F. Grotts. *il Am Soc T M Proc* 32 pt 2:197-211; Discussion. 212 '32
- Routine disk inspection in quality steel manufacture. G. V. Luerssen. *il Am Soc Steel Tr Trans* 21:343-50; Discussion. 350-3 Ap '33
- Some molybdenum high speed steels. J. V. Emmons. bibliog *il Am Soc Steel Tr Trans* 21:193-221; Discussion. 221-32 Mr '33
- Some observations concerning the Widmanstätten structure and its formation in hypoeutectoid steels. A. P. Terrile. *il Am Soc Steel Tr Trans* 21:613-22 Jl '33

**STEEL—Metallography—Continued**

- Structural changes in hypo-eutectoid steels on heating. H. C. H. Carpenter and J. M. Robertson. *bibliog Iron & Steel Inst J* 127: 259-84, pl 20-24 no 1 '33; Abstracts. *Engineer* 155:471-2 My 12 '33; *Engineering* 135: 541 My 19 '33; *Chem Age (Lond)* 28:sup27 My 6 '33; Discussion. *Iron & Steel Inst J* 127:285-300 no 1 '33; *Engineer* 155:472 My 12 '33; *Engineering* 135:541-2 My 19 '33
- Structure of an alloy steel. O. W. Ellis. *il Iron Age* 132:14-17+ S 28; 21-4 N 2 '33 (to be cont)
- Suppression of banding in SAE 3100 gear steels. H. L. Geiger. *il Metal Prog* 23:37-40 Ja '33
- Vergüttestigkeiten in abhängigkeit verschiedener ausgangsgefüge. O. v. Keil and O. Jungwirth. *il Stahl & Eisen* 52:1221-3 D 8 '32
- Die wärmetönung der austenit-perlit-umwandlung. H. Esser and W. Grass. *Stahl & Eisen* 53:92 Ja 26 '33
- Winged ingot improves structure of steel. D. G. Clark. *il diags Iron Age* 132:22-3+ J1 6 '33
- X-ray studies of steel wires of medium carbon content. N. P. Goss and G. L. Clark. *il Am Soc Steel Tr Trans* 20:471-9 N '32

**Nitriding**

See Case hardening—Nitriding process

**Nitrogen content**

- Chromium steels improved by nitrogen. R. Franks. *il Iron Age* 132:10-13 S 7 '33
- Nitrogen content of some standard-sample steels. J. G. Thompson and E. H. Hamilton. *U S Bur Stand J Research* 9:593-5 N '32

**Oxygen content**

- Die abscheidung von phosphor, schwefel und sauerstoff bei der qualitätsstahlerzeugung im Siemens-Martin-ofen. F. Beitter. *il diags Stahl & Eisen* 53:369-75, 398-401; Discussion. 401-4 Ap 13-20 '33
- Le dosage de l'oxygène et des oxydes dans le fer et l'acier. *diag Génie Civil* 102:402-3 Ap 29 '33
- Factors affecting the inherent hardenability of steel. E. C. Bain. *il Am Soc Steel Tr Trans* 20:385-428 N '32; Abstract. *Metal Prog* 22:17-21+ N '32
- Oxide analysis by iodine extraction in steel making problems; abstract and discussion. J. J. Egan, W. Crafts and A. B. Kinzel. *Iron Age* 131:396-7 Mr 9 '33
- Oxygen in acid electric steel. H. D. Phillips. *Foundry* 61:13-14+ Mr '33
- Oxygen in Iron. Reschka, Scheil and Schulz. *Engineer* 155:sup[Metallurgist] 6-8 F 24 '33
- Reduction of oxides in the graphite vacuum fusion method of analysis for oxygen. N. A. Ziegler. *Min & Met* 14:260 Je '33
- Strength of welds high in oxygen. H. Diergarten. *diag Metal Prog* 23:45, 47+ My '33
- Ueber die analytische bestimmung des eisen-oxyduls im flüssigen stahl nach Hertyp. P. Herasymenko and G. Pondélik. *Stahl & Eisen* 53:381-2 Ap 13 '33
- Zur bestimmung des sauerstoffs in stählen nach dem wasserstoff-reduktionsverfahren. O. Meyer. *Stahl & Eisen* 53:306-7 Mr 23 '33

See also

**Steel—Deoxidation****Phosphorus content**

- Die abscheidung von phosphor, schwefel und sauerstoff bei der qualitätsstahlerzeugung im Siemens-Martin-ofen. F. Beitter. *il diags Stahl & Eisen* 53:369-75, 398-401; Discussion. 401-4 Ap 13-20 '33
- Rapid dephosphorisation and deoxidation of steel; abstracts. R. Perrin. *Engineering* 135: 488 My 5 '33; *Metal Prog* 23:50 Je '33; *Stahl & Eisen* 53:558-9 My 25 '33

**Prices**

- Are steel prices at artificially high levels? G. L. Lacher. *Iron Age* 132:28-9 Ag 10 '33
- Base prices and extras applying to principal finished steel products. *Iron Age* 132:26A-26Z S 21 '33

- Code prices for lower Michigan steel consumers are clarified by Am. iron and steel institute. *Iron Age* 132:49 O 19 '33
- Code procedure further clarified by commercial resolutions. *Iron Age* 132:48-50 S 28; 39 O 5 '33; *Steel* 93:13-14+ O 2 '33
- Composite prices of the iron Age, 1898-1932; graph. *Iron Age* 131:19-20 Ja 5 '33
- Department of justice resurrects aluminum, steel rail issues. *Iron Age* 132:32 J1 13 '33
- Domestic average monthly prices in 1932; tabulation. *Steel* 92:104 Ja 2 '33
- European iron and steel domestic prices in 1932. *Steel* 92:154 Ja 2 '33
- European iron and steel export prices in 1932. *Steel* 92:156 Ja 2 '33
- Industry working overtime to master new price schedules. *Steel* 93:11-16 S 4 '33
- New delivered-Detroit price on hot strip to level off delivery charges. *Steel* 92:14 Ap 24 '33
- New extras on rail steel merchant bars. *Iron Age* 132:44 S 28 '33
- New regulations governing railroad purchases of steel are adopted. *Iron Age* 132:29-30 N 9 '33
- Price rally follows swifter on production than in 1922. *Steel* 93:17 Ag 14 '33
- Prices tell market history; tabulation. *Steel* 92:118 Ja 2 '33
- Producers refining schedules; sheet extras are modified. *Steel* 93:12-14+ S 11 '33
- Statistical record of iron and steel; monthly average prices 1916 to 1932. *Iron Age* 131: 81-91 Ja 5 '33
- Steel prices. *Business Week* p12 S 16 '33
- Steel prices at war-time peak, relative to the general price level. W. W. Hay. *Analyst* 41:525 Ap 14 '33
- Tank plates, 1895-1932, market history; tabulation. *Steel* 92:117 Ja 2 '33
- Truckers protest steel code delivered price clause. *Iron Age* 132:49 O 26 '33

**Protection**

- Arbeiten und erfolge der Deutschen reichsbahn auf dem gebiete des korrosionsschutzes durch anstriche. O. Lindermayer. *il map Zeit Ver Deutsch Ing* 77:385-92 Ap 15 '33
- Cadmium coatings on steel. S. G. Clarke. *Metal Ind* 31:307, 373-4 S, N '33
- Corrosion-fatigue tests on mild steel when coated with nickel by the Fescolising process. *Engineering* 136:398 O 6 '33
- Corrosion in non-pressure refining equipment. S. S. Shaffer and J. E. Pollock. *il diag Am Pet Inst Proc* p68-8 sec 3 D '32; Same. *Oil & Gas J* 31:88-90 N 17 '32; Discussion. E. S. Dixon. *Am Pet Inst Proc* p68-70 sec 3 D '32
- Determination of the life of lanoline rust preventing coatings on steel. C. Jakeman. *Engineering* 134:750-1 D 23 '32
- Effect of composition and pre-treatment of steels upon the life of protective coatings. K. Daevs. *il Electrochem Soc Trans* 64 (preprint 16):161-72 S '33; Abstract. *Iron Age* 132:43 S 14 '33
- Effect of zinc coatings on the endurance properties of steel. W. H. Swanger and R. D. France. *bibliog il Am Soc T M Proc* 32 pt 2:430-48 '32; Same. *U S Fur Stand J Research* 9:9-24 J1 '32; Discussion. *Am Soc T M Proc* 32 pt 2:449-52 '32
- Finish of 1933 Olds improved by rust-proofing 44 sheet metal parts. *il Automotive Ind* 69:120-1 J1 29 '33
- New finish for nickel-clad steel. *Steel* 91:32+ N 21 '32
- Nickel-clad steel plate and sheet a useful material for chemical plant construction. *il Chem Age (Lond)* 27:sup27-8 N 5 '32
- Porosity in cadmium coatings on steel. S. G. Clarke. *Metal Ind* 31:307 S '33
- Practical problems of corrosion; some tests on protective painting. S. C. Britton and U. R. Evans. *Electrician* 109:622 N 11 '32
- Preservation of chemical works plant; lead as a corrosion-resisting material for iron and steel. *il Chem Age (Lond)* 28:242 Mr 18 '33
- Protection of iron and steel structures; red lead paint as a protective medium. *Chem Age (Lond)* 28:359 Ap 22 '33



**STEEL—Protection—Continued**

Protective value of electroplated metal coatings on steel. Metal Ind 31:58-60 F '33

Les substituts du minium et les peintures industrielles. A. Vila. il Chimie & Ind 29:527-40 Mr '33

Über die dauerfestigkeit von nitrirten proben. R. Mailänder. Zeit Ver Deutsch Ing 77:271-4 Mr 11 '33

Weathered steel resists corrosion. F. G. Martin. Metal Prog 23:48-9 Ap '33

Zur bekämpfung des korrosionsdauerbruchs. H. Buchholtz und K. Krekeler. il Stahl & Eisen 53:671-4 Je 29 '33

**Red shortness**

Die rotbrüchigkeit kupferhaltiger stähle und ihre vermeidung. F. Nehl. il Stahl & Eisen 53:773-8; Discussion. 778-9 JI 27 '33

**Scaling**

Behavior of steel in sulphur-containing atmospheres at forging temperatures. D. W. Murphy. il Am Soc Steel Tr Trans 21:510-29 Je '33; Abstract. Iron Age 130:770 N 17 '32; Discussion. Am Soc Steel Tr Trans 21:529-31 Je '33

Billet scale removed with relay-controlled spray. R. M. Bayle. il diag Elec W 101:723-4 Je 3 '33

Eisenabbrand in walzwerksöfen. W. Krebs. diag Stahl & Eisen 53:652-4 Je 22 '33

Furnace atmospheres and steel. C. Upthegrove. Am Gas Assn Mo 15:181-4 My '33

Mechanism of scaling; abstract. R. L. Rickett and W. P. Wood. Steel 93:36+ O 9 '33

Pickling of iron and steel and the action of inhibitors. A. B. Dove. bibliog diag Can Chem & Met 17:192-4 S '33

Scale removal by acid pickling. A. B. Winterbottom and J. P. Reed. Iron & Steel Inst J 126:159-85, pl 17-20 n 2 '32; Excerpts. Engineering 134:667-8 D 2 '32; Discussion. Iron & Steel Inst J 126:186-204 n 2 '32

Scaling at heat treating temperatures. C. Upthegrove. Metal Prog 23:30-3+ Je '33

Scaling of steel at heat-treating temperatures. C. Upthegrove. il diag Michigan U Eng Research Bul 25:1-34 '33 (50c)

Scaling of steel at heat-treating temperatures. C. Upthegrove and D. W. Murphy. bibliog il diag Am Soc Steel Tr Trans 21:73-90 Ja '33; Abstracts. Iron Age 130:579 O 13 '32; Steel 91:29-30 O 10 '32; Discussion. Am Soc Steel Tr Trans 21:90-6 Ja '33

Die zunderbildung auf dynamoblechen mit höherem siliziumgehalt. H. Fromm. il Stahl & Eisen 53:326-8 Mr 30 '33; Discussion. 53:803-4 Ag 3 '33

**Specifications**

A.S.T.M. offers specifications for heavy steel plates. Iron Age 132:26 JI 6 '33

Gear materials and blanks; American recommended practice approved July 31, 1933 by the American standards association. Am Mach 77:533-4 Ag 16 '33

Iron and steel standards proposed at testing materials meeting. Iron Age 131:436+ Mr 16 '33; Steel 92:26 Mr 20 '33

Selection and heat treatment of steel for caterpillar tractors. G. C. Riegel. il Iron Age 131:468-9+ Mr 23 '33

Specifications for steel for fusion welding. Eng N 111:289 S 7 '33

**Standards**

A.S.T.M. adopts new standards for steel and wrought iron; propose revisions. Steel 93:38 JI 3 '33

Standards and specifications for metals and metal products; nationally recognized standards and specifications for ores, metals, and manufactures except machinery, vehicles, and electrical supplies. U S Bur Stand Misc Pub 120:1-1359 '33 [buck \$3 Supt. of doc.]

**Storage**

Aging of mild steel sheets. A. Hayes. Automotive Ind 69:116-18, 158 JI 29-Ag 5 '33

**Sulfur content**

Die abscheidung von phosphor, schwefel und sauerstoff bei der qualitätsstahlerzeugung im Siemens-Martin-Ofen. F. Beitter. il diags Stahl & Eisen 53:369-75, 398-401; Discussion. 401-4 Ap 13-20 '33

Die entschwefelung von stahl im kernlosen induktionsofen durch alkalien. H. Siegel. Stahl & Eisen 53:646-52 Je 22 '33; Abstract. Zeit Ver Deutsch Ing 77:752 JI 8 '33

**Sulfur prints**

Sulphur printing. Engineer 155:sup [Metallurgist] 43-4 Je 30 '33

**Testing**

Alloys superior to carbon steel in endurance test of valve springs. P. M. Heldt. diags Automotive Ind 67:672-5+ N 26 '32

Bars tested magnetically for seams and internal defects. il Iron Age 132:16-17 Ag 3 '33

Behavior of steel in sulphur-containing atmospheres at forging temperatures. D. W. Murphy. il Am Soc Steel Tr Trans 21:510-29; Discussion. 529-31 Je '33

Beitrag zur akustischen werkstoffuntersuchung von stahlstäben, besonders für die herstellung von gongspielen. A. Pomp and B. Zapp. Stahl & Eisen 53:510-11 My 11 '33

Corrosion of metals in salt solutions and seawater. G. D. Bengough. il diag Soc Chem Ind J (Chem & Ind) 52:195-210, 228-39, pl 1-4 Mr 10-17 '33

Damping capacity and fatigue strength. E. Voigt and K. H. Christensen. diag Engineer 156:sup [Metallurgist] 58-60 Ag 25 '33

Damping capacity of steels and correlation with other properties. G. R. Brophy. il Iron Age 130:800-2, 989+ N 24, D 29 '32

Dauerversuche auf einer hochfrequenten zugdruckmaschine. M. Hempel. Stahl & Eisen 53:813 Ag 3 '33

Development and application of macroetching. H. G. Keshian. il Am Soc Steel Tr Trans 21:289-98 [bibliog p298]; Discussion. 299-309 Ap '33

Effect of hydrogen sulphide on the corrosion of iron by salt solutions. S. C. Britton, T. P. Hoar and U. R. Evans. bibliog Iron & Steel Inst J 126:365-73; Discussion. 374-7 n 2 '32

Effect of surface finish on the fatigue limit of mild steel. J. S. Caswell. diags Engineering 136:154-5 Ag 11 '33

Effect of zinc coatings on the endurance properties of steel. W. H. Swanger and R. D. Franco. bibliog il Am Soc T M Proc 32 pt 2:430-48 '32; Same. U S Bur Stand J Research 9:9-24 JI '32; Discussion. Am Soc T M Proc 32 pt 2:449-52 '32

Effect on steel of hydrogen at high pressures and temperatures. N. P. Inglis and W. Andrews. Iron Age 132:70+ O 12 '33

Einfluss der probenbreite auf die Brinellhärte. H. Kostron. Stahl & Eisen 52:1272-3 D 22 '32

Einfluss des probendurchmessers auf die biegeschwingsfestigkeit von stahl. R. Faulhaber, H. Buchholtz und E. H. Schulz. Stahl & Eisen 53:1106-8 O 26 '33

Elastic hysteresis in crank-shaft steels. S. F. Dorey. il Inst Mech Eng Proc 123:479-510; Discussion. 511-35 '32

Essential factors in conducting the macroetching test under usual practical conditions of production work. M. G. Yatevitch. il Am Soc Steel Tr Trans 21:310-40; Discussion. 340-2 Ap '33

Explanation of mechanism of corrosion fatigue and its application to sucker rod failures. B. B. Wescott and C. N. Bowers. il Oil & Gas J 32:65+ O 26 '33

Fehlergrenzen der betriebsmässigen Brinellhärteprüfung. M. Moser. Stahl & Eisen 53:16-18 Ja 5 '33

File test rapid, but limited to very hard steels. H. T. Morton. Metal Prog 23:45 F '33

Formulas for magnetic hysteresis losses; magnetic properties of different grades of silicon sheet steel. S. S. Sidhu. bibliog Elec Eng 52:625-30 S '33

Gamma ray radiographic testing. G. E. Doan. il diags J Fr Inst 216:183-216, 351-85 [bibliog p 384-5] Ag-S '33

**STEEL—Testing—Continued**

- Hardness testing with a file a useful art easily learned. *il Metal Prog* 22:14-18 D '32
- Impact tests in specifications for soft steels. F. Giolitti. *Metal Prog* 22:48-9 D '32
- Impact values of weld metal; abstract. J. C. Hodge. *Iron Age* 132:23 O 12 '33
- Influence of solution concentration on the severity of corrosion fatigue. A. J. Gould. *il Engineering* 136:453-4 O 27 '33
- Magnetic balance for the inspection of austenitic steel. R. L. Sanford. *pl U S Bur Stand J Research* 10:321-6 Mr '33
- Manufacture of rapid machining steel; Phoenix steel. *il Engineering* 136:58-9 Jl 21 '33; *Engineer* 156:58-9 Jl 21 '33
- New approaches to the study of the deformation of steel. E. J. Janitzky. *il Iron Age* 132:14-17+ N 2 '33
- Phoenix rapid machining steel. *il diags Automobile Eng* 23:333-4 S '33
- Röntgenprüfung von eisen und stahl. F. Weyer. *il diags Stahl & Eisen* 53:497-505 My 11 '33
- Routine disk inspection in quality steel manufacture. G. V. Luerssen. *il Am Soc Steel Tr Trans* 21:343-50; Discussion. 350-3 Ap '33
- Schwankungen in den ergebnissen der härtemessung bei gehärteten stählen. O. Hengstenberg. *Stahl & Eisen* 53:352-5 Ap 6 '33
- Spanentstehung und oberflächengüte. A. Wallich and H. Opitz. *il Zeit Ver Deutsch Ing* 77:924-6 Ag 26 '33
- Stand der kenntnisse über die zerspanbarkeit von stahl und guss Eisen. F. Rapatz. *il diags Stahl & Eisen* 52:1037-45 O 27 '32; Abstract (Machinability of iron and steel). *Engineer* 155:sup[Metallurgist] 4-5 F 24 '33; Discussion. *Stahl & Eisen* 53:404-5 Ap 20 '33
- Der stand des knickproblems stabförmiger körper unter besonderer berücksichtigung der bedürfnisse des maschinenbaus. J. Bach. *diags Zeit Ver Deutsch Ing* 77:610-14 Je 10 '33
- Steel personality. B. F. Shepherd. *Can Chem & Met* 17:104 My '33
- Test files made of nitrided steel. F. Giolitti. *Metal Prog* 23:45-6 Mr '33
- Time factor in the tensile test. F. Fettweiss. *Engineer* 154:sup[Metallurgist] 179-80 D 30 '32
- Time-potential curves on iron and steel and their significance. T. P. Hoar and U. R. Evans. *bibliog Iron & Steel Inst J* 126:379-90; Discussion. 391-5 no 2 '32
- Über den einfluss des druckes beim angriff von schwefelwasserstoff auf stähle. E. Dittich. *diag Chemische Fabrik* 6:25-30 Ja 11 '33
- Über die dauerfestigkeit von nitrierten proben. R. Mailänder. *Zeit Ver Deutsch Ing* 77:721-4 Mr 11 '33
- Ueber stahl- und schlackentemperaturen bei basischen Siemens-Martin-schmelzungen. E. Schröder. *Stahl & Eisen* 53:873-81; Discussion. 881-4 Ag 24 '33
- Valve steels. J. R. Handforth. *il diags Automobile Eng* 22:463-75 O '32; Same cond. *Engineering* 135:55-8, 83-5 Ja 13-20 '33
- Walzversuche an kohlenstoff- und siliziumlegierten stählen bei mittleren temperaturen. W. Lueg. *Stahl & Eisen* 53:810-12 Ag 3 '33
- X-ray technique for examination of four-inch steel. R. E. Hiller. *il Gen Elec R* 35:376-80 Jl '32; Abstract. *Eng N* 110:220-1 F 16 '33
- See also*
- |                           |                        |
|---------------------------|------------------------|
| Steel, Structural—Testing | Steel forgings—Testing |
| Steel alloys—Testing      | Tool steel—Testing     |
| Steel castings—Testing    | Wire, Steel—Testing    |
- Spark testing*
- Accurate results in spark testing. F. A. Starkey. *Iron Age* 131:sup10 Je 29 '33
- Classifying steels by sparking; recommended practice for routine inspection. W. G. Hilford and C. H. McCollam. *il Metal Prog* 23:23-7 F '33

**Temperature effects**

- Austenitic steels at low temperatures; abstract. E. W. Colbeck, W. E. MacGillivray and W. R. D. Manning. *Engineer* 155:556-7 Je 2 '33
- Creep tests require long and precise observations. W. Rosenhain. *Metal Prog* 22:50+ D '32
- Development and trend in ferrous alloys for high-temperature service. F. N. Speller. *bibliog il Am Pet Inst Proc* p102-12 sec 3 D '32; Same. *Oil & Gas J* 31:74-8 F 16 '33; Discussion. *Am Pet Inst Proc* p112-13 sec 3 D '32
- Embrittlement of steel at high steam temperatures. H. A. Dickie. *Engineering* 136:108-9 Ag 4 '33
- Endurance limit of a 0.33 per cent. carbon steel at elevated temperatures. J. W. Cuthbertson. *bibliog Iron & Steel Inst J* 126:237-52 no 2 '32; Abstract. *Engineering* 134:396 S 30 '32; Discussion. *Iron & Steel Inst J* 126:253-65 no 2 '32
- Gefügeuntersuchung bei temperaturen bis 1100°. H. Esser and H. Cornelius. *il diags Stahl & Eisen* 53:532-5 My 18 '33
- Intergranular corrosion of 18/8 austenitic stainless steels. E. C. Rollason. *bibliog diags Iron & Steel Inst J* 127:391-414, pl 27-30 no 1 '33; Same cond. *Engineering* 135:689-91 Je 23 '33; Discussion. *Iron & Steel Inst J* 127:415-23 no 1 '33
- Low chrome steels with molybdenum and tungsten solving worst refinery problems. G. W. Johnson. *Nat Pet N* 24:29+ N 16 '32
- New device for creep testing. F. H. Norton and J. A. Fellows. *diag Metal Prog* 24:41-3 O '33
- Steels subjected to elevated temperature service; abstract. A. E. White and C. L. Clark. *Steel* 93:30 N 6 '33
- Strength and behaviour of steels at high temperatures. W. H. Hatfield. *il diags Inst Mech Eng Proc* 123:773-91 '32
- Toughness of alloy steels at low temperatures. J. J. Egan, W. Crafts and A. B. Kinzel. *Metal Prog* 24:18-20 S '33

**Transportation**

- Steel by water. *Business Week* p7 My 17 '33
- Truckers protest steel code delivered price clause. *Iron Age* 132:49 O 26 '33

**Uses**

- Air conditioning, 100,000-ton steel market, a recovery aid. *il Steel* 92:13-14+ My 15 '33
- Corrosion-resistant steel—the metal of a thousand uses. *il Mach* 40:72-6 O '33
- Large uses of steel in small ways. *il Steel* 91:34 N 28; 35 D 12; 28 D 26 '32; 92:25 Ja 9; 24 Ja 23; 34 F 6; 26 F 20; 28 Mr 30; 26 Ap 3; 37 Ap 24; 32 My 15; 32 My 29; 30 Je 19; 93:34 Jl 17; 38 Ag 7; 41 Ag 28; 37 S 11; 40 O 2; 40 O 16; 45 N 6 '33
- New era for industry. C. F. Abbott. *Steel* 92:7 F 13 '33
- Sectional panel construction for service stations creates new outlet for steel. H. E. Eiber. *il Iron Age* 132:26 Ag 24 '33
- Sheet steel caps close pipe line. *il Steel* 93:25 O 16 '33
- Steel employed for airplane merry-go-round. *il Iron Age* 132:53 Ag 17 '33
- Uses and applications of stainless steels. W. M. Mitchell. *Iron Age* 131:743+ My 11 '33

**Welding**

- Der einfluss von schlackeneinschlüssen auf die güte der schweißnaht bei der elektrischen widerstands-stumpfschweißung. H. Blomberg. *il Zeit Ver Deutsch Ing* 77:475-7 My 6 '33
- Employing rolled steel in construction of machinery; abstracts. H. G. Marsh. *Steel* 92:25-7 My 29 '33; *Iron Age* 131:860-1 Je 1 '33; *Engineer* 155:595-6 Je 9 '33; *Elec W* 102:15 Jl 1 '33
- Fusion welding as related to steel castings. T. S. Quinn. *il Am Soc T M Proc* 32 pt 2:269-91; Discussion. 292 '32



**STEEL—Welding—Continued**

- Half a million inches of welding a week; manufacture of oil burning equipment by the General electric co. C. O. Herb. *il Mach* 39:433-6 Mr '33
- Indiscriminate use of corrosion test for stainless steels is harmful. V. B. Browne. *Iron Age* 132:17-18, 23+ J1 27 '33
- Intergranular corrosion of 18/8 austenitic stainless steels. E. C. Rollason. bibliog diags *Iron & Steel Inst J* 127:391-414, pl 27-30 no 1 '33; Same cond. *Engineering* 135:689-91 Je 23 '33; Discussion. *Iron & Steel Inst J* 127:415-23 no 1 '33
- Ein neues gas-elektrisches schweißverfahren. E. Kalisch. *il Zeit Ver Deutsch Ing* 77:355-6 Ap 1 '33
- New process for making welded joints; abstract. H. S. George. *Mech Eng* 55:132 F '33
- Producing strong joints by hydrogen welding. *il diag Mach* 39:778-80 Ag '33
- Shot welding stainless steel. *il Sci Am* 148:55-6 Ja '33
- La soudure autogène des aciers inoxydables. Boutté. *Génie Civil* 102:45 Ja 14 '33
- Specifications for steel for fusion welding. *Eng N* 111:289 S 7 '33
- Spot and line welding of stainless steel. W. C. Hutchins. *il Elec W* 101:424-5 Ap 1 '33
- Spot welding stainless steels demands careful control for good results. V. W. Whitmer. *Automotive Ind* 68:76 Ja 21 '33; Same. *Ry Mech Eng* 107:68-9 F '33; Same. *Steel* 92:23 F 20 '33
- Stainless steel linings for vessels used in chemical processes. W. E. Jominy and R. S. Archer. *il Paper Tr J* 96:28-35 Ap 20 '33
- Strength of welds high in oxygen. H. Diergarten. *diag Metal Prog* 23:45, 47+ My '33
- Using forged plate housings on 84-inch cold mill. H. G. Marsh. *il diags Steel* 92:23-5 Mr 13 '33; Abstract. *Iron Age* 132:14-15; Discussion. L. Jones. 15+ J1 13 '33
- Welded plate for furnace-work. G. B. Cramp. *il diags Metal Prog* 23:24-7 My '33
- Welded steel used for Diesel engine structures. E. Chapman. *il Iron Age* 132:27-9+ Ag 24; 14-17 Ag 31 '33; Same. *Steel* 93:31-4 Ag 28; 25-7 S 11 '33; Same. *Marine R* 63:23-6 N; 19-21 D '33; Same cond. *Marine Eng* 38:330-3 S '33; Same cond. *Power* 77:479-81 S '33; Same cond. *Ry Age* 95:363-6 S 9 '33; Same cond. *Ry Mech Eng* 107:352-7 O '33; Abstract. *Automotive Ind* 69:362-5 S 23 '33
- Welding a stainless steel vat. *il Sheet Metal Worker* 24:53 F '33
- Welding high manganese steel. *Rock Prod* 36:66-7 Ag '33
- Welding in the steel industry—construction of welded steel rollers. C. M. Taylor. *il diags Iron Age* 131:620-1 Ap 20 '33
- Welding in the steel industry—fabrication of steel mill machinery. C. M. Taylor. *il diag Iron Age* 131:1024-7 Je 29; 132:16-17+ J1 6; 24-5 Ag 3 '33
- Welding stainless steel. D. S. Black. *Elec R (Lond)* 112:702 My 19 '33
- Welds defective casting without disturbing set-up. *il Iron Age* 132:24 Ag 24 '33
- Works of the Steel barrel company of Uxbridge, limited. *il diags Engineering* 136:135-7 Ag 11 '33
- Yardstick for buying welded machine parts. A. S. Austin. *Mach* 39:397-9 F '33
- See also*  
 Steel, Structural—Welding      Steel construction—Welding
- STEEL, Aircraft**  
 Alloy steel supplies strength in 60 speediest all-metal transports. *il Steel* 93:23-5 J1 10 '33
- Corrosive resistance of stainless aircraft steels. E. L. Jacob. *il Aviation Eng* 8:8-10+ My '33
- STEEL, Automobile**  
 Aging of mild steel sheets. R. O. Griffis, R. L. Kenyon and R. S. Burns. *il Blast F & Steel Pl* 21:312-14+ Je '33; Same cond. *Steel* 92:23-5 My 29 '33; Same cond. *Iron Age* 131:861-2; Discussion. 878 Je 1 '33
- Comparison of sheet and strip steels for difficult stampings. E. S. Lawrence. *Am Soc Steel Tr Trans* 21:119-38 [bibliog p 136-8] F '33
- Crankshafts; a brief consideration of the influence of molybdenum. *Automobile Eng* 23:221 Je '33
- Develops manganese-chrome-vanadium steel for automotive forgings. H. T. Chandler and C. N. Dawe. *il Steel* 93:23-6+ S 25 '33
- Effect of normalizing on the grain structure and physical properties of automobile sheet steel. W. F. McGarrity and H. V. Anderson. *il Am Soc Steel Tr Trans* 21:139-50; Discussion. 150-4 F '33
- Ford's experience with rustless steel. J. L. McCloud. *il Iron Age* 132:10-11+ J1 13 '33
- Gas furnaces condition air to prevent rust on sheet stocks. *il Steel* 93:28 Ag 14 '33
- Machine renders sheets free from stretcher strains. J. D. Knox. *il diag Steel* 92:26-7 Ap 24 '33
- Metallurgists' contributions to automotive development. P. M. Heldt. *il Automotiv Ind* 69:64-8 J1 15 '33
- Ratio of automotive use of steel gains in 1932. W. C. Hirsch. *Automotive Ind* 68:93-4 Ja 28 '33
- Stamping automobile parts of stainless steel; Ford radiator shells and headlamps. J. L. McCloud. *il Metal Prog* 24:23-6 N '33
- Steel used in racing automobiles. J. W. Urquhart. *Blast F & Steel Pl* 21:159-60+ Mr '33
- STEEL, Cold working of**  
 Aging of mild steel sheets. R. O. Griffis, R. L. Kenyon and R. S. Burns. *il Blast F & Steel Pl* 21:312-14+ Je '33; Same cond. *Steel* 92:23-5 My 29 '33; Same cond. *Iron Age* 131:861-2; Discussion. 878 Je 1 '33
- Aging of mild steel sheets. A. Hayes. *Automotive Ind* 69:116-18, 158 J1 29-Ag 5 '33
- Basic open-hearth carbon steel for cold heading—ingot to wire; abstract. A. B. Arganbright. *Iron Age* 132:30 O 12 '33
- Cold forming the stainless steels. A. E. R. Peterka. *il Metal Prog* 24:35-8 O '33
- Cold working properties of wire are reduced by pearlite. B. L. McCarthy. *il Metal Prog* 22:19-23 D '32
- Drawn and extruded shaped bars and wire. *il diags Mach* 40:89-91 O '33
- Factors influencing the annealing of cold rolled strip steel. G. R. Brophy and L. L. Wyman. *il Am Soc Steel Tr Trans* 21:532-54; Discussion. 554-6 Je '33
- Heat treatment localizes cold heading effects. C. L. Harvey. *Steel* 93:41 O 23 '33
- Improves strip by cold rolling under tension. *Steel* 91:27 N 23 '32
- New process for cold drawing of metals; Dudzele. C. L. Mantell. *Iron Age* 131:99+ Ja 12 '33
- Principles of lubrication in cold drawing sheet steel. H. A. Montgomery. *Am Soc Steel Tr Trans* 21:557-64 Je '33; Same cond. *Am Mach* 76:1056-8 O 12 '32; Abstracts. *Iron Age* 130:615+ O 20 '32; *Mach* 39:348-50 Ja '33; Discussion. *Am Soc Steel Tr Trans* 21:564-70 Je '33
- Producing precision hot-rolled and cold-drawn round steel bars; Union drawn steel co. Massillon, O. E. S. Heck. *il Steel* 93:25-7 O 9 '33
- Requirements of steel for cold heading. H. W. Graham. *il Metal Prog* 24:22-6 Ag '33
- Single-stand continuous rolling of hot and cold strip. A. P. Steckel. *Iron Age* 131:779+ My 18 '33
- STEEL, Corrosion resisting**  
 Acid resisting steels in the sulphite industry. C. M. Carmichael and G. S. Shaw. *il diags Pulp & Pa of Can* 34:177-86+ F '33
- A.T.V. turbine blading. *il Engineering* 135:289-92 Mr 10 '33
- Castings of corrosion-resistant steels. J. Strauss. *Am Soc T M Proc* 32 pt 2:213-30; Discussion. 231-7 '32
- Contribution to the study of the properties of austenitic steels. L. B. Pfeil and D. G. Jones. *Iron & Steel Inst J* 127:337-78 [bibliog p376-8] pl 25-26 no 1 '33; Same cond. *Engineering* 136:50-2 J1 14 '33; Discussion. *Iron & Steel Inst J* 127:379-89 no 1 '33

**STEEL, Corrosion resisting—Continued**

Corrosion-resistant steel—the metal of a thousand uses. *il Mach* 40:72-6 O '33

Determining aluminum, silicon and chromium oxides in corrosion-resisting steels. C. M. Johnson. *Iron Age* 132:24-5+ S 21 '33

Development and trend in ferrous alloys for high-temperature service. F. N. Speller. *bibliog il Am Pet Inst Proc* p102-12 sec 3 D '32; Same. *Oil & Gas J* 31:74-8 F 16 '33; Discussion. *Am Pet Inst Proc* p112-13 sec 3 D '32

Further studies on chromium-nickel-iron and related alloys. V. N. Krivobok and others. *il Am Soc Steel Tr Trans* 21:22-60; Discussion. 60-72 Ja '33

Low chrome steels with molybdenum and tungsten solving worst refinery problems. G. W. Johnson. *Nat Pet N* 24:29+ N 16 '32

Modern alloys; their application to the solution of refinery problems. A. L. Foster. *il Nat Pet N* 24:45-6+ N 16; 27-8+ D 7 '32

Rustless steels employed in fan construction. M. S. Kice, jr. *il Iron Age* 131:507+, 542-3 Mr 30-Apr 6 '33

See also

Chromium nickel steel

Chromium steel  
Steel, Stainless

**STEEL, Effect of sea water on**

Corrosion of metals in salt solutions and sea-water. G. D. Bengough. *il diag Soc Chem Ind J (Chem & Ind)* 52:195-210, 228-39, pl 1-4 Mr 10-17 '33

Deterioration of structures in sea water. Engineering 135:708 Je 30 '33

**STEEL, Engraving**

Large uses of steel in small ways; engravers' steel. *il Steel* 92:37 Ap 24 '33

**STEEL, Galvanized**

Arc welding of galvanized steel; abstract. L. C. Bibber. *Iron Age* 132:24 O 12 '33; Excerpts. *Eng N* 111:444 O 12 '33; *Elec W* 102:663 N 18 '33

**STEEL, Hardening of**

Application of the thermo-magnetic cycle to the hardening of steels. *chart Engineering* 135:68-9 Ja 20 '33

Effect of lathe cutting conditions on the hardening of carbon and alloy steels. T. G. Digges. *U S Bur Stand J Research* 10:77-8 Ja '33

Factors affecting the inherent hardenability of steel. E. C. Bain. *il Am Soc Steel Tr Trans* 20:385-428 N '32; Abstracts. *Metal Prog* 22:17-21+ N '32; *Iron Age* 130:sup20 O 13 '32

Fatigue and the hardening of steels. H. J. French. *il Am Soc Steel Tr Trans* 21:899-946 O '33; Excerpts. *Iron Age* 132:23 O 26 '33

Graded or interrupted hardening avoids cracks and soft centers in high alloys. H. Diergarten. *il Metal Prog* 23:27-30+ Mr '33; Discussion. 23:49 Ap; 24:48+ S '33

Hardening an 8ft. dia. gear wheel. *il Engineer* 155:124 F 3 '33

Hardening impression dies. W. E. Snow. *diags Mach* 39:697-9, 790-2 Jl-Ag '33

Hardening transformation in manganese steels. H. Scott and J. G. Hoop. *il Am Soc Steel Tr Trans* 21:233-48; Discussion. 249-59 Mr '33

Hardness changed by magnetism. E. G. Herbert. *il Metal Prog* 21:52-6 Ap '32; Discussion. 22:48-50 S '32; 23:46-9 Mr '33

Härtbarkeit von stahl. W. Oertel. *Stahl & Eisen* 53:959-60 S 14 '33

Heat treating and carburizing at National Acme plant. F. L. Prentiss. *il Iron Age* 132:14-17+ O 12 '33

Magnetic fields and the hardness of metals. H. Esser and H. Cornelius. *Engineer* 156:sup[Metallurgist]62-3 Ag 25 '33

Precipitation hardening of copper steels; abstract and discussion. C. S. Smith and E. W. Palmer. *Iron Age* 131:358-9 Mr 2 '33

See also

Case hardening  
Steel—Aging

Steel, Heat treatment  
of

**STEEL, Heat resisting**

Correct grade selection emphasized at stainless steel symposium. J. Geschelin. *Automotive Ind* 68:552-3+ My 6 '33

Creep tests require long and precise observations. W. Rosenhain. *Metal Prog* 22:50+ D '32

Development and trend in ferrous alloys for high-temperature service. F. N. Speller. *bibliog il Am Pet Inst Proc* p102-12 sec 3 D '32; Same. *Oil & Gas J* 31:74-8 F 16 '33; Discussion. *Am Pet Inst Proc* p112-13 sec 3 D '32

Heat-resisting steels of the present day. F. M. Becket. *Iron Age* 132:29+ Ag 3 '33

High-pressure and high-temperature steam pipe work. J. A. Aiton. *il diags Engineering* 134:720-3 D 16 '32; Excerpts. *Engineer* 154:438-9 O 28 '32

High-temperature steam piping. Blast F & Steel Pl 21:165-6 Mr '33

Properties of U.S.S. stainless and heat-resisting steels; tabulation. W. M. Mitchell. *Iron Age* 131:707C My 4 '33

Rustless steels employed in fan construction. M. S. Kice, jr. *il Iron Age* 131:507+, 542-3 Mr 30-Apr 6 '33

Valve steels; metallurgical problems arising from their use in internal-combustion engines. J. R. Handforth. *il Automobile Eng* 22:468-75 O '32; Same cond. *Engineering* 135:55-8, 83-5 Ja 13-20 '33

What steel to use at high pressures and temperatures; effect of hydrogen. J. L. Cox. *bibliog Chem & Met Eng* 40:405-9 Ag '33

See also

Steel—Testing—

Temperature effects

**STEEL, Heat treatment of**

Allotropy in iron and steel. R. H. Harrington and W. P. Wood. *bibliog Am Soc Steel Tr Trans* 20:529-45; Discussion. 545-8 D '32

Alloy steel castings regularly made. A. W. Gregg. *Iron Age* 132:15-17 O 5 '33

Application of the thermo-magnetic cycle to the hardening of steels. *chart Engineering* 135:68-9 Ja 20 '33

Bright annealing and normalizing in controlled-atmosphere electric furnaces. R. R. La Pelle and C. H. Carpenter. *il Iron Age* 132:28-31+ S 28 '33

Chrome-nickel steel for navy cast steel anchor chain. T. N. Armstrong. *il Iron Age* 131:100-1+ Ja 12 '33

Le contrôle des opérations thermiques avec utilisation du point de Curie dans le cas de la trempe. *Génie Civil* 102:331-2 Ap 8 '33

Controlled cooling to promote machinability. O. W. McMullan. *il Metal Prog* 24:25-8 S '33

Damping capacity of steels and correlation with other properties. G. R. Brophy. *il Iron Age* 130:800-2, 989+ N 24, D 29 '32

Drill steels for mining purposes. W. H. Hatfield. *Can Min J* 54:236 Je '33

Dynamic properties of steel castings. F. Grotts. *Iron Age* 131:1042 Je 29 '33

Effect of heat treatment of welds. L. W. Schuster. *Engineer* 155:510 My 19 '33

Effect of normalizing on the grain structure and physical properties of automobile sheet steel. W. F. McGarrity and H. V. Anderson. *il Am Soc Steel Tr Trans* 21:139-50; Discussion. 150-4 F '33

Einfluss von wasserstoff auf die A<sub>3</sub>- und A<sub>1</sub>-umwandlung des eisens. H. Esser and H. Cornelius. *diag Stahl & Eisen* 53:885-6 Ag 24 '33

Electrical strip—a new product; manufacturing process in Republic plant. F. L. Prentiss. *il Iron Age* 132:18-20 N 2 '33

Erzeugung und behandlung von stahl. F. Rapatz. *il Zeit Ver Deutsch Ing* 77:249-51 Mr 4 '33

Formation of columnar crystals in steel sheets after normalisation. F. Kinský. *bibliog Iron & Steel Inst J* 127:209-21, pl 17-19 no 1 '33; Abstract. *Engineering* 135:542 My 19 '33; Discussion. *Iron & Steel Inst J* 127:222-8 no 1 '33; *Engineering* 135:542 My 19 '33

Grain size and grain growth. M. A. Grossmann. *il Metal Prog* 24:30-4 O '33

Growth of austenite above A<sub>c1</sub> in plain carbon steels. J. H. Whiteley. *Iron & Steel Inst J* 126:289-300, pl 27-31 no 2 '32



**STEEL, Heat treatment of—Continued**

- Hard steel pivots and bearings; precision scales require advanced metallurgy. W. J. Burr. *il Metal Prog* 23:36-7 F '33
- Hardening and drawing Ford drive shafts by improved methods; Timken-Detroit axle co. J. B. Nealey. *il Mach* 39:472-3 Mr '33
- Heat treated alloy steel makes jails escape proof. J. B. Nealey. *il Steel* 92:22-3 Ja '30 '33
- Heat treating and carburizing at National Acme plant. F. L. Prentiss. *il Iron Age* 132:14-17+ O 12 '33
- Heat treating gears in cyanide pot and drawing oven; Muncie products division, General motors corp. E. M. Kingsley. *il plan Metal Prog* 23:13-18 Ja '33
- Heat treatment localizes cold heading effects. C. L. Harvey. *Steel* 93:41 O 23 '33
- Heat-treatment of broaches. W. E. Snow. *Mach* 39:584-6 My '33
- Heat treatment of cobalt high speed steel. *Metal Prog* 23:29+ Ap '33
- Heat-treatment of molds for plastics. E. F. Bachner. *il Am Mach* 77:279 Ap 26 '33
- Heat treatment and hardening of steel gears. E. F. Davis. *il Iron Age* 132:8-11 JI 27; 26-8+ Ag 3 '33; Same cond. *Am Mach* 77:306-8 My 10 '33; Abstracts. S A E J 32:209 Je '33; *Mach* 39:668-9 Je '33
- Kalorimetrische untersuchungen der anlassvorgänge in gehärteten kohlenstoffstählen. G. Naeser. *Stahl & Eisen* 53:511-12 My 11 '33
- Large castings improved by air cooling. T. N. Armstrong. *Metal Prog* 23:33-5 Ap '33
- Liquid baths for heat treating—bath furnaces and temperature measurements. W. P. Eddy, jr. *diags Iron Age* 131:230-2 F 9 '33
- Liquid baths for heat treating—high-temperature salt baths. W. P. Eddy, jr. *Iron Age* 130:959+ D 22 '32
- Liquid baths for heat treating—medium-temperature salt baths. W. P. Eddy, jr. *Iron Age* 130:721+, 882-3 N 10, D 8 '32
- Low internal stress heat treatment. C. W. Briggs. *Am Soc Steel Tr Trans* 21:424-31; Discussion. 431-4 My '33
- Manufacture and heat treating of twist drills; American twist drill co. J. B. Nealey. *il Iron Age* 131:508-9+ Mr 30 '33
- More light on temper brittleness. K. Honda. *diag Metal Prog* 23:43-4 Je '33
- New heat treatment for carbon steel locomotive castings. A. W. Gregg. *il Iron Age* 131:192-3+ F 2 '33
- Normalizing steel castings. W. S. Scott. *il Iron Age* 132:20-3 S 21 '33
- Nouvelle théorie proposée. J. Seigle. *Génie Civil* 103:369-73, 400-2 O 14-21 '33
- Observations on the effect of normalizing medium manganese steels on the microstructure and physical properties. C. R. Austin. *il Am Soc Steel Tr Trans* 21:435-50; Discussion. 451-62 My '33
- Precision control features heat treating of wrought steel wheels. *il Iron Age* 132:24-5+ Ag 17 '33; Same. *Steel* 93:25-7 Ag 14 '33
- Problems and practices in the heat treatment of steel castings. A. W. Lorenz. *il diags Am Soc T M Proc* 32 pt 2:253-68 '32
- Progrès dans les traitements thermiques des aciers. A. Sourdillon. *il diags Soc Ing Civils Bul* 85:631-86 My '32
- Properties of rolled plates improved by heat treating. *Steel* 92:33 Je 5 '33
- Relation of temper colors to temperatures. T. N. Holden. *Iron Age* 132:23 S 28 '33
- Resistance baths for small tools. A. E. Bellis. *il diags Am Mach* 77:302-3 My 10 '33
- Scaling at heat treating temperatures. C. Upthegrove. *Metal Prog* 23:30-3+ Je '33
- Scaling of steel at heat-treating temperatures. C. Upthegrove. *il diag Michigan U Eng Research Bul* 25:1-34 '33 (50c)
- Scaling of steel at heat-treating temperatures. C. Upthegrove and D. W. Murphy. *bibliog il diag Am Soc Steel Tr Trans* 21:73-90; Discussion. 90-6 Ja '33
- Selection and heat treatment of steel for caterpillar tractors. G. C. Riegel. *il Iron Age* 131:468-9+ Mr 23 '33; Excerpt. *Am Mach* 77:72-3 F 1 '33
- Some effects of the amount and rate of deformation on a low carbon strip steel. J. Winlock and A. E. Laverne. *il Am Soc Steel Tr Trans* 21:109-15; Discussion. 116-18 F '33
- Some factors affecting the physical properties and corrosion resistance of 13-8 Cr-Ni steel wire; abstract. W. H. Wills and J. H. Findley. *Iron Age* 132:29 O 12 '33
- Special steels for castings. R. A. Bull. *Foundry* 61:21-2+ Ja; 15-16+ F '33
- Steel for tractors; selection and heat treatment. G. C. Riegel. *il Steel* 92:28-9 Je 26 '33
- Stress relieving furnace handles 35-foot pipes. *il Steel* 93:28 N 6 '33
- Structural changes in hypo-eutectoid steels on heating. H. C. H. Carpenter and J. M. Robertson. *bibliog Iron & Steel Inst J* 127:259-84, pl 20-24 no 1 '33; Abstracts. *Engineer* 155:471-2 My 12 '33; *Engineering* 135:541 My 19 '33; Discussion. *Iron & Steel Inst J* 127:285-300 no 1 '33; *Engineer* 155:472 My 12 '33; *Engineering* 135:541-2 My 19 '33
- Structure of an alloy steel. O. W. Ellis. *il Iron Age* 132:14-17+ S 28; 21-4 N 2 '33 (to be cont)
- Suppression of banding in SAE 3100 gear steels. H. L. Geiger. *il Metal Prog* 23:37-40 Ja '33
- Temperature atmosphere problem in high speed steel. S. Tour. *bibliog il diag Am Soc Steel Tr Trans* 21:269-80 Mr '33; Same cond. *Iron Age* 130:574-6 O 13 '32; Discussion. *Am Soc Steel Tr Trans* 21:280-8 Mr '33
- Torch hardening of gear teeth. N. E. Woldman. *il diags Mach* 39:379-82 F '33; Abstract. *Mech Eng* 55:257 Ap '33
- Vergütungsbedingungen in abhängigkeit verschiedener ausgangsgefüge. O. v. Keil and O. Jungwirth. *il Stahl & Eisen* 52:1221-3 D 8 '32
- Worth mill produces light-gage heat-treated plates. *Iron Age* 131:827 My 25 '33

**See also**

- |                    |                         |
|--------------------|-------------------------|
| Annealing          | Electric furnaces,      |
| Electric furnaces, | Steel making            |
| Heat treating      | Furnaces, Heat treating |

**STEEL, Molten**

Equilibrium in the oxidation of liquid iron by steam and the free energy of ferrous oxide in liquid steel. J. Chipman. *diag Am Chem Soc J* 55:1313-9 Ag '33

New thermocouple for the determination of temperatures up to at least 1800 deg. C; abstract and discussion. G. R. Fitterer. *Iron Age* 131:396 Mr 9 '33

**STEEL, Quenching of**

Effect of facing on the cooling velocity of a specimen during quenching. S. Sato. *Engineer* 156:sup [Metallurgist] 52-3 Ag 25 '33

Hardening impression dies; quenching methods in the manufacture of silverware and jewelry. W. E. Snow. *diags Mach* 39:790-2 Ag '33

Quenching steel in hot baths. H. L. Daasch. *il Metal Prog* 24:27-9 N '33

Quenching structures of steel; sorbitic and troostitic; abstract. R. Schmidt. *Soc Chem Ind J* 52:sup831 O 20 '33

Some problems of quenching steel cylinders; abstracts. H. Scott. *Iron Age* 132:27-8 O 12 '33; *Steel* 93:38-9 O 9 '33

Water-on-oil for graded hardening. R. Kimbara. *Metal Prog* 23:46 Je '33

**STEEL, Reinforcing**

Concrete reinforcing code parallels steel provisions. *Iron Age* 132:46 S 14 '33

New type of reinforcing bar develops high bond stress. C. J. Posey. *il Eng N* 110:461 Ap 13 '33; Abstract. *Mech Eng* 55:377 Je '33

Rail steel concrete reinforcement bars. *Iron Age* 132:44 S 28 '33

**STEEL, Reinforcing—Continued**

Tests of anchorages for reinforcing bars. C. J. Posey. *diags Iowa Univ Studies in Engineering* Bul 3:1-31 '33

*See also*

Concrete, Reinforced  
Pavements, Concrete  
—Reinforcement

**STEEL, Rimmed**

Manufacture of rimming steel; abstract. W. R. Flemming. *Iron Age* 132:29 O 12 '33

**STEEL, Stainless**

American production of the rustless steels. E. F. Cone. *Iron Age* 131:288 F 16 '33

Ascendency of alloy steel castings. *Iron Age* 132:11 Ag 24 '33

Austenitic steels at low temperatures; abstract. E. W. Colbeck, W. E. MacGillivray and W. R. D. Manning. *Engineer* 155:556-7 J 2 '33

British rustless steels from California ore, Darlington rustless steel & iron co. *il Iron Age* 132:18-19 Ag 10 '33

Chrome-nickel steel for navy cast steel anchor chain. T. N. Armstrong. *il Iron Age* 131:100-1+ Ja 12 '33

Cold forming the stainless steels. A. E. R. Peterka. *il Metal Prog* 24:35-8 O '33

Correct grade selection emphasized at stainless steel symposium. J. Geschelin. *Automotive Ind* 68:552-3+ My 6 '33

Corrosion-resistant steel—the metal of a thousand uses. *il Mach* 40:72-6 O '33

Describes making of two-ply stainless steels. W. W. Patrick. *il Steel* 91:27 N 28 '32

Fabrication of 18-8 (and 15-10 in England). J. A. McWilliam. *il Metal Prog* 23:33-6 Ja '33

Ford's experience with rustless steel. J. L. McCloud. *il Iron Age* 132:10-11+ J1 13 '33

Hints on forging the stainless steels. R. W. Thompson. *il Metal Prog* 23:25-8 Ap '33

Improvements in iron and steel meet the designer's needs. *Mach* 39:331-4 Ja '33

Nature and prevention of intergranular corrosion in austenitic stainless steels. E. C. Bain, R. H. Aborn and J. J. B. Rutherford. *bibliog il diags Am Soc Steel Tr Trans* 21:481-509 Je '33; *Excerpts. Steel* 92:21-3+ Ap 17 '33

New type railroad car for Reading co. uses rustless steel. *Iron Age* 130:sup16 N 17 '32

Opportunities with stainless. *il Sheet Metal Worker* 23:516-17+ D '32

Performance of stainless steels; seamless tubes and architectural uses. M. A. Grossmann. *Iron Age* 132:19+ J1 20 '33

Possibilities of corrosion resisting metals. L. S. Hamaker. *Sheet Metal Worker* 24:185-6+ Je '33

Properties of U.S.S. stainless and heat-resisting steels; tabulation. W. M. Mitchell. *Iron Age* 131:707C My 4 '33

Rolling, stainless steel plate. L. M. Curtiss. *il diags Metal Prog* 24:27-30 Ag '33

Rolls for finishing stainless strip steel require mirror surface. E. S. Heck. *il Steel* 93:25-7 J1 3 '33

Shells drawn from rustless steel. J. J. McHenry. *Am Mach* 77:460-1 J1 19 '33

Shotwelding boosts revenue by cutting truck body weight. *il Automotive Ind* 68:559 My 6 '33

Shot welding stainless steel. *il Sci Am* 148:55-6 Ja '33

Spot and line welding of stainless steel. W. C. Hutchins. *il Elec W* 101:424-5 Ap 1 '33

Spot welding stainless steels demands careful control for good results. V. W. Whitmer. *Automotive Ind* 68:76 Ja 21 '33; *Same. Ry Mech Eng* 107:68-9 F '33; *Same. Steel* 92:23 F 20 '33

Stainless steel bridge plaque. *Can Eng* 64:16 Ja 24 '33

Stainless steel in aircraft; abstract. F. Flader. *Automotive Ind* 69:15 J1 1 '33

Stainless steel in ornamental iron work. F. L. Prentiss. *il Iron Age* 132:12-15 O 26 '33

Stainless steel in the textile industry. K. E. Luger. *Am Dyestuff Rep* 22:98-100; *Discussion*. 100-2 Ja 30 '33

Stainless steel linings for vessels used in chemical processes. W. E. Jominy and R. S. Archer. *il Paper Tr J* 96:28-35 Ap 20 '33

Stainless steel pressure castings; methods of molding, coremaking and gating. S. R. Robinson. *il Foundry* 60:25+ D '32

Stainless-steel train delivered to Texas & Pacific; two-car unit for main-line mail-baggage-passenger service. *il Ry Age* 95:692-4 N 11 '33

Stainless steel used widely in modern bar designs. *il Steel* 92:24 Ap 3 '33

Stainless steels for chemical plant. *il Chem Age (Lond)* 28:235-6 Mr 18 '33

Stamping automobile parts of stainless sheet; Ford radiator shells and headlamps. J. L. McCloud. *il Metal Prog* 24:23-6 N '33

Temperature coefficient of the moduli of metals and alloys used as elastic elements. G. H. Keulegan and M. R. Houseman. *il diags U S Bur Stand J Research* 10:315-16 Mr '33

Tubing made with a thin outer layer of stainless steel. *il diag Mach* 39:638-9 Je '33

Unusual applications of stainless alloys. C. C. Snyder. *il Iron Age* 131:895-6 Je 8 '33

Uses and applications of stainless steels. W. M. Mitchell. *Iron Age* 131:743+ My 11 '33

Welded stainless steel truck bodies. *il Food Ind* 5:418 O '33

Welding stainless steel. D. S. Black. *Elec R (Lond)* 112:702 My 19 '33

*See also*

Chromium nickel steel Steel, Corrosion resisting

Chromium steel

*Patents*

Modern materials for dye-house equipment. J. F. Springer. *Textile Col* 55:190-3+, 406-9 Mr, Je '33

*Repair*

Inspection and repair of stainless steel equipment. C. E. Plummer. *Chem & Met Eng* 40:531 O '33

*Testing*

Indiscriminate use of corrosion test for stainless steels is harmful. V. B. Browne. *Iron Age* 132:17-18, 23+ J1 27 '33

**STEEL, Stainless-clad**

Develops technique for fabricating 18-8 stainless-clad steels; Ingersoll steel & disc co. E. C. Kreutzberg. *il Steel* 93:23-6 S 18 '33

Milk tanks of 18-8 clad steel. *il Steel* 93:25 N 13 '33

Stainless-clad steel adapted to tonnage production. S. L. Ingersoll. *il Steel* 92:28+ F 6 '33

Stainless clad steel milk truck has 3000-gal. capacity. *il Iron Age* 131:579+ Ap 13 '33

Stainless clad steel readily formed into tanks; Marsene corp. S. L. Ingersoll. *il Iron Age* 130:998+ D 29 '32

**STEEL, Strip**

Age hardening in low carbon strip steel. E. B. Whittemore. *Am Soc Steel Tr Trans* 21:571-6 Je '33; *Same. Metal Prog* 22:50-2 O '32

Base prices and extras applying to principal finished steel products. *Iron Age* 132:26X-26Z S 21 '33

Bright annealing coils of strip in mass production; Cuyahoga works, American steel & wire co. Cleveland. *il Metal Prog* 24:19-21 Ag '33

Cold-rolled strip bright annealed in controlled gas atmosphere. L. E. Browne. *il diag Steel* 93:25-7 O 30 '33

Comparison of sheet and strip steels for difficult stampings. E. S. Lawrence. *Am Soc Steel Tr Trans* 21:119-38 [bibliog p136-8] F '33

Electrical strip—a new product; manufacturing process in Republic plant. F. L. Prentiss. *il Iron Age* 132:18-20 N 2 '33

Factors influencing the annealing of cold rolled strip steel. G. R. Brophy and L. L. Wyman. *il Am Soc Steel Tr Trans* 21:532-54; *Discussion*. 554-6 Je '33

House uses framework of formed cold-rolled strips; Stran-steel house. *il diag Iron Age* 132:20-1 Ag 10 '33



**STEEL, Strip—Continued**

- Important reclassification of flat-rolled steel. Iron Age 132:44H-44O S 7 '33
- New delivered-Detroit price on hot strip to level off delivery charges. Steel 92:14 Ap 24 '33
- Rolls for finishing stainless strip steel require mirror surface. E. S. Heck. il Steel 93:25-7 JI 3 '33
- Silicon steel strip is annealed in continuous electric furnace; Republic steel corporation. A. N. Otis. il Steel 93:21-3 N 13 '33
- Single-stand continuous rolling of hot and cold strip. A. P. Steckel. Iron Age 131:779+ My 13 '33
- Some effects of the amount and rate of deformation on a low carbon strip steel. J. Winlock and A. E. Laverne. il Am Soc Steel Tr Trans 21:109-15; Discussion. 116-18 F '33
- Tension reels for strip mills. F. Mohler. il diags Iron Age 132:18-22 O 5 '33
- Thin strip steel for deep drawing. H. T. Morton and I. A. Rummier. Am Soc Steel Tr Trans 21:97-104; Discussion. 105-8 F '33

**STEEL, Structural**

- British standard specification for the use of structural steel in building. 35p British standards institution, London '32
- Code is submitted by structural steel and iron fabricating industry. Iron Age 132:28-36+ S 14 '33
- Designing structural steel for economical fabrication. A. Reichmann. W Soc E J 38:39-46 F '33
- George Washington bridge; materials and fabrication of steel structure. H. J. Baker. il diags Am Soc C E Proc 59:269-316 F '33
- Heat treated alloy steel makes fails escape proof. J. B. Nealey. il Steel 92:21-2+ Ja 30 '33
- High strength steel; comparison of liners proposed to be built of special high strength steel and of mild steel. E. P. Trask. il diags Marine Eng 38:240-8+ JI '33; Correction. 38:302 Ag '33
- Hydraulic dredge of steel embodies new features; Koenig coal & supply co, Detroit. il Steel 91:24+ D 5 '32
- Illinois shape book. 3d ed 273p Illinois steel company, Chicago '32
- Neuere entwicklung auf dem edelstahlgebiet. E. Houdremont and H. Kallen. il Zeit Ver Deutsch Ing 77:191-5 F 25 '33
- New forms of steel appear. il Iron Age 131:36-8 Ja 5 '33
- New structural steel; Chromador. il Engineer 155:188-9 F 24 '33; Abstracts. Engineering 135:275 Mr 10 '33; Eng N 110:377 Mr 23 '33; Steel 92:24 Ap 10 '33
- Performance of stainless steels; seamless tubes and architectural uses. M. A. Grossmann. Iron Age 132:19+ JI 20 '33
- Steel house—a problem in merchandising. R. Tappan. Iron Age 131:432+ Mr 16 '33
- Steel in residence construction. F. T. Llewellyn and F. N. Speller. il diags Arch Rec 73:438-42 Je '33

*See also*

- |                         |                    |
|-------------------------|--------------------|
| Bridges, Iron and steel | Riveting           |
| Ceilings, Steel         | Steel, Automobile  |
| Columns, Steel          | Steel, Reinforcing |
| Concrete, Reinforced    | Steel alloys       |
|                         | Steel construction |

**Prices**

- Structural shapes, 1895-1932, market history; tabulation. Steel 92:117 Ja 2 '33

**Testing**

- Die dauerfestigkeit von genieteten und geschweissten verbindungen aus baustahl St 52. E. H. Schulz and H. Buchholtz. il diags Stahl & Eisen 53:545-52; Discussion. 552-3 My 25 '33
- Einfluss eines geringen titanzusatzes auf baustähle. J. Arend and M. Lobe. il Stahl & Eisen 53:604-6 Je 8 '33
- Der einfluss von einspann- und kraftangriffsstellen auf die dauerhaltbarkeit der konstruktionen. A. Thum and F. Wunderlich. il diag Zeit Ver Deutsch Ing 77:851-3 Ag 5 '33

- Embrittlement of hot-galvanized structural steel. S. Epstein. il Am Soc T M Proc 32 pt 2:293-374; Discussion. 375-9 '32
- Fatigue failure under repeated compression. H. R. Thomas and J. G. Lowther. diag Am Soc T M Proc 32 pt 2:421-7; Discussion. 423-9 '32
- 1,250-ton universal testing machine. W. L. Brooker. il Can Eng 63:15-16 D 27 '32
- Testing riveted joints of cromansil steel. I. Lyse. diags Eng N 110:584-5 My 11 '33

*See also*

- Columns, Steel—Testing

**Welding**

- Die dauerfestigkeit der schweissverbindungen. G. Schaper. il diags Zeit Ver Deutsch Ing 77:556-60 My 27 '33
- Fabrication of steel for the Sky Ride at Century of progress exposition. E. T. Blix. diags W Soc E J 38:182-92 Ag '33
- Low-cost I-beam bridges for Pennsylvania highways. il diags Eng N 110:709-10 Je 1 '33
- Physical properties of welded cast steel; abstract. C. H. Jennings. Iron Age 132:22 O 12 '33; Excerpts. Automotive Ind 69:456 O 14 '33; Elec W 102:594-5 N 4 '33; Discussion. R. A. Bull. Iron Age 132:22-3 O 12 '33
- Qualified welders make joints strong & uniform. H. M. Priest. diags Metal Prog 22:29-33 D '32
- Recent welding studies reported in Chicago; papers of American welding society convention. Eng N 111:444-5 O 12 '33
- Welding of structural nickel steel; abstract. W. L. Warner. Iron Age 132:24-5 O 12 '33; Elec W 102:569 O 28 '33
- Welding progress facilitates bridge reconstruction and repair. A. Vogel. il Iron Age 132:18-23 S 28 '33

*See also*

- Steel construction—Welding

**STEEL alloys**

- Alloy steel castings regularly made. A. W. Gregg. Iron Age 132:15-17 O 5 '33
- Alloy steel scrap problem must be solved. K. Steinbacher. Iron Age 130:sup16 N 17 '32
- Alloy steel will help industry to win new markets in future. il Steel 92:65-6 Ja 2 '33
- Alloy steels and their uses in the mining industry. W. J. Priestley. il Min Cong J 19:23-4+ Mr '33
- Alloy steels in construction of Bulolo dredge. W. F. Boericke. il Min & Met 14:247-8 My '33
- Alloy tool steels and the development of high speed steel. A. S. Townsend. Am Soc Steel Tr Trans 21:769-95 [bibliog p794-5] S '33
- Alloys in steel castings; symposium at A.F.A. convention. Foundry 61:50+ JI '33; Same. Steel 92:43 Je 26 '33
- Alloys move forward. Iron Age 131:39-41 Ja 5 '33
- Ascendency of alloy steel castings. Iron Age 132:11 Ag 24 '33
- Beitrag zur kenntnis der mechanischen eigenschaften grösster schmiedestücke. E. Maurer and H. Korsch. il diags Stahl & Eisen 53:209-15, 243-51, 271-9; Discussion. 279-81 Mr 2-16 '33
- Classes and uses of nickel-steel castings. A. G. Zima. Iron Age 132:59 S 14 '33
- Composition limits for alloy steel. F. Giolitti. Metal Prog 24:41-2 Ag '33
- Continued progress in alloy steels. Chem Age (Lond) 27:sup31 D 3 '32
- Copper as an alloy in steel and iron. E. F. Cone. Am Mach 77:681-3 O 25 '33
- Crankshafts; a brief consideration of the influence of molybdenum. Automobile Eng 23:221 Je '33
- Data on some special steels for machine gun barrels. V. V. deSveshnikoff. Am Soc Steel Tr Trans 21:652-62 JI '33
- Dauermagnetwerkstoffe auf der grundlage der ausscheidungshärtung. W. Köster. il Stahl & Eisen 53:849-56 Ag 17 '33
- Definition of alloy steels; German classification. H. Diergarten. Metal Prog 24:44-5 N '33

**STEEL alloys—Continued**

- Develops manganese-chrome-vanadium steel for automotive forgings. H. T. Chandler and C. N. Dawe. *il Steel* 93:23-6+ S 25 '33
- Develops nickel-chrome-molybdenum steels for heavy-duty forgings. M. R. Chase. *il Steel* 92:23-5 My 15; 23-5 My 22 '33
- Embrittlement of steel at high steam temperatures. H. A. Dickie. *Engineering* 136:108-9 Ag 4 '33
- Fatigue and the hardening of steels. H. J. French. *il Am Soc Steel Tr Trans* 21:899-946 O '33; Excerpts. *Iron Age* 132:23 O 26 '33
- Festigkeitseigenschaften von stahl, stahlguss und gusseisen in der kälte. R. Wallé. *Chemische Fabrik* 6:220-2 My 24 '33
- Further contribution on the constitution of the Fe-C-Si system. A. Kfíz and F. Pobofil. *diag Iron & Steel Inst J* 126:323-49, pl 33-4 no 2 '32
- Further experiments on the forgeability of steel. O. W. Ellis. *il Am Soc Steel Tr Trans* 21:673-99; Discussion. 699-707 Ag '33
- Further studies on chromium-nickel-iron and related alloys. V. N. Krivobok and others. *il Am Soc Steel Tr Trans* 21:22-60; Discussion. 60-72 Ja '33
- Gear materials and blanks; American recommended practice approved July 31, 1933 by the American standards association. *Am Mach* 77:533-4 Ag 16 '33
- Graded or interrupted hardening avoids cracks and soft centers in high alloys. H. Diergarten. *il Metal Prog* 23:27-30+ Mr '33
- Growth in the use of alloy steels. *Iron Age* 132:17 S 7 '33
- Large castings improved by air cooling. T. N. Armstrong. *Metal Prog* 23:33-5 Ap '33
- Metallurgists' contributions to automotive development. F. M. Heldt. *il Automotive Ind* 69:64-8 Jl 15 '33
- Modern alloys; their application to the solution of refinery problems. A. L. Foster. *il Nat Pet N* 24:45-6+ N 16; 27-8+ D 7 '32
- Neuere entwicklungen auf dem edelstahlgebiet. E. Houdremont and H. Kallen. *il Zeit Ver Deutsch Ing* 77:191-5 F 25 '33
- Numbering code for alloy steel and nonferrous metals used in Germany. H. Diergarten. *Metal Prog* 22:49-50+ D '32
- Part played by alloy steels in the machine age. *il Mach* 40:68-71 O '33
- Physical and mechanical properties of some well-known cast steels. C. H. Lorig and C. E. Williams. *Am Soc T M Proc* 32 pt 2:114-96 [bibliog p193-6] '32
- Practical value seen in studies of alloy constitutional diagrams. *Steel* 93:38-9 O 9 '33
- Prevention of flakes in alloy steels. H. H. Ashdown. *il Metal Prog* 24:13-17+ N '33
- Purchase requirements for steel castings, with notes on physical properties in test bars and in commercial castings. R. A. Bull. *il Am Soc T M Proc* 32 pt 2:77-105; Discussion. 106-13 '32
- Reducing tool costs by using alloy steels. R. P. White. *Mach* 39:661-3 Je '33
- Research and service guides to efficient purchasing. W. J. Priestley. *Steel* 92:36-7 Je 26 '33
- Special steels. T. H. Burnham. 2d ed 233p 33 Pitman '33
- Special steels for castings. R. A. Bull. *Foundry* 61:21-2+ Ja; 15-16+ F '33
- Standard steels for nitriding. F. Giolitti. *Metal Prog* 23:39+ My '33
- Structure of an alloy steel. O. W. Ellis. *il Iron Age* 132:14-17+ S 28; 21-4 N 2 '33 (to be cont)
- Suppression of banding in SAE 3100 gear steels. H. L. Geiger. *il Metal Prog* 23:37-40 Ja '33
- Using steel castings for strength and reliability. *il Mach* 40:77-80 O '33
- What is an alloy steel?—survey of opinions and some suggestions. E. F. Cone. *Iron Age* 132:14-15+ S 14 '33

What steel to use at high pressures and temperatures; effect of hydrogen. J. L. Cox. *bibliog Chem & Met Eng* 40:405-9 Ag '33

**See also**

Chromium nickel steel	Steel, Corrosion resisting
Chromium steel	Steel, Heat resisting
Cobalt steel	Steel, Stainless
Manganese steel	Steel, Structural
Molybdenum steel	Tool steel
Nickel steel	Tungsten steel
Silicon steel	Vanadium steel
Steel, Automobile	

**Analysis**

*See Steel—Analysis*

**Testing**

- Alloys superior to carbon steel in endurance test of valve springs. P. M. Heldt. *diags Automotive Ind* 67:672-5+ N 26 '32
- Contribution to the study of the properties of austenitic steels. L. B. Pfeil and D. G. Jones. *Iron & Steel Inst J* 127:337-78 [bibliog p376-8] pl 25-6 no 1 '33; Same cond. *Engineering* 136:50-2 Jl 14 '33; Discussion. *Iron & Steel Inst J* 127:379-89 no 1 '33
- Effect on steel of hydrogen at high pressures and temperatures. N. P. Inglis and W. Andrews. *Iron Age* 132:70+ O 12 '33
- Explanation of mechanism of corrosion fatigue and its application to sucker rod failures. E. B. Wescott and C. N. Bowers. *il Oil & Gas J* 32:65+ O 26 '33
- Metallurgical problems arising from internal combustion engine valves. J. R. Handforth. *Iron & Steel Inst J* 126:93-131, pl 5-16a no 2 '32; Excerpts. *Automobile Eng* 22:468-75 O '32; *Engineering* 135:55-8, 83-5 Ja 13-20 '33; Discussion. *Iron & Steel Inst J* 126:132-57 no 2 '32
- Relation between tensile and torsional properties of alloy steels; abstract. I. Lyse and H. J. Godfrey. *Automotive Ind* 69:70 Jl 15 '33
- Representative properties of cast medium pearlitic steels. F. Grotts. *il Am Soc T M Proc* 32 pt 2:197-211; Discussion. 212 '32
- Rivets have high tensile strength without excessive hardness; cromansil steels. A. E. Gibson. *il diags Steel* 93:27-9+ O 2 '33; Abstract. *Mech Eng* 55:699 N '33
- Role of nickel in nitriding steels. H. J. French and V. O. Homerberg. *il Am Soc Steel Tr Trans* 20:481-504 D '32; Abstracts. *Iron Age* 130:534-5+ O 6 '32; *Automotive Ind* 67:640-3 N 19 '32; Discussion. L. Guillet; J. Strauss. *Am Soc Steel Tr Trans* 20:505-6 D '32; Same. (Guillet). *Iron Age* 130:578 O 13 '32
- Testing riveted joints of cromansil steel. I. Lyse. *diags Eng N* 110:584-5 My 11 '33
- Toughness of alloy steels at low temperatures. J. J. Egan, W. Crafts and A. B. Kinzel. *Metal Prog* 24:18-20 S '33

**STEEL barrels.** *See Barrels, Steel*

**STEEL bars**

- Important reclassification of flat-rolled steel. *Iron Age* 132:44H-44O S 7 '33
- Permissible variation in sizes of cold-finished bar stock and shafting; data sheet. *Mach* 40:136A N '33
- Permissible variation in sizes of hot-rolled steel bar stock; data sheet. *Mach* 40:136A N '33
- Permissible variations in sizes of bars. *Iron Age* 132:30 Jl 6 '33

**Manufacture**

- Producing precision hot-rolled and cold-drawn round steel bars; Union drawn steel co. Massillon, O. E. S. Heck. *il Steel* 93:25-7 O 9 '33
- Rolling merchant bars. W. Trinks. *Blast F & Steel Pl* 21:485, 535 S-O '33

**Prices**

- Finished material; market history; tabulation. *Steel* 92:116, 117, 120 Ja 2 '33
- Semifinished material; market history; tabulation. *Steel* 92:110-11 Ja 2 '33

**STEEL cars.** *See Cars, Steel*



**STEEL castings**

Alloy steel castings regularly made. A. W. Gregg. *Iron Age* 132:15-17 O 5 '33

Alloys feature castings progress. *Iron Age* 131:42-5 Ja 5 '33

Alloys in steel castings; symposium at A.F.A. convention. *Foundry* 61:50+ J1 '33; Same. *Steel* 92:43 Je 26 '33

Application of steel castings in mining equipment. W. M. Sheehan. *Iron Min & Met* 14: 257-9 Je '33

Ascendency of alloy steel castings. *Iron Age* 132:11 Ag 24 '33

Austenitic manganese steel castings. J. H. Hall. *Am Soc T M Proc* 32 pt 2:238-50; Discussion. 251-2 '32

Bonds sand molds with cement; French foundry steel castings. V. Delport. *Iron Foundry* 61:44-5+ Je '33

Car trucks and steel castings. H. M. Pflager. *Ry Age* 95:18 J1 1 '33

Cast steel in Europe and America. L. Shane. *Foundry* 61:19-20+ Ag '33; Discussion. G. Batt; P. Dwyer. 61:22-3+ S; 17-18+ O '33

Castings of corrosion-resistant steels. J. Strauss. *Am Soc T M Proc* 32 pt 2:213-30; Discussion. 231-7 '32

Cast electric steel centrifugally. *Iron Foundry* 61:84 Je '33

Chrome-nickel steel for navy cast steel anchor chain. T. N. Armstrong. *Iron Age* 131: 100-1+ Ja 12 '33

Chromium in steel castings; abstract. J. H. Critchett. *Iron Age* 131:991-2 Je 22 '33

Chromium-nickel-iron castings from sulphite service. G. L. Cox and F. L. LaQue. bibliog *Iron Paper Tr J* 96:30-6 My 4 '33

Chromium steels improved by nitrogen. R. Franks. *Iron Age* 132:10-13 S 7 '33

Classes and uses of nickel-steel castings. A. G. Zima. *Iron Age* 132:59 S 14 '33

Company classifies steel castings; Detroit steel casting co. F. G. Steinebach. *Iron Foundry* 61:14-15+ Ap '33

Control features steel foundry; Detroit steel casting co. F. G. Steinebach. *Iron Foundry* 61: 20-2+ F '33

Crime of selling below cost. F. A. Melmoth. *Ptr Ink* 162:75-7 Ja 19 '33

Electric steel, rotary cast, bypasses semi-fining mills. J. D. Knox. *Iron Steel* 92:11-12+ Mr 13 '33

Festigkeitseigenschaften von stahl, stahlguss, und gusseisen in der kälte. R. Walle. *Chemische Fabrik* 6:220-2 My 24 '33

First report of the Steel castings research committee of the Iron and steel industrial research council; abstracts. *Engineering* 135: 557-8 My 19 '33; *Engineer* 155:496 My 19 '33; Discussion. *Iron and Steel Inst J* 127:445-58 no 1 '33; *Engineering* 135:589-90 Je 2 '33; *Engineer* 155:496-7 My 19 '33

Fusion welding as related to steel castings. T. S. Quinn. *Am Soc T M Proc* 32 pt 2: 269-91; Discussion. 292 '32

General survey of the steel castings industry. W. C. Hamilton. *Am Soc T M Proc* 32 pt 2:45-9 '32

George Washington bridge; materials and fabrication of steel structure. H. J. Baker. *Am Soc C E Proc* 59:290-8 F '33

Improvements in iron and steel meet the designer's needs. *Mach* 39:33-2 Ja '33

Inclusions in acid electric steel. H. D. Phillips. *Foundry* 61:21-2+ My '33

Inclusions; their effect, solubility and control in cast steel; abstract. C. E. Sims and G. A. Lillieqvist. *Ry Age* 94:336-7 Mr 4 '33

Large castings improved by air cooling. T. N. Armstrong. *Metal Prog* 23:33-5 Ap '33

Large steel castings made by Messrs. Hadfields limited. *Engineering* 135:633 Je 9 '33

Loam mold for large steel casting. H. V. Fell. *Iron Foundry* 60:20-1+ N; 22-3+ D '32

Many castings are used in largest testing machine. *Iron Foundry* 61:38+ S '33

Molybdenum in steel castings. H. W. Gillett and J. L. Gregg. *Foundry* 61:27+ J1 '33; Abstract. *Iron Age* 131:sup12 Je 29 '33

New developments in cast die and tool steels. *Mach* 39:415 F '33

New heat treatment for carbon steel locomotive castings. A. W. Gregg. *Iron Age* 131: 192-3+ F 2 '33

New steel process; Naugle-Townsend. *Comm & Fin* 22:499 Je 7 '33

Non-metallic impurities in steel castings. F. Giolitti. *Engineer* 156:sup[Metallurgist] 60-2 Ag 25 '33

Normalizing steel castings. W. S. Scott. *Iron Age* 132:20-3 S 21 '33

Oxygen in acid electric steel. H. D. Phillips. *Foundry* 61:13-14+ Mr '33

Physical and mechanical properties of some well-known cast steels. C. H. Lorig and C. E. Williams. *Am Soc T M Proc* 32 pt 2:114-96 [bibliog p193-6] '32

Physical properties of welded cast steel. C. H. Jennings. *Iron Age* 132:22 O 12 '33; Excerpts. *Automotive Ind* 69:456 O 14 '33; *Eng N* 111: 445 O 12 '33; Discussion. R. A. Bull. *Iron Age* 132:22-3 O 12 '33

Pours steel castings on conveyors; Detroit steel casting co. F. G. Steinebach. *Iron Foundry* 61:10-12+ Ja '33

Problems and practices in the heat treatment of steel castings. A. W. Lorenz. *Iron Age* 132:22-3 pt 2:253-68 '32

Produce better castings at greatly reduced costs. *Iron Steel* 92:96-7 Ja 2 '33

Producing small steel castings. R. Burke. *Iron Foundry* 61:22-3+ O '33

Pullman builds 79-ton hopper car with cast-steel underframe. *Ry Age* 94:472-4 Ap 1 '33; Same cond. *Ry Mech Eng* 107:155-8 My '33

Redesigns electric furnace for smaller capacity; West steel casting co. Cleveland. R. R. West. *Iron Age* 132:23-5 Je 19 '33; Same. *Foundry* 60:18-19+ D '32

Representative properties of cast medium pearlitic steels. F. Grotts. *Am Soc T M Proc* 32 pt 2:197-211; Discussion. 212 '32

Research and development in car and locomotive materials. L. H. Fry. *Ry Age* 95:32+ J1 1 '33

Special steels for castings. R. A. Bull. *Foundry* 61:21-2+ Ja; 15-16+ F '33

Stainless steel pressure castings; methods of molding, coremaking and gating. S. R. Robinson. *Iron Foundry* 60:25+ D '32

Steel casting classifications. D. M. Avey. *Foundry* 61:21+ Mr '33

Steel castings; foundry of Kryn and Lahy at the Garden City, Letchworth. *Iron Engineer* 155:424 Ap 28 '33

Steel castings industry needs elasticity in labor conditions. F. A. Lorenz, jr. *Foundry* 61:25+ O '33

Steel foundry activity. *Iron Age* 131:937 Je 15 '33

Studies on solidification and contraction and their relation to the formation of hot tears in steel castings; abstract. C. W. Briggs and R. A. Gezelius. *Iron Age* 132:35 S 28 '33

Three per cent chromium steel castings combine toughness and hardness. *Steel* 92:20 Ja 9 '33

Using steel castings for strength and reliability. *Mach* 40:77-80 O '33

Wear of metal in Muller tires in the clay industry; chrome-molybdenum alloy steel casting reveals longer performance qualities. J. Mayer. *Brick & Clay Rec* 81:168 N '32

Welds defective casting without disturbing set-up. *Iron Age* 132:24 Ag 24 '33

World output back to start of century. *Steel* 92:82-3 Ja 2 '33

See also  
Steel ingots

**Design**

Design of steel castings. F. A. Lorenz, jr. *Iron Age* 132:22-3 pt 2:557-72 '32; Same abt. *Foundry* 60:20-2+ O '32; Same. *Steel* 91:21-2+ D 12; 19-21 D 26 '32; Discussion. *Am Soc T M Proc* 32 pt 2:73-6 '32

**Prices**

Price structure for steel castings nears reality. *Steel* 92:14-15 Mr 13 '33

**Specifications**

Carbon steel castings for industrial, railroad and marine uses; tentative standards. *Am Mach* 77:693-4 O 25 '33

**STEEL castings—Specifications—Continued**

- Consolidated specifications for carbon steel castings approved. *Iron Age* 132:33 O 5 '33
- Gear materials and blanks; American recommended practice approved July 31, 1933 by the American standards association. *Am Mach* 77:533-4 Ag 16 '33
- Purchase requirements for steel castings, with notes on physical properties in test bars and in commercial castings. *R. A. Bull.* il *Am Soc T M Proc* 32 pt 2:77-105; Discussion. 106-13 '32
- Recent progress in drafting A.S.T.M. specifications for steel castings. *R. A. Bull.* il *Steel* 93:30-2+ O 2; 28+ O 9 '33

**Statistics**

- 1932 steel ingot and casting output at lowest point of twentieth century. *Steel* 93:20-1 J1 3 '33
- Statistical data on steel casting production in the United States. *G. P. Rogers.* *Am Soc T M Proc* 32 pt 2:50-7 '32

**Testing**

- Dynamic properties of steel castings. *F. Grotts.* *Iron Age* 131:1042 Je 29 '33
- Purchase requirements for steel castings, with notes on physical properties in test bars and in commercial castings. *R. A. Bull.* il *Am Soc T M Proc* 32 pt 2:77-105; Discussion. 106-13 '32
- Recent progress in drafting A.S.T.M. specifications for steel castings. *R. A. Bull.* il *Steel* 93:30-2+ O 2; 28+ O 9 '33
- Recherches sur le moulage des pièces d'acier. *diags Génie Civil* 103:257-9 S 9 '33
- Recovery of steel after fatigue testing. *R. A. Stephen and W. R. D. Jones.* *il diag Engineer* 155:sup [Metallurgist] 36-8 Je 30 '33
- STEEL ceilings.** See Ceilings, Steel

**STEEL construction**

- All steel skyscrapers are not lightning proof; installation of a modern lightning rod system on the General Electric building, New York. *Steel* 93:27 N 6 '33
- Building a steel shelter over Casa Grande ruins. *F. A. Kittredge and E. A. Nickel.* *il diags Eng N* 111:46-8 J1 13 '33
- Buildings in earthquake zones. *Can Eng* 64:12 My 16 '33
- Competitive design of steel structures. *P. Russell and G. Dowell.* 426p Chapman & Hall, Ltd, London '33
- Empire State building, New York city. *F. W. Skinner.* *il diags Engineering* 134:556-9, 641-4, pl 24 N 18, D 2 '32
- Fabrication of steel for the Sky Ride at Century of progress exposition. *E. T. Blix.* *diags W Soc E J* 38:182-92 Ag '33
- Inland steel co. builds aerial tram for disposal of coal mine waste. *il Iron Age* 131:430-1 Mr 16 '33
- Interesting steel dome to be fixed on top of a Roman Catholic church in Bogota. *il Engineer* 156:69 J1 21 '33; *Engineering* 136:153 Ag 11 '33
- Manitoba telephone building, Winnipeg structural steel with reinforced concrete slabs. *il Can Eng* 64:11-13 Mr 21 '33
- Meet mooring mast requirements with alloy steel and welding. *A. E. Gibson.* *il Steel* 92:21-3+ Ap 10 '33
- New era for industry. *C. F. Abbott.* *Steel* 92:7 F 13 '33
- Newspaper building floor designed for 2,100-lb. load; Times-Star building in Cincinnati, supported with pipe-pile foundations. *W. A. Lensky.* *il Eng N* 110:587-8 My 11 '33
- RCA building of 69 stories rivals Empire State. *il diags plans Eng N* 109:587-90 N 17 '32
- Reinforced-brick walls reduce steelwork. *L. B. Lent.* *diags Eng N* 111:257-8 Ag 31 '33
- Sectional panel construction for service stations creates new outlet for steel. *H. E. Riber.* *il Iron Age* 132:26 Ag 24 '33
- Steel buildings of a new type. *F. Giolitti.* *Metal Prog* 23:42-3 Je '33
- Steel can save farmers \$300,000,000 a year. *R. Fiske.* *il Iron Age* 123:16-17 S 14 '33
- Steel constructors consider engineering problems. *Steel* 93:29 O 23 '33

Steel homes for cows. *diag Iron Age* 131:775 My 18 '33

- Structural engineering; Philadelphia saving fund society building. *il diags Arch Forum* 57:547-8 D '32
- Structural steelwork; report on steel-work for buildings; summary. *Engineering* 136:190 Ag 25 '33
- Warner & Swasey to construct new McDonald observatory, University of Texas. *il Iron Age* 132:31 O 12 '33

**See also**

- |                               |                       |
|-------------------------------|-----------------------|
| Bridges, Iron and steel       | Girders               |
| Ceilings, Steel               | Riveting              |
| Columns, Steel                | Scaffolding, Steel    |
| Concrete, Reinforced          | Ships, Iron and steel |
| Concrete construction         | Steel, Structural     |
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| Floors, Steel                 | Strains and stresses  |
|                               | Strength of materials |
|                               | Towers, Steel         |

**Brick encasement**

- Compressive strength of steel columns incased in brick walls. *A. L. Harris, A. H. Stang and J. W. McBurney.* *il diags U S Bur Stand J Research* 10:123-38 Ja '33

**Concrete encasement**

- New bridge at Brisbane, Australia. *il Engineer* 155:186-7, 196 F 24 '33
- Les planchers à poutrelles en acier enrobées de béton. *F. Chaudy.* *diags Génie Civil* 103:283-4 S 16 '33

**Design**

- Analysis and design of steel structures. *A. H. Fuller and P. Kerekes.* 451p Almon Homer Fuller, Ames, Iowa '33
- Architecture applied to elevated steel tanks; structural innovations on Baltimore and Tallahassee installations. *il plans Eng N* 110:403-5 Mr 30 '33
- Chicago exhibition; some notable buildings. *il diags Engineer* 155:315-17 Mr 31 '33
- Design of simple steel structures. *C. T. Morris.* 4th ed 279p \$2.50 McGraw-Hill '33
- Design of Skyway and observation towers. *W. G. Grove.* *il Civil Eng* 3:513-15 S '33
- Design of steel mill buildings and the calculation of stresses in framed structures. *M. S. Ketchum.* 5th ed 632p \$6 McGraw-Hill '32
- Design of steel sheet-piling bulkheads. *R. P. Pennoyer.* *il diags Civil Eng* 3:615-19 N '33
- Designing structural steel for economical fabrication. *A. Reichmann.* *W Soc E J* 38:39-46 F '33
- Earthquake design for bank buildings; four new branches of the Mitsui bank in Japan. *P. F. Pape.* *il diags plans Eng N* 110:457-60 Ap 13 '33
- 1850-foot sky ride at World's fair embodies spectacular design. *il Steel* 92:17-18 Ja 23 '33
- George Washington bridge; design of the towers. *L. S. Moisseiff.* *il diags Am Soc C E Proc* 58:1727-68 D '32
- Hospital addition introduces welding in San Francisco; eight-story Medical school building, University of California. *E. M. Knapik.* *il diags Eng N* 110:222-3 F 16 '33
- Principles and practice in welded joint design. *G. D. Fish.* *diags Eng N* 109:773-7 D 29 '32
- Rational design of steel columns. *D. H. Young.* *Civil Eng* 3:455-6 Ag '33
- Rockefeller Center; three theaters to entertain Radio City crowds; international music hall. *il diags plans Eng N* 109:583-6 N 17 '32
- Split-H end connections for wind girders. *W. C. Huntington and P. Nielsen.* *Civil Eng* 3:457 Ag '33
- Wind bracing. *A. Smith.* *diags W Soc E J* 38:1-18 F '33
- Wind bracing in steel buildings; Am. Soc. C.E. structural division's subcommittee no. 31 third progress report. *Civil Eng* 3:145 Mr '33
- Wind-stress analysis and moment distribution; Cross method. *R. Fleming.* *Eng N* 110:194-5 F 9 '33



## STEEL construction—Continued

## Erection

- Development of air rights entails difficult substructure work; more than 200 column footings placed at the Pennsylvania station, New York, for post office extension. *il plan Ry Age* 95:342-5 S 2 '33
- Empire State building, New York city. F. W. Skinner. *il Engineering* 134:641-4, pl 24 D 2 '32
- Erecting roof trusses in Rockefeller Center. *il diags Eng N* 109:614-17 N 24 '32
- George Washington bridge; construction of the steel superstructure. E. W. Bowden and H. R. Seely. *il diags plans Am Soc C E Proc* 59:65-152 Ja '33
- Hauling and erecting large steel girders; approach plaza of George Washington bridge. W. G. Rapp. *il plan Civil Eng* 3:373-5 J1 '33
- Skyscraper steel erection in the RCA building. *il diag plans Eng N* 109:618-19 N 24 '32
- Varied steel-erection practice on New Jersey viaduct; three miles of truss spans on high-level structure on Holland Tunnel approach highway. *il diag Eng N* 110:43-8 Ja 12 '33

## Fire resistance

- Steel joist construction and the modern building code. R. C. Manning. *il Can Eng* 63:7-12 D 20 '32

## Guniting encasement

- Guniting retains integrity on Oregon road bridges. C. B. McCullough. *il Eng N* 111:259-60 Ag 31 '33

## Gypsum encasement

- Fire tests of columns protected with gypsum. N. D. Mitchell. *diags pls U S Bur Stand J Research* 10:737-55 Je '33; *Abstract. Eng N* 111:195-6 Ag 17 '33

## Welding

- All-welded factory erected by the Bata shoe co. at East Tilbury. *il Elec R (Lond)* 112:901 Je 23 '33
- Arc-welded steel frame structures. G. D. Fish. 401p \$5 McGraw-Hill '33
- Arc-welded steel plate wall; Rex Cole display building, Brooklyn, New York. G. Fortin. *il diags Arch Rec* 72:410-11 D '32
- 1850-foot sky ride at World's fair embodies spectacular design. *il Steel* 92:17-18 Ja 23 '33
- Electric welding; erection of 20 all-welded buildings for the Bata shoe co. ltd. *Electrician* 110:631 My 12 '33
- Erecting steel buildings and strengthening steel bridges by welding; abstract. F. P. McKibben. *Iron Age* 131:706 My 4 '33
- Grandstand deck is formed of steel plates, all arc welded. *il Steel* 92:25 Ap 17 '33
- Hospital addition introduces welding in San Francisco; eight-story Medical school building, University of California. E. M. Knapik. *il diags Eng N* 110:222-3 F 16 '33
- Methods of reconstructing old steel bridges. C. A. Melick. *diags Roads & Sts* 76:236-9+ Je '33; *Excerpts. Eng N* 110:706-8 Je 1 '33
- Neuere geschweisste rohrrbauten. A. Hilpert and O. Bondy. *il diags Zeit Ver Deutsch Ing* 77:701-6 J1 1 '33
- Les prescriptions allemandes de 1931 sur les constructions soudées. L. Carpentier. *diags Génie Civil* 101:459-61 N 5 '32
- Principles and practice in welded joint design. G. D. Fish. *diags Eng N* 109:773-7 D 29 '32
- Structural steel welding. I. H. Bowman. *bibliog il diags Arch Forum* 58:165-72 F '33
- Supervision of arc-welded construction. A. S. Coombs. *il Am Arch* 143:51-2 My '33
- Telescopes are housed in welded steel buildings; United States naval observatory, Washington. *il Steel* 93:26-7 O 16 '33
- Tests of riveted and welded steel columns. W. A. Slater and M. O. Fuller. *il diags Am Soc C E Proc* 58:1147-80 S '32; *Discussion. 59:199-206, 380-3, 841-2 Ja-F, My '33*
- Tubes welded to spheres. A. F. Burstall. *il Metal Prog* 23:48-9 F '33
- Welded house introduces new type of construction. *il Dom Eng* 140:37-9 D '32

Welded steel roof trusses economical. J. E. Webster. *il diag Civil Eng* 3:282 My '33

## See also

Steel, Structural—

Welding

## STEEL construction, Subaqueous

Steel island for offshore oil drilling. W. A. Sawdon. *il diags Eng N* 110:400-1 Mr 30 '33

## STEEL construction in mines

Will United States follow Europe in wide use of steel arches, posts and straps for coal mine timbering? R. D. Hall. *il Coal Age* 38:9-11 Ja '33

STEEL containers. See Containers, Steel

## STEEL cutting

- Abstracts of papers read at annual meeting of American society of mechanical engineering. *Steel* 91:31 D 19 '32
- Cemented carbide cutting tools. M. F. Judkins and W. C. Uecker. *il diags Am Mach* 77:364-8 Je 7 '33
- Controlled cooling to promote machinability. O. W. McMullan. *il Metal Prog* 24:25-8 S '33
- Cutting risers from chrome-nickel steel castings. R. B. Aitchison. *Mach* 39:479 Mr '33
- Cutting steel under water by using oxygen-hydrogen torch. C. Kandel. *il Mach* 39:369-73 F '33
- Effect of lathe cutting conditions on the hardness of carbon and alloy steels. T. G. Digges. *U S Bur Stand J Research* 10:77-8 Ja '33
- Factors that affect machinability. F. R. Palmer. *Metal Prog* 23:17-19 Ap '33
- Flame cuts series of 208 holes in  $\frac{1}{2}$ -in. steel plate. *il Iron Age* 132:19 Ag 10 '33
- Forschung und forschungsergebnisse zur schnitt-theorie. F. Schwerdt. *il diags Zeit Ver Deutsch Ing* 76:1257-65 D 24 '32
- Free-cutting screw stock. *Mach* 40:98 O '33
- Life of turning tools as influenced by shape. O. W. Boston and W. W. Gilbert. *il diags Iron Age* 132:32-5 S 23; 24-6 O 5 '33; *Excerpt. Automotive Ind* 69:674 D 2 '33; *Discussion. Iron Age* 132:28 O 12 '33
- Machinability of screw machine stock. H. W. Graham. *il Mach* 39:793-5 Ag '33
- Manufacture of rapid machining steel; Phoenix steel. *il Engineering* 136:58-9 J1 21 '33; *Engineer* 156:58-9 J1 21 '33
- Phoenix rapid machining steel. *il diags Automobile Eng* 23:333-4 S '33
- Qualities of coal gas for welding; cutting of steel by oxygen machines. C. G. Bainbridge. *Gas Age* 71:211 F 25 '33
- Schneidversuche mit gewindebohrern auf stahl. H. J. Stoewer. *Zeit Ver Deutsch Ing* 77:403-4 Ap 15 '33
- What the user should know about free-cutting steels. H. W. Graham. *Iron Age* 131:903-4+ Je 8 '33
- See also
- Cutting tools
- Machine tools
- Metal cutting
- STEEL forgings
- Advances in die making result in better forgings. G. S. Brady. *il Iron Age* 131:615-16 Ap 20 '33
- Behavior of steel in sulphur-containing atmospheres at forging temperatures. D. W. Murphy. *il Am Soc Steel Tr Trans* 21:510-29 Je '33; *Abstract. Iron Age* 130:770 N 17 '32; *Discussion. Am Soc Steel Tr Trans* 21:529-31 Je '33
- Develops manganese-chrome-vanadium steel for automotive forgings. H. T. Chandler and C. N. Dawe. *il Steel* 93:23-6+ S 25 '33
- Develops nickel-chrome-molybdenum steels for heavy-duty forgings. M. R. Chase. *il Steel* 92:23-5 My 15; 23-5 My 22 '33
- Effect of lathe cutting conditions on the hardness of carbon and alloy steels. T. G. Digges. *U S Bur Stand J Research* 10:77-8 Ja '33
- Further experiments on the forgeability of steel. O. W. Ellis. *il Am Soc Steel Tr Trans* 21:673-99; *Discussion. 699-707 Ag '33*

**STEEL forgings—Continued**

- Gear materials and blanks; American recommended practice approved July 31, 1933 by the American standards association. *Am Mach* 77:533-4 Ag 16 '33
- Hints on forging the stainless steels. R. W. Thompson. *il Metal Prog* 23:25-8 Ap '33
- Prevention of flakes in alloy steels. H. H. Ashdown. *il Metal Prog* 24:13-17+ N '33
- 72-in. hollow-forged reaction chamber. *il diags Engineering* 134:559-61, pl 21 N 11 '32
- Ursachen und vermindernung von sandstellen in schweren schmiedestücken. K. Daeves. *Stahl & Eisen* 52:1162-8 N 24 '32; Discussion. 53:319-26 Mr 30 '33
- Use of gas diffusion burner system in forging work. H. M. Heyn. *il Iron Age* 131:945+ Je 15 '33
- Using forged plate housings on 84-inch cold mill. H. G. Marsh. *il diags Steel* 92:23-5 Mr 13 '33; Abstract. *Iron Age* 132:14-15; Discussion. L. Jones. 15+ JI 13 '33
- Wire rope sockets are drop forged to finished size. T. J. Black. *il Steel* 92:27 Mr 27 '33
- World's largest hollow forging; reaction chamber for cracking unit. *il Chem Age (Lond)* 27:sup33 D 3 '32

**Testing**

- Beitrag zur kenntnis der mechanischen eigenschaften grösster schmiedestücke. E. Maurer and H. Korschman. *il diags Stahl & Eisen* 53:209-15, 243-51, 271-9; Discussion. 279-81 Mr 2-16 '33
- Eigenschaften in grossen schmiedestücken. G. Kirchberg. *Zeit Ver Deutsch Ing* 77:732 JI 8 '33
- Fatigue resistance of unmachined forged steels. G. A. Hankins and M. L. Becker. *diags Iron & Steel Inst* J 126:205-21, pl 21-2 no 2 '32; Same. *Engineering* 134:402-4 S 30 '32; Discussion. *Iron & Steel Inst* J 126:222-36 no 2 '32; *Engineering* 134:395-6 S 30 '32
- Works of Messrs C. A. Parsons and company, limited. *il diags Engineering* 134:673, 674-6 D 9 '32

**STEEL founders' society of America**

- Annual meeting, Detroit, Jan. 19. *Iron Age* 131:176+ Ja 26 '33; *Foundry* 61:23+ F '33

**STEEL handling**

- Monorail system effects great savings in warehouse. *il Iron Age* 130:761 N 17 '32
- Transporting hot ingots at Cambria works. D. E. Renshaw. *il Iron Age* 130:992-3 D 29 '32

**See also**

- Steel construction—  
Erection

**STEEL houses**

- Armco introduces the metal chassis; Century of progress frameless steel house. *il plans Am Bld* 55:45 Je '33
- British engineer invents thermostatic house which can be erected in 16 hours. *Business Week* p28 O 14 '33
- Cellular steel-unit house. C. M. Price. *il front Arch Rec* 74:249-51, 313 O '33
- Enameled sheets offer advantages for small steel buildings. *il plans Steel* 91:23-5 N 21 '32
- Frameless steel house; abstract. B. Chapple. *Iron Age* 132:42 O 26 '33
- Frameless steel houses. *il Sci Am* 147:337 D '32
- Heating a frameless steel house. J. J. Minich. *il plans Sheet Metal Worker* 23:522-4 D '32
- House uses framework of formed cold-rolled strips; Stran-steel house. *il diag Iron Age* 132:20-1 Ag 10 '33
- Notable steel frame is key to low cost of Stran-steel house; Century of progress exposition. *il diags plans Am Bld* 55:30-3 Je '33
- National steel home institute proposed. C. Grandy and G. W. Bittel. *Steel* 92:13-14+ Ap 24 '33
- New steel houses should be marketed through established building channels. B. Chapple. *il Am Bld* 54:18-19+ F '33
- People may live in steel houses. P. H. Hayward. *il Nation's Business* 20:38-9, 41-2 D '32
- Porcelain enameled houses. *il Metal Ind* 31:171 My '33

- Prefabricated sections used in new steel residence. *diag Steel* 93:26-7 JI 24 '33
- Steel for residences. F. T. Llewellyn and others. *Steel* 93:29-30 O 23 '33; *Iron Age* 132:33 O 26 '33; *Eng N* 111:512+ O 26 '33
- Steel framing for small residences; abstracts. *Steel* 93:36, 38 Ag 28 '33; *Iron Age* 132:30 Ag 24 '33
- Steel homes may spur housing industry. Bradstreet's 60:1551+ N 26 '32
- Steel house—a problem in merchandising. R. Tappan. *Iron Age* 131:432+ Mr 16 '33
- Steel houses. *Business Week* p10 Ag 5 '33
- Steel houses at the Fair. C. A. Strand; B. Chapple. *il Am Bld* 55:22-3 Ag '33
- Steel houses can now be seen and bought; a review. *il Arch Forum* 58:327-31 Ap '33
- Steel in residence construction. F. T. Llewellyn and F. N. Speller. *il diags Arch Rec* 73:438-42 Je '33
- Steel should improve existing methods of home building. L. H. Miller. *il Brick & Clay Rec* 82:58-9 F '33; Excerpt. *Steel* 92:10 F 20 '33; Excerpt. *Can Eng* 64:14 Mr 21 '33
- Stran-steel house. *il diags plan Arch Forum* 59:55 JI '33
- Welded house introduces new type of construction. *il Dom Eng* 140:37-9 D '32
- Wheeling enters steel house field. *diag Iron Age* 132:29-30 JI 27 '33
- World's fair exhibits to project use of steel in future houses. *il Steel* 92:21-3 Ap 3 '33

**STEEL industry and trade**

- Are our bread and butter accounts being neglected? *Sales Management* 32:61+ Ja 15 '33
- Cultivate new fields for tomorrow's steel sale's harvest. J. A. Murphy. *il Iron Age* 132:8-10 Ag 31 '33
- Engineering proves valuable aid to industry in depression year. E. F. Ross. *il Steel* 92:85-100 Ja 2 '33
- Extreme deflation an omen of early recovery in steel. *Steel* 92:7 Ja 9 '33
- Der heutige stand der eisenindustrien der welt. O. Petersen. *il maps Stahl & Eisen* 53:717-33 JI 13 '33
- Internationale tagung der stahlberatungsstellen. O. v. Halem. *Stahl & Eisen* 53:706-7 JI 6 '33
- National steel home institute proposed. C. Grandy and G. W. Bittel. *Steel* 92:13-14+ Ap 24 '33
- New deal in steel. G. L. Lacher. *Iron Age* 132:9-11 O 5 '33
- Outlook in the iron and steel industry. *Chem Age (Lond)* 28:sup7-8 F 4 '33
- Steel trade has shown some gains in Britain and on the continent. *Iron Age* 131:sup48 Ja 5 '33
- Warehouses and mills share problem of merchandising small lots of steel. W. S. Doxsey. *Steel* 92:25+ Je 5 '33

**See also**

- |                   |                   |
|-------------------|-------------------|
| Iron industry and | Steel—Prices      |
| trade             | Steel, Structural |
| Rolling mills     | Steel workers     |
| Sheet steel       | Steel works       |

**Advertising**

- Advertising in overalls, or 1933 aids to steel sales; abstracts. L. S. Hamaker. *Steel* 92:13-14 Mr 6 '33; *Ptr Ink Mo* 26:28-9+ My '33
- Continued on next page; Ryerson steel service carries a story through a page-sequence. *il Ptr Ink* 164:27 Ag 17 '33
- Notes on the use of imagination in industrial advertising; Jones & Laughlin steel corporation. G. C. Congdon. *il Ptr Ink* 163:8-10+ Je 15 '33

**Coal properties**

- Mines, or owners, captive? steel's problems in coal. R. H. Sweetser. *Steel* 92:13-14+ Mr 20 '33

**Finance**

- Financial analysis of iron and steel industry for 1932; earnings, capitalization, assets and liabilities of 20 producers having an annual ingot capacity of 200,000 tons or more. *Steel* 92:22a Ap 24 '33
- Profits in the steel industry. E. Newton. *Steel* 91:11-12 N 21; 11-13+ N 28; 11-13+ D 5 '32
- Profits of the steel industry, 1921-1932. Nat City Bank p141-3 S '33



**STEEL industry and trade—Finance—Cont.**

Steel producers' losses in third quarter. Steel 93:13-14 N 6 '33

Steel profits depend upon production. F. C. Smith. Iron Age 131:428-9 Mr 16 '33

*See also*

Bethlehem steel cor- United States steel  
poration corporation

**History**

Century of progress—in iron and steel industry. Steel 93:11-12 Jl 3 '33

**Securities**

Iron and steel shares. Economist 115:1245-6 D 31 '32

Position of leading steel stocks. Mag of Wall St 51:485; 52:426 F 18, Ag 19 '33

Steel companies, 1930-1932. Mag of Wall St Manual p38-9 Mr 6 '33

**Statistics**

American production of the rustless steels.

E. F. Cone. Iron Age 131:288 F 16 '33

Final figures show 1932 ingot output of 13,464,402 tons. Iron Age 131:sup 10 Je 29 '33

Imports and exports of United States iron and steel products during 1932. Min Cong J 19:7 Ap '33

Imports of iron and steel products into the United States, 1931, 1932. Iron Age 130:1004 D 29 '32

Iron and steel, 1932. Economist 116:sup51-2 F 18 '33

Iron and steel statistics. Published in monthly numbers of Survey of current business

Iron, steel exports decline faster than imports in 1932. Steel 92:12 Ja 30 '33

Markets plumb new lows in 1932, but fall rally heartens. E. C. Barringer. Steel 92:101-3 Ja 2 '33

Monthly averages of fourteen iron and steel products, 1921-1928; weekly and monthly averages, 1929-1932. Steel 92:124 Ja 2 '33

1932 establishes new low records in all branches of production. C. E. Wright. Iron Age 131:2-8+ Ja 5 '33

1932 steel ingot and casting output at lowest point of twentieth century. Steel 93:20-1 Jl 3 '33

Production of iron and steel and of commodities made from them. Iron Age 131:93-6 Ja 5 '33

Profits in the steel industry. E. Newton. Steel 91:11-13+ N 28; 11-13+ D 5 '32

Revised data on distribution of steel products in 1932. Iron Age 131:144 Ja 19 '33

Die roheisen- und rohstahlgewinnung der welt im jahre 1932. Stahl & Eisen 53:661-3 Je 22 '33

Seventy-four years of pig iron and 58 years of steel; graph. Iron Age 131:49 Ja 5 '33

Statistical record of 1932 in tabloid. Steel 92:80 Ja 2 '33

Steel consumed in 1932. Iron Age 131:9-10 Ja 5 '33

Steel industry—what of its future; distribution of steel to consuming groups. Steel 92:63-4 Ja 2 '33

Steel ingot output in 1932 smallest of this century. Iron Age 131:110 Ja 12 '33

Steel ingot production, 1923-1932; tabulation. Steel 92:122 Ja 2 '33

Steel ingot production, 1931-32; tabulation. Steel 92:8 Ja 9 '33

Steel production. Published in weekly numbers of Econostat

Die weltgewinnung an rohstahl und roheisen in den jahren 1927 bis 1932. Stahl & Eisen 52:1306 D 29 '32

What is the outlook for iron and steel. E. E. Thum. Chem & Met Eng 40:10-14 Ja '33

World output back to start of century. Steel 92:82-3 Ja 2 '32

World output of electric steel has fallen off only moderately. Iron Age 132:59 S 7 '33

World production of iron and steel declined less than American. E. F. Cone. Iron Age 131:106 Ja 12 '33

**Belgium**

Belgian works experience worst year in history. Steel 92:164-5 Ja 2 '33

**Central Europe**

Central Europe in depression. J. Tille. Steel 92:166-7 Ja 2 '33

**Europe**

European market developments in 1932 reviewed. Steel 92:154-68 Ja 2 '33

Europe's steel trade hopeful; quarterly review. V. Delpont. Steel 92:10 Ja 23; 93:17-18 Jl 31; 17-18 O 30 '33

Die neue Internationale rohstahlgemeinschaft Stahl & Eisen 53:744-5 Jl 13 '33

New Continental steel export cartel. Engineer 155:574 Je 9 '33

Steel cartel. Engineer 155:481 My 12 '33

**France**

Frankreichs roheisen-, flussstahl- und walzwerkserzeugung im jahre 1932. Stahl & Eisen 53:1094-5 O 19 '33

French comptoirs maintain prices under difficulties. J. M. Leon. Steel 92:161-2 Ja 2 '33

**Germany**

German steel; Hitler government fulfills promise to return Steel trust to private ownership but under government regulation. Business Week p27-8 N 11 '33

Germany's output goes back several decades. E. H. Regensburger. Steel 92:159-60 Ja 2 '33

Die koks- und briquettherstellung sowie eisen- und stahlerzeugung des Deutschen Reiches im jahre 1931. Stahl & Eisen 53:153-5 F 9 '33

**Great Britain**

Das britische weltreich auf dem wege zur selbstversorgung mit eisen und stahl. J. W. Reichert. Stahl & Eisen 52:1085-94 N 10 '32

British steel industry. H. S. Jevons. 31p Pitman '32

Centralized control is aim of British steel reorganization plan. Iron Age 131:631 Ap 20 '33

Eisenindustrie und eisenzölle in England. Stahl & Eisen 52:1280-2 D 22 '32

Great Britain puts her house in order. J. A. Horton. Steel 92:157-8 Ja 2 '33

Iron and steel industry; Import duties advisory committee report. Engineer 155:374 Ap 14 '33

Iron and steel reorganisation. Economist 116:678-9 Ap 1 '33

Iron and steel shares. Economist 115:1245-6 D 31 '32

New steel developments in Britain. A. J. Boynton. Il Blast F & Steel Pl 21:43-4 Ja '33

Reorganisation of the steel industry. C. Mitchell. Engineer 156:10 Jl 7 '33

Steel industry developments. Chem Age (Lond) 28:sup16 Mr 4 '33

Steel industry's example in cooperative export selling; abstract. J. Piggott. Chem Age (Lond) 28:92 F 4 '33

Stewarts and Lloyds. Economist 116:470-1, 917-18 Mr 4, Ap 29 '33

Tariffs and the steel industry. J. Beale. Engineer 155:605 Je 16 '33

*See also* Dorman Long and company

**India**

Iron and steel industry and trade of India. G. C. Howard. U S Bur For & Dom Com Trade Information Bul 816:1-23 '33

**Italy**

Italy endeavors to organize her industry. G. Vanzetti. Steel 92:163+ Ja 2 '33

**Japan**

Japanese steel merger; entire Japanese steel industry to be reorganized under central control. Business Week p23-4 Ja 25 '33

Die japanische eisen- und stahlindustrie im jahre 1932. Stahl & Eisen 53:565-6 My 25 '33

**Russia**

Russian output up to 5,500,000 tons. Steel 92:167-8 Ja 2 '33

## STEEL industry and trade—Continued

## United States

- American iron and steel institute issues instructions for submitting statistics under code. Iron Age 132:51A S 28 '33
- Bargaining codes. Business Week p5-6 JI 22 '33
- Board issues supplementary regulations on schedule E. Steel 93:15-16+ S 11 '33; Excerpt (Form of agreement). Iron Age 132:26FF S 21 '33
- Can steel maintain its present pace of recovery? C. M. Holmes. Mag of Wall St 52:318-19+ JI 22 '33
- Code basing points for iron and steel industry; chart. Iron Age 132:26DD-26EE S 21 '33
- Code of fair competition of the iron and steel industry; text. Steel 93:17-26, 69 Ag 28 '33
- Code procedure further clarified by commercial resolutions. Iron Age 132:48-50 S 28; 39 O 5 '33; Steel 93:13-14+ O 2 '33
- Concrete reinforcing code parallels steel provisions. Iron Age 132:46 S 14 '33
- Industrial snapshots; the present situation in coal and steel analyzed. J. Backman and A. L. Jackson. Barron's 13:6 O 16 '33
- Low stocks will quicken industry's response to increased buying. Steel 92:13-16 My 1 '33
- Merit clause is attacked in steel casting code. Iron Age 132:44 S 14 '33
- NRA studies testimony taken in code hearing; action near. Steel 93:11-14 Ag 7 '33
- Needless transportation in steel industry; ore and coal treatment urged to reduce transportation costs. R. H. Sweetser. Iron Age 131:506+ Mr 30 '33
- Das neue wettbewerbsgesetz der amerikanischen eisen- und stahlindustrie. J. W. Reichert. Stahl & Eisen 53:1031-7 O 5 '33
- New steel market, in relation to needs of the oil industry. W. F. Lowe. Nat Pet N 25:22+ JI 12 '33
- Outsider looks at the steel business. Steel 92:13+ Mr 27 '33
- Probable five-year future of steel. R. E. Baker and H. R. Moorhouse. Harvard Business R 11:133-45 Ja '33
- Profits in the steel industry. E. Newton. Steel 91:11-12 N 21; 11-13+ N 28; 11-13+ D 5 '32
- Purchasing methods in oil industry changed by steel code. W. F. Lowe. Nat Pet N 25:33-4 JI 26 '33
- Restlessness in steel; Republic steel corporation. il Fortune 8:52-5, 120-3 S '33
- Revised data on steel producing capacity by districts. Iron Age 131:282 F 16 '33
- Steel. Bradstreet's 60:1630; 61:47+, 323 D 10 '32, Ja 14, F 11 '33
- Steel code attitude toward the open shop. L. W. Moffett. Automotive Ind 69:103+ JI 22 '33
- Steel code enters national industrial arena; with text of code. L. W. Moffett. Iron Age 132:26M-26P, 27-32 JI 20 '33
- Steel code sets the style. Econostat 1:5-6 JI 22 '33
- Steel code undergoing final pass through NRA mill. L. W. Moffett. Iron Age 132:36-8 Ag 17; 34-6, 40 Ag 24 '33
- Steel exempt from blanket code, but labor gets weapon. maps Steel 93:11-13 JI 24 '33
- Steel forced to prime business; asked to reduce rail prices in face of higher code costs. Econostat 1:5-6 S 30 '33
- Steel founders' society code. Foundry 61:13-14, 43-4 S '33
- Steel gets a big inquiry; President's demand for a price cut on rails inconsistent with the industry's code. Business Week p9 S 30 '33
- Steel industry faces growing scrap scarcity. L. B. Lindemuth. charts Iron Age 131:988-90 Je 22 '33
- Steel industry hails Roosevelt partnership plan. C. M. Schwab. Iron Age 131:851-3 Je 1 '33
- Steel industry submits its code. Eng N 111:89-90 JI 20 '33
- Steel industry—what of its future? E. L. Shaner and others. il Steel 92:57-77 Ja 2 '33
- Steel industry withdraws controversial labor clause. L. W. Moffett. Iron Age 132:41-6 Ag 3 '33
- Steel industry's code will be heard next week. L. W. Moffett. Iron Age 132:36-7 JI 27 '33
- Steel is not a recent convert to the new deal. J. H. Van Deventer. Iron Age 132:27F Ag 31 '33
- Steel lets go; with prices cracking, major steel companies turn envious eyes toward Great Lakes steel. Business Week p6 F 1 '33
- Steel prices; steel seconds. Business Week p12+ S 16 '33
- Steel smells black ink. Business Week p6-7 My 17 '33
- Steel, the record and outlook. Bradstreet's 61:241 Ja 28 '33
- Steel wages up as district variations delay trade code. Steel 93:11-12+ JI 10 '33
- Steel withdraws the section of the code on the company union. il Business Week p4-5 Ag 5 '33
- Steel's morning after. Business Week p10 N 4 '33
- Structural steel and iron fabricating industry code. Iron Age 132:28-36, 72 S 14 '33
- Upturn in steel industry interrupted. R. Brennan. Dun's R 40:2-4 D 10 '32
- Virile steel code approved; many interests raise wages. Steel 93:11-12 JI 17 '33
- What columnists and economists ought to know about steel. G. L. Lacher. Iron Age 132:31-2 Ag 24 '33
- What is the outlook for iron and steel. E. E. Thum. Chem & Met Eng 40:10-14 Ja '33
- Who is buying steel output? J. Backman and A. L. Jackson. Barron's 13:18 JI 17 '33
- STEEL ingots**
- Appareils de construction allemande pour le démoulage des lingots d'acier. il diags Génie Civil 103:225-8 S 2 '33
- Craven ingot turning lathe. il Engineer 155:177 F 17 '33
- Finishing the heat of steel. J. H. Hruska. il Blast F & Steel Pl 20:705-7, 771-3, 838-40+, 894-5+; 21:45+, 107-9, 151-3, 213-14+, 264-5, 324-5, 372-3 [bibliog p373], 422-3, 478-9, 532+, 587-8 S '32-N '33 (to be cont)
- Heterogeneity of steel ingots; fifth report; abstracts. Engineering 136:347-8 S 22 '33; Engineer 156:305 S 29 '33; Discussion. Engineering 136:351-2 S 29 '33; Engineer 156:305 S 29 '33
- Ingots cast by new method; Firth-Sterling steel co. McKeesport, Pa. L. G. Firth. il diags Iron Age 131:197+ F 2 '33
- Making quality steels. E. Gathmann. Blast F & Steel Pl 21:590-1 N '33
- Making steel of a uniform quality. L. B. Lindemuth. Iron Age 131:540-1, 582-3 Ap 6-13 '33
- 1932 steel ingot and casting output at lowest point of twentieth century. Steel 93:20-1 JI 3 '33
- 175-ton steel ingot. il Engineer 154:569 D 2 '32
- Solidification of steel in ingot molds; abstract, with discussion. L. H. Nelson. Iron Age 132:29-30 O 12 '33
- Steel ingot output in 1932 smallest of this century. Iron Age 131:110 Ja 12 '33
- Steel ingot production, 1923-1932; tabulation. Steel 92:122 Ja 2 '33
- Steel ingot production, 1931-32; tabulation. Steel 92:8 Ja 9 '33
- Steel ingots made in the United States, monthly, 1899-1932. Iron Age 131:93 Ja 5 '33
- Transporting hot ingots at Cambria works. D. E. Renshaw. il Iron Age 130:992-3 D 29 '32
- Ueber erzeugung, vergiessen und behandlung von Thomas-schienenstahlblocken. K. Eichel. diags Stahl & Eisen 53:521-32 My 18 '33
- Ueber nichtmetallische einschüsse in schwerem schmiedestahlblocken. F. Latta, E. Killing and F. Sauerwald. bibliog il Stahl & Eisen 53:313-19; Discussion. 319-26 Mr 30 '33
- Winged ingot improves structure of steel. D. G. Clark. il diags Iron Age 132:22-3+ JI 6 '33
- World production of steel ingots and castings, 1913 and 1924-32. Steel 92:82 Ja 2 '33



## STEEL ingots—Continued

## Molds

- Kokillen und giessen im stahlwerk; amerikanische arbeitsweise im vergleich zur deutschen. A. Ristow. diags Stahl & Eisen 53:617-24; Discussion. 625-7 Je 15 '33

## STEEL metallurgy

- Die abscheidung von phosphor, schwefel und sauerstoff bei der qualitätsstahlerzeugung im Siemens-Martin-ofen. F. Beitter. il diags Stahl & Eisen 53:369-75, 398-401; Discussion. 401-4 Ap 13-20 '33
- Alloy modifications of 18-8. J. A. Mathews. il Metal Prog 24:13-17 S '33
- Die beziehungen zwischen manganhaltigem eisen und schlacken, die fast nur aus manganoxydul und eisenoxydul bestehen. W. Oelsen. Stahl & Eisen 53:46-7 Ja 12 '33
- Blast furnace smelting practice. A. J. MacDonald. Blast F & Steel Pl 21:215-24, 258-9+ Ap-May '33
- Chief features of last year's progress in some metallurgical fields. E. F. Cone. Iron Age 131:27-8, 31-2+ Ja 5 '33
- Chromium steels improved by nitrogen. R. Franks. il Iron Age 132:10-13 S 7 '33
- Continued progress in alloy steels. Chem Age (Lond) 27:sup31 D 3 '32
- Cost of steel cut by furnace control and insulation. Steel 92:87+ Ja 2 '33
- Erzeugung und behandlung von stahl. F. Rapatz. il Zeit Ver Deutsch Ing 77:249-51 Mr 4 '33
- L'évolution des procédés d'épuration de l'acier. A. Portevin. Génie Civil 103:59-62 JI 15 '33
- Finishing the heat of steel. J. H. Hruska. il Blast F & Steel Pl 20:705-7, 771-3, 838-40+, 894-5+; 21:45, 107-9, 151-3, 213-14+, 264-5, 324-5, 372-3 [bibliog p373], 422-3, 478-9, 532+, 587-8 S '32-N '33 (to be cont)
- Formation and evolution of inclusions. A. Portevin. Metal Prog 23:45+ My '33
- Free energy of iron oxides. J. Chipman and D. W. Murphy. bibliog il Ind & Eng Chem 25:319-27 Mr '33
- Heterogeneity of steel ingots; fifth report; abstracts. Engineering 136:347-8 S 22 '33; Engineer 156:305 S 29 '33; Discussion. Engineering 136:351-2 S 29 '33; Engineer 156:305 S 29 '33
- Historique des procédés basiques en métallurgie. L. Guillet. Soc Ing Civils Bul 85: 1228-33 N '32
- Influence of beryllium on steel; abstract. J. H. S. Dickenson and W. H. Hatfield. Engineer 156:305-6 S 29 '33; Same. Mech Eng 55:699 N '33; Discussion. Engineer 156:306 S 29 '33; Engineering 136:352, 634-5 S 29, D 8 '33
- Instantaneous refining reactions in slag-steel emulsion. A. Portevin. Metal Prog 23:49-50 F '33
- Making steel of a uniform quality. L. B. Lindemuth. Iron Age 131:540-1, 582-3 Ap 6-13 '33
- Manufacture of rapid machining steel; Phoenix steel. il Engineering 136:58-9 JI 21 '33; Engineer 156:58-9 JI 21 '33
- Metallurgical problems arising from internal combustion engine valves. J. R. Handforth. Iron & Steel Inst J 126:93-131, pl 5-16a no 2 '32; Excerpts. Automobile Eng 22:468-75 O '32; Engineering 135:55-8, 83-5 Ja 13-20 '33; Abstract. Engineer 154:309 S 23 '32; Discussion. Iron & Steel Inst J 126:132-57 no 2 '32; Engineering 134:350 S 23 '32; Engineer 154:309 S 23 '32
- Méthodes nouvelles de purification de l'acier. R. Perrin. Génie Civil 101:461-2 N 5 '32
- Nature and prevention of intergranular corrosion in austenitic stainless steels. E. C. Bain, R. H. Aborn and J. J. B. Rutherford. bibliog il diags Am Soc Steel Tr Trans 21: 481-509 Je '33; Excerpts. Steel 92:21-3+ Ap 17 '33
- Oxide analysis by iodine extraction in steel making problems; abstract and discussion. J. J. Egan, W. Crafts and A. B. Kinzel. Iron Age 131:396-7 Mr 9 '33
- Phoenix rapid machining steel. il diags Automobile Eng 23:333-4 S '33
- Physical chemistry of steelmaking; abstract. C. H. Herty, jr. Steel 93:30; Discussion. 30-1 O 30 '33
- Progrès dans la métallurgie de l'acier. R. Perrin. Soc Ing Civils Bul 85:991-7 JI '32
- Requirements of steel for cold heading. H. W. Graham. il Metal Prog 24:22-6 Ag '33
- Steel industry faces growing scrap scarcity. L. B. Lindemuth. charts Iron Age 131:988-90 Je 22 '33
- Steelmaking practice; discussion at meeting of American society for steel treating. Steel 93:32+ O 16 '33
- Technical progress in iron, steel outrun depression; report submitted by the iron and steel division of the A.S.M.E. Steel 91:26+ D 12 '32
- Ueber die beruhigung des stahles besonders durch kalziumsilizium. C. Schwarz. Stahl & Eisen 53:1000-3 S 28 '33
- Ueber erzeugung, vergiessen und behandlung von Thomas-schienenstahlblöcken. K. Eichel. diags Stahl & Eisen 53:521-32 My 18 '33
- Ueber nichtmetallische einschüsse in schweren schmiedestahlblöcken. F. Latta, E. Killing and F. Sauerwald. bibliog il Stahl & Eisen 53:313-19; Discussion. 319-26 Mr 30 '33
- Ursachen und vermindernung von sandstellen in schweren schmiedestücken. K. Davies. Stahl & Eisen 52:1162-8 N 24 '32; Discussion. 53:319-26 Mr 30 '33
- Use of titanium in steelmaking. G. F. Comstock. il Blast F & Steel Pl 21:412-14, 474-5 Ag-S '33
- What the user should know about free-cutting steels. H. W. Graham. Iron Age 131:903-4+ Je 8 '33

## See also

- |                        |                          |
|------------------------|--------------------------|
| Bessemer process       | Steel, Heat treatment of |
| Case hardening         | Steel alloys             |
| Furnaces, Steel making | Steel castings           |
| Iron metallurgy        | Steel ingots             |
| Open hearth process    | Steel works              |
| Steel, Hardening of    |                          |

## Bibliography

- Iron and steel metallurgy; a review of the literature. C. E. Williams, V. N. Krivobok and C. M. Herty, jr. Min & Met 14:17-21 Ja '33

## Electrometallurgy

- British rustless steels from California ore, Darlington rustless steel & iron co. il Iron Age 132:18-19 Ag 10 '33
- Die entschweifung von stahl im kernlosen induktionsofen durch alkalien. H. Siegel. Stahl & Eisen 53:646-52 Je 22 '33
- Inclusions in acid electric steel. H. D. Phillips. Foundry 61:21-2+ My '33
- Manufacture of stainless iron from ferrochromium, from scrap, or from ore. A. L. Feild. il Metal Prog 23:13-17 F '33
- Oxygen in acid electric steel. H. D. Phillips. Foundry 61:13-14+ Mr '33
- Perrin steel deoxidising process. R. Perrin. Engineering 135:674 Je 23 '33
- Practical electric steel melting. C. C. Downie. Engineer 154:sup[Metallurgist] 175-6 N 25 '32
- Le procédé électrique basique. E. Mathieu. Soc Ing Civils Bul 85:1245-9 N '32
- Rapid dephosphorisation and deoxidation of steel; abstracts. R. Perrin. Engineering 135: 488 My 5 '33; Stahl & Eisen 53:558-9 My 25 '33
- Schmelzverfahren im basischen elektrostaalofen. G. Kowarsch. Stahl & Eisen 53:906-7 Ag 31 '33
- Steel melting in coreless induction furnaces. Bardenheuer and Bottenberg. diags Engineer 156:sup [Metallurgist] 55-8 Ag 25 '33

## See also

- Electric furnaces,  
Steel making

## History

- Basic steel process in France; abstracts of papers read before Société des ingénieurs civils de France. Engineering 135:171-2 F 10 '33

**STEEL metallurgy—History—Continued**

Commemoration in France of the basic process. Engineer 154:611 D 16 '32

**STEEL partitions.** See Partitions, Steel

**STEEL plates**

A.S.T.M. offers specifications for heavy steel plates. Iron Age 132:26 J1 6 '33

Electric welded steel plate construction versus cast iron construction. R. N. Conrad. *il* diag Rock Prod 36:26 Ja '33

High-pressure hydraulic cylinders made from welded steel plates. *il* Steel 93:39 Ag 14 '33

Important reclassification of flat-rolled steel. Iron Age 132:44H-44O S 7 '33

Liner plates 18 years old show little corrosion; old Passaic Valley sewer, Newark, N. J. J. S. Unger. *il* Eng N 110:337-8 Mr 16 '33

Rolling stainless steel plate. L. M. Curtiss. *il* diags Metal Prog 24:27-30 Ag '33

Slipping road fill held up by steel suspenders. T. H. Cutler. *il* Eng N 109:684-5 D 8 '32

Tank plates, 1895-1932, market history; tabulation. Steel 92:117 Ja 2 '33

Welded plate for furnace-work. G. B. Cramp. *il* diags Metal Prog 23:24-7 My '33

Worth mill produces light-gage heat-treated plates. Iron Age 131:827 My 25 '33

Die zunderbildung auf dynamoblechen mit höherem siliziumgehalt. H. Fromm. *il* Stahl & Eisen 53:326-8 Mr 30 '33; Discussion. 53:803-4 Ag 3 '33

**STEEL research**

American society for steel treating research session; abstracts of papers. Steel 91:30-1 N 28 '32

Behavior of steel at low temperatures; abstract. J. J. Egan, W. Crafts and A. B. Kinzel. Steel 93:30 N 6 '33

Contribution to the study of inclusions in steels. A. M. Portevin and R. Perrin. Iron & Steel Inst J 127:153-72, pl 9-12 no 1 '33;

Same cond. Engineering 135:528-30 My 12 '33; Abstract. Engineer 155:495 My 19 '33;

Discussion. Iron & Steel Inst J 127:173-87 no 1 '33; Engineering 135:589 Je 2 '33; Engineer 155:495-6 My 19 '33

Contribution to the study of the properties of austenitic steels. L. B. Pfeil and D. G. Jones. Iron & Steel Inst J 127:337-78 [bibliog p376-8] pl 25-26 no 1 '33; Same cond. Engineering 136:50-2 J1 14 '33; Discussion. Iron & Steel Inst J 127:379-89 no 1 '33

Development and trend in ferrous alloys for high-temperature service. F. N. Speller. bibliog *il* Am Pet Inst Proc p102-12 sec 3 D '32; Same. Oil & Gas J 31:74-8 F 16 '33;

Discussion. Am Pet Inst Proc p112-13 sec 3 D '32

Der einfluss der reibung beim walzen von bandstahl. W. Lueg. diags Stahl & Eisen 53:812-13 Ag 3 '33

Fatigue and the hardening of steels. H. J. French. *il* Am Soc Steel Tr Trans 21:899-946 O '33; Excerpts. Iron Age 132:23 O 26 '33

Fünf jahre Forschungsinstitut der Vereinigte stahlwerke A.-G. *il* Stahl & Eisen 52:sup 119-21 N 24 '32

Further experiments on the forgeability of steel. O. W. Ellis. *il* Am Soc Steel Tr Trans 21:673-99; Discussion. 699-707 Ag '33

Heterogeneity of steel ingots; fifth report; abstracts. Engineering 136:347-8 S 22 '33; Engineer 156:305 S 29 '33; Discussion. Engineering 136:351-2 S 29 '33; Engineer 156:305 S 29 '33

Influence of beryllium on steel; abstract. J. H. S. Dickenson and W. H. Hatfield. Engineer 156:305-6 S 29 '33; Same. Engineering 136:352 S 29 '33; Discussion. Engineer 156:306 S 29 '33; Engineering 136:352, 634-5 S 29, D 8 '33

New approaches to the study of the deformation of steel. E. J. Janitzky. *il* Iron Age 132:14-17+ N 2 '33

Oxygen in iron. Reschka, Scheil and Schulz. Engineer 155:sup[Metallurgist] 6-8 F 24 '33

Recherches sur le moulage des pièces d'acier. diags Génie Civil 103:257-9 S 9 '33

Review of the Pittsburgh studies into steel manufacture. Metal Prog 22:35-7 D '32

Steel progress. E. N. Simons. *il* Elec R (Lond) 113:585-6 O 27 '33

Structure of an alloy steel. O. W. Ellis. *il* Iron Age 132:14-17+ S 28; 21-4 N 2 '33 (to be cont)

**STEEL scaffolding.** See Scaffolding, Steel

**STEEL tanks.** See Tanks, Steel

**STEEL towers.** See Towers, Steel

**STEEL wire.** See Wire, Steel

**STEEL workers**

Earnings and hours of labor in principal occupations in the iron and steel industry, 1931 and 1933; blast furnaces, steel works, and puddling, blooming and plate mills. Monthly Labor R 37:927-32 O '33

Employee representation blankets steel industry. Iron Age 132:46 S 28 '33

Employee representation established by Carnegie and other steel plants. Iron Age 131:1004 Je 22 '33

Employees of U. S. steel corp. adopting representation plan; text. Steel 92:13+ Je 19 '33

Employment conditions and rate of operations in steel industry; tabulation. Steel 93:13 Ag 7 '33

Hours and earnings in the iron and steel industry, 1933. Monthly Labor R 37:651-9 S '33

How Bethlehem Steel has effected employment stabilization. J. M. Larkin. Iron Age 130:954-5+ D 22 '32

Industrial council favored; 30 hour week opposed. R. P. Lamont. Iron Age 131:746 My 11 '33

Labor board orders Weirton strikers back to work; union will not be recognized. Iron Age 132:50, 63 O 19 '33

Pneumonia problem in the steel industry. D. K. Brundage and J. J. Bloomfield. tables J Ind Hygiene 14:345-63 D '32

Steel castings industry needs elasticity in labor conditions. F. A. Lorenz, jr. Foundry 61:25+ O '33

Steel industry withdraws controversial labor clause. L. W. Moffett. Iron Age 132:41-6 Ag 3 '33

Steel industry's code will be heard next week. L. W. Moffett. Iron Age 132:36-7 J1 27 '33

Steel withdraws the section of the code on the company union. *il* Business Week p4-5 Ag 5 '33

Thirty-hour week would not work in the steel industry. T. H. Gerken. Iron Age 131:613-14+ Ap 20 '33

Wages and hours of labor in the iron and steel industry, 1931. U S Bur Labor Statistics Bul 567:1-166 '32

**STEEL works**

Alan Wood steel company. C. Longenecker. *il* plans Blast F & Steel Pl 21:53-60 Ja '33

Entwicklungslinien im bau amerikanischer Siemens-Martin-werke. H. Bleibtreu. *il* diags Stahl & Eisen 53:113-21 F 2 '33; Abstract. Génie Civil 103:39-41 J1 8 '33

Movies visit a steel company; Master of men made by Columbia pictures. *il* Iron Age 132:24 N 9 '33

No rolling; new steel mill to make billets and bars by centrifugal casting; Naugle & Townsend, inc, Detroit. Business Week p12 Mr 15 '33

Rotary electric steel plant at Detroit nears completion; illustrations. Steel 92:11 Je 26 '33; Iron Age 132:261 J1 20 '33

See also

Blast furnaces

Foundries

Rolling mills

Steel metallurgy

Steel workers

**Accidents**

Accident experience in the iron and steel industry to the end of 1931. Monthly Labor R 36:520-34 Mr '33; Correction. 36:1071 My '33

Accident experience in the iron and steel industry to the end of 1932. Monthly Labor R 37:566-81 S '33

How feet get hurt. W. H. Tipton. *il* Nat Safety N 27:25-6 Ja '33

Iron and steel accidents less than one-fourth number 25 years ago. Steel 92:14 My 22 '33



## STEEL works—Continued

## Costs

- Improving open-hearth furnace design. W. C. Buell, Jr. *Steel* 91:26+ D 19: 22+ D 26 '32  
Voltage for auxiliary d.c. motors; with cost data. G. Fox. *Iron Blast F & Steel Pl* 21: 409-11+ Ag '33

## Electric equipment

- Care of large electrical apparatus. J. S. Murray. *Iron Blast F & Steel Pl* 21:114-15+ F '33  
Iron and steel electrical engineers trace trends of current mill practice at annual meeting. *Iron Age* 132:41-3 O 26 '33; *Steel* 93:32, 34-5 O 23; 28-9 O 30 '33  
Voltage for auxiliary d.c. motors; with cost data. G. Fox. *Iron Blast F & Steel Pl* 21: 409-11+ Ag '33

## Employees

See Steel workers

## Equipment

- Appareils de construction allemande pour le démolage des lingots d'acier. *il diags Génie Civil* 103:225-8 S 2 '33  
Bau und betrieb des neuen Thomasstahlwerkes der firma Hoesch-KölnNeuessen A.-G. in Dortmund. W. Broel and A. Dittmar. *il diags plan Stahl & Eisen* 53:749-57; Discussion. 757-8 JI 20 '33  
British steel plant modernized; Irlam works of the Lancashire steel corporation. *Iron Blast F & Steel Pl* 21:530-1+ O '33  
Investigation of some of the refractories used in ladles and in ingot casting; some characteristics of the clays used in the manufacture of runners, stoppers, nozzles, etc. J. E. Priestley and W. J. Rees. *diags Soc Chem Ind J* 52:297T-304T S 22 '33  
Kuznetsk steel plant in U.S.S.R. E. P. Everhard. *il plan Blast F & Steel Pl* 20:889-93 D '32  
Need for rehabilitating equipment will be greater in 1933. J. D. Knox. *Steel* 92:67-70 Ja 2 '33  
Neuere blockabstreifvorrichtungen. *il diags Stahl & Eisen* 53:628-31 Je 15 '33  
New steel furnaces of the English steel corporation, Ltd. *il diags plan Engineer* 156: 230-2, 234 S 8 '33; *Engineering* 136:235-8, 248 S 8 '33  
Pneumatic dispatch system in a steelworks. *il diags plan Engineer* 155:126 F 3 '33

## Fuel

- Co-ordinated heat conservation at the Normandy Park steel works, Scunthorpe; abstract. W. J. Brooke. *Engineer* 156:288 S 22 '33; Discussion. *Engineer* 156:288-9 S 22 '33; *Engineering* 136:339 S 22 '33  
Fuel problems of the Swedish iron and steel industry; abstract. A. Johansson. *Engineering* 136:478-9 O 27 '33  
Notes on the utilisation of blast-furnace gas. W. B. Baxter. *diags Engineering* 136:318-20 S 15 '33; Same cond. with tables. *Blast F & Steel Pl* 21:593-4 N '33; Abstracts. *Engineer* 156:289 S 22 '33; *Elec R (Lond)* 113: 392 S 22 '33

## Maintenance and repair

- Care of large electrical apparatus. J. S. Murray. *Iron Blast F & Steel Pl* 21:114-15+ F '33  
Welding as a maintenance tool. E. L. Quinn. *Iron Blast F & Steel Pl* 21:161-4 Mr '33

## Management

- How Bethlehem Steel has effected employment stabilization. J. M. Larkin. *Iron Age* 130:954-5+ D 22 '32  
Some factors leading to greater production from a steel furnace. A. Robinson. *diags Engineering* 136:345-6 S 22 '33

## Power

- Eigenerzeugung, werkstumplung, fremdbezug und abgabe von strom innerhalb der energieverorgung rheinisch-westfälischer hüttenwerke. W. Martini. *Stahl & Eisen* 53:701-5 JI 6 '33

Generation of steam from blast-furnace gas. A. F. Webber. *Iron & Steel Inst J* 126:11-47 [bibliog p46-7] no 2 '32; Excerpts. *Blast F & Steel Pl* 20:843-7, 898-900; 21:49-50+ N '32-Ja '33; *Engineering* 134:577-9 N 11 '32; Abstracts. *Engineer* 154:350 O 7 '32; *Mech Eng* 54:868-9 D '32; Discussion. *Iron & Steel Inst J* 126:48-73 no 2 '32; *Engineer* 154:350 O 7 '32

Higher steam pressures in the blast-furnace-steel-mill power plant; abstract. C. W. E. Clarke and W. P. Gavitt. *Mech Eng* 55:127-8 F '33

Patriarch converter still active in a large mid-western steel mill. S. Ein. *diag Elec J* 30:126 Mr '33

Scandinavian sectional meeting of World power conference. *Engineering* 136:478 O 27 '33

## Safety devices and measures

Extra hazards didn't stop them; Wisconsin steel works of the International harvester company. C. T. Fish. *Nat Safety N* 27:29+ Je '33

Unfallverhütungsmassnahmen im hochofenbetriebe der Vereinigten stahlwerke, A.G., Bochumer verein. A. Rein. *il diags Stahl & Eisen* 53:797-801 Ag 3 '33

## France

Acieries électriques d'Ugine. J. F. Audouin and A. L. Racapé. *il plan Soc Ing Civils Bul* 85:1039-57 S '32

## Germany

Bau und betrieb des neuen Thomasstahlwerkes der firma Hoesch-KölnNeuessen A.-G. in Dortmund. W. Broel and A. Dittmar. *il diags plan Stahl & Eisen* 53:749-57; Discussion. 757-8 JI 20 '33

Die technische und betriebswirtschaftliche entwicklung des Mannesmannrohr-walzverfahrens. R. Mooshake; H. Hillmer. *il diags Stahl & Eisen* 53:465-88 My 11 '33

Vereinigte stahlwerke A.-G., Düsseldorf [and others]. *il Stahl & Eisen* 52:supl19-32 N 24 '32; 53:supl15-30 My 11 '33

## Great Britain

British Bessemer; Stewarts & Lloyds, Ltd. plans mill to make Bessemer steel for tubes. *Business Week* p22 D 21 '32

Lancashire steel corporation's works. *il Engineer* 155:473, 478 My 12 '33

Presidential address before Iron and steel institute. W. R. Lysaght. *Iron & Steel Inst J* 127:35-47, pl 1 no 1 '33; Abstracts. *Engineering* 135:524-5 My 12 '33; *Engineer* 155:448-9 My 5 '33

## Russia

Russian steel mill capacity is 15 per cent electrified. C. H. Vom Baur. *Iron Age* 131: 955 Je 15 '33

Schienenwalzung auf einem russischen hüttenwerk. F. Braun and H. Kettler. *plan Stahl & Eisen* 53:930-4 S 7 '33

## Siberia

Kuznetsk steel plant in U.S.S.R. E. P. Everhard. *il plan Blast F & Steel Pl* 20:889-93 D '32

Magnetogorsk, the world's largest steel plant. *Chem Age (Lond)* 27:sup34 D 3 '32

## United States

New steel capacity of 100,000 tons smallest in years—no pig iron expansion. *Iron Age* 131: 33+ Ja 5 '33

## STEERING gear

Automatic yacht steerer. *diag Sci Am* 148: 238 Ap '33

From steering paddle to gyro-compass; illustrations. *Sci Am* 148:6 Ja '33

## See also

Airplanes—Rudders Motor buses—Steering  
Automobiles—Steering gear  
ing gear Rudders

STEFFEN'S waste. See Sugar factories—Waste

## STELLITE

Alloy 548; a new metal cutting alloy. Z. Jeffries. *Metal Prog* 23:29-30 F '33

**STELLITE**—*Continued*

- Demonstration of J-metal tools. *il Mach* 39: 281 D '32; *Ry Mech Eng* 107:69-70 F '33
- Getting optimum results from modern cutting tool materials. J. Geschelin. *il Auto-motive Ind* 69:580-5 N 11 '33
- Hard facing bus parts. *Elec Traction* 29: 296 S '33
- Hard-facing reduces die costs; dies and parts of drum-making machinery made of machine steel. *il Mach* 39:630-2 Je '33
- Hard surfacing valves for steam service at high temperatures. *il Power* 77:115 Mr '33
- Latest diemaking practice used in a Chinese plant; hard-facing dies with stellite in fabricating kerosene oil cans and lanterns. *il Mach* 39:470-1 Mr '33
- Modern metal-cutting materials and how to select them; results of tests at East Pittsburgh plant of the Westinghouse electric & mfg. co. J. M. Highducheck. *il chart Mach* 40:12-17 S '33
- Requirements and composition of cutting tools; abstracts. J. V. Emmons. *Iron Age* 130:sup18 O 20 '32; *Mach* 39:278 D '32

**STENCIL work**

- Renewable tip stencil brush. *il diag Engineering* 136:127 Ag 4 '33

**STENTERS.** See Tentering machines**STEREOCHEMISTRY**

- Spatial configuration of the valences in tricovalent carbon compounds. E. S. Wallis and F. H. Adams. *Am Chem Soc J* 55: 3838-51 S '33
- Stereochemistry of diphenyl; preparation and properties of 2,2'-difluoro-3,3'-dicarboxy-5,5'-dimethyl-6,6'-dinitrodiphenyl. E. C. Kleiderer and R. Adams. *Am Chem Soc J* 55:716-19 F '33
- Stereochemistry of diphenyls and analogous compounds. R. Adams and H. C. Yuan. *Chem R* 12:261-338 [bibliog p334-8] Ap '33
- Stereochemistry of diphenyls; comparison of the racemization of 2,2'-difluoro-6,6'-dicarboxydiphenyl and 2,2'-dimethoxy-6,6'-dicarboxydiphenyl. W. M. Stanley, E. McMahon and R. Adams. *Am Chem Soc J* 55:706-16 F '33
- Stereochemistry of diphenyls; preparation and properties of certain 2,2',6,6'-tetramethoxydiphenyls. A. M. VanArendonck, M. E. Cuperly and R. Adams. *Am Chem Soc J* 55: 4225-30 O '33
- Stereochemistry of diphenyls; preparation and properties of 2,3'-dinitro-6-carboxy-2',6'-dimethoxydiphenyl and 2-nitro-6-carboxy-2'-fluoro-6'-methoxydiphenyl. A. M. VanArendonck, B. C. Becker and R. Adams. *Am Chem Soc J* 55:4230-4 O '33
- Stereochemistry of diphenyls; preparation and properties of 2,2',4,4',5,5',6,6'-octamethyldiphenyl-3,3'-disulfonic acid and diphenyl-3,3'-disulfonic acid. A. E. Knauf and R. Adams. *Am Chem Soc J* 55:4704-9 N '33
- Stereochemistry of diphenyls; preparation and properties of 2,2',6,6'-tetrafluoro-3,3'-dicarboxy-5,5'-dichlorodiphenyl. E. C. Kleiderer and R. Adams. *Am Chem Soc J* 55:4219-25 O '33
- Stereochemistry of diphenyls; preparation and resolution of 2,2'-diiodo-4,4'-dicarboxydiphenyl. N. E. Searle and R. Adams. *Am Chem Soc J* 55:1649-54 Ap '33
- Stereochemistry of N-phenylpyrroles; preparation and properties of o-N-carbazyl- and o-N-(3-nitrocarbazyl)-benzoic acid. W. I. Patterson and R. Adams. *Am Chem Soc J* 55:1069-72 Mr '33
- Stereochemistry of 2:2'-disubstituted diphenyls; the optical resolution of o-(2-dimethylaminophenyl)phenyltrimethylammonium iodide. F. R. Shaw and E. E. Turner. *Chem Soc J* p135-40 F '33
- Structure of dicarboxy compounds from dissociation and reaction velocity data. J. Greenspan. *Chem R* 12:333-61 [bibliog p360-1] Ap '33
- See also  
Atoms  
Chemistry, Physical  
and theoretical  
Cyclic compounds

**STEREOISOMERISM.** See Isomerism**STEREOPHOTOGRAPHY**

- Device for manipulating sample greatly simplifies production of fabric stereograms. E. R. Schwarz. *il diag Textile World* 83: 1451-3 Ag '33

**STEREOTYPING**

- Ensign Reynolds develop new stereotype furnace. *Gas Age* 72:180 Ag 19 '33

## See also

## Electrotyping

**STERILITY in plants**

- Self-sterility in nemesia. H. P. Riley. *Science* 77:326-7 Mr 31 '33

**STERILIZATION**

- Better ways to sterilize equipment. P. D. Widmer. *il Food Ind* 5:310-11 Ag '33

**STERILIZATION of criminals and defectives**

- Sexual sterilization law held constitutional in Oklahoma, unconstitutional in North Carolina. *Pub Health Rep* 48:575-7 My 26 '33

**STERILIZERS, Electric**

- Dairy sterilizing with an electric boiler. D. B. Leonard. *il diag Elec W* 101:109 Ja 21 '33
- Load building possibilities of the latent steam boiler for use on dairy farms. D. B. Leonard. *Elec West* 70:268-9 Je '33
- Sterilizing packaged cereal with corona discharge. *il diag Elec W* 101:231 F 18 '33

**STERN, Otto**

- Application of the double layer theory of Otto Stern. F. Urban and H. L. White. *J Phys Chem* 36:3157-61 D '32

**STEROLS**

- Action of selenium dioxide on sterols and bile acids; abstract. R. K. Callow and O. Rosenheim. *Soc Chem Ind J (Chem & Ind)* 52:272-3 Mr 24 '33
- Chemistry of the sterols and bile acids. I. M. Heilbron and others. *Soc Chem Ind J (Chem & Ind)* 51:1061-3; 52:10-13 D 23 '32, Ja 6 '33
- Ring-system of sterols and bile acids. O. Rosenheim and H. King. *bibliog Soc Chem Ind J (Chem & Ind)* 51:464-6, 954-7; 52:299-301 My 27, N 18 '32, Ap 7 '33; Discussion. E. L. Kennaway and J. W. Cook. 51:521 Je 10 '32
- Die sterine in ihren beziehungen zu anderen physiologisch wichtigen stoffklassen, insbesondere zu den sexualhormonen. A. Butenandt. *Angew Chemie* 46:639-40 O 7 '33
- Structure of the sterols and bile acids. I. M. Heilbron, J. C. E. Simpson and F. S. Spring. *Chem Soc J* p626-35 Je '33
- Studies in the sterol group; the unsaturated centres in ergosterol. I. M. Heilbron, A. L. Morrison and J. C. E. Simpson. *Chem Soc J* p302-6 Mr '33
- Syntheses of polycyclic compounds related to the sterols. G. A. R. Kon. *Chem Soc J* p1081-7 Ag '33
- Synthetic experiments in the series of sterols and sexual hormones. W. Schlenk, O. Bergmann and E. Bergmann. *Soc Chem Ind J* 52: 209T-10T Jl 14 '33

## See also

## Cholesterol

## Dihydroergosterol

## Ergosterol

**STETHOSCOPE**

## Industrial applications

- Magnetographic and X-ray tests of pipe welds compared. F. B. Doane. *il Iron Age* 131:194-6 F 2 '33

**STEBEN taverns, inc.**

- Steben taverns will soon be 25 in number. *Arch Forum* 59:242-3 S '33

**STEVENS, A. J.**

- Grease industry has its Grand old man. *por Pet Age* 27:19-22 O '33

**STEVENS, Norman C. 1884-1932**

- Sketch. *por East Underw* 33:37 N 18 '32

**STEVENS, Raymond W. 1874-1933**

- Suicide. *East Underw* 34:11 Mr 31 '33

**STEVENSON, A. R. Jr.**

- Portrait. *Refriger Eng* 25:128 Mr '33



**STEWARDS**

See also

Ships—Steward departments

**STEWART-Warner corporation, Chicago**

S-W picks Otis and Hiter to guide its expansion in four industries. Sales Management 32:571 Je 1 '33

**STEWARTS and Lloyds**

Stewarts and Lloyds. Economist 116:470-1 Mr 4 '33

**STIBINE**

Ultra-violet absorption spectra of phosphine, arsine, and stibine. G. H. Cheesman and H. J. Emeléus. Chem Soc J p2847-8 D '32

**STICKERS**

This plan gets dealers to suggest related sales; Savogran company's paint can stickers. C. H. Frankenberg. Il Ptr Ink 163:17-19 Je 8 '33

**STILBENE**

Some heat capacity data for durene, pentamethylbenzene, stilbene, and dibenzyl. J. D. Ferry and S. B. Thomas. J Phys Chem 37:253-5 F '33

**STILL engine**

Kitson-Still locomotive. Il diags Engineer 156:238-9 S 8 '33

**STILLS. See Distillation apparatus****STIRLING, Ontario****Water supply**

Low-cost water supply system installed at Stirling; automatically-operated deep well pump. D. H. Fleming. Il plan Can Eng 64:15-17 My 23 '33

**STIRRERS**

Convenient, inexpensive water-motor stirrer. R. E. Dunbar. diags Ind &amp; Eng Chem Anal ed 5:266 Jl 15 '33

Provisions for wear in vessels with stirring devices. diags Locomotive 39:194-5 Jl '33

Stirrer drive for laboratory use. M. H. Hubacher. Il diag Ind &amp; Eng Chem Anal ed 5:149 Mr 15 '33

See also

Agitators

**STOCK exchange**

Appraising the market prospect. A. T. Miller. Mag of Wall St 51:658-9+ Ap 15 '33

Autumn market prospects. A. T. Miller. Mag of Wall St 52:412-13+ Ag 19 '33

Bear market sequence broken. A. T. Miller. Mag of Wall St 51:254-5+ D 24 '32

Business vies with inflation for market control. A. T. Miller. Mag of Wall St 52:151-2+ Je 10 '33

Changing market trend? A. T. Miller. Mag of Wall St 51:466-7+ F 18 '33

Control threatens free markets. C. S. Burton. Mag of Wall St 52:414-16+ Ag 19 '33

Controlled dollar value brightens market prospect. A. T. Miller. Mag of Wall St 53:8-9+ O 28 '33

Distrust of the dollar main obstacle to return of financial confidence. E. W. Axe. Annalist 41:558-9 Ap 21 '33

Dollar depreciation and the market. A. T. Miller. Mag of Wall St 53:60-1+ N 11 '33

Dow, Jones averages, with an explanation of the Dow theory; the Barron's averages. 7th ed 194p Barron's, the national financial weekly, New York '33

How far can this market go? A. T. Miller. Mag of Wall St 51:418-19; 52:7-8+, 359-60+ F 4, Ap 29, Ag 5 '33

How much can be expected of the autumn stock market? A. T. Miller. Mag of Wall St 52:464-5+ S 2 '33

Investors and the American crisis. Economist 116:533-4 Mr 11 '33

Is federal control of the stock exchange needed? J. C. Clifford. Mag of Wall St 53:18-19+ O 28 '33

Long-term factors favor stock market recovery; much doubt in near future. E. W. Axe. Annalist 41:72-4 Ja 20 '33

Market approaches buying level. A. T. Miller. Mag of Wall St 51:134-5+ N 26 '32

Market enters new phase. A. T. Miller. Mag of Wall St 52:259-60+ Jl 8 '33

More governmental regulation as an aftermath of the economic crisis. Pub Util 11:533-5 Ap 27 '33

One more crack at the market. Business Week p18 Jl 8 '33

Profit and protection in common stocks. A. T. Miller. Mag of Wall St 52:56-7 My 13 '33

Rubber dollar and the stock market. A. T. Miller. Mag of Wall St 52:307-8+ Jl 22 '33

Safety and profit in selected common stocks. A. T. Miller. Mag of Wall St 52:612-13+ O 14 '33

Saving the stock market for democracy. J. S. Lawrence. Econostat 1:8-10+ Ap 15 '33

Stock exchange. F. W. Hirst. new and rev ed 255p [biblog p253-4] T. Butterworth, Ltd, London '32

Stock exchange in 1932. Economist 115:1244-5 D 31 '32

Stock exchange; its economic function. H. G. S. Noble. 91p \$1.50 Harper '33

Stock market. Published in weekly numbers of Econostat

Stock market forces. F. W. H. Caudwell and E. A. Ellis-Griffith. 132p Methuen &amp; co, Ltd, London '32

Stock market outlook. R. W. Schabacker. Published in semi-monthly numbers of Forbes

Stock market outlook for early '33. A. T. Miller. Mag of Wall St 51:314-15+ Ja 7 '33

Stock market prospect for 1933. A. T. Miller. Mag of Wall St Manual p10+ Mr 6 '33

Study in the price movement; what the Dow theory is and is not saying at the present time. C. J. Collins. Barron's 13:3+ F 13 '33

Time to buy for 1933 profits. A. T. Miller. Mag of Wall St 51:194-5 D 10 '32

Week in the markets. Published in weekly numbers of Economist

What is the outlook for higher stock prices? A. T. Miller. Mag of Wall St 52:211-12+ Je 24 '33

What of the market? Published in weekly numbers of Barron's

What the market is going to do. 143p \$1.50 Robert O. Ballou, 2 W. 13th st, New York '33

What's ahead for security prices? A. T. Miller. Mag of Wall St 51:610-11+ Ap 1 '33

What's ahead for the market? A. T. Miller. Mag of Wall St 51:370-1, 514-15+, 52:104-5, 512-13+ Ja 21, Mr 4, My 27, S 16 '33

See also

Bonds

Brokers' loans

Investments

Money

Panics

Glasgow stock exchange

New York curb exchange

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also names of exchanges, e.g.

New York stock exchange

**Senate investigation**

Albert H. Wiggin quizzed on B.-M. T., Sinclair, and Chase sales. Barron's 13:17 N 6 '33

Cuban loans' circumstances revealed. Barron's 13:13 O 30 '33

Raskob defends Al Smith. Barron's 13:4 N 13 '33

South American loans feature Senate hearings. Barron's 13:9 Mr 6 '33

Stock-market probe centered on City bank. Barron's 13:10 F 27 '33

Wall Street probe. Il Business Week p18 F 8 '33

See also

Morgan, J. P., and company

**STOCK exchange rules. See Chicago stock exchange—Rules; New York stock exchange—Rules****STOCK transfer tax**

Taxability of transfers to successor trustees

Trust Companies 57:415-17 O '33

**STOCK transfers**

Achievement in transferring over six million shares of Radio stock. *il Trust Companies* 56:368-9 Mr '33  
 Replacement of lost, stolen or destroyed stock certificates. *J. F. Atterbury. Trust Companies* 56:75-6 Ja '33

**STOCKHOLDERS**

Beating around the bush. *P. H. Smith. Comm & Fin* 22:269 Mr 22 '33  
 Business-wrecking racket must be stopped! *H. F. Merrill. Forbes* 31:11-13+ Ap 15 '33  
 Disenfranchised stockholder. *C. B. Larrabee. Ptr Ink* 162:47-8+ Mr 9 '33  
 General Foods finds stockholders an increasingly potent market. *Sales Management* 32:178 F 15 '33  
 General Foods turns stockholders into working customers. *C. M. Chester. Ptr Ink* 161:3-4+ D 8 '32  
 Headlights for the investor. *J. S. Lawrence. Economist* 1:8-10 Ap 8 '33  
 It's better to tell the truth about corporations. *Ptr Ink* 162:49-50 Mr 23 '33  
 Management and women stockholders. *Ptr Ink* 163:40-1 Ap 27 '33  
 Management's latest problem; the belligerent stockholder. *A. M. Howe. Ptr Ink Mo* 26:17-18+ My '33  
 Protection for shareholders. *Economist* 117:499-500 S 9 '33  
 Public's stake in corporations reaches new peak. *D. Starch. Forbes* 31:12-13+ My 1 '33  
 Still more light on corporate practice. *H. Richmond, jr. Mag of Wall St* 51:263-5+ D 24 '32  
 Stockholders rebel. *Business Week* p10 S 9 '33

*See also*

Advertising—Stockholders, Appeal to	Dealers as stockholders
Banks and banking—Stockholders	Employees as stockholders
Corporation law	Proxies
Corporations—Finance	Public utilities—Securities
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**STOCKHOLM****Bridges**

Betonbogenbrücke von 181 m spannwweite in Stockholm. *il diag Zeit Ver Deutsch Ing* 77:937-8 Ag 26 '33  
 Le nouveau pont en béton armé le Tranebergssund, à Stockholm. *diags Génie Civil* 103:332-3 S 30 '33  
 Traneberg arch bridge, Stockholm. *il diags map Engineer* 156:253, 261-4 S 15 '33

**STOCKS**

Among the first to benefit from improvement in merchandising. *A. L. Van Horne. Mag of Wall St* 51:154-5+ N 26 '32  
 Anticipated inflation favors stocks. *A. T. Miller. Mag of Wall St* 51:562-3+ Mr 18 '33  
 Attractive low-priced speculations. *Mag of Wall St* 53:31-3+ O 28 '33  
 Buying program in 35 medium-priced stocks. *R. S. Wallace. Forbes* 32:30-1 S 1 '33  
 Cheap stocks to put in Christmas stockings. *P. Clay. Forbes* 30:30-1+ D 15 '32  
 Chemicals up, steels down in popular stock favor; stock questionnaire. *Forbes* 31:9 F 1 '33  
 Common stock in the investment program. *J. W. Teele. Trust Companies* 57:71-4 J1 '33  
 Common stocks and recovery. *W. W. Hay. Barron's* 13:3+ Mr 6 '33  
 Companies emerging from the red. *Mag of Wall St* 52:173-9+ Je 10 '33  
 Companies which should show large gains in earnings. *Mag of Wall St* 52:279-81+ J1 8 '33  
 Consolidated Gas favored by investment trusts; 1932 portfolios. *Barron's* 13:17 Mr 27 '33  
 Controlled dollar value brightens market prospect. *A. T. Miller. Mag of Wall St* 53:8-9+ O 28 '33  
 Current security offerings. Published in *Annalist*

Diversified list of common stocks for income and price appreciation. *Mag of Wall St* 51:280-3 D 24 '32  
 Empire auction of stocks which Continental shares, inc. had given Chase national bank as collateral. *Fortune* 8:4+ Ag '33  
 Financial markets. Published in weekly numbers of *Business week*  
 Forbes stock guide. Published in semi-monthly numbers of *Forbes*  
 Good earnings maintained and prospects still favorable after more than three years of depression—a selected group of common stocks. *Mag of Wall St* 51:530-3+ Mr 4 '33  
 How investors can cut trading costs. *R. S. Wallace. Forbes* 32:38-9 S 15 '33  
 How to spot fake stocks. *R. W. Schabacker. Forbes* 31:30-1 Je 1 '33  
 Investment trust as market factor in 1932; principal portfolio changes, tabulated. *Barron's* 13:9 Ja 30 '33  
 Leaders of the new bull market. *R. S. Wallace. Forbes* 32:30 J1 15 '33  
 Low price stocks that can be purchased now for later appreciation. *Mag of Wall St* 51:216-18+ D 10 '32  
 Low-priced speculations of merit. *Mag of Wall St* 53:81-3+ N 11 '33  
 Mid-year dividend forecast. *Mag of Wall St* 52:375-81, 425-32 Ag 5-19 '33  
 Moderate risks for large profits. *Mag of Wall St* 51:338-40+ Ja 7 '33  
 Motors, steels and chemicals rise in executive favor. *Forbes* 32:11 J1 15 '33  
 Moving from red ink to black. *Mag of Wall St* 52:528-31 S 16 '33  
 NRA and common stocks; organization of industry must now concern investors. *W. W. Hay. Barron's* 13:3+ O 9 '33  
 New days, other ways; a different approach needed for common-stock investment. *W. W. Hay. Barron's* 13:3+ Ag 21 '33  
 New list of low-priced stocks. *Forbes* 32:24 Ag 15 '33  
 Opportunities for income and profit. *Mag of Wall St* 52:433-5+ Ag 19 '33  
 Opportunities in stocks that have not yet discounted their earnings recovery. *Mag of Wall St* 52:232-4+ Je 24 '33  
 Outlook for common stocks. *B. F. Castle. Bankers M* 126:374 Ap '33  
 Overlooked improvement in sound companies. *Mag of Wall St* 52:384-6 Ag 5 '33  
 Path of common-share earnings; steels, motors, and tobaccos. *Barron's* 13:19 Je 5 '33  
 Point and figure method of anticipating stock price movements. *V. de Villiers. 64p Stock market publications, New York* '33  
 Securities markets. *P. S. Kreeker. Published in weekly numbers of Commerce and finance*  
 Selected stocks to buy for future profit and protection. *Mag of Wall St* 51:678-80; 52:28-30+ 76-7 Ap 15-My 13 '33  
 Semi-annual dividend forecast. *Mag of Wall St* 51:434-9, 454-90 F 4-18 '33  
 Six sound stocks for business recovery. *R. S. Wallace. Forbes* 32:32-3 N 1 '33  
 Six stocks that should be in every portfolio. *R. S. Wallace. Forbes* 31:31 Mr 15 '33  
 Six stocks which should see better prices this fall. *Mag of Wall St* 52:482-4+ S 2 '33  
 Sound investment policy for the coming months. *A. T. Miller. Mag of Wall St* 52:562-3+ S 30 '33  
 Sound stocks for income and long range profit. *Mag of Wall St* 52:632-4+ O 14 '33  
 Speculative audit; factors affecting common-stock values. Published in weekly numbers of *Barron's* beginning March 20  
 Stock market technique. *R. D. Wyckoff. v 1 124p \$1 Richard Demille Wyckoff, 7 Wall st, New York* '33  
 Stock offerings. Published in weekly numbers of *Barron's*  
 Stocks behind the market—ready to go. *Mag of Wall St* 52:124-5+ My 27 '33  
 Stocks I would buy to hold. *A. T. Miller. Mag of Wall St* 51:626-31 Ap 1 '33  
 Stocks that should lead the next bull market. *R. S. Wallace. Forbes* 31:30 F 15 '33  
 Strong equities for income and profit. *Mag of Wall St* 52:582-4 S 30 '33



## STOCKS—Continued

Studies in stock speculation. F. K. Dodge. Mag of Wall St 51:278-9+, 386-7+, 440-1+, 534-5, 582-3+, 632-3; 52:24-5+ D 24 '32, Ja 21-F 4, Mr 4-Apr 1, 29 '33

Treasury stock and general corporation statistics. L. L. Briggs. J Account 55:329-39 My '33

Treasury stock and the courts. L. L. Briggs. J Account 56:171-99 S '33

Understanding investment. A. Cragg. 346p \$2 Dodd '33

Wall Street pointers. Published in semi-monthly numbers of Forbes

What is the investment outlook for these companies? Mag of Wall St 51:390+ Ja 21 '33

What third-quarter reports indicate for stock prices. G. P. Manton. Mag of Wall St 53: 67-9+ N 11 '33

What will stocks and bonds do in 1933? R. W. Schabacker. Forbes 31:13 Ja 15 '33

## See also

Automobile industry and trade—Securities	Investments
Banks and banking—Stock	Mining industry and finance—Securities
Bonds	Petroleum industry and trade—Securities
Corporations	Public utilities—Securities
Dividends	Railroads—Securities
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Employees as stockholders	Speculation
Gas companies—Securities	Stock exchange
Insurance companies	Stock transfers
—Securities	Stocks, Preferred

also names of exchanges, e.g. New York curb exchange; New York stock exchange

## Certificates

Replacement of lost, stolen or destroyed stock certificates. J. F. Atterbury. Trust Companies 56:75-6 Ja '33

## Leverage

Leverage stocks. Mag of Wall St 51:162 N 26 '32

Leverage trust benefits are expected in a rising market. C. Donaldson. Bankers Mo 50: 73-5 F '33

Studies in stock speculation; leverage stocks. F. K. Dodge. Mag of Wall St 51:632-3 Ap 1 '33

## Margin buying

How high should margins be? Mag of Wall St 52:407 Ag 19 '33

## Price indexes

Common stock price index. Published in bi-weekly numbers of Magazine of Wall Street

Dow-Jones averages. Published in weekly numbers of Barron's

Dow, Jones averages, with an explanation of the Dow theory; the Barron's averages. 7th ed 194p Barron's, the national financial weekly, New York '33

Index of security prices. Published in monthly numbers of the Index

Magazine of Wall Street's common stock price index; seventh annual revision. Mag of Wall St 51:394-5+ Ja 21 '33

Market laboratory for studying the theoretical aspects of price movements. Barron's 13:16 Ap 17 '33 [cont weekly]

Stock and bond market averages and volume of trading. Published in weekly numbers of Annalist

Stock habits; a simple method to follow issues that fluctuate more widely than the averages. R. Rhea. Barron's 13:3+ My 8 '33

Stock prices; market values on paper-currency translated to a gold basis. W. M. Kline and A. J. P. Wilson. Barron's 13:19 J1 31 '33

Use and abuse of the square root scale for charting stock prices. D. W. Ellsworth. Annalist 40:835-6 D 23 '32

Working tool for the trader; Dow-Jones hourly averages. H. M. Gartley. Barron's 13:6-8 Ap 3 '33

## Prices

Are stocks cheap or simply low? list of stocks quoted at or under \$5 per share. Comm & Fin 22:42-3 Ja 11 '33

Chartists source book; a complete daily record of stock prices of one hundred most active issues traded on the New York stock exchange during 1932. H. Rogen. 320p Chartists source book co, New York '33

Course of equity share values, September 1931 to October 1933. Economist 117:870-1 N 4 '33

8½ times 1925-29 net; a group of leading industrial stocks. Barron's 13:12 J1 31 '33

Industrial shares less responsive; utilities and rails currently show relatively greater market appreciation from the summer lows. Barron's 12:8 D 19 '32

Many basic influences favorable to continued strength in stock prices. E. W. Axe. Annalist 42:77-8+ J1 21 '33

New York curb exchange; quotations. Published in Magazine of Wall Street

New York produce exchange securities market, 1932. Annalist 41:139 Ja 20 '33

New York stock exchange price range of active stocks. Published in bi-weekly numbers of Magazine of Wall Street

1932 monthly high and low prices of 100 most active stocks. New York stock exchange. Annalist 41:133 Ja 20 '33

On the New York Curb; weekly sales and prices. Published in weekly numbers of Barron's

On the stock exchange; weekly sales and prices. Published in weekly numbers of Barron's

Over-the-counter; important issues. Published in Magazine of Wall Street

Paper dollar and gold dollar prices compared; investment significance. H. Richmond, jr. Mag of Wall St 52:320-1+ J1 22 '33

Prospect of cyclical recovery in stocks dimmed by political uncertainties. E. W. Axe. Annalist 42:503-4 O 20 '33

Record of leading over-the-counter stocks in 1932. Mag of Wall St Manual p20 Mr 6 '33

Record of New York curb exchange in 1932. Mag of Wall St Manual p15-18 Mr 6 '33

Record of New York stock exchange in 1932. Mag of Wall St Manual p11-14 Mr 6 '33

Stock transactions—New York stock exchange. Published in weekly numbers of Annalist

Transactions, 1932, N.Y. stock exchange. Annalist 41:116-20 Ja 20 '33

Transactions on out-of-town markets. Published in weekly numbers of Annalist

Transactions on out-of-town markets, 1932. Annalist 41:134-9 Ja 20 '33

Transactions on the New York curb exchange. Published in weekly numbers of Annalist

Transactions on the N.Y. curb exchange, 1932. Annalist 41:128-30 Ja 20 '33

Transactions on the New York produce exchange securities market. Published in weekly numbers of Annalist

## Short selling

Critical year for the N.Y. stock exchange. II Bradstreet's 61:130-5 Ja 28 '33

Short-selling the U.S.A. D. McD. Bruner. 315p \$2 John C. Winston co, Philadelphia '33

## Split-up

Characteristics and procedure of common-stock split-ups. J. C. Dolley. Harvard Business R 11:316-26 Ap '33

Common-stock split-ups—motives and effects. J. C. Dolley. Harvard Business R 12:70-81 O '33

## Statistics

Critical year for the N.Y. stock exchange. II Bradstreet's 61:130-6 Ja 28 '33

Security offerings in 1932; tabulation. Barron's 13:13 Ja 30 '33

## Valuation

Valuation of stock in close corporations; suit. Trust Companies 56:467-8 Ap '33

**STOCKS—Valuation—Continued**

What is this stock worth? S. M. Foster. Barron's 13:17 Ja 2; 15 Ap 10; 21 My 15; 22 Je 26; 15 Ag 14; 19 S 18 '33

See also

Insurance companies

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**STOCKS, No-par-value**

Stock without par value under the Delaware corporation law. 23p Corporation service co, Wilmington, Del. '33

**STOCKS, Preferred**

Is preferred stock preferable? M. M. Horsfield. Barron's 12:54 N 28 '32

Opportunities in speculative preferreds. P. Dobbs. Mag of Wall St 52:330 Jl 22 '33

Preferreds for income and appreciation. J. C. Clifford. Mag of Wall St 51:536-7 Mr 4 '33

Preferreds offer investment opportunities. J. C. Clifford. Mag of Wall St 51:159 N 26 '32

Profits in back-dividend preferred stocks. R. S. Wallace. Forbes 32:28-9 Ag 1 '33

Six attractive preferred stocks. R. S. Wallace. Forbes 31:31 Mr 1 '33

Six preferred stocks for speculation. R. S. Wallace. Forbes 31:30 My 1 '33

**STOCKTON, California****Water supply**

Experiences with well water in an uncovered reservoir. K. W. Brown. Am Water Works Assn J 25:337-42 Mr '33

**STOCKYARDS**

See also

Packing industry

**STOKERS, Mechanical**

Air control steps up stoker performance; Beacon Street heating plant, Detroit. J. H. Walker. Il diag Power 76:282-4 D '32

Babcock and Wilcox Erith-Roe marine stoker installation. diags Engineering 136:258-9 S 8 '33

Bennis stokers at a paper mill. Il diag Engineer 155:573-4 Je 9 '33

Controlling motors for temperature control systems, compressors, oil burners, stokers. S. R. Lewis. Il Heating-Piping 5:103-4 F '33

Detroit multiple retort stoker. Il Power Pl Eng 37:103 F '33

Developments in automatic stoking for brick kilns; abstract. M. Steenbrugge. Engineering 136:408 O 13 '33

Facing facts of competition in commercial gas sales; cost data, gas and coal firing compared. G. W. Turner. Gas Age 71:360-6 Ap 8 '33

Fuel-burning equipment. Il diags Power 76:374-5 Mid-D '32

Making the most of underfeed stokers. Power 77:518-19 O '33

Mechanical stoking. Il Chem Age (Lond) 29:259 S 16 '33

New mechanical stoker for firing central heating and hot water boilers; the Robot fireman. Il Chem Age (Lond) 27:484-5 N 19 '32

New stoker technic developed for lignite. G. W. Welch. Il diag Power Pl Eng 37:205-7 My '33

Ohio coal investigation; economic study of the use of Cambridge coal with underfeed stoker equipment. H. M. Faust. diags map

Ohio State Univ Eng Exp Sta Bul 75:1-37 '33

Oil, gas, and coal compete as steam fuels. Il Power 77:8-9 Ja '33

Progress in the production and transmission of heat and power; coal burning equipment. Il Paper Tr J 96:69+ F 16 '33

Recent advances in the combustion field. J. G. Worker. Il diag Blast F & Steel Pl 21:46-8 Ja '33

Small automatic stokers vs. natural gas; cost data. C. W. Smith. Am Gas Assn Mo 15:253-4 Je '33

Standard locomotive stoker of small capacity. Il Ry Mech Eng 107:16-17 Ja '33

Stoker combustion rates increased; Delray powerhouse no. 3; abstracts and discussion. P. W. Thompson and F. J. Chatel. Power 76:341-2 Mid-D '32; Elec W 100:854-5 D 24 '32

Stokers modernize plants. Il Heating-Piping 5:26-9 Ja '33

Stokers show big savings. R. S. Julsrud. Il diags Dom Eng 141:58-9 My '33

Toledo schools expel high heating costs. S. R. Lewis. Heating-Piping 5:12-13 Ja '33

**Merchandizing**

Automatic stokers; coal men fighting to defend their market against the invasion of oil and gas. Business Week p7 D 7 '32

Competitive situation in commercial sales; cost data. G. W. Turner. Am Gas Assn Mo 15:284-8+ Jl '33

Pointing the way to fuel savings with the stoker. Il Dom Eng 140:83-5 D '32

Trenton boosts anthracite by sale of automatic equipment through central agency. Coal Age 38:195 Je '33

**Repair**

Repairing stoker parts. Il Ry Mech Eng 106:473 N '32

**Statistics**

New orders, monthly, 1931-1932. Survey of Cur Business 13:19 Ja '33

**Testing**

Operation of horizontal underfeed stokers. J. F. Barkley and L. R. Burdick. diag Power Pl Eng 37:376-8 S '33

**STOKES' law**

Settling velocities of gravel, sand, and silt particles. W. W. Rubey. bibliog Am J Sci 5th ser 25:325-38 Ap '33

**STOMACH****Acidity**

Gastric acidity. Z. Sagal, J. A. Marks and J. L. Kantor. Science 78:sup6 Ag 18 '33

**STOMATITIS**

Infection in mice following instillation of vesicular stomatitis virus. P. K. Olitsky, H. R. Cox and J. T. Syverton. Science 77:611 Je 23 '33

Relationship of the viruses of vesicular stomatitis and of equine encephalomyelitis. J. T. Syverton, H. R. Cox and P. K. Olitsky. Science 78:216-17 S 8 '33

**STONE, Ormond, 1847-1933**

Sketch. S. A. Mitchell. Science 77:107-8 Ja 27 '33

**STONE**

Bacteria in relation to the decay of stone; abstract. S. G. Paine. Engineering 134:556 N 11 '32

Decay of stone; abstract. S. G. Paine and others. J Fr Inst 216:386 S '33

Stone industry in 1931. Rock Prod 35:64 D 31 '32

See also

Blasting

Building stone

Granite

Gravel

Limestone

Quarries and quarry-

ing

Road materials

Rocks

**Testing**

Technical stone testing; abstract. Rock Prod 36:40 Ap '33

**STONE, Artificial**

Man outstrips nature in producing stone. Il Comp Air M 38:4223 S '33

New synthetic stone, rostone. H. C. Pepper, R. L. Harrison and R. N. Shreve. bibliog Il Ind & Eng Chem 25:719-22 Jl '33

Rostone, a new building material. Il Rock Prod 36:44-6 My '33; Same cond. Brick & Clay Rec 82:175-6 My '33

Rostone; a new industry; exhibit house at Century of progress. Il Am Bld 55:40-1 Je '33

**STONE, Crushed**

Adjusting a re-crusher to give maximum percentage of a desired size. I. Warner. flow sheet Rock Prod 36:21-3 S '33

Aerial tram for crushed stone. Il Rock Prod 36:77-8 Ag '33



**STONE, Crushed—Continued**

Demand for better products and competition make obsolescence in the crushed stone industry. M. C. Dow. *Rock Prod* 35:58-9 D 31 '32

Determination of average particle size from the screen-analysis of non-uniform particulate substances. T. Hatch. *J Fr Inst* 215: 27-37 Ja '33

Do production costs mean anything in a year like this? S. E. Honey. *Rock Prod* 35:60-2 D 31 '32

Effect of different media on trickling filter unloading. W. Rudolfs and N. S. Chamberlin. *Civil Eng* 3:210-12 Ap '33

Efficient and economical crushed-stone production; plant at Mettur dam, Madras, India. R. Hadfield. *flow sheet* il *diag Eng & Min J* 134:384-5 S '33

Large crushing and screening plant reflects engineering progress; Hudson River stone corporation. L. A. Slattey. il *diags plans Eng & Min J* 134:2-10 Ja '33

Newest stone crushing plant in New York city district. R. R. Shafter. il *Rock Prod* 35:9-16 D 10 '32

Scheme proposed for grouping of competitive stone producers; mutual sales organization. W. R. France. *Rock Prod* 36:22-3 Je '33

This plant is the product of much experience in crushed stone washing; Bethlehem mines corporation's operation at Bridgeport, Penn. *flow sheet* il *plans Rock Prod* 36:17-26 Mr '33

**Statistics**

Crushed stone statistics for 1932. *Rock Prod* 36:34 O '33

Value and tonnage of concrete materials and highway and building construction, 1918-1932; chart. *Rock Prod* 36:25 F '33

**STONE age**

Men of the old stone age in Germany. *Science* 78:sup8 J1 21 '33

Old stone age. M. C. Burkitt. 254p [bibliog p243-6] Macmillan '33

**See also**

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**STONE & Webster, incorporated**

Annual report, 1932. Barron's 13:19 Mr 6 '33

Low price stocks that can be purchased now for later appreciation. *Mag of Wall St* 51: 218+ D 10 '32

**STONE construction**

Gantry crane erects heavy stone columns; new building of the Mellon institute of industrial research, in Pittsburgh. G. S. Merts. il *diag Eng N* 110:365-6 Mr 23 '33

**STONE handling**

New barge loader solves small plant problem. E. J. Tournier. il *diag Rock Prod* 36:26-7 Ap '33

**STONE implements**

Pleistocene Mazouza stage in western Algeria containing artifacts. R. V. V. Anderson. il *map Geol Soc Bul* 43:847-74, pl 22-3 S '32

**STONEWARE**

Craftsmanship in chemical stoneware. T. R. Olive. il *Chem & Met Eng* 40:369-71 J1 '33

Hathern chemical stoneware. il *Chem Age (Lond)* 28:169 F 25 '33

Lead-lined plant and chemical stoneware. *Soc Chem Ind J (Chem & Ind)* 52:759-61 S 22 '33; Same cond. *Chem Age (Lond)* 29: 249 S 16 '33; Discussion. *Soc Chem Ind J (Chem & Ind)* 52:782, 822, 879 S 29, O 13, 27 '33

Lectrovac chemical ware, a new ceramic. *Metal Ind* 31:255 J1 '33

**See also**

Sanitary ware

**STOP mechanism**

Cam milling fixture with automatic stop. F. W. Curtis. *diags Mach* 39:783-4 Ag '33

Stop mechanism for a power press equipped with a magazine feed. E. Lay. *diag Mach* 39:252-3 D '32

Stop the loom! silk and rayon crepes require accurate brake adjustment. H. E. Wenrich. il *Textile World* 83:1082-3 Je '33

Strip-end stop for punch press. *diags Mach* 39: 628 Je '33

Variable stop mechanism. F. W. Brown. *diag Am Mach* 77:443 J1 5 '33

**STOPCOCKS**

Adjustable stopcock remover. R. W. Westerman. *diags Ind & Eng Chem Anal* ed 5:68 Ja 15 '33

**STOPPING methods.** See Mining methods

**STORAGE**

Application of fumigants to ships and warehouses; penetration of hydrogen cyanide into bags of raw cacao stacked in piles of different sizes. A. E. P. Page and O. F. Lubatti. *Soc Chem Ind J* 52:323T-6T O 6 '33  
Electrical stores; single storey building of 80 000 sq. ft. for G. E. C. Witton. il *Electrician* 110:716 Je 2 '33  
Storage up, costs down; Abbott laboratories. A. Van Vlissingen, jr. il *Factory Management* 91:269-70 J1 '33

**See also**

Coal storage	Stores systems
Gasoline storage	Warehouses
Oil storage	Water storage
Paint storage	Wood storage
Petroleum storage	

**STORAGE batteries**

Les accumulateurs électriques à l'iode. L. Fourcault. *diag Génie Civil* 101:660-1 D 31 '32; Abstract (Zinc-carbon-iodine accumulator). *Elec R (Lond)* 112:367 Mr 10 '33

Battery voltage variations. G. Gory. *diags Automotive Ind* 68:66-8 Ja 21 '33

Beautifying the hidden product; Prest-O-Lite battery. il *Ptr Ink* 165:102 N 9 '33

Brooklyn, a tough town for batteries. il *Bus Transportation* 12:246-8 Je '33

Composition of grids for positive plates of storage batteries as a factor influencing the sulphation of negative plates. G. W. Vinal, D. N. Craig and C. L. Snyder. pl U S Bur Stand J Research 10:795-808 Je '33

Expansion as a controlling factor in positive plate paste composition for lead storage batteries. O. W. Brown, R. L. Shelley and E. W. Kanning. *Electrochem Soc Trans* 64 (preprint 18):187-202 S '33

Lead accumulator; M. Féry's survey of progress. A. Harvey. *diag Electrician* 111: 147-8 Ag 4 '33

Modern storage battery practice. A. D. Alt-house and C. H. Turnquist. 271p Goodheart-Willcox co, inc, Chicago '32

Not a battery missing! perpetual check on inventory. F. W. Koerber. *Pet Age* 27:32-3+ Mr '33

Plateless batteries. *Electrician* 110:338 Mr 10 '33

Railway-coach batteries; their maintenance in the tropics. J. G. B. Sams. *diag plan Electrician* 110:357 Mr 17 '33

Resistance of storage battery separators and the resistivity and viscosity of battery electrolytes. G. W. Vinal. *Elec Eng* 52:130-1 F '33

Storage batteries. F. B. Crocker, M. Arendt and R. F. Kuns. 127p American technical society, Chicago '33

Storage batteries; progress in 1932. E. C. McKinnon. *Electrician* 110:114 Ja 27 '33

Storage battery industry. E. S. New. *Elec R (Lond)* 113:19 J1 7 '33

Student's radio physics course. A. A. Ghirardi. *Radio N* 14:432-3+, 492-3+ Ja-F '33

Summary of replies to question 93 on batteries. *Bus Transportation* 12:180 Ap '33

Viscosity of sulphuric-acid solutions used for battery electrolytes. G. W. Vinal and D. N. Craig. *diag U S Bur Stand J Research* 10:781-93 Je '33

X-ray studies on lead-acid storage batteries. C. S. Barrett. il *Ind & Eng Chem* 25:297-300 Mr '33

**See also**

Electric locomotives,	Motor cars (railroad)
Storage battery	—Storage battery

**STORAGE batteries—Continued****Charging**

- Battery charging problem; ascertaining the correct resistance to be employed. R. W. Minter. Elec R (Lond) 112:771 Je 2 '33
- Extreme operating range for automatic battery charging. E. A. Wyatt and R. C. Samuels. diag Elec W 101:428 Ap 1 '33
- Lead storage batteries and their treatment; abstracts. F. Cawter. Electrician 110:190 F 10 '33; Elec R (Lond) 112:244 F 17 '33
- Rapid charging of accumulators. A. E. Lange. Elec R (Lond) 111:812 D 2 '32
- Student's radio physics course. A. A. Ghirardi. Radio N 14:492-3+ F '33
- Trickle charging. E. R. Sanderson. diag Elec R (Lond) 112:186-7 F 10 '33
- Westric battery charger. il diag Automobile Eng 23:183-4 My '33

**Manufacture.**

- Block batteries. il diag Elec R (Lond) 113:386 S 22 '33
- Lead absorption and excretion in certain lead trades. R. A. Kehoe, F. Thammann and J. Cholak. biblog J Ind Hygiene 15:306-19 S '33
- Lead poisoning in a storage battery plant. A. E. Russell and others. U S Public Health Service Bul 205:1-55 '33; Abstract. Pub Health Rep 48:1043-5 Ag 25 '33
- Public service transport, inc. builds its own batteries. il Elec Traction 29:177-8 Je '33

**Merchandizing**

- Batteries create customer contacts for oil company stations. E. L. Barringer. il Nat Pet N 25:38-9 O 18 '33
- Do jobbers balk at your new line? Stag sells 4,000 dealers direct. il Sales Management 31:518 D 15 '32

**Testing**

- Cadmium electrode for storage battery testing. W. J. Holmes and R. Elliott. il diag Electrochem Soc Trans 62 (preprint 14):159-74 S '32; Abstract. Elec W 100:701-2 N 19 '32

**STORE buildings**

- Alterations to store for National cash register company, Los Angeles; views and plans. Am Arch 143:83-6 My '33
- Architecture of merchandising. J. I. Straus. il Arch Forum 58:343-5 My '33
- Chain store for women's dresses; views and plans. Arch Rec 74:388-90 N '33
- La construction des agrandissements des magasins aux Galeries Lafayette, à Paris; particularités présentées par les fondations. R. L'Hermite. il diag plans Génie Civil 102:101-8 F 4 '33
- Distinctive shops; views and plans. Arch Forum 58:389-404 My '33
- Eight modern department stores; views and plans. Arch Forum 58:357-72 My '33
- Lincoln-Liberty building, Philadelphia; views and plans. Arch Rec 72:369-74 D '32
- Logic of the layout. K. C. Welch. il Arch Forum 58:346-52 My '33
- Parisian and Dutch shop fronts; photographs and captions by Gerald K. Geerlings. Architecture 67:131-6 Mr '33
- Planning sales and office buildings for public service companies. J. B. Rodgers. il plans Arch Rec 72:397-409 D '32
- Remodeled store buildings; views and plans. Arch Forum 58:62-8 Ja '33
- Remodeling puts store building on good paying basis. il Am Bld 55:30 O '33
- Shop check list. F. A. Pawley. il Arch Forum 58:381-8 My '33
- Shops and stores for modern merchandising. V. Hagopian. il diag Arch Forum 58:69-72 Ja '33
- Store group for the Heelbarp corporation, Westhampton, Long Island, N.Y.; views and plans. Am Arch 143:81-4 S '33

Well-equipped store. E. E. Ashley. il diag Arch Forum 58:405-8 My '33

**See also**

Department stores  
Drug stores

**Heating and ventilation**

Comfort cooling for stores. W. L. Fleisher. il diag Arch Forum 58:409-12 My '33

**Lighting**

- Control takes cost fear from lighting; Bruckner's wear shop, Fresno, Calif. il Elec West 70:131-2 Ap '33
- Hutzler bros., Howard street, Baltimore, Md. il illum Eng Soc Trans 28:308-9 Ap '33
- Light for merchandising. F. H. Pearson. Elec W 101:514-15 Ap 22 '33
- Lighting of shops and stores. C. C. Hosmer. il diag Arch Forum 58:353-6 My '33
- Lighting small stores holds lucrative possibilities. A. L. Powell, J. M. Smith and A. Rodgers. il diag Elec W 102:340-3 S 9 '33
- Proving to the storekeeper that light is his best salesman. il Edison Elec Inst Bul 1:205-8 O '33
- Removing heat from high-intensity lighting. il diag Elec W 101:480-1 Ap 15 '33
- Women's outdoor apparel shop and tea room; John Wanamaker, Philadelphia. il illum Eng Soc Trans 28:114-15 F '33

**Renting**

Percentage lease. R. McDaniel. Burroughs Clearing House 17:18-20 My '33

**STORE-door delivery.** See Freight handling—Store-door delivery

**STORE lighting.** See Store buildings—Lighting

**STORE location.** See Retail trade—Store location

**STORE management.** See Retail trade—Store management

**STORES (retail trade)**

Shop check list. F. A. Pawley. il Arch Forum 58:381-8 My '33

**See also**

Bookstores	Five- and ten-cent stores
Chain stores	Retail trade
Department stores	Store buildings
Drug stores	

**STORES, Traveling.** See Traveling stores

**STORES systems**

- Cost finding to assure profits. C. H. Hatch. Am Mach 77:656-9 O 11 '33
- Handling mill supplies. Textile World 83:1104-5 Je '33
- Material control policies. C. J. Alfke. Am Water Works Assn J 24:2000-3 D '32
- Organising the stores department. G. W. Tripp. Engineer 155:379-80 Ap 14 '33
- Production control; inventories. T. M. Landy. Factory Management 91:263-4 Jl '33
- Purchasing and stock records that show maximum information with minimum effort. P. B. Sisa. il Management Methods 62:21-2+ Ja '33
- Standardizing transformer handling. New England power association system. Elec W 102:632-3 N 11 '33
- Stocks hit new low! when stores and tools are kept in one place. H. W. Banbury. il Factory & Ind Management 84:14-15 Ja '33
- Stores department accounting. A. Miller. Engineer 155:519 My 26 '33

**See also**

Factory transportation	Railroads—Stores systems
Inventories	Street railroads—Stores systems
Motor bus lines—Stores systems	Tool rooms

**STOREY, William Benson, 1857-**  
Bledsoe succeeds Storey on Santa Fe. por Ry Age 94:671-2 My 6 '33

**STORM van Leeuwen, Willem, 1882-1933**  
Sketch. D. I. Macht. Science 78:257 S 22 '33

**STORMS**

Analysis of flood produced by severe California cloudburst. Eng N 111:128 Ag 3 '33



**STORMS—Continued**

Latitude shift of the storm track in the 11-year solar period; storm frequency maps of the United States, 1883-1930. C. J. Kulmer. Smithsonian Miscellaneous Collections v 89, no 2:1-34 '33

See also

Hurricanes	Snow
Meteorology	Winds
Rain and rainfall	

**STOVES**

Fire hazard of domestic heating installations. G. Q. Voigt. pls U S Bur Stand J Research 11:353-72 S '33

Heating and cooking equipment (other than electric)—production, by class, kind, and value, 1931 and 1929. Am Gas J 138:12-13 Ja '33

See also

Electric stoves  
Gas stoves  
Oil stoves

**Manufacture**

Conveyors speed up enameling of stove parts; Florence stove co. Kankakee, Ill. J. B. Nealey. il plan Steel 92:25-7 Je 26 '33

Employment of women in vitreous enameling. E. L. Best. pls U S Women's Bur Bul 101: 1-61 '32

Enameling in automatic gas furnaces; American stove co. J. B. Nealey. il diags Iron Age 131:901-2+ Je 8 '33; Same. Am Gas Assn Mo 15:238-9 Je '33

**STRAIGHTENING machines**

Schrägwalzen-richtmaschine für rundstäbe und rohre. diag Stahl & Eisen 53:45-6 Ja 12 '33

**STRAIN gages**

Baldwin-Southwark small strain gage. il Ry Age 93:980 D 31 '32

Electric strain meter and its use in measuring internal strains. R. E. Davis and R. W. Carlson. il diags Am Soc T M Proc 32 pt 2:793-801 '32

Olsen-De Shazer strain gage. il Mach 39:364 Ja '33; Automotive Ind 68:214 F 18 '33

Recorder-controller for materials-testing machines; Southwark-Emery system. C. H. Gibbons. bibliog il Iron Age 131:274-6+ F 16 '33

See also

Extensometer

**STRAINERS**

See also

Air filters	Screens
Filters and filtration	Sieves
Oil filters	

**STRAINS and stresses**

Application of Berry functions to the determination of initial stress. W. E. Dumbrell. Roy Aeronautical Soc J 37:381-2 Ap '33

Application of interference fringes to stress analysis. M. M. Frocht. il diags J Fr Inst 216:73-89 Jl '33

Application of photoelasticity to the study of indeterminate truss-stresses. D. L. Pellett. il diags S A E J 31:469-74 D '32

Autographic stress-strain curves of deep-drawing sheets. R. L. Kenyon and R. S. Burns. bibliog il diags Am Soc Steel Tr Trans 21:577-601; Discussion. 601-12 Jl '33

Bending stresses in wire ropes analyzed. H. M. Hall. Can Eng 65:9-10 Ag 8 '33

Les charpentes en lamelles de bois; calcul des fatigues et essais de résistance. F. Crestin. il diags Génie Civil 102:461-6 My 20 '33

Combined stresses. E. U. Fairbanks. Aviation Eng 7:5-6+ D '32

Damping capacity and fatigue strength. E. Voigt and K. H. Christensen. diag Engineer 156:sup [Metallurgist] 58-60 Ag 25 '33

Determination of principal stresses in buttresses and gravity dams. W. H. Holmes. diags Am Soc C E Proc 58:71-93 Ja '32; Discussion. 58:859-79, 1095-9, 1393-1400, 1796-1802; 59:449-56 My, Ag, O, D '32, Mr '33

Determination of stresses from strains on three intersecting gage lines and its application to actual tests. W. R. Osgood and R. G. Sturm. pl diags U S Bur Stand J Research 10:685-92 My '33

Determining stresses in semi-elliptical sewers. C. D. Williams. Eng N 110:242-3 F 23 '33

Development of internal stresses and season-cracking in cold-drawn brass tubes. J. Fox. il Engineering 136:375-6 O 6 '33

Distribution of shear in welded connections. H. W. Troelsch. diags Am Soc C E Proc 58:1499-1506 N '32; Discussion. 59:394-404, 521-2, 640-5, 1333-5 F-Apr, O '33

Effect of local heterogeneity on the stress distribution in solids. K. Sezawa. Engineering 135:695-6 Je 30 '33

Eigenspannungen in grossen schmiedestücken. G. Kirchberg. Zeit Ver Deutsch Ing 77:732 Jl 8 '33

Einfluss der vorspannung auf die dauerfestigkeit. P. Ludwik and J. Krystof. bibliog il diags Zeit Ver Deutsch Ing 77:629-35 Je 17 '33

Die ermittlung der spannungsverteilung in konstruktionsteilen durch dehnungsmessungen. F. Röttscher. il diags Zeit Ver Deutsch Ing 77:373-8 Ap 8 '33

Experimental course in mechanics of materials. F. L. Everett. il J Eng Educ 23:561-79 Mr '33

Glass as a structural and stress-resisting material. F. W. Preston. diags Am Cer Soc J 16:163-86 Ap '33

Graphic solution of some common pipe bends. S. Kameros. Heating-Piping 5:342-6 Jl '33

Graphical analysis of stress in a reinforced concrete section under an eccentric load. H. E. von Bergen. Civil Eng 3:93-4 F '33

Graphical representation of two-dimensional stress distributions. V. Tesar. diags J Fr Inst 216:217-24 Ag '33

Helical joints in welded cylindrical pressure vessels; abstract. G. W. Bird. Mech Eng 55:448-9 Jl '33

Internal friction in iron and iron alloys. R. H. Canfield. il diags Am Soc Steel Tr Trans 20:549-74; Discussion. 574-6 D '32

Interpretation of the tensile test (with reference to lead alloys). B. P. Haigh and B. Jones. il Engineering 135:314-16 Mr 17 '33; Abstract. Engineer 155:266 Mr 17 '33; Discussion. Engineering 135:311 Mr 17 '33; Engineer 155:266 Mr 17 '33

Loads on pipe in wide ditches. W. J. Schlick. il diags Iowa State College Eng Exp Sta Bul 108:1-48 '32

Machine renders sheets free from stretcher strains. J. D. Knox. il diag Steel 92:26-7 Ap 24 '33

Mechanical braking and its influence on winding equipment. J. F. Perry and D. M. Smith. diags Engineering 134:663-5 D 2 '32

Photo-elastic analysis of stresses in composite materials. A. H. Beyer and A. G. Solakian. il Am Soc C E Proc 59:1121-32 S '33; Abstract. Am Concrete Inst J 5:sup [news letter] 21-2 N '33

Rationalizing stress analysis; a new system for the Department of commerce. R. M. Mock. Aviation 32:319-20 O '33

Résistance des matériaux; étude des ruptures causées par certaines compressions. K. Ljungberg. il Génie Civil 103:155-8 Ag 12 '33

Shear tests of reinforced brick masonry beams. D. E. Parsons, A. H. Stang and J. W. McBurney. il diags U S Bur Stand J Research 9:749-68 D '32

Spannungsverteilung und werkstofffluss im walzspalt. W. Lueg. il diags Stahl & Eisen 53:346-52 Ap 6 '33

Stability of thin walled tubes under torsion. L. H. Donnell. Civil Eng 3:456 Ag '33

Stress distributions in fusion joints of plates connected at right angles; abstract and discussion. E. G. Coker and R. Russell. Engineering 135:442-3 Ap 21 '33

Stresses in boiler tubes; abstract and discussion. W. L. De Baufre. Power 76:337 Mid-D '32

Stresses in domes and crowns of circular kilns. J. N. Goodier. Am Cer Soc J 16:220-8 My '33

**STRAINS and stresses—Continued**

- Stresses in inclined arches of multiple-arch dams. G. E. Goodall and I. M. Nelidov. *Am Soc C E Proc* 58:387-407 Mr '32; Discussion. 58:1401-16; 59:364-8 O '32, F '33
- Stresses in metal covering under the action of a uniformly distributed load. J. J. Koudry. *Aviation Eng* 8:13+ Ap '33
- Stresses in reinforced concrete due to volume changes. C. P. Vetter. *Am Soc C E Proc* 58:197-211 F '32; Discussion. 58:892-6, 1242-57; 59:821-8 My, S '32, My '33
- Temperature effects in concrete sections; unequal changes in unsymmetrical viaduct slab and girder sections create serious stresses. S. B. Slack. *il diags Civil Eng* 3: 213-16 Ap '33
- Tests of riveted and welded steel columns. W. A. Slater and M. O. Fuller. *il diags Am Soc C E Proc* 58:1147-80 S '32; Discussion. 59: 199-206, 380-3, 841-2 Ja-F, My '33
- Torsional stresses in a crane support. B. C. Jacob. *Civil Eng* 3:280-1 My '33
- Über die festigkeit von rippen bei ruhender, wechselnder und stossartiger belastung. A. Thum and S. Berg. *Zeit Ver Deutsch Ing* 77:281-7 Mr 18 '33
- Wind-stress analysis and moment distribution; Cross method. R. Fleming. *Eng N* 110: 194-5 F 9 '33
- Wind stress analysis simplified. L. E. Grinter. *Am Soc C E Proc* 59:3-27 Ja '33; Discussion. 59:692-707, 885-93, 1192-4 Ap-My, S '33
- Wood-beam design method promises economies. J. A. Newlin, G. E. Heck and H. W. March. *il Eng N* 110:594-6 My 11 '33

*See also*

- |                          |                        |
|--------------------------|------------------------|
| Beams                    | Graphic statics        |
| Bending moment           | Hysteresis (mechanics) |
| Bridge design            | Impact                 |
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| Building                 | Photoelasticity        |
| Columns                  | Poisson's ratio        |
| Concrete construction    | Riveting               |
| —Design                  | Roofs                  |
| Creep of metals          | Steel construction—    |
| Deformations (mechanics) | Design                 |
| Earth pressure           | Strength of materials  |
| Elasticity               | Torsion                |
| Fatigue in metals        | Trusses                |
| Girders                  | Wind pressure          |

**STRAKE, George William**

- Strake couldn't convince folk there was oil at Conroe, so he drilled a well himself. T. F. Smiley. *por Oil & Gas J* 31:15+ My 18 '33

**STRANDGREN rotors**

- Strandgren rotors; abstract. C. B. Strandgren. *Mech Eng* 55:694 N '33

**STRATOSPHERE.** *See* Atmosphere, Upper**STRAUS, S. W., and company**

- Fall of the house that Straus built. *Arch Forum* 58:sup22 Ap '33

- S. W. Straus receivership. *Barron's* 13:11 Mr 6 '33

**STRAUS family**

- R. H. Macy & co., inc. *il Fortune* 7:23-33 Ap '33

**STRAW**

- Mechanical equipment for continuous fermentation of fibrous materials. A. M. Buswell and C. S. Boruff. *bibliog diags Ind & Eng Chem* 25:147-9 F '33

- Über den aufschluss von stroh mit schwefeliger säure und sauren sulfiten. S. Hilpert and F. Jordan. *Angew Chemie* 46:73-6 Ja 28 '33

**STRAW votes**

- Analytical interpretation of straw-vote samples. W. L. Crum. *Am Statis Assn J* 28:152-63 Je '33

**STRAWBERRIES**

- Photoperiodism as a cause of the rest period in strawberries. G. M. Darrow and G. F. Waldo. *Science* 77:353-4 Ap 7 '33

- Third favorite flavor. *il map Fortune* 7:64-9 Ap '33

- Using fresh strawberries in cordial and cream candies. W. F. Robertson. *il Food Ind* 5:168 My '33

- Vitamin C content of strawberries and strawberry ice cream. C. R. Fellers and M. J. Mack. *Ind & Eng Chem* 25:1051-2 S '33

**STRAY currents**

- Abstracts and summaries of the Bureau of standards publications on stray-current electrolysis. E. R. Shepard. *U S Bur Stand Circ* 401:1-23 '33

- Stray motor neutral currents; effect on telephone transmission. M. D. Simmons. *Electrician* 111:118 Jl 28 '33

**STREAM flow**

- Application of duration curves to hydroelectric studies. G. H. Hickox and G. O. Wessenaer. *diag Am Soc C E Proc* 58:713-27 My '32; Discussion. 58:1439-48, 1606-9; 59:192-5, 480-3 O-N '32, Ja, Mr '33

- Duration curves. H. A. Foster. *Am Soc C E Proc* 59:1223-45 O '33

- Flow in river bends. H. D. Vogel and P. W. Thompson. *il Civil Eng* 3:266-8 My '33

- Flow of water around bends. J. W. Pearl. *Eng N* 111:570 N 9 '33

- Forests and stream flow. W. G. Hoyt and H. C. Troxell. *Am Soc C E Proc* 58:1037-66 Ag '32; Discussion. 58:1288-93, 1614-18, 1811-36; 59:376-9, 484-94, 607-16, 835-40, 1149-66 S, N-D '32, F-My, S '33

- New plans for the Mississippi. *il diags Eng N* 111:41-5 Jl 13 '33; Discussion (Bed-load drift across current). 111:326-7, 570-1 S 14, N 9 '33

- Ohio stream flow. pt 1, Areas of lakes and drainage basins; run-off records prior to 1921. C. B. Sherman. *il maps Ohio State Univ Eng Exp Sta Bul* 73:1-167 '32

- Organisation required for the recording of water level and river flow in the British Isles; discussion. *Engineering* 134:554-5 N 11 '32

- Problem of soil in transportation in the Colorado river. S. L. Rothery. *il plans Am Soc C E Proc* 58:1639-59 D '32; Discussion. 59:682-7, 866-81, 1014-19, 1185-91 Ap-My, Ag-S '33

- Storage requirements for northwestern streams. R. G. Tyler. *Am Water Works Assn J* 25:94-104 Ja '33

- Temperature effect on river flow studied in Germany. S. Shulits. *Eng N* 111:410 O 5 '33

*See also*

- Stream measurements  
Water flow

**STREAM measurements**

- Surface water resources of New Jersey. O. W. Hartwell. *Am Water Works Assn J* 25:1185-92 S '33

*See also*

- Stream flow

**STREATER, Illinois***Water supply*

- Flooded waterworks requires emergency sanitation measures. *il Eng N* 111:225-6 Ag 24 '33

**STREET accidents**

- Cities win safety honors; first National traffic safety contest. S. J. Williams. *Nat Safety N* 27:17-18+ Ap '33

- Economic value of good street lighting; report of I.E.S. committee on street lighting. F. C. Caldwell. *bibliog Illum Eng Soc Trans* 27: 808-21; Discussion. 821-7 D '32

- Inadequate street lighting exacts toll in lives. R. E. Simpson. *il Elec W* 100:753-4 D 3 '32

- Le problème de la circulation à Paris. J. Thomas. *Génie Civil* 103:36-9 Jl 8 '33

- Statistical review of street accidents. *Illum Eng* 26:174-6 Jl '33

*See also*

- |                          |                            |
|--------------------------|----------------------------|
| Automobile accidents     | Street railroads—Accidents |
| Grade crossing accidents |                            |



**STREET cars**

Aluminum's tenth anniversary on the railroads; a review of the applications of aluminum in the steam and electric railway field. A. H. Woollen. *il Ry Age* 95: 147-50 J1 22 '33

Brill delivers Indianapolis street cars and trolley buses. *Transit J* 77:71-2 F '33

Car research beginning to show results. T. Conway, jr. *Transit J* 77:369-71 O 10 '33

Earnings and speed increased, costs decreased by new cars in Baltimore. D. J. Locke. *il Gen Elec R* 35:630-1 D '32

Fitting transit equipment to its best job. C. O. Guernsey. *il S A E J* 32:sup16-20+ My '33

New street cars; Chicago surface lines will put the new ideas into operation. *Business Week* p16 N 4 '33

Passenger comfort the first consideration; Ottawa electric railway. *il Transit J* 77:310 O '33

Transit rehabilitation making progress at Indianapolis; street cars, trolley buses and motor buses. *il map Transit J* 77:43-6 F '33

*See also*

Advertising mediums      Cars, Electric rail-  
—Street cars                      road  
   Street railroads

**Bearings**

Energy loss in journal friction is expensive. H. S. Williams. *Transit J* 77:48 F '33

Faster schedules impose new demands on car bearings. A. Vigne. *Transit J* 77:114-15 Ap '33

**Control**

General Electric selective acceleration for car control. *il Transit J* 77:157 My '33

Regenerative control successful in England; Leeds corporation tramways. W. V. Moreland. *Transit J* 77:306-7 O '33

**Design**

Chicago experimental streamlined cars a radical departure. *il Transit J* 77:403-4 N '33

New car with resilient wheels. C. F. Hirshfeld. *il diags Elec Traction* 29:321-5+ O '33

New Swiss electric tramcar. *Elec R (Lond)* 111:849 D 9 '32

Notable innovations in Presidents' conference car. *il diags Transit J* 77:205-9 J1 '33

Unusual motor suspension in Swiss car. J. Koffman. *il Elec Traction* 29:101+ Ap '33

**Double deck**

New Leeds tramcar. *il Elec R (Lond)* 112: 804 Je 9 '33

**Electric equipment**

Booster motors increase acceleration 32 per cent. *diags Transit J* 77:188 Je '33

Crompton Parkinson electric tramcar equipments. *il Engineer* 156:391 O 20 '33

Don't act your age, street car; rewinding of motor armatures increases speed. J. G. Inglis. *Elec J* 29:546-7 D '32

**Failures**

Car failures halved. C. B. Hall. *Elec Traction* 29:47-8 F '33

**Lubrication**

Energy loss in journal friction is expensive. H. S. Williams. *Transit J* 77:48 F '33

**Noise**

Gummi in rädern für schienenfahrzeuge. P. Kremer and G. Reutlinger. *il diag Zeit Ver Deutsch Ing* 77:955-8 S 2 '33

Quiet street cars. *il Business Week* p13 Je 17 '33

Radical improvements in silent street car. *Elec Traction* 29:166 Je '33

Resilient wheels and noise reduction. *diags Aera* 23:1399-1403 N '32

Silenced trolley cars; scientific application of rubber suspensions. *India Rubber W* 89:25-6 N '33

**One-man cars**

Changing over steel Peter Witts for one man operation. W. R. McKae. *il Elec Traction* 28:479-80+ D '32

Louisville completing car conversion program. *il Transit J* 77:306 O '33

Maximum speed with one-man cars. D. K. Lewis. *il Elec Traction* 29:255-6 S '33

Toronto remodels 100 cars. *il Transit J* 77: 249-50 Ag '33

Two to one without slowing down; change over Louisville railway operation to one man. G. B. Powell. *il Elec Traction* 29:99-100+ Ap '33

What has been accomplished by car rebuilding; Omaha & Council Bluffs street railway co. O. Hill. *il Elec Traction* 29:277+ S '33

**Reconstruction**

Changing over steel Peter Witts for one man operation. W. R. McKae. *il Elec Traction* 28:479-80+ D '32

Toronto remodels 100 cars. *il Transit J* 77: 249-50 Ag '33

What has been accomplished by car rebuilding; Omaha & Council Bluffs street railway co. O. Hill. *il Elec Traction* 29:277+ S '33

**Repair**

Removing dents from body panels. W. E. Warner. *diag Elec Traction* 29:80 Mr '33

Salvaging undersized armature bearings and worn axle collars. F. V. Skelley. *il Transit J* 77:124 Ap '33

Sand blast for cleaning parts. *il Elec Traction* 29:163 Je '33

**Signs**

Periscope permits setting of route number from vestibule. L. Wingerter. *il Transit J* 77:58 F '33

**Speed**

Don't act your age, street car; rewinding of motor armatures increases speed. J. G. Inglis. *Elec J* 29:546-7 D '32

Greater speed, and how to get it. *il Transit J* 77:237-8 Ag '33

Increasing profits by car rehabilitation. W. J. Clardy. *il Elec Traction* 29:226-8 Ag '33

Variation of energy consumption with schedule speed. H. S. Williams. *Elec Traction* 28: 482 D '32

**Testing**

Counteracting destructive vibration in equipment. G. H. Fletcher. *il diag Elec Traction* 28:443+ N '32

Many tests made on conference car. C. F. Hirshfeld. *Transit J* 77:371 O 10 '33

**Wheels***See Car wheels***STREET cleaning**

Taxation of road vehicles; unfairness of the Salter report proposals to battery-electrics; effect on street cleansing services. *Electrician* 109:612 N 11 '32

*See also*

Refuse collection  
Snow removal

**Cost**

Cost of street cleaning in Cincinnati. *Pub Works* 64:36 My '33

**STREET cleaning apparatus**

Monarch catch basin bucket. *diag Water Works & Sewerage* 80:111-12 Mr '33

Willett improved road and street sweeper. *il Roads & Sts* 76:95 F '33

**STREET laborers**

Wages and hours of labor of common street laborers, 1932. *Monthly Labor R* 37:143-66 J1 '33

**STREET lighting**

Association of public lighting engineers 10th annual conference, Margate. *Elec R (Lond)* 113:313-14, 351-2 S 8-15 '33; *Electrician* 111: 315-17 S 15 '33; *Gas J (Lond)* 203:571-3 S 13 '33

Compass points of street lighting. K. M. Reid. *N E L A Bul* 20:10-12 Ja '33

Development of public lighting in the city of Bombay. J. P. Blackmore. *Gas J (Lond)* 203:627-9 S 20 '33; Same cond. *il Illum Engr* 26:274-6 N '33

**STREET lighting—Continued**

- Double street lighting and avert traffic casualties. R. E. Simpson. Elec W 102:344-6 S 9 '33
- L'éclairage des voies publiques. R. Boutteville. il diags Soc Ing Civils Bul 85:1291-1378 N '32
- Electric discharge lamps and their application to public lighting. G. H. Wilson. il Illum Engr 26:231-4 O '33; Abstract. Elec R (Lond) 113:314 S 8 '33; Discussion. Illum Engr 26:235 O '33
- Examples of progress in commercial and street lighting; illustrations. Elec W 102:334-5 S 9 '33
- L'exposition internationale de la circulation routière (Bruxelles, 10-21 mai 1933). J. Thomas. il diags Génie Civil 102:588-91 Je 24 '33
- Film cutouts for series street-lighting circuits. S. B. Kraut. il diags Elec J 30:362-3 S '33
- Getting the economic life out of street lamps. Elec W 101:258 F 25 '33
- Inadequate street lighting exacts toll in lives. R. E. Simpson. il Elec W 100:753-4 D 3 '32
- Lighting of seaside and health resorts. W. N. C. Clinch. Illum Engr 26:229-30 O '33; Excerpt. Gas J (Lond) 203:574 S 13 '33; Discussion. Illum Engr 26:235 O '33; Gas J (Lond) 203:574-5 S 13 '33
- Lighting the Mall, London. il Electrician 109:850 D 30 '32; Illum Engr 26:60 F '33
- Practical street lighting demonstrations. Illum Engr 25:328 D '32
- Presidential address before Association of public lighting engineers. E. M. Severn. Illum Engr 26:225-6 O '33; Excerpts. Gas J (Lond) 203:513 S 6 '33
- Principles of directive street lighting. H. T. Harrison. il diags Illum Engr 26:146-9 Je '33; Same cond. Gas J (Lond) 202:418-19 My 17 '33; Discussion. Illum Engr 26:150-8 Je '33; Gas J (Lond) 202:419-20 My 17 '33
- Public lighting of Margate. H. V. Emptage. Illum Engr 26:227-8 O '33; Same abr. Gas J (Lond) 203:573-4 S 13 '33
- Reduced street lighting seen as serious auto accident problem. East Underw 33:34 D 23 '32
- Statistical review of street accidents. Illum Engr 26:174-6 Jl '33
- Street and highway lighting; Northwest electric light and power association committee report. Elec West 70:253-5 Je '33
- Street lighting; abstract. Lux. Gas J (Lond) 203:95 Jl 12 '33
- Street lighting by hot-cathode discharge lamps; Watford road, Wembley. il diag Engineering 135:369-70 Mr 31 '33; Engineer 155:254-5 Mr 10 '33; Electrician 110:319-20 Mr 10 '33; Elec R (Lond) 112:338, 341 Mr 10 '33; Illum Engr 26:103-6 Ap '33; Elec W 101:409 Ap 1 '33
- Street lighting improvements. C. C. Paterson. Elec R (Lond) 112:871 Je 16 '33
- Street lighting in the small town. C. P. Eliot. Elec West 70:124-5 Ap '33
- Street lighting of Paris. J. W. Partridge. il Illum Engr 26:240-3 O '33; Excerpts. Electrician 111:285-6 S 8 '33; Gas J (Lond) 204:219-20 O 18 '33; Discussion. Illum Engr 26:243 O '33
- Street lighting presents its case in figures. L. A. S. Wood. Elec J 30:162 Ap '33
- Types of outages and their lamp-hour durations on Chicago municipal street lighting system for 1931; tabulation. Elec W 102:115 Jl 22 '33
- See also subdivision Lighting under names of cities, e.g. Rome—Lighting

**Control**

- Behavior of eye-controlled street lights satisfactory. A. L. Pierce. Elec W 101:142 Ja 28 '33

**Costs**

- Costs of municipal street lighting in Chicago in 1931; tabulation. Elec W 100:734-5 N 26 '32

- Costs of municipal street lighting in Chicago in 1932; tabulation. Elec W 102:350-1 S 9 '33

- Life-preserving rôle of good street lighting. R. E. Simpson. Illum Eng Soc Trans 28:651-7 S '33; Same abr. Safety Eng 66:81-2+ S '33; Discussion. Illum Eng Soc Trans 28:775-81 N '33

**Economic aspects**

- Economic value of good street lighting; report of I.E.S. committee on street lighting. F. C. Caldwell. bibliog Illum Eng Soc Trans 27:808-21; Discussion. 821-7 D '32

**Tables, calculations, etc.**

- Étude de l'éclairément par la méthode de l'ombre lumineuse. R. Busquet. Génie Civil 103:249-54 S 9 '33
- Iso-candles for amateurs. J. W. T. Walsh. diags Illum Engr 26:169-73 Jl '33
- Time saver in street-lighting calculations. J. J. De Lade. diag Elec W 100:783 D 10 '32

**Ireland**

- Development of street lighting by electricity in the Irish Free State. F. X. Algar. Illum Engr 26:236-9; Discussion. 239 O '33

**STREET lighting fixtures**

- Cast lamp standards; Westinghouse electric & mfg. co. il Foundry 61:42 Ap '33
- Display of public lamps and lighting equipment at tenth annual conference of the Association of public lighting engineers. il plan Illum Engr 26:244-52 O '33
- L'éclairage des voies publiques. R. Boutteville. il diags Soc Ing Civils Bul 85:1291-1378 N '32
- Electric discharge lamps and their application to public lighting. G. H. Wilson. il Illum Engr 26:231-4; Discussion. 235 O '33
- Install plaza lights at Cincinnati's new union terminal. Illum Eng Soc Trans 28:392-3 My '33
- New two-way asymmetrical street lamp. Gas J (Lond) 201:805 Mr 29 '33
- Pillar of fire. diags Engineer 155:256 Mr 10 '33
- Reinforced concrete standards; their use for traction and lighting purposes. B. Dennison. il Elec R (Lond) 112:521 Ap 14 '33
- St Louis light standards too small at top and spall off. il Eng N 110:191 F 9 '33
- Special types of standards used for outdoor lighting at the World's fair. diags Elec W 101:684-6 My 27 '33
- Standard design for street lighting bracket fixture. diags Elec W 102:573-4 O 28 '33

**STREET openings**

- Control of pavement cuts; practice in New York city. R. A. MacGregor. Civil Eng 3:161-3 Mr '33
- Control of pavement cuts; practice in Washington, D.C. H. C. Whitehurst. diags Civil Eng 3:163-4 Mr '33
- Installing conduit where excavation is objectionable; use of the hydrauger. il Elec W 101:190-1 F 11 '33
- What shade tree protection means to the gas industry. G. M. Coddling. il Gas Age 70:693-5 D 31 '32

**STREET parades**

- People's show; NRA parade in New York. H. Brown. Ptr Ink 164:65-6 S 21 '33

**STREET railroads**

- Changing aspects of urban transit; St. Louis. A. T. Perkins. Pub Serv M 54:120-1 Ap '33
- Industry leaders see opportunities ahead for transit. Transit J 77:333-6 O 10 '33
- Prescribing for the street car. R. Willoughby. il Nation's Business 20:35-6+ D '32

**See also**

- Electric railroads  
Street cars  
Subways

- also Boston elevated railway  
also subdivision Rapid transit under names of cities, e.g. Chicago—Rapid transit; New York (city)—Rapid transit; Philadelphia—Rapid transit



**STREET** railroads—*Continued***Accidents**

Accident record improved at Fort Worth. Transit J 77:181 Je '33

**Accounting**

Methods of charging stationery. Transit J 77:161 My '33

Segregating track maintenance costs. il Elec Traction 28:487-8 D '32

**Advertising**

Advertising for rides and friends; Philadelphia rapid transit company. D. N. Phillips. il Transit J 77:78-81 Mr '33

Pittsburgh tells its patrons about speed. il Elec Traction 28:483 D '32

Preventing lifts that reduce car rides; advertising campaign of the city railway employees. R. B. Patch. il Elec Traction 28:441-2 N '32

Travel bargains; Milwaukee electric railway and light company advertising campaign. il Elec Traction 28:448-9 N '32

**Braking**

Off-center mounting of brake shoe head equalizes wear. H. S. Williams. diag Transit J 77:156 My '33

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**Consolidations**

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**Costs**

Cutting the corners by track welding; Georgia power co. C. A. Smith. il Elec Traction 29:196-8 Jl '33

Increasing profits by car rehabilitation. W. J. Clardy. il Elec Traction 29:226-8 Ag '33

**Employees**

Electric railway Y.M.C.A. C. B. Hall. il Elec Traction 29:171 Je '33

Preventing lifts that reduce car rides; advertising campaign of the city railway employees. R. B. Patch. il Elec Traction 28:441-2 N '32

Protecting track workers. Elec Traction 29:229 Ag '33

Two hundred salesmen; employees of Virginia public service company go after business. E. L. Kelly. il Bus Transportation 12:124-5 Mr '33

*See also*

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Street railroads—

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**Equipment and supplies**

Exhibit on paper; recent developments in electric railway car and bus equipment. il diags Elec Traction 29:286-95 S '33

Up-to-date equipment speeds track maintenance of Pittsburgh railways. il Transit J 77:246-8 Ag '33

**Fares**

Checking the pass. il Elec Traction 29:46+ F '33

Differential fares. C. A. Stephenson. Aera 23:1380-7 N '32

Fare laboratory at Toledo. W. Jackson. il Elec Traction 29:192-4+ Jl '33

Fares rise—wages and costs reduced. A. S. Richey. Transit J 77:17-18 Ja '33

Fares that encourage riding; discussion. Transit J 77:391-2 O 10 '33

Going value, subsidiary competition, and depreciation considered by a United States court. Pub Util 10:715-16 D 8 '32

Increase in street railway fares for Yonkers denied. Pub Util 10:714-15 D 8 '32

No one solution for fare problem. E. Dana. Transit J 77:373-4 O 10 '33

Travel bargains; Milwaukee electric railway and light company advertising campaign. il Elec Traction 28:448-9 N '32

Zone fares ground down fine; Lucerne, Switzerland. W. Jackson. Aera 23:1414-17 N '32

**Finance**

Additional transit reports for 1932; tabulation. Transit J 77:224-5 Jl '33

Annual financial survey for 1932. Elec Traction 29:78-9 Mr '33

1932 transit operations characterized by continued readjustment; analysis of reports of 78 companies. Transit J 77:145-7 My '33

**Headway recorders**

Visualizing headways; passage of cars at 70 checking points on rail lines in Toronto is electrically recorded. il Transit J 77:301-2 O '33

**Inspection**

Centralized maintenance successful at Pittsburgh. A. H. Leschke. Transit J 77:144 My '33

**Maintenance and repair**

Accurate records a means of cutting maintenance costs. H. E. Jordan. Transit J 77:244-5 Ag '33

Centralization and mass production in maintenance; Pittsburgh railway company. A. H. Leschke. il diags Elec Traction 29:280-2 S '33

Centralized maintenance; how far should it be carried? J. A. Miller. il Transit J 77:107-10 Ap '33

Centralized maintenance successful at Pittsburgh. A. H. Leschke. Transit J 77:144 My '33

Cleveland wins 1933 maintenance award. L. Church. il plan Transit J 77:397-402 N '33

Many improved maintenance practices developed at Pittsburgh. il Transit J 76:535-40 D '32

Welding for tramways. E. D. Lacy. il Elec R (Lond) 112:411-12 Mr 24 '33

*See also*

Street cars—Repair

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**Management**

Hoeing time is here again. L. St Clair. il Elec Traction 29:105-6 Ap '33

Increasing street railway patronage. S. Kahn. Elec Traction 29:38-9 F '33

Making economies improve service. L. S. Flint. Elec Traction 29:14-16 Ja '33

Modernizing for profit; Indianapolis street railway. C. W. Chase. il Transit J 77:367-8 O 10 '33

Operating efficiency improved at Philadelphia. il Transit J 77:173-5 Je '33

Transit co-ordination proves its worth in Atlanta. il Transit J 77:141-3 My '33

Transit rehabilitation making progress at Indianapolis; street cars, trolley buses and motor buses. il map Transit J 77:43-6 F '33

**Motor bus substitution**

Binghamton's riding public rides buses; why they prefer them. E. F. Theisinger. il Bus Transportation 12:404-7 O '33

New York railways to adopt buses. il map Transit J 77:308-9 O '33

Richmond railways motorizes entire system; service on six routes on Staten Island. Transit J 77:283 S '33

Serving the small city; Salina street railway. R. A. Hickey. il Transit J 77:303-4 O '33

So Dubuque went bus. il map Bus Transportation 12:128-30 Mr '33

Substitution of buses for street cars in Dubuque, Iowa. A. H. Smith. il map Elec Traction 29:54-6 F '33

**Motor vehicle competition**

Des Moines regulates its taxicabs. Aera 23:1418-20 N '32

Is taxicab regulation needed? J. H. Hanna. il Elec Traction 29:257-9+ S '33

Preventing lifts that reduce car rides; advertising campaign of the city railway employees. R. B. Patch. il Elec Traction 28:441-2 N '32

Private automobile and its effect upon mass transportation. A. B. Paterson. Elec Traction 29:278-9+ S '33

What price taxicabs; discussion. Transit J 77:389-90 O 10 '33

**STREET** railroads—*Continued***Motormen**

Los Angeles railway finds instruction pays.  
J. Collins. il Elec Traction 29:221-3+ Ag '33

**Public relations**

Few good selling words. L. St Clair. il Elec Traction 28:477-8 D '32

**Records**

Accurate records a means of cutting maintenance costs. H. E. Jordan. Transit J 77:244-5 Ag '33  
Checking the pass. il Elec Traction 29:46+ F '33  
Cutting down the cost of forms. F. E. Dunkel. il Elec Traction 29:300 S '33  
Shop records. E. J. Jonas. il Elec Traction 29:72-3 Mr '33

**Safety devices and measures**

Boston and Salt Lake win Brady medals. il Transit J 76:559 D '32  
Economics of safety. T. G. Grabston. il Elec Traction 29:266-8 S '33  
Making transportation safer in the Capital. C. T. Fish. il Nat Safety N 26:28-30+ D '32  
Our responsibility for fifteen billion riders. F. G. Buffe. Nat Safety N 27:17-19 Ja '33  
Protecting track workers. Elec Traction 29:229 Ag '33  
Safety inspectors promote accident prevention plan. F. N. Hollingsworth. il Elec Traction 29:168-9 Je '33  
Sign protects switchmen. F. J. Martin. il Elec Traction 29:106 Ap '33

**Schedules**

Maximum speed with one-man cars. D. K. Lewis. il Elec Traction 29:255-6 S '33  
Two to one without slowing down; change over Louisville railway operation to one man. G. B. Powell. il Elec Traction 29:99-100+ Ap '33

*See also*

Street cars—Speed

**Securities**

Equipment obligations have good record; survey of equipment trust certificates issued by street railways over an interval of nearly 30 years. L. N. Dembitz. Transit J 77:149-50 My '33

**Shops**

Centralization and mass production in maintenance; Pittsburgh railway company. A. H. Leschke. il diags Elec Traction 29:280-2 S '33  
Centralized maintenance; how far should it be carried? J. A. Miller. il Transit J 77:107-10 Ap '33  
Kinks for wheel and sheet metal shop. J. C. Coyle. il Elec Traction 29:41 F '33  
Shop records. E. J. Jonas. il Elec Traction 29:72-3 Mr '33  
Trolley bus maintenance on efficient basis in Memphis. il Transit J 77:122-3 Ap '33

**Snow protection and removal**

Service regularity in winter makes satisfied customers in Winnipeg. D. J. Graham. il Transit J 77:86-7 Mr '33

**Stationery**

Methods of charging stationery. Transit J 77:161 My '33

**Statistics**

Gross revenues of transit industry total \$1,-100,000,000. il Transit J 77:2-6 Ja '33

*See also*

Street railroads—  
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**Stores systems**

Reduce carhouse stocks as economy measure; Cincinnati street railway. A. L. Fischer. il Elec Traction 29:37+ F '33  
Saving the stores' dollars by Los Angeles railway. W. T. Reynolds. il Elec Traction 28:485-6+ D '32

**Switches, frogs, etc.**

Switch heaters eliminate ice and snow troubles in street railroad yards. J. B. Nealey. il diags Gas Age 71:285-6 Mr 18 '33  
Use of salt in track switches. Transit J 77:30 Ja '33

**Track**

Combating the tar hazard. Transit J 77:417 N '33  
Complete World's fair track construction in record time. il map Elec Traction 29:164-5 Je '33  
Cutting the corners by track welding; Georgia power co. C. A. Smith. il Elec Traction 29:196-8 Jl '33  
Dual plate steel tie. il Elec Traction 29:119-20 Ap '33  
Laying new rail on old foundation. il Transit J 77:216 Jl '33  
Modern rail welding without interrupting traffic; abstract. J. H. Deppler. Iron Age 132:25-6 O 12 '33  
Narrow flangeway advantageous on curves. N. R. Love. Transit J 77:153 My '33  
Plate type steel tie. il Transit J 77:126 Ap '33  
Rail joint failures reduced by improved welding methods. J. U. Bragg. diags Transit J 77:112-13 Ap '33  
Raising 1,300-ft. of track without interrupting service. il Transit J 77:250 Ag '33  
Reclaiming manganese steel special work by welding. il Transit J 77:314 O '33  
Segregating track maintenance costs. il Elec Traction 28:487-8 D '32  
Speeding up a re-railing job. W. F. Aid. il diags Elec Traction 29:12-13 Ja '33  
Standardizing special work design and construction. W. A. MacRae. il diags Elec Traction 29:74-5+ Mr '33  
Track rehabilitation at low cost; El Paso electric co. F. S. Bryars. il Elec Traction 29:44-5 F '33  
Track welding practice shows marked advance. W. Spragen. il Transit J 77:54-6 F '33  
Under-traffic welding prevents delays. W. E. Bobbitt. il Elec Traction 28:444-5 N '32  
Up-to-date equipment speeds track maintenance of Pittsburgh railways. il Transit J 77:246-8 Ag '33  
Use of T-rail in paved streets; analysis of the figures for the 92 companies. Transit J 77:62 F '33  
Way department practices; abstract. E. J. Archambault. Elec Traction 29:332 O '33  
Welding joints in open track. F. B. Walker. il Transit J 77:186 Je '33

*See also*

Street railroads—  
Switches, frogs, etc.

**Track cleaning**

Broom with refillable head. M. W. Wales. diags Transit J 77:59 F '33

**Track pavement**

Handling concrete for best results. N. R. Love. il Elec Traction 29:76-7 Mr '33  
Track rehabilitation at low cost; El Paso electric co. F. S. Bryars. il Elec Traction 29:44-5 F '33  
Types of wood block paving used by transit companies. Transit J 77:93 Mr '33

**Wages**

Detroit employees under sliding scale. Transit J 77:422 N '33  
Wage increase for street-railway employees, Gary, Ind. Monthly Labor R 37:606 S '33

**Canada**

Annual statistics of Canadian properties. Transit J 77:227 Jl '33

**District of Columbia**

What the Washington merger involves. il map Transit J 77:405-7 N '33

**Russia**

Observations on tramway operation in Russia. Transit J 77:310-11 O '33



## STREET railroads—Continued

## United States

- Blue Eagles for the transit industry; abstracts. M. Muir. Bus Transportation 12:391-3 O '33; Transit J 77:365-6 O 10 '33
- Code of fair competition for the transit industry. Bus Transportation 12:343-4, 349-50 S '33
- Code of fair competition for the transit industry. Transit J 77:274-5 S '33
- Inside story of the transit code. W. E. Wood. Elec Traction 29:262-3+ S '33
- Resourcefulness reflected in last year's far-reaching changes. G. J. MacMurray. Il Transit J 77:9-12 Ja '33
- Transit prospects brighter. A. J. Lundberg. Transit J 77:375 O 10 '33
- Transit traffic shows marked gain. Transit J 77:210-11 Jl '33

## STREET traffic

- City traffic needs engineering attack. B. W. Marsh. Il diags Civil Eng 2:770-3 D '32
- Delays at street intersections. E. A. Kemmler. Can Eng 63:11 N 29 '32
- Determination of losses in travel time. E. W. James. Il Civil Eng 3:463-5 Ag '33
- Elevated highways proposed for Chicago. Eng N 110:535-6; 111:513 Ap 27, O 26 '33
- L'exposition internationale de la circulation routière (Bruxelles, 10-21 mai 1933). J. Thomas. Il diags Génie Civil 102:588-91 Je 24 '33
- Greater speed, and how to get it. Il Transit J 77:237-8 Ag '33
- Intensive street-traffic studies in Chicago. map Eng N 109:612-13 N 24 '32
- Le problème de la circulation à Paris. J. Thomas. maps Génie Civil 103:36-9, 63-5 Jl 8-15 '33
- Survey of highway transportation in Michigan. maps Pub Roads 13:185-96+ F '33
- Traffic volume studied by short time counts. M. McClintock. Civil Eng 3:461-3 Ag '33
- Trends in highway traffic in the New York region. Eng N 110:372-3 Mr 23 '33
- Urban use of private automobiles becoming stabilized. H. S. Simpson. Transit J 77:50-2 F '33
- Use and capacity of city streets. H. S. Simpson. Am Soc C E Proc 59:943-64 Ag '33
- Wide boulevard; its design and control. J. R. Bibbins. diags Eng N 110:808-10 Je 22 '33

## See also

- |                                 |                     |
|---------------------------------|---------------------|
| Automobile laws and regulations | Bridge traffic      |
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|                                 | Traffic regulations |

## STREETS

- Development of Queens boulevard, Borough of Queens, New York city; program of a three-part competition. Il plan Arch Rec 73:10-14 Ja '33
- Forty billion dollars invested in roads, streets and motor vehicles. Roads & Sts 76:84 F '33
- Low-cost residential streets; report of A.R. B.A. committee. Eng N 110:114-15 Ja 26 '33
- Minor street. H. S. Swan. J Land & Pub Util Econ 9:297-305 Ag '33
- Scant headroom complicates grade-separation problem on Queens boulevard. S. G. Koon. plan Eng N 110:58 Ja 12 '33
- Serving local community needs through public facilities; Pittsburgh, Pa. C. M. Reppert. Il Eng N 110:620-4 My 18 '33
- Stabilizing a gravel street surface. K. B. Robertson and D. N. Smith. diags Can Eng 65:11-14 Ag 22 '33
- Surfacing a village street with mixed-in-place, using tar. Liberty, N.Y. Il Pub Works 64:13 Ag '33
- Use and capacity of city streets. H. S. Simpson. Am Soc C E Proc 59:943-64 Ag '33

## See also

- |                   |            |
|-------------------|------------|
| Bridge approaches | Manholes   |
| City planning     | Parkways   |
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| Highway law       | Pipe lines |

- |  |                     |
|--|---------------------|
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| Snow removal   | Traffic regulations |
| Street cleaning  |                     |
| also subdivision Streets under names of cities. e.g. Chicago—Streets |                     |

## Double decking

- Elevated highways proposed for Chicago. Eng N 110:535-6; 111:513 Ap 27, O 26 '33
- West Side elevated highway, New York city. Il Roads & Sts 76:218 Je '33

## Finance

- Bond issues aid street work in St Paul. G. H. Herrold. Il Civil Eng 3:226-8 Ap '33
- Cement-bound macadam road project financed by scrip in Mason City, Iowa. Il Concrete 41:3-4 O '33
- Direct vs. ad valorem method in California of assessing the cost of public improvements. O. D. Keese. Il Civil Eng 3:229-31 Ap '33
- Equitable distribution of benefit assessments applied specifically to street widening projects. H. Shifrin. Il Civil Eng 3:158-60 Mr '33
- Kansas City's assessment plan. G. G. McCaustland. Civil Eng 3:228-9 Ap '33

## Intersections

- Determination of losses in travel time. E. W. James. Il Civil Eng 3:463-5 Ag '33
- Laying out and staking a street intersection. J. Arneson. diag Pub Works 64:24 N '33
- Radii of curbs at intersections. Lefferts. diags Pub Works 63:27 D '32
- Separating grades at highway intersections. H. S. Swan. Il diags Civil Eng 3:79-83 F '33

## Maintenance and repair

- Details of street and highway maintenance. B. E. Gray. Pub Works 64:23-4+ Ap '33
- Resurfacing Newnan streets with brick. J. E. Gilbert. Il Pub Works 64:11-12 Mr '33
- Trolley buses maintain service during street reconstruction. Il Transit J 77:282 S '33

## See also

- Pavements—Maintenance and repair

## Widening

- Equitable distribution of benefit assessments applied specifically to street widening projects. H. Shifrin. Il Civil Eng 3:158-60 Mr '33
- Widening and resurfacing West Tenth street, Topeka, Kansas. W. A. Lawson. Il Roads & Sts 75:499-500 D '32

## STRENGTH of materials

- Average strength data for non-ferrous metals; data sheets. Mach 39:312A, 376A Ja-F '33
- Cast iron as an engineering material. H. Bornstein. Il Metal Prog 23:19-23 My '33
- Character of cast iron; abstract. Mech Eng 55:253-4 Ap '33
- Checking the strength of bridge girders. J. E. Holmstrom. Engineering 136:157-9 Ag 18 '33
- Einfluss der vorspannung auf die dauerfestigkeit. P. Ludwik and J. Krystof. bibliog Il diags Zeit Ver Deutsch Ing 77:629-35 Je 17 '33
- Der einfluss von einspann- und kraftangriffsstellen auf die dauerhaltbarkeit der konstruktionen. A. Thum and F. Wunderlich. Il diag Zeit Ver Deutsch Ing 77:851-3 Ag 5 '33
- Experimental course in mechanics of materials. F. L. Everett. Il J Eng Educ 23:564-79 Mr '33
- Gegenwartsfragen im bau von maschinenteilen. E. Heidebroek. diags Zeit Ver Deutsch Ing 77:1165-71 O 28 '33
- Glass as a structural and stress-resisting material. F. W. Preston. diags Am Cer Soc J 16:163-86 Ap '33
- Kohäsionsfestigkeit. W. Kuntze. Il Zeit Ver Deutsch Ing 77:49-50 Ja 14 '33
- Les méthodes modernes d'essais de matériaux dans la construction des moteurs; machine d'essais dynamiques, système Schenck. Il diags Génie Civil 101:550-3 D 3 '32

**STRENGTH of materials—Continued**

- Plaster models aid in strength determinations. R. J. Roark. Steel 91:32 D 19 '32  
 Stainless steel in aircraft; abstract. F. Flader. Automotive Ind 69:15 J1 1 '33  
 Strength and behaviour of steels at high temperatures. W. H. Hatfield. il diags Inst Mech Eng Proc 123:773-91 '32  
 Strength of aluminum corrugated sheet. il Eng N 110:705 Je 1 '33  
 Tests on threaded sections show exact strengthening effect of threads. E. M. Slaughter. il Metal Prog 23:18-20 Mr '33  
 Time factor in the tensile test. F. Fettweis. Engineer 154:sup[Metallurgist] 179-80 D 30 '32

*See also*

Bending moment  
 Building materials  
 Columns  
 Concrete—Strength  
 Deformations (mechanics)  
 Elasticity  
 Graphic statics  
 Hardness

Masonry—Testing  
 Metals—Testing  
 Steel—Testing  
 Strains and stresses  
 Structures, Theory of  
 Testing  
 Trusses  
 Wood—Testing

**Study and teaching**

- Function of the testing laboratory in teaching resistance of materials. J. O. Draffin. J Eng Educ 23:681-5 My '33

**STREPTOCOCCI**

- Inactivation of antistreptococcus bacteriophage by animal fluids. A. C. Evans. Pub Health Rep 48:411-26 [bibliog p425-6] Ap 21 '33

**STRIATIONS**

- Parallel striations on etched limestone surfaces. P. H. Dunn. il Am J Sci 5th ser 26: 442-6 O '33

**STRIKES and lockouts***See also*

Arbitration, Industrial  
 Trade unions

**Statistics**

- Industrial disputes; statistics with sources and notes. Int Labour R 28:92-9 J1 '33

**Canada**

- Strikes and lockouts in Canada, 1932. Monthly Labor R 36:814 Ap '33

**Denmark**

- Passage of act forbidding strikes and lockouts in Denmark. Monthly Labor R 36:1312-13 Je '33

**Europe**

- European strikes. Business Week p22 Ap 12 '33

**Great Britain**

- Lancashire cotton weavers' strike and terms of settlement. Monthly Labor R 35:1113-18 N '32

**United States**

- Detroit tool and die strike is settled. Iron Age 132:33G-33H N 9 '33  
 Factories will deal individually with striking tool and die union. L. W. Moffet. Automotive Ind 69:473+ O 21 '33  
 Labor board moves in. il Business Week p7-8 O 21 '33  
 Labor board orders Weirton strikers back to work; union will not be recognized. Iron Age 132:50, 63 O 19 '33  
 Labor protests NRA codes. Econostat 1:5-6 S 23 '33  
 Review of industrial disputes in the United States from 1916 to 1932. Monthly Labor R 36:1295-1304 Je '33  
 Silk strike chronology. Textile World 83:1848 O '33  
 Strike lull. Business Week p8 O 14 '33  
 Strikes and lockouts in the United States. Published in Monthly labor review  
 Striking at recovery. Business Week p3-6; Editorial comment. p32 O 7 '33  
 Trouble in Detroit; Briggs Body strike is the first desperation strike. il Business Week p3 F 8; 7 F 15 '33  
 Truth about the Briggs strike. il Forbes 31: 13+ F 15 '33

**STRIP steel.** See Steel, Strip**STRIPPING agents.** See Dyes and dyeing—Stripping**STROBOSCOPIC instruments**

- Accurate measurement of spindle speed. G. R. Stanbury. pl Textile Inst J 24:T207-11 My '33  
 Edgerton stroboscope. il Am Mach 77:196 Mr 15 '33  
 Emergency stroboscope determines motor speed. W. L. Stevens. Power 77:589 N '33  
 Improved method for finding induction motor slip. C. M. Wallis. il Elec W 100:698 N 19 '32  
 New accuracy in timing watches. il Sci Am 149:31-2 Ag '33  
 Thyatron tube as a stroboscope. B. L. Robertson and T. A. Rogers. il diag Gen Elec R 36:455-7 O '33  
 Two-field stroboscope. P. F. Gaeher. Science 77:412-13 Ap 28 '33  
 Vibroscope for examining and counting spindle speed. il Melland 4:640 Ja '33  
 Westinghouse electric and manufacturing co. new stroboscopic meter standard. il diag Power Pl Eng 36:835 D '32

**STRONTIUM**

- Alkaline earths and their uses. C. Hardy and P. M. Tyler. bibliog il Chem Markets 32: 227-30 Mr '33

**STRONTIUM acetate**

- Further studies on acetic acid-acetate solutions. A. W. Davidson and W. Chappell. Am Chem Soc J 55:3531-7 S '33

**STRONTIUM chloride**

- Dissociation of water in strontium chloride solutions at 25°. J. E. Vance. Am Chem Soc J 55:2729-33 J1 '33

**STRONTIUM oxide**

- Band spectra of MgO, CaO and SrO. P. C. Mahanti. il Phys R 42:609-21 D 1 '32

**STRONTIUM tungstate**

- Luminescence of alkaline earth tungstates containing lead. F. E. Swindells. Opt Soc Am J 23:129-32 Ap '33

**STRUCTURAL aluminum.** See Aluminum, Structural**STRUCTURAL engineering**

- Analysis of the performance of college graduates in structural engineering. A. Reichmann. J Eng Educ 23:337-53 Ja '33  
 Construction engineer—the centenarian. W. C. Huntington. il Civil Eng 3:425-6 Ag '33  
 Structural engineering. J. E. Kirkham. 2d ed 759p McGraw-Hill '33

**STRUCTURAL glass.** See Glass, Structural**STRUCTURAL steel.** See Steel, Structural**STRUCTURES, Theory of**

- Continuous beam design by the fixed point theory. O. Albert. diags Eng N 110:842-4 Je 29 '33  
 Moment distribution method for solving continuous frameworks. E. F. Bruhn. Aviation Eng 8:5-8+ Mr '33  
 Structural mechanics. H. W. Hayward, A. F. Holmes and R. G. Adams. 182p \$2.25 McGraw-Hill '32  
 Les voiles minces en forme de paraboloïde hyperbolique. F. Aimond. diags Génie Civil 102:179-81 F 25 '33  
 Wind-stress analysis and moment distribution; Cross method. R. Fleming. Eng N 110:194-5 F 9 '33  
 Wind stress analysis simplified. L. E. Grinter. Am Soc C E Proc 59:3-27 Ja '33; Discussion. 59:692-707, 885-93, 1192-4 Ap-May, S '33  
 Wind stresses by slope deflection and converging approximations. J. E. Goldberg. Am Soc C E Proc 59:763-76 My '33; Discussion. 59:1050-3; 60:103-6 Ag '33, Ja '34

*See also*

Building Load (mechanics)  
 Columns Strains and stresses  
 Graphic statics Strength of materials

**STRYCHNINE**

- Strychnine and brucine; synthesis of dinitrostrycholanamide. P. Hill and R. Robinson. Chem Soc J p486-8 My '33  
 Successful treatment for strychnine poisoning found. Sci Am 149:44-5 J1 '33



**STUDEBAKER corporation**

- Receivership in a friendly action. *Annalist* 41:434 Mr 24 '33; *Automotive Ind* 68:380 Mr 25 '33; *Barron's* 13:13 Mr 27 '33; *Business Week* p13 Mr 29 '33
- Studebaker strikes a snag; company receivers are moving it out of danger. *Economist* 1:14-15 O 7 '33
- Studebaker to spend \$430,000 in month's comeback campaign. *Sales Management* 33:329 O 1 '33
- Studebaker would add 625,000 common shares. *Automotive Ind* 68:349 Mr 18 '33

**STUDIOS**

*See also*

- Moving picture studios      Radio broadcasting studios

**STUDY, Method of**

- How to study. R. H. Jordan. 105p George Banta pub. co, Menasha, Wis. '32

**STUFFING boxes**

- Packing boxes require lubrication. R. Trautschold. *diags Power Pl Eng* 37:127-8 Mr '33
- Stuffing boxes packed under pressure; Gunkpakt. *il Power Pl Eng* 36:814-15 D '32

**STUMP pullers. See Clearing of land****STYRENE**

- Catalysis of polymerization by ozonides. R. C. Houtz and H. Adkins. *Am Chem Soc J* 55:1609-17 Ap '33
- Gum deposits in gas distribution systems. A. L. Ward, C. W. Jordan and W. H. Fulweiler. *bibliog il Ind & Eng Chem* 24:1238-47; 25:1224-34 N '32, N '33

**STYRYLCOUMARINS**

- Some 4-styrylcoumarins. H. S. Mahal and K. Venkataraman. *Chem Soc J* p616-17 Je '33

**STYRYLPYRYLIUM compounds**

- Styrylpyrylium salts; a correction and note on the production of  $\alpha$ -benzopyrones by the Kostanecki reaction. I. M. Heilbron, R. N. Heslop and G. F. Howard. *Chem Soc J* p1263-4 S '33
- Styrylpyrylium salts; further study of the colour phenomenon associated with benzonaphtha- and dinaphtha-spiropyranes. I. M. Heilbron, R. N. Heslop and F. Irving. *Chem Soc J* p430-4 Ap '33

**SUBJECT headings**

- Building a list of subject headings. H. D. MacPherson. *Special Lib* 24:44-6 Mr '33
- Elementary manual of dental library practice. I. Bowler. 181p Univ. of Michigan press, Ann Arbor '32
- Headings and related headings for classified telephone directories. *Rev. to April 15, 1933.* 192p Reuben H. Donnelley corp, New York '33
- List of subject headings for small libraries; with Practical suggestions for the beginner in subject heading work. M. E. Sears, ed. 3d ed rev & enl 453p Wilson, H. W. '33
- Organization of knowledge in libraries and the subject-approach to books. H. E. Bliss. 335p [bibliog p313-19] \$4 Wilson, H. W. '33
- Quarterly cumulative index medicus; subject headings and cross references. 414p American medical assn, 535 North Dearborn st, Chicago '32
- Subject index of books published before 1880. A-Z. R. A. Peddie. 745p Grafton & co, London '33

**SUBLIMATION, Heat of**

- Heat capacity, heat of sublimation, and heat of solution of phosphorus pentoxide. M. Frandsen. *diags U S Bur Stand J Research* 10:35-58 Ja '33

**SUBMARINE boats**

- Developments in the construction of submarines; United States submarine Cachalot. G. C. Weaver. *il Marine Eng* 38:44-7 F '33
- Oil engines for H.M.S. Thames. *il Engineer* 155:226-7 Mr 3 '33; *Engineering* 135:252, 258-9 Mr 3 '33
- Salvage of submarine M 2. D. J. Munro. *Engineer* 154:475-6 N 11 '32

- Some observations with regard to the problem of the structural design of the pressure hull of submarines; abstract. R. L. Payne. *Engineering* 135:484-5 My 5 '33
- Submarine torpedo boat Holland; historic exhibition on the Potomac. F. T. Cable. *Marine R* 63:114- N '33
- Submarine turns peaceful; the Explorer. *il Sci Am* 148:159 Mr '33
- Thames, the latest British submarine. *il Marine Eng* 38:126-7 Ap '33
- Toy submarine to explore Neptune's realm; the Explorer. *il Comp Air M* 38:4062-3 F '33

**Safety devices and measures**

- Escape from a sunken British submarine; Davis escape apparatus. *il Sci Am* 148:277 My '33

**SUBMARINE cables. See Cables, Submarine****SUBMARINE construction. See Concrete construction, Subaqueous; Marine structures****SUBMARINE telegraph. See Telegraph, Submarine****SUBMARINE telephone. See Telephone, Submarine****SUBMERGED combustion. See Combustion, Submerged****SUBROGATION**

- Collecting bank can be sued; Michigan supreme court upholds Metropolitan Casualty subrogation rights in forgery bond loss. *Nat Underw* 37:38 F 23 '33
- Companies win Ohio subrogation award; Supreme court rulings in explosion case involving public utility's liability. *Ins Field* (Fire ed) 62:7 F 9 '33
- Insurance carrier allowed to sue third party for wrongful death of employee. *Monthly Labor R* 36:546-7 Mr '33
- Subrogation question tried in Texas court; subrogation rights are not affected by fact insurers paid amount not recoverable. *East Underw* 33:26 D 30 '32
- Subrogation rights are very important; American underwriters are not entitled to sue in their own country where nationalities differ. *Weekly Underw* 129:616 S 30 '33

**SUBSIDENCES (earth movement)**

- Recent areal subsidence found in releveling; changes in elevation since 1920 over a large area centering on San Jose, Calif. H. S. Rappleye. *map Eng N* 110:845 Je 29 '33

*See also*

**Mine subsidences****SUBSIDIES**

- International relations; an analysis of world events and their effect on the economic depression. F. I. Kent. *Civil Eng* 3:119-21 Mr '33
- Public subsidy for repair and remodeling of dwellings in Germany. *Monthly Labor R* 37:29-30 Jl '33
- Report of the World economic conference; subsidies and bounties: report adopted by sub-commission IIIA. *Economist* 117:sup7-8 Jl 29 '33
- Revival insurance; the Kent plan would empower the R.F.C. to guarantee markets. *Business Week* p4-5 Ja 18 '33

*See also*

**Ship subsidies****SUBSISTENCE homesteads. See Farms (for industrial workers)****SUBSTITUTES**

*See also*

- Gasoline, Substitutes      Glass, Substitutes for  
for      Soap, Substitutes for

**SUBSTITUTION (chemistry)**

- Comparison of the directive powers of elements having consecutive atomic numbers; nitration of 2:4:6-triphenylpyrylium perchlorate. C. G. Le Fèvre and R. J. W. Le Fèvre. *Chem Soc J* p2894-9 D '32
- Cyclization of substituted divinylacetylenes. D. T. Mitchell and C. S. Marvel. *Am Chem Soc J* 55:4276-9 O '33

**SUBSTITUTION (chemistry)—Continued**

- Effect of nuclear halogen substituents on triad prototropic systems in relation to aromatic side-chain reactions. C. W. Shoppee. *Chem Soc J* p1117-20 S '33
- Hydrolysis of salts of the halogen-substituted aliphatic acids in aqueous solution. H. M. Dawson and N. B. Dyson. *Chem Soc J* p49-56 Ja '33
- Influence of nuclear substituents upon side-chain reactions. W. S. Nathan and H. B. Watson. *Chem Soc J* p1248-52 S '33
- Jacobsen reaction; the monobromo derivatives of the three tetramethylbenzenes. L. I. Smith and C. L. Moyle. *Am Chem Soc J* 55:1676-82 Ap '33
- Mechanism of substitution in organic compounds; elimination of bromine from bromoacetic acid and the bromoacetates. H. M. Dawson and N. B. Dyson. *Chem Soc J* p1133-43 S '33
- Mobility of groups containing a sulphur atom. D. W. Cowie and D. T. Gibson. *Chem Soc J* p306-9 Mr '33
- New synthesis for alkyl and aryl substituted coumaranes. J. B. Niederl and E. A. Storch. *bibliog Am Chem Soc J* 55:4549-55 N '33
- Nitration of di-*p*-tolyl- and di-*p*-chlorophenylphenylpyrylium perchlorates. H. E. Johnston and R. J. W. Le Fèvre. *Chem Soc J* p2900-2 D '32
- Nuclear substitution and orientation of furan types. H. Gilman and G. F. Wright. *Chem R* 11:323-67 [bibliog p364-7] D '32
- Number of stereoisomeric and non-stereoisomeric alkalines. D. D. Coffman. *Am Chem Soc J* 55:695-8 F '33
- Orientation in the furan nucleus;  $\beta$ -substituted furans. H. Gilman and R. R. Burtnar. *Am Chem Soc J* 55:2903-9 JI '33
- Reactions of some substituted divinylacetylenes. A. T. Blomquist and C. S. Marvel. *Am Chem Soc J* 55:1655-62 Ap '33
- Reactivity of atoms and groups in organic compounds; the influence of substituents on the thermal stability of certain derivatives of malonic acid. J. F. Norris and H. F. Tucker. *bibliog Am Chem Soc J* 55:4697-704 N '33
- Reactivity of groups in substituted acridones; replacement of nitro-groups by piperidyl and piperazyl. H. B. Nisbet and A. B. Goodlet. *Chem Soc J* p2772-3 N '32
- Some reactions of tetra-para-tolyltin. R. W. Bost and H. R. Baker. *Am Chem Soc J* 55:1112-13 Mr '33
- Some substitution reactions of 4-aminodiphenylmethane. W. A. Waters. *Chem Soc J* p1060-4 Ag '33
- Stereochemistry of 2:2'-disubstituted diphenyls; the optical resolution of *o*-(2-dimethylaminophenyl) phenyltrimethylammonium iodide. F. R. Shaw and E. E. Turner. *Chem Soc J* p135-40 F '33
- Substitution in compounds containing two or more phenyl groups; nitration of diphenyl derivatives containing *m*-directing substituents. W. S. M. Grieve and D. H. Hey. *Chem Soc J* p968-72 Ag '33
- Substitution in organic compounds. G. M. Bennett and others. *Soc Chem Ind J* (Chem & Ind) 52:433-5, 467-71 My 19, Je 2 '33
- Symmetrical triad prototropic systems; the influence of polynuclear aryl groups upon mobility and equilibrium in the  $\alpha$ -diaryl-methylenazomethine system. C. W. Shoppee. *Chem Soc J* p37-45 Ja '33
- Volume effects of alkyl groups in aromatic compounds; influence of a group CR:R:Alk on vicinal substitution. R. J. W. Le Fèvre. *Chem Soc J* p980-4 Ag '33
- Volume effects of alkyl groups in aromatic compounds; influence of 2:6-dinitration on a group CR:R:Alk. R. J. W. Le Fèvre. *Chem Soc J* p977-80 Ag '33

**SUBSTITUTION (merchandizing)**

- Cosmetic demonstrator tells how to beat the demonstration game. *il Adv & Sell* 21:16-17+ O 12 '33
- Kendall fights bootleg oil with new refinery-sealed can. *il Ptr Ink* 163:28 Ap 27 '33
- Oklahoma model bill to stop the practice of substitution in marketing all oils. *Oil & Gas J* 31:25+ My 4 '33

- Package changes combat substitution. *il Ptr Ink* 162:61 F 16 '33
- Pennzoil fight on oil bootleggers doubles its sales outlets in year. *Sales Management* 32:330 Ap 1 '33
- Plan to combat substitution. L. M. Billingslea. *Ptr Ink* 164:42 S 14 '33
- Publishers and agents move against substitution. L. L. Shenfield. *il Ptr Ink* 163:76-7 My 11 '33
- Salesgirl's story of switching. *il Adv & Sell* 21:13-14+ S 14 '33
- Secure first convictions in New York for substitution of inferior motor fuels. *Oil & Gas J* 31:27 D 22 '32
- Ten answers to substitute brands. H. Deutsch. *il Nation's Business* 21:37-40 Ja '33
- Two dealers convicted and fined for substituting gasoline. *Nat Pet N* 25:18 Mr 1 '33

**SUBWAY cars. See Cars, Subway****SUBWAY stations**

- Development of the Paris Metropolitan railway. T. Rich. *il diags map Engineering* 135:61-3, 64, 121, 122-3, 319-21 Ja 20, F 3, Mr 24 '33

**SUBWAYS**

- Advances in subway design and equipment; review of various developments for New York system. A. I. Raisman. *il diags Civil Eng* 3:21-5 Ja '33

**See also**

- Cars, Subway      New York (city)—  
London—Subways      Subways

**Construction**

- Development of the Paris Metropolitan railway. T. Rich. *il diags map Engineering* 135:61-3, 64, 121, 122-3, 319-21, 371-2, 428-30 Ja 20, F 3, Mr 24, Ap 7, 21 '33

**Equipment**

- Nouveau dispositif de commande pour trains à unités multiples du Métropolitain de Berlin. *diags Génie Civil* 102:40-1 Ja 14 '33

**Lighting**

- Lighting the underground railways of London. *il Illum Engr* 26:166 Je '33

**Noise**

- Quiet subways; New York's IRT keeps the noise out by shutting the windows. *Business Week* p21 Ag 19 '33

**Power**

- Electrification of the Glasgow subway. *Elec R (Lond)* 112:454 Mr 31 '33
- Single-unit high-current rectifier. E. H. Reid and C. C. Herskind. *il diags Elec Eng* 52:671-4 O '33

**Yards****See Electric railroads—Yards****SUBWAYS (streets)**

- Les passages souterrains pour voitures, des Portes Dauphine et de la Villette, à Paris. J. Thomas. *il diags plans Génie Civil* 102:516-19 Je 3 '33
- Reinforced concrete subway on Jean Talon street, Montreal. *il Can Eng* 65:5-8 O 3 '33
- La ventilation du passage souterrain pour voitures de la Porte Dauphine, à Paris. *diag Génie Civil* 103:69 JI 15 '33

**SUBWAYS, Freight. See Freight subways****SUCCESS**

- Cowards never started; Lincoln suggests thoughts for the future. A. Bradbury. *il Ptr Ink* 162:24-6 F 16 '33
- Mysterious quality "X." E. P. Hermann. *Spectator* 131:6-7+ N 9 '33
- Success factors of leaders of business in New Orleans. R. Abrams. 41p Gregg '32

**See also**

- Business management  
Efficiency, Industrial

**SUCKER rods**

- Explanation of mechanism of corrosion fatigue and its application to sucker rod failures. B. B. Wescott and C. N. Bowers. *il Oil & Gas J* 32:65+ O 26 '33



**SUCKER rods—Continued**

Sucker and pull rods will play important part in pumping and careful selection necessary. C. L. Shirley. *Oil & Gas J* 32:49+ Je 22 '33

**SUCROSE.** See Sugar**SUCROSE octaacetate**

Industrial uses for cane sugar; technology of sucrose octaacetate and homologous esters. G. J. Cox, J. H. Ferguson and M. L. Dodds. *il diag Ind & Eng Chem* 25:968-70 S '33

**SUDAN**

Egypt and the Sudan; abstracts. M. MacDonald. *Engineer* 154:460-1 N 4 '32; *Engineering* 134:562-3 N 11 '32

See also

Irrigation—Sudan

**SUEZ canal**

Suez canal. A. Wilson. *Electrician* 110:366 Mr 17 '33

**SUEZ canal company**

Annual general meeting, 79th, Paris. *Economist* 116:1321-2 Je 17 '33; *Annalist* 41:898 Je 30 '33

**SUGAR**

Economics of the production of sugar from wood; abstract. H. Claassen. *Soc Chem Ind J* 52:sup121 F 10 '33

Effect of sugar in mortars; abstract. J. B. Oliva. *Rock Prod* 36:40 Ap '33

Effects of glucose and fructose on the sucrose content in potato slices. J. M. Nelson and R. Auchincloss. *Am Chem Soc J* 55:3769-72 S '33

Electric heat for humidity control in sugar storage warehouse. D. T. Waby. *il Elec W* 102:409-10 S 23 '33

How to prevent caking in powdered foods. H. V. Moss. *Food Ind* 5:133 Ap '33

Industrial uses for cane sugar; properties of alkyl esters of levulinic acid. G. J. Cox and M. L. Dodds. *Ind & Eng Chem* 25:967-8 S '33

Industrial uses for cane sugar; technology of sucrose octaacetate and homologous esters. G. J. Cox, J. H. Ferguson and M. L. Dodds. *il diag Ind & Eng Chem* 25:968-70 S '33

Inversion of sucrose by invertase at low temperatures. M. A. Joslyn and M. Sherrill. *Ind & Eng Chem* 25:416-17 Ap '33

Invertase action as a heterogeneous reaction. T. A. White. *Am Chem Soc J* 55:556-68 F '33

New color reaction with sucrose. H. W. Raybin. *Am Chem Soc J* 55:2603-4 Je '33

Possible alternative formula for sucrose; abstract. C. S. Hudson and C. B. Purves. *Science* 77:458 My 12 '33

Proceedings of the fourth congress of the International society of sugar cane technologists, held at San Juan, Puerto Rico, March 1-16, 1932. 1150p Bur. of supplies, printing and transportation, San Juan, P.R. '32

Production of 2,3-butylene glycol by fermentation; effect of sucrose concentration. E. I. Fulmer, L. M. Christensen and A. R. Kendall. *bibliog Ind & Eng Chem* 25:798-800 J1 '33

Review of research on cane wax in raw and refined sugars. C. F. Bardorf and J. A. B. Ball. *J Phys Chem* 36:2940-7 D '32

Solubility of sucrose in beet house sirups. R. J. Brown and A. R. Nees. *Ind & Eng Chem* 25:555-8 My '33

Sugar—commodity? ingredient? W. L. Owen. *Food Ind* 5:208 Je '33

Sugar is sugar, but the food manufacturer may choose from more than thirty-six grades of sucrose. W. Rice. *Food Ind* 5:130-2 Ap '33

Tricalcium phosphate as a caking inhibitor in salt and sugar. H. V. Moss, T. W. Schilb and W. G. Warning. *bibliog il diag Ind & Eng Chem* 25:142-7 F '33

Use of sucrose in sand-lime brick. W. A. Hamor and others. *Am Cer Soc J* 16:187-91 Ap '33

Yeast-growth stimulants in white sugars. H. H. Hall, L. H. James and L. S. Stuart. *Ind & Eng Chem* 25:1052-4 S '33

See also

Beets and beet sugar	Sugar industry and
Molasses	trade
Sirups	Sugars
Sugar cane	

**Analysis**

See Sugar analysis

**Manufacture and refining**

American sugar refining co. which even in depression makes its annual millions. *il Fortune* 7:59-65+ F '33

Considérations sur le procédé Teatini; les nouvelles bases de l'épuration. M. Pingris-Spriet. *Chimie & Ind* 30:41-4 J1 '33

Effect of clarification on quality of raw and plantation white sugars. C. A. Fort and C. F. Walton, jr. *il Ind & Eng Chem* 25:675-81 Je '33

Fortschritte in der rübenzuckerindustrie. H. Claassen. *il diag Zeit Ver Deutsch Ing* 77:137-42 F 11 '33

Manufacture of sugar from beet. J. H. Wilson. *Chem Age (Lond)* 29:29-31 J1 8 '33

Origins of sugar manufacture in America. C. A. Browne. *il J Chem Educ* 10:323-30, 421-7 Je-J1 '33

Preparation of optically stable sugar solutions for colorimetric analysis. J. F. Brewster and F. P. Phelps. *U S Bur Stand J Research* 10:365-72 Mr '33

Refining cane sugar in the South; flow-sheet of the Fort Wentworth plant of Savannah sugar refining co. *il Chem & Met Eng* 40:422-3 Ag '33

Rotary vacuum filtration of crystal sugar. C. A. Godefroy. *diag Ind & Eng Chem* 25:964-6 S '33

Sugar and alcohol from cellulose; a comparison of the Bergius and Scholler processes. *Chem Age (Lond)* 28:521-2 Je 10 '33

Sugar industry in foreign lands. C. A. Browne. *bibliog il Ind & Eng Chem* 25:61-8 Ja '33

Sugar refining and refrigeration. C. W. Dombitsky. *Refrig Eng* 25:321 Je '33

Sweet beets. A. P. Peck. *il Sci Am* 148:280-2 My '33

Tyndallmetric examination of filtered liquors. A. B. Cummins and M. S. Badollet. *bibliog Ind & Eng Chem Anal ed* 5:331-2 S 15 '33

See also

Sugar factories

**By-products**

Power alcohol from molasses; production suggested in India. *Chem Age (Lond)* 28:269 Mr 25 '33

**Prices**

New York sugar futures, 1932. *Annalist* 41:101 Ja 20 '33

**Transportation**

Federated truck associations protest effects of basing point plans in NRA codes on motor haulage. *Automotive Ind* 69:352 S 16 '33

Underwriting sugar attracts attention. *Weekly Underw* 128:722-3 Ap 15 '33

**SUGAR, Invert**

Determination of amino acids and related compounds in honey. R. E. Lothrop and S. I. Gertler. *bibliog Ind & Eng Chem Anal ed* 5:103-5 Mr 15 '33

Determination of small amounts of invert sugar in the presence of sucrose. A. H. Edwards and S. J. Osborn. *bibliog Ind & Eng Chem Anal ed* 5:42-9 Ja 15 '33

See also

Invertase

**SUGAR analysis**

Analytical methods for the determination of levulose in crude products. R. F. Jackson, J. A. Mathews and W. D. Chase. *U S Bur Stand J Research* 9:597-613 N '32

Determination of small amounts of invert sugar in the presence of sucrose. A. H. Edwards and S. J. Osborn. *bibliog Ind & Eng Chem Anal ed* 5:42-9 Ja 15 '33

**SUGAR analysis—Continued**

Effect of certain preservatives on the determination of sucrose by the invertase method. C. F. Poe, M. Cooley and N. F. Witt. *bibliog Ind & Eng Chem Anal* ed 5:309-10 S 15 '33

Effect of reversion products and amino compounds on sucrose determinations in cane products. F. W. Zerban and C. A. Gamble. *bibliog Ind & Eng Chem Anal* ed 5:34-5 Ja 15 '33

Preparation of optically stable sugar solutions for colorimetric analysis. J. F. Brewster and F. P. Phelps. *U S Bur Stand J Research* 10:365-72 Mr '33

**SUGAR cane**

Sugar industry in foreign lands. C. A. Browne. *bibliog Ind & Eng Chem* 25:64-8 Ja '33

**SUGAR cane technologists, International society of.** See International society of sugar cane technologists**SUGAR factories****Electric equipment**

Electricity in sugar factories. T. Williams. *Elec R (Lond)* 112:76 Ja 20 '33

**Power**

High pressure plant saves \$1,000 daily; Pennsylvania sugar company. *il Power Pl Eng* 36: 811 D '32

Natural gas proves efficient in the beet sugar industry. L. Conklin. *il Gas Age* 71:249-50+ Mr 11 '33

Sugar factories as a source of surplus electric energy; abstract. S. Kaniewski. *Engineering* 136:206 Ag 25 '33

**Waste**

Analysis of mineral content of Steffen's waste. E. Bartow and H. M. Benninghoff. *Ind & Eng Chem* 25:175-7 F '33

Beet sugar factory effluents; biological oxidation as a means of purification. *il Chem Age (Lond)* 28:425-6 My 13 '33

Treatment of beet sugar effluent. *Engineering* 136:224 S 1 '33

**SUGAR handling**

Handling sugar by overhead belt conveyor. *il Mech Handling* 19:402 D '32

Loading sugar at Kaanapauli with vessel offshore. *Marine R* 63:32 Ji '33

**SUGAR industry and trade**

Changed sugar outlook. J. M. Guilfoyle. *Barron's* 13:15 My 8 '33

Coffee and sugar markets in 1932. H. H. Pike, Jr. *Comm & Fin* 22:29 Ja 11 '33

Cuba and sugar. *Nat City Bank* p157-63 O '33

First things first. O. H. Lamborn. *Comm & Fin* 22:310 Ap 5 '33

Glad rags for sugar. *Ptr Ink* 164:76 Ag 10 '33

Inflation and sugar values. O. H. Lamborn. *Comm & Fin* 22:375 Ap 26 '33

Ste. Madeleine sugar company, limited; record crop and lowest costs. *Economist* 117:782 O 21 '33

Sugar industry faces sweeter prospect. J. C. Cliford. *Mag of Wall St* 51:676-7+ Ap 15 '33

Turning point for sugar. *Econostat* 1:6-7 My 13 '33

**See also**

Beets and beet sugar

**Advertising**

Salesman's wife helps produce advertising idea; sugar refiner suggests uses for cotton bags. R. Crothers. *il Ptr Ink* 163:27-8 Je 29 '33

**Securities**

Sugar companies, 1930-1932. *Mag of Wall St Manual* p55 Mr 6 '33

**Statistics**

Cane and the beet. *Economist* 117:352-4 Ag 19 '33

Raw sugar situation. *Economist* 116:852-3 Ap 22 '33

Sugar consumption outstrips production. *Bankers Economic Service v* 31, no 15:45-8 Ap 11 '33

Sugar, 1932. *Economist* 116:sup40 F 18 '33

**Cuba**

Cuba—and sugar. *Business Week* p24 My 3 '33

Cuba and sugar. *Nat City Bank* p157-63 O '33

Cuban sugar situation. W. Lagemann. *Comm & Fin* 22:463-4 My 24 '33

Cuba's new sugar role. J. M. Guilfoyle. *Barron's* 13:16 F 13 '33

Truth about Cuba. *Forbes* 32:14 S 1 '33

**India**

Indian sugar manufacture. *Economist* 117:449 S 2 '33

**Ireland**

Sugar manufacture in the Irish Free State. *Chem Age (Lond)* 29:323 O 7 '33

**Japan**

Chemical process industries in Japan. C. E. Mullin. *Chem Markets* 32:131 F '33

**Puerto Rico**

Profits in sugar; the status of Central Aguirre. T. M. Foristall. *il Barron's* 13:16-17 Ap 10 '33

**United States**

Beet sugar, a bright spot in agriculture; United States now leading producer. J. M. Guilfoyle. *Barron's* 13:19 Mr 13 '33

Beet-sugar industry; a study in tariff protection. I. Bettman, Jr. *Harvard Business R* 11:369-75 Ap '33

Greenhouse farm flower; the sugar beet; paradox of an industry. *il map Fortune* 7:54-8, 111-12+ F '33

More beet sugar; final draft of marketing plan. *Business Week* p23-4 Ag 26 '33

No sugar solution. *Business Week* p24 O 21 '33

Our beet sugar industry. J. H. Pfeiffer. *Comm & Fin* 21:1475 D 23 '32

Spilled sugar; stabilization of sugar by quotas impracticable at this time. *Business Week* p12 O 14 '33

Sugar and the new deal. O. H. Lamborn. *Comm & Fin* 22:610-11 Ji 12 '33

Sugar code kettle; American refiners at home and abroad hook their battle to the sugar code. *Business Week* p26-7 Ag 12 '33

Sugar control strikes a snag. *Econostat* 1:6 O 21 '33

Sugar into new high ground; tentative sugar production quotas. *Barron's* 13:21-2 Ji 17 '33

Sugar solution. *Business Week* p9 O 7 '33

**See also**

Railroads—Rates—Tariff—United States  
Sugar—Sugar

**SUGAR workers**

Race and sex of employees of Hawaiian sugar plantations, June, 1932. *Monthly Labor R* 36:506 Mr '33

Wages and hours of labor in the sugar industry in Puerto Rico, 1932. *Monthly Labor R* 37:946-9 O '33

Wages in the sugar industry of Java, 1929 and 1931. *Monthly Labor R* 37:397 Ag '33

**SUGARS**

Action of the parenteral administration of sugars on the hydrogen-ion concentration of normal and malignant tissues in living animals. C. Voegtlin, H. Kahler and R. H. Fitch. *Science* 77:567-8 Je 9 '33

Formation of sugars in mixtures of tartaric acid and aldehydes in tropical sunlight. V. Gore. *J Phys Chem* 37:745-9 Je '33

Hydrogenolysis of sugars. W. H. Zartman and H. Adkins. *Am Chem Soc J* 55:4559-63 N '33

New method for the preparation of the free acids and the abnormal lactones of the monobasic sugar acids. J. M. Brackenbury and F. W. Upson. *Am Chem Soc J* 55: 2512-14 Je '33

Oxidation of alpha and beta glucose and a study of the isomeric forms of the sugar in solution. H. S. Isbell and W. Pigman. *U S Bur Stand J Research* 10:337-56 Mr '33



**SUGARS—Continued**

Removal of sugars from dilute solutions by yeast; abstract. J. L. Baker and H. F. E. Hulton. Soc Chem Ind J (Chem & Ind) 52: 505-6 Je 16 '33

Rotatory dispersion of organic compounds; rotatory dispersion and circular dichroism of aldehydic sugars. H. Hudson, M. L. Wolfrom and T. M. Lowry. Chem Soc J p1179-92 S '33; Summary, with discussion. Soc Chem Ind J (Chem & Ind) 52:504 Je 16 '33

Some factors that influence the conversion of cellulosic materials to sugar. G. J. Ritter, R. L. Mitchell and R. M. Seborg. bibliog Am Chem Soc J 55:2989-91 J1 '33

Studies in the ketone sugar series; open-chain derivatives of fructose and turanose. E. Pacsu and F. V. Rich. Am Chem Soc J 55:3018-24 J1 '33

Studies in the ketone sugar series; the preparation and the structure of the heptaacetate and of the methylglycosidic derivatives of turanose. E. Pacsu. bibliog Am Chem Soc J 55:2451-61 Je '33

Walden inversion in the glucose series; derivatives of altrose. D. S. Mathers and G. J. Robertson. Chem Soc J p1076-81 Ag '33

*See also*

Carbohydrates  
Dextrose  
Disaccharides  
Fructose  
Glucose  
Lactose  
Maltose

Mannose  
Optical rotation  
Polysaccharides  
Sirups  
Sugar  
Wood saccharification

**Analysis***See Sugar analysis***SUGGESTION systems**

Good times for suggestions. M. F. Kearns.

Burroughs Clearing House 17:20+ Ja '33

Suggestion system of Pennsylvania railroad.

Management R 21:372-3 D '32

Suggestion system operations, 1926-1931; abstract. Z. C. Dickinson. Management R 22: 216-17 J1 '33

347 branch managers join this advertising department; Beneficial management corporation. R. L. Stratford. Ptr Ink 162:40-1+ Ja 12 '33

We use a club to keep people thinking; Kalamazoo vegetable parchment company. J. Kindeberger. Il Factory Management 91:221 Je '33

**SUGGESTIONS, Customers'**

What customers can tell you. W. J. Reilly. Nation's Business 20:50 D '32

**SUICIDE**

Growth of suicide told in new book by Dr. Louis I. Dublin. East Underw 34:1, 14 Ag 25 '33

Improved business will not check suicide rate. Nat Underw (Life ed) 37:1+ Ag 18 '33

Public policy defense no relief for company; suicide claims under review. East Underw 34:8 S 1 '33

Suicide record for 1932. F. L. Hoffman. Spectator 130:6-7, 10-11 Je 8 '33

To be, or not to be; a study of suicide. L. I. Dublin and B. Bunzel. 443p [bibliog p415-28] H. Smith and R. Haas, New York '33

**SUISUN Bay bridge**

Martinez-Benicia bridge. W. H. Kirkbride. Il diags plan map Am Soc C E Proc 58:1181-1206 S '32; Discussion. 58:1619-30; 59:384-6, 997-8 N '32, F, Ag '33

**SULFAMIDE**

Complex metallic salts of sulphamide; an optically active inorganic salt. F. G. Mann. Chem Soc J p412-19 Ap '33

Condensation of sulphamide, dimethylsulphamide, and aniline-*p*-sulphonamide with formaldehyde. F. C. Wood and A. E. Battye. Soc Chem Ind J 52:346T-9T O 20 '33

**SULFANILIC acid**

Recommended specifications for analytical reagents chemicals. W. D. Collins and others. Ind & Eng Chem Anal ed 5:290 J1 15 '33

**SULFARSPHENAMINE**

Constitution of sulpharsphenamine. W. J. C. Dyke and H. King. Chem Soc J p1003-12 Ag '33

**SULFATES**

Action of hydriodic acid on the difficultly soluble sulfates. E. R. Caley. Am Chem Soc J 55:3947-52 O '33

Chloride and sulfate in rain water. W. D. Collins and K. T. Williams. bibliog Ind & Eng Chem 25:944-5 Ag '33

Recherches sur l'importance des sulfates comme engrais. G. Bertrand and L. Silberstein. Il Chimie & Ind 29:255-7 F '33

Resinification of glycerol; sulfates and sulfates as catalysts. S. N. Ushakov and E. M. Obriadina. Ind & Eng Chem 25:997-1001 S '33

*See also*

Ammonium sulfate  
Calcium sulfate  
Copper sulfate  
Gardnols  
Gypsum  
Lead sulfate

Paper making—Sulfate process  
Sodium sulfates  
Thiosulfates  
Zinc sulfate

**Analysis**

Die titration des sulfations nach der visuellen leitfähigkeitsmethode. O. Pfundt. Il diag Angew Chemie 46:200-2 Ap 8 '33

**SULFHYDRYL compounds. See Mercapto compounds****SULFIDES**

Alteration of pyrite to pyrrhotite by alkali sulphide solutions. R. E. Stevens. Econ Geol 28:1-19 Ja '33

Cape Smith sulphide deposits. W. B. Airth. Il map Can Min J 54:53-5 F '33

Monothioethylene glycol; aryl  $\beta$ -hydroxy- and  $\beta$ -chloro-ethyl sulphides. B. Baddeley and G. M. Bennett. Chem Soc J p46-8 Ja '33

Origin of the Frood ore deposit. B. C. Freeman. Il map Econ Geol 28:276-88 My '33

Oxidation of jamesonite, sphalerite, and tetrahedrite. A. L. Anderson. Il Econ Geol 27: 637-703 D '32

Reactions of certain halogen substituted aryl, alkyl and di-alkyl sulfides with benzylamine. T. P. Dawson. bibliog Am Chem Soc J 55:2070-5 My '33

Recovery by flotation of mineral particles of colloidal size. A. M. Gaudin and P. Malozemoff. J Phys Chem 37:597-607 [bibliog p606-7] My '33

Studies in the precipitation of the copper and tin groups using hydrogen sulfide. L. Lehman. J Chem Educ 10:50-5 Ja '33

Surface actions of some sulfur-bearing organic compounds on some finely-ground sulfide minerals. A. M. Gaudin and W. D. Wilkinson. bibliog J Phys Chem 37:833-45 O '33

*See also*

Chlorosulfides  
Copper sulfides  
Disulfides  
Galena

Hydrogen sulfide  
Ore deposits  
Pyrite

**SULFITE liquor**

Analysis of the Paulson process of evaporation and combustion of sulphite waste liquor. H. S. Kimball. flow diags Paper Tr J 96:34-6 Mr 23 '33

Dry distillation of residue of waste sulfite liquor. M. Phillips. bibliog Ind & Eng Chem 25:991-3 S '33

Evaporation by submerged combustion; sulfite waste liquor. K. A. Kobe, F. H. Conrad and E. W. Jackson. bibliog Ind & Eng Chem 25:987-9 S '33

New investigations of pulp mill wastes. Paper Tr J 96:24 F 9 '33

Sulfite waste liquor—what it is good for. J Fr Inst 215:232-4 F '33

Tests of regular and stabilized 18-8 alloy welds in sulphite liquor. bibliog Il Paper Tr J 97:29-34 Ag 31 '33

Utilization of sulphite waste liquor. H. K. Benson. bibliog Paper Tr J 95:31-4 N 17 '32

**SULFONAMIDES**

Condensation of sulphamide, dimethylsulphamide, and aniline-*p*-sulphonamide with formaldehyde. F. C. Wood and A. E. Battye. Soc Chem Ind J 52:346T-9T O 20 '33

**SULFONATED lorol**

Sulphonated lorol and sulphonated oenol; latest problems and developments. M. Briscoe. Soc Dyers & Col J 49:71-3 Mr '33

**SULFONATED oenol**

Sulphonated lorol and sulphonated oenol; latest problems and developments. M. Briscoe. Soc Dyers & Col J 49:71-3 Mr '33

**SULFONATED oils**

Application of sulfonated oils. A. J. Kelly. Am Dyestuff Rep 22:214-17 Mr 27 '33

Conceptions nouvelles sur la structure des huiles sulfonées. C. Kalinor and E. Schmidt. bibliog Chimie & Ind 29:1278-82 Je '33

Grading of sulfonated (sulphated) oils saponifiable types. Textile Col 55:185-6 Mr '33  
Making sulfonated oils; abstract. Textile Col 55:184 Mr '33

Modern theories of sulfonated oils. L. W. Davis. Am Dyestuff Rep 22:634-7; Discussion. 637 O 23 '33

Research creates new markets for sulfonated oils; National oil products co, Harrison, N.J. R. Wechsler. Il Chem & Met Eng 40:241-3 My '33

Sulfonated oils; summary of odd uses. A. J. Kelly. Chem Markets 32:423-4 My '33

Why, where, and how are sulfonated compounds used? A. H. Grimshaw. bibliog Meliand 5:102-3, 155-6 Je-Jl—Ag-S '33

**Analysis**

Determination of moisture in sulfonated oils. R. Hart. bibliog Il diags Am Dyestuff Rep 21:667-75 N 21 '32

Determination of sulfuric anhydride in sulfonated oils; new titration method. R. Hart. Ind & Eng Chem Anal ed 4:411-12 O 15 '32; Same. Am Dyestuff Rep 21:750-2 D 19 '32

**SULFONATES**

Fatty alcohol sulphates; their properties and applications. Textile World 83:933 My '33

Higher alkyl sulfonates. V. C. Sekera and C. S. Marvel. Am Chem Soc J 55:345-9 Ja '33

Sulfonated alcohol products. S. Lenher. Il Am Dyestuff Rep 22:13-16; Discussion. 16-18 Ja 2 '33

Sulphonated fatty alcohols. S. Lenher. Am Dyestuff Rep 21:693-5 D 5 '32; Excerpts. Chem Markets 32:127-8 F '33; Discussion. Am Dyestuff Rep 21:695-6; 22:21-4 D 5 '32, Ja 2 '33

Sulfonated higher alcohols; new detergents. D. H. Killeffer. Ind & Eng Chem 25:138-40 F '33

**SULFONATION**

Conceptions nouvelles sur la structure des huiles sulfonées. C. Kalinor and E. Schmidt. bibliog Chimie & Ind 29:1278-82 Je '33

Corrosion in sulfonators. Chem & Met Eng 40:409 Ag '33

Equipment for nitration and sulfonation. R. N. Shreve. bibliog Il diags Ind & Eng Chem 24:1344-53 D '32

Preparation and properties of 2,4-dimethoxyphenyl alkyl sulfides. C. M. Suter and H. L. Hansen. bibliog Am Chem Soc J 55:2080-2 My '33

**SULFONES**

Rearrangement of *ortho*-amino-sulphones. L. A. Warren and S. Smiles. Chem Soc J p2774-8 N '32

**SULFONIC acids**

Mineral oil sulfonic acids; abstract. S. von Pilat, J. Sereda and W. Szankowski. Soc Chem Ind J 52:sup211 Mr 17 '33

Preparation of aliphatic mercaptans and sulfonic acids of high molecular weight. G. Collin and others. Soc Chem Ind J 52:272T-5T Ag 25 '33

Preparation of some higher aliphatic sulfonic acids. C. R. Noller and J. J. Gordon. Am Chem Soc J 55:1090-4 Mr '33

Stereochemistry of diphenyls; preparation and properties of 2,2',4,4',5,5',6,6'-octamethyldiphenyl-3,3'-disulfonic acid and diphenyl-3,3'-disulfonic acid. A. E. Knauf and R. Adams. Am Chem Soc J 55:4704-9 N '33

Study of the constitution of aqueous solutions of the hydrogen soap, cetyl sulfonic acid. J. W. McBain and R. C. Williams. bibliog Am Chem Soc J 55:2250-7 Je '33

**SULFONIUM hydroxides**

Influence of poles and polar linkings on the course pursued by elimination reactions; elimination of saturated primary alcohols by thermal decomposition of sulfonium hydroxides. C. K. Ingold and K. I. Kuriyan. Chem Soc J p991-3 Ag '33

Influence of poles and polar linkings on the course pursued by elimination reactions; thermal decomposition of sulfonium hydroxides. C. K. Ingold and others. Chem Soc J p533-7 My '33

**SULFONYL group**

Mobility of groups containing a sulphur atom. D. W. Cowie and D. T. Gibson. Chem Soc J p306-9 Mr '33

**SULFONYL halides**

Mechanism of the reduction of sulfonyl halides by phosphorus tribromide. A. H. Kohl-hase. Am Chem Soc J 55:1291-2 Mr '33

**SULFUR**

Les altérations du soufre à l'air aux basses températures. R. Dubrisay. bibliog Chimie & Ind 30:767-9 O '33

Chemistry of soft rubber vulcanization; the function of sulfur. B. S. Garvey, jr. and G. Thompson. bibliog Ind & Eng Chem 25:1292-7 N '33

Effects of chemical combination on the X-ray emission spectrum of sulphur. J. Valasek. Phys R 43:612-14 Ap 15 '33

Influence of the sulphur atom on the reactivity of adjacent atoms or groups; aromatic side-chain and nuclear reactivity. G. Baddeley and G. M. Bennett. Chem Soc J p261-8 Mr '33; Abstract with discussion. Soc Chem Ind J (Chem & Ind) 52:81-2 Ja 27 '33

Ionic interchange in sulphur sols; the influence of acids. T. R. Bolam and J. J. Muir. Chem Soc J p1022-8 Ag '33

Ionic interchange in sulphur sols; the lyotropic series and the mechanism of coagulation. T. R. Bolam and G. Bowden. diags Chem Soc J p2684-94 N '32

Low sulfur compounding. A. A. Somerville and W. F. Russell. diags Ind & Eng Chem 25:449-55 Ap '33

Reaction between *o*-toluidine and sulphur. H. H. Hodgson and H. V. France. Chem Soc J p296-7 Mr '33

Récolte et traitement des sous-produits de la carbonisation de la houille; état actuel de ces techniques en Europe et aux États-Unis. C. Berthelot. bibliog Il diags Chimie & Ind 30:3-38; Discussion. 38 Jl '33

**See also**

Coal—Sulfur content	Petroleum—Sulfur content
Gas—Sulfur content	
Gasoline—Sulfur content	Steel—Sulfur content
	Vulcanization

**Agricultural uses**

Flotation sulfur in agriculture. V. Sauchelli. bibliog Il Ind & Eng Chem 25:363-7 Ap '33

Le soufre en agriculture. E. Pozzi-Escot. Chimie & Ind 30:533-4 S '33

**Analysis**

Determination of organic sulfur in gas. C. W. Wilson. diags Ind & Eng Chem Anal ed 5:20-2 Ja 15 '33

Determination of sulfur and chlorine in gasoline. C. Wirth and M. J. Stross. Ind & Eng Chem Anal ed 5:85-7 Mr 15 '33

Improved apparatus for determination of sulfur by the lamp method. A. R. Chopin and R. L. Menville, jr. diags Nat Pet N 25:19-20, 22 S 27 '33

Micro estimation of sulfur and phosphorus in organic compounds. A. Elek and D. W. Hill. Am Chem Soc J 55:3479-82 Ag '33

Die quantitative bestimmung von schwefel und halogenen in verbrennlichen stoffen. W. Grote and H. Krekeler. diags Angew Chemie 46:106-9 F 11 '33



**SULFUR—Analysis—Continued**

Rapid volumetric method for determination of sulfur in coal and coke; comparison of a modified benzidine method with the standard methods. E. L. Skau and I. L. Newell. *bibliog Ind & Eng Chem Anal* ed 5:180-2 My 15 '33

Volumetric determination of free sulphur in rubber. J. A. Robertson and J. Young. *Soc Chem Ind J* 52:296T S 15 '33; Same. *India Rubber W* 89:40 D '33

**Manufacture**

Making sulphur in city gas a profitable by-product; ammonia-thylox process. R. S. McBride. *flow sheet il Chem & Met Eng* 40:398-401 Ag '33

New ideas on gas purification and sulfate manufacture; cost data. F. Denig. *Gas Age* 71:593-6+ Je 10 '33

Recent developments in special by-products of coal carbonization. A. R. Powell. *Am Gas Assn Proc* 1932:904-6

Recent European developments in sulphur extraction. *Gas Age* 70:572 N 26 '32

Recovery of sulphur from spent oxide. *Gas J (Lond)* 202:219-20 Ap 26 '33

**SULFUR black**

Discussion of the effect of aging on sulphur black dyed fabrics and the effect of certain well-known after-treatments. B. L. Hathorne. *Melliand* 4:622 Ja '33

Oxidation of sulphur blacks; abstract. G. Sargent. *Textile Col* 55:112 F '33

Sulfur black dyeing; abstract. *Textile Col* 55:543 Ag '33

**SULFUR burners**

Texas Gulf Sulphur pressure burner for sulphur. *diag Chem & Met Eng* 40:269-70 My '33

**SULFUR compounds**

Isolation of a sodium sulfuric acid ester of galactan from irideae laminarioides (rhodophyceae). W. Z. Hassid. *bibliog Am Chem Soc J* 55:4163-7 O '33

2-Methylpiperidinopropyl thiol- and thionbenzoates. S. A. Karjala and S. M. McElvain. *Am Chem Soc J* 55:2966-73 Jl '33

Successful syntheses of thiophanes will aid in study of objectionable sulphur compounds. R. W. Bost and M. W. Conn. *Oil & Gas J* 32:17 Je 8 '33

Sulfur compounds derived from petroleum. P. J. Wiezevich, L. B. Turner and P. K. Frolich. *Ind & Eng Chem* 25:295-6 Mr '33

Thermal behavior of sulfur compounds in hydrocarbon solvents; normal butyl sulfide in benzene solution. W. M. Malisoff and E. M. Marks. *bibliog Ind & Eng Chem* 25:730-3 Jl '33

*See also*

Glutathione	Sulfuric acid
Mercaptans	Sulfurous acid
Sulfates	Thiocyanates
Sulfides	Thiosulfates

**SULFUR dioxide**

Absorption of sulfur dioxide in water. F. W. Adams. *Ind & Eng Chem* 25:424-3 Ap '33

Application to the Battersea power station of researches into the elimination of noxious constituents from flue gases and the treatment of resulting effluents. S. L. Pearce and others. *plans Engineer* 156:32-4 Jl 14 '33; Abstracts. *Soc Chem Ind J (Chem & Ind)* 52:593-4 Jl 21 '33; *Power* 77:490-1 S '33; Discussion. *Soc Chem Ind J (Chem & Ind)* 52:594-5 Jl 21 '33

Battersea gas washing costs and layout. *Elec W* 102:166 Ag 5 '33

Behavior of steel in sulphur-containing atmospheres at forging temperatures. D. W. Murphy. *il Am Soc Steel Tr Trans* 21:510-29; Discussion. *529-31 Je '33*

Calculating SO<sub>2</sub>'s behavior toward water. D. S. Davis. *Chem & Met Eng* 39:615-16 N '32

Chemistry of beryllium; reactions of sulfur dioxide with organic beryllium compounds. H. S. Booth and V. D. Smiley. *bibliog diag J Phys Chem* 37:171-81 F '33

Compressibilities of certain gases at low pressures and various temperatures. W. Ca-wood and H. S. Patterson. *Chem Soc J* p619-24 Je '33

Cooperative research in chemical engineering; removal of sulphur dioxide from waste gases. D. B. Keyes. *Chem & Met Eng* 40:404 Ag '33

Corrosion of nickel and monel metal by sulfured grape juice. E. M. Mrak and W. V. Cruess. *Ind & Eng Chem* 25:367-9 Ap '33

Effect of sulphur dioxide gas on alloys; chrome-nickel steels compared with behavior of brass, bronze, cast iron, and soft steel. G. H. McGregor and J. W. Stevens. *Paper Tr J* 97:40-1 N 2 '33

Electrical conductivities of solutions of water in sulfur dioxide. M. deK. Thompson and F. C. Jelen. *diag Electrochem Soc Trans* 63 (preprint 10):91-105 My '33

Elimination of sulfur-dioxide nuisance in light-oil sludge separation. J. B. Rather. *Am Pet Inst Proc (Refining div)* p59 Je '32

Fading of dyed fabrics under the influence of sulphur gases in the atmosphere. A. T. King. *Chem Age (Lond)* 29:50 Jl 15 '33

Grundsätzliches zur technischen abgas- und rauchschadenfrage und zu den aussichten auf ihre lösung. H. Wislicenus. *Angew Chemie* 46:104-5 F 11 '33

Infrared spectrum and the molecular structure of ozone and sulfur dioxide. R. M. Badger and L. G. Bonner. *Phys R* 43:305-6 F 15 '33

Ionization of sulphur dioxide by electron impact. H. D. Smyth and D. W. Mueller. *Phys R* 43:121-2 Ja 15 '33

Minimising the nuisance from boiler flue gases. H. E. Wallisom. *Chem Age (Lond)* 23:167-8 F 25 '33

Nitrogen compounds in petroleum distillates; the use of sulfur dioxide in the separation of petroleum bases. B. S. Biggs and J. R. Bailey. *Am Chem Soc J* 55:4141-2 O '33

Rate of reaction between chlorate and sulfur dioxide in acid solution. A. C. Nixon and K. B. Krauskopf. *Am Chem Soc J* 54:4606-8 D '32

Recovery of sulfur dioxide as dilute sulfuric acid. R. L. Copson and J. W. Payne. *diag Ind & Eng Chem* 25:909-16 Ag '33

Removal of solid sulphur compounds from combustion gases; abstract. D. Brownlie. *Mech Eng* 55:700 N '33

Spectrum of sulphur dioxide. Tung-Ching Chow. *bibliog diag Phys R* 44:638-43; Discussion. H. D. Smyth. 690 O 15 '33

Sulfur dioxide in air of industrial community. C. E. Betz, J. H. Holden and J. O. Handy. *Ind & Eng Chem* 25:774-6 Jl '33

Sulfur dioxide in Pittsburgh air. C. Schade. *bibliog J Ind Hygiene* 15:150-3 My '33

Sulfur dioxide in the textile industry. A. K. Scribner. *Am Dyestuff Rep* 22:185-7 Mr 13 '33

Über den aufschluss von stroh mit schwefeliger säure und sauren sulfiten. S. Hilpert and F. Jordan. *Angew Chemie* 46:73-6 Ja 23 '33

**SULFUR dioxide, Liquid**

Ebullition of refrigerants. L. A. Philipp and B. E. Tiffany. *diags Refrig Eng* 25:140-6+ Mr '33; Abstract. *Power* 76:355 Mid-D '32

Recent developments in the Edeleanu process. O. P. Cottrell. *Am Pet Inst Proc* p94-101 sec 3 D '32; Same cond. *Oil & Gas J* 31:10+ D 1 '32; Discussion. *Am Pet Inst Proc* p101 sec 3 D '32

Refining process with liquid sulphur dioxide. L. Edeleanu. *diags Inst Pet Tech J* 18:900-17 [bibliog p916-17]; Discussion. 918-20 N '32

Relation of antiknock value of gasoline to its volatility and solubility in liquid SO<sub>2</sub>; testing of naphthas. H. T. Ward and A. H. White. *bibliog il diags Oil & Gas J* 32:38-40 Je 1 '33

Selective solvent applications widen in refining products of petroleum. E. H. J. Rosenberg. *Oil & Gas J* 32:27 Ag 10 '33

Systems of sulfur dioxide and hydrogen derivatives of benzene. W. F. Seyer and E. G. King. *diags Am Chem Soc J* 55:3140-9 Ag '33

**SULFUR dioxide, Liquid—Continued****Analysis**

Analysis of refrigeration-grade liquid sulfur dioxide. F. A. Eustis. diags Ind & Eng Chem Anal ed 5:77-9 Mr 15 '33

**SULFUR dyes**

Manufacture of sulfide dyestuffs and related colors. J. M. F. Leaper. diag Textile Col 54:745-8, 815-18; 55:31+, 90-1+, 234-7, 388-91, 550-3+ N '32-F, Ap, Je, Ag '33

Printing sulphur dyes on cotton; abstract. B. J. Cheshire. Textile Col 55:543 Ag '33

Printing with sulphur colors; Cheshire process. Textile Col 55:329 My '33

Recent developments in textile printing; avoiding corrosion on copper printing rollers. Chem Age (Lond) 28:327 Ap 15 '33

Use of ammonium sulfate in the dyeing of sulfur colors. J. H. Troutman. Textile Col 55:513-15 Ag '33

See also

Sulfur black

**SULFUR fluorides**

Thermochemical constants of the hexafluorides of sulfur, selenium and tellurium. D. M. Yost and W. H. Claussen. Am Chem Soc J 55:885-91 Mr '33

**SULFUR industry and trade**

Nonmetallic industries in 1932. R. F. Bacon. Min & Met 14:53 Ja '33

**Statistics**

Sulphur, 1932. Chemicals 38:9 Mr 6 '33; Excerpt. Min Cong J 19:14 Mr '33

**Louisiana**

Grande Ecaille; Louisiana again bids for sulfur supremacy. il map Chem Markets 33:19-23 Jl '33

Sulphur; Louisiana changes its constitution, and wins an industry. Business Week p8 D 7 '32

**Texas**

Two sulphur companies compared; Texas Gulf sulphur co. and Freeport Texas co. J. C. Clifford. il Mag of Wall St 51:214-15+ D 10 '32

**SULFUR mines and mining**

Grande Ecaille; Louisiana again bids for sulfur supremacy. il map Chem Markets 33:19-23 Jl '33

Mining sulfur under water; Frasch process. Science 78:sup9 O 20 '33

Mining sulphur under water in Louisiana; Frasch process. L. O'Donnell. flow chart il diags Chem & Met Eng 40:454-8 S '33

**SULFUR oxides**

Über das schwefelmonoxyd; abstract. P. W. Schenk and H. Cordes. Angew Chemie 46:390 Je 24 '33

See also

Sulfur dioxide

Sulfur trioxide

**SULFUR prints.** See Steel—Sulfur prints**SULFUR trioxide**

Small samples of SO<sub>3</sub>. E. H. Brown. diag J Chem Educ 10:119 F '33

Über die beseitigung von schwebestoffen aus strömenden gasen. H. Remy. Angew Chemie 46:610-13 S 23 '33

**Analysis**

Determination of sulfuric anhydride in sulfonated oils; new titration method. R. Hart. Ind & Eng Chem Anal ed 4:411-12 O 15 '32; Same. Am Dyestuff Rep 21:750-2 D 19 '32

**SULFURETTED hydrogen.** See Hydrogen sulfide**SULFURIC acid**

Accurate determination of cyanide by distillation from sulfuric acid solution. H. A. Pagel and W. Carlson. Am Chem Soc J 54:4487-9 D '32

Activity of each component in aqueous solutions of sulfuric acid and acetic acid. F. H. MacDougall and D. R. Blumer. Am Chem Soc J 55:2236-49 Je '33

Automatic pressure regulators for vacuum distillation; sulfuric acid as a manostat fluid. E. B. Hershberg and E. H. Huntress. il diags Ind & Eng Chem Anal ed 5:344-6 S 15 '33

Bisulphate-ion catalysis in the hydrolysis of esters. H. M. Dawson, E. R. Pycock and E. Spivey. Chem Soc J p291-6 Mr '33

Color of sulfuric acid solutions of di- and triphenylmethanes. L. C. Anderson. bibliog Am Chem Soc J 55:809-12 F '33

Coût d'installation et prix de fabrication de l'acide sulfurique. R. Moritz. Chimie & Ind 29:278-83 F '33

Effect of acid treatment on octane values of cracked gasolines. S. Born. diags Nat Pet N 25:23-8 Ap 5 '33; Excerpts. Oil & Gas J 31:16+ Ap 6 '33

Effect of ethylene glycol upon the activity of sulfuric acid in aqueous solutions. H. M. Trimble and P. F. Ebert. diags Am Chem Soc J 55:958-68 Mr '33

Electrical conductivities of mixtures of sulfuric acid, acetic acid and water. N. F. Hall and H. H. Voge. bibliog Am Chem Soc J 55:239-46 Ja '33

Heavy chemicals; their manufacture and use. J. Healy, jr. Am Dyestuff Rep 22:92-7 Ja 30 '33

Influence of acid concentration on the oxidation-reduction potential of mixtures of ferric and ferrous sulphates in sulphuric acid solution. T. J. Glover. Chem Soc J p10-15 Ja '33

Influence of pH on the deterioration of vegetable-tanned leather by sulphuric acid. R. C. Bowker and E. L. Wallace. U S Bur Stand J Research 10:559-65 Ap '33

Nitration of para-cresol and of para-cresyl carbonate in the presence of sulfuric acid. H. J. Lucas and Yun-pu Liu. Am Chem Soc J 55:1271-80 Mr '33

Occurrence of a new case of isomerism in the fluorenone carboxylic acid series; isomeric products from the action of sulfuric acid upon 3,3'-dichlorodiphenic acid. E. H. Huntress, I. S. Cliff and E. R. Atkinson. bibliog Am Chem Soc J 55:4262-71 O '33

Refining cracked gasoline from a high sulphur crude oil by the use of sulphuric acid. J. C. Morrell, C. Wirth and J. R. Strong. Oil & Gas J 32:12+ Jl 20 '33

Salt-forming characteristics of doubly- and singly-linked elements of the oxygen group; the rotation of camphor in strong mineral acids. J. W. Baker. Chem Soc J p2923-7 D '32

Some properties of electrolytes in the solvent sulfuric acid. L. P. Hammett and A. J. Deyrup. bibliog Am Chem Soc J 55:1900-9 My '33

Sulfuric acid; new market as a weed killer. Chem Markets 33:232 S '33

Viscosity of sulphuric-acid solutions used for battery electrolytes. G. W. Vinal and D. N. Craig. diag U S Bur Stand J Research 10:781-93 Je '33

**Analysis**

Analytical determination and conductance of sulfuric acid in anhydrous acetic acid. W. C. Eichelberger and V. K. La Mer. Am Chem Soc J 55:3635-8 S '33

**Manufacture**

Apparaturfragen der schwefelsäureindustrie. B. Waeser. il Chemische Fabrik 5:445-6, 469-71, 484-6, 501-3 N 23, D 7-14, 28 '32

Chinese sulphuric acid plant near completion. Oil Paint & Drug Rep 122:21 N 23 '32

New process eliminates arsenic and fluorine from sulfurous gases. P. Gerard. Ind & Eng Chem News ed 11:158 My 20 '33

Recent technical aspects of sulphuric acid. A. M. Fairlie. Chem & Met Eng 40:33 Ja '33

Recovery of sulfur dioxide as dilute sulfuric acid. R. L. Copson and J. W. Payne. diag Ind & Eng Chem 25:909-16 Ag '33

Recovery of wool grease from sewage; Bradford corporation Esholt works. H. Wenter-Smith. il Chem Age (Lond) 29:125-7 Ag 5 '33



**SULFURIC acid—Manufacture—Continued**

Sulphuric acid manufacture; the Gaillard tower chamber process. *Chem Age* (Lond) 27:604 D 24 '32

Sulphuric acid produced from heavy refinery sludge by use of improved contact process. S. F. Spangler. *diag Oil & Gas J* 32:76-7 O 26 '33

Die wichtigsten neuerungen auf dem gebiete der anorganisch-chemischen industrie in den jahren 1927-1931. A. Bräuer, J. Reitstötter and H. Siebeneicher. *bibliog Angew Chemie* 45:727-38 N 19 '32

Zur theorie der kammerreaktion; über die hydrolyse der nitrosylschwefelsäure. W. J. Müller, D. M. Forbes and R. Fort. *diag Angew Chemie* 45:782-5 D 17 '32

**Statistics**

Sulphuric acid output by fertilizer makers, 1932 and 1931. *Oil Paint & Drug Rep* 123: 22 Mr 20 '33

Sulphuric acid production mirrors industrial conditions. *Chem & Met Eng* 40:32 Ja '33

**SULFURIC anhydride.** See Sulfur trioxide

**SULFUROUS acid**

Action of sulphurous acid on cellulose. L. P. Moore and H. Hibbert. *bibliog Pulp & Pa of Can* (Convention no) 34:103-7 [F] '33

Corrosion of nickel and monel metal by sulfured grape juice. E. M. Mrak and W. V. Cruess. *Ind & Eng Chem* 25:367-9 Ap '33

Über den aufschluss von stroh mit schwefeliger säure und sauren sulfiten. S. Hilpert and F. Jordan. *Angew Chemie* 46:73-6 Ja 28 '33

**Manufacture**

Die wichtigsten neuerungen auf dem gebiete der anorganisch-chemischen industrie in den jahren 1927-1931. A. Bräuer, J. Reitstötter and H. Siebeneicher. *bibliog Angew Chemie* 45:727-38 N 19 '32

**SULLY**, John Murchison, 1868-1933

Appreciation. D. C. Jackling. *Min & Met* 14:392-3 S '33

**SULPHONATED oil manufacturers' association**

Sulphonated oil group lays recovery plans. *Oil Paint & Drug Rep* 123:16+ Je 26 '33

**SULPHONATED oils.** See Sulfonated oils

**SULPHUR.** See Sulfur

**SUMMATION methods.** See Statistical methods

**SUMMER business**

This year, no summer slump? *Forbes* 31:12+ Je 1 '33

Will men's summer fashion click? *Forbes* 31:9-10 Je 1 '33

**SUMMER colonies**

Development and taxation of private recreational land; studies of northern Wisconsin counties. G. S. Wehrwein and R. F. Spillman. *J Land & Pub Util Econ* 9:340-51 N '33

Sales in 1932 exceeded those of '30 and '31 combined; Oyster Harbors club colony on Cape Cod. F. W. Norris. *il Am Bld* 54:26-7+ Ja '33

Summer colony developments. R. C. Kilborn. *il maps plans Am Arch* 143:69-80 Jl '33

See also

Newport, Rhode Island

**SUMNER, William Graham**

Forgotten man of fifty years ago and of today. M. Sykes. *Comm & Fin* 22:895-6 O 11 '33

**SUN**

Electromagnetic effects in stellar atmospheres. J. A. Anderson. *Elec Eng* 52:621-3 S '33

Long-range forecasting; abstract. C. G. Abbott. *Science* 77:455 My 12 '33

Relations of stellar electricity and magnetism to the phenomena of the sun's atmosphere. R. Gunn. *diag Science* 76:577-83 D 23 '32

See also

Eclipses, Solar

Sun spots

Solar radiation

**Corona**

Coronal lines caused by oxygen. *Science* 78: sup6 N 3 '33

Eclipse, bad weather, and a new way out. H. N. Russell. *il map Sci Am* 147:338-9 D '32

Solar eclipse problems. J. H. Moore. *Science* 77:375-82 Ap 21 '33

**Temperature**

Sun's temperature. E. McMillan. *Science* 78: sup7 Ag 18 '33

**SUN dials.** See Sundials

**SUN life assurance company of Canada**

Annual report, 1932. *Barron's* 13:9 F 20 '33;

East Underw 34:13 F 24 '33; *Ins Field* (Life ed) 62:12 F 17 '33; *Spectator* 130:24 F 23 '33; *Weekly Underw* 128:398 F 25 '33

Vindication of Sun Life and Macaulay in Harpell conviction. *East Underw* 33:1+ D 30 '32

**SUN life assurance society**

Annual general meeting, London. *Economist* 116:320 F 11 '33

**SUN oil company**

Companies which should show large gains in earnings. *Mag of Wall St* 52:280-1 Jl 8 '33

Good gains in profits reported. *Nat Pet N* 25:10 F 1 '33

Spending \$4,000,000 on plant improvements; annual report. J. H. Pew. *Nat Pet N* 25:27 Mr 15 '33

**SUN porch.** See Sun rooms

**SUN rooms**

Trouble on the sun porch; heating problem. E. Brown. *diag plans Dom Eng* 142:36-9+ Ag '33

**SUN spots**

New cycle of sunspots. *Science* 78:sup8 O 27 '33

Sun-spot cycles. A. E. Douglass. *Science* 76: sup8-9 D 16 '32

Sunspots—greatest existing refrigerators. H. N. Russell. *il Sci Am* 149:60-1 Ag '33

**SUN YAT-SEN institute for advancement of**

culture and education

Organization. *Science* 78:236 S 15 '33

**SUNDIALS**

Sundials. *U S Bur Stand Circ* 402:1-6 [bibliog p6] '33

**SUNG Tsu-wen.** See Soong, T. V.

**SUNLIGHT**

Effect of tropical sunlight on the development of bones of children in Puerto Rico. M. M. Eliot. *U S Children's Bur Pub* 217:1-122 '33

Method for gauging sunlight exposure period to determine color stability of gasoline. E. C. Hoeman. *Oil & Gas J* 32:18 S 14 '33

Visible and ultraviolet in the light obtained from the sun. W. Kunerth and R. D. Miller. *Illum Eng Soc Trans* 28:347-53 Ap '33

See also

Daylight

Photosynthesis

**SUNLIGHT, Artificial**

Artificial sunlight; application for illuminating

London restaurant. *il Electrician* 110:864 Je 30 '33

**SUNSHINE**

Effect of sunshine through window glass and fresh air on resistance to infection; abstract. J. R. Ross, E. C. Robertson and F. F. Tisdall. *Can Chem & Met* 17:73 Ap '33

Intensity and spectral distribution of solar radiation in New Orleans. H. Laurens and H. S. Mayerson. *Opt Soc Am J* 23:133-42 Ap '33

**SUPERCHARGERS**

See also

Airplane engines—

Superchargers

Diesel engines—

Superchargers

Diesel engines,

Marine—Super-

chargers

**SUPERCONDUCTIVITY.** See Electric conductivity**SUPERHEATED steam**

Beitrag zur frage der verwendung von heiss- und sattendampf. E. Kirschbaum. *il diag*

Chemische Fabrik 6:309-12 Jl 19 '33

Der einfluss der überhitzung des dampfes auf den wärmeübergang. H. Claassen. *Zeit Ver*

Deutsch Ing 77:1141-2 O 21 '33

**SUPERHEATED steam—Continued**

Embrittlement of steel at high steam temperatures. H. A. Dickie. *Engineering* 136:108-9 Ag 4 '33

Superheat engineering data. 7th ed rev 253p \$1 Superheater co, New York '33

**SUPERHEATERS**

Heat transference in superheaters. T. B. Morley. *Engineer* 155:108 F 3 '33

Progress in the production and transmission of heat and power; steam boilers, generators and superheaters. *diags Paper Tr J* 96:78-80 F 16 '33

Reheat—practice, operation and control. *Power Pl Eng* 36:806-7; 37:379-80 D '32, S '33

Spending money to save money; revised superheater baffling in the Crawford Avenue station of the Commonwealth Edison company. *diag Elec W* 102:633 N 11 '33

**Testing**

Equipment for detecting leaks in superheater units. C. O. Herb. *il diags Mach* 39:710 JI '33

**SUPERMARKETS.** See Market stores

**SUPERPHOSPHATES.** See Phosphates

**SUPERVISORY control.** See Electric plants (central stations)—Supervisory control; Electric substations—Supervisory control

**SUPPLY and demand**

L'ajustement de la production à la consommation. P. Razous. *Génie Civil* 103:300-4, 327-30 S 23-30 '33

Is there work enough to go around? *Nat City Bank* p140-1 S '33

Planners' comedy of errors; a half-year's record of achievements not wanted. S. Axley. *Barron's* 13:3+ O 16 '33

Rhythmic variations in industry; comparative trends of foods, textiles, building construction, and automobiles. T. M. McNiece. *front il Mech Eng* 55:659-66 N '33

Standard error of the coefficient of elasticity of demand. H. Schultz. *Am Statis Assn J* 28:64-9 Mr '33

**See also**

Competition  
Consumption (economics)  
Overproduction  
Prices

Production, Limitation of  
Stabilization in industry

**SUPRARENAL bodies**

Function of the adrenal cortical hormone and the cause of death from adrenal insufficiency. W. W. Swingle and others. *Science* 77:58-64 Ja 13 '33; Discussion. N. E. Freeman. 77:211-12 F 24 '33

Functions of the adrenal gland. F. A. Hartman, J. E. Lockwood and K. A. Brownell. *Science* 77:sup9-10 Ap 14 '33

Studies on the function of the adrenal cortical hormone and the cause of death from adrenal insufficiency in dogs; abstract. W. W. Swingle. *Science* 77:517 My 26 '33

Theories of cortico-adrenal function. S. W. Britton and H. Silvette. *Science* 77:366-8 Ap 14 '33

**SUPRARENAL preparations**

Vitamin C activity of hexuronic acid from suprarenal glands. W. A. Waugh and C. G. King. *bibliog Science* 76:630 D 30 '32

**SURETYSHIP and guaranty**

Cases and other materials on security. J. Hanna. 1078p Commerce clearing house, inc, New York '32

Eternal triangle; suretyship, guaranty, and original undertakings. M. Finkelhor. *Credit & Fin Management* 35:20-1+ Mr '33

Future of corporate suretyship. R. H. Towner. *East Underw* 34:42+ Mr 3 '33

Personal guarantees often prove unreliable, making corporate suretyship positive need. J. E. Kratz. *Weekly Underw* 129:834 O 28 '33

Standard form for a fulfillment bond; developed and adopted by the Texas section, Am. Soc. C. E. Civil Eng 3:112-13 F '33

**See also**

Insurance, Surety and fidelity

**SURFACE energy**

Effect of curvature of surface on surface energy; rate of evaporation of liquid droplets; thickness of saturated vapor films. D. J. Woodland and E. Mack, jr. *Am Chem Soc J* 55:3149-61 Ag '33

**SURFACE phenomena**

Behaviour of surface films of unsaturated compounds. A. H. Hughes. *Chem Soc J* p388-44 Ap '33

Correlation of stream potentials and surface conductance. H. L. White, F. Urban and E. A. Van Atta. *J Phys Chem* 36:3152-6 D '32

Structure of unimolecular films; surface films of proteins. R. J. Fosbinder and A. E. Lessig. *il J Fr Inst* 215:579-91 My '33

Structure of unimolecular films; surface potentials of films of long chain compounds. R. J. Fosbinder and A. E. Lessig. *diag J Fr Inst* 215:425-33 Ap '33

Surface actions of some sulfur-bearing organic compounds on some finely-ground sulfide minerals. A. M. Gaudin and W. D. Wilkinson. *bibliog J Phys Chem* 37:833-45 O '33

Surface chemistry. I. Langmuir. *Chem R* 13: 147-91 [bibliog p189-91] O '33; Same. *Angew Chemie* 46:719-33 N 18 '33

Surface chemistry. I. Langmuir. *Science* 76: sup8 N 18 '32

**See also**

Adhesion  
Adsorption  
Capillarity  
Catalysis  
Contact angle  
Films  
Surface tension

**SURFACE tension**

Der einfluss der oberflächenspannung auf die anzeige von aräometern. B. Scheda. *Chemische Fabrik* 6:413-14 O 4 '33

Further discussion of the surface tension of film-covered liquids at saturation. H. Brown. *Am Chem Soc J* 55:4521-3 N '33

New surface tension balance. R. J. DeGray. *bibliog il diag Ind & Eng Chem Anal* ed 5:70-3 Ja 15 '33

Simplest and most accurate viscometer, and other instruments with suspended level. L. Ubbelohde. *il diags Inst Pet Tech J* 19:376-420 My '33

Surface tension of mercury and of water in contact with saturated vapors of organic liquids. F. E. Bartell, L. O. Case and H. Brown. *Am Chem Soc J* 55:2769-76 JI '33

Surface tension of molten metals. A. I. Krynsky. *Engineer* 156:sup[Metallurgist] 76 O 27 '33

Surface tension, specific gravity of oil in place; abstract. D. T. Jones. *Oil & Gas J* 32:16 Ag 10 '33

Surface tension studies with *n*-butyl acetate. E. R. Washburn and C. H. Shildneck. *Am Chem Soc J* 55:2354-7 Je '33

**SURFACES**

Measuring smoothness by optics. A. Portevin. *Metal Prog* 23:44-5 Je '33

New profilograph measures roughness of finely finished and ground surfaces. E. J. Abbott and F. A. Firestone. *il diag Automotive Ind* 69:204-7 Ag 19 '33

Quality of metal surfaces. J. Gaillard. *Am Mach* 76:1149-52 N 23 '32

Skin friction of various surfaces. S. D. Gehman and G. D. Mallory. *bibliog il diag J Fr Inst* 216:339-50 S '33

Specifying surface quality; a method based on accurate measurement and comparison. E. J. Abbott and F. A. Firestone. *il Mech Eng* 55:569-72 S '33

Spreading of liquids on solid surfaces; the anomalous behavior of fatty oils and fatty acids with experiments leading to a tentative explanation. R. Bulkley and G. H. S. Snyder. *il Am Chem Soc J* 55:194-208 Ja '33

Surface effect on toughness and endurance. A. Portevin. *Metal Prog* 23:51+ Ap '33

Wear of hard metallic surfaces. N. N. Sawin. *il diags Am Mach* 77:496-9 Ag 2 '33

**SURFACES (geometry)**

Méthode géométrique d'intégration et appareil pour mesurer les aires des surfaces courbes. F. E. Myard. *diags Génie Civil* 103:228-32 S 2 '33



**SURFACES, Spherical.** See Spherical surfaces**SURGE tanks**

Comparison of the result of observations on surge-tank installations and on scale models thereof; with an investigation of the dead-beat surge-tank, and of surge-tanks of non-uniform cross section. A. H. Gibson and W. Cowen. *Engineering* 135:116 Ja 27 '33

Large surge tank at Thorold, Ont.; power development on Welland ship canal. *il Can Eng* 64:13 Mr 14 '33

**SURGERY**

Music aids the anesthetist. A. F. Erdmann. *il Sci Am* 149:84 Ag '33

See also Royal college of surgeons—Buckston Browne surgical research farm

**SURGES.** See Electric transient phenomena**SURGICAL instruments and apparatus**

Precision machining in surgical scissors production; Bard-Parker co. H. R. Simonds. *il diag Iron Age* 131:660-3 Ap 27 '33

**SURGICAL sutures****Advertising**

Camera studies in medical history; Davis and Geck, inc. makers of surgical sutures and germicides. *Ptd Salesmanship* 60:364-5+ Ja '33

**SURPLUS**

Paying dividends and maintaining surplus. *Mag of Wall St* 52:34 Ap 29 '33

Surplus adjustments. W. G. Rowe. *J Account* 56:291-3 O '33

**SURVEY markers**

Land surveyor's starting point. W. D. Jones. *Civil Eng* 3:510-12 S '33

Preserve the landmarks! W. Bowie. *il Eng N* 111:172-3 Ag 10 '33

**SURVEYING**

Association of Dominion land surveyors' 26th annual meeting. *Can Eng* 64:13-14 F 14 '33

City surveys; past, present, and future. G. D. Whitmore. *il Civil Eng* 3:463-70 Ag '33

Doubled azimuth traverse. M. B. Evans. *Eng & Min J* 134:109 Mr '33

Monument to surveying at Lafayette college, Easton, Pa. P. F. Rice. *il Civil Eng* 3:356 Je '33

Surveying under compressed air; holing-through sewer tunnel headings at Columbus, Ohio. O. Bonney. *diags Civil Eng* 3:31-3 Ja '33

Surveyor and his legal equipment. A. H. Holt. *bibliog Am Soc C E Proc* 59:1105-19 S '33

Vertical distances charted from stadia measurements. J. R. McComas. *chart Eng N* 111:347 S 21 '33

**See also**

Azimuth  
Hydrographic surveying  
Leveling  
Mine surveying  
Sea level

Topographical surveying  
Triangulation  
United States—Geological survey

**History**

One hundred years of control surveys. W. Bowie. *il Civil Eng* 3:467-8 Ag '33

**Public lands**

Land surveying; its foundation and superstructure. M. L. Greeley. *il Civil Eng* 3:508-10 S '33

Land surveyor's starting point. W. D. Jones. *Civil Eng* 3:510-12 S '33

**SURVEYING, Aerial**

Aerial survey in relation to economic geology. D. Gill. *Roy Aeronautical Soc J* 37:227-64 [bibliog p258-64, 287]; Discussion. 264-86 Mr '33

Air survey. J. S. A. Salt. *il diag Roy Aeronautical Soc J* 37:209-19 Mr '33; Discussion. 37:219-26, 383-8 Mr-Apr '33

Air survey work; its various aspects and uses. H. Hemming. *Assn of Sp Lib & Inf Bur Proc* 1933:120-36

Aircraft in relation to petroleum technology; use for survey and transport. H. Hemming. *il maps Inst Pet Tech J* 19:73-90 F '33; Same. *Roy Aeronautical Soc J* 37:864-81 O '33; Discussion. *Inst Pet Tech J* 19:97-116 F '33; Same. *Roy Aeronautical Soc J* 37:886-99 O '33

La topographie par photographies aériennes. J. Dumas. *il diags map Génie Civil* 101:503-6 N 19 '32

**SURVEYING instruments**

Surveying diamond-drill holes. W. R. Storms. *il plans Eng & Min J* 134:157-9 Ap '33

See also  
Theodolites

**SURVEYORS**

Surveyor and his legal equipment. A. H. Holt. *bibliog Am Soc C E Proc* 59:1105-19 S '33

**SUSPENDED level**

Simplest and most accurate viscometer, and other instruments with suspended level. L. Ubbelohde. *il diags Inst Pet Tech J* 19:376-420 My '33

**SUSPENSION bridges.** See Bridges, Suspension**SUSQUEHANNA river**

Evolution of the Hudson-Delaware-Susquehanna drainage. J. H. Mackin. *maps Am J Sci* 5th ser 26:319-31 S '33

**SVEA metal.** See Iron**SWAGING machines**

Langellier swaging machines. *il Mach* 39:491 Mr '33; *Iron Age* 131:361, 588 Mr 2, Ap 13 '33; *Am Mach* 77:195 Mr 15 '33

**SWAMPS**

Boring and sounding equipment used in accelerating swamp fill subsidence. W. Schultz. *il diags Explosives Eng* 11:109-13 Ap '33

Explosives for settling highway fills. E. Godfrey. *diags Can Eng* 64:11-13 My 2 '33

New method of blasting swamp for highway fill. C. L. Wooley. *il diags Eng N* 110:715-17 Je 1 '33

**SWANN, William Francis Gray, 1884-**

Portrait. *Mech Eng* 55:36 Ja '33

**SWANN corporation**

Monsanto gets control of Swann corporation. *Oil Paint & Drug Rep* 123:15 Ap 24 '33; *Chemicals* 38:1-2 My 1 '33

**SWEATING system**

Connecticut sweatshops; needle-trades employers escape New York's unions and labor laws by moving to metropolitan suburbs. *Business Week* p20+ Ja 11 '33

Growth of sweatshop conditions during the depression. *Monthly Labor R* 36:500-2 Mr '33

Why we need a minimum wage law. F. Perkins. *il Nation's Business* 21:23-4+ Jl '33

**SWEDEN****See also**

Banks and banking, Sweden  
Railroads—Electrification—Sweden

**Economic conditions**

Sweden's managed currency. R. S. Tucker. *Barron's* 13:3 Je 19 '33

Swedish industrial companies. *Economist* 116:1366 Je 24 '33

Unemployment in Sweden after the war. A. Johansson. *Int Labour R* 26:617-43 N '32

**Economic policy**

Controlled economy as it works out for consumer. M. W. Childs. *Ptr Ink* 165:49+ N 2 '33

**SWEDENBORG, Emanuel, 1688-1772**

Thebesian system of the heart. F. H. Pratt. *Science* 76:488-9 N 25 '32

**SWEDISH match company**

Future of Swedish Match. *Economist* 116:1249-50 Je 10 '33

**SWEEPSTAKES.** See Lotteries**SWEET potatoes**

Chemical and physical properties of sweet potato starch. F. H. Thurber. *bibliog il Ind & Eng Chem* 25:565-8 My '33

**SWEET potatoes—Continued**

Improved method for production of sweet potato starch. F. H. Thurber. *Ind & Eng Chem* 25:919-20 Ag '33

**SWELLING**

Examination of the claim that the swelling of gluten in acid solution is a satisfactory foundation for the evaluation of flour quality. E. A. Fisher and P. Halton. *Soc Chem Ind J* 52:91T-7T Ap 7 '33

International society of leather trades' chemists (British section) conference. *Soc Chem Ind J* (Chem & Ind) 51:1040-1 D 16 '32; *Chem Age* (Lond) 27:605 D 24 '32; *Soc Dyers & Col J* 49:77 Mr '33

Relation between hydration capacity and pentosan content of soft wood pulps. G. H. Young and B. N. Rowland. *bibliog Paper Tr J* 97:41-6 O 12 '33

Relation of concentration to action of gelatinizing agents on starch. C. E. Mangels and C. H. Bailey. *Am Chem Soc J* 55:1981-8 My '33

Swelling of fibrous proteins; abstract. D. J. Lloyd, R. M. Marriott and W. B. Pleass. *Soc Chem Ind J* (Chem & Ind) 51:1076 D 30 '32

Über einen apparat zur messung der flüssigkeitsaufnahme von quellbaren und porösen stoffen und zur charakterisierung der benetzbarkeit. O. Enslin. *diag Chemische Fabrik* 6:147-8 Mr 29 '33

**SWIFT and company**

Deficit; report for October 29 fiscal year. *Barron's* 12:13 D 19 '32

Speculative audit; favorable and unfavorable factors affecting common-stock values. *Barron's* 13:14 Jl 17 '33

**SWIFT international company**

Report for 1932. *Barron's* 13:13 Mr 20 '33

**SWIMMING pools**

Bathhouse and swimming pool facilities at Fergus, Ont. *il diag Can Eng* 65:11-13 O 10 '33

Detail of various swimming pool sections; working drawings. J. G. Stewart. *Architecture* 67:104 F '33

Engineering features of a modern gymnasium; Payne Whitney gymnasium at Yale university. E. E. Seelye. *il Eng N* 111:219-20 Ag 24 '33

Indices of the sanitary quality of swimming pool waters. M. P. Horwood, B. S. Gould and H. Shwachman. *bibliog Am Water Works Assn J* 25:124-35 Ja '33

Mechanical equipment in the White House swimming pool. E. H. Brandt, Jr. *il Heat & Ven* 30:24-7 S '33; Same. plans *Dom Eng* 142:42-3 S; 43-5, 116-17 O '33

Modern mechanical layout for a swimming pool; new installation at Texas A. & M. college. J. M. Forsyth and J. A. Zeller. *il diags Eng N* 111:535-6 N 2 '33

Notable swimming pools and guide to equipment & supplies. E. K. Collins, ed. 149p Hoffman-Harris, inc, New York '33

Presidential swimming hole. *il Arch Forum* 59:sup24 Ag '33

Swimming pool risk. W. L. Mallman and W. Cary. *Sci Am* 149:123 S '33

Swimming pool water sterilization. F. H. Broome. plan *Power Pl Eng* 37:215 My '33

Swimming pools—reader inquiries show active interest. W. W. Stevens. *il plans Dom Eng* 141:22-5+ Mr '33

**Lighting**

Floodlighting by gas of an open-air swimming-bath at Enfield. *il Illum Engr* 26:219 S '33

New field for gas floodlighting; open-air baths. *il Gas J* (Lond) 203:348-9 Ag 15 '33

**SWIMMING pools, Concrete**

Hastings bathing pool. *il diags plans Engin* 156:206-8 S 1 '33

**SWIMMING suits. See Bathing suits****SWINDLERS and swindling**

Protective section. Published as supplement to monthly issues of American bankers association journal

*See also*

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Fraud

**SWINE**

Calling hogs under AGAD; ultimate benefit of modest experiment in doubt. J. S. Lawrence. *Econostat* 1:8-10 S 2 '33

Corn-hog agreement plans taking shape. *Food Ind* 5:366 S '33

7,400,000 fewer hogs. *Business Week* p11 O 7 '33

**Prices**

Analysis of variance as an effective method of handling the time element in certain economic statistics. T. W. Schultz and G. W. Snedecor. *Am Statis Assn J* 28:14-30 Mr '33

**SWING bridges. See Bridges, Swing****SWITCHBOARDS**

Extension of metal-clad units and flexible bus support features of 1932 switchgear. *il Elec J* 30:10 Ja '33

Insulating panels; materials for use in switchboards and mountings. A. R. Dunton. *il Electrician* 109:672-5 N 25 '32

Metropolitan-Vickers new electrical instruments. *il Engineer* 155:177 F 17 '33

Novel switching arrangements in London substation. *il diag Elec R* (Lond) 112:556 Ap 21 '33

Recent developments in switchboard indicating instruments. A. J. Corson. *il Gen Elec R* 36:400-3 S '33

Termination of control cables at switchboards. W. B. Morton. *diags Elec W* 101:490-1 Ap 15 '33

Tir John power station; 33 kV metalclad oil-filled switchgear. *il diag Electrician* 110:676 My 26 '33; *Elec R* (Lond) 112:703 My 19 '33

**SWITZERLAND***See also*

Hydroelectric plants—  
Switzerland

**Economic conditions**

Switzerland in 1932. *Economist* 116:sup19-20 F 18 '33

**Industries and resources**

Die Schweiz und ihre industrie. C. Sulzer-Schmid. *Zeit Ver Deutsch Ing* 77:861-4 Ag 12 '33

**SWOPE, Gerard**

Five who may rule industry with Roosevelt. *por Sales Management* 32:622 Je 15 '33

**SWOPE plan. See Industry—Swope plan****SYLVINE. See Sylvite****SYLVINITE. See Sylvite****SYLVITE**

Building a potash industry in New Mexico. C. A. Ward. flow sheet *il Chem & Met Eng* 40:172-6 Ap '33

Diffuse scattering of X-rays from sylvine. G. H. Harvey. *bibliog diags Phys R* 43:591-5, 707-10; 44:133-7 Ap 15-My 1, Ag 1 '33

**SYMBOLS**

Aeronautical symbols. U S Nat Advisory Com for Aeronautics 1932:745-6 '33

Drafting room symbols for drawings relating to pipe, pipe fittings, and heating and ventilating equipment. *Heat & Ven* 30:42A-42B Je '33

German conventional symbols for welding. O. Bondy. *diags Engineering* 135:479-80 My 5 '33

Some comments on materials for teaching statistics; with special reference to the use of symbols. T. O. Untema. *Am Statis Assn J* 28:sup15-19 Mr '33

**SYMBOLS, Mnemonic**

Applied scientific management; organization and classification. K. Hathaway. *Taylor Soc Bul* 17:229-34 D '32



## SYNAGOGS

Synagogue in Amsterdam; views. Arch Forum 59:297-8 O '33

## SYNCHRONIZING

Automatic synchroniser for a.c. machines. diag Engineer 156:120 Ag 4 '33

Nouveaux dispositifs de synchronisation pour la mise en parallèle de réseaux à courant alternatif. Heyne. diags Génie Civil 103: 356-7 O 7 '33

Power stations in parallel. W. B. Norton. Elec R (Lond) 111:845 D 9 '32

Radio and movies synchronized. il diag Sci Am 149:82+ Ag '33

Synchronized drives without mechanical connection. H. W. Reding. il diags Elec J 30: 277-80 Jl '33

Synchronized mechanical motion without mechanical connection. C. W. Drake. il diags Maintenance Eng 90:441-3 D '32

Synchronizing with 220-kv. breakers. O. R. Bulkeley and A. A. Kroneburg. il diags Elec West 71:24-6 Jl '33

Synchronous ties. H. A. Winne. il diags Gen Elec R 36:129-35 Mr '33

See also

Synchroscope

**SYNCHRONOUS converters.** See Electric converters, Synchronous

## SYNCHROSCOPE

Low-energy synchroscope. C. Anderson and L. J. Lunas. il Elec J 30:167 Ap '33

## SYNGENITE

Extraction of potash from polyhalite; cyclic production of schönite and its use in the manufacture of potassium sulfate and syngenite. N. Fragen and E. P. Partridge. bibliog flow diag Ind & Eng Chem 25:1153-60 O '33

## SYNTHESIS

Anthoxanthins; experiments on the synthesis of garcinin. R. Robinson and R. C. Shah. Chem Soc J p610-12 Je '33

Anthoxanthins; synthesis of a colouring matter of Robinia pseudacacia. E. H. Charlesworth and R. Robinson. Chem Soc J p268-70 Mr '33

Asymmetric syntheses; the action of optically active nitrates on  $\alpha$ -tetralone. W. H. Horne and R. L. Shriner. Am Chem Soc J 55:4652-4 N '33

Asymmetric syntheses; the action of optically active nitrates on cyclic ketones. R. L. Shriner and E. A. Parker. Am Chem Soc J 55:766-70 F '33

Asymmetric syntheses; the action of optically active nitrites on cyclic ketones. M. Pezold and R. L. Shriner. bibliog Am Chem Soc J 54:4707-11 D '32

Autoclave in organic synthesis. G. T. Morgan. Chem Age (Lond) 27:572-3 D 17 '32

Carbon syntheses with malonic and related acids. A. Michael and J. Ross. Am Chem Soc J 55:3684-95 S '33

Diene synthesis of Diels and Alder. C. F. H. Allen. bibliog J Chem Educ 10:494-7 Ag '33

Experiments on the synthesis of cyanomaclurin and its derivatives; 3:5:7:2':4'-pentamethoxyflavan. A. L. Bhalla and J. N. Rây. Chem Soc J p288-90 Mr '33

Experiments on the synthesis of physostigmine (eserine). F. E. King and R. Robinson. Chem Soc J p270-3 Mr '33

Experiments on the synthesis of substances related to the sterols; some derivatives of chrysene. G. R. Ramage and R. Robinson. Chem Soc J p607-10 Je '33

Grignard reaction in the synthesis of ketones; a new method of preparing desoxybenzoins. S. S. Jenkins and E. M. Richardson. Am Chem Soc J 55:703-6, 1618-21 F, Ap '33

Handling high pressures in chemical synthesis. R. V. Kleinschmidt. il diags Chem & Met Eng 40:361-4 Jl '33

Influence de synthèses récentes sur le développement de l'industrie des explosifs. J. P. Lehalleur. bibliog Chimie & Ind 29:258-61 F '33

New camphor synthesis. J. J. Ritter. Am Chem Soc J 55:3322-6 Ag '33

New process for the synthesis of phenanthrene and of phenanthrene derivatives. M. T. Bogert. Science 77:289 Mr 17 '33

New synthesis of normicotine and nicotine. L. C. Craig. Am Chem Soc J 55:2854-7 Jl '33

Organic syntheses. W. H. Carothers and others. v13 112p \$1.75 Wiley '33

Researches on nitrogenous glycosides; the synthesis of glycosido ureides. K. M. Haring and T. B. Johnson. Am Chem Soc J 55:395-402 Ja '33

Researches on pyrimidines; a new synthesis of thymine. W. Bergmann and T. B. Johnson. Am Chem Soc J 55:1733-5 Ap '33

Resin acids; synthesis of 1-methyl-7-*iso*-propylphenanthrene (retene). J. C. Bardhan and S. C. Sengupta. Chem Soc J p2798-800 N '32

Syntheses in the olefin series; the heptenes. F. J. Soday and C. E. Boord. Am Chem Soc J 55:3293-302 Ag '33

Syntheses of polycyclic compounds related to the sterols. G. A. R. Kon. Chem Soc J p1081-7 Ag '33

Synthesis and reactions of certain nitrogen ring compounds over nickel. C. F. Winans and H. Adkins. bibliog Am Chem Soc J 55:4167-76 O '33

Synthesis of a series of alpha-substituted N-methylpyrrolines. L. C. Craig. bibliog Am Chem Soc J 55:295-8 Ja '33

Synthesis of acenaphthene-*peri*-metathiazines and of some dyes derived therefrom. M. T. Bogert and R. B. Conklin. Am Chem Soc J 55:1705-10 Ap '33

Synthesis of alkylphenanthrenes; 9-methyl-, 1:9-dimethyl-, and 1:2:8-trimethyl-phenanthrenes. R. D. Haworth and C. R. Mavin. Chem Soc J p2720-3 N '32

Synthesis of alkylphenanthrenes; 7-methyl-1-ethyl- and 1-ethyl-7-*isopropyl*-phenanthrenes; constitution of abietic and *d*-pimaric acids. R. D. Haworth. Chem Soc J p2717-20 N '32

Synthesis of compounds related to the sterols, bile acids, and oestrus-producing hormones; 1 : 2-*cyclopentenophenanthrene*. J. W. Cook and C. L. Hewett. Chem Soc J p1098-1111 Ag '33

Synthesis of diisobutyl mono-, di- and trihydroxyphenols. J. B. Niederl, S. Natelson and E. M. Beekman. bibliog Am Chem Soc J 55:2571-5 Je '33

Synthesis of phthaloylnaphthol. L. F. Fieser and M. Fieser. Am Chem Soc J 55:3010-18 Jl '33

Synthesis of some homologous naphthalenes. E. deB. Barnett and F. G. Sanders. Chem Soc J p434-7 Ap '33

Synthesis of substances analogous to bile acid degradation products. J. W. Baker and H. Burton. Chem Soc J p811-18 Jl '33

Synthesis of tartaric acid. A. C. C. Newman and H. L. Riley. Chem Soc J p45-6 Ja '33

Synthetic organic chemistry in industry. G. O. Curme, jr. il Ind & Eng Chem 25:582-9 My '33

Synthetical experiments in the *isoflavone* group; limitations of the phenacyl aryl ether cyanohydrin method. W. Baker, W. M. Morgans and R. Robinson. Chem Soc J p374-5 Ap '33

Synthetical experiments in the *isoflavone* group; synthesis of daidzein. W. Baker, R. Robinson and N. M. Simpson. Chem Soc J p274-5 Mr '33

Use of gamma-iodopropyl chloride as a synthetic reagent; the synthesis of certain alpha-phenyl dibasic acids. F. H. Case. Am Chem Soc J 55:2927-32 Jl '33

Yields of some aliphatic tertiary Grignard reagents and the limits of their usefulness as synthetic reagents. F. C. Whitmore and D. E. Badertscher. Am Chem Soc J 55:1559-67 Ap '33

See also

Photosynthesis

**SYNTHETIC organic chemical manufacturers' association**

Meeting, Dec. 15. Oil Paint & Drug Rep 122: 17+ D 19 '32

**SYNTHETIC products**

Production of organic compounds from coke oven gas. J. W. Osterrieth and G. Dechamps. Gas J. (Lond) 201:202-5; Discussion. 205-6 Ja 25 '33

**SYNTHOL**

Carbonization gases for fuels; a review of recent European developments. R. C. Bickmore. Chem Markets 33:126-7 Ag '33

**SYPHILIS**

Dealing with syphilis and gonorrhea as industrial problems. W. Clarke. J Ind Hygiene 15:79-88 Mr '33; Abstract. Nat Safety N 27:53 Mr '33

Inheritance of disease. C. B. Davenport. il diags Sci Am 149:162-4 O '33

Localization of spirocheta pallida in the brains of rabbits following intraspinal injection of testicular tissue and physiological salt solution. G. W. Raiziss and M. Severac. Science 78:195-6 S 1 '33

Relation between the trypanocidal and spirocheticidal activities of neoarsphenamine. T. F. Probey. bibliog Pub Health Rep 48: 758-64 Je 30 '33

Relation between trypanocidal and spirocheticidal activities of neoarsphenamine; uniformity of effect of different types of neoarsphenamine on the serological reactions in human syphilis. M. Buchholtz and T. F. Probey. Pub Health Rep 48:166-9 F 17 '33

**SYRACUSE, New York****Suburbs**

Supplying suburban Syracuse. A. A. Korves. Am Water Works Assn J 25:275-8 F '33

**Water supply**

New test data aid quality control of gunite; relining reservoirs for Syracuse, N.Y. provide basic data on nozzle velocities, size and shape of test specimens, cement ratio, etc. E. P. Stewart. diags Eng N 111:558-61 N 9 '33

Syracuse water works. M. B. Palmer. Am Water Works Assn J 25:264-74 F '33

**T****TABASCO sauce**

Hot stuff. Fortune 8:12 N '33

**TABLES, Computing**

Solving vertical highway curves by graph and table. R. W. Abbett. Eng N 110:186 F 9 '33

**TABLES of contents**

What belongs on a house organ's table-of-contents page? A. D. Luse. Ptd Salesmanship 60:376+ Ja '33

**TABULATING machines**

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Calculating machines

**TABULATION**

Photographic technique for the study of extensive data on small populations. C. W. Darrow. Science 78:61-2 Jl 21 '33

Statistics of geometrically coded scores. E. B. Royer and H. A. Toops. Am Statis Assn J 28:192-8 Je '33

**TACHOMETERS**

Orbit tachometer. il Engineer 156:18 Jl 7 '33

Orbit tachometer. il Engineering 136:276 S 8 '33

Simple laboratory tachometer. W. A. Sperry. diag Ind & Eng Chem Anal ed 5:288 Jl 15 '33

**TACHYMETER**

Tacheometric tables. F. A. Redmond. 256p C. Lockwood and son, London '31

**TACKLE blocks**

Large uses of steel in small ways. il Steel 93:37 S 11 '33

**TAGS**

This label has convenience and sales appeal; Pequot sheets. il Ptr Ink 162:27-8 Ja 19 '33

**TAILORING**

Practical tailoring. J. E. Liberty. 184p \$2.25 Pitman '33

**TAILORS****Advertising**

Printed piece is no better than the materials that go into it; Hughes & Muller, custom tailors; photograph. Ptd Salesmanship 61: 32 Mr '33

TAINTER gates. See Gates, Hydraulic

**TAKAHASHI, Korekiyo**

Finance minister of the Imperial government of Japan. por Fortune 7:42-3, 116-17+ Je '33

**TALC**

Effects of certain silicate dusts on the lungs. W. C. Dreessen. il J Ind Hygiene 15:66-78 Mr '33

Problem of serpentinization and the origin of certain chrysotile asbestos, talc and soapstone deposits. H. H. Hess. il diags Econ Geol 28:634-57 N '33

Resistance to sudden temperature change of some bodies of the system talc-clay-mullite. R. M. King and C. L. Evans. Am Cer Soc J 16:360-2 Ag '33

**Analysis**

Über eine rationelle methode zur analyse natürlicher magnesiumsilicate. M. Bichowsky and J. Gingold. Angew Chemie 45:785-7 O 17 '32

TALKING moving pictures. See Moving pictures, Talking

TALL buildings. See High buildings

**TALONIC acid**

Action of alkalies on the monobasic sugar acids; conversion of gluconic to mannonic and of galactonic to talonic acids by the action of barium hydroxide. H. T. Bonnett and F. W. Upson. Am Chem Soc J 55: 1245-8 Mr '33

**TAMMANY Hall**

Tammany at bay. J. E. Finegan. 289p Dodd '33

**TAMPING machines**

Compaction of concrete through the use of vibratory tampers. R. E. Davis and H. E. Davis. Am Concrete Inst J 4:365-72 Je '33

See also

Vibrators

**TANGANYIKA territory**

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Mines and mineral resources—Tanganyika territory

**TANGENT meter**

Richards-Roope tangent meter. R. von Huhn. Am Statis Assn J 28:82 Mr '33

**TANGYE engine**

Tangye oil engine; abstract. diags Mech Eng 55:255-6 Ap '33

**TANK cars**

Costs of tank car service. H. M. Mabey. Chem Markets 32:331-2 Ap '33

Development of special rail equipment. R. C. Pierce. il Ry Age 94:66-70 Ja 21 '33

Mid-continent refined products move by railroad to vast consuming public. A. S. James. map Nat Pet N 25:69-70+ My 17 '33

See also

Gasoline—Transportation

Petroleum—Transportation  
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**Design**

A.R.A. mechanical division committee report on tank cars. diags Ry Mech Eng 107:249-50 Jl '33

Rigid versus flexible machine design; tank-car anchors, spring planks, brake beam supports. R. C. Pierce. il Ry Mech Eng 106:489-90 D '32



TANK cars—*Continued*

## Repair

Tank car safety valve tester. A. Skinner. *il* Ry Mech Eng 106:506 D '32

## TANK ships

Corrosion of oil tankers. N. B. Musser. *diags* Am Pet Inst Proc p51-62 sec 3 D '32  
Elastic characteristics of a naval tank vessel; abstracts. W. P. Roop. *Marine R* 62:24 D '32;  
*Marine Eng* 38:28; Discussion. 28-9 Ja '33  
Intercoastal tanker rates regulated. *Nat Pet N* 25:31 Mr 22 '33  
*Marine electricity; modern technique.* A. C. Hardy. *Electrician* 110:587 My 5 '33  
Performance of Standard Oil tankers. R. L. Hague. *Marine Eng* 38:22-6 Ja '33; Abstract. *Marine R* 62:25 D '32; Discussion. *Marine Eng* 38:32, 64-5 Ja-F '33  
Plating for tankers of wrought iron. R. W. Morrell. *diags Marine Eng* 38:360-7 O '33  
Possible changes in unfavorable tanker situation in 1933. *Oil & Gas J* 31:26+ F 2 '33  
Proposal for pooling of tankers causes protest; plan is to make vessels common carriers. C. E. Kern. *Oil & Gas J* 31:10 D 8 '32  
Summary of agreement on new tanker pool; essential features of plan are outlined. C. E. Kern. *Oil & Gas J* 31:10+ D 8 '32  
Tank steamers. D. H. Jackson. *Inst Pet Tech J* 19:491-2 Je '33

## Cleaning

Inert gas and hydraulic tank washing systems which are designed to promote tanker safety. N. B. Musser. *diags Marine Eng* 38:334-8 S '33; Discussion. R. W. Morrell. 38:424-5 N '33

## Fires and fire protection

Inert gas and hydraulic tank washing systems which are designed to promote tanker safety. N. B. Musser. *diags Marine Eng* 38:334-8 S '33; Discussion. R. W. Morrell. 38:424-5 N '33  
Steam-smothering and tanker safety. N. B. Musser. *Marine Eng* 38:292-4+ Ag '33

## TANK trucks

Camping semi-trailer design adopted for tank truck. *il Nat Pet N* 25:48 O 11 '33  
L'emploi de l'azote sur les camions-citernes utilisés au revêtement des routes. *il diag Génie Civil* 101:588-9 D 10 '32  
Expediting truck fuel oil deliveries by motorized pump on trailer. R. H. Beattie, jr. *il Nat Pet N* 24:38 D 28 '32  
Gulf modernizes truck transport with \$1,742,000 order. W. E. Lowe. *il Nat Pet N* 25:38+ O 11 '33  
Milk tanks of 18-8 clad steel. *il Steel* 93:25 N 13 '33  
New Texaco streamlined truck exhibited at World's fair. *il Nat Pet N* 25:20 N 8 '33  
New vacuum gasoline tank truck makes only metered dumps. *il Nat Pet N* 25:46 O 11 '33  
Oil truck wrecks at crossings are numerous. *Ry Age* 95:312-13 Ag 26 '33  
Old trucks reconditioned to deliver fuel oils and distillates. *il Nat Pet N* 25:40-1 F 15 '33  
Overfilling shown to be one source of loss in gasoline handling. J. C. Chatfield. *il Nat Pet N* 25:11-12+ F 15 '33  
Refinery executive explains importance of trucks in aiding business recovery. E. S. Rule. *Oil & Gas J* 31:32 F 9 '33  
Stainless clad steel milk truck has 3000-gal. capacity. *il Iron Age* 131:579+ Ap 13 '33  
Thompson 2500-gallon petrol tank. *il Engineer* 155:100 Ja 27 '33  
2100-gallon delivery outfit in Florida. *il Nat Pet N* 25:37 Mr 22 '33  
Works of the Steel barrel company of Uxbridge, limited. *il diags Engineering* 136:135-7 Ag 11 '33  
Year round use of ice equipment; conversion into oil tank trucks. J. West. *Refrig W* 68:24 Je '33

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## Repair

Carbon dioxide makes the welding job safe without steaming or dismantling. *il Oil & Gas J* 32:47 Je 29 '33

## Safety devices and measures

Improperly designed truck tanks are dangerous fire hazard. G. P. Scott. *il Nat Pet N* 25:29-30+ Ag 2 '33  
Truck static not dissipated by drag chains. J. H. Herbert. *Nat Pet N* 25:19 Je 7 '33

## TANKS

## See also

Airplanes—Fuel tanks	Sewage tanks
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Gas holders	Tank cars
Gas tanks	Tank ships
Milk tanks	Tank trucks
Oil tanks	Water tanks
Pressure vessels	

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Safety first during tank and vat cleaning. R. H. Ferguson. *Chem Markets* 33:220 S '33

## TANKS, Concrete

Concrete stock houses for beer. *il Sci Am* 149:226 N '33  
Concrete tanks lined with asphalted tile found suitable for pickling. *il Steel* 93:29 S 25 '33  
Design of cylindrical concrete tanks. L. Leeper. *diags Civil Eng* 3:598-600 N '33

## TANKS, Copper

## Manufacture

Welded joints in copper and copper alloy; fabrication of small tanks. I. T. Hook. *il diags Am Mach* 77:720-4 N 8 '33

## TANKS, Military

Christie develops new flying tank. *il Automotive Ind* 68:180 F 11 '33  
Liberty 12 revamped for tank service has air-cooled cylinders, valves and pistons. *il diags Automotive Ind* 68:340-2 Mr 18 '33  
Ordnance meets changing needs of cavalry and infantry. H. A. Nisley. *il S A E J* 33:sup32-8 S '33; Abstract. *Automotive Ind* 69:256-7 Ag 26 '33

## TANKS, Ship-model. See Ship-model tanks

## TANKS, Steel

Construction and erection of a 3 million spiral guided gasholder in steel tank. W. T. Hobson. *diags plan Gas J* (Lond) 202:284-7; Discussion. 287 My 3 '33  
Evaluating steel storage tanks. J. G. O'Brien. *Civil Eng* 3:578-9 O '33  
How is glass-lined steel equipment made and where is it used? *il Glass Ind* 14:86-7 Ag '33  
Method outlined for welding plates in field to construct oil storage tanks at low cost. C. W. Hines. *diags Oil & Gas J* 31:14+ D 15 '32  
Milk station tanks, oxyacetylene welded, are of 18-8 steel. *il Steel* 93:25 Jl 10 '33  
Milk tanks of 18-8 clad steel. *il Steel* 93:25 N 13 '33  
Stainless clad steel readily formed into tanks; Marsene corp. S. L. Ingersoll. *il Iron Age* 130:998+ D 29 '32  
Steel tanks are lined with non-absorbent acid-resistant vitreous blocks; Porox. *il Iron Age* 132:25 Ag 24 '33; *Steel* 93:29 Jl 31 '33  
Vapor gathering systems with steel balloons reduce evaporation and corrosion losses. L. G. E. Bignell. *il diags Oil & Gas J* 32:8+ O 12 '33  
Weathered steel resists corrosion. F. G. Martin. *Metal Prog* 23:48-9 Ap '33  
Welded tank in modern chemical plant. *il Chem Age* (Lond) 28:28-9 Ja 14 '33  
Welding a stainless steel vat. *il Sheet Metal Worker* 24:53 F '33

## Manufacture

Works of the Steel barrel company of Uxbridge, limited. *il diags Engineering* 136:135-7 Ag 11 '33

**TANNERIES**

Water supply for tanneries. A. C. Orthmann. *il Water Works & Sewerage* 80:138-40, 163-5 Ap-May '33

**TANNING**

Chemistry of the tanning process; discussion at the British association meeting. *Chem Age (Lond)* 29:273-4 S 23 '33; *Engineering* 136:526-7 N 10 '33

Chrome tanning; abstract. E. Stiasny and G. Königfeld. *Soc Chem Ind J* 52:sup159-60 F 24 '33

Deterioration of vegetable tanned leather; abstract. R. F. Innes. *Chem Age (Lond)* 28:267 Mr 25 '33

Effects of atmospheric moisture on the physical properties of vegetable and chrome tanned calf leathers. W. D. Evans and C. L. Critchfield. *diags U S Bur Stand J Research* 11:147-62 Jl '33

Influence of pH on the deterioration of vegetable-tanned leather by sulphuric acid. R. C. Bowker and E. L. Wallace. *U S Bur Stand J Research* 10:559-65 Ap '33

Processes of tanning fine upholstery leather. 78p Eagle-Ottawa leather co, Grand Haven, Mich. '32

Water supply for tanneries. A. C. Orthmann. *il Water Works & Sewerage* 80:138-40, 163-5 Ap-May '33

See also

Hides and skins  
Leather

**TANNING materials**

Chemicals for leathers; exhibits at the 34th International shoe and leather fair. *Chem Age (Lond)* 29:352 O 14 '33

Chemistry of skins and the catechol tannins. M. Bergmann. *Chem Age (Lond)* 29:273 S 23 '33

Dyes and tans from the species of myrica. C. D. Mell. *Textile Col* 55:117-18 F '33

Post-war progress in various industries; tanning materials, natural dyestuffs, etc. O. Wilson. *Ind & Eng Chem* 25:105-6 Ja '33

See also

Tannins

**TANNINS**

Acid flocculation of vegetable tannin extracts; abstract. O. Gerngross and H. Herfeld. *Soc Chem Ind J* 52:sup159 F 24 '33

**TANTALATES**

Physicochemical studies of complex acids; tantalic acid; reactions of alkali niobate and tantalate solutions with organic acids. H. T. S. Britton and R. A. Robinson. *Chem Soc J* p419-24 Ap '33

**TANTALIC acid**

Physicochemical studies of complex acids; tantalic acid; reactions of alkali niobate and tantalate solutions with organic acids. H. T. S. Britton and R. A. Robinson. *Chem Soc J* p419-24 Ap '33

**TANTALUM**

New process of electrolysis which produces rare metals in pure state. *il Metal Ind* 31: 63 F '33

Preliminary list of terms for the arc spectrum of tantalum. C. C. Kiess and H. K. Kiess. *table U S Bur Stand J Research* 11:277-8 Ag '33

Relative intensities of the  $\text{La}_1$ ,  $\beta_1$ ,  $\beta_2$ , and  $\gamma_1$  lines in tantalum, tungsten, iridium, and platinum. V. J. Andrew. *Phys R* 42:591-608 D 1 '32

Tantalum and columbium cathodes vs. platinum cathodes for electro-analysis. D. F. Calhane and C. M. Alber. *Electrochem Soc Trans* 63 (preprint 7):61-7 My '33

**TANTALUM carbide**

Cemented carbide cutting tools. M. F. Judkins and W. C. Uecker. *il diags Am Mach* 77: 325-9, 364-8 My 24-Je 7 '33; *Abstract. Iron Age* 132:22 Jl 6 '33; *Excerpt (Recommended tool angles for various materials). Automotive Ind* 69:13 Jl 1 '33

Economies resulting from the nonferrous cutting alloys; abstract. W. G. Robbins. *Min & Met* 14:464 N '33

Getting optimum results from modern cutting tool materials. J. Geschelin. *il Automotive Ind* 69:530-5 N 11 '33

Modern metal-cutting materials and how to select them; results of tests at East Pittsburgh plant of the Westinghouse electric & mfg. co. J. M. Highducheck. *il chart Mach* 40:12-17 S '33

New uses for cemented carbides. *Iron Age* 131:46 Ja 5 '33

Proper methods to employ in using tantalum carbide tools. C. E. Stryker. *il Iron Age* 131:744-5 My 11 '33; *Abstract. Steel* 92:52 Ap 10 '33

Ramet tantalum-carbide tools for all metals. *Mach* 39:618-19 My '33

Requirements and composition of cutting tools; abstracts. J. V. Emmons. *Iron Age* 130:sup18 O 20 '32; *Mach* 39:278 D '32

**TAPE**

Ladder tape, narrow fabric of unique construction. E. J. Gibbons. *il diag Textile World* 83:58 Ja '33

**TAPE, Insulating.** See Insulating tape

**TAPE, Measuring.** See Measuring tape

**TAPE condensers.** See Wool carding

**TAPERS**

Checking internal tapers. W. C. Dronberger. *diags Am Mach* 77:349 My 24 '33

Thread gauge for checking internal thread taper. F. B. Gilliams. *il Oil & Gas J* 31: 74+ N 17 '32

**TAPESTRY**

Tapestry, the mirror of civilization. P. Ackerman. 451p [bibliog p431-3] \$4.75 Oxford '33

**TAPIOCA**

Consistency changes in starch pastes. G. V. Caesar. *Ind & Eng Chem* 24:1432-5 D '32

**TAPPING machines**

Drilling and tapping both ends of crankshafts at the rate of fifty per hour; National automatic tool co.'s hydraulic driller and lead-screw taper. *il Mach* 39:647-8 Je '33

Five hundred operations cost less than nineteen cents; drilling and tapping operations on Locoming straight-eight cylinder blocks. *il diags Mach* 39:654-6 Je '33

Tapping seven holes in aluminum covers at the rate of 102 an hour; Natco two-way individual lead-screw taper. *il Mach* 40:40 S '33

**TAPS**

Cutters for fluting taps and reamers. M. Harris. *diags Am Mach* 77:635 S 27 '33; *Discussion. M. H. Ball. 77:791 D 6 '33*

Experiences in machining aluminum alloys. R. V. Hutchinson. *diags Am Mach* 77:686-8 O 25 '33

Geometric tool co. collapsing taps for shallow depth work. *il Iron Age* 131:710 My 4 '33

National Acme circular chaser taps and dies for oil field casing work. *il Iron Age* 132: 33 N 2 '33; *Steel* 93:45 N 20 '33

New thread form for taps; Super-Crest. *diags Mach* 40:162-3 N '33

Schneidversuche mit gewindebohrern auf stahl. H. J. Stoewer. *Zeit Ver Deutsch Ing* 77:403-4 Ap 15 '33

Tap drill sizes; reference book sheet. D. R. Miller and I. H. Fullmer. *Am Mach* 77: 245-6 Ap 12 '33

**TAR**

Ammonia and tar in 1932; chief inspectors' report on alkali, etc. works. *Gas J (Lond)* 203:88 Jl 12 '33

Application of low-temperature tar in the production of phenol-formaldehyde resins. G. T. Morgan, N. J. L. Megson and E. L. Holmes. *diag Soc Chem Ind J* 52:277T-80T S 8 '33

Application of phenolic constituents of tars as wetting agents. G. T. Morgan, D. D. Pratt and A. E. J. Pettet. *Soc Dyers & Col J* 49: 125-7 My '33

Dehydration of tars by means of centrifuges. *Gas J (Lond)* 202:312 Je 28 '33; *Same. Am Gas J* 139:28 Ag '33



**TAR—Continued**

- Efficiencies of tar oil components as preservative for timber. F. H. Rhodes and I. Erickson. *Ind & Eng Chem* 25:989-91 S '33
- Produits asphaltiques et assimilés. H. Rabaté. *Chimie & Ind* 29:766-80, 1026-41 Ap-May '33
- Statistics relative to tar in France. *Gas J (Lond)* 203:409 Ag 23 '33
- Straight line of quality and increased yield in therms per ton (with reflections on tar firing). J. W. Young. *diag Gas J (Lond)* 203:406-8; Discussion. 408 Ag 23 '33
- Tar and liquor separator. A. R. Anderson. *Gas J (Lond)* 201:148-9 Ja 18 '33
- Water gas tar and heavy oil in making carbureted water gas. E. S. Pettyjohn. *bibliog diags Gas Age* 71:643-6+; 72:9-14, 35-7 Je 24-Jl 8 '33

*See also*

Coal tar  
Coal tar products  
Road tar

**Testing**

- Measurement of the viscosity of tar. G. Barr and A. L. Thorogood. *diag Soc Chem Ind J* 51:381T-92T N 25 '32

**TAR acids**

- Coke oven effluents; investigation of their toxicity. B. A. Southgate. *Gas J (Lond)* 202:216-18 Ap 26 '33
- Effect of some constituents of coke-oven effluents on the rate of decomposition of sewage. B. A. Southgate. *Soc Chem Ind J* 52:1T-4T Ja 13 '33
- Effect of tar acids upon the wetting of wood by coal-tar oils. F. H. Rhodes and I. Erickson. *il Ind & Eng Chem* 25:1132-3 O '33
- Extraction of phenols from caustic solutions. E. B. Kester. *Ind & Eng Chem* 25:1148-50 O '33
- High boiling tar acids as wetting agents. *Chem Ind* 33:325 O '33

**TAR as fuel**

*See also*

Tar burners  
Tar oils

**TAR burners**

- Waste heat boiler in the small gas plant. H. M. Riley. *il diags Am Gas J* 133:33-6 Ap '33

**TAR distillation**

- Composition of the fractions of primary and high-temperature tar. E. B. Kester and W. D. Pohle. *U S Bur Mines Rep of Invest* 3197:1-11 '32
- Influence of bunker enriching oil on composition of distillates from water gas tar. C. W. Griffin. *bibliog il Ind & Eng Chem* 25:89-93 Ja '33

**TAR distillation plants**

- South Metropolitan gas co. Ltd. tar works. *il Soc Chem Ind J (Chem & Ind)* 52:301-2 Ap 7 '33

**Equipment**

- Korrosionserscheinungen an teerdestillierblasen. *il Stahl & Eisen* 53:734-6 Jl 13 '33

**TAR oils**

- Bituminous coal tar as fuel for Diesel locomotives underground; abstract. Maercks. *diag Mech Eng* 55:505-7 Ag '33
- Coke oven tar. H. Broche, K. Ehrmann and W. Scheer. *Gas J (Lond)* 200:490 N 16 '32
- Motor fuel from coal and oil shales. A. Fisher and J. C. Morrell. *Soc Chem Ind J* 52:228T-30T Jl 28 '33
- Tar-oil as Diesel engine fuel. H. Broche. *Can Min J* 54:107 Mr '33
- Utilization of coke-oven tars. H. Broche. *Chem & Met Eng* 40:324 Je '33

**TARCHER, J. D.**

- Most interesting advertising job I ever did; Underwood campaign. *por Ptr Ink* 162:57-9 Mr 16 '33

**TARDINESS (employees)**

- Attendance 99.23%; Lumberman's mutual casualty co. *Management Methods* 62:20-1 Ja '33

**TARIFF**

- Attacking the tariff problem. E. T. Clough. *Barron's* 13:3+ Ja 30 '33
- Battle on tariffs; futile conferences of the past. W. P. Black. *Barron's* 13:9 My 8 '33
- End of economic nationalism. S. Bell. *Comm & Fin* 22:329 Ap 12 '33
- For Empire economic organization; Ottawa conference analyzed. L. Stafford. *Barron's* 12:5+ N 21 '32
- Foreign tariff walls against American rubber goods. J. P. Bushnell. *Rubber Age* 33:11-12, 60+ Ap-May '33
- Foreign tariffs and commercial policies during 1932. H. Chalmers. *U S Bur For & Dom Com Trade Information Bul* 812:1-19 '33
- Introduction to international trade and tariffs. R. A. Hodgson. 191p [bibliog p184-7] \$1.75 Pitman '32
- Preparatory commission's vague report. L. Pasvolksy. *Barron's* 12:5 D 19 '32
- Recommendations of the Economic committee relating to tariff policy and the most-favoured-nation clause. 23p World peace foundation '33
- Tariff and our foreign trade; tariff barriers dislocate trade and tend to reduce volume. *Bradstreet's* 61:158-9+ Ja 28 '33
- Tariff highlights of 1932. *Bradstreet's* 61:162-4 Ja 28 '33
- Tariff truce and U.S. stake. *Econostat* 1:5-6 My 13; 5-6 My 20 '33
- Tariff walls and commercial policy. A. Berglund. *Ann Am Acad* 170:146-51 N '33
- Tariffs and trade barriers; a series of addresses and papers presented at the semi-annual meeting of the Academy of political science, April 28, 1933. P. T. Moon, ed. 91p Academy of political science, Columbia university, New York '33
- Tariffs and world peace, a report of the Economic relations committee. (Pamphlet no. 11) 47p Catholic assn. for international peace, Washington, D.C. '33
- Trade suicide. S. Bell. *Comm & Fin* 22:557-8 Je 28 '33
- Trève et démobilitation douanières. R. P. Duchemin. *Chimie & Ind* 30:222-4 Jl '33
- World conference draft annotated agenda submitted by the Preparatory commission of experts. *Economist* 116:sup9-10 Ja 28 '33

*See also*

Balance of payments Free trade and protection  
Commerce  
Commercial policy

**Argentina**

- Argentine tariff concessions. *Chem Age (Lond)* 29:328 O 7 '33

**Australia**

- Australian import duties on electrical goods. *Electrician* 110:399 Mr 24 '33

**Canada**

- Are Canadian plants justified—or are odds against profits high? N. G. Shidle. *Automotive Ind* 67:699-702 D 3 '32
- Canadian tariff increases preferential for British foods. *Food Ind* 4:410 D '32
- New Canadian tariffs reduce rates on many automotive imports from the United States. *Automotive Ind* 68:385 Mr 25 '33

**China**

- New Chinese customs tariff on paper and paper products. *Pulp & Pa of Can* 34:517 Ag '33

**Great Britain**

- Anglo-Danish trade agreement. *Economist* 116:900-1 Ap 29 '33
- British manufacturer's view. *Can Chem & Met* 17:2-4 Ja '33
- Duties on imported machinery. *Chem Age (Lond)* 27:432 N 5 '32
- F.B.I. and protection. *Economist* 117:760 O 21 '33
- General tariff of the United Kingdom, law and regulations. A. S. Harvey, comp. 181p Pitman '33

**TARIFF—Great Britain—Continued**

- Half or nothing; imports which must contain 50% Empire material or pay a duty. *Business Week* p23-4 F 15 '33
- Imperial preference in the British Empire. B. M. Mace, Jr. *Ann Am Acad* 168:226-32; Discussion. T. R. Adam. 232-4 JI '33
- In the wake of the Imperial economic conference; tariff changes and intra-Empire trade agreements affect pulp and paper. H. Crabtree. *Pulp & Pa of Can* 33:419-21 N '32
- Iron and steel industry; Import duties advisory committee report. *Engineer* 155:374 Ap 14 '33
- Licensing of machinery imports. *Engineer* 156:194 Ag 25 '33
- Ottawa agreements. E. F. Armstrong. *Soc Chem Ind J (Chem & Ind)* 51:1014-15 D 9 '32
- Our new trade policy. *Economist* 116:949-50 My 6 '33
- Tariffs and the steel industry. J. Beale. *Engineer* 155:605 Je 16 '33
- Tinkering with the tariff. *Economist* 117:9-10 JI 1 '33

**Great Britain (colonies)**

- Customs tariffs of the non-self-governing colonies, protectorates, mandated territories, etc. 370p Great Britain. Colonial office. London '32

**India**

- British India enacts preferential tariff. *Oil Paint & Drug Rep* 123:16 Ja 16 '33

**Netherlands**

- Dutch renounce tariff truce. *Business Week* p24 S 9 '33

**United States**

- America no longer looks abroad. G. L. Lacher. *Iron Age* 131:979-80+ Je 22 '33
- Attacking the tariff problem. E. T. Clough. *Barron's* 13:3+ Ja 30 '33
- Business and financial situation—retrospect and outlook, with special reference to protective tariff reduction. B. M. Anderson, Jr. *Chase Econ Bul* 12:3-20 N 17 '32
- Change tariffs to offset currency changes; editorial. *Forbes* 31:5 Ja 1 '33
- Does the tail wag the dog? an appraisal of foreign trade in relation to business recovery. G. L. Lacher. *Iron Age* 131:385-6+ Mr 9 '33
- Economic analysis of foreign trade of the United States in relation to the tariff. 3v U. S. Tariff commission. Washington '33
- Electric light bulbs and rubber-soled shoes from Japan come under anti-dumping ban. *Business Week* p22 S 30 '33
- Europe and the American tariff. O. F. Boucke. 163p \$1.50 Crowell '33
- Importance of the Supreme court's decision in the University of Illinois customs case. W. A. Stevens. *Ind & Eng Chem News ed* 11:133 My 10 '33
- Needs for an emergency tariff. A. Bunge. *Paper Tr J* 96:24 Ja 26 '33
- Prohibition and the tariff. R. M. Harriss. *Comm & Fin* 21:1374 N 23 '32
- Protection and the mining industry. H. W. Smith. *Min Cong J* 19:11-12+ Ja '33
- Smoot-Hawley tariff caused only about \$165,000,000 of 1931 import shrinkage. R. O. Hall. *Annalist* 42:403-4 S 29 '33
- Statistical mortar for higher tariff walls. J. C. Torbin. *Annalist* 41:227-8 F 10 '33
- Tariff adjustments; Congress will not pass a bill to adjust tariffs to depreciated currencies this session. *Business Week* p4 F 15 '33
- Tariff board studies import valuing plan. *Oil Paint & Drug Rep* 123:15+ F 6 '33
- Tariff in the next Congress. J. S. Lawrence. *Bradstreet's* 60:1554-5+ N 26 '32
- Tariff not responsible for slump. J. A. Farrell. *Iron Age* 131:711 My 4 '33
- Tariff policy of the United States. P. W. Bidwell. 126p Council on foreign relations. New York '33
- Tariff revisions and business recovery—the case of the Wilson act of 1894. R. S. Tucker. *Annalist* 40:773+ D 9 '32

- Tariffs and living standards; how higher rates interfere with progress. E. K. Merrill. *Barron's* 12:11 D 26 '32
- Ticklish tariff. *Business Week* p4 My 17 '33
- University of Illinois and the tariff on laboratory equipment. *Science* 76:587 D 23 '32

**Coal**

- Coal imports; \$2 tax on coal violates most-favored-nation treaties. *Business Week* p17 Je 10 '33

**Oils and fats**

- Linseed oil duty is discussed at hearing. *Oil Paint & Drug Rep* 123:14 Ja 23 '33

**Paper**

- Lack of tariff damage to newsprint manufacturer. W. Rosebush. *Paper Tr J* 97:30-1 S 21 '33
- U. S. ruling on newspaper. *Pulp & Pa of Can* 33:476 D '32

**Petroleum and petroleum products**

- Tariff on imported naphthas is made two and a half cents. *Oil & Gas J* 31:28 D 29 '32; *Nat Pet N* 24:16 D 28 '32

**Rubber goods**

- President uses emergency power to protect American industries. *Iron Age* 131:244 F 9 '33
- Tariff is raised on rubber footwear to meet Japan and Czecho competition. *Rubber Age* 32:334 F '33
- Unwelcome rubbers; Tariff commission will levy import duty on the American value. *Business Week* p3 F 15 '33

**Sugar**

- Beet-sugar industry; a study in tariff protection. I. Bettman, Jr. *Harvard Business R* 11:369-75 Ap '33
- Refined-sugar duty fight drawing to a close. *Barron's* 13:11 Mr 20 '33
- Tariff on sugar. L. S. Ellis. 190p pa 50c Rawleigh foundation, Freeport, Ill. '33

**Wood pulp**

- Fight for countervailing duties proceeds. *Paper Tr J* 95:7 D 29 '32; 96:12 Ja 19 '33
- Matter of a tariff on pulp. *Paper Tr J* 97:28 JI 13 '33
- Paper men oppose tariff on wood pulp; letter to President Hoover. H. P. Christian. *Paper Tr J* 95:13, 42-4 N 3 '32; Discussion. K. Shibly. 95:23-4+ D 8 '32
- Temporary committee opposing tariff on wood pulp presents brief at Washington. H. P. Christian. *Paper Tr J* 96:14-16+ F 9 '33
- To ask countervailing duty on foreign pulp. *Paper Tr J* 95:15 D 8 '32

**TARNISHING OF METALS**

- Anti-tarnish cloth; patents and tests. T. C. Coté. *diag Textile Col* 55:316-18 My '33
- Silver protecting cloth. *Sci Am* 149:78-9 Ag '33

**TARPON**

- Record of young tarpon at Sanibel Island, Lee county, Florida. M. Storey and L. M. Perry. *Science* 78:284-5 S 29 '33

**TARTARIC ACID**

- Fehling's solution and isomerism of tartaric acids. H. Sobotka. *Am Chem Soc J* 55:2164 My '33
- Formation of sugars in mixtures of tartaric acid and aldehydes in tropical sunlight. V. Gore. *J Phys Chem* 37:745-9 Je '33
- Preparation of racemic tartaric acid. A. N. Campbell, L. Slotin and S. A. Johnston. *Am Chem Soc J* 55:2604-5 Je '33
- Synthesis of tartaric acid. A. C. C. Newman and H. L. Riley. *Chem Soc J* p45-6 Ja '33

**Analysis**

- Colorimetric method for the determination of tartaric acid. A. K. Anderson, A. H. Rouse and T. V. Letonoff. *Ind & Eng Chem Anal ed* 5:19-20 Ja 15 '33

**TARTARATES**

- Rotatory dispersion of organic compounds; cyclic derivatives of tartaric and malic acids. B. Jones. *Chem Soc J* p788-96 JI '33



## TARTRATES—Continued

## Analysis

Colorimetric method for the determination of tartaric acid. A. K. Anderson, A. H. Rouse and T. V. Letonoff. *Ind & Eng Chem Anal* ed 5:19-20 Ja 15 '33

## TASTE

Benzylbenzaldoxime. E. Wertheim. *bibliog Am Chem Soc J* 55:2540-3 Je '33

Geschmack und chemische konstitution; abstract. S. Michael. *Angew Chemie* 46:399 Je 24 '33

See also

Water purification—  
Taste removal

## TATE and Lyle, limited

Annual ordinary general meeting, 30th, London. *Economist* 115:1103-4 D 10 '32

## TAUTOMERISM

Influence of nuclear halogens on aromatic side-chain reactivity. G. M. Bennett. *Chem Soc J* p1112-14 S '33

Influence of the sulphur atom on the reactivity of adjacent atoms or groups; aromatic side-chain and nuclear reactivity. G. Baddeley and G. M. Bennett. *Chem Soc J* p261-8 Mr '33

Interaction of the boron sextet with adjacent groups. D. L. Yabroff, G. E. K. Branch and H. J. Almqvist. *bibliog Am Chem Soc J* 55:2335-41 Jl '33

Investigations of the olefinic acids; the formation of lactones from some  $\Delta^4$ -unsaturated acids, and an example of ring-chain (lacto-enoic) tautomerism. R. P. Linstead and H. N. Rydon. *Chem Soc J* p580-6 Je '33

Relation of electromeric effects and relative polarisabilities of the halogens. R. Robinson. *Chem Soc J* p1114-17 S '33

Significance of tautomerism and of the reactions of aromatic compounds in the electronic theory of organic reactions. C. K. Ingold. *Chem Soc J* p1120-7 S '33

See also

Isomerism

## TAX anticipation warrants, etc.

Tax anticipation notes as bank investments. C. F. Park. *Trust Companies* 57:407-8 O '33

## TAX delinquency

Evasion insurance; Hitler makes it easy for tax delinquents to buy immunity. *Business Week* p22 Je 17 '33

Legal provisions affecting real estate tax delinquency, tax sales, and redemption. M. H. Hunter. *Ill U Bur of Business Research Bul* 48:1-41 '33

Moratoria and tax relief. E. B. Raub, jr. *Spectator* 131:13+ O 12 '33

Some aspects of rural land tax delinquency in Missouri. C. H. Hammar. *maps J Land & Pub Util Econ* 9:172-81 My '33

## TAX sales

Legal provisions affecting real estate tax delinquency, tax sales, and redemption. M. H. Hunter. *Ill U Bur of Business Research Bul* 48:1-41 '33

## TAXATION

Can the costs of government be reduced? discussions and analyses of the taxes levied by federal, state, and local administrations. *Civil Eng* 3:417-22 Ag '33

Crisis in public finance. J. S. Lawrence. *Bradstreet's* 60:1658-60+ D 17 '32

Current problems in public finance. 391p Commerce clearing house, inc, 205 W. Monroe st, Chicago '33

Federal and state tax systems, by Tax research foundation. 4th ed 209p Commerce clearing house, inc, 205 W. Monroe st, Chicago '33

He pays no tax but loses his job on account of it, so Henry Doolittle writes to President-elect. *Pub Serv Management* 54:47 F '33

How excessive taxation increases cost of living. P. G. Gossler. *Ptr Ink* 163:75-6 Je 1 '33

How sovereign citizens of today and yesterday view taxation. W. R. Lence. *Pub Serv M* 55:111 O '33

Implications of real estate tax changes. M. Sykes. *Comm & Fin* 22:173 F 15 '33

Jurisdiction and power of taxation. E. S. Stimson. 119p Vernon law book co, Kansas City, Mo. '33

Lectures on taxation. R. Magill, ed. 254p Commerce clearing house, inc, Chicago '32

Mechanics of recovery. H. C. Dickinson. *S A E J* 32:51-2 F '33; Excerpt. *Automotive Ind* 68:129-30 F 4 '33

Nature of taxing power. L. F. Fuld. *Am Bankers Assn J* 26:30-1+ N '33

Nine other industries squawk about taxes. *Nation's Business* 20:18-20 D '32

Objectives and principles in scientific revision of taxation system. M. Graves. *Trust Companies* 57:285-8 S '33

Other people's money. E. F. Flynn. *Pub Serv M* 55:91-2 S '33

Property taxation for state and local revenue. (In University debaters' annual, 1932-1933). E. M. Phelps, ed. p47-96 [bibliog p90-6] Wilson, H. W. '33

Realty taxes; real estate men formulate a national platform on taxation. *Business Week* p5 Ja 25 '33

Report of I.B.A. state and local taxation committee; taxation of national banks, reciprocity in inheritance taxation, state income taxes, coordinating tax systems, tax measures for public welfare. C. B. Engle. *Inv Banking* 3:117-20 D 2 '32

Tax barrel; how other countries scrape it. G. T. Carlinhour. *Barron's* 12:12 D 26 '32

Tax reform can come quietly. *Nation's Business* 21:44+ Ja '33

Tax reformation essential while country is aroused. A. R. W. Wang. *East Underw* 34:25 Ja 6 '33

Taxation and building. J. B. Berryman. *Am Bld* 55:22 Ap '33

Taxation of road vehicles; unfairness of the Salter report proposals to battery-electrics; effect on street cleansing services. *Electrician* 109:612 N 11 '32

Taxation without discrimination. F. Hobbs. *il Am Bankers Assn J* 25:26-7+ Ap '33

Taxes as an advertising theme. *il Ptr Ink* 161:36 D 22 '32

Taxmania. W. R. Lence. *Pub Serv M* 54:87-8 Mr '33

What's wrong with taxation? J. H. Ralston. 2d ed 188p Ingram institute, San Diego, Calif. '32

See also

Assessment  
Automobiles—Taxation  
Chain stores—Taxation  
Checks—Taxation  
Corn products—Taxation  
Corporations—Taxation  
Excise tax  
Fur trade—Taxation  
Gasoline—Taxation  
Gift tax  
Government, Cost of  
Government expenditures  
Income tax  
Inheritance tax  
Insurance—Taxation  
Insurance, Life—Taxation

Land—Taxation  
Lubricating oils—Taxation  
Mine taxation  
Motor vehicles—Taxation  
Municipal finance  
Municipal taxation  
Petroleum industry and trade—Taxation  
Public utilities—Taxation  
Railroads—Taxation  
Sales tax  
Special assessments  
Tariff  
Taxation of securities  
Valuation

## California

California tax row. *Business Week* p16-17 N 4 '33

Direct vs. ad valorem method in California of assessing the cost of public improvements. O. D. Keese. *il Civil Eng* 3:229-31 Ap '33

## Canada

Canada likes the sales tax. F. S. Chalmers. *il Nation's Business* 20:30-1+ D '32

Canadians will pay higher taxes. *Business Week* p26-7 Ap 12 '33

## Chicago

Sanitary district blames delay on Chicago tax tangle. *Eng N* 109:602-3 N 17 '32

## TAXATION—Continued

## Great Britain

- Company law and business taxes in Great Britain. W. Jaeger. U S Bur For & Dom Com Trade Promotion Ser 147:1-156 '33  
Finance act of 1933; a summary of the provisions as affecting gas undertakings and officials. Gas J (Lond) 203:90-1 J1 12 '33  
Taxation during the war. J. Stamp. 249p 10s Oxford '32  
Taxing the rich? Economist 117:483-4 S 9 '33

## Illinois

- Assessing public benefits in Illinois. G. C. D. Lenth. il Civil Eng 3:231-2 Ap '33  
Report and recommendations of the Illinois commission on taxation and expenditures. 182p Illinois. Commission on taxation and expenditures, Springfield '33

## Kansas City, Missouri

- Kansas City's assessment plan. G. G. McCaustland. Civil Eng 3:228-9 Ap '33

## Louisiana

- Law of the state of Louisiana regulating the levy, assessment and collection of taxes. G. M. Wallace, comp. 2d ed 987p Ramires-Jones ptg. co, Baton Rouge, La. '33

## Michigan

- Michigan financial survey. Pub Roads 14:57-72 Je '33

## Minnesota

- Report of Tax revision committee, 1933. 33p Minnesota. Tax revision committee, St Paul '33  
Taxation in Minnesota. R. G. Blakey and others. (Studies in economics and business, no 4) 627p Univ. of Minnesota press, Minneapolis '32

## Missouri

- Some aspects of rural land tax delinquency in Missouri. C. H. Hammar. maps J Land & Pub Util Econ 9:172-81 My '33

## Nevada

- Taxing rights in Boulder City upheld by Federal district court. Eng N 110:331 Mr 9 '33

## New York (city)

- Fear New York's plan may appear elsewhere. Weekly Underw 129:491-2, 495+, 498+ S 16 '33  
Life companies join in protest against N.Y. tax program. East Underw 34:1, 8, 12, 24+ S 15 '33  
Practice developed in New York city; assessments for local improvements. H. H. Smith. Civil Eng 3:224-6 Ap '33  
Provisions of New York City's proposal taxing companies. East Underw 34:8 S 22 '33  
Stock exchange wins. Barron's 13:4 O 2 '33  
Wall Street prepares to move. J. S. Lawrence. Econostat 1:8-10 S 23 '33

## New York (state)

- Compendium of New York state taxes, 1932. 48p Manufacturers trust co, New York '32  
Depression taxes and economy through reform of local government; third report of the New York state commission for the revision of the tax laws. 216p New York (state) commission to revise tax laws, Albany, N.Y. '33  
Reducing realty taxes. H. M. Powell. 2d ed rev & enl 442p Boyd press, New York '33  
Tax law and other general laws relating to taxation of the state of New York, with amendments to the end of the legislative session of 1933. T. W. Cantwell, ed. 559p \$3 Baker, Voorhis & co, New York '33

## North Carolina

- Tarheel sales tax. Business Week p15 Ag 12 '33  
Taxation in North Carolina. North Carolina U Ext Bul v 12, no 4:1-80 '32

## Pennsylvania

- Taxation of coal lands as applied in Pennsylvania. E. A. Holbrook. Min & Met 14:297 J1 '33

## Philadelphia

- Philadelphia council passes four mill tax on personal property of mutual insurance companies and savings banks. East Underw 34: 1+ Ag 18 '33

## United States

- Crime of double taxation. F. M. Vinson. Pub Serv Management 54:49 F '33  
Debate handbook on taxation. J. B. Lee and P. Munch, comps. 228p [bibliog p7-34] Univ. of Oklahoma, Norman '32  
Distributing costs equitably through taxation. C. Shoup. Eng N 110:647-50 My 18 '33  
Economic basis of tax reform. H. G. Brown. 359p Lucas brothers, Columbia, Mo. '32  
Federal tax handbook; Revenue act of 1932. E. H. Montgomery. 1035p Ronald press '32  
Federal tax procedure and appeals. J. Conlon. 640p James Conlon, 600 F st, N.W. Washington, D.C. '33  
Federal tax reduction problem. E. P. Goodrich. Civil Eng 3:417-19 Ag '33  
Food manufacturer becomes a tax collector. Food Ind 5:313-14 Ag '33  
Handbook of United States and Massachusetts taxes. J. N. O'Donohue. 242p [bibliog p227-81] Wright & Potter printing co, Boston '33  
Industry and the federal tax problem. A. A. Ballantine. Min Cong J 19:10-11+ Mr '33  
Lessons of the bank investigation. S. Bell. Comm & Fin 22:477 My 31 '33  
New provisions of the federal tax laws. 31p Commerce clearing house, inc, New York '33  
1933 deficit; will government economies make greater tax levies unnecessary? W. F. Helm. Am Bankers Assn J 25:38+ D '32  
1933 United States tax guide. 186p Commerce clearing house, inc, New York '33  
Prohibition repeal brings tax repeal. Forbes 32:15-16 N 1 '33  
Purse of Uncle Sam. J. S. Lawrence. Bradstreet's 60:1696-8+ D 24 '32  
Readings in public finance and taxation. M. C. Mills and G. W. Starr, eds. 823p Macmillan '32  
Rebellion of the taxpayers against the politicians. H. Corey. Pub Util 11:319-29 Mr 16 '33; Abstract. Econostat 1:17+ Mr 25 '33  
Repeal and taxes. J. K. Lasser. map System and Management Methods 62:342-3+ Ag '33  
Roosevelt on state, town and county taxes. Ptr Ink 163:47-9 Ap 6 '33  
Sales tax forced to front. Business Week p4-5 N 30 '32  
Seek enactment of legislation revising system of taxation of property; National association of real estate boards. Brick & Clay Rec 82: 89 Mr '33  
Should we balance the budget? J. S. Lawrence. Bankers M 126:217-21 Mr '33  
Solving the tax problem—an essential to early recovery. T. M. Knappen. il Mag of Wall St 51:372-4+ Ja 21 '33  
Tax racket; what we pay to be governed. R. E. Untereiner. 162p \$1 Lippincott '33  
Tax reform. Business Week p6 N 23 '32  
Taxation. F. M. Vinson. Manuf Rec 102:20+ N '33  
Taxation coordination. E. R. A. Seligman. Credit & Fin Management 35:45 Ja '33  
Taxation issues, with special reference to state and local problems. M. S. Kendrick. 147p Harper '33  
Taxation; theory and practice. W. C. Mullen-dore. Edison Elec Inst Bul 1:65-8 Je '33; Excerpts. Elec W 102:51-3 J1 8 '33; Pub Serv M 55:7-9 J1 '33  
Taxation without realization. S. Ferguson. N E L A Bul 19:652+ N '32  
Taxes for public works program. Econostat 1: 7 My 27 '33  
Taxes for recovery. Business Week p5 Je 17 '33



**TAXATION—United States—Continued**

Taxes—the perpetual theme of popular complaint. J. T. Madden. *Am Gas Assn Proc* 1932:52-8; Same abr. *Am Gas Assn Mo* 14: 456-60 N '32; Same cond. *Chem Markets* 31: 525-7 D '32

Taxpayer's point of view. G. W. Dyer. *Ry Age* 93:705-6 N 19 '32

U.S. tax refunds over \$80,000,000 in 1932. *Oil Paint & Drug Rep* 123:14 Ja 2 '33

What price prosperity? the pressure of new taxes on business and investment. J. C. Cresswill. *Mag of Wall St* 52:312-13+ J1 22 '33

See also

Excise tax  
Income tax—United States

**West Virginia**

Tax limitation amendment of West Virginia. T. S. Chapman. *Inv Banking* 3:201-2 F 21 '33

**Wisconsin**

Effects of a property tax off-set under an income tax. H. D. Simpson. 55p Institute for economic research, Northwestern university, Chicago '32

Wisconsin financial survey. *Pub Roads* 14:21-36 Ap '33; Excerpts. *Roads & Sts* 76:224-7 Je '33; Abstract. *Eng N* 110:683 My 25 '33

Your money and your taxes. 48p Wisconsin taxpayers alliance, 910 Tenney bldg, Madison '32

**TAXATION, Exemption from**

High cost of tax exemption dawning on the people. *Pub Serv M* 55:13-14 J1 '33

Problem of tax exemption. C. W. Battley. *Pub Serv M* 54:143-4 My '33

Regulations covering tax free sales issued by Treasury. *Nat Pet N* 25:19-20 N 1 '33

Study of tax-exempts. D. D. Mackey. *Rand McNally Bankers Mo* 50:201-3+ Ap-My '33

Tax exempts; constitutional amendment offered by Senator Hull. *Business Week* p4 F 22 '33

Tax-free bonds. M. I. Gurfein. *Fortune* 8:64-5, 116+ O '33

Tax free sales to cities and states allowed under new law. *Nat Pet N* 25:21 Je 14 '33

Threat of tax exemption. B. Colby. *Barron's* 13:11 Je 5 '33

Treasury decision on tax exemptions issued. *Oil & Gas J* 32:57 N 9 '33

**TAXATION, Municipal. See Municipal taxation****TAXATION, State**

Do you have a competitor?—tax him! T. Revere. *il Adv & Sell* 21:21 Ag 3 '33

Estimated state and local tax collections per capita, by states, 1913-1930; tabulation. *Gas Age* 72:42 J1 8 '33

Menace of anti-chain legislation; state tax measures threaten higher distribution costs, lower advertising appropriations. D. E. Mowry. *il Adv & Sell* 21:24+ J1 20 '33

Reducing state taxes impracticable. F. Bane. *Civil Eng* 3:419-20 Ag '33

State and local taxation; need for relief from an increasing burden. *Index* 13:21-7 F '33

See also State subdivisions under Taxation

**TAXATION of articles of consumption**

See also

Excise tax

Sales tax

**TAXATION of securities**

Study of tax-exempts. D. D. Mackey. *Rand McNally Bankers Mo* 50:201-3+ Ap-My '33

Tax-free bonds. M. I. Gurfein. *Fortune* 8:64-5, 116+ O '33

**TAXICABS**

Serving off-line resorts? Short way lines, Toledo, negotiates with taxicab operators. F. M. Temple. *il map Bus Transportation* 12:200-1 My '33

Taxi! driver-rental cab, a depression product that's driving several cities to distraction. *Business Week* p9-10 D 28 '32

Taxi revenues show marked drop. *Transit J* 77:29 Ja '33

What is a reasonable rate for service? the enigma of the taxicab. *Pub Util* 11:414-16 Mr 30 '33

What price taxicabs; discussion. *Transit J* 77:389-90 O 10 '33

**Laws and regulations**

Des Moines regulates its taxicabs. *Aera* 23: 1418-20 N '32

Is taxicab regulation needed? J. H. Hanna. *il Elec Traction* 29:257-9+ S '33

New York taxicab code limits fare and restricts cruising. *Transit J* 76:549 D '32

Progress made in taxicab regulation. *Transit J* 77:83-4 Mr '33

Taming of the taxicab. J. J. George. *Pub Util* 12:149-55 Ag 3 '33

Taxicab regulation needed; discussion at meeting of A.T.A. executive committee. *Transit J* 77:194-5 Je '33

Unregulated taxi; conditions in Washington, D.C. *il Transit J* 76:542-3 D '32

**Specifications**

American taxicabs specifications; tabulation. *Automotive Ind* 68:246-7 F 25 '33

**TAXPAYERS' savings clubs**

Taxpayers' club in Detroit. J. J. O'Shea. *Burroughs Clearing House* 17:8-9+ D '32

**TAYLOR, Hugh Stott**

Sketch. *por Soc Chem Ind J (Chem & Ind)* 52:452-3 My 26 '33

**TAYLOR instrument companies, Rochester, N.Y.**

Taylor finds consumer slant for scientific line; sales jump. R. S. McFadden. *il Sales Management* 33:150-1+ Ag 15 '33

**TAYLOR society**

Annual meeting, New York, Dec. 7-9. *Iron Age* 130:925 D 15 '32

**TEA**

Tea restriction. *Economist* 115:1077; 116:1142 D 10 '32, My 27 '33

Tea share boom. *Economist* 116:249-50 F 4 '33

Tea shares. *Economist* 117:329-30, 414-15 Ag 12, 26 '33

See also Jewel tea company

**Advertising**

How to make the most out of small space; India tea campaign. L. Beling. *il Ptr Ink* 163:45-8 My 11 '33

Strange facts in small space. *il Ptr Ink* 164: 64 S 28 '33

Tea for sale; Chase & Sanborn tea that sways the senses. *il Fortune* 8:34-8 Ag '33

**Statistics**

Tea, 1932. *Economist* 116:sup39 F 18 '33

**TEA factories**

Electricity on a Ceylon tea estate. H. Crownshaw. *il Elec R (Lond)* 113:279 S 1 '33

**TEA kettles**

Copper teakettle and 160,000 orders. *il Ptr Ink* 162:16 F 9 '33

**TEA kettles, Electric**

Rapid water boilers for domestic service. E. Junck. *diag Elec R (Lond)* 112:447 Mr 31 '33

**TEA rooms****Advertising**

Most interesting advertising job I ever did. C. N. Smith. *Ptr Ink* 162:41-2 Mr 23 '33

**TEACHERS**

Educational work relief for jobless teachers. *Monthly Labor R* 37:810-11 O '33

**Salaries**

Administration of merit-type teachers' salary schedules. L. P. Young. 104p [bibliog p102-4] \$1.50 Teachers college '33

Family allowances for teachers in certain foreign countries. *Monthly Labor R* 35:1355-7 D '32

Salaries in city school systems, 1932-33. *Monthly Labor R* 37:172-5 J1 '33

**TEACHERS—Salaries—Continued**

Teachers' salaries and the cost of living. W. C. Eells. 94p Stanford univ. press, Stanford University, Calif. '33

**Training****Bibliography**

National survey of the education of teachers. v 1. Selected bibliography on the education of teachers. G. L. Betts, B. W. Frazier and G. C. Gamble. 118p U.S. Office of education, Washington '32

**TEACHING***See also*

Contract plan (in education) Industrial education  
Engineering colleges of Learning, Psychology  
Engineering education Teachers  
also subdivision Study and teaching under  
special subjects, e.g. Chemistry—Study and  
teaching

**TEACHING load**

Report of the committee on the teaching load for chemistry teachers. J Chem Educ 9:211-26 D '32

**TEAGLE, Walter Clark**

Five who may rule industry with Roosevelt. por Sales Management 32:622 Je 15 '33

**TEAKETTLES.** See Tea kettles**TEAR gas**

Chemical warfare in mob and crime control. K. A. Kobe. il Chem & Met Eng 40:60-1 F '33

**TEASER copy.** See Advertising copy—Teaser copy**TEATINI process.** See Sugar—Manufacture and refining**TECHNICAL association of the pulp and paper industry**

Annual convention, 18th, New York, Feb. 13-16. Paper Tr J 96:43+ F 16 '33  
Fall meeting, Appleton, Wis. Sept. 26-28. Paper Tr J 97:15-18+ O 5 '33  
New England TAPPI projected. Paper Tr J 95:20 D 15 '32  
T.A.P.P.I. assists in celebrating a Wisconsin anniversary. Chem & Met Eng 40:539 O '33

**TECHNICAL associations.** See Technical societies**TECHNICAL chemistry.** See Chemistry, Technical**TECHNICAL education**

Engineering and technical education at the Pasadena junior college. A. G. Gehrig. J Eng Educ 23:458-62 F '33

Survey of adult technical education in the New York industrial area. 179p Chamber of commerce of the state of New York, New York '33

Technical institute education in a coordinated system of engineering education. R. H. Spahr. J Eng Educ 23:442-57 F '33

*See also*

Apprentices Industrial education  
Armour institute of Massachusetts institute of technology  
Chemical education Mining schools and education  
Chemistry—Study and teaching Rochester atheneum and mechanics institute  
Employees, Training of Technical schools  
Engineering colleges Textile education  
Engineering education Vocational education

**TECHNICAL libraries**

Organising an information service. E. N. Simons. Engineer 156:130-1 Ag 11 '33

**TECHNICAL literature**

Caution as to statements in technical literature. Paper Tr J 97:29 Ag 3 '33

International indexing of scientific and technical papers. S. C. Bradford. Engineering 135:119-22 F 3 '33

*See also*

Chemical literature Technology—Bibliography  
Technical periodicals  
Technical writing

**TECHNICAL periodicals**

Bulletin of the American ceramic society, a separate publication. R. C. Purdy. Glass Ind 14:101 S '33

*See also*

Trade journals

**TECHNICAL products***See also*

Equipment industries  
Industrial market  
Machinery industry  
also names of technical products, e.g. Bearings; Belting

**Advertising**

Advertising agency service; how it is helping technical sales. J. B. Ward. Soc Chem Ind J (Chem & Ind) 51:sup S13-14 N 18 '32

Barren markets are dropped as advertising budget is cut; Armco overcomes shrinking appropriation. W. McFee. Ptr Ink 163:47-9 Je 29 '33

Cutting out waste in technical advertising. A. H. Angus. Soc Chem Ind J (Chem & Ind) 51:sup S2+ N 18 '32

Dramatizes technical sales story by talkie film; Packard electric company. B. N. MacGregor. Ptr Ink 164:9-10+ J1 13 '33

How the Crane company's campaign stimulated plant rehabilitation; new mailing list, new booklets, and salesmen follow up. R. G. Creviston. il Ptd Salesmanship 62:33-5+ S '33

Performance—a fifteen-year industrial copy theme; SKF industries, inc. R. C. Byler. il Ptr Ink Mo 26:37+ Ap '33

Pretty girl advertisements sell brake lining; Multibestos company. R. J. Gray. il Ptr Ink 164:41+ Ag 17 '33

Stage the technical copy! W. E. McFee. Ptr Ink 162:3-4+ F 2 '33

Technical advertising. H. S. H. Ellis. Soc Chem Ind J (Chem & Ind) 51:sup S4+ N 18 '32

This company advertises its competitors' products; U. S. industrial alcohol co. L. S. Gillette. il Ptr Ink 164:59-62 S 28 '33

Why our house organ is loose-leaf in form; Reeves pulley co. Speed gab. J. M. Jewell. il Ptd Salesmanship 60:366-8 Ja '33

*See also*

Advertising—Indus- Wire rope—Advertis-  
tries, Appeal to ing  
Pipe fitting—Advertis-  
tising

**TECHNICAL schools**

Technische lehranstalten in Valparaiso, Chile. K. Laudien. il plan Zeit Ver Deutsch Ing 76:1295-6 D 31 '32

**TECHNICAL societies**

Technical associations and the patent situation. C. W. Rivise. Paper Tr J 96:33-5 Ja 26 '33

*See also*

Chemical societies  
Engineering societies  
Trade associations

A list of technical societies is printed in the front of this volume, beginning p vii

**TECHNICAL terms**

Abbreviations for scientific and engineering terms. 6p American standards assn, 29 W. 39th st, New York '32; Same. Am Mach 77: 17-18 Ja 4 '33

Constitution d'une Commission de la terminologie technique moderne. Génie Civil 103:332 S 30 '33

Style sheet for technical expressions in publications of the American ceramic society. Am Cer Soc J (Bul) 16:30-2 Ja '33

Technical terms not subject to monopoly. W. Fawcett. Am Dyestuff Rep 22:323-4 My 22 '33

*See also*

Technology—Dictionaries



**TECHNICAL workers**

Technical man sells his services. E. Hurst. 239p \$2 McGraw-Hill '33

See also

Chemists  
Engineers

**TECHNICAL writing**

Art of technical writing. G. A. Stetson. J Eng Educ 23:491-8 F '33

Engineer's manual of English. W. O. Sypherd and S. Brown. 515p \$2 Scott, Foresman and co, Chicago '33

Rules for presentation of papers at technical sessions of the American ceramic society. Am Cer Soc J (Bul) 16:26-32 Ja '33

Technical exposition for the general reader. J. Mills. J Eng Educ 23:354-64 Ja '33

See also

Abstracts

**TECHNOCRACY**

A B C of technocracy, based on authorized material. F. Arkright. 73p Harper '33

Appraising technocracy. Food Ind 5:13 Ja '33

Balancing technocracy. L. W. Morrow. Elec W 101:60-2 Ja 14 '33

Bardell vs. Pickwick—a review of technocratic literature. Mech Eng 55:203-6 Mr '33

Columbia university's survey of energy. J. W. Barker. Am Bankers Assn J 25:15+ F '33

Common sense of technocracy. W. Rautenstrauch. Mach 39:502 Ap '33

Cure-alls, catch-words, and cant. Sci Am 148: 138 Mr '33

Dr Technocracy offers a cure; what it will do to advertising and marketing, if anything. W. S. French. Il Adv & Sell 20:13-15+ Ja 5 '33

Economics of technocracy. A. Director. 27p pa 25c Univ. of Chicago press '33

Economists look at technocracy. Comm & Fin 22:8 Ja 4 '33

Facts and threats of technocracy. Iron Age 130:960-3+ D 22 '32

Introduction to technocracy. H. Scott and others. 61p Day '33

Life in a technocracy; what it might be like. H. Loeb. 209p \$1.75 Viking press '33

New cult—technocracy. S. Bell. Comm & Fin 21:1455 D 21 '32

New word—an old problem. S. Bell. Comm & Fin 22:105-6 Ja 25 '33

Notes on technocracy. Sales Management 32: 97 F 1 '33

Outline of technocracy. W. W. Parrish. 242p Farrar & Rinehart, inc, New York '33

Plain talk about technocracy; discussion of article in November issue of the New Outlook. J. H. VanDeventer. Iron Age 130:849-50 D 1 '32

The promise—and the threat—of technocracy to the electric and gas utilities. Pub Util 11:170-3 F 2 '33

Resolution on technocracy of the American engineering council. Science 77:81 Ja 20 '33

Roosevelt and technocracy. H. A. Porter. 73p Wetzel pub. co, inc, Los Angeles '32

Ruin by efficiency? J. C. Cresswill. Mag of Wall St 51:376-7+ Ja 21 '33

Simplified technocracy. W. J. Holder. 32p pa 20c Pyramid press, 609 South 2d East, Salt Lake City, Utah '33

Technocracy. Business Week p16-17+ D 14 '32

Technocracy. Factory & Ind Management 84: 24-5 Ja '33

Technocracy. (In Capitalism and its alternatives. p449-89) [bibliog p449-56] J. E. Johnson, comp. (Handbook ser 4, v 4) \$2.40 Wilson, H. W. '33

Technocracy; a doctrine of ifs and buts. G. Herschfeld. Spectator 130:13+ F 2 '33

Technocracy—an effort to stampede discontent. F. W. Parsons. Gas Age 70:685-6 D 24 '32

Technocracy; an interpretation. S. Chase. 32p pa 25c John Day co, New York '33

Technocracy—an obituary. J. S. Lawrence. Bradstreet's 61:281-3+ F 4 '33

Technocracy and social trends. K. H. Condit. Am Mach 77:1-4 Ja 4 '33

Technocracy and socialism. P. Blanshard. 14p League for industrial democracy, 112 E. 19th st, New York '33

Technocracy and the facts. M. Sykes. Comm & Fin 22:92-3 Ja 18 '33

Technocracy as a threat to private utility ownership. Pub Util 11:111-14 Ja 19 '33

Technocracy boiled down. J. G. Hodgson. Rand McNally Bankers Mo 50:155+ Mr '33

Technocracy finds another defender in Mr. Ferd. Mann. Ptd Salesmanship 61:60 Mr '33

Technocracy; its strength and weakness. S. Macdonald. Barron's 13:5+ F 20 '33

Technocracy; just an old advertising custom that's come home to roost. R. W. Johnson. Ptd Salesmanship 60:360-1+ Ja '33

Technocracy—national industrial management. W. H. Smyth. Factory & Ind Management 84:44-8 F '33

Technocracy offers us a gilded stone. J. H. Van Deventer. Iron Age 131:159-61+ Ja 26 '33

Technocracy overlooks jobs created by new industries. J. Klein. Iron Age 131:75 Ja 5 '33

Technocracy vs. today's work. Management Methods 62:23 Ja '33

Technocracy, what is it? W. Rautenstrauch. Il Factory & Ind Management 84:39-43 F '33

This technocracy matter. Ptr Ink 161:86-7 D 15 '32

Towards technocracy. G. A. Laing. 100p Angelus press, Los Angeles '33

Understanding technocracy. J. M. Wilson. 64p New era publishers, San Diego, Calif. '33

What is technocracy? A. Raymond. 180p \$1.50 Whittlesey House, McGraw-Hill '33

What technocracy means to the utilities. F. C. Kelly. Pub Util 11:149-53, 283-9 F 2, Mr 2 '33

What, why, who, when, and how of technocracy. 32p Angelus press, 1240 South Main st, Los Angeles '32

**Bibliography**

Technocracy. Management R 22:11 Ja '33

Technocracy bibliography. Lib J 58:127 F 1 '33

**TECHNOLOGY**

Engineering approach to government. W. Beard. Il Mech Eng 55:467-70 Ag '33

Technical progress and unemployment; reply to Professor Bouniatian. E. Lederer. Int Labour R 28:1-25 Jl '33

Technology and social progress. W. Rautenstrauch. Paper Tr J 96:36-43; Discussion. 43-6 Ap 13 '33

See also

Brickmaking	Manufactures
Building	Metallurgy
Ceramics	Mineral industries
Chemistry, Technical	Oil industries
Clay industries	Paper making
Concrete	Pottery
Dyes and dyeing	Printing
Electric engineering	Railroad engineering
Engineering	Rubber
Glass manufacture	Soap manufacture
Industrial arts	Steel
Industrial education	Technical education
Inventions	Testing
Machinery	Textile industry

**Bibliography**

Current technical literature. Published in monthly numbers of Mining and metallurgy

Kulturfragen der technik; versuch einer kritischen sichtung des schrifttums. M. Schröter. Zeit Ver Deutsch Ing 77:349-53 Ap 1 '33

Selected bibliography in technical subjects. W. N. Fenninger. 23p Univ. of the state of New York, State educ. dept. Albany '33

Technical books, 1932. (In Booklist books, 1932, p 19-24) pa 65c American library assn, Chicago '33

**Dictionaries**

Marlborough's German technical words & phrases, in Roman characters; English-German and German-English dictionary. 3d ed enl. and rev. by E. M. Rolffs. 188p \$2

G. E. Stechert & co. N.Y. '32

**TECHNOLOGY**—Dictionaries—*Continued*

Specialist dictionaries; criticism and suggestions. C. Fuller. Assn of Sp Lib & Inf Bur Proc 1932:70-4; Discussion. 74

Technical dictionaries. E. Wüster. Assn of Sp Lib & Inf Bur Proc 1932:75-82 [bibliog p82]

*See also*

Technical terms

**TEES** river

Pollution of the Tees; discussion. Engineering 134:555-6 N 11 '32

**TEETH**

Changes in the teeth of white rats given water from a mottled enamel area compared with those produced by water containing sodium fluoride. W. H. Sebrell and others. Pub Health Rep 48:437-45 [bibliog p444-5] pl 1-2 Ap 28 '33

Metals in teeth may generate electricity. E. S. Lain. Sci Am 149:172-3 O '33

*See also*

Dental clinics and other headings beginning Dental  
Dentifrices  
Toothbrushes

**Diseases**

Cause of dental decay. R. G. Agnew. Science 76:sup8 D 16 '32; Same. Sci Am 148:106 F '33

Determination of fluorides in Illinois waters. C. S. Boruff and G. B. Abbott. bibliog Ind & Eng Chem Anal ed 5:236-8 J1 15 '33

Distribution of mottled enamel in the United States. H. T. Dean. maps Pub Health Rep 48:703-34 [bibliog p733-4] Je 23 '33

Occurrence of mottled teeth in Iowa. C. T. Ostrem and others. Science 76:575-6 D 16 '32

Production and prevention of dental caries by dietary means; abstract. F. F. Tisdall, M. C. Agnew and R. G. Agnew. Can Chem & Met 17:73 Ap '33

**TELAUTOGRAPH**

Electronic pencil supplants telautograph. Elec W 101:153 F 4 '33

Pity the poor teller. il Bankers M 125:651 D '32

**TELEGRAMS**

Economy in telegrams; word count rules. System and Management Methods 62:397-8 S '33

**TELEGRAPH**

Electrical communication; 1932-33. Elec Eng 52:767-9 N '33

Inland telegraph service; the introduction of modern machinery and methods. R. P. Smith. bibliog il diags plans Inst E E J 72:189-220, pl 1-2 Mr '33; Abstracts. Engineering 134:656 D 2 '32; Elec R (Lond) 111:744 N 18 '32; Electrician 109:684 N 25 '32; Discussion. Inst E E J 72:220-8; 73:92-3 Mr, J1 '33; Elec R (Lond) 111:781-2 N 25 '32; Electrician 109:719 D 2 '32

Keyboard telegraph transmitter and recorder. il Electrician 110:79 Ja 20 '33

Modern communication systems. F. Lüschen. diags Inst E E J 71:776-87, pl 1-4; Discussion. 787-98 N '32

Telling the world. G. O. Squier. 163p [bibliog p156-62] \$1 Century co. '33

Transmission theory. Electrician 111:449-50, 525-6, 555-6 O 13, 27-N 3 '33

Varley brothers; Cromwell Fleetwood Varley and Samuel Alfred Varley. A. G. Lee. bibliog Inst E E J 71:958-64 D '32

Work of Oliver Heaviside. W. E. Sumpner. bibliog il Inst E E J 71:837-51 D '32

*See also*

American telephone and telegraph company  
Electric plants (central stations)—Telegraph  
International telephone and telegraph corporation  
Radio telegraph  
Railroads—Telegraph  
Telegraph in business

**Great Britain**

Inland telegraph service; the introduction of modern machinery and methods. R. P. Smith. bibliog il diags plans Inst E E J 72:189-220 Mr '33; Discussion. 72:220-8; 73:92-3 Mr, J1 '33

Line telegraphy; telex and private wire teleprinters; voice frequency apparatus; progress in 1932. C. J. Mercer. il diag Electrician 110:107-8 Ja 27 '33

Operations of the post office. Electrician 111:133 J1 28 '33

**TELEGRAPH, Carrier current**

Use of communication facilities in transmission line relaying. J. H. Neher. bibliog il diags Elec Eng 52:162-8 Mr '33

**TELEGRAPH, Printing.** *See* Teletype**TELEGRAPH, Radio.** *See* Radio telegraph**TELEGRAPH, Submarine**

Impedance curves of a composite cable. M. I. Pupin. Elec Eng 52:115-18 F '33

**TELEGRAPH advertising.** *See* Advertising, Telegraph**TELEGRAPH in business**

Lowering telegraph costs. Management Methods 62:11-12 Ja '33

Wiring for profits; Postal Telegraph uses its own wire service as part of its collection system. C. B. Allsopp. Credit & Fin Management 34:11+ D '32

*See also*

Advertising, Telegraph

**TELEGRAPH stations**

Inland telegraph service; the introduction of modern machinery and methods. R. P. Smith. bibliog il diags plans Inst E E J 72:189-220; Discussion. 220-8 Mr '33

**TELEMETERING**

Rate and quantity records transmitted over telephone circuits; Chronoflo system. C. G. Richardson. il diags Power 77:304-5 Je '33

Telemetering with supervisory control. G. De-Croce. il diags Elec J 30:260-3 Je '33

**TELEPATHY**

How you can test telepathy. E. E. Free. Sci. Am 148:140-3 Mr '33

Is telepathy indicated; personal experiences. Sci Am 149:152 O '33

Research in telepathy. W. F. Prince. Sci Am 148:264 My '33

Results of our first test of telepathy. Sci Am 149:10-11+ J1 '33

Second Scientific American test of telepathy. Sci Am 148:324-5; 149:108 Je, S '33

Speaking of telepathy. Sci Am 149:66-7 Ag '33  
Telepathy? mind-reading. Sci Am 149:200 N '33

What is telepathy? Sci Am 148:214-15 Ap '33

**TELEPHONE**

Electrical communication; 1932-33. Elec Eng 52:767-9 N '33

Investigation of the transient vibrations of a telephone diaphragm. H. E. Heinecke. il diags (Engineering and science ser no. 42) 32p. Rensselaer polytechnic institute, Troy, N.Y. '32

Modern communication systems. F. Lüschen. diags Inst E E J 71:776-87, pl 1-4; Discussion. 787-98 N '32

Pulsating currents; their advantage for telephony. M. Marro. diags Electrician 111:144 Ag 4 '33

Rubber membrane for the telephone. Science 78:sup9 O 6 '33

Stray motor neutral currents; effect on telephone transmission. M. D. Simmons. Electrician 111:118 J1 28 '33

System of effective transmission data for rating telephone circuits. F. W. McKown and J. W. Emling. diag Bell System Tech J 12:331-46 J1 '33

Telephone theory and practice; manual switching and substation equipment. K. B. Miller. 439p \$5 McGraw-Hill '33



**TELEPHONE—Continued**

Telling the world. G. O. Squier. 163p [bibliog p156-62] \$1 Century co. '33

*See also*

Electric lines—Induc-	Railroads—Tele-
tive interference	phone
Light telephone	Telephone cables
Microphones	Telephone com-
Music—Telephone	panies
transmission	Telephone exchanges
Radio telephone	Telephone in business
	Telephone lines

also International telephone and telegraph corporation

**History**

Original telephone contract given to insurance family. *il* East Underw 34:17 Je 16 '33  
Telephone invented by Bell, perfected by Edison with his transmitter, while incandescent and phonograph are Edison's. *Pub Serv M* 54:123 Ap '33

**Manufacture**

Handling materials in a brass shop; Hawthorne works of the Western electric co. D. G. Anderson and B. F. McAuley. *il* Foundry 61:28-9+ F '33  
Mold for telephone-receiver caps. C. W. Hinman. *diags Mach* 39:587-8 My '33

**Number plates**

Elimination of blistering of enameled-iron number plates. W. J. Scott. *Am Cer Soc J* 16:93-5 F '33

**Rates**

Scope of rate-making area for phone exchange exceeds municipal unit. *Pub Util* 11:310 Mr 2 '33  
South Carolina commission slashes power and phone rates. *Pub Util* 11:311-12 Mr 2 '33  
Value of service as measure of rate reasonableness. *Pub Util* 11:430 Mr 30 '33  
Why telephone rates stand unchanged. R. E. Elgen. *Pub Util* 10:612-20 N 24 '32  
Wisconsin commission extends control over hotel telephone service. *Pub Util* 11:132-3 Ja 19 '33

**Statistics**

U. S. has 56% of world's 'phones. *Pub Serv M* 55:72 S '33  
World's telephones. *Electrician* 110:80 Ja 20 '33

**Tables, calculations, etc.**

Audio-frequency constants of circuits and telephone lines. S. P. Chakravarti. *diags Inst E E J* 72:416-22 My '33  
Probability theory and telephone transmission engineering. R. S. Hoyt. *Bell System Tech J* 12:35-75 Ja '33

**Testing**

Developments in the application of articulation testing. T. G. Castner and C. W. Carter, Jr. *il* *diags Bell System Tech J* 12:347-70 J1 '33  
Recording transmission measuring system for telephone circuit testing. F. H. Best. *il* *diags Bell System Tech J* 12:22-34 Ja '33

**Australia**

Telephones in western Australia. W. Buchler. *Elec R (Lond)* 112:215 F 10 '33

**Great Britain**

Line telephony; progress in 1932. S. M. Catterson. *il* *Electrician* 110:108-9 Ja 27 '33  
Operations of the post office. *Electrician* 111:133 J1 28 '33  
Post office telephones; policy relating to internal services. T. Rich. *Electrician* 110:329 Mr 10 '33  
Sir Thomas Purves; a wonderful decade of progress in communications. *Electrician* 109:748-9 D 9 '32  
Telephone progress; report for 1932 on service in the North-eastern district. *Electrician* 110:274, 310 F 24-Mr 3 '33

**London, England**

Automatic telephony; Kensington local and sub-tandem exchange opened for service. *il* *Electrician* 111:127 J1 28 '33

Mayfair exchange; equipment of four London automatic telephone exchanges under one roof. *il* *Electrician* 109:641 N 18 '32; *Engineer* 154:518 N 18 '32; *Engineering* 134:592 N 18 '32; *Elec R (Lond)* 111:861 D 9 '32  
Telephone progress in the London area; report. *Engineering* 135:180-1 F 17 '33; *Electrician* 110:166 F 3 '33

**Spain**

Spain wants Spanish telephones. *Business Week* p22-3 D 14; 24 D 21 '32

**TELEPHONE, Automatic**

Automatic press dial for telephones. *il* *Sci Am* 147:364 D '32

Automatic telephony; Kensington local and sub-tandem exchange opened for service. *il* *Electrician* 111:127 J1 28 '33

Bypath automatic telephone system. J. H. E. Baker and E. P. G. Wright. *diags Inst E E J* 73:1-13 J1 '33; *Abstract. Elec R (Lond)* 112:83 Ja 20 '33; *Discussion. Inst E E J* 73:13-32 J1 '33; *Elec R (Lond)* 112:120 Ja 27 '33

Bypath system of automatic telephony; Advance exchange at Bethnal Green, London. *il* *diags Engineering* 135:316-17 Mr 17 '33; *Engineer* 155:228-9 Mr 3 '33; *Electrician* 110:292-3 Mr 3 '33; *Elec R (Lond)* 112:306 Mr 3 '33

Change from manual to dial operation in the telephone industry. E. L. Best. *U S Women's Bur Bul* 110:1-15 '33

Mayfair exchange; equipment of four London automatic telephone exchanges under one roof. *il* *Electrician* 109:641 N 18 '32; *Engineer* 154:518 N 18 '32; *Engineering* 134:592 N 18 '32; *Elec R (Lond)* 111:861 D 9 '32

Splash-proof 'phones for aircraft carrier. *il* *Sci Am* 149:79-80 Ag '33

Wigan automatic exchange; new type of Strowger director equipment installed. *il* *diags Electrician* 110:414 Mr 31 '33

**TELEPHONE, Carrier current**

Attenuation of transmission lines. M. J. O. Strutt. *Wireless Eng* 10:139-40 Mr '33

Characteristics of submarine telephone cables at carrier frequencies. E. W. Smith. *diags Inst E E J* 73:213-27 S '33; *Abstract. Elec R (Lond)* 112:272 F 24 '33; *Discussion. Inst E E J* 73:227-32 S '33; *Elec R (Lond)* 112:307-8 Mr 3 '33

Communication by carrier in cable. A. B. Clark and B. W. Kendall. *il* *diags Elec Eng* 52:477-81 J1 '33; *Same. Bell System Tech J* 12:251-63 J1 '33

Engineering acoustics. *Electrician* 110:228-9, 254, 299-300, 331-2, 360-1 F 17-Mr 17 '33

Graphical methods for problems involving radio-frequency transmission lines. H. Roder. *bibliog Inst Radio Eng Proc* 21:290-302 F '33

Modern communication systems. F. Lüschen. *diags Inst E E J* 71:776-87, pl 1-4; *Discussion. 787-98 N '32*

Perfect quality and auditory perspective in the transmission and reproduction of music. F. B. Jewett. *diags Science* 77:435-40 My 12 '33

La téléphonie par onde porteuse sur les lignes de transmission d'énergie électrique. T. Johnson. *Génie Civil* 103:334-5 S 30 '33

**TELEPHONE, Dial.** See Telephone, Automatic  
**TELEPHONE, Radio.** See Radio broadcasting; Radio telephone

**TELEPHONE, Submarine**

Anglo-French telephone cable. *il* *Engineer* 156:364-5 O 13 '33; *Engineering* 136:452 O 20 '33; *Electrician* 111:455 O 13 '33; *Elec R (Lond)* 113:548 O 20 '33

Characteristics of submarine telephone cables at carrier frequencies. E. W. Smith. *diags Inst E E J* 73:213-27 S '33; *Abstract. Elec R (Lond)* 112:272 F 24 '33; *Discussion. Inst E E J* 73:227-32 S '33; *Elec R (Lond)* 112:307-8 Mr 3 '33

New Anglo-Belgian cable. *il* *Electrician* 109:751 D 9 '32

**TELEPHONE and general trust, limited**

Ordinary general meeting. *Economist* 116:606 Mr 18 '33

**TELEPHONE cables**

New Anglo-Belgian cable. *Il Electrician* 109: 751 D 9 '32

Telephone cables in large buildings. M. C. Rose and H. A. Russell. *Il Elec Eng* 61:867-9 D '32

*See also*

Telephone, Submarine

**Manufacture**

Pulp insulation for telephone cables. H. G. Walker and L. S. Ford. *Il Bell System Tech J* 12:1-21 Ja '33; Abstract. *Elec Eng* 51: 838-43 D '32

**TELEPHONE companies**

*See also*

American telephone and telegraph company

International telephone and telegraph corporation  
New York telephone company

**Accounting**

Pending conflict between state and federal regulation. A. H. Ulm. *Pub Util* 12:9-15 J1 6 '33

Uniform system of accounts for telephone companies, prescribed by the Interstate commerce commission in accordance with section 20 of the Interstate commerce act. rev ed 102p U.S. Interstate commerce commission, Washington '32

Wisconsin commission bases annual depreciation on book cost. *Pub Util* 11:70-1 Ja 5 '33

**Advertising**

Telephone company works with retailers on campaign. *Il Ptr Ink* 163:58 My 4 '33

**Employees**

Good samaritans create good will; emergency first-aid service by trained employees. T. P. Sylvan. *Nat Safety* N 28:15+ S '33

**Finance**

Why telephone rates stand unchanged. R. E. Elgen. *Pub Util* 10:612-20 N 24 '32

**Regulation**

Pending conflict between state and federal regulation. A. H. Ulm. *Pub Util* 12:9-15 J1 6 '33

**Safety measures**

Good samaritans create good will; emergency first-aid service by trained employees. T. P. Sylvan. *Nat Safety* N 28:15+ S '33

**TELEPHONE company buildings**

Creation of a telephone building; Northwestern Bell telephone system's Minneapolis unit. *Il plan Architecture* 67:199-206 Ap '33

Long Island area headquarters bldg, New York telephone co; views and plans. *Arch Rec* 73:29-40 Ja '33

Manitoba telephone building, Winnipeg; structural steel with reinforced concrete slabs. *Il Can Eng* 64:11-13 Mr 21 '33

Servicing the air filters for 140 unit ventilators; Cincinnati & suburban Bell telephone company building. W. H. Junker. *Il diags plan Heating-Piping* 5:302-3+ Je '33

**TELEPHONE directories**

Headings and related headings for classified telephone directories. Rev. to April 15, 1933. 192p Reuben H. Donnelley corp, New York '33

**TELEPHONE exchanges**

Automatic telephony; Kensington local and sub-tandem exchange opened for service. *Il Electrician* 111:127 J1 28 '33

Bypath automatic telephone system. J. H. E. Baker and E. P. G. Wright. *diags Inst E E J* 73:1-13; Discussion. 13-32 J1 '33

Bypath system of automatic telephony; Advance exchange at Bethnal Green, London. *Il diags Engineering* 135:316-17 Mr 17 '33; *Engineer* 155:228-9 Mr 3 '33; *Electrician* 110: 292-3 Mr 3 '33; *Elec R (Lond)* 112:306 Mr 3 '33

Mayfair exchange; equipment of four London automatic telephone exchanges under one roof. *Il Electrician* 109:641 N 18 '32; *Engineer* 154:518 N 18 '32; *Engineering* 134:592 N 18 '32; *Elec R (Lond)* 111:861 D 9 '32

Wigan automatic exchange; new type of Strowger director equipment installed. *Il diags Electrician* 110:414 Mr 31 '33

**TELEPHONE in business**

Home Life uses novel broadcast to field; telephone amplifier used. East Underw 34:5 S 8 '33; Nat Underw (Life ed) 37:1+ S 8 '33

How telephone selling can help find good prospects. *Il Gas Age* 72:125-6 Ag 5 '33

Order turret speeds work; Los Angeles credit association. *Il Management Methods* 62:20 Ja '33

Phone selling plans pull orders at minimum cost. *Sales Management* 33:358 O 10 '33

Sales drive succeeds through use of long distance telephone; National cash register company. *System and Management Methods* 62:355-6 Ag '33

She knows why millions of customers stop buying; Joan Wing, doctor of courtesy. R. Arell. *Sales Management* 32:476+ My 1 '33

Telephone sales meeting. *Ptr Ink* 163:28 Je 8 '33

Televoice harnesses the telephone to widen executives' operations. *Sales Management* 33:24 J1 1 '33

Using the telephone to sell gas refrigerators. W. Parker. *Il Gas Age* 71:71-2 Ja 21 '33

**TELEPHONE lines**

Line telephony; progress in 1932. S. M. Carterson. *Il Electrician* 110:108-9 Ja 27 '33

Mutual induction between power and telephone lines under transient conditions. W. G. Radley and H. J. Josephs. *bibliog Inst E E J* 72:259-64 Mr '33

Power system conditions affecting communication service. H. L. Davis, jr. *N E L A Bul* 20:70-6+ F '33

Some factors affecting inductive coordination. J. R. North. *Elec Eng* 52:551-4 Ag '33

Telephones in western Australia. W. Buchler. *Elec R (Lond)* 112:215 F 10 '33

*See also*

Electric lines—Inductive interference  
Telephone cables

**TELEPHONE operators**

Change from manual to dial operation in the telephone industry. E. L. Best. U S Women's Bur Bul 110:1-15 '33; Abstract. *Monthly Labor R* 37:1355 D '33

**TELEPHONE properties, limited**

Ordinary general meeting, 2d. *Economist* 116: 831 Ap 15 '33

**TELEPHONE rentals, limited**

Annual general meeting, 4th, London. *Economist* 116:1322 Je 17 '33

**TELEPHONE research**

Post office research station, Dollis Hill. *Il plan Engineer* 156:404-5, 408 O 27 '33; *Engineering* 136:471-2 O 27 '33; *Electrician* 111:497-8, 554 O 27-N 3 '33; *Elec R (Lond)* 113:581-2 O 27 '33

**TELEPHONE wire****Manufacture**

Manufacture of pulp insulated wire. J. S. Little. *Il Paper Tr J* 96:29-32 F 23 '33

**Testing**

Electrical testing of rubber covered wire. C. W. Protzman and W. M. Hill. *Il Elec Eng* 52:409-12 Je '33

**TELESCOPE**

Amateur telescope makers make amateur telescopes; illustrations. *Sci Am* 147:332-3 D '32

Amateur telescope making. A. G. Ingalls, ed. 3d ed rev & enl 500p [bibliog p469-80]

Scientific American pub. co, New York '33

Amateur's telescope. W. F. A. Ellison. 107p E. Carswell & son, ltd, Belfast '32

Building a telescope of great precision. C. O. Herb. *Il Mach* 39:644-6 Je '33

Eclipse, bad weather, and a new way out. H. N. Russell. *Il map Sci Am* 147:338-9 D '32

More amateurs' telescopes; illustrations. *Sci Am* 148:224-5 Ap '33

New refracting telescope of the Franklin Institute. *Science* 76:619-20 D 30 '32



**TELESCOPE—Continued**

Permissible curvature of prism surfaces and inaccuracy of collimation in precise minimum-deviation refractometry. L. W. Tilton. diags U S Bur Stand J Research 11: 25-27 J1 '33

**Mirrors**

Air conditioning saves six years in making world's largest mirror; conditioning system for telescope-mirror shop. M. M. Lawler. il diags Heating-Piping 5:547-51 N '33  
Optical tests of the 69-inch Perkins observatory reflector. H. T. Stetson. il Opt Soc Am J 23:293-7 Ag '33

**TELESCOPE, Tube wall**

New German telescope permits study of inside tube walls. il Nat Pet N 24:24 N 16 '32

**TELETYPE**

Fastest mechanical transmitting device speeds news, markets for Oilgram. il Nat Pet N 25:39-40 S 13 '33  
Inland telegraph service; the introduction of modern machinery and methods. R. P. Smith. diags Inst E E J 72:214-17 Mr '33  
Line telegraphy; telex and private wire teleprinters; voice frequency apparatus; progress in 1932. C. J. Mercer. il diags Electrician 110:107-8 Ja 27 '33  
Radio typewriter. Business Week p 15 Ja 18 '33  
Weather by teletype. Sci Am 148:169 Mr '33

**TELETYPESETTERS**

Girls replace 5 linotype operators. il Inland Ptr 91:51 J1 '33

**TELEVISION**

Airplane reception of television from ground station. H. R. Lubcke. il map Aviation Eng 8:22-3 Ja '33  
Electrical transmission of pictures; status and commercial possibilities. Index 13:90-1, 94-5 My '33  
Modulation frequencies in visual transmission. E. L. White. Inst Radio Eng Proc 21:51-5 Ja '33  
New photo-cell brings television nearer practical; iconoscope. Elec W 102:2 J1 1 '33  
New principle in television; iconoscope. V. K. Zworykin. Science 78:sup8-9 O 27 '33  
Radio and television. J. R. Cameron. 541p Cameron pub. co, Woodmont, Conn. '33  
Real electric eye; iconoscope. A. P. Peck. il diags Sci Am 149:117 S '33  
Television. K. A. Hathaway. 169p American technical society, Chicago '33  
Television definition. W. H. Wenstrom. il Inst Radio Eng Proc 21:1317-27 S '33  
Television in England. il Sci Am 148:76-7 F '33  
Television; progress in 1932. W. G. W. Mitchell. il Electrician 110:115 Ja 27 '33  
Television to-day and to-morrow. S. A. Moseley and H. J. B. Chapple. 198p \$2.50 Pitman '33  
Television with cathode-ray tubes; iconoscope. V. K. Zworykin. il diags Inst E E J 73:437-51 O '33  
Transmissions over light beam at British association meeting. Electrician 111:299 S 8 '33  
Two new television advances; developments by V. K. Zworykin and U. A. Sanabria. M. S. Cummings. il Radio N 15:214-15+ O '33

**See also**

Photoelectric cells  
Radio communication

**TELEVISION apparatus**

Cathode-ray oscillograph for television. R. Hardy. il diags Electrician 110:854-6 Je 30 '33  
Cathode ray tubes for television and other uses. J. M. Hollywood and M. P. Wilder. il diags Radio N 15:268-70+ N '33  
Investigation of various electrode structures of cathode ray tubes suitable for television reception. A. B. Du Mont. il diags Inst Radio Eng Proc 20:1863-77 D '32  
Light modulation; improved method for use in television. L. M. Myers. il Electrician 109: 665 N 25 '32

New gaseous light source is energized by induction. il Elec W 100:553 O 22 '32; Same abr. Mech Eng 55:186-7 Mr '33  
Television exhibition at South Kensington. Electrician 110:472, 499 Ap 7-14 '33  
Television for the amateur constructor. H. J. B. Chapple. 233p \$3 Pitman '33  
Theoretical notes on certain features of television receiving circuits. G. D. Robinson. Inst Radio Eng Proc 21:833-43 Je '33

**Testing**

Projector type light flux generator for testing light sensitive devices. E. B. Kurtz and J. L. Potter. il Inst Radio Eng Proc 21: 1599-1602 N '33

**TELEVISION apparatus on aircraft**

Airplane reception of television from ground station. H. R. Lubcke. il map Aviation Eng 8:22-3 Ja '33

**TELEVISION stations**

Radio call book section; television and aircraft stations in the U.S. Radio N 15:351 D '33

Television stations in the United States. Radio N 14:478 F '33

**TELEVOICE corporation**

Televoice harnesses the telephone to widen executives' operations. Sales Management 33:24 J1 1 '33

**TELLURIC acid**

Method for the preparation of telluric acid. L. I. Gilbertson. Am Chem Soc J 55:1460-1 Ap '33

**TELLURIDES**

Tellurides—problem or alibi? W. E. Johnston. Eng & Min J 134:333-4 Ag '33; Discussion. 134:412-13 O '33

**TELLURIUM**

Extension of the Pd I-like isoelectronic sequence to antimony VI and tellurium VII. G. K. Schoepfle. Phys R 43:742-4 My 1 '33  
Some effects of the addition of tellurium to lead. W. Singleton and B. Jones. il Soc Chem Ind J (Chem & Ind) 52:211-13, pl 1-2 Mr 10 '33; Same abr. Engineering 135:317-18 Mr 17 '33; Abstracts. Engineer 155:266 Mr 17 '33; Metal Ind 31:125 Ap '33; Discussion. Engineering 135:310-11 Mr 17 '33; Engineer 155:266 Mr 17 '33  
Study of the tellurium electrode. F. H. Getman. il Electrochem Soc Trans 64 (preprint 1):1-8 S '33

**TELLURIUM alloys**

Important claims made for tellurium alloys. Chem & Met Eng 40:215 Ap '33

**TELLURIUM fluorides**

Thermochemical constants of the hexafluorides of sulfur, selenium and tellurium. D. M. Yost and W. H. Claussen. Am Chem Soc J 55:885-91 Mr '33

**TELPHERAGE.** See Cableways; Monorail conveyors

**TEMPER brittleness.** See Steel—Brittleness

**TEMPERATURE**

Die chemie der hohen temperaturen. O. Ruff. il diags Angew Chemie 46:1-7 Ja 7 '33

Develops application of a practical viscosity temperature coefficient for oil products. T. G. Bell and L. H. Sharp. bibliog charts Oil & Gas J 32:13-15, 16 Ag 17 '33

Effect of temperature on the emission of electron field currents from tungsten and molybdenum. A. J. Ahearn. diags Phys R 44:277-86 Ag 15 '33

Temperature coefficient of the moduli of metals and alloys used as elastic elements. G. H. Keulegan and M. R. Houseman. il diags U S Bur Stand J Research 10:289-320 Mr '33

**See also**

Air conditioning  
Atmospheric temperature  
Boiling points  
Concrete—Temperature  
Cooling

Earth temperature  
Freezing  
Heat  
Melting points  
Sun—Temperature  
Thermodynamics  
Ventilation

## TEMPERATURE—Continued

## Measurement

- Application of the eupatheoscope for measuring the performance of direct radiators and convectors in terms of equivalent temperature. A. C. Willard, A. P. Kratz and M. K. Fahnestock. *il* diags plans Heating-Piping 5:369-75 J1 '33; Abstract. Heat & Ven 30:40-1 S '33
- Conditions affecting the freezing temperature of silver. W. F. Roesser and A. I. Dahl. *diag*, U S Bur Stand J Research 10:661-8 My '33
- Determining the temperature of magnetic change in alloys. C. S. Williams. *diag* Elec J 30:311 J1 '33
- Estimation of tower temperatures by equilibrium vaporization data. W. L. Nelson. *Nat* Pet N 24:25+ D 14 '32
- Experimental determination of the flame temperatures of complex mixtures of combustible gases and a method for calculating them. B. Lewis, H. Seaman and G. W. Jones. *J Fr Inst* 215:149-67 F '33
- Flame temperatures of combustible gas-oxygen mixtures. H. H. Lurie and G. W. Sherman. *bibliog il diag Ind & Eng Chem* 25:404-9 Ap '33
- Heat dissipation from network manholes. L. A. Nettleton. *diags* Elec W 102:369-72 S 16 '33
- Heat effects in lubricating films. A. Kingsbury. *diag* Mech Eng 55:685-8 N '33
- Indicating apparatus temperatures. H. W. Papst. *diags* Elec J 30:413-14 O '33
- Industrial measurement of temperature; conditions which determine the choice of instruments. *il* Chem Age (Lond) 28:381-3 Ap 29 '33
- Interference method of measuring thermal expansion. G. E. Merritt. *diags pl* U S Bur Stand J Research 10:59-76 Ja '33
- International comparison of temperature scales between 660° and 1,063° C. W. F. Roesser, F. H. Schofield and H. A. Moser. *U S Bur Stand J Research* 11:1-6 J1 '33
- Measurement of temperature in electrical windings. A. C. Finney. *diags* Power Pl Eng 37:352-3 Ag '33
- Metal temperatures. W. S. Gullette. *diags* Am Pet Inst Proc (Refining div) p87-8 Je '32
- Multirange potentiometer and its application to the measurement of small temperature differences. H. B. Brooks and A. W. Spinks. *il diags U S Bur Stand J Research* 9:781-98 D '32
- Opportunities for using indicating and recording control instruments in the rock products industries. J. R. Withrow. *il* Rock Prod 36:32-5 F '33
- Radif thermometer. H. B. Lindsay. *il* Refrig Eng 25:261-2 My '33
- Über die bestimmung des temperaturfeldes beim spanablauf. F. Schwerdt. *il diags Zeit Ver Deutsch Ing* 77:211-16 Mr 4 '33
- Ueber stahl- und schlackentemperaturen bei basischen Siemens-Martin-schmelzungen. E. Schröder. *Stahl & Eisen* 53:873-81; Discussion. 881-4 Ag 24 '33

## See also

- |                              |                              |
|------------------------------|------------------------------|
| Boiling points               | Thermocouples                |
| Calorimeters and calorimetry | Thermometers and thermometry |
| Pyrometers and pyrometry     | Thermopiles                  |

## Physiological effect

- Air conditioning for comfort and health, past—present—future. E. Harrington. *il* J Fr Inst 215:655-96 Je '33; Excerpts. *Gen Elec R* 36:166-76 Ap '33
- Air-conditioning with relation to comfort, health, and efficiency. E. R. Hayhurst. *bibliog J Ind Hygiene* 15:98-115 Mr '33; Abstract. Heat & Ven 30:42 My '33
- Cold walls and their relation to the feeling of warmth. F. C. Houghten and P. McDermott. *il diags Heating-Piping* 5:53-8 Ja '33; Excerpts. *Dom Eng* 141:36-8+ F '33; Abstract. Heat & Ven 30:40 Mr '33

Developments in air conditioning; A.G.A. subcommittee report. *Am Gas Assn Proc* 1932:519-23

- Effect of clothing on the rate of cooling of the body. W. S. Weeks. *J Ind Hygiene* 15:383-6 S '33
- Effect of temperature on ever-sporting eye color in *drosophila melanogaster*. J. W. Gowen and E. H. Gay. *Science* 77:7312 Mr 24 '33
- Heat effects; abstract. R. C. Engel. *Nat Safety N* 27:54-5 My '33
- Heat exhaustion. R. H. Quackenbos. *Safety Eng* 66:105-6 S '33
- Human comfort. *Dom Eng* 141:61 My '33
- Measurement, in relation to human comfort, of the radiation produced by various heating systems; abstract. H. M. Vernon. *Heat & Ven* 29:44-5 D '32
- Physiological response to breathing hot air; abstract. E. M. Killick. *Heat & Ven* 30:45 Je '33
- Variation in air conditions; in its relation to comfort and health. C. S. Leopold. *bibliog Refrig Eng* 26:15-16 J1 '33
- Where is the perspiration line? A. E. Beals. *Heating-Piping* 5:224-7 Ap '33

## See also

- Cooling  
Ventilation

## Regulation

- Automatic control; reference advertisement of Minneapolis-Honeywell regulator company. *il diags Am Arch* 143:104-15 S '33
- Automatic controls for forced-air heating systems. S. Konzo and A. F. Hubbard. *diags Heating-Piping* 5:573-80 N '33
- Automatic gas heating system controls; A.G.A. subcommittee report. *Am Gas Assn Proc* 1932:511-18
- Automatic temperature-control apparatus. *il diags Engineering* 134:763-5 D 30 '32
- Complete automatic temperature control in a modern residence. R. P. Dewey. *il* Heat & Ven 30:36-9 O '33
- Constant temperature apparatus adapted for use on the microscope stage. R. F. Pitts. *diags Science* 76:626-7 D 30 '32
- Controlling motors for temperature control systems, compressors, oil burners, stokers. S. R. Lewis. *diags Heating-Piping* 5:100-1 F '33
- Curing concrete with automatic control. *il* Elec West 70:96 Mr '33
- Development of large calorimeter rooms and automatic temperature controls for adiabatic curing of mass concrete. H. S. Meissner. *diag Am Concrete Inst J* 5:21-6 S '33
- Freas control cabinet. *il Aviation Eng* 8:30 Mr '33
- Laboratory apparatus for producing a controlled temperature program. W. B. Warren. *diag Ind & Eng Chem Anal ed* 5:285-6 J1 15 '33
- Liquid baths for heat treating—bath furnaces and temperature measurements. W. P. Eddy, jr. *diags Iron Age* 131:230-2 F 9 '33
- Modern method of temperature control; operation of the magnetic system. *diags Chem Age (Lond)* 28:197 Mr 4 '33
- Movie-makers teach a lesson in product improvement by air conditioning. L. H. Polderman. *il Heating-Piping* 5:292-3+ Je '33
- Pyrometer radiation tube, recorder meet industrial requirements. *il Steel* 92:40+ Mr 27 '33
- Reheat temperature automatically controlled at high-pressure station. C. E. Steinbeck. *il diags Power* 77:72-3 F '33
- System of temperature control; Bureau of entomology incubators. H. H. Darby and C. B. Bridges. *diags J Fr Inst* 215:723-9 Je '33
- Temperature control equipment installed inexpensively. T. Sheehan. *diags Power Pl Eng* 37:399 S '33
- Temperature measurement and control. *charts Engineering* 135:67-9, pl 3 Ja 20 '33
- Temperature regulation in air cooling and conditioning. R. C. Davis. *Refrig Eng* 25:149+ Mr '33



**TEMPERATURE—Regulation—Continued**

Temperaturregulierung mit hilfe von kon-takthtermometern. H. Brückner. il Chemische Fabrik 6:342-3 Ag 16 '33

*See also*

Temperature regula-tors  
Thermostats

**TEMPERATURE, Animal and human**

Diurnal variations of skin temperature. F. Heiser and L. H. Cohen. bibliog J Ind Hygiene 15:243-54 Jl '33

Influence of the humidity of the air on capacity for work at high temperatures; abstract. H. M. Vernon and G. C. Warner. J Ind Hygiene 15:sup15-16 Mr '33; Heat & Ven 30:45 Ap '33

*See also*

Thermometers and thermometry, Medi-cal

**TEMPERATURE, Atmospheric.** *See* Atmospheric temperature**TEMPERATURE, Low**

Booster compressor conquers a low tempera-ture problem. C. W. Selheimer, jr. Chem & Met Eng 40:543 O '33

Extremely low temperatures attained. Refrig W 68:29 My '33

Festigkeitseigenschaften von stahl, stahlguss und gusseisen in der kälte. R. Walle. bibliog il Chemische Fabrik 6:207-11, 220-2 My 17-24 '33

Low temperatures and low-temperature phe-nomena. J. C. McLennan. Engineering 135: 104-5, 135, 165-6, 193-4 Ja 27-F '17 '33

Radiation thermopiles for use at liquid air temperatures. C. H. Cartwright. diag R Sci Instr 4:382-4 Jl '33

Royal society's Mond laboratory at Cam-bridge. il plan Engineer 155:146-7 F 10 '33; Electrician 110:181-2 F 10 '33; Elec R (Lond) 112:191 F 10 '33

Some recent developments in low-temperature research. W. Hardy. il diag Soc Chem Ind J (Chem & Ind) 52:45-9 Ja 20 '33

Super-conductivity of metals observed at low temperatures; abstracts. J. C. McLennan. Electrician 110:328 Mr 10 '33; Elec R (Lond) 112:344-5 Mr 10 '33

Toughness of alloy steels at low temperatures. J. J. Egan, W. Crafts and A. B. Kinzel. Metal Prog 24:18-20 S '33

*See also*

Freezing points

**TEMPERATURE regulators**

Adjustable temperature regulator. W. G. Parks. diag Ind & Eng Chem Anal ed 5:357 S 15 '33

Automatic temperature control. Chem Age (Lond) 27:453-4 N 12 '32

Barber-Colman valves for temperature control. il Heating-Piping 4:801-2 D '32

Control cuts cost. il Heating-Piping 5:22-6 Ja '33

Drayton temperature regulator. diag Engineer 155:659 Je 30 '33

Ein einfacher thermoregulator für höhere temperaturen. W. Bubam and H. Brint-zinger. diag Chemische Fabrik 6:265 Je 14 '33

Improved thermostatic regulator. A. C. Wiese. diag Elec R (Lond) 113:233 Ag 18 '33

Improved U-type mercury thermoregulator. J. B. Ramsey. diags Ind & Eng Chem Anal ed 5:218-19 My 15 '33

Mack statotherm; new system of refrigeration control for truck bodies. il diag Refrig Eng 25:153+ Mr '33

Negretti and Zambra pyrometer-type auto-matic temperature-control apparatus. il diags Engineering 136:214-15 S 1 '33

New refrigeration control by Mack: stato-therm. Refrig W 68:52-3 Mr '33

Selecting thermal relays to protect three-phase motors. H. Wilson. diags Power 77: 78-80 F '33

Temperature protection with detector coils. H. E. Pearson. il diags Gen Elec R 36:109-10 F '33

Thermochron. il Sheet Metal Worker 24:229 Jl '33

Up-to-date control equipment helps sell 'gas heating; Thermochron. C. D. Lyford. Gas Age 72:455 N 11 '33

*See also*

Temperature—Reg-ulation  
Thermostats

**TEMPERING**

More light on temper brittleness. K. Honda. diag Metal Prog 23:43-4 Je '33

Problem of temper-brittleness. E. Houdre-mont and H. Schrader. Engineer 156:sup [Metallurgist] 67-70 O 27 '33

Relation of temper colors to temperatures. T. N. Holden. Iron Age 132:23 S 28 '33

*See also*

Steel, Hardening of  
Steel, Heat treatment of

**TEMPLES, Bahai**

Project of ornamenting the Baha'i temple dome. J. J. Earley. il Am Concrete Inst J 4:403-11 Je '33

Temple of light. A. B. McDaniel. il Am Con-crete Inst J 4:397-401 Je '33

**TEMPLETS**

Templet for use by designers in allowing room for turning open-end wrenches. H. W. Boehly. diags Am Mach 77:664 O 11 '33

**TENEMENT houses**

Workers' homes; New York considers one that cuts all frills. Business Week p13 D 28 '32

*See also*

Slums

**TENNENT, Melvin G. 1885-**

Western foundryman gets early start in mak-ing castings. por Foundry 60:44 N '32

**TENNESSEE**

*See also*

Banks and banking— Cement industry and  
Tennessee trade—Tennessee  
Geology—Tennessee

**TENNESSEE academy of science**

Annual fall meeting, Nashville, Tenn. Nov. 25-26. Science 77:192-3 F 17 '33

Meeting, 32d, April 28-29. Science 77:541-2 Je 2 '33

**TENNESSEE association of insurance agents**

Annual meeting, 38th, Nashville, Nov. 10-11. Ins Field (Fire ed) 61:9+ N 17 '32; Nat Underw 36:27+ N 17 '32

**TENNESSEE river**

Lock construction at dam 3, Tennessee river. il Eng N 111:196-8 Ag 17 '33

Power economics of the Tennessee project. maps Elec W 101:604-7 My 13 '33

Power on the Tennessee river. il diags map Eng N 110:579-83 My 11 '33

**TENNESSEE Valley association**

Tennessee prepares; business men of 7 states form Tennessee Valley association. Business Week p21-2 Je 7 '33

**TENNESSEE Valley project**

Happy valley; Roosevelt selects the Tennes-see watershed for development as a federal project. il Business Week p16 F 15 '33

Land-conservation camp plan and the Tennes-see River basin. S. T. Henry and I. Foos. il map Eng N 110:425-9 Ap 6 '33

Muscle Shoals active at last. W. B. West. il map Sci Am 149:149-51 O '33

Muscle Shoals message; Roosevelt wants a Tennessee authority for a vast program to make work. Business Week p14-15 Ap 19 '33

Muscle Shoals opens a new path. W. Bishop. map Nation's Business 21:28+ Jl '33

No present need for completion of dam no. 3 on the Tennessee. S. T. Henry. Eng N 111:537 N 2 '33

Power program of the Tennessee Valley authority. D. E. Lilienthal. Elec W 102: 515-17 O 21 '33

Public's reaction to Roosevelt's nationwide power project. Pub Util 11:296-9 Mr 2 '33

**TENNESSEE Valley project—Continued**

- Purposes and problems. A. E. Morgan. map Manuf Rec 102:18-19+ O '33
- Reactions of the country to the passage of the Muscle Shoals bill. Pub Util 11:724-9 Je 8 '33
- Roosevelt proposes Tennessee valley be developed for relief. Elec W 101:183 F 11 '33
- Roosevelt's plan fosters government competition. T. F. Woodlock. Barron's 13:20 F 20 '33
- Tennessee basin one of few regions with basic study. Eng N 110:234 F 16 '33
- Tennessee basin 20 per cent developed, says Department of interior. Elec W 101:537 Ap 29 '33
- Tennessee power to be supplemented under new law. Eng N 110:696 My 25 '33
- Tennessee Valley authority. il map Fortune 8:81-4+ O '33
- Tennessee Valley authority act, 1933. Engineering 136:82-3 Jl 28 '33
- Tennessee Valley authority announces its rates. Business Week p22 S 23 '33
- Tennessee Valley authority announces power policy. Pub Util 12:421 S 28 '33
- T.V.A. as a \$106,000,000 yardstick. Elec W 102:356, 388-9 S 16-23 '33; Manuf Rec 102:50 O '33; Eng N 111:364 S 21 '33
- TVA gets going. Business Week p16-17 O 21 '33
- T.V.A. makes a start. Business Week p16+ S 2 '33
- Tennessee Valley development. il map Manuf Rec 102:14-17 Je '33
- Tennessee Valley project. E. Kimble. map J Land & Pub Util Econ 9:325-39 N '33
- Tennessee Valley the first step. Comm & Fin 22:477-8 My 31 '33
- Test of public ownership plans sought by T.V.A. Chairman Morgan. Elec W 102:452-3 O 7 '33
- Uncle Sam muscles into power. Econostat 1:5-6 Ap 15 '33
- Who will benefit from the Tennessee development? A. Huntington. Pub Serv M 55:43-4 Ag '33
- Will the Muscle Shoals rates be an effective governmental yardstick? Pub Util 12:530-4 O 26 '33

*See also*

Muscle Shoals project

**TENNIS courts**

- Rubber tennis courts. Rubber Age 32:247 Ja 10 '33
- Tennis court details; working drawings. J. G. Stewart. Architecture 68:69 Ag '33

*See also*

Squash courts

**Lighting**

- Economic analysis of sports lighting. E. J. Ingram. Illum Eng Soc Trans 28:446-8; Discussion. 448-9 My '33

*See also*

Tennis courts, Indoor

—Lighting

**TENNIS courts, Indoor**

- Cove Neck tennis courts, Long Island, New York; views and plans. Am Arch 143:63-4 Ja '33

**Lighting**

- Indoor tennis court; estate of Evander D. Schley, Far Hills, N. J. il Illum Eng Soc Trans 28:306-7 Ap '33

**TENNIS rackets**

- Funny posters help dealers sell tennis strings. il Ptr Ink 164:68-9 Jl 13 '33
- When the customers vote their preferences: silk strings for tennis rackets. F. Saladino. il Ptr Ink 163:72-5 Je 8 '33

**TENSILE strength**

- Tensile strength of nitrocellulose films. G. G. Jones and F. D. Miles. diag Soc Chem Ind J 52:251T-64T Ag 18 '33

**TENSIOMETER**

- Tensionmètre, système Okhuisen-Stoppani. diag Génie Civil 103:188-9 Ag 19 '33

**TENTERING machines**

- New developments in return tenters. A. W. Buhlmann. diags Melland 5:32 Ap '33

- New English stenter. C. E. Mullin. il Textile Col 55:590-1+ S '33
- Some examples of modern finishing machinery development. W. J. Norton. il diags Textile Inst J 24:P238-41 S '33

**TEPHROSIC acid**

- Experiments on the synthesis of rotenone and its derivatives; dehydrodihydrotrotonic acid and tephrosic acid. A. Robertson. Chem Soc J p1163-5 S '33

**TEPHROSIN**

- Occurrence of rotenone and related compounds in the roots of cracca virginiana. E. P. Clark. Science 77:311-12 Mr 24 '33
- Tephrosin; some acidic derivatives of tephrosin. E. P. Clark. Am Chem Soc J 55:759-62 F '33

**TEREDOS**

- Destruction of mooring ropes by teredo; growth and habits in an unusual environment. W. R. Coe. Science 77:447-9 My 12 '33
- Marine borers. J. T. Jenkins. il Engineering 134:755-6 D 30 '32

**TERMINAL companies**

*See also*

- Bush terminal company

**TERMINALS**

- Cooperation simplifies the shippers' job; Union freight terminal, New York. il Nation's Business 21:24-5 F '33
- Industrial terminal innovations; Port of New York Authority's new inland freight station, New York. il diags Elec W 101:198-202 F 11 '33
- New Key terminal under way. il Transit J 77:231 Jl '33
- New marine terminal at Los Angeles. G. F. Nicholson and E. C. Earle. il diag Eng N 110:305-7 Mr 9 '33
- New passenger quay and maritime station at the port of Cherbourg. B. Cunningham. il diags map Engineering 136:427-9, 440, 481, 482, 483 O 20, N 3 '33
- New terminal at Rochester facilitates traffic. il Marine R 63:21 Mr '33
- New union inland freight station opened at New York. il plan Ry Age 94:440-3 Mr 25 '33
- La nouvelle gare maritime de Cherbourg. R. Fleury. il diags plans map Génie Civil 103:125-33 Ag 5 '33
- Off-rail union terminal built in New York by Port of New York authority. il plans diags Eng N 109:768-71 D 29 '32
- Port Authority commerce building, New York city. il plans Arch Rec 73:274-80 Ap '33
- Terminal facilities under way at port of Cartagena. il Marine R 63:34 Ag '33
- Water terminals of yesterday and today. W. J. Cahill. il Civil Eng 3:432-4 Ag '33

*See also*

- |   |                    |
|---|--------------------|
| Airport buildings   | Petroleum shipping |
| Freight handling  | terminals          |
| Harbors   | Ports              |
| Locomotive terminals  | Railroads—Ter-     |
| Motor bus lines—  | minals             |
| Terminals   |                    |
| <i>also</i> subdivision Harbor under names of cities, e.g. New York (city)—Harbor |                    |

**TERMITES**

- Association of termites with fungi. E. C. Hendee. Science 77:212-13 F 24 '33
- Chemical warfare by insects. T. E. Snyder. Science 77:sup8-9 Je 9 '33
- How to control termites. E. L. Fellman. il Am Bld 55:40 My '33
- New practice saves poles threatened by termites. M. M. Bridgwater. il Elec W 100:693 N 19 '32
- Termite exposure tests. Eng N 110:367 Mr 23 '33
- Termites and their threat to timber structures. A. A. Brown. il Eng N 111:221-4 Ag 24 '33

**TERNE plate**

- Production of tin and terne plate and consumption of tin in production of tin and terne plate, monthly, 1922-1932. Survey of Cur Business 12:20 D '32



## TERPENES

Essential oil of libocedrus bidwillii. K. S. Birrell. Soc Chem Ind J 51:397T-8T D 9 '32  
Extraction of terpene chemicals from waste pine wood. I. W. Humphrey. il Inst Chem Eng Trans 9:40-5; Discussion. 45-8 '31

## TERRA cotta

Creating colossi in terra cotta; how polychrome terra cotta statuary of unprecedented size was made for the Pennsylvania museum of art. il Am Arch 143:63-6 J1 '33

Polychrome terra cotta. W. Timmerman. Am Cer Soc Bul 12:276-80 S '33

Recent developments in architectural ceramics. J. B. Helme. Am Cer Soc Bul 12:281-3 S '33

See also

Pipes, Terra cotta

## Manufacture

Conversion of periodic kilns from coal firing to natural gas for firing glazed clay products. R. F. Grady, jr il Am Cer Soc J 16:141-51 Mr '33

Making of terra-cotta; a pictorial review. Architecture 67:207-10 Ap '33

Manufacture of terra cotta wall block. P. W. Lee. Am Cer Soc Bul 12:301-3 O '33

Terra cotta makers find gas best fuel to meet demand for color. J. B. Nealey. Am Gas Assn Mo 15:53-5+ F '33

Terra cotta slip coatings. S. J. McDowell. diag Am Cer Soc J 16:134-40 Mr '33

## TERRACES (geology)

Glacial epochs of the Santa Monica mountains, California. W. M. Davis. bibliog diags map Geol Soc Bul 44:1041-1133, pl 40-56 O '33

Marine terraces on Santa Catalina island. W. S. T. Smith. il Am J Sci 5th ser 25:123-36 F '33

Terraces and coulees along the Columbia river near Lake Chelan, Washington. A. C. Waters. il maps Geol Soc Bul 44:783-820 Ag '33

## TERRACING

Soil-erosion control by terraces. C. E. Ramser. il Eng N 111:437-8 O 12 '33

## TESLA coils

Combined Tesla coil and vacuum tube. C. C. Lauritsen and R. Crane. diags R Sci Instr 4:497-500 S '33

## TESTIMONIALS in advertising. See Advertising copy—Testimonials

## TESTING

Application of electric methods of measurement and testing. D. H. Bishop. Inst E E J 72:51-5 Ja '33

Compressometer, an instrument for evaluating the thickness, compressibility, and compressional resilience of textiles and similar materials. H. F. Schiefer. diag pl U S Bur Stand J Research 10:705-13 Je '33

Freas control cabinet. il Aviation Eng 8:30 Mr '33

Friction—research evaluates its forces. L. M. Tichvinsky. il Elec J 30:300-2 J1 '33

Kohäsionsfestigkeit. W. Kuntze. il Zeit Ver Deutsch Ing 77:49-50 Ja 14 '33

Materials; current research projects. Power 77:261-3 My '33

Materials of aircraft construction. F. T. Hill. 363p \$4.50 Pitman '33

Die zahl als gütemassstab bei der werkstoffprüfung und -abnahme. A. Fry. Stahl & Eisen 53:901-4 Ag 31 '33

See also

Brinell hardness test

Electric testing

Engineering laboratories

Hardness

Laboratories

also subdivision

subjects, e.g.

Advertising campaigns—Testing

Magnetic testing

Strains and stresses

Strength of materials

Testing machines

Textile testing

Testing under various

Automobile engines—Testing

Boilers—Testing

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Cement—Testing

Corrosion and anti-

corrosives—Testing

ing

also American society for testing materials

## TESTING laboratories

Acoustics laboratory of the Metropolitan-Vickers electrical company's research department. B. G. Churcher. il plan Engineering 135:563-6 My 26 '33

Fair crowds see tests; learn value of laboratory endorsement. il Sales Management 33:226 S 1 '33

Function of the testing laboratory in teaching resistance of materials. J. O. Draffin. J Eng Educ 23:681-5 My '33

Les nouveaux ateliers et laboratoires de l'École centrale des arts et manufactures. L. Guillet. il Génie Civil 103:269-73 S 16 '33  
1,500,000 kVA alternator and switchgear testing plant. il Engineer 154:668, 672-3 D 30 '32

See also

Chemical laboratories

Locomotive experiment stations

## Equipment

Air conditioning for Hoover Dam concrete tests. diag Power 77:69 F '33; Same cond. Heating-Piping 5:104-5 F '33

## TESTING machines

Accurate control of conditions provided in new brake and lining testing machine. il Automotive Ind 69:150-2 Ag 5 '33

Apparatus for finding load-carrying capacity of extreme pressure lubricants. S. A. McKee, F. G. Bitner and T. R. McKee. Nat Pet N 25:21-2+ S 6 '33

Apparatus for static and dynamic tensile and compression tests for wire and wire rope. il diags Engineering 135:432-3 Ap 21 '33

Avery 500-ton self-indicating compression testing machine. il Engineering 135:176 F 10 '33; Engineer 155:152 F 10 '33

Avery 750-ton chain-cable and anchor testing machine. il diags Engineering 134:621-3 N 25 '32; Engineer 154:533, 542-3 N 25 '32

Baldwin-Southwark new cold bend testing device. il Iron Age 131:360 Mr 2 '33

Dauerversuche auf einer hochfrequenten zugdruckmaschine. M. H. Kraemer. Zeit Ver Deutsch Ing 77:982 S 9 '33

Develop simple type of friction machine for measuring oiliness of lubricating oils. J. S. Phelps. il Oil & Gas J 32:10+ S 7 '33

Equipment for detecting leaks in superheater units. C. O. Herb. il diags Mach 39:710 J1 '33

Fatigue testing. J. W. Cuthbertson. il diags Engineering 136:55-7 J1 21 '33

Four-ball testing apparatus for extreme pressure lubricants. G. D. Boerlage. il diags Engineering 136:46-7 J1 14 '33; Abstract. Automotive Ind 69:343 S 16 '33

Friction-testing methods. G. L. Neely. bibliog il diags Am Pet Inst Proc (Refining div) p60-73; Discussion. 73-4 Je '32

Full-load calibration of a 600,000-lb. testing machine. H. F. Moore, J. C. Othus and G. N. Krouse. il diag Am Soc T M Proc 32 pt 2:778-82 '32

German benzol-Verbana portable motor-car testing plant. il Engineering 136:268, 269 S 8 '33

Howden and company 125-kg. hardness-testing machine. il Engineering 135:505-6 My 5 '33

Laboratory method for determining performance of extreme-pressure lubricants now in use. H. R. Wolf and H. C. Mougey. il Oil & Gas J 31:58+ N 17 '32; Excerpts. Automotive Ind 67:650-3 N 19 '32; Abstract. Nat Pet N 24:39-40 N 16 '32

Lubricants research: Bureau of standards new lubricant tester. S A E J 32:sup27 Je '33

Machine test on the durability of manila rope. N. C. Wiley. il diags Am Soc T M Proc 32 pt 2:705-21; Discussion. 722-4 '32

**TESTING machines—Continued**

- Many castings are used in largest testing machine. *il Foundry* 61:38+ S '33
- Les méthodes modernes d'essais de matériaux dans la construction des moteurs; machine d'essais dynamiques, système Schenck. *il diags Génie Civil* 101:550-3 D 3 '32
- New extreme pressure lubricant tester. S A E J 32:sup25-6 F '33
- New machine for laboratory evaluation of fatigue of rubber compounds flexed under compression. L. V. Cooper. *il diag Ind & Eng Chem Anal ed* 5:350-1 S 15 '33
- New machine for oil testing shows effects of load, speed and temperature; M-A-N oil-testing machine. *il diags Automotive Ind* 69:483-4 O 21 '33
- Olsen hydraulic universal testing machine. *il Am Mach* 76:1243 D 21 '32; *Mach* 39:362-3 Ja '33; *Automotive Ind* 68:410 Ap 1 '33
- Omnibus testing machine. *il diag Engineer* 154: 673-4 D 30 '32
- 1,250-ton universal testing machine. W. L. Brocker. *il Can Eng* 63:15-16 D 27 '32
- Planbiege-dauerprüfmaschine der deutschen versuchsanstalt für luftfahrt. K. Matthes. *diag Zeit Ver Deutsch Ing* 77:27-8 Ja 7 '33
- Prüfmaschine für drücke bis 1500 t. O. Graf and E. Brenner. *il Zeit Ver Deutsch Ing* 77: 609 Je 10 '33
- Recorder-controller for materials-testing machines; Southwark-Emery system. C. H. Gibbons. *bibliog il Iron Age* 131:274-6+ F 16 '33
- Rubber flexing machine. G. E. Hopkins. *il India Rubber W* 88:34+ S '33
- 750-ton chain cable and anchor testing machine; abstract. *Mech Eng* 55:703-4 N '33
- Southwark-Emery recorder-controller for materials testing. *il Eng N* 110:545 Ap 27 '33
- Tensometer, ltd. Hounsfield tensometers. *il Engineer* 155:166-7 F 17 '33
- Testing machine capacity doubled by special loading rig. I. Lyse. *diag Eng N* 111:248 Ag 31 '33
- Die veränderlichkeit der werkstoffdämpfung. A. Esau and H. Kortum. *bibliog Zeit Ver Deutsch Ing* 77:1133-5 O 21 '33

*See also*

- |                       |                          |
|-----------------------|--------------------------|
| Dynamometer           | Herbert pendulum         |
| Gear testing machines | Textile testing machines |

**TESTS, Ability. See Ability tests****TETRAALKYL methanes**

- Catalytic vapor-phase oxidation of tetraalkyl methanes. W. L. Faith, S. Swann, Jr. and D. B. Keyes. *Ind & Eng Chem* 25:224 F '33

**TETRACHLOROETHYLENE**

- Photochlorination of tetrachloroethylene in carbon tetrachloride solution. J. A. Leermakers and R. G. Dickinson. *diags Am Chem Soc J* 54:4648-57 D '32

**TETRACHLOROMETHANE. See Carbon tetrachloride****TETRAETHYL lead**

- Effect of ethyl radicals on the thermal decomposition of azomethane; the kinetics of the thermal decomposition of tetraethyllead; ethyl radicals and hydrogen. J. A. Leermakers. *diag Am Chem Soc J* 55:4508-18 N '33
- Effect of metallic (lead) dope on the carbonisation of oil in the combustion space of an engine. R. O. King. *il Engineering* 136:183-6 Ag 25 '33; *Abstract. Mech Eng* 55:770-1 D '33
- Effect of tetraethyllead on octane number. L. E. Hebl, T. B. Rendel and F. L. Garton. *il Ind & Eng Chem* 25:187-91 F '33
- Study of the reactions of free ethyl radicals from the thermal decomposition of tetraethyllead. R. N. Meinert. *Am Chem Soc J* 55:979-89 Mr '33
- Two reactions of gaseous methyl and ethyl. J. H. Simons and M. F. Dull. *diags Am Chem Soc J* 55:2696-701 Ji '33

**Manufacture**

- Lead absorption and excretion in certain lead trades. R. A. Kehoe, F. Thamann and J. Cholak. *bibliog J Ind Hygiene* 15:306-19 S '33

**TETRAHEDRITE**

- Oxidation of jamesonite, sphalerite, and tetrahedrite. A. L. Anderson. *il Econ Geol* 27:687-703 D '32
- Relation between silver content and tetrahedrite in the ores of the North Cananea mining co., Cananea, Sonora, Mexico. H. V. Warren. *Econ Geol* 27:737-43 D '32

**TETRAHYDROFURFURAL**

- Structure of reactants and the extent of acetal formation. N. Minné and H. Adkins. *Am Chem Soc J* 55:299-309 Ja '33

**TETRAHYDRONAPHTHALENE. See Tetralin****TETRAHYDROPYRIMIDINES**

- Researches on pyrimidines; the reduction of 1,2,3,4-tetrahydropyrimidines. K. Folkers and T. B. Johnson. *Am Chem Soc J* 55:1140-7 Mr '33

**TETRAHYDROTUBANOL**

- Rotenone; synthesis of tetrahydrotubanol. H. L. Haller. *Am Chem Soc J* 54:4755; 55:3032-5 D '32. Ji '33

**TETRAHYDROXANTHONE**

- Reactions of 1:2:3:4-tetrahydroxanthone. H. I. Hall and S. G. P. Plant. *Chem Soc J* p232-5 Mr '33

**TETRAHYDROXYBENZENE**

- Derivatives of 1:2:3:4-tetrahydroxybenzene. W. Baker, A. W. W. Kirby and L. V. Montgomery. *Chem Soc J* p2876-9 D '32

**TETRAISOAMYLAMMONIUM nitrate**

- Properties of electrolytic solutions; conductance as influenced by the dielectric constant of the solvent medium. C. A. Kraus and R. M. Fuoss. *diag Am Chem Soc J* 55: 21-36 Ja '33
- Properties of electrolytic solutions; the conductance minimum and the formation of triple ions due to the action of Coulomb forces. R. M. Fuoss and C. A. Kraus. *bibliog Am Chem Soc J* 55:2387-99 Je '33

**TETRALIN**

- Die autoxydation des tetralins. L. Piatti. *Angew Chemie* 46:638-9 O 7 '33
- Developments in naphthalene removal by spraying solvents; based on the work of the laboratory of Cracow gas works and of W. J. Piotrowski and J. Winkler. G. Malecki. *diags Gas Age* 72:285-8 S 23 '33
- Meter diaphragms. L. M. Van der Pyl. *Am Gas J* 139:23-4 O '33
- Notes on tetralin. P. E. Cholet. *Am Gas J* 138:29 Ja '33
- Purifier developed to be used exclusively with tetralin. *diag Gas Age* 71:346 Ap 1 '33
- Reducing metal corrosion rate by use of an inhibitor. A. R. Dunham. *Gas Age* 71:657-8 Je 24 '33
- Wetting, spreading, and emulsifying agents for use with spray fluids; miscible oils. R. M. Woodman. *Soc Chem Ind J* 52:4T-6T Ja 13 '33

**TETRALONE. See Dihydronaphthalenone****TETRAMETHYLAMMONIUM compounds**

- Conductivity of tetramethylammonium salts in methyl and ethyl alcohol. T. H. Mead, O. L. Hughes and H. Hartley. *Chem Soc J* p1207-14 S '33

**TETRAMETHYLMETHANE**

- Preparation of tetramethylmethane (neopentane) and determination of its physical constants. F. C. Whitmore and G. H. Fleming. *Am Chem Soc J* 55:3803-6 S '33

**TETRAMETHYLPIPERAZINE**

- Stereoisomer 2:3:5:6-tetramethylpiperazines. F. B. Kipping. *Chem Soc J* p143-4 F '33

**TETRAMETHYLTHIURAM disulfide**

- Temperature coefficient of vulcanization; determination for mixes accelerated with tetramethylthiuram disulfide and a butyraldehyde-aniline condensation product. R. V. Sandstrom. *Ind & Eng Chem* 25:684-6 Je '33

**TETRAMETHYLENE sulfide**

- Successful syntheses of thiophanes will aid in study of objectionable sulphur compounds. R. W. Bost and M. W. Conn. *Oil & Gas J* 32:17 Je 8 '33



**TETRANITROPENTAERYTHRITE**

La tétranitropentaérythrite ou penthrite. L. Desvergues. *diag Chimie & Ind* 29:1263-77 Je '33

**TETRAPHENYLDIARSYL**

Diarsyls; reactions of tetraphenyldiarsyl. F. F. Blicke, R. A. Patelski and L. D. Powers. *Am Chem Soc J* 55:1158-61 Mr '33

**TETRAPHENYLETHYLENE**

Retropinacolone rearrangement. W. E. Bachmann. *Am Chem Soc J* 55:3857-9 S '33

**TETRAPHENYL lead**

Thermal decomposition of lead tetraphenyl. M. F. Dull and J. H. Simons. *Am Chem Soc J* 55:4328-9 O '33

**TETRATOLYL tin**

Some reactions of tetra-para-tolylin. R. W. Bost and H. R. Baker. *Am Chem Soc J* 55:1112-13 Mr '33

**TETRAZINE**

Tetrazine. D. Wood, jr. and F. W. Bergstrom. *bibliog Am Chem Soc J* 55:3648-52 S '33

**TETRAZOTIZATION**

Character of the diazonium group; the tetrazotization of para-phenylenediamines. H. A. J. Schoutissen. *Am Chem Soc J* 55:4535-41 N '33

**TEXACO salt products company**

Mid-continent brine yields salt, bromine, calcium chloride, and epsom salt. *il Chem & Met Eng* 40:414-16 Ag '33

**TEXAS**

*See also*

Geology—Texas  
Petroleum—Texas

**Commerce**

Aid for analyzing markets in Texas. 24p U. S. Bur. of foreign and domestic commerce, Washington '33

**Industries and resources**

Geography of the Callahan Divide; a study in the adjustment of industry to environment. L. G. Kennamer. 225p [bibliog p221-5] pa \$2 Peabody college book store, Nashville, Tenn. '32

**TEXAS academy of science**

Annual meeting, Houston, Nov. 11-12. *Science* 77:54-5 Ja 13 '33

**TEXAS corporation**

Texaco reduces loss. *Econostat* 1:13+ Ap 22 '33

Texaco's fight; bitter proxy fight for control. *Business Week* p14 S 30 '33

Texaco corp. cuts losses 80%; taxes are 29.9% of receipts. R. C. Holmes. *Nat Pet N* 25:14 Ap 19 '33

**TEXAS Gulf sulphur company**

Texas Gulf reports larger net. *Econostat* 1:13, 32 Ag 26 '33

Two sulphur companies compared; Texas Gulf sulphur co. and Freeport Texas co. J. C. Clifford. *il Mag of Wall St* 51:214-15+ D 10 '32

**TEXAS university**

McDonald observatory of University of Texas. *Science* 78:162 Ag 25 '33

**TEXTILE analysis**

Analysis of cotton and viscose rayon mixtures. B. P. Ridge and K. Turner. *Soc Chem Ind J* 52:86T-8T Mr 31 '33

Comparison of methods for the determination of small amounts of copper in textiles. W. M. Scott. *bibliog Am Dyestuff Rep* 22:605-10 O 9 '33

Detection of heavy metals and traces of impurities in cotton fabrics. H. M. Chase. *Am Dyestuff Rep* 22:75-81 Ja 30 '33

Determination of artificial silk (viscose) in mixtures of artificial silk and cotton waste. P. McGregor and C. F. M. Fryd. *Textile Inst J* 24:T103-4 F '33; Same. *Textile Col* 55:339+ My '33

Microchemical methods as applied to spots on textile fibers. I. W. Grote. *Am Dyestuff Rep* 22:446-8 Jl 17 '33

Microchemistry; a new technique for solving textile problems. K. M. Herstein. *il diags Textile World* 83:1452-4 Ag '33

Quantitative determination of starch as sizing. B. X. Herman. *Am Dyestuff Rep* 22:611-14+ Ag 28 '33

Textile industry meets microchemistry. K. M. Herstein. *il Textile Col* 55:238-9+ Ap '33

*See also*

Cotton—Analysis

Silk—Analysis

Silk, Artificial—

Analysis

Sulfonated oils—

Analysis

Wool—Analysis

**TEXTILE associations**

Leadership from trade associations is up to the industry. *Textile World* 83:392 F 28 '33

Textile trade associations move promptly to align themselves with industry recovery program. *Textile World* 83:1076-8 Je '33

**TEXTILE chemistry**

American association of textile chemists and colorists 13th annual convention, Chicago, Sept. 8-9. *Textile World* 83:1833-6 O '33

Chemicals and processes. Published in monthly numbers of *Melliand*

Flame proofing of textiles; use of ammonium and boron compounds. R. Chesneau. *Textile Col* 55:375-7+ Je '33

Formaldehyde in the treatment of textile materials. A. J. Hall. *Am Dyestuff Rep* 22:379-81, 399-401 Je 19 '33

Hydrogen ion concentration control in the textile industry. C. E. Mullin. *Textile Col* 54:803-5 D '32

Hydrogen ion measurement and control. P. L. Mann. *Am Dyestuff Rep* 22:167-8 F 27 '33

Modern wetting, scouring and dyeing agents. W. W. Bray. *Am Dyestuff Rep* 22:247-50; Discussion. 250-2 Ap 10 '33

New developments in research on cells walls and their value in textile chemistry. M. Lüdtke. *il diag Melliand* 4:259-62, 310-12, 635-6, 714-17 Jl-Ag '32, Ja, Mr '33

New tools for industry. N. D. Harvey, jr. *Am Dyestuff Rep* 22:241-7 Ap 10 '33

Rayon dyeing and finishing. B. L. Hathorne. *Am Dyestuff Rep* 22:239-40, 259-60+ Ap 10 '33

Recent developments in textile finishing. L. G. Lawrie. *Textile Inst J* 24:P226-30 S '33; Abstract. *Chem Age (Lond)* 28:572 Je 24 '33

Recent developments in the application of the fat alcohol sulfates. S. Lenher. *Am Dyestuff Rep* 22:663-7; Discussion. 667 N 6 '33

Some uses of starch products in the textile industry. H. A. Crown. *Am Dyestuff Rep* 22:668-72 N 6 '33

Tensile strength and fluidity in cuprammonium hydroxide solution of chemically modified rayon and cotton yarns; oxidation by hypochlorite solutions. B. P. Ridge and H. Bowden. *bibliog diags Textile Inst J* 23:T319-66 D '32

Testing of dyes and chemicals for mill use. B. S. Hillman. *Textile Col* 55:228-31, 307-10 Ap-May '33

Textile chemists consider bleaching, dyeing, and printing problems at annual meeting. *Textile World* 82:1152-3 D '32

Uses of glue and gelatine in the textile industries. A. H. Pettinger. *Am Dyestuff Rep* 22:489-90 Ag 14 '33

Wetting agents in textile processing. H. A. Neville, C. A. Jeanson and A. L. Smith. *Am Dyestuff Rep* 22:541-3, 565-6, 618+ S 11-O 9 '33

Why is a textile fiber? H. De W. Smith. *Am Dyestuff Rep* 22:152-5; Discussion. 155-6 F 27 '33

*See also*

Bleaching

Bleaching materials

Dyes and dyeing—

Chemistry

Mercerizing

Mothproofing prepara-

tions

Sizing (textiles)

Soap, Textile

Textile analysis

Textile finishing

Textile oils

Wetting agents

**TEXTILE chemists**

Place of technical men in the textile industry. H. H. Willis. *Am Dyestuff Rep* 22:207-10 Mr 27 '33; Same. *Melliand* 4:705-7 Mr '33

**TEXTILE design**

- Cut-presser figures; procedure for spring-needle design. J. F. Cahill. *il Textile World* 83:214-16, 735 F 14, Ap '33
- Designing silk fabrics. W. Markham. *il Melland* 4:674-5 F '33
- Development of warp loom knitted fabrics. W. Davis. *il Melland* 4:550-3 D '32
- Double cloths; employing two series of both warp and filling threads. R. A. C. Scott. *il Textile World* 83:1808-9 O '33
- Employing modern looms to reproduce colonial coverlets. W. E. Shinn. *il Textile World* 83:212-13 F 14 '33
- Idea that opened hundreds of new accounts; Cheney brothers cravats designed from game birds. G. W. Hunter. *il Ptr Ink Mo* 26:27+ Ja '33
- Imitation backed cloths. R. A. C. Scott. *il Textile World* 83:918-19 My '33
- Means draw nearer for better design-protection. *Textile World* 83:55 Ja '33
- Meeting style trend; how silk or rayon designer should plan new fabrics. C. C. Mattmann, jr. *Textile World* 83:1814 O '33
- Narrow fabrics. E. J. Gibbons. *il Textile World* 83:584-5 Mr '33
- New means of design security. W. Fawcett. *Am Dyestuff Rep* 22:557-8 S 11 '33
- New style concept would check piracy and yield dollars-and-cents return. J. Black. *il Textile World* 83:396-7 F 23 '33
- Obtaining large weave repeats on dobbies; Delamare system. K. Augustin. *il Melland* 5:201-3, 240-1 O-N '33
- Pattern inspiration found in weave structure. *Textile World* 83:1432-3 Ag '33
- Piracy; silk printers end a long abuse by unanimously agreeing to refuse copied patterns. *Business Week* p8-9 N 23 '32
- Piracy; textile men win support for a new bill to protect original patterns. *Business Week* p12 Ja 4 '33
- Spires and silks. *il Adv & Sell* 21:sup [Adv Arts] 24+ My '33
- Warp-backed cloths. R. A. C. Scott. *diag Textile World* 83:222-3 F 14 '33
- What has been accomplished towards protecting textile designs? O. A. Geier. *Melland* 5:122+ Je-Jl '33
- Woolen weaves. G. R. Stevens. *il Textile World* 83:753 Ap '33

*See also*

Textile printing

Weaving

**TEXTILE drying**

*See also*

Drying apparatus—  
Textiles

**TEXTILE education**

Textile education. A. Abbott. *Textile Inst J* 23:P251-4 N '32

*See also*

Textile schools

**TEXTILE fabrics**

- Deodorizing textiles. R. A. Engel. *Melland* 5:106-7 Je-Jl '33
- Destructive action of moths (dermestids) and its prevention. A. Herfs. *il Melland* 4:555-8, 625-8, 681-5 D '32-F '33
- Development of warp loom knitted fabrics. W. Davis. *il Melland* 4:550-3 D '32
- Dyeing fabrics for the window display industry. G. Rice. *Textile Col* 55:682+ O '33
- Flame proofing of textiles; use of ammonium and boron compounds. R. Chesneau. *Textile Col* 55:375-7+ Je '33
- Home furnishings trend foreshadowed by Radio City textiles. *il Textile World* 83:247-50 F 14 '33
- Industrial uses of textiles. R. H. Pickard. *Soc Chem Ind J* 52:199T-201T Jl 14 '33; Abstract. *Chem Age (Lond)* 29:48-9 Jl 15 '33
- Linen-like effects newest feature of Paris openings. M. H. Stark. *il Textile World* 83:763-6 Ap '33
- Mechanical handling of textile fabrics. G. L. Atkinson. *diags Mech Handling* 20:219-21, 251-3 Jl-Ag '33

- Mildew in the textile industry. W. Garner. *bibliog il Textile Col* 55:95-8+ F '33
- Narrow fabrics. E. J. Gibbons. *il Textile World* 83:584-5 Mr '33
- New fabric styles forecast for summer and fall. H. Volka. *il Textile World* 83:399-402 F 28 '33
- New products: wood, textiles, paper. *il Arch Rec* 73:304-5 Ap '33
- Production of woven ondulé fabrics. E. F. Kraft. *il diags Melland* 5:72-3 My '33
- Textiles in the theatre. F. G. H. Macrae. *Am Dyestuff Rep* 22:647 O 23 '33
- Textiles student's manual. T. Welford. 221p \$2.25 Pitman '33

*See also*

- |                                 |                                |
|---------------------------------|--------------------------------|
| Airship fabrics                 | Photography of textiles        |
| Automobile fabrics              | Pile fabrics                   |
| Bedford cord                    | Rubberized fabrics             |
| Blankets                        | Rugs                           |
| Bleaching                       | Silk                           |
| Carpets                         | Silk, Artificial—Fabrics       |
| Cleaning                        | rics                           |
| Color in the textile industries | Silk fabrics                   |
| Cotton fabrics                  | Sizing (textiles)              |
| Crepe                           | Tapestry                       |
| Cretonne                        | Textile fibers                 |
| Drapery                         | Textile finishing              |
| Dry goods                       | Textile industry               |
| Duck (textile)                  | Textile research               |
| Elastic fabrics                 | Underwear                      |
| Fabrikoid                       | Upholstery                     |
| Knit goods                      | Velvet                         |
| Laundry                         | Waterproofing of textiles      |
| Linen                           | Woolen and worsted fabrics     |
| Lining fabrics                  | Woolen and worsted manufacture |
| Mildew                          |                                |
| Mohair                          |                                |

**Analysis**

- Device for manipulating sample greatly simplifies production of fabric stereograms. E. R. Schwarz. *il diag Textile World* 83:1451-3 Ag '33
- New microscope shows textiles as they are. E. R. Schwarz. *il Textile World* 82:1176 D '32

**Bibliography**

- Abstracts. Published in monthly numbers of the *Journal of the Textile Institute*
- International review of periodicals. Published in monthly numbers of *Melland*

**Defects**

- Some general sources of faults in textile materials. L. L. Lloyd. *Textile Inst J* 24:P161-5 Ag '33; Same. *cond. Am Dyestuff Rep* 22:679-81 N 6 '33; Discussion. *Textile Inst J* 24:P165 Ag '33
- Water marks; causes, prevention, cure. G. L. Atkinson. *il Textile World* 83:237 F 14 '33

**Double cloth**

- Double cloths; employing two series of both warp and filling threads. R. A. C. Scott. *il Textile World* 82:1808-9 O '33
- Narrow fabrics. E. J. Gibbons. *il Textile World* 83:584-5 Mr '33

**Exhibitions**

- British industries fair 1933. *Textile Inst J* 24:P37-40 Mr '33

**Inspection**

- Textile projector discloses knitted and woven defects. W. P. Seem. *il Textile World* 83:234-5 F 14 '33; Same. *Melland* 4:712-14 Mr '33

**Shrinkage**

- From scratch to 200,000,000 yards in four years; Cluett, Peabody is advertising and selling its sanforized process to the industry and consumers. J. C. Turrell. *il Ptr Ink* 162:17-20 Mr 30 '33
- Fully shrunk fabrics. *diag Textile Col* 54:833 1) '32
- Predetermined shrinkage in sanforizing. H. D. Clayton. *Am Dyestuff Rep* 21:739-41 D 19 '32
- Report on shrinkage of textiles. *Am Dyestuff Rep* 22:44-5 Ja 16 '33



**TEXTILE fabrics—Shrinkage—Continued**

Shrinkage of cotton and linen woven materials. G. H. Johnson. *Am Dyestuff Rep* 22: 561-4+, 591-2, 619-21 S 25-O 9 '33

Shrinking in general, sanforizing in particular. R. W. Arrington. *Textile World* 82:969 N '32  
Some examples of modern finishing machinery development. W. J. Norton. *il diags Textile Inst J* 24:P243-6 S '33

Textile shrinkage control; what can be done about it? G. H. Johnson. *Am Dyestuff Rep* 22:67+ Ja 16 '33

Universal sanforizing range. *il Melland* 5:123 Je-Jl '33

*See also*

Woolen and worsted fabrics—Shrinkage

**Tables, calculations, etc.**

Fabric weight—quick! calculations simplified for 54-in. knit and woven goods. J. F. Cahill. *il Textile World* 83:1435 Ag '33

Warmth without weight; study of bulkiness in knit goods. W. Davis. *Textile World* 83: 1625-6 S '33

Yarn diameters and cloth structure, theory and practice. T. Woodhouse and A. Brand. 163p \$2.75 Macmillan '32

**Testing**

Flexometer, an instrument for evaluating the flexural properties of cloth and similar materials. H. F. Schiefer. *pl U S Bur Stand J Research* 10:647-57 My '33

Simplified apparatus for determining the thermal insulating value of fabrics. H. S. Schenker. *il diags Melland* 5:115-17 Je-Jl '33

Transmission of heat through fabrics; abstract. M. C. Marsh. *Mech Eng* 55:586 S '33

Wearing qualities of synthetic yarn lining fabrics and methods used in testing. C. L. Simon. *il Melland* 5:13-14, 58-9, 108-10 Ap-Je-Jl '33; Abstract. *Textile World* 83:576-7 Mr '33

*See also*

Airship fabrics—Testing

**TEXTILE fabrics, Effect of light on**

Some reasons for the fading of sunfast fabrics. E. C. Hustead. *il Melland* 4:686-7 F '33

**TEXTILE fabrics, Varnished****Testing**

Application of control analysis to the quality of varnished cambric tape. M. F. Skinner. *Am Soc T M Proc* 32 pt 2:670-5 '32

Testing varnished cloth. D. Harvey. *diag Elec J* 30:303-5 Jl '33

**TEXTILE fibers**

Absorption of alcohol by fibrous materials. R. T. Mease. *Ind & Eng Chem Anal ed* 5: 317 S 15 '33

Asbestos textiles. C. K. Dillingham. *Am Soc T M Proc* 32 pt 2:743-8 '32; Same. *Am Dyestuff Rep* 21:571-3 S 12 '32; Excerpts. *Mech Eng* 54:650-1 S '32

Colloid aspects of textile materials and related topics; a general discussion held by the Faraday society, September, 1932. 368p Gurney & Jackson, London '32

Enzyme action in the textile industries. W. F. Edwards. *Am Soc T M Proc* 32 pt 2:725-32 '32; Same. *Am Dyestuff Rep* 21:553-4, 569-70+ S 12 '32

Industrial uses of textiles. R. H. Pickard. *Soc Dyers & Col J* 49:323-4 O '33

Mildew. F. C. Pratt. *Textile Col* 55:344-5+ My '33

New microscope shows textiles as they are. E. R. Schwarz. *il Textile World* 82:1176 D '32

Rabbit fur makes sharp rise to popularity in textiles. J. Kohlberg. *Textile World* 83:236 F 14 '33

Solka, a new fiber with cellulose base. *Paper Tr J* 96:44 Je 15 '33

Solka; a new material for textiles and plastics, shoes and shingles. *Business Week* p11 Ag 5 '33

Solka, new textile. *il Textile World* 83:1109 Je '33

Structure of textile fibres; abstracts. P. Larose. *Soc Chem Ind J (Chem & Ind)* 52: 303-4 Ap 7 '33; *Can Chem & Met* 17:74 Ap '33

Textiles student's manual. T. Welford. 221p \$2.25 Pitman '33

What the microscope shows of textile fibers. S. M. Edelstein. *Am Dyestuff Rep* 22:467-9+ Jl 31 '33

Why is a textile fiber? H. De W. Smith. *Am Dyestuff Rep* 22:152-5; Discussion. 155-6 F 27 '33

X-ray interpretation of fibre structure. W. T. Astbury. *bibliog diag pl Soc Dyers & Col J* 49:168-79; Discussion. 179-80 Je '33

Yucca fibre. *il Soc Dyers & Col J* 49:61-2 F '33

*See also*

Bast fibers	Linen
Cotton fibers	Mohair
Flax	Ramie
Hemp	Silk
Jute	Wool

**Identification**

Neocarmin W; a reagent for the quick recognition of all textile fibers. *Melland* 5:179-80 Ag-S '33

**Measurement**

Measurement of fibre and yarn diameters by diffraction method. J. A. Matthew. *Textile Inst J* 24:T54-6 Ja '33

**Testing**

Machine for determining the breaking strength of individual textile fibers. H. B. Gordon. *bibliog diag Melland* 5:244-5 N '33  
New autographic load-extension recorder. H. S. Cliff. *diags pl Textile Inst J* 24:T351-60 O '33

**TEXTILE finishing**

Aromatics find increasing use for reodorizing textiles. *Textile World* 82:1173 D '32

Better crabbing results; eliminating costs and reducing faults in this operation. G. L. Atkinson. *Textile Col* 55:675-6+ O '33

Cockling of light-weight dress goods. G. L. Atkinson. *Textile Col* 55:450-1+ Jl '33

Drying problems for special coated fabrics. W. H. Adams. *diags Melland* 4:580-1 D '32

Efficiency of finishing and thickening agents; abstract. F. Koelbl and L. Zakarais. *Am Dyestuff Rep* 22:461-2 Jl 17 '33

Finishing knit goods. W. E. Herrick. *Textile World* 82:970 N '32

Materials and methods of finishing. A. J. Kelly. *Textile Col* 55:594-7 S '33

Perfecting the wire napper. *diag Melland* 5: 247 N '33

Performance of two new finishing machines on linen. E. Butterworth. *il diags Textile Inst J* 24:P209-16 S '33

Practical ideas in processing cotton, rayon, silk, and linen piece goods. A. C. Estey. *Textile Col* 55:171-3, 267-9 Mr-Apr '33

Progress in finishing reported at Textile institute conference. *diag Textile World* 83: 1440 Ag '33

Recent developments in textile finishing. L. G. Lawrie. *Textile Inst J* 24:P226-30 S '33; Abstract. *Chem Age (Lond)* 28:572 Je 24 '33

Reducing costs and faults in the preparing and finishing of repp and poplin fabrics. G. L. Atkinson. *Textile Col* 55:373-4+ Je '33

Sizing, finishing and printing materials. G. F. Dalenord. *Textile Col* 55:671-4+ O '33

Some examples of modern finishing machinery development. W. J. Norton. *il diags Textile Inst J* 24:P231-46 S '33

Starches and dextrans for sizing, finishing, and printing. *il Textile World* 83:229 F 14 '33

Textile plant problems. A. C. Estey. *Textile Col* 55:483-5+, 559-61 Jl-Ag '33

Textile processing. *il Textile World* 83:416-17 F 28 '33

**TEXTILE finishing—Continued**

Water marks; causes, prevention, cure. G. L. Atkinson. *il Textile World* 83:237 F 14 '33

*See also*

Cotton finishing  
Mercerizing  
Silk, Artificial—  
Finishing  
Sizing (textiles)

Waterproofing of  
textiles  
Woolen and worsted  
finishing

**TEXTILE Industry**

Accurate sales costs as determining factor in merchandising policy. J. A. Austin. *il Textile World* 83:393-4 F 28 '33

Competition lessened by community of interest in functions of distribution. *il Textile World* 83:395 F 28 '33

Customer cooperation points the way to profits. *Textile World* 83:398 F 28 '33  
From scratch to 200,000,000 yards in four years; Cluett, Peabody is advertising and selling its Sanforized process to the industry and consumers. J. C. Turrell. *il Ptr Ink* 162:17-20 Mr 30 '33

Increasing the sale of colored fabrics. H. D. Martin. *Textile Col* 55:85-6 F '33

Keying textile selling offices to modern merchandising. *il Textile World* 82:991-4 N '32  
Laundry industry establishes seal of fabric quality. *il Ptr Ink* 165:72-3 N 2 '33

New and broader opportunities under NIRA for sound merchandising. *Textile World* 83:1424-5 Ag '33

Processing digest. Published in monthly numbers of *Textile world*

Questions and answers on technical matters. Published in monthly numbers of *Melliand*

Rhythmic variations in industry; comparative trends of foods, textiles, building construction, and automobiles. T. M. McNiece. front *il Mech Eng* 55:659-66 N '33

Too much credit not good for the industry. E. L. Milliken. *Textile World* 83:49 Ja '33

Trend toward grouped selling of household textiles. *il Textile World* 82:1180 D '32

Value of textile products. H. D. Martin. *Textile Col* 54:826+ D '32

Wholesalers and retailers pave way for improved manufacturer-distributor relations. *Textile World* 83:224-5 F 14 '33

*See also*

Automobile fabrics  
Bleaching  
Carpets  
Clothing trade  
Color in the textile industries  
Cotton  
Cotton manufacture  
Cotton trade  
Dry goods  
Drying apparatus—  
Textiles  
Dye industry  
Dyes and dyeing  
Flax  
Hosiery  
Knit goods  
Knit goods industry  
Knitting  
Linen  
Mercerizing  
Rugs  
Silk, Artificial

Silk manufacture and  
trade  
Sizing (textiles)  
Textile design  
Textile fabrics  
Textile fibers  
Textile finishing  
Textile machinery  
Textile mills  
Textile printing  
Textile testing  
Underwear  
Uniforms  
Upholstery  
Weaving  
Wool trade  
Woolen and worsted  
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Woolen and worsted  
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Worsted  
Yarn

**Advertising***See also*

Silk, Artificial—  
Advertising

**Bibliography**

Abstracts. Published in monthly numbers of the *Journal of the Textile Institute*

Foreign publications. Published in monthly numbers of *Textile colorist*

International review of periodicals. Published in monthly numbers of *Melliand*

New books and trade literature. Published in monthly numbers of *Melliand*

**Exhibitions**

Southern textile exposition, 10th, Greenville, Oct. 17-22. *il Textile World* 82:952-5 N '32

**History**

Some reminiscences on the textile industry. J. E. Hardin. *Am Dyestuff Rep* 22:59-63 Ja 16 '33

**Securities**

Textile and apparel companies, 1930-1932. *Mag of Wall St Manual* p51-2 Mr 6 '33

**Statistics**

Technocratic blues unsung by textile census; summaries since 1914. *Textile World* 83:407 F 28 '33

Textile statistics. Published in monthly numbers of *Survey of current business*

**Canada**

Textile industries of Canada, 1929-30. 265p  
Canada. Dominion Bur. of statistics, Ottawa '32

**Kashmir**

Textile industries of Kashmir. A. F. Barker. *il Textile Col* 55:240-5+ Ap '33

**Massachusetts**

Moratorium on Massachusetts labor restrictions proposed to meet competition. H. P. Kendall. *Textile World* 82:1157 D '32

**New England**

Labor laws; New England, disturbed by the industry's lowering standards, warns she will have to meet competition. *Business Week* p6 D 7 '32

**Russia**

Dumping of Russian textiles on the world market. H. A. Robiczek and R. Leonhardt. *Textile Col* 55:18-20 Ja '33

**United States**

Buying movement in textiles gains. C. S. Woolsley. *Dun & Bradstreet* 41:28-9 Ap '33

Effect of codes cannot yet be gauged accurately. *Textile World* 83:1618 S '33

1933 prospects. *Textile World* 83:39-40 Ja '33

Operation of codes brings mixture of reactions with net result beneficial. *Textile World* 83:1412-13 Ag '33

Roller-coaster year of 1932 leaves textile industry breathless but hardened. D. G. Woolf. *Textile World* 83:380-3 F 28 '33

Status of textile codes. *Textile World* 83:1613-16 S '33

Textile census. *Textile World* 83:210 F 14 '33

Textile chronology for 1932. *Textile World* 83:442-4 F 28 '33

Textile code-making now extending to minutiae. *Textile World* 83:1801-2 O '33

Textile codes in effect under the Industrial recovery act; texts and hearings. *Textile World* 83:1414-21+ Ag '33

Textile improvement makes even cold figures seem dramatic. *Textile World* 83:1800 O '33

Textile World analyst. Published in monthly numbers of *Textile world*

Textiles. *Bradstreet's* 60:1594-5; 61:42-3, 386-7 D 3 '32, Ja 14, F 25 '33

Textiles climb back. *Textile World* 83:1250 Jl '33

Washington sees challenge to textile industry. P. Wooton. *Textile World* 82:990 N '32

Whither textiles? D. G. Woolf. *Chem & Met Eng* 40:7-9 Ja '33

*See also*

Naumkeag steam cotton company, Salem, Massachusetts

**TEXTILE Institute**

Aims and functions of institutions with special reference to the Textile Institute. J. H. Lester. *Textile Inst J* 24:P32-6 F '33

Annual general meeting, 23d, Manchester, May 17. *Textile Inst J* 24:P73-86 My '33

Textile institute competitions; distribution of prizes. *Textile Inst J* 23:P281-6 D '32

**TEXTILE laboratories***See also*

Dye laboratories



## TEXTILE laboratories—Continued

## Directories

Directory of commercial textile testing laboratories. 13p Textile foundation, Commerce bldg, Washington, D.C. '33

## TEXTILE machinery

Butterworth tube-text machine. *il* Am Dyestuff Rep 22:682 N 6 '33

Machinery and equipment. Published in monthly numbers of *Melliand*

Modern methods in drawing-in and tying-in of warps for weaving. R. Huenlich. *il* *Melliand* 5:149-50, 248-9 Ag-S, N '33

Modernization—what is the situation under NIRA? *Textile World* 83:1423-4 Ag '33

New machinery and processes. Published in monthly numbers of *Textile world*

Performance of two new finishing machines on linen. E. Butterworth. *il* *diags Textile Inst J* 24:P209-16 S '33

Plain braids, braiders and braiding. E. J. Gibbons. *il* *diags Melliand* 3:928-9; 4:30-2, 295-7, 503-5; 5:99-101 F, Ap, Ag, N '32, Je-J '33

Rubber machinery: handling plain and rubber treated textiles. *il* *India Rubber W* 88:25-7 Ag '33

Sanding, singeing, wetting and steeping cellulose fabrics. M. W. Alling. *il* *diags Am Dyestuff Rep* 22:485-8+ Ag 14 '33

Sanforizing range. *il* *Textile World* 83:950 My '33

Some examples of modern finishing machinery development. W. J. Norton. *il* *diags Textile Inst J* 24:P231-46 S '33

Textile industry: condensed from the 1932 progress report of the A.S.M.E. textile division. *il* *Mech Eng* 54:855 D '32

## See also

Carding machines  
Cotton machinery  
Drying apparatus—  
Textiles

Dyeing machines  
Electric driving—  
Textile mills  
Hosiery machines  
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also American society of mechanical engineers—Textile division

Spinning machinery  
Spooling machines  
Tentering machines  
Textile printing machines  
Textile testing machines  
Twisting machines  
Winding machines  
Woolen and worsted machinery

## Exhibitions

Southern textile exposition, 10th, Greenville, Oct. 17-22. *il* *Textile World* 82:952-5 N '32  
Textile machinery exhibition, Leicester, Oct. 7-15. *Textile Inst J* 23:P255-7 N '32

## Maintenance and repair

Method and tools for removing twister cylinders. L. L. Kingsford. *il* *diags Textile World* 83:218-19 F 14 '33

## TEXTILE machinery industry

## Great Britain

Engineering outlook. *Engineering* 135:224-6 F 24 '33

## United States

Textile code hearing sets speed record. *Iron Age* 132:34-5 Ag 31 '33

## TEXTILE mills

Decaying roofs; construction modernized to eliminate dry rot. R. H. Guest. *il* *Textile World* 83:226-8 F 14 '33

New mill construction in first half of 1933 exceeds \$3,000,000. *Textile World* 83:1251 J1 '33

Prevent decay! role of wood-preservative treatments in reducing mill repair costs. *il* *Textile World* 83:1268-9 J1 '33

## See also

Carpet factories  
Cotton mills  
Dyehouses  
Electric driving—  
Textile mills  
Hosiery mills  
Knitting mills  
Rugs—Manufacture

Silk mills  
Textile industry  
Textile machinery  
Textile workers  
Water supply for textile mills  
Woolen and worsted mills

## Accidents

Textile accidents. *Textile Col* 55:486 J1 '33

## Accounting

Cost accounts for dyers and finishers. J. R. Blyth. *Soc Dyers & Col J* 49:127-32; Discussion. 132 My '33

## Electric equipment

Electricity and its application in textile works with special reference to the linen industry. R. W. Friend. *il* *Textile Inst J* 24:P265-70 O '33

Power transmission in textile mills. A. C. Woodbury. *il* *Melliand* 5:1-3 Ap '33

Textile electrification. W. Stiel. 608p 63s Routledge '33

## Employees

See Textile workers

## Equipment

Atmospheric control in the textile industry. R. H. Brown. *il* *Am Soc T M Proc* 32 pt 2:733-42 '32

Conveying difficulties in a textile mill; uses of chutes and power scutches. G. L. Atkinson. *diags Mech Handling* 20:319-21 O '33

Decentralized humidity; unique control layout gives uniformity. F. A. Westbrook. *Textile World* 83:1442 Ag '33

Machinery and equipment. Published in monthly numbers of *Melliand*

Mechanical handling of textile fabrics. G. L. Atkinson. *diags Mech Handling* 20:219-21, 251-3 J1-Ag '33

Operating economies follow modernization of buildings and of auxiliary equipment. F. A. Westbrook. *il* *Textile World* 83:440-1 F 28 '33

Plant engineers seek every means to reduce power and maintenance costs. *il* *Textile World* 83:421-3 F 28 '33

Scrapping obsolete textile machinery will save \$159,000,000 a year. W. W. Chase. *diags Textile World* 83:428-31 F 28 '33

Stainless steel in the textile industry. K. E. Luger. *Am Dyestuff Rep* 22:98-100; Discussion. 100-2 Ja 30 '33

Steam and electrical problems considered by master mechanics. *Textile World* 83:932 My '33

Textile processing. *il* *Textile World* 83:416-17 F 28 '33

## See also

Drying apparatus—  
Textiles  
Textile machinery

## Heating and ventilation

Unit heaters find increasing use in textile mills. C. L. Hubbard. *il* *Textile World* 83:590-1 Mr '33

Unit heaters; installation and operating methods which insure highest efficiency. C. L. Hubbard. *diags Textile World* 83:1630-1 S '33

## Lighting

Hygienic lighting; a recent innovation in textile-mill illumination. *il* *Textile World* 83:1822 O '33

Die wirtschaftlichkeit der künstlichen beleuchtung in der textilindustrie. N. Goldstern and F. Putnoky. *il* *diags Zeit Ver Deutsch Ing* 77:707-12 J1 1 '33

## Management

Good layout expedites work of folding and packing. H. P. Nash, jr. plans *Textile World* 83:935 My '33

Management problems accentuated by the Recovery act. *Textile World* 83:1422 Ag '33

Necessity for creative management in the textile industry. A. O. Joslin. *Am Dyestuff Rep* 21:700-2 D 5 '32

Overseers' round-table. Published in monthly numbers of *Textile world*

Plant analysis. W. A. Lang. *il* *Textile World* 83:566-7 Mr '33

Proper allocation of the high cost of textile supervision. H. D. Martin. *Textile Col* 55:677-8 O '33

**TEXTILE mills—Management—Continued**

Scrapping obsolete textile machinery will save \$159,000,000 a year. W. W. Chase. *diags Textile World* 83:428-31 F 28 '33

What's ahead of management under the codes? R. H. Rositzke. *Factory Management* 91:407-10 O '33

*See also*

**Cotton mills—Management**

**Dyehouses—Management**

**Power**

Courageous electrical pioneers, Columbia mills company. J. W. Hammond. *il Melliland* 5:89-91 Je-Jl '33

Investigation of rate schedules points way to lower costs for purchased power. M. C. Bishop. *il Textile World* 83:1100-1 Je '33

Modernized boiler plant gives 31% savings in operating costs; Willimantic mills of the American thread co. S. B. Gammel. *plans Textile World* 82:984-5 N '32

Plant engineers seek every means to reduce power and maintenance costs. *il Textile World* 83:421-3 F 28 '33

Power costs affected by new elements. J. J. McElroy. *il Textile World* 83:52-4 Ja '33

Use of condensers in factory power plants. C. L. Hubbard. *diags Melliland* 4:609-10, 657-9 Ja-F '33

Waste elimination is important factor in lowering power costs. R. Reddie. *il Textile World* 83:752 Ap '33

*See also*

**Electric driving—Textile mills**

**Waste**

Mill sewage. M. S. Campbell. *Am Dyestuff Rep* 22:290+ Ap 24 '33

Pollution and self-purification of the Pocasset river in Rhode Island. F. W. Gilcreas. *Boston Soc C E J* 20:38-47 F-Mr '33

Sewage plant, Sparta, Ill. rebuilt to treat rayon wastes. U. F. Turpin. *il plan Eng N* 109:780-2 D 29 '32

**TEXTILE oils**

Mineral oil products; their application in textile processing. *Textile World* 83:1272 Jl '33

New possibilities in the lubrication of textile fibers. C. B. Ordway. *Am Dyestuff Rep* 22:638-40 O 23 '33

Oil for wool, rayon, silk and cotton. W. F. Vickers. *Inst Chem Eng Trans* 9:86-8; Discussion. 88-9 '31

Simple method for emulsifying oils. C. F. Goldthwait. *Am Dyestuff Rep* 22:589-90+ O 9 '33

Why, where, and how are sulfonated compounds used? A. H. Grimshaw. *bibliog Melliland* 5:102-3, 155-6 Je-Jl—Ag-S '33

*See also*

**Sulfonated oils**

**Wool oiling**

**TEXTILE patents**

American and foreign new inventions—patent reports. Published in monthly numbers of *Melliland*

Impregnation with lignite wax. B. Garten. *Melliland* 5:98 Je-Jl '33

*See also*

**Dye patents**

**Silk, Artificial—Patents**

**TEXTILE printing**

Ageing of printed cloth. O. R. Flynn. *Am Dyestuff Rep* 21:703-6 D 5 '32; Discussion. 21:706-8, 743-4 D 5-19 '32

Avoidance of halo in the use of basic-hydro-sulphite and vat color discharges. *Textile Col* 55:158-62 Mr '33

Block printing faults and their remedy. *Textile Col* 55:380-2, 452-5, 527-9 Je-Ag '33

Byways of printing. W. F. A. Ermen. *Soc Dyers & Col J* 49:39-41; Discussion. 41-2 F '33

Carbanthrene printing powders. *Textile Col* 55:769 N '33

Colorist and co-operation. A. E. Hirst. *Am Dyestuff Rep* 22:173-4, 197-8 Mr 13 '33

Cotton-rayon printing. R. Cottrell. *Textile World* 83:1824 O '33

Cover prints with indigosols. *Textile Col* 55:319 My '33

Cretonne printing. *Textile Col* 55:412-13 Je '33

Development of the stabilized insoluble azo dyes in fast color production. P. L. Mann. *Am Dyestuff Rep* 22:559-60 S 11 '33

Improvements in the printing of chrome colors. G. von Niederhäusern. *Textile Col* 55:768-9 N '33

Printing cotton bedspreads. *Textile Col* 55:471 Jl '33

Printing of wool viscose. *Textile Col* 55:92 F '33

Printing troubles. M. W. Alling. *il diags Am Dyestuff Rep* 21:469-76, 657-60+, 685-8+, 717-20, 747-9 Ag 1, N 21-D 19 '32

Printing with meta-aminophenol product; abstract. E. Zurdell and L. Lantz. *Textile Col* 55:544 Ag '33

Printing with metallic powders. *Melliland* 5:168-9 Ag-S '33

Printing with soledon dyes. A. J. Hall. *Textile Col* 55:622 S '33

Printing with sulphur colors; Cheshire process. *Textile Col* 55:329 My '33

Printing yarn; abstract. *Textile Col* 55:113 F '33

Recent developments in textile printing; avoiding corrosion on copper printing rollers. *Chem Age (Lond)* 28:327 Ap 15 '33

Roller printing difficulties. *Textile Col* 55:661-4, 746-9 O-N '33 (to be cont)

Shade matching in the printworks. T. C. Hutchins. *Am Dyestuff Rep* 22:143-6, 165-6 F 27 '33

Sizing, finishing and printing materials. G. F. Dalenord. *Textile Col* 55:671-4+ O '33

Some causes of damage in machine printing. *diag Textile Col* 55:22-5+ Ja '33

Some observations on ageing problems. H. B. Briggs. *Textile Inst J* 24:P150-5 Jl '33; Same cond. *Textile Col* 55:525-6 Ag '33; Same. *Am Dyestuff Rep* 22:753-4+ D 18 '33; Discussion. *Textile Inst J* 24:P155 Jl '33

Thickening materials for textile printing. F. G. La Piana. *Am Dyestuff Rep* 22:328-30, 341-3 My 22 '33

*See also*

**Calico printing**

**Dyes and dyeing**

**Silk, Artificial—Printing**

**Silk printing**

**Textile fabrics**

**Woolen and worsted printing**

**TEXTILE printing machines**

Important phases of printing. M. W. Alling. *il Am Dyestuff Rep* 21:657-60+ N 21 '32

Some causes of damage in machine printing. *diag Textile Col* 55:22-5+ Ja '33

Utility of chromium plating in calico printing. J. B. Dick. *Am Dyestuff Rep* 22:305-9; Discussion. 309-10 My 8 '33

**TEXTILE research**

New products pay dividends on textile research. *il Textile World* 83:384-5 F 28 '33

Organized research seems nearer accomplishment as agencies cooperate. *Textile World* 82:1158-9 D '32

Textile Foundation news; two-day conference in Washington. *Am Dyestuff Rep* 22:314-15 My 8 '33

Textile industry meets microchemistry. K. M. Herstein. *il Textile Col* 55:238-9+ Ap '33

Textile research. Published monthly by United States institute for textile research, inc. 65 Franklin st, Boston

Textile research; a survey of progress, compiled by the United States institute for textile research, inc. 264p Technology press, Massachusetts inst. of technology, Cambridge '32

What scientific research can do for the textile industry. E. B. Millard. *Chemicals* 37:3 N 14 '32

*See also*

**Cotton research**

**Dye research**

**Photography of textiles**

**United States institute for textile research**

**Wool research**

**TEXTILE schools**

Textile education provides trained industrial leaders. T. R. Hart. *Textile Col* 55:125+ F '33



**TEXTILE standards**

New testing standards offered by textile committee of A.S.T.M. Textile World 83:1259 JI '33

Textile standards; management not thoroughly awake to their economic advantages. *il* Textile World 83:390-1 F 28 '33

**TEXTILE testing**

Compressometer, an instrument for evaluating the thickness, compressibility, and compressional resilience of textiles and similar materials. H. F. Schiefer. *diag pl* U S Bur Stand J Research 10:705-13 Je '33

Description of a controlled temperature and humidity room for textile testing at the University college, Nottingham. C. H. Edwards. *diags* Textile Inst J 23:T274-8 N '32

Directory of commercial textile testing laboratories. 13p Textile foundation, Commerce bldg, Washington, D.C. '33

New testing standards offered by textile committee of A.S.T.M. Textile World 83:1259 JI '33

Some elementary facts in textile testing. R. H. Adams. *Am Dyestuff Rep* 22:212-14 Mr 27 '33

*See also*

Dye testing	Waterproofing of textiles—Testing
Textile fabrics—Testing	Yarn—Testing
Textile fibers—Testing	

**TEXTILE testing machines**

Improved United States testing company tester for determining twist and twist take-up. A. L. Brassell. *il* Melliand 5:167-8 Ag-S '33

Machine for determining the breaking strength of individual textile fibers. H. B. Gordon. *bibliog diag* Melliand 5:244-5 N '33

New autographic load-extension recorder. H. S. Cliff. *diags pl* Textile Inst J 24:T351-60 O '33

Special testing machines aid research at Bigelow-Sanford carpet co. *il* Textile World 83:1266 JI '33

Spinning instruments of scientific character enter the textile mill. B. J. Zalkind. *il* Textile World 83:1091 Je '33

Wearing qualities of synthetic yarn lining fabrics and methods used in testing. C. L. Simon. *il* Melliand 5:13-14, 58-9, 108-10 Ap-Je-JI '33; *Abstract*. Textile World 83:576-7 Mr '33

*See also*

Flexometer

**TEXTILE workers**

Agreement in upholstery industry in Philadelphia. Monthly Labor R 35:1374-5 D '32

Conditions in the upholstery-weaving industry in Philadelphia. Monthly Labor R 35:1305-6 D '32

Dermatitis from chemicals used in removing velvet pile. L. Schwartz and L. Lulipan. *Pub Health Rep* 48:872-5 JI 28 '33

Foreign wages. Textile Col 54:847-9 D '32

Human element in the textile industries. T. Oliver. Textile Inst J 24:P101-7 Je '33

NIRA codes deal new hands to textile workers. Textile World 83:1426-7 Ag '33

Wages and hours of labor in rayon and other synthetic yarn manufacturing, 1932. Monthly Labor R 36:607-12 Mr '33

Wages and hours of labor in the dyeing and finishing of textiles, 1932. U S Bur Labor Statistics Bul 588:1-72 '33

Wages and hours; vital factors in profit picture. Textile World 83:388-9 F 28 '33

*See also*

Cotton mills—Employees	Textile schools
Hosiery mills—Employees	Woolen and worsted mills—Employees
Silk mills—Employees	

**Classification**

Wages and hours of labor in the dyeing and finishing of textiles, 1932; factory occupational terms, and definitions and classification by Bureau of labor statistics. U S Bur Labor Statistics Bul 588:47-72 '33

**TEXTILES, Incorporated**

Myers and Rankin named receivers. Textile World 83:1292 JI '33

**TEXTOLITE**

Machining non-metallic materials. *Am Mach* 77:566 Ag 30 '33

**THALLIUM**

Cadmium, thallium, indium, and gallium as by-products of the lithopone industry. W. N. Hirschel. *Soc Chem Ind J* (Chem & Ind) 52:797-8 O 6 '33

Industrial applications of thallium and its compounds. *Soc Chem Ind J* (Chem & Ind) 52:687-9 Ag 25 '33

Isotope shift of Tl. G. Breit. *Phys R* 44:418-19 S 1 '33

Isotopes of uranium, thorium and thallium. R. Goslin and F. Allison. *Phys R* 43:49-50 Ja 1 '33

Revision of the atomic weight of thallium; the analysis of thallous chloride. G. P. Baxter and J. S. Thomas. *bibliog Am Chem Soc J* 55:2384-7 Je '33

**Analysis**

Colorimetric determination of thallium. P. A. Shaw. *Ind & Eng Chem Anal ed* 5:93-5 Mr 15 '33

**THALLIUM bromide**

Adsorption of thorium B by thallium halide crystals in the presence of various ions. J. F. King and P. R. Pine. *diag J Phys Chem* 37:851-74 O '33

**THALLIUM chlorides**

Action of ethylmagnesium bromide on thallous chloride and on thallous ethoxide. R. C. Menzies and I. S. Cope. *Chem Soc J* p2862-6 D '32

Activity coefficient of thallous chloride in protein systems. G. C. H. Stone and C. F. Failey. *J Phys Chem* 37:935-49 [bibliog p949] O '33

Preparation of reststrahlen plates and the reflection power of powders. R. B. Barnes. *Phys R* 43:31-3 Ja 1 '33

Solubility of thallous iodate and thallous chloride in the presence of amino acids. C. F. Failey. *Am Chem Soc J* 55:4374-8 N '33

**Analysis**

Revision of the atomic weight of thallium; the analysis of thallous chloride. G. P. Baxter and J. S. Thomas. *bibliog Am Chem Soc J* 55:2384-7 Je '33

**THALLIUM compounds**

Applications of thallium compounds in organic chemistry; changes observed on replacing dialkylthallium by trimethylplatinum in chelate rings. R. C. Menzies and E. R. Wiltshire. *Chem Soc J* p21-2 Ja '33

Applications of thallium compounds in organic chemistry; molecular association of dialkylthallium chelate compounds. E. R. Wiltshire and R. C. Menzies. *Chem Soc J* p2734-9 N '32

Co-ordination compounds of oximes; compounds of 4-isonitroso-1-phenyl-3-methyl-5-pyrazolone with the alkali metals, nickel, and thallium. O. L. Brady and M. D. Porter. *Chem Soc J* p840-2 JI '33

Industrial applications of thallium and its compounds. *Soc Chem Ind J* (Chem & Ind) 52:687-9 Ag 25 '33

**THALLIUM ethoxide**

Action of ethylmagnesium bromide on thallous chloride and on thallous ethoxide. R. C. Menzies and I. S. Cope. *Chem Soc J* p2862-6 D '32

**THALLIUM hydroxide**

New method for the preparation of thallous hydroxide. R. Phillips and W. W. Hartman. *Am Chem Soc J* 55:3065-6 Ag '33

**THALLIUM iodate**

Solubility of thallous iodate and thallous chloride in the presence of amino acids. C. F. Failey. *Am Chem Soc J* 55:4374-8 N '33

Solubility of thallous iodate in solutions of sodium mellitate. C. F. Failey. *Am Chem Soc J* 55:3112-16 Ag '33

**THALLIUM iodide**

Adsorption of thorium B by thallium halide crystals in the presence of various ions. J. F. King and P. R. Pine. *diag J Phys Chem* 37:851-74 O '33

**THALLIUM nitrate**

Two-component salt mixtures of lead nitrate with thallium or silver nitrate. H. M. Glass, K. Laybourn and W. M. Madgin. *Chem Soc J* p2713-15 N '32

**THALLIUM poisoning**

Thallium poisoning; abstract. J. C. Munch, H. M. Ginsburg and C. E. Nixon. *J Fr Inst* 216:412 S '33

**THALLIUM sulfate**

Wider use of thallium sulphate as a rat poison. *Chem Age (Lond)* 27:571 D 17 '32

**THAWING**

Switch heaters eliminate ice and snow troubles in street railroad yards. J. B. Nealey. *il diags Gas Age* 71:285-6 Mr 18 '33  
Thawing and dredging gold at Fairbanks, Alaska. R. H. Ogburn. *il Min & Met* 14: 214-16 My '33

Thaws rink ice at saving of \$116 and 42 hours. E. L. Weber. *plans Heating-Piping* 5:145-6 Mr '33

**THAWING, Electric**

Electricity is used to thaw frozen water pipes. C. F. Bowman. *Dom Eng* 141:33-5+ Ja '33

**THAYER, William Sydney, 1864-1932**

Sketch. L. F. Barker. *Science* 76:617-19 D 30 '32

**THEATER**

Curtain-raiser; public aid sought in plan to finance the theaters. *Business Week* p19+ J1 29 '33

Product pre-testing invades new field. *Forbes* 32:16-17 S 15 '33

**Bibliography**

Dramatic bibliography. B. M. Baker, comp. 320p Wilson, H. W. '33

**THEATER programs**

Here is program which can be read in dark theater. *il Inland Ptr* 91:30 J1 '33

New programs can be read in darkened theaters. *il Adv & Sell* 21:32 J1 20 '33

**THEATERS**

La construction des agrandissements des magasins aux Galeries Lafayette, à Paris; particularités présentées par les fondations. R. L'Hermite. *il diags plans Génie Civil* 102: 101-8 F 4 '33

Début of a city. *il plan Fortune* 7:62-7 Ja '33

Entertainment treasure house; Music hall at Rockefeller Center. A. A. Hopkins. *il Sci Am* 148:152-3 Mr '33

Theatres at Radio City. *il Stevens Ind* 50:4-6 F '33

**See also**

Auditoriums

Moving picture theaters

Stage mechanism

**Cooling**

First completely air conditioned theater in Spokane. R. H. Beck. *il Heat & Ven* 30:31-3 Ja '33

Little theatre, Chicago, air conditioned; installation by Frigidaire corporation. *il Refrig W* 68:25-7 Ag '33

**Designs and plans**

Radio City music hall, Rockefeller Center. *Arch Forum* 58:153-60 F '33

Rockefeller Center; three theaters to entertain Radio City crowds; International music hall. *il diags plans Eng N* 109:583-6 N 17 '32

Schumann theatre in Frankfurt on Main. *Arch Forum* 58:143-4 F '33

Theater designs to be shown at League show; Community theater proposed for Nyack, New York. *il Arch Rec* 73:128 F '33

Universal; a multi-purpose community center theater designed for Woodstock, N.Y.; F. J. Kiesler, architect. *Arch Forum* 57:535-42 D '32

**Electric equipment**

Electricity in the theatre. F. G. H. Macrae. *diag Elec R (Lond)* 112:266 F 24 '33

Electricity plays leading role in civic opera group; San Francisco's new War memorial opera house and Veterans' building. *il Elec West* 70:20-7 Ja '33

**Employees**

Legitimate theatrical industry; summary of code. *Monthly Labor R* 37:531-2 S '33

Wages and hours of stage employees and motion-picture machine operators. *Monthly Labor R* 36:1111-15 My '33

**Equipment**

Meters guide operations at Rockefeller Center. *il Power* 77:572-4 N '33

**Heating and ventilation**

Gas is selected as fuel for San Francisco war memorial. J. R. Ferguson. *il Gas Age* 70:601-3 D 3 '32

Summary of the by pass patents. E. H. Purdy. *diag Refrig Eng* 25:263+ My '33

**See also**

Theaters—Cooling

**Lighting**

Embassy theatre; Reading, Pa. *il Illum Eng Soc Trans* 28:568-9 J1 '33

Interior lighting; problems of cinema and theatre. R. W. Maitland. *Electrician* 110: 466 Ap 7 '33

International music hall, Radio City, New York. *il Illum Eng Soc Trans* 28:112-13 F '33

Lighting in the Radio City theatres. S. R. McCandless. *il Illum Eng Soc Trans* 28:675-83 S '33

Lighting of the Shakespeare memorial theatre. *il Illum Engr* 26:15-16+ Ja '33

Stand-by batteries; position of theatres and other public buildings. *Electrician* 109:642 N 18 '32

War memorial opera house, Civic center; San Francisco, Cal. *il Illum Eng Soc Trans* 28: 14-15 Ja '33

**See also**

Moving picture theaters—Lighting  
Stage lighting

**Stage setting and scenery**

Textiles in the theatre. F. G. H. Macrae. *Am Dyestuff Rep* 22:647 O 23 '33

**THEATERS, Open air****See also**

Moving picture theaters, Open air

**THEATRICAL make-up.** See Make-up, Theatrical

**THEBAINONE****See also**

Metathebainone

**THEFT****See also**

Automobiles—Theft  
Burglary

Electricity—Theft  
Insurance, Burglary

**THEODOLITES**

Nouveau petit théodolite Wild pouvant être utilisé comme théodolite-boussole. *il diags Génie Civil* 102:284-5 Mr 25 '33

**THEOLOGICAL seminaries**

Meadville theological school in Chicago; views and plans. *Arch Rec* 74:372-6 N '33

Yale divinity school, New Haven, Conn. *il Architecture* 67:269-74 My '33

**THEOPHYLLINE arabinoside**

Structure of theophylline *l*-arabinoside. J. Pryde and R. T. Williams. *Chem Soc J* p640-2 Je '33

**THERAPEUTICS****See also**

Chemotherapy  
Electrotherapeutics

Medicine  
Phototherapy



**THERMAL analysis**

Automatic apparatus assembly for thermal analysis. C. T. Eddy. *il diag R Sci Instr* 4:200-5 Ap '33

Equilibrium  $A_3$  and  $A_{cm}$  points in pure carbon steels. Yap, Chu-Phay. *Am Soc Steel Tr Trans* 21:260-8 Mr '33

Influence of hydrogen on the transformations in iron. H. Esser and H. Cornelius. *diags Am Soc Steel Tr Trans* 21:733-40 Ag '33; Discussion. R. H. Harrington. 21:896-8 O '33

**THERMAL diffusivity.** See Heat conductivity

**THERMEL**

Thermel technic. W. P. White. *diags R Sci Instr* 4:142-6 Mr '33

**THERMIONIC** emission of electrons. See Electrons—Thermionic emission

**THERMIT** welding. See Welding—Thermit process

**THERMOCHEMISTRY**

Behavior of the hydronitrogens and their derivatives in liquid ammonia; formation of hydrazine by thermal action of incandescent filaments immersed in liquid ammonia. D. H. Howard, Jr. and A. W. Browne. *bibliog Am Chem Soc J* 55:1968-74 My '33

Die chemie der hohen temperaturen. O. Ruff. *il diags Angew Chemie* 46:1-7 Ja 7 '33

Determination of the heat of reaction of  $2Fe(ClO_4)_3 + 2Hg = 2Fe(ClO_4)_2 + Hg_2(ClO_4)_2$  from equilibrium data. V. B. Fleharty. *Am Chem Soc J* 55:2646-9 Jl '33

Free energies and heats of formation of tetrahydrate and anhydrous forms of cadmium bromide and their transition temperatures. H. M. Spencer and R. F. Seiden. *diags Am Chem Soc J* 54:4504-15 D '32

Das gleichgewicht  $FeO + Ni = NiO + Fe$  im schmelzfluss. H. Senf. *Stahl & Eisen* 53:451-2 My 4 '33

Heat of formation of hydrogen chloride and some related thermodynamic data. F. D. Rossini. *diags U S Bur Stand J Research* 9:679-702 N '32

Isothermal calorimeter for slow reactions. E. D. Coon and F. Daniels. *bibliog diags J Phys Chem* 37:1-12 Ja '33

Neuere ergebnisse thermochemischer messmethoden. W. A. Roth. *Angew Chemie* 45:763-7 D 10 '32

Reactivity of atoms and groups in organic compounds; the influence of substituents on the thermal stability of certain derivatives of malonic acid. J. F. Norris and H. F. Tucker. *bibliog Am Chem Soc J* 55:4697-704 N '33

*See also*

Activation, Heat of	Melting points
Boiling points	Solution, Heat of
Combustion	Specific heat
Combustion, Heat of	Sublimation, Heat of
Dilution, Heat of	Transition points
Dissociation	Vapor pressure
Distillation	Vaporization, Heat of
Evaporation	Wetting, Heat of
Freezing points	

**THERMOCOUPLES**

Alterung von nickel-chromnickel-thermoelementen. A. Grunert. *Chemische Fabrik* 6:39-40 Ja 18 '33

Apparatus for welding thermocouples; abstract. *diag Mech Eng* 55:642 O '33

Einbau von thermoelementen in winderhitzkuppeln. A. Killing. *diag Stahl & Eisen* 53:608 Je 8 '33

Fuel is saved by equalizing flow in hot-water heating systems. E. L. Weber. *il Dom Eng* 140:48-9 D '32

Measurement of temperature in electrical windings. A. C. Finney. *diags Power Pl Eng* 37:352-3 Ag '33

Metal temperatures. W. S. Gullette. *diags Am Pet Inst Proc (Refining div)* p87-8 Je '32

New thermocouple for the determination of temperature up to at least 1800 deg. C; abstract and discussion. G. R. Fitterer. *Iron Age* 131:396 Mr 9 '33

Pyrofer, a new thermocouple. *il Chem Age (Lond)* 29:257 S 16 '33

Pyrometric economies; a new thermocouple and a new resistance coil. W. Bowen. *Gas J (Lond)* 203:48 Jl 5 '33; Same. *Electrician* 111:182 Ag 11 '33

Reference tables for platinum to platinum-rhodium thermocouples. W. F. Roeser and H. T. Wensel. *U S Bur Stand J Research* 10:275-87 F '33

**THERMODYNAMICS**

Air conditioning theory; classroom methods of presentation. J. A. Goff. *Refrig Eng* 25:14-17+ Ja '33

Carbon dioxide thermodynamics; review of research related to  $CO_2$  and practice with  $CO_2$  in refrigerating engineering. J. C. Goosmann. *Refrig Eng* 26:190-1+, 245-8 O-N '33 (to be cont)

Cooperative phenomena. F. Zwicky. *Phys R* 43:270-8 F 15 '33

Ebullition of refrigerants. L. A. Philipp and E. E. Tiffany. *diags Refrig Eng* 25:140-6+ Mr '33

Elements of engineering thermodynamics. J. A. Moyer, J. P. Calderwood and A. A. Potter. 5th ed 192p \$2.50 Wiley '33

Enthalpy, what is it? J. H. Pound. *Power* 77:134 Mr '33; Discussion. C. H. Berry. 77:271 My '33

Entropy, heat content, and free energy of iron. J. B. Austin. *il Ind & Eng Chem* 24:1388-91 D '32

Heat capacity and related thermodynamic properties of aqueous solutions; lithium and sodium hydroxides at 25°. F. T. Gucker, Jr. and K. H. Schminke. *Am Chem Soc J* 55:1013-19 Mr '33

Heat capacity curves of the simpler gases. H. L. Johnston, A. T. Chapman and M. K. Walker. *bibliog Am Chem Soc J* 55:153-86 Ja '33

Heat of dilution and the partial molal heat capacity of zinc sulfate from the electromotive force of galvanic cells. V. K. La Mer and I. A. Cowperthwaite. *Am Chem Soc J* 55:1004-13 Mr '33

Heat of formation of hydrogen chloride and some related thermodynamic data. F. D. Rossini. *diags U S Bur Stand J Research* 9:679-702 N '32

Interpretation of heat in relativistic thermodynamics. R. C. Tolman and H. P. Robertson. *Phys R* 43:564-8 Ap 1 '33

Modern thermodynamics by the methods of Willard Gibbs. E. A. Guggenheim. 206p \$3.50 Dutton '33

Second law and entropy. R. C. Cantelo. *J Chem Educ* 10:45-6, 306-7 Ja, My '33

Standard states for bomb calorimetry. E. W. Washburn. *U S Bur Stand J Research* 10:525-58 Ap '33

Steam research; progress of work at the Massachusetts institute of technology. F. G. Keyes and L. B. Smith. *Mech Eng* 55:113-16 F '33

Theory of the Velox boiler; editorial. *Engineering* 134:539-40 N 4 '32; Discussion. 134:588-9, 690-1, 716 D 9-16 '32

Thermal data on organic compounds; the heat capacities, entropies and free energies of ten compounds containing oxygen or nitrogen. G. S. Parks, H. M. Huffman and M. Barmore. *Am Chem Soc J* 55:2733-40 Jl '33

Thermodynamic calculations from spectroscopic data. L. S. Kassel. *Phys R* 43:364-5 Mr 1 '33

Thermodynamic constants of iodine monochloride, iodine monobromide and bromine monochloride in carbon tetrachloride solutions. C. M. Blair, Jr. and D. M. Yost. *Am Chem Soc J* 55:4489-96 N '33

Thermodynamic functions of hydrocarbon gases from spectroscopic data. L. S. Kassel. *Am Chem Soc J* 55:1351-63 Ap '33

Thermodynamic properties of fused salt solutions; zinc bromide in lead bromide. E. J. Salstrom. *Am Chem Soc J* 55:1029-36 Mr '33

Thermodynamic properties of solid solutions of gold and silver. A. Wachter. *Am Chem Soc J* 54:4609-17 D '32

Thermodynamic theory for steam? H. E. Longwell. *Mech Eng* 55:243-5 Ap '33

**THERMODYNAMICS—Continued**

Thermodynamics and heat flow in the typical modern skimming and cracking operation. G. Vandenberg. *diags Oil & Gas J* 32:13-14+ Ag 10 '33

Thermodynamics and relativity. R. C. Tolman. *Science* 77:291-8, 313-17 Mr 24-31 '33

Thermodynamics applied to heat engines. E. H. Lewitt. 347p \$3.75 Pitman '33

Thermodynamics of a gas-turbine aggregate; abstract. H. Kirst. *Mech Eng* 55:52-4 Ja '33

Thermodynamics of aqueous hydrochloric acid solutions from electromotive force measurements. H. S. Harned and R. W. Ehlers. *bibliog Am Chem Soc J* 55:2179-93 Je '33

Thermodynamics of CO<sub>2</sub> cycles. A. B. Stickney. *diags Refrig Eng* 24:334-42 D '32

Thermodynamics of ionized water in potassium and sodium bromide solutions. H. S. Harned and W. J. Hamer. *Am Chem Soc J* 55:4496-507 N '33

Working cycle of the Velox boiler. O. Klüsener. *Engineering* 136:176 Ag 18 '33; Abstract. *Mech Eng* 55:641 O '33

See also

Entropy	Refrigeration and refrigerating machinery
Equation of state	
Evaporation	
Free energy	Specific heat
Gas flow	Steam
Heat	Transition points
Heat engines	Vapor pressure

**THERMOELECTRICITY**

Electrical resistance and heat in metals. C. R. Underhill. *J Fr Inst* 216:629-34 N '33

Nouveau mode de réalisation des phénomènes thermo-électriques. A. Égal. *diags Génie Civil* 102:161 F 18 '33

Thermoelectric properties of platinum-rhodium alloys. F. R. Caldwell. *U S Bur Stand J Research* 10:373-80 Mr '33

See also

Peltier effect  
Thermocouples

**THERMOMETERS and thermometry**

Brown mercury-switch thermometer controller. *Power Pl Eng* 37:491-2 N '33

Coiled filament resistance thermometers. C. H. Meyers. *il diags U S Bur Stand J Research* 9:807-13 D '32

Le contrôle des opérations thermiques avec utilisation du point de Curie dans le cas de la trempe. *Génie Civil* 102:331-2 Ap 8 '33

Low temperature specific heats; the calibration of the thermometer and the resistance of platinum, platinum-10% rhodium and constantan between -259 and -190°. J. C. Southard and R. T. Milner. *Am Chem Soc J* 55:4384-91 N '33

Manufacture of mercury thermometers. W. P. Balderston. *Refrig Eng* 25:56 Ja '33

New Brown thermometer and pressure gage. *il Iron Age* 132:24 Ag 31 '33

Radif thermometer. H. B. Lindsay. *il Refrig Eng* 25:261-2 My '33

Rationalisierung in der chemischen fabrik. H. H. Franck. *diags Chemische Fabrik* 6:18 Ja 4 '33

Simple subsurface thermometer. G. F. Sleggs. *diag Science* 77:586-7 Je 16 '33

Temperature and pressure measurement; Cambridge instrument co. *il Chem Age (Lond)* 28:387 Ap 29 '33

Temperature measurement and control. charts *Engineering* 135:67-9, pl 3 Ja 20 '33

Temperaturregulierung mit hilfe von kontakt-thermometern. H. Brückner. *il Chemische Fabrik* 6:342-3 Ag 16 '33

200-ft. thermometer at Century of progress. *il Heating-Piping* 5:214 Ap '33

See also

Calorimeters and calorimetry	Temperature—Measurement
Pyrometers and pyrometry	

**Repair**

Repairing broken mercury columns in thermometers. J. R. Endsley. *J Chem Educ* 10:368 Je '33

**THERMOMETERS and thermometry, Medical**

Electrical resistance thermometers as applied to human calorimetry. G. F. Soderstrom. *diags R Sci Instr* 4:285-8 My '33

**THERMOPILES**

Radiation thermopiles for use at liquid air temperatures. C. H. Cartwright. *diag R Sci Instr* 4:382-4 Jl '33

See also

Thermocouples

**THERMOSTATS**

Automatic control; reference advertisement of Minneapolis-Honeywell regulator company. *il diags Am Arch* 143:104-15 S '33

Control for a steam-jet air-conditioning unit. R. K. Houser. *plan Heating-Piping* 5:399-401 Ag '33; Same. *Am Gas J* 139:37-8 S '33

Controls for automatic heating. H. L. Alt. *diags Dom Eng* 141:86+ Je '33

Cooling device for operating a water thermostat a few degrees below room temperature. A. B. Garrett. *Ind & Eng Chem* 25:355 Mr '33

Locating thermostats for more accurate temperature control. O. J. Kuenhold. *charts Heat & Ven* 30:40-1 Je '33

Modified water-bath thermostat. Brother Hormisdas. *diags J Chem Educ* 10:576 S '33

Preventing motor burnouts with a bimetallic disc. J. V. Hunt. *il Elec J* 30:324-5 Ag '33

Robertshaw new combination control; thermostat and oven gas valve. *il Gas Age* 71:348 Ap 1 '33

Satchwell thermostats. *il Elec R (Lond)* 111:714 N 11 '32

Stall-safe appliance motors arrive. *il Elec W* 101:217 F 18 '33

Temperature protection for motors. C. W. Drake. *il diags Factory Management* 91:276-8 Jl '33

Thermoguard motors are self protecting. *il Marine Eng* 38:306-7 Ag '33

Thermostat prevents costly breakdowns in motors. H. C. Brunner. *il Food Ind* 5:212 Je '33

Thermostatic heat control for power-shovel motors. J. E. Borland. *il Eng N* 111:48 Jl 13 '33

Thermostats protect motors in severe industrial service. R. S. Elberty. *il Elec W* 101:832-4 Je 24 '33

Westinghouse motors have built-in thermostats. *il Heating-Piping* 5:364 Jl '33; *Coal Age* 38:251 Jl '33; *Iron Age* 131:993 Je 22 '33; *Transit J* 77:287 S '33

**THIAZINES**

Synthesis of acenaphthene-*peri*-metathiazines and of some dyes derived therefrom. M. T. Bogert and R. B. Conklin. *Am Chem Soc J* 55:1705-10 Ap '33

**THIAZOLES**

Polymorphism in the substituted thiazole, 3-phenyl-2,4-thiazolidione. R. E. Gibson and K. S. Markley. *bibliog il diag Am Chem Soc J* 55:2399-406 Je '33

**THIAZOLIDONES**

Alkyl derivatives of the mono substituted thiazolidones. F. B. Dains and F. Eberly. *Am Chem Soc J* 55:3859-63 S '33

**THICKENERS**

Sedimentation of fine particles in liquids; a survey of theory and practice. R. F. Stewart and E. J. Roberts. *Chem Age (Lond)* 29:345-6; Discussion. 346-7 O 14 '33

**THICKNESS**

Compressometer, an instrument for evaluating the thickness, compressibility, and compressional resilience of textiles and similar materials. H. F. Schiefer. *diag pl U S Bur Stand J Research* 10:705-13 Je '33

**THIELE tube**

Micromelting-point determination with the Thiele tube. E. W. Blank. *bibliog diag Ind & Eng Chem Anal* ed 5:74-5 Ja 15 '33

**THINKING. See Thought and thinking**

**THINKING machine.** See Thought and thinking—Mechanical parallels



**THIOCRESOL**

Acetylene polymers and their derivatives; the addition of thio-*p*-cresol to divinylacetylene. W. H. Carothers. *Am Chem Soc J* 55:2008-12 My '33

**THIOCYANATES**

Insecticidal activity of aliphatic thiocyanates; mealy bug. D. F. Murphy and C. H. Peet. *Ind & Eng Chem* 25:638-9 Je '33

Researches on pyrimidines; the molecular rearrangement of ethyl 2-ethylmercapto-6-thiocyanopyrimidine-5-acetate. Yuoh-Fong Chi and Chi Ming Ma. *Am Chem Soc J* 55:4655-7 N '33

Researches on pyrimidines; the molecular rearrangement of 2-ethylmercapto-5-phenyl-6-thiocyanopyrimidine. Yuoh-Fong Chi and Yu-Lin Tien. *Am Chem Soc J* 55:4181-4 O '33

Studies in dielectric polarisation; benzene solutions of methyl and ethyl thiocyanates and methyl, ethyl, and allyl isothiocyanates. E. C. E. Hunter and J. R. Partington. *Chem Soc J* p2825-9 D '32

**THIOFURAN**. See Thiophene**THIOKETONES**. See Ketones**THIOL**

Commercial uses of rubber, Thiokol and Duprene with oil and solvents; abstract. W. L. White. *Rubber Age* 33:69 My '33

New army specifications for airplane fuel hose; recent improvements in hose compounded with thiokol. J. P. Bushnell. *Rubber Age* 34:15 O '33

Oil-proof rubber. W. L. White. *Chemicals* 33:9 Ag 21 '33; *Abstract. Mach* 39:800 Ag '33

Use of thiokol for floating roofs of oil tanks. J. P. Bushnell. *il Rubber Age* 33:107-8 Je '33

**THIOLS**. See Mercaptans**THIOPERRHENATES**

Thioper-rhenates. H. V. A. Briscoe, P. L. Robinson and E. M. Stoddart. *Chem Soc J* p2811-12 N '32

**THIOPHENE**

Removal of thiophene from benzene by catalytic hydrogenation. R. N. Pease, W. B. Keighton, Jr. and W. C. Munro. *Ind & Eng Chem* 25:1012-13 S '33

**THIOPHENOL**. See Phenyl mercaptan**THIOPHENOLS**. See Mercaptans**THIOPYRONES**

Studies in dielectric polarisation; benzene solutions of pyrones, thiopyrones, and thioketones; dioxan solutions of ureas and thioureas. E. C. E. Hunter and J. R. Partington. *Chem Soc J* p87-90 Ja '33

**THIOSULFATES**

Electrolysis of silver-bearing thiosulfate solutions. K. Hickman, W. Weyerts and O. E. Goehler. *bibliog il diags Ind & Eng Chem* 25:202-12 F '33

New method of producing hydrogen sulfide and thiosulfates. G. Lynn and others. *bibliog Ind & Eng Chem* 25:916-18 Ag '33

**THIOUREA**

Simple reversible photochemical experiment. I. W. Grote and J. H. Barnett. *J Chem Educ* 10:43-4 Ja '33

Solubility of thiourea in water, methanol, and ethanol. L. Shnidman. *bibliog J Phys Chem* 37:693-700 Je '33

Studies in dielectric polarisation; benzene solutions of pyrones, thiopyrones, and thioketones; dioxan solutions of ureas and thioureas. E. C. E. Hunter and J. R. Partington. *Chem Soc J* p87-90 Ja '33

**THIRD International**. See International, Third**THIURAM disulfide**

See also

Tetramethylthiuram disulfide

**THIXOTROPY**

Nature of coagulation, viscosity, and thixotropy in colloidal systems. S. S. Kistler. *il J Phys Chem* 36:2948-66 D '32

Thixotropy and plasticity. E. L. McMillen. 195p [bibliog p93-4] Univ. of Minnesota library, Minneapolis '32

**THOM, Alfred Pembroke**

To become associate general counsel of A.R.A. *por Ry Age* 94:451, 456 Mr 25 '33

**THOMAS, John, 1886-1933**

Sketch. R. Brightman. *Soc Dyers & Col J* 49:78-9 Mr '33

**THOMAS, Lewis Newton, 1900-**

Vice president, Carbon fuel company. front (por) *Explosives Eng* 11:133 My '33

**THOMAS Say foundation**

Thomas Say foundation gets under way. J. G. Needham. *Science* 76:567-8 D 16 '32

**THOMASVILLE, Georgia****Water supply**

Water softening at Thomasville. L. Cady. *Am Water Works Assn J* 25:1193-1200; Discussion. 1201-2 S '33

**THOMPSON, Nichol**

Appreciation and an abbreviated biography. H. G. Nichols. *por Can Min J* 54:273-5 Jl '33

**THOMSON, Charles J. 1896-**

Construction foreman, General electric co. *por Steel* 92:19 Ap 24 '33

**THOMSON, Elihu**

Doctor Thomson honored at gathering of engineers and scientists. *por Elec Eng* 52:348-9 My '33; Same abr. *Electrician* 110:569 Ap 28 '33; Same abr. *illum Eng Soc Trans* 28:387-8 My '33

Elihu Thomson; an appreciation. G. B. Cortelyou. *Edison Elec Inst Bul* 1:8-9 Ap '33

Elihu Thomson; some of his mechanical inventions. K. T. Compton. *por Mech Eng* 55:225-8 Ap '33

In honor of Dr Elihu Thomson. *Science* 77:321 Mr 31 '33

In honor of Professor Elihu Thomson. V. Bush. *Science* 77:418-20 My 5 '33

In honor of Professor Elihu Thomson. H. Cushing. *Science* 78:24-6 Jl 14 '33

One of the sons of Tom; editorial. J. W. Hammond. *por Gen Elec R* 36:212-15 My '33

Significance of Professor Thomson's work in the development of electrical engineering. K. T. Compton. *Science* 77:415-18 My 5 '33

**THOMSON, John Millar, 1849-1933**

Sketch. *Soc Chem Ind J (Chem & Ind)* 52:291-2 Mr 31 '33

**THORIA**

Occurrence and industrial possibilities of monazite in the black sands on the Orissa coast. S. B. Roy. *Soc Chem Ind J (Chem & Ind)* 52:745 S 15 '33

Thorium oxide, a high temperature refractory. O. O. Fritzsche, H. B. Wahlin and J. F. Oesterle. *il diags Electrochem Soc Trans* 64 (preprint 23):281-91 S '33

See also

Thorianite

**Physiological effect**

Effects of thorium dioxide on the body organs. E. A. Pohle and G. Ritchie. *Science* 78:sup 8-9 O 20 '33

**THORIANITE**

Thorianite from Easton, Pa. R. C. Wells, J. G. Fairchild and C. S. Ross. *Am J Sci* 5th ser 26:45-54 Jl '33

**THORIUM**

Adsorption of thorium B and thorium C from solution. J. F. King and A. Romer. *bibliog J Phys Chem* 37:663-73 Je '33

Adsorption of thorium B by thallium halide crystals in the presence of various ions. J. F. King and P. R. Pine. *diag J Phys Chem* 37:851-74 O '33

Conductivity measurements of thorium and other jelly-forming systems. S. Prakash. *bibliog J Phys Chem* 37:907-16 O '33

Free positive electrons resulting from the impact upon atomic nuclei of the photons from Th C". C. D. Anderson. *Science* 77:432 My 5 '33

**THORIUM**—*Continued*

Isotopes of uranium, thorium and lead, and their geophysical significance. C. S. Piggot. Phys R 43:51-9 Ja 1 '33

Isotopes of uranium, thorium and thallium. R. Goslin and F. Allison. Phys R 43:49-50 Ja 1 '33

Measurement of the range of alpha-particles from thorium with the Wilson chamber. F. N. D. Kurie and G. D. Knopf. Phys R 43:311-14 Mr 1 '33

New process of electrolysis which produces rare metals in pure state. il Metal Ind 31: 63 F '33

Thermionic and adsorption characteristics of thorium on tungsten. W. H. Brattain and J. A. Becker. diag Phys R 43:428-50 Mr 15 '33

*See also*  
Thorianite

**Analysis**

Technique for the determination of the radioactive content of liquids. R. D. Evans. il diags R Sci Instr 4:216-22 Ap '33

**THORIUM arsenate**

Conductivity measurements of thorium and other jelly-forming systems. S. Prakash. bibliog J Phys Chem 37:907-16 O '33

**THORIUM dioxide.** *See* Thoria**THORIUM hydroxyquinolate**

Addition of 8-hydroxyquinoline by thorium and uranium 8-hydroxyquinolates. F. J. Frere. Am Chem Soc J 55:4362-5 N '33

**THORIUM molybdate**

Conductivity measurements of thorium and other jelly-forming systems. S. Prakash. bibliog J Phys Chem 37:907-16 O '33

**THORIUM nitrate**

Determination of fluorides in Illinois waters. C. S. Boruff and G. B. Abbott. bibliog Ind & Eng Chem Anal ed 5:236-8 Jl 15 '33

**THORIUM oxide.** *See* Thoria**THORIUM phosphate**

Conductivity measurements of thorium and other jelly-forming systems. S. Prakash. bibliog J Phys Chem 37:907-16 O '33

**THORIUM tartrate**

Physicochemical studies of complex formation involving weak acids; alkaline solutions of thorium tartrate. H. T. S. Britton and W. E. Battick. Chem Soc J p5-9 Ja '33

**THORNDYKE, George F.**

President, Thorndyke shipping co. and Western stevedore co. R. C. Hill. por Marine R 63:39 Je '33

**THORNTON, Sir Henry Worth, 1871-1933**

Sketch. por Ry Age 94:395-6 Mr 18 '33

**THORP, Willard L.**

Thorp heads Commerce bureau; exit peanuts and angleworms. por Sales Management 33: 170 Ag 15 '33

**THOUGHT and thinking**

How do you think? G. M. Eaton. Mech Eng 55:279-80 My '33

Second psychological expedition to central Asia; study of primitive thought. A. Luria. Science 78:191-2 S 1 '33

**Mechanical parallels**

Machines that think. T. Ross. il diags Sci Am 148:206-8 Ap '33

**THOUGHT transference.** *See* Telepathy**THREAD**

Finding thread cost of knitted undergarments. S. M. Peterson. Textile World 83:1254 Jl '33

**THREAD, Rubber.** *See* Rubber thread**THREAD cutting**

Cutting large worm threads by removing the metal in one piece. il diag Mach 40: 39-40 S '33

New thread form for taps; Super-Crest. diags Mach 40:162-3 N '33

Special thread forms and their uses. C. Reimschuessel. diags Am Mach 77:648-50 O 11 '33

Threading dies; their manufacture and cutting efficiency. J. G. Morrison. Iron Age 131: 129-7, 314-15+ Ja 19, F 23 '33

Threading lobes on screw machine cams. C. W. Hinman. Am Mach 77:728 N 8 '33

*See also*

Screw threads

Taps

**THREAD rolling**

Nine press operations per stroke at ninety strokes per minute; eyelet press and shell threader. E. Lay. diags Mach 39:572-5 My '33

Threads used in rolled sheet metal. W. H. Burt. Am Mach 77:363 Je 7 '33

**THREADING machines**

Eight-speed gearbox for Landis threading machines. il Am Mach 77:225 Mr 29 '33; Iron Age 131:513 Mr 30 '33; Mach 39:545 Ap '33; Ry Mech Eng 107:141-2 Ap '33

Precision grinding machines. il diags Engineer 154:663-4 D 30 '32

**THREONIC acid**

Structure of ascorbic acid. E. L. Hirst. Soc Chem Ind J (Chem & Ind) 52:221-2 Mr 10 '33

**THRIFT, Tim**

Introducing the man who needs no introduction. E. H. Shanks. por Ptd Salesmanship 60:289+ D '32

**THRIFT.** *See* Saving**THRUST faults.** *See* Faults (geology)**THRUSTORS**

British Thomson-Houston electro-hydraulic thruster. Engineering 135:249, pl 17 Mr 3 '33

New device in machine design; electric-hydraulic thrusters. S. A. Holme. il Mach 39:442-5 Mr '33

Remote control of valves; Copes valve. il Chem Age (Lond) 29:67 Jl 15 '33

Thruster applications in the power plant. R. F. Emerson. il Power Pl Eng 37:85-6 F '33

**THUNDERSTORMS**

Contrasting thunderstorms. W. J. Humphreys. Sci Am 149:128 S '33

**THYMINE**

Researches on pyrimidines; a new synthesis of thymine. W. Bergmann and T. B. Johnson. Am Chem Soc J 55:1733-5 Ap '33

**THYRATRON**

Control panel for an oscillograph laboratory. R. T. Pennoyer and S. O. Evans. il diags Gen Elec R 36:389-93 S '33

Developments in the electrical industry during 1932; high-voltage thyatron tubes. J. Liston. il Gen Elec R 36:42 Ja '33

Dimming of hot-cathode gaseous-discharge lamps. W. F. Westendorp. il diags Gen Elec R 36:488-92 N '33

Electronics and electron tubes. E. D. McArthur. diags Gen Elec R 36:371-6, 404-6, 501-5 Ag-S, N '33

Grid and plate currents in a grid-controlled mercury vapor tube. A. C. Seletzky and S. T. Shevki. il diag J Fr Inst 215:299-326 Mr '33

Grid-controlled gaseous discharges. G. Windred. Engineering 136:229 S 1 '33

Harmonic commutation for thyatron inverters and rectifiers. C. H. Willis. diags Gen Elec R 35:632-8 D '32

Life test power supply utilizing thyatron rectifiers. H. W. Lord. il diags Inst Radio Eng Proc 21:1097-1102 Ag '33

New high-speed engine indicator. E. S. Taylor and C. S. Draper. il diags Mech Eng 55: 169-71 Mr '33

New vacuum valves and their applications. A. W. Hull. il diags Gen Elec R 35:625-8 D '32; Abstract. J Fr Inst 215:225-6 F '33

Refinement in controls marks Radio City music hall. il diags Elec W 102:277-82 Ag 26 '33

Relaxation inverter and d. c. transformer. H. J. Reich. diags R Sci Instr 4:147-52 Mr '33

Study of the thyatron commutator motor. C. H. Willis. il diags Gen Elec R 36:76-80 F '33



**THYRATRON**—*Continued*

- Thyratron control of welding in tube manufacture; abstract. H. W. Lord and O. W. Livingston. *Mech Eng* 55:642 O '33  
Thyratron simplifies plant load totalizer. H. Hammond. *diag Elec W* 101:334 Mr 11 '33  
Thyratron tube as a stroboscope. E. L. Robertson and T. A. Rogers. *il diag Gen Elec R* 36:455-7 O '33

**THYROID gland**

- Is goiter due to an iodine deficiency per se? H. Levine and R. E. Remington. *il J Chem Educ* 10:649-59 [bibliog p658-9] N '33

**TICKET offices.** See Railroads—Ticket offices  
**TICKETS**

See also

- Motor bus lines—  
Tickets  
Railroads—Tickets

**TICKING**

- Monopole soap in the finishing of mattress ticking. *Textile Col* 55:271 Ap '33

**TICKS**

- Bite by infected wood tick held compensable. *Monthly Labor R* 37:314-15 Ag '33  
Occurrence of ixodes auritulus Neum. in North America (Oregon). C. B. Philip. *Science* 78:145-6 Ag 18 '33  
Prevention of Rocky Mountain spotted fever. *Pub Health Rep* 48:471-3 My 5 '33  
Rabbit tick and Rocky Mountain spotted fever. R. R. Parker. *Science* 78:sup8-9 O 13 '33  
Rocky Mountain spotted fever (eastern type); virus recovered from the dog tick dermacentor variabilis found in nature. L. F. Badger. *Pub Health Rep* 47:2365-9 D 30 '32  
Rocky Mountain spotted fever; investigation of sexual transmission in the wood tick dermacentor andersoni. C. B. Philip and R. R. Parker. *bibliog Pub Health Rep* 48:266-72 Mr 17 '33  
Technique for routine and experimental feeding of certain ixodid ticks on guinea pigs and rabbits. W. L. Jellison and C. B. Philip. *Pub Health Rep* 48:1081-2, pl 1-2 S 1 '33

**TIDAL power**

- Sewern barrage scheme. *maps Engineering* 135:394-6 Ap 7 '33; *Electrician* 110:454-5 Ap 7 '33

**TIDE water associated oil company**

- Attractive low-priced speculations. *Mag of Wall St* 53:33+ O 28 '33  
W. F. Humphrey is elected president. *Oil & Gas J* 32:11+ Je 1 '33

**TIDES**

- Determination of mean high water. H. A. Marmer. *Am J Sci* 5th ser 26:332-43 S '33  
Solar tides. H. A. Marmer. *il Sci Am* 149:212-14 N '33

See also

- Tidal power

**TIERING machines**

- Tiering machine unloads trucks. *il Factory Management* 91:108 Mr '33  
Up one on the tiering machine. L. B. Murdoch. *il Factory Management* 91:80-1 Mr '33

**TIERING trucks.** See Electric trucks, Industrial—Tiering trucks**TILBURY, Ontario****Water supply**

- Town of Tilbury gets water supply from Lake St Clair. *il Can Eng* 65:11-13 S 12 '33

**TILES**

- Asphalt-impregnated tile. *Chem & Met Eng* 40:81 F '33  
Concrete tanks lined with asphalted tile found suitable for pickling. *il Steel* 93:29 S 25 '33  
Effect of weathering on the reflection factor of surfacing materials for light wells. *il Illum Eng Soc Trans* 28:315-24; Discussion. 324-5 Ap '33  
Flexible lining of tile used for drainage ditch. Galesburg, Ill. *il Eng N* 110:585 My 11 '33  
New synthetic stone, rostone. H. C. Pepper, R. L. Harrison and R. N. Shreve. *bibliog il Ind & Eng Chem* 25:719-22 Jl '33

- Tiles with sheet metal surface. *diag Sheet Metal Worker* 24:259 Ag '33

**Manufacture**

- Determination of the effect on wall tile glazes of direct-firing with gas. A. P. Watts. *il Am Gas Assn Mo* 15:131-3+ Ap '33  
Terra cotta makers find gas best fuel to meet demand for color. J. B. Nealey. *Am Gas Assn Mo* 15:53-5+ F '33

**Testing**

- Strength of flat-arch floor construction, pt. 1. End spans. G. E. Large and C. T. Morris. *il diags Ohio State U Eng Exp Sta Bul* 78:1-49 '33; Excerpts. *Brick & Clay Rec* 83:88-9 S '33

**TIMBER**

See also

- Hard woods  
Lumber  
Lumbering  
Mine timber  
Pine  
Wood

**TIMBER doorways.** See Doorways**TIME cards**

- Practical time-keeping system. *il Sheet Metal Worker* 24:70-1 Mr '33  
Time card, a moving picture of daily work performed; Brooklyn bus corporation. *il Bus Transportation* 12:140 Mr '33

**TIME keeping**

- How time budgeting and a simple operation code aids executives. B. Bigelow. *Management Methods* 62:169+ Ap '33  
Setting up a time budget. F. F. Cue. *System* 62:451-2 O '33

**TIME measurement**

- Determination of losses in travel time. E. W. James. *il Civil Eng* 3:463-5 Ag '33

See also

- Sundials

**TIME series (statistics)**

- Analysis of variance as an effective method of handling the time element in certain economic statistics. T. W. Schultz and G. W. Snedecor. *Am Statist Assn J* 28:14-30 Mr '33  
Growth curves; applications of the Pearl-Reed population curve to the growth of industrial production. W. Rautenstrauch. *Mech Eng* 55:433-7 Jl '33  
Summation methods in fitting parabolic curves. F. F. Stephan. *Am Statist Assn J* 27:413-23 D '32

**TIME signals, Radio**

- Telling time by radio. W. E. Burton. *il Radio N* 14:582-4+ Ap '33

**TIME study**

- Betriebsorganisation; auswertung von zeitsstudien bei lichtbogenschweissungen. G. Thelen. *Stahl & Eisen* 53:1040 O 5 '33  
Betriebsorganisation; auswertung von zeitsstudien beim anstauchen von rohrenden. G. Thelen. *diags Stahl & Eisen* 53:762 Jl 20 '33  
Costs kept in hand by bonus plan; Halsey 50/50 plan. W. H. Roehlke. *il Factory Management* 91:446-8 N '33  
Help in making time studies. *il Management Methods* 62:261 Je '33  
Job standardization: its aims and installation; Westinghouse electric & mfg. co. G. J. Stegemerten. *Iron Age* 131:228-9+ F 9 '33  
Ladles and pouring efficiency. A. J. Saute. *Foundry* 61:36+ S '33  
Motion-time analysis at the Link-Belt co. H. C. Robson. *Iron Age* 130:920-1 D 15 '32  
Process chart—indicator of profitable changes. A. S. Crockett and J. E. Gillon. *il Factory Management* 91:214-16 Je '33  
Skillful planning opens way to more profitable anthracite operation. J. H. Pierce. *Coal Age* 38:40+ F '33  
Some results of time studies in the manufacture of structural clay products. H. R. Straight. *il Am Cer Soc Bul* 12:248-52 Ag '33  
Standard data. *Factory & Ind Management* 83:479-80; 84:37-8 D '32-Ja '33  
Standard repair cost data; toolroom at Stewart-Warner corporation. *Factory & Ind Management* 83:454-5 D '32

**TIME study—Continued**

- Standards for production control. A. M. Lindsey, charts Am Mach 77:421-4, 462-5, 492-3 JI 5-Ag 2 '33
- Steps taken in making a job time study. G. J. Stegemerten. Il Iron Age 131:348-51+ Mr 2 '33
- Synthetic time setting in a jobbing foundry; Link-Belt co, Chicago. R. A. Fiske. Iron Age 131:655-9 Ap 27 '33
- Ten to one variations in railroad shop time. Am Mach 77:4-5 Ja 4 '33
- Time analysis and motion study. F. Cermak. Am Cer Soc Bul 12:224-6 JI '33
- Time studies point way to improvements in underground transportation. D. L. McElroy. Coal Age 37:395-7 N '32
- Time-study application in the ceramic industry; Westinghouse electric and manufacturing company. C. K. Andrew. Am Cer Soc Bul 12:221-3 JI '33
- Time study as a basis for control of direct and indirect manufacturing costs on porcelain products. A. W. Hough. Am Cer Soc Bul 12:300-1 O '33
- Today you need real plant control. J. O. P. Hummel. bibliog Inland Ptr 91:21-2 My; 21-2 Je; 33-4 JI; 47-8 Ag; 55-7 S; 92:52-3 O '33
- Turning time for shafts of various diameters and lengths. C. F. Scribner. chart Mach 39:284-5 D '32
- Unproductive labor time—loose forms and loose carbons. System and Management Methods 62:311 JI '33

*See also*

Job analysis  
Motion study

**Bibliography**

Bibliography of time study engineering; comp. by Society of industrial engineers, Buffalo chapter. 63p pa \$1.50 Wilson, H. W. '33

**TIMEPIECES***See also*

Chronometers  
Clocks, Electric  
Watches

**TIMING devices**

- Automatic time controls for spot welders; discussion at annual fall meeting of the American welding society. Steel 93:41 O 23 '33
- Chronolog, mechanical monitor controls machine production. Il Comp Air M 38:4109 Ap '33
- Device for accurately timing watches. G. P. Luckey. diags R Sci Instr 4:504-6 S '33
- E.C. & M. automatic weld timer. Il Am Mach 77:545 Ag 16 '33; Iron Age 132:27 JI 27 '33; Automotive Ind 69:314 S 9 '33
- General Electric new automatic timer has wide applications. Il Iron Age 132:25 Ag 10 '33; Aero Digest 23:47 S '33; Transit J 77:287 S '33
- High-speed timing camera. Il Sci Am 149:29 JI '33
- Laboratory apparatus for the determination of the time of free fall of a body. R. M. Bowle. diags R Sci Instr 3:792-3 D '32
- Machine time and labor costs saved by meter. H. K. Nock. Il Elec W 101:462 Ap 8 '33
- Maintains record of machine operation; chronolog. Il Foundry 60:62 N '32
- New accuracy in timing watches. Il Sci Am 149:31-2 Ag '33
- On again, off again, with electric time switches. C. Heyel. Il Factory Management 91:400-1 O '33
- Precise timing of sporting events. C. H. Fetter and H. M. Stoller. Il diags Elec Eng 52:386-91 Je '33
- Recording of pressure and time in gas explosions. B. Lewis and G. von Elbe. diags Am Chem Soc J 55:504-7 F '33
- Rogers knife grinder equipped with time clock control. Il Iron Age 132:26 Ag 10 '33
- Timing of spot welding with respect to current flow; abstract. D. C. Wright. Il diags Automotive Ind 69:454-5 O 14 '33
- Variable timer for skeet. Il diags Sci Am 149:76 Ag '33
- Why idle machine time? H. D. Hanson. Il Factory Management 91:402 O '33

**TIMKEN roller bearing company**

Attractive as a long-term holding. W. W. Hay. Il Mag of Wall St 52:230-1+ Je 24 '33

Moderate risks for large profits. Mag of Wall St 51:339-40 Ja 7 '33

**TIN**

- Color in films of sputtered tin. C. J. Overbeck. Il diags Opt Soc Am J 23:109-13 Mr '33
- Nonferrous physical metallurgy; review of literature shows wide variety of work. G. O. Hiers. Min & Met 14:37 Ja '33
- See also*  
Pewter

**Analysis**

- Analysis of white metals and their smelter products. H. Neubert. Ind & Eng Chem Anal ed 5:60-1 Ja 15 '33
- Phenylarsonic acid as a reagent for the determination of tin. J. S. Knapper, K. A. Craig and G. C. Chandlee. Am Chem Soc J 55:3945-7 O '33
- Quantitative estimation of the impurities in tin by means of the quartz spectrograph; abstract. C. S. Hitchen. Metal Ind 31:87 Mr '33

**TIN alloys**

- Contribution à l'étude de la coulabilité des alliages ternaires. A. Portevin and P. Bastien. Génie Civil 102:500 My 27 '33
- Crystal structure of precipitated copper-tin alloys. H. Kersten and J. Maas. Am Chem Soc J 55:1002-4 Mr '33
- White-metal bearing alloys; mechanical properties at different temperatures and service tests. H. K. Herschman and J. L. Basil. U S Bur Stand J Research 10:1-5 Ja '33
- X-ray analysis of iron-tin alloys. W. F. Ehret and A. F. Westgren. Il Am Chem Soc J 55:1339-51 Ap '33

*See also*

Bearing metals  
Bronze  
Pewter  
Solder and soldering

**TIN cans**

- Corrosion of tin cans used as food containers. S. G. Lipsett. Can Chem & Met 17:171-2+ Ag '33
- Fruit and vegetable canning; recent progress in machinery and processes. G. Cadbury. Chem Age (Lond) 29:393-4; Discussion. 394 O 28 '33
- Profit prospects in cans; tin container industry and the outlook for leading companies. N. T. Calhoun. Mag of Wall St 51:388-9+ Ja 21 '33

**TIN chlorides**

- Autoxidation of stannous chloride; a survey of certain factors affecting this reaction. R. C. Haring and J. H. Walton. bibliog J Phys Chem 37:133-45 Ja '33
- Autoxidation of stannous chloride; the photochemical reaction. R. C. Haring and J. H. Walton. J Phys Chem 37:375-80 Mr '33
- Use of stannous chloride in evaluation of dye mixtures. J. A. Kime. Ind & Eng Chem Anal ed 5:151-2 My 15 '33

**TIN compounds**

- Some reactions of tetra-para-tolyltin. R. W. Bost and H. R. Baker. Am Chem Soc J 55:1112-13 Mr '33

**TIN dredging**

- Mechanical dredging devices for tin. K. Raute. diags Mech Handling 20:111-13 Ap '33

**TIN industry and trade**

- Industrial snapshots. J. Backman and A. L. Jackson. Barron's 13:17 O 23 '33
- London tin corporation, limited. Economist 116:1157 My 27 '33
- Recovery in tin. Economist 116:1027-8 My 13 '33
- Tin company results. Economist 115:1154 D 17 '32
- Tin developments. Economist 117:503, 681 S 9, O 7 '33
- Tin, king of utility metals. Comm & Fin 22:350 Ap 19 '33
- Tin, 1932. C. L. Mantell. Metal Ind 31:6 Ja '33
- Tin plan succeeds. Business Week p28 N 11 '33
- Tin tactics. Economist 117:853-5 N 4 '33



## TIN industry and trade—Continued

## Statistics

Thirty-five years of prices of tin plate, at Pittsburgh, and tin, at New York, 1898-1932; graph. Iron Age 131:63-4 Ja 5 '33  
Tin, 1932. Economist 116:sup54 F 18 '33

## United States

Industrial snapshots. J. Backman and A. L. Jackson. Barron's 13:5 S 25 '33

## TIN mines and mining

See also

Tin dredging

## France

Les gisements d'étain en France. V. Charrin. Génie Civil 103:232-3 S 2 '33

## Nigeria

Tin placer mining in Nigeria. W. E. Sinclair. Il diag map Eng & Min J 134:55-7 F '33

## TIN oxides

Equilibrium in the system  $\text{SnO}_2\text{-H}_2\text{-Sn-H}_2\text{O}$ , indirect calculation of the values of the water gas equilibrium constants. P. H. Emmett and J. F. Shultz. Am Chem Soc J 55:1390-5 Ap '33

X-ray studies on the hydrous oxides. H. B. Weiser and W. O. Milligan. J Phys Chem 36: 3030-45 D '32

## TIN plate

Base prices and extras applying to principal finished steel products. Iron Age 132:26V-26X S 21 '33

Determination of the porosity of tin coatings on steel. D. J. Macnaughtan, S. G. Clarke and J. C. Prytherch. bibliog Iron & Steel Inst J 125:159-74, pl 18-22 no 1 '32; Abstract. Mech Eng 55:45 Ja '33

Metals, tin plate and galvanized sheets; monthly prices 1913-1932. Iron Age 131:92 Ja 5 '33

Production of tin andterne plate and consumption of tin in production of tin andterne plate, monthly, 1922-1932. Survey of Cur Business 12:20 D '32

Thirty-five years of prices of tin plate, at Pittsburgh, and tin, at New York, 1898-1932; graph. Iron Age 131:63-4 Ja 5 '33

Tin plate, 1903-1932, market history; tabulation. Steel 92:119 Ja 2 '33

Use of non-ferrous metals in the food industry. T. N. Morris and J. M. Bryan. Soc Chem Ind J (Chem & Ind) 52:140-1 F 17 '33

## Manufacture

Application of gas to the heavy industries. W. C. Jackson. diags Inst Mech Eng Proc 123:727-43 '32

Application of gas to the tinplate and sheet industries. A. D. Howells. diags Gas J (Lond) 201:313-15; Discussion. 315-16 F 8 '33

Cause of roll breakage in tinplate and sheet mills. J. Williams. Blast F & Steel Pl 20: 907; 21:66 D '32-Ja '33

Cold rolling of sheets and of tinplate. W. Trinks. diags Blast F & Steel Pl 21:315-20 Je '33

## TIPPER, Mrs G. H.

Beilby memorial awards. Chem Age (Lond) 29:33 Jl 8 '33

## TIPPING

Tipping salesman. Ptr Ink 162:36 Ja 12 '33

## TIRE chains

## Advertising

How to make certain that sales helps are used; American chain company. J. Ans-pacher. Ptr Ink 161:34-6 D 8 '32

Snowfall sets this schedule; Weed tire chain. Ptr Ink 161:26 D 15 '32

## TIRE factories

See also

Rubber factories  
Tires, Automobile—  
Manufacture

## Employees

Akron and NRA; drop in tire demand accounts for layoffs. Business Week p12 S 23 '33

Labor productivity in the automobile tire industry. B. Stern. pls U S Bur Labor Statistics Bul 585:1-74 '33; Excerpts. Monthly Labor R 35:1252-68 D '32; Rubber Age 32: 285-8 Ja 25 '33

Revised code for tire industry submitted.

Rubber Age 34:25-6 O '33

Tire industry code completed and forwarded to Recovery administration; text. Rubber Age 33:212-13 Ag '33

## Equipment

Mechanical handling in rubber tyre production. H. S. Jude. diags Mech Handling 20: 185-90 Je '33

Process cycle control a boon to rubber industry. L. Church. Il Chem & Met Eng 40: 536-8 O '33

## Management

Sources of waste in tire manufacture. F. A. Middleton. India Rubber W 88:35-7 Jl; 29-30+ Ag; 35-7 S; 89:31-2+ O; 27-8 D '33  
Successful sales ideas of a small tire company; Norwalk tire and rubber co. J. W. Whitehead. Rubber Age 32:327 F '33

## TIRES, Airplane

Aeroplane covers and wheels. F. Fellowes. diags Roy Aeronautical Soc J 37:177-98; Discussion. 198-203 F '33

## TIRES, Automobile

Analysis of tires and wheels as causes of tramp. O. E. Kurt. diags S A E J 32:191-6 My '33

Automotive engineer's case against the doughnut tire. D. G. Roos. Rubber Age 32: 211-12 D 25 '32

Defective tires, an accident causing hazard. A. C. Carruthers. Il Safety Eng 66:49-50 Ag '33

Future for low pressure tires gradually grows brighter. A. F. Denham. S A E J 32:138-41 Ap '33; Same cond. Automotive Ind 68:158-9+ F 11 '33; Discussion. S A E J 32:141-3 Ap '33

Judging super-balloon tires. B. J. Lemon. Il S A E J 31:403-10 O '32; Abstract. Mech Eng 55:48 Ja '33

Kelly-Springfield fatigue-proof tire. Rubber Age 32:340 F '33

Longevity for tires. Rubber Age 32:331 F '33  
Passenger car tire sizes; tabulation. India Rubber W 88:68 My '33

Road hazard warranties and other practices hit in tire code. R. B. Stafford. Nat Pet N 25:13 N 1 '33

60,000,000 tires will be needed in 1933. W. O'Neil. Rubber Age 32:248 Ja 10 '33; Same. India Rubber W 87:36 Ja '33

Super-balloon tires—retrospect and prospect; abstract. B. J. Lemon. S A E J 32:sup25 Mr '33

Tires; Akron is working full schedule again. Business Week p11 My 24 '33

Try, try again; when you get your code to Washington, you may have only begun to fight. Business Week p7-8 N 4 '33

Worn tires and accidents. R. B. Stoeckel. Safety Eng 65:171-2 My '33

See also

Automobiles—  
Wheels  
Tire factories

Tires, Motor bus  
Tires, Motor truck

## Advertising

Barter. Ptr Ink 162:42 Mr 9 '33

Campaign concentrates on dealer; Kelly-Springfield tires. Il Ptr Ink 163:48 My 11 '33

Copy can be sales-making news to the reading public; Maranville tire story. W. T. Laing. Ptr Ink 164:52-4 S 28 '33

Direct mail results; results for tires. Il Ptr Ink Mo 27:50 N '33

Goodrich advertises new tire. Ptr Ink 162:25 Mr 23 '33

How 60,000,000 tires can be sold in 1933. W. O'Neil. Ptr Ink 161:68+ D 8 '32

**TIRES, Automobile—Advertising—Continued**

When competitive advertising need not be destructive; some principles, with special reference to tire industry. J. Benson. *Ptr Ink* 161:53-5 D 15 '32

**Manufacture**

Century of technical progress in the rubber industry. N. A. Shepard. *bibliog il Ind & Eng Chem* 25:35-41 Ja '33

Equipment contracts excepted from ban on guaranteed future prices in new tire code. *Automotive Ind* 69:496 O 21 '33

Individual tire vulcanizers. L. R. Keltner and H. Gray. *il Ind & Eng Chem* 24:1259-63 N '32; *Abstract. India Rubber W* 87:31-3 D '32

Labor productivity in the automobile tire industry. B. Stern. *pls U S Bur Labor Statistics Bul* 585:1-74 '33; *Excerpts. Monthly Labor R* 35:1252-68 D '32; *Rubber Age* 32:285-8 Ja 25 '33

Mechanical handling in rubber tyre production. H. S. Jude. *diags Mech Handling* 20:185-90 Je '33

Process cycle control a boon to rubber industry. L. Church. *il Chem & Met Eng* 40:536-8 O '33

Sources of waste in tire manufacture. F. A. Middleton. *India Rubber W* 88:35-7 JI; 29-30+ Ag; 35-7 S; 89:31-2+ O; 27-8 D '33

Specification carbon black. R. H. Eagles. *Rubber Age* 32:170 D 10 '32

**See also**

Tire factories

**Merchandizing**

Firestone renews his fight on private-brand tires. *Ptr Ink* 163:58-60+ Ap 6 '33

How oil companies are selling and servicing tires and accessories. *il Pet Age* 27:14-15 F '33

How to sell tires. *il Pet Age* 26:36-7 N '32

How we sell tires and car accessories at our own and dealer outlets. A. Wright. *il Pet Age* 27:16-17 Mr '33

Jobber markets tires from central storage with quick delivery system. E. L. Barringer. *il Nat Pet N* 24:38+ D 14 '32

Tires; Goodrich and U. S. cut their lines to 2 grades. *Business Week* p11-12 Mr 29 '33

**Prices**

Firestone renews his fight on private-brand tires. *Ptr Ink* 163:58-60+ Ap 6 '33

Price war in tire industry. *Barron's* 13:21 F 13 '33

Seek tire-industry stability in price cuts. *Barron's* 13:14 Mr 27 '33

Three of tire "big 4" reduce lines in plan to stabilize prices. *Sales Management* 32:332 Ap 1 '33

Tire price war looms as result of mail order house reductions. *Rubber Age* 32:333-4 F '33

Tire prices punctured; Firestone forces a price cut. *Business Week* p6 F 15 '33

**Repair**

Retreading tires. *diag India Rubber W* 88:26 My '33

**Statistics**

Automobile tires. *Bradstreet's* 60:1557+, 1703; 61:388 N 26, D 24 '32, F 25 '33

German tire industry in 1932. *India Rubber W* 89:49 N '33

Tire dealers' stocks as of October 1. *Rubber Age* 32:95 N 10 '32; *India Rubber W* 87:38 D '32

Tire production statistics. Published in monthly numbers of India rubber world

Tire stocks as of April 1. *Rubber Age* 33:65 My '33

**Testing**

Finger printing tires to promote safety. *il Rubber Age* 32:215 D 25 '32

Friction of tires on pavements. C. P. Roberts. *Rubber Age* 34:16 O '33

Prüfmaschine für gummireifen. *il Zeit Ver Deutsch Ing* 77:451 Ap 29 '33

Tire traction bugaboo. A. H. Oldham. *il India Rubber W* 88:35-6 My '33

**TIRES, Bicycle****Manufacture**

Vulcanization of bicycle tubes; a process continuous with their extrusion from the tubing machine. *diag India Rubber W* 88:34 My '33

**TIRES, Locomotive**

Aluminum tire gage. *il Ry Mech Eng* 107:375 O '33

Gas-fired tire heater. J. B. Nealey. *il diag Ry Mech Eng* 106:511-12 D '32

**TIRES, Motor bus**

Balloon versus high-pressure tires. *Transit J* 77:418-19 N '33

Grooves cut in bus tires as safety measure. *il Transit J* 77:251-2 Ag '33

S.M.M.T. provisional standard no. 76: valves for pneumatic tyres for commercial vehicles. *diags Automobile Eng* 23:67-8 F '33

Tire valve improvements. *il Elec Traction* 29:244 Ag '33

**Testing**

Effect of temperature on tensile properties of vulcanized rubber. A. A. Somerville and W. F. Russell. *bibliog il Ind & Eng Chem* 25:1096-1101 O '33

Road impact produced by a heavy motor bus. J. A. Buchanan. *il Pub Roads* 13:137-47+ N '32

**TIRES, Motor truck**

Brewers' rubber goods. W. Norris. *il India Rubber W* 87:31-3 Ja '33

Proper tire controls save money. *Food Ind* 5:104 Mr '33

Reducing tire expenses by proper control and maintenance methods; individual tire card. *il diags Food Ind* 5:160-4 My '33

S.M.M.T. provisional standard no. 76: valves for pneumatic tyres for commercial vehicles. *diags Automobile Eng* 23:67-8 F '33

**See also**

Motor trucks and roads

**TIRES, Rubber**

Air suspension rail car; pneumatic tires within steel wheel. *il diag Rubber Age* 33:61-2 My '33; *India Rubber W* 87:40 Mr '33; *Automotive Ind* 68:495+ Ap 22 '33; *Transit J* 77:96 Mr '33

Les applications du pneumatique à la voie ferrée; les motocyclettes-draisines, système Alcyon, pour route et pour voie ferrée. G. Delanghe. *il diags Génie Civil* 102:303-6 Ap 1 '33

Austro-Daimler pneumatic tired rail car. *il diags Ry Age* 95:219-21 Ag 5 '33; *Same. Ry Mech Eng* 107:309-12 S '33

Fast rail car on pneumatic tires built for Reading company. *il Sci Am* 148:10 Ja '33

Pneumatic-tired rail cars in Austria; abstract. *Mech Eng* 55:130 F '33

Rubber cushioned wheels evoke wide interest. M. Buck. *il diags Transit J* 77:117-18 Ap '33

Tests of Firestone pneumatic rail tires. *il diag Ry Age* 93:981-2 D 31 '32

Use of rubber in Autotram cushion wheel; why pneumatic tires were not used. C. W. Bedford. *il diag Rubber Age* 32:372-3 Mr '33; *Abstract. Mach* 39:596 My '33

Why and how of the rubber-tired railroad-coach. E. J. W. Ragsdale. *il diag S A E J* 32:54-8+ F '33; *Abstract. Rubber Age* 32:319-20 F '33; *Discussion. S A E J* 32:sup15 F '33

**See also**

Tires, Airplane

Tires, Automobile

Tires, Bicycle

Tires, Motor bus

Tires, Motor truck

**Manufacture**

Rubber tires made by gas at Chicago fair. J. B. Nealey. *il Am Gas Assn Mo* 15:321-2+ Ag '33

**TIRES, Tractor**

Comparative tests of pneumatic tires and steel wheels on farm tractors in agricultural operations. C. W. Smith. *Automotive Ind* 69:251 Ag 26 '33

**Testing**

Goodrich floor wear tester. *il India Rubber W* 89:68 O '33



**TIRES, Trailer**

Corrected camber lengthens tire life. A. F. Denham. *Automotive Ind* 67:646 N 19 '32

**TISSUE paper**

See also  
Crepe paper  
Toilet paper

**TISSUES**

Action of the parenteral administration of sugars on the hydrogen-ion concentration of normal and malignant tissues in living animals. C. Voegtlin, H. Kahler and R. H. Fitch. *Science* 77:567-8 Je 9 '33

Heating effect of very high frequency condenser fields on organic fluids and tissues. J. W. Schereschewsky. *bibliog diags Pub Health Rep* 48:844-58, pl 1-2 Jl 21 '33

Relation between oxygen tension and protein synthesis in certain tissue extracts. C. Voegtlin, M. E. Maver and J. M. Johnson. *Science* 77:92-3 Ja 20 '33

See also

Plant cells and tissues

**TITANIA. See Titanium oxides****TITANIUM**

Einfluss eines geringen titanzusatzes auf baustähle. J. Arend and M. Lobe. *il Stahl & Eisen* 53:604-6 Je 8 '33

Ilmenite-apatite deposits of west-central Virginia. C. W. Ryan. *diag Econ Geol* 28:266-75 My '33

Nature and prevention of intergranular corrosion in austenitic stainless steels. E. C. Bain, R. H. Aborn and J. J. B. Rutherford. *bibliog il diags Am Soc Steel Tr Trans* 21:481-509 Je '33; *Excerpts. Steel* 92:21-3+ Ap 17 '33

Opacifying of paper by means of titanium pigments. W. R. Willets. *Paper Tr J* 97:35-8 S 21 '33

Titanium and columbium in plain high-chromium steels. F. M. Becket and R. Franks. *Iron Age* 132:20-2 O 26 '33; *Excerpt. Steel* 93:30 O 16 '33

Titanium in cast iron. G. F. Comstock. *Metal Prog* 24:44 Ag '33

Use of titanium in steelmaking. G. F. Comstock. *il Blast F & Steel Pl* 21:412-14, 474-5 Ag-S '33

Use of titanium pigments in the paper industry. W. R. Willets. *Paper Tr J* 97:28, 30 S 7 '33

**Analysis**

Determination of titanium in plain-carbon, high-chromium, and 18 chromium-8 nickel steels. T. R. Cunningham. *Ind & Eng Chem Anal ed* 5:305-6 S 15 '33

New rapid determination of titanium in corrosion-resisting and plain steels. C. M. Johnson. *Iron Age* 132:16-19 Ag 24 '33

**TITANIUM alloys**

Alloy cast iron with titanium. G. F. Comstock. *il Foundry* 61:32-3+ Jl '33

Titanium in gray cast iron. G. F. Comstock. *il Iron Age* 131:857-9+, 897-900 Je 1-8 '33

**TITANIUM chlorides**

Ammines of the lower chlorides of titanium. W. C. Schumb and R. F. Sundström. *diag Am Chem Soc J* 55:596-604 F '33

See also

Titanium tetra-chloride

**TITANIUM compounds**

Development of the titanium pigment industry; new plant at Luton. *Chem Age (Lond)* 28:435 My 13 '33

Titanium compounds and their uses in dyeing and printing. *Textile Col* 55:174-5 Mr '33

Titanium salt in dyeing; abstract. *Textile Col* 55:113 F '33

**TITANIUM oxides**

Hydrated titanium oxide; thermal precipitation from titanium sulfate solutions. A. W. Hixson and W. W. Plechner. *bibliog il Ind & Eng Chem* 25:262-74 Mr '33

Use of titanium pigments in the paper industry. W. R. Willets. *Paper Tr J* 97:28, 30 S 7 '33

**TITANIUM pigment company**

Joins TAPPI. *Paper Tr J* 96:23 Ap 13 '33

**TITANIUM potassium oxalate**

New manufacturing process. L. Stuckert. *Chem Age (Lond)* 29:356 O 14 '33

**TITANIUM sulfate**

Hydrated titanium oxide; thermal precipitation from titanium sulfate solutions. A. W. Hixson and W. W. Plechner. *bibliog il Ind & Eng Chem* 25:262-74 Mr '33

**TITANIUM tetrachloride**

Influence of volatile chlorides on magnesium and on copper. J. D. Grogan and T. H. Schofield. *Engineering* 135:675-6 Je 23 '33

**TITANOIDES**

New species of the amblypod titanoides from western Colorado. B. Patterson. *bibliog il Am J Sci* 5th ser 25:415-25 My '33

**TITRATION. See Volumetric analysis****TOBACCO**

American tobacco types, uses and markets. C. E. Gage. *U S Agric Circ* 249:1-88 '33

Chemistry and the tobacco industry. J. E. Musgrave. *il Can Chem & Met* 17:67-70 Ap '33

See also

Cigarettes  
Cigars

Nicotine  
Snuff

**Analysis**

Interference of pyridine derivatives in arsenic determination. C. R. Gross. *Ind & Eng Chem Anal ed* 5:58-60 Ja 15 '33

**Bibliography**

Selected bibliography on tobacco. W. W. Garner, comp. 25 numb 1 Pan American union, Division of agricultural cooperation, Washington, D.C. '33

**Diseases and pests**

Rod-shaped particles in tobacco mosaic virus demonstrated by stream double refraction. W. N. Takahashi and T. E. Rawlins. *diag Science* 77:26-7 Ja 6 '33

Stream double refraction exhibited by juice from both healthy and mosaic tobacco plants. W. N. Takahashi and T. E. Rawlins. *Science* 77:284 Mr 17 '33

**Transportation**

Water-borne tobacco must be well stowed. *Weekly Underw* 128:294 F 11 '33

**TOBACCO industry and trade**

Cigar manufacturing industry. R. H. Mack. 140p [bibliog p116-19] \$2.50 Univ. of Pennsylvania press '33

See also

British-American tobacco company  
Cigarettes

Cigars  
Reynolds, R. J., tobacco company

**Advertising**

Edgeworth bunches its shots; full pages combine several copy angles and have coupons for both men and women. *il Ptr Ink* 162:6 Ja 26 '33

Most interesting advertising job I ever did; Edgeworth advertisement from 1914. F. R. Feland. *Ptr Ink* 162:45-6 Mr 30 '33

See also

Cigarettes—Advertising

**Finance**

Behind-the-scenes picture of American Tobacco profits. *il Ptr Ink* 162:51-3+ Mr 30 '33

**Securities**

Tobacco companies, 1930-1932. *Mag of Wall St Manual* p47+ Mr 6 '33

**Great Britain**

Tobacco company prospects. *Economist* 117:822-3 O 28 '33

Tobacco, 1932. *Economist* 116:sup41 F 18 '33

**United States**

Cigarette companies look to Washington. J. H. Melhado. *il Barron's* 13:3, 7 Jl 24 '33

Cigarette dividends well entrenched. *Barron's* 12:24 N 21 '32

**TOBACCO industry and trade—United States**

—Continued

Competition in the American tobacco industry, 1911-1932. R. Cox. 372p [bibliog p361-66] \$4.50 Columbia univ. press '33

Tobacco industry. Index 12:244-7, 250-2 D '32

Tobacco pact. Business Week p9 O 21 '33

Tobacco strike; rebellious farmers cut acreage. Business Week p4 Ja 4 '33

**Virginia**

Marketing Virginia tobacco. R. A. Ballinger and others. Virginia Agric Exp Sta Bul 285: 1-55 '32

**TOBACCO pipe cleaners**

Large uses of steel in small ways. il Steel 91:28 D 26 '32

**TOBACCO workers**

Labor conditions in the tobacco industry of the Javanese native states. Monthly Labor R 35:1077-9 N '32

**TOEPLER-Holtz static machine. See Electric machines****TOEPLER pump**

Automatic Toepler pump. A. T. Williamson. diags R Sci Instr 3:782-9 D '32

**TOILET goods**

Associated manufacturers of toilet articles will censor advertising. Oil Paint & Drug Rep 123:14 Mr 27 '33

Cosmetic demonstrator tells how to beat the demonstration game. il Adv & Sell 21:16-17+ O 12 '33

False advertising, demonstrators under attack; toilet goods manufacturers to call trade practice conference. Ptr Ink 163:80-1 My 11 '33

New plastic packages in the toiletries field; illustrations. Plastic Prod 9:26 Mr '33

Soaps and cosmetics; an enterprising branch of the chemical industry. Index 13:120-4 Je '33

This combination betters boom time sales records; fool-proof package does a sampling job for Bourjois, inc. R. Aronson. il Ptr Ink 163:28-9 Je 22 '33

Toiletries industry drafts NIRA code; text. Oil Paint & Drug Rep 124:28C Jl 24 '33

Tooth-paste, shaving cream and other best sellers. M. Sykes. Comm & Fin 22:735-6 Ag 23 '33

**See also**

Associated manufacturers of toilet articles	Cosmetics
	Toothbrushes

**Advertising**

As the advertising manager said to the sales manager; Woodbury company and Jergens company. H. J. Emptage and R. V. Beucus. il Ptr Ink 161:25-8 D 1 '32

Coty invades beauty shops; hair lotion is introduced through business papers and direct mail, with general advertising to come later. il Ptr Ink 161:25-6 D 15 '32

Successful sampling requires select lists; Campana Italian balm. L. Anson. il Ptd Salesmanship 60:237-9+ N '32

**Taxation**

Tax ten times greater than sales. C. Henke. Ptr Ink 163:36 Je 15 '33

**TOILET paper**

How Texlin chalked up a 357 per cent increase in sales. R. S. McFadden. il Sales Management 32:327+ Ap 1 '33

How this advertiser keeps sales ahead of boom days; Scott paper company. T. B. McCabe. il Ptr Ink 162:3-6 Mr 23 '33

Two million braves let loose; Seminole tissue sales soar. L. B. Colby. il Sales Management 33:211-12 S 1 '33

**TOILET rooms**

Installation and maintenance of toilet facilities in places of employment. charts U S Women's Bur Bul 99:1-86 '33

**See also**

Bathrooms  
Lavatories  
Water closets

**TOKIO marine and fire insurance company**

Condition of U. S. branch as of June 30, 1932, reported by N. Y. department. Spectator 130:30 Ja 19 '33

**TOKYO, Japan****Architecture**

American architect in Japan; the work of Antonin Raymond. il plans Arch Rec 73:41-56 Ja '33

**Sewerage**

Sewerage system of Tokyo, Japan. I. W. Mendelsohn. il Pub Works 64:27-8 S '33

**Water supply**

Die wasserversorgung von Tokio. M. T. Ahmadi and E. Gerlach. diag Zeit Ver Deutsch Ing 76:1276-8 D 24 '32

**TOLEDO, Ohio****Galleries and museums**

Different art museum; Toledo (Ohio) museum of art. il Sci Am 148:322 Je '33

**Harbor**

Port of Toledo, Ohio. (Lakes ser. 7), 104p il maps U. S. Engineer dept. Board of engineers for rivers and harbors, Washington '32

**TOLERANCE**

Limitation of limits. E. C. Shanks. Am Mach 76:1220-1 D 21 '32

Tolerance system must recognize controlling influence of maximum fit. W. L. Hindman. Automotive Ind 68:706-8 Je 10 '33

**TOLIDINE**

Chemical control of sewage chlorination; the use and value of the *o*-tolidine test. C. Lea. Soc Chem Ind J 52:245T-50T Ag 11 '33

Ortho-tolidine test for chlorine. H. W. Adams and A. M. Buswell. bibliog Am Water Works Assn J 25:1118-36; Discussion. L. H. Enslow. 1136-9 Ag '33

**TOLL bridges. See Bridges—Tolls****TOLUENE**

Action of elementary fluorine upon certain aromatic organic compounds under various conditions. L. A. Bigelow and others. diags Am Chem Soc J 55:4614-20 N '33

Diamagnetism of carbon tetrachloride, benzene and toluene at different temperatures. G. F. Boeker. Phys R 43:756-60 My 1 '33

Method for a more complete examination of binary liquid mixtures. W. A. Wright. diag J Phys Chem 37:233-43 F '33

Polarity in certain hydrocarbon vapors. K. B. McAlpine and C. P. Smyth. diags Am Chem Soc J 55:453-62 F '33

Solid polyiodide of ammonium. H. W. Foote and W. M. Bradley. J Phys Chem 37:29-31 Ja '33

Solid polyiodides of cesium. H. W. Foote, W. M. Bradley and M. Fleischer. J Phys Chem 37:21-7 Ja '33

Sur la transformation du benzène, du toluène et du xylène en méthane. A. Mailhe. Chimie & Ind 28:1263-71 D '32

Toxic substances in the rubber industry. P. A. Davis. Rubber Age 33:63-4 My '33

Wetting, spreading, and emulsifying agents for use with spray fluids; a partial phase rule investigation of the miscible oil system phenol-water-sodium oleate-toluene. R. M. Woodman. Soc Chem Ind J 52:185T-8T Je 23 '33

**See also**

Dinitrotoluene  
Nitrotoluene  
Trichlorotoluene

**TOLUENEARSONIC acids**

Action of chlorine on *p*-toluenearsonic acid under the influence of ultraviolet light and its chlorination with hypochlorous acid. C. S. Hamilton and W. N. King. Am Chem Soc J 55:1689-92 Ap '33

Aldehyde oxidation of toluenearsonic acids. H. M. Parmelee and C. S. Hamilton. Am Chem Soc J 55:1463-9 Ap '33



**TOLUENESULFINIC acid**

Some Walden inversion reactions of the *p*-toluenesulphonic and *p*-toluenesulphinic esters of *l*-phenylmethylcarbinol. J. Kenyon, H. Phillips and F. M. H. Taylor. Chem Soc J p173-8 F '33

**TOLUENESULFONATES**

Nitration of 4-nitro-*o*-tolyl *p*-toluenesulphonate. F. H. Cud and A. Robertson. Chem Soc J p166-7 S '33

**TOLUENESULFONIC acid**

Some Walden inversion reactions of the *p*-toluenesulphonic and *p*-toluenesulphinic esters of *l*-phenylmethylcarbinol. J. Kenyon, H. Phillips and F. M. H. Taylor. Chem Soc J p173-8 F '33

**TOLUIDINE**

Electrical conductivities of liquid mixtures of phenol-aniline, phenol-*p*-toluidine, and phenol-*m*-cresol. O. R. Howell and H. G. B. Robinson. Chem Soc J p1032-7 Ag '33  
Reaction between *o*-toluidine and sulphur. H. H. Hodgson and H. V. France. Chem Soc J p296-7 Mr '33

**TOLUNITRILE**

Condensation of oxalic esters with benzyl cyanide. G. S. Skinner. Am Chem Soc J 55:2036-9 My '33

**TOLYL compounds**

Some tolyl derivatives of germanium. J. K. Simons, E. C. Wagner and J. H. Müller. Am Chem Soc J 55:3705-12 S '33

**TOLYLETHYLAMINE**

Solubility relationships among optically isomeric salts; the camphorates of alpha-para-tolylethylamine. A. W. Ingersoll and F. B. Burns. Am Chem Soc J 54:4712-15 D '32

Solubility relationships among optically isomeric salts; the mandelates and alpha-bromocamphor-*pi*-sulfonates of alpha-phenylethylamine and alpha-para-tolylethylamine. A. W. Ingersoll, S. H. Babcock and F. B. Burns. Am Chem Soc J 55:411-16 Ja '33

**TOLYLHYDROBENZOLIN**

Dehydration of the  $\alpha$ -forms of *r*- and (+)-*o*- and -*m*-tolylhydrobenzols. R. Roger and W. B. McKay. Chem Soc J p332-6 Ap '33

**TOMATO juice**

Vitamins in canned foods; canning tomato juice without vitamin C loss. E. F. Kohman, W. H. Eddy and C. Z. Gurin. Ind & Eng Chem 25:682-4 Je '33

**TOMATO sauce**

How spaghetti sauce is made. D. S. Huber. il Food Ind 5:438-9 N '33

**TOMATOES**

Composition of canning tomatoes. L. G. Saywell and W. V. Cruess. diag Calif Agric Exp Sta Bul 545:1-32 '32

How to prevent vinegar gnat infestation of tomatoes. C. H. Bloedorn. Food Ind 5:353 S '33

Ridding tomato pulp of black spots and grit. C. M. Ambler. il Food Ind 5:254 Jl '33

Tomatoes, berries and other crops under continuous light in Alaska. G. M. Darrow. Science 78:370 O 20 '33

**TOMB of unknown soldier, Arlington.** See Arlington cemetery—Tomb of unknown soldier**TOMBS**

Mixtures for vibrated concrete in production of burial vaults. W. G. Kaiser. Concrete 41:13-14 Jl '33

Prospective market for concrete burial vaults. Concrete 41:13 Je '33

Surface-sepulcher, a distinctive new concrete product. il Concrete 41:20 Ag '33

**TONNAGE**

Tonnage measurement; abstracts and discussion. G. Nilsson. Engineering 135:441-2 Ap 21 '33; Engineer 155:370 Ap 14 '33

**TOOL holders.** See Holding devices (machine work)**TOOL rooms**

Production control; tools. T. M. Landy. Factory Management 91:363-4 S '33

Reducing the cost of maintenance; tool room window waiting. G. F. Pearce. Maintenance Eng 90:459 D '32  
Standard repair cost data; toolroom at Stewart-Warner corporation. Factory & Ind Management 83:454-5 D '32  
Stocks hit new low! when stores and tools are kept in one place. H. W. Banbury. il Factory & Ind Management 84:14-15 Ja '33

**TOOL steel**

Alloy 548; a new metal cutting alloy. Z. Jeffries; W. P. Sykes. il Metal Prog 23:29-35 F '33

Choosing a cutting material. R. R. Weddell. il Am Mach 77:300-1 My 10 '33

Getting optimum results from modern cutting tool materials. J. Geschelin. il Automotive Ind 69:530-5 N 11 '33

Heat treatment of cobalt high speed steel. Metal Prog 23:29+ Ap '33

Hot-hardness of high-speed steels and related alloys. O. E. Harder and H. A. Grove. (Tech pub 497) 39p A.I.M.E. '33

Machineability of screw machine stock. H. W. Graham. il Mach 39:793-5 Ag '33

Modern metal-cutting materials and how to select them; results of tests at East Pittsburgh plant of the Westinghouse electric & mfg. co. J. M. Highducheck. il chart Mach 40:12-17 S '33

Neuere entwicklung auf dem edelstahlgebeit. E. Houdremont and H. Kallen. il Zeit Ver Deutsch Ing 77:191-5 F 25 '33

New developments in cast die and tool steels. Mach 39:415 F '33

Requirements and composition of cutting tools; abstracts. J. V. Emmons. Iron Age 130:608-9+ O 20 '32; Mach 39:276-8 D '32

Some molybdenum high speed steels. J. V. Emmons. bibliog il Am Soc Steel Tr Trans 21:193-221; Discussion. 221-32 Mr '33

Stähle für werkzeuge zum pressen von kunstharz. F. Rapatz. Stahl & Eisen 52:1271 D 22 '32

Temperature atmosphere problem in high speed steel. S. Tour. bibliog il diag Am Soc Steel Tr Trans 21:269-80 Mr '33; Same cond. Iron Age 130:574-6 O 13 '32; Discussion. Am Soc Steel Tr Trans 21:280-8 Mr '33

Threading dies; their manufacture and cutting efficiency. J. G. Morrison. Iron Age 131:129+, 314-15+ Ja 19, F 23 '33

Tool steel as a material for machine parts. il Mach 40:91-2 O '33

See also

Cutting tools

Steel alloys

Machine tools

Vanadium steel

**History**

Alloy tool steels and the development of high speed steel. A. S. Townsend. Am Soc Steel Tr Trans 21:769-95 [bibliog p794-5] S '33

**Testing**

Correlation of some mechanical and magnetic properties of 1.21-per-cent carbon tool steel. J. V. Emmons and R. L. Sanford. il Am Soc T M Proc 32 pt 2:380-97 '32

Gage for file test. B. Buxbaum. Metal Prog 23:48 Je '33

Hot-hardness of high-speed steels and related alloys; abstract. E. C. Harder and H. A. Grove. Iron Age 131:383 Mr 2 '33

Interpretation of the deep acid etch test as applied to tool steels. J. P. Gill and H. G. Johnstn. il Am Soc Steel Tr Trans 21:354-79 [bibliog p379]; Discussion. 379-84 Ap '33

Report on the heat conductivity and hardness of carbon and high-speed steel, also the durability of these steels when cutting brass. D. Smith and A. Nield. diags Inst Mech Eng Proc 123:709-25 '32

**TOOLS**

Acme screw threads and tools. W. Whitney. diag Am Mach 77:242-3 Ap 12 '33

Carpenter's tool chest. T. Hibben. 209p \$2 Lippincott '33

Eclipse 4.S hand-tool. il Engineering 134:579 N 11 '32

Geipel mechanical hammer drill. il diag Engineering 135:204 F 17 '33

**TOOLS—Continued**

- Reducing tool costs by using alloy steels. R. P. White. *Mach* 39:661-3 Je '33  
Resistance baths for small tools. A. E. Bellis. *il diags Am Mach* 77:302-3 My 10 '33  
Sizing tool for forming retaining wedges. S. Oyando. *diag Maintenance Eng* 90:461-2 D '32  
Stop hand-tool accidents! S. DeHart. *il Factory & Ind Management* 83:470 D '32

*See also*

- |                 |            |
|-----------------|------------|
| Cutting tools   | Saws       |
| Electric tools  | Sharpening |
| Files and rasps | Tool steel |
| Machine tools   | Wrenches   |
| Machinery       |            |

**Manufacture**

- Objections to the contract system in tool-making. C. B. Cole. *Mach* 40:6-7 S '33  
Profile grinding machine for tools and gages. O. P. van Steewen. *il Mach* 39:411-13 F '33

**TOOTH paste and powder. See Dentifrices****TOOTHBRUSHES**

- Toothbrush trade-in. *Business Week* p11 My 3 '33  
Tooth brushes in grocery stores; Ohio match company's new product. J. C. Staier. *il Ptr Ink* 163:41 Ap 6 '33

**Advertising**

- Trade-ins for toothbrushes. *il Ptr Ink* 163:52 My 11 '33

**Manufacture**

- Pyroxylin plastics for the dental field. J. H. Clark. *il Plastic Prod* 9:317-18 O '33

**TOPEKA, Kansas****Streets**

- Widening and resurfacing West Tenth street. W. A. Lawson. *il Roads & Sts* 75:499-500 D '32

**TOPOGRAPHICAL maps**

- Mapping situation in Florida. W. L. Sawyer. *maps Univ of Florida Eng Exp Sta Bul* 1:1-42 [bibliog p42] '33

*See also*

- Surveying, Aerial

**TOPOGRAPHICAL surveying**

- Topographic surveying as an aid to unemployment. C. H. Birdseye. *Eng N* 110:465-6 Ap 13 '33

*See also*

- Surveying, Aerial

**TOPS**

- Kowalewski's top in quantum mechanics. O. Laporte. *Phys R* 43:548-51 Ap 1 '33

**TORCHES***See also*

- |                        |                     |
|------------------------|---------------------|
| Gas torch              | Oxygen cutting      |
| Oxyacetylene apparatus | Oxyhydrogen cutting |

**TORNADO insurance. See Insurance, Tornado****TORNESIT. See Rubber—Chlorination****TORONTO, Ontario****Water supply**

- Construction of intake pipe and junction shaft for city of Toronto duplicate water supply. F. W. Douglas. *il diag Can Eng* 64:78-83 Mr 28 '33; Same, without *il Am Water Works Assn J* 25:1221-9 S '33; Discussion. *Can Eng* 64:83-4 Mr 28 '33

**TORPEDO boat destroyers**

- H.M. torpedo-boat destroyer Daring. *il Engineering* 134:680 D 9 '32  
Portuguese destroyer, Lima. *il Engineering* 136:382 O 6 '33  
Portuguese destroyer Vouga. *il Engineer* 156:112 Ag 4 '33

**TORQUE**

- Automatic transmissions; engine torque as a means of shift control. P. M. Heldt. *Automotive Ind* 69:43-4 Jl 8 '33  
Automatic transmissions; rear-axle torque load as a transmission ratio control. P. M. Heldt. *diags Automotive Ind* 69:127-30 Jl 29 '33

- Measurement of the differential and total thrust and torque of six full-scale adjustable-pitch propellers. G. W. Stickley. *bibliog il diag U S Nat Advisory Com for Aeronautics* 1932:437-56 '33

- Speed-torque curves—how they picture crane performance. A. A. Merrill. *il diags Steel* 93:25-8 Jl 31; 23-6 Ag 21; 27-30 S 4 '33

- Synchronizing torque of an unexcited salient pole motor. R. D. Ball. *Elec Eng* 52:136-7 F '33

**TORQUE converters**

- Is a turbine torque converter the answer? J. Jandasek. *diags Automotive Ind* 69:34-7 Jl 8 '33

**TORSION**

- Nature of the torsional stability of a monocoque fuselage. K. Sezawa. *il Roy Aeronautical Soc J* 37:411-22 May '33

- Propagation of large Barkhausen discontinuities; effect of a circular field with torsion. L. Tonks and K. J. Sixtus. *Phys R* 43:70-80 Ja 1 '33

- Stability of thin walled tubes under torsion. L. H. Donnell. *Civil Eng* 3:456 Ag '33  
Stiffness of shafts; simplified method of calculation. F. A. W. Livermore. *Automobile Eng* 23:202 Je '33

**TORSION balance**

- Directions for the use of the Askania torsion balance. C. A. Heiland. 88p [bibliog p86-8] American Askania corporation, Houston, Tex. '33

- Theory of the torsion balance; with a preliminary study of a modification of the instrument to decrease time of gravity measurements. J. W. Joyce. *il diags U S Bur Mines Tech Pa* 546:1-46 '33

**TORSION meter**

- Torsionmeters. *Marine Eng* 38:150 Ap '33  
Trägheitslose zerspannungsmessung beim bohren. H. Schropp. *il diags Zeit Ver Deutsch Ing* 77:737-9 Jl 8 '33

**TORTS**

- Right to trade. W. P. M. Kennedy and J. Finkelmann. 134p Univ. of Toronto press, Toronto '33  
Treatise on the law of torts. F. V. Harper. 714p Bobbs '33

**TOSCANINI, Arturo**

- Toscanini in his island retreat; photographs by Dr Salomon. *Fortune* 6:85-6, 88 D '32

**TOTALIZER**

- Low-voltage distribution; a simplified method for signalling, lighting and telephone systems. J. Gardner. *il Elec R (Lond)* 113:344-5 S 15 '33

- Tote or tout? *Economist* 116:64-5 Ja 14 '33

**TOTEM poles**

- Totem pole from Florida. *il Sci Am* 148:292-3 My '33

**TOUCH**

- Sensitivity of the finger-tip to vibrations at various frequency levels; comparison with ear. L. D. Goodfellow. *J Fr Inst* 216:387-92 S '33

- Tactual perception of musical intervals. L. D. Goodfellow. *J Fr Inst* 215:731-6 Je '33

**TOULOUSE, France****Water supply**

- La distribution d'eau potable à Toulouse; la filtration des eaux de la Garonne sur des filtres à sable. G. Polzat. *il diags plan Génie Civil* 102:269-73 Mr 25 '33

**TOURIST camps. See Camps, Tourist****TOURIST trade**

- Bait to catch the tourist trade for local stations. E. L. Barringer. *il Nat Pet N* 25:35-6+ F 22; 37+ Mr 1 '33

- Decline in highway tourist traffic in Canada. *Can Eng* 64:12 Ap 11 '33

- Inflation and tourist travel. *Econostat* 1:7 My 20 '33

- Let Europe pay us in service. *Mag of Wall St* 51:492+ F 18 '33

- The market business forgets. J. J. McCarthy. *il Nation's Business* 21:38+ Ag '33



**TOURIST trade—Continued**

- Tourist movement. F. W. Ogilvie. P. S. King & son, London; Review. Economist 117: 269-70 Ag 5 '33  
 Tourist trade of Canada; abstract. R. H. Coats. Can Eng 65:65 S 19 '33; Discussion. 65:9-10 S 26 '33

**TOWBOATS**

- Acklam Cross, oil-electric tug. il Engineer 156:239-40 S 8 '33; Engineering 136:241-2 S 8 '33  
 Acklam Cross trials; first British Diesel-electric tug. A. C. Hardy. Electrician 111: 280 S 8 '33  
 Dearborn and Wylie L. Moore. il diags Marine R 63:32, 34 Ap '33  
 Diesel direct in towboat Franklin D. Roosevelt and Diesel direct drive in tug Turecamo Girls. il Marine R 63:19, 22 N '33  
 Diesel-electric tugboats; the first two British examples. A. Regnaud. il diag Elec R (Lond) 113:549-50 O 20 '33  
 Huntington, Newport News yard tug. plans Marine Eng 38:413-14 N '33  
 Inland waterways offer big saving to cement industry; detailed cost analysis. J. A. Harman. il diags Concrete (mill sec) 41:35-9 F '33  
 Joseph Goldberger quarantine tug. il Marine Eng 38:176 My '33  
 Large European Diesel tugs. il Marine Eng 38:411-13 N '33  
 Marine electricity; Diesel-electric activity; two important British tugs. A. C. Hardy. diag Electrician 111:83 Jl 21 '33  
 Motor tug John Wilson. il Engineer 155:76 Ja 20 '33  
 New quarantine tug for service at Boston; T. B. McClintic. il Marine Eng 38:21 Ja '33  
 Thames motor tug Crowstone. il Engineer 154:544 N 25 '32  
 Thames tug Crowstone. diags Engineering 134:575; 135:158-60 N 11 '32, F 10 '33  
 Tom Sawyer, twin screw Diesel, river towboat. il diag Marine R 63:16-19 Jl '33  
 Tug Lectro completed. Electrician 111:444, 501 O 13, 27 '33; Engineering 136:448 O 20 '33  
 Turecamo Girls, Diesel tugboat. il plans Marine Eng 38:339-40+ S '33  
 Turecamo Girls, direct drive Diesel towboat. il Marine R 63:21+ Ag '33  
 Twin-screw tug Awarua. il diags plan Engineering 134:561, 563 N 11 '32  
 Twin-screw tug Sir Guthrie Russell. il Engineer 156:68-9 Jl 21 '33  
 Wm. T. Warner, Diesel towboat for Illinois, Chicago rivers. Marine R 63:21 Jl '33  
 Y.T.119, Diesel electric tug, all-welded construction. il diag Marine R 63:24 My '33

**TOWELS**

- Cannon. il Fortune 8:50-3+ N '33  
 Cannon practice; merchandising policies changed so as to sell the chain stores yet keep its other distributors happy. Business Week p7 Ja 11 '33

**Advertising**

- Cannon cartoons remove taboo on practical gifts. il Adv & Sell 20:46 D 22 '32

**TOWER, Walter Sheldon, 1881-**

- Executive secretary, American iron and steel institute. por Steel 93:19 S 25 '33; Iron Age 132:54 S 28 '33

**TOWERS**

- Einwirkung von windstößen auf hohe bauwerke. E. Rausch. Zeit Ver Deutsch Ing 77:433-6 Ap 29 '33  
 Lost tower of Beauvais. R. K. Fletcher. il plan Am Arch 143:10-16 My '33  
 Reaction with paint destroys metal coating on Waldorf-Astoria tower. il Iron Age 132: 24 S 14 '33  
 Vehicular ramps in the Chateau d'Amboise. W. Atlee. il plan Civil Eng 3:595-7 N '33

**See also**

- Cooling towers      Radio towers  
 Electric lines—Poles and towers

**TOWERS, Concrete****See also**

- Water towers, Concrete

**TOWERS, Steel**

- Design of Skyway and observation towers. W. G. Grove. il Civil Eng 3:513-15 S '33  
 Fabrication of steel for the Sky Ride at Century of progress exposition. E. T. Blix. diags W Soc E J 38:182-92 Ag '33  
 George Washington bridge; construction of the steel superstructure. E. W. Bowden and H. R. Seely. il diags plans Am Soc C E Proc 59:65-152 Ja '33  
 George Washington bridge; design of the towers. L. S. Moisseiff. il diags Am Soc C E Proc 58:1727-68 D '32  
 Tubular steel towers 52 ft. high carry stiff-leg derrick; stone-handling rig for erection of Pittsburgh church. C. P. Streithof. il diags Eng N 110:521-2 Ap 27 '33

**See also**

- Airships—Mooring masts

**TOWERS, Wooden**

- Funktürme aus holz in Wiederau bei Leipzig. F. Herbst. il diags Zeit Ver Deutsch Ing 76: 1209-12 D 10 '32

**TOWING****See also**

- Towboats

**TOWN, David E. 1871-1933**

- Sketch. por Ptr Ink 163:24 Je 1 '33

**TOWN planning. See City planning****TOXINS and antitoxins**

- Bacteriophage said to act by producing antitoxins. N. W. Larkum. Science 78:sup8 O 13 '33  
 Preparation of a scarlet fever streptococcus toxoid and its use in active immunization. M. V. Veldee. bibliog Pub Health Rep 48: 549-65 My 26 '33  
 Toxin treatment in the prevention of pneumonia. A. F. Coca. Science 77:sup8 My 12 '33

**See also**

- Immunity  
 Serum

**TOY lamps. See Electric lamps, Toy****TOY trains**

- Miniature trains; an important distinction between toys and models. il Fortune 6:41-2 D '32

**Advertising**

- New form of joint advertising; poster reproductions distributed to owners of Lionel model railroads. Ptr Ink Mo 26:33 F '33

**TOYS**

- Old company, new product; result: new profits for Stanley Works making construction toy. A. L. White. il Forbes 32:13 N 1 '33  
 Reaching the market via toys. W. MacGregor. il Adv & Sell 20:26+ F 2 '33  
 Soft toy making. O. Pearse. 102p Pitman '32  
 Toys for grown-ups. Business Week p16 My 3 '33

**TRACHOMA**

- Bacterium granulosis conjunctivitis compared with that produced from human trachoma. I. A. Bengtson. Pub Health Rep 47:2281-6 D 9 '32  
 Induction of experimental granular conjunctivitis by direct inoculation of trachomatous tissue. P. K. Olitsky, J. T. Syverton and J. R. Tyler. Science 77:25-6 Ja 6 '33  
 Relationship of bacterium granulosis to trachoma. I. A. Bengtson. Science 77:218-19 F 21 '33  
 Studies on the etiology of Egyptian trachoma. P. K. Olitsky and J. R. Tyler. Science 78: 18 Jl 7 '33

**TRACING paper**

- Materials used in the manufacture of tracing paper. H. L. Vincent. bibliog Paper Tr J 95:24-6 D 29 '32

**TRACK bolts. See Rail fastenings****TRACK brakes. See Car retarders**

**TRACK circuits**

Track-circuit shunting with light-weight cars.  
Ry Age 93:951 D 24 '32

**TRACK scales**

Latest in master track scales; unit on Norfolk & Western. il Ry Age 95:493-5 O 7 '33

**TRACKLESS trolley.** See Trolley buses**TRACTIVE resistance**

Road testing car with gas-electric drive. R. G. Paustian. il Civil Eng 3:376-8 J1 '33

**TRACTOR industry and trade**

68 per cent increase in dealer outlets since 1929; Caterpillar tractor co. F. C. Smith. il Ptd Salesmanship 61:276-8 J1 '33

**Australia**

Australian tractor market more favorable.  
Am Mach 77:660e O 11 '33

**Russia**

American automatic machinery aids Soviet reconstruction. R. E. Miller. il Iron Age 131: 162-4+ Ja 26 '33

**TRACTORS**

Are we coming to high-compression tractor engines? P. M. Heldt. Automotive Ind 68: 556-8 My 6 '33

Caterpillar announces the Diesel thirty-five.  
il Roads & Sts 76:318 Ag '33

Change design of tractor engine for high octane fuels. Oil & Gas J 32:35 Je 8 '33

Development of the traction engine. F. H. Gillford. il Engineering 135:639-42, 652 Je 16 '33

F. W. D. tractor for 40-ft. combination length. il Ry Age 93:750 N 26 '32

From first to last with Caterpillar tractors. P. C. Smith. il Comp Air M 38:4204-9 S '33

Garrett oil engine-driven caterpillar tractor. il Engineer 156:415 O 27 '33

Linn Diesel-powered tractor. W. H. C. Mus- sen. il Can Eng 64:13 Ap 4 '33

New Bates Diesel oil burner tractor. il Roads & Sts 76:351-2 S '33

Oversea transport unit by Associated equip- ment company, ltd. il diags supp Engineer 156:55-8, 62 J1 21 '33

Royal agricultural show at Derby. il diag Engineer 156:8-10 J1 7 '33

Scammell detachable tractor for commercial road vehicles. il Engineering 135:633 Je 9 '33

Scammell mechanical horse; abstract. Mech Eng 55:582 S '33

Tractors speed unloading of large machinery shipment. il Steel 92:24 Ap 17 '33

Tractors used to break trails for brush-fire protection, Los Angeles. il Eng N 110:257 F 23 '33

Trends in tractor engine design; abstracts. J. B. Fisher and L. L. Bower. Automotive Ind 69:250 Ag 26 '33; S A E J 33:sup46 O '33

**See also**

Agricultural machin-  
ery

Electric tractors

**Manufacture**

American automatic machinery aids Soviet re- construction. R. E. Miller. il Iron Age 131: 162-4+ Ja 26 '33

Automatic operations on a tractor drive hub. J. H. Johnson. il diags Am Mach 77:174-7 Mr 15 '33

Modernization in manufacture at Cleveland tractor company. il Elec W 102:497-8 O 14 '33

Selection and heat treatment of steel for cater- pillar tractors. G. C. Riegel. il Iron Age 131: 468-9+ Mr 23 '33; Excerpt. Am Mach 77:72- 3 F 1 '33

Steel for tractors; selection and heat treat- ment. G. C. Riegel. il Steel 92:28-9 Je 26 '33

**Specifications**

American agricultural tractors specifications; tabulation. Automotive Ind 68:231 F 25 '33

S.A.E. committee presents code of size and weight limitations on motor vehicles. Auto- motive Ind 69:49 J1 8 '33

S.A.E. transport code committee makes re- port for study by members. il S A E J 32: 256-9 J1 '33

**Testing**

Relative fuel consumption of Diesel and gaso- line engines. P. M. Heldt. Automotive Ind 69:159 Ag 5 '33

University of Nebraska tests Farmall F-12. Automotive Ind 69:214 Ag 19 '33

**Trailers****See Trailers****TRACTORS, Industrial****See also**

Motor trucks, Indus-  
trial

TRADE acceptances. See Acceptances, Trade

**TRADE agreements**

Agreement establishing 5-day week for print- ers in Chicago. Monthly Labor R 35:1374 D '32

Agreement in upholstery industry in Phila- delphia. Monthly Labor R 35:1374-5 D '32

Agreement of sewing-machine machinists, Philadelphia. Monthly Labor R 36:1292 Je '33

Agreement providing for salesmen in the Cleveland electrical industry. Monthly La- bor R 36:146 Ja '33

Appalachian wage agreement signed Sept. 21; fails to halt strikes in eastern fields. Coal Age 38:354-8 O '33

Collective agreements in agriculture in Eu- rope. Monthly Labor R 37:113-15 J1 '33

Collective agreements; statistics with sources and notes. Int Labour R 28:100-4 J1 '33

Collective bargaining in Chicago; 1929-1930. C. L. Christenson. 396p \$3 Univ. of Chi- cago press '33

Collective bargaining through employee representation. 81p National industrial con- ference board, inc, New York '33

End of more-looms dispute in English cotton textile industry. Monthly Labor R 36:563-4 Mr '33

Labor agreement in hosiery field faces test. Textile World 83:739 Ap '33

Mileage pay basis abolished on Delaware & Hudson railroad. Monthly Labor R 35:1119 N '32

National collective bargaining in the pottery industry. D. A. McCabe. (Studies in his- torical and political science. new ser no 16) 443p Johns Hopkins press, Baltimore '32

Nine months' employment guaranty for Amalgamated clothing workers, New York city. Monthly Labor R 36:336 F '33

Salesmen for the electrical industry provided for in agreements. Monthly Labor R 37: 331 Ag '33

Scandinavian employers and collective labour agreements. E. Erichsen. Int Labour R 26: 676-92, 826-40 N-D '32

Wages and hours in the building trades of South Africa. Monthly Labor R 36:189-90 Ja '33

**See also**

Arbitration, Indus-  
trial

**Bibliography**

Trade agreements; short list of references on efforts to stabilize industry by means of trade agreements. 10p U. S. Dept. of agri- culture, Bur. of agricultural economics, Washington '33

**TRADE associations**

Aims and functions of institutions with spe- cial reference to the Textile institute. J. H. Lester. Textile Inst J 24:P32-6 F '33

Are associations prepared to pay the price? C. B. Larrabee. Ptr Ink 163:17-19 My 25 '33

Association executives prepare for bigger role in industry. T. G. MacGowan. Sales Manage- ment 32:570+ Je 1 '33

Associations beat the gun. Business Week p7-8 Je 10 '33

Association's non-member problem—a pos- sible solution. J. F. Sherman. Ptr Ink 164: 26-8 S 14 '33

Associations; some business organizations that haven't come up to NRA hopes got a bad start. Business Week p7-8 S 16 '33



**TRADE associations—Continued**

- Business beacons; trade associations are beacons to lead industry from depression; interview with J. F. Owens. C. H. McCall. *il* Credit & Fin Management 35:18-20+ Ja '33
- Business must discipline itself, industry men tell commerce group. Elec W 101:594-5 My 13 '33
- Can business govern itself? E. L. Heermance. 265p \$3 Harper '33
- Centralized control is aim of British steel reorganization plan. Iron Age 131:631 Ap 20 '33
- Coal pool wins big victory; Supreme court allows extension of trade association activities. E. B. Weiss. *Ptr Ink* 162:72-3 Mr 16 '33
- Code costs and associations. J. S. Seidman. *Ptr Ink* 165:95 O 5 '33
- Collective action for profits. L. W. W. Morrow. Elec W 101:380-3 Mr 25 '33
- Co-operative marketing on a national scale; recommending an organization co-ordination between the four national associations of the electrical industry. H. P. Liversidge. Elec W 101:412-13 Ap 1 '33
- Give all trade associations power to make rules, then all join. W. A. Vincent. Inland *Ptr* 90:33-5 D '32
- How the refrigerating industries are organized. Refrig Eng 25:336-8 Je '33
- How trade groups can avoid governmental dictation. F. H. Figsby. *Ptr Ink* 163:52-4 Je 8 '33
- Industries enlist for active service under the recovery bill. Business Week p3-4; Editorial comment. 32 My 31; 4 Je 7 '33
- New program of Pennsylvania grade crude oil association helps refiners and marketers. P. Truesdell. Nat Pet N 25:33-4+ Mr 15 '33
- Recovery act tests cooperative talent. A. P. Ames. Adv & Sell 21:24 Je 8 '33
- Regulated price agreements urged. W. A. Layman. Elec W 101:640-2 My 20 '33
- Regulating recovery. Business Week p1-2 My 17 '33
- Self-regulation and the law. E. L. Heermance. Harvard Business R 10:420-9 Jl '32; Same. Paper Tr J 96:39-42+ Ja 19 '33
- Society calendar. Published in weekly numbers of Engineering news-record
- Stimulates a whole industry by advertising to one man; wool-processing firm appeals to its own association. A. Eavenson. *Ptr Ink* 165:17-20 O 5 '33
- Strong associations can develop strong individual leaders; methods of Candy institute. C. B. Larrabee. *Ptr Ink* 162:17-20 Ja 19 '33
- Swope plan for self-government of industry. Steel 93:12-13 N 6 '33
- Ten-point program for trade associations. C. B. Larrabee. *Ptr Ink* Mo 26:33-4 Ap '33
- They get their money's worth. J. H. Hanna. Nation's Business 21:44+ Je '33
- Trade association activities. 16p Chamber of commerce of the United States, Trade assn. dept. Washington, D.C. '33
- Trade association emerges. *il* Fortune 8:39-46+ Ag '33
- Trade association suggestions under industry control bill. F. H. Figsby. Gas Age 71:591-2 Je 10 '33
- Trade associations. W. J. Donald. 437p \$4 McGraw-Hill '33
- Trade associations are ready. R. Willoughby. *il* Nation's Business 21:35-6+ Jl '33
- Trade associations; important agencies in the administration's recovery program. Index 13:131-3, 136-8 Jl-Ag '33
- Trade associations in 1932; heating and ventilating industries. Heat & Ven 30:23-6 Ja '33
- Trade associations in the new deal. J. S. Seidman. Publishers' Weekly 124:1805-7 Je 3 '33
- Trade associations organize for activity under control act. Iron Age 131:916 Je 8 '33
- Trade association's part in coordinate planning. E. L. Heermance. Mech Eng 55:101-4 F '33
- What kind of competitor are you? L. J. Dougherty. Nation's Business 21:46+ Ap '33
- Why oil association will enlarge its advertising program; Pennsylvania grade crude oil association. T. O. Grisell. *il* *Ptr Ink* 162:32-3+ Mr 30 '33
- Will the National recovery act cartelize American industry? L. H. Marks. Chem Markets 33:121-5 Ag '33
- See also*
- |                          |                          |
|--------------------------|--------------------------|
| Advertising, Association | Gas associations         |
| Chambers of commerce     | Insurance associations   |
| Chemical societies       | Railroad associations    |
| Conventions              | Technical societies      |
| Electric associations    | Textile associations     |
| Employers' associations  | Trade marks, Association |
|                          | Trade unions             |
- also* names of associations, e.g.
- |   |   |
|---|---|
| American paper and pulp association     | Electrical association of Philadelphia          |
| American petroleum institute            | Machinery and allied products institute         |
| Cotton textile institute                | National paint, varnish and lacquer association |
| Drug institute of America, incorporated | Silk association of America, inc.               |
| Edison electric institute               |   |
- Accounting service**
- Uniform cost activities in trade and industry. 46p [bibliog p44-6] Policyholders service bureau, Metropolitan life insurance co. New York '33
- Directories**
- American trade association executives; list of members (as of May, 1932). 33p; Corrections and additions, Oct. 6, 1933. 7p E. P. Chalfant, Suite 268 Hotel Tuller, Detroit '32-'33
- A list of trade associations and a bibliography of directories is printed in the front of this volume, beginning p vii
- Guaranties**
- Carpet industry to put quality label into effect. *il* *Ptr Ink* 161:63 D 29 '32
- Management**
- Can your trade leaders meet the new crisis? W. J. Donald. *il* Forbes 32:6-8+ Ag 1 '33
- Under NRA codes only a Mussolini can steer associations straight. S. Norvell. Sales Management 33:438-9+ N 1 '33
- Statistical work**
- Development of statistics of the gas appliance industry. P. Ryan. Am Gas Assn Proc 1932:675-8
- Germany**
- German trade associations. F. Demuth. J of Business 5:307-20; 6:55-61 O '32-Ja '33
- TRADE catalogs.** See Catalogs
- TRADE characters.** See Advertising characters
- TRADE directories**
- Buyers' guide; a guide for purchase of materials, equipment and supplies used in marketing petroleum products. Pet Age 27:43-6 Mr '33
- Canadian trade index; annual issue of 1933. 856p \$6 Canadian manufacturers' assn, inc. 67 Yonge st, Toronto, Canada '33
- Diesel engine manufacturers and suppliers and Diesel plant operating and accessory equipment. Power 77:331, 336 sec 2 Je '33; Correction. 77:351 Jl '33
- Directory of mechanical office equipment and manufacturers. Am Gas Assn Proc 1932:240-63
- Official year book, 1933. 479p \$5 New England building officials conference, 694 Washington st, Boston '33
- Yearbook, 1932-1933. 340p Chambre de commerce française des États-Unis, inc. 4 E. 52d st, New York '33
- See also*
- |                         |  |
|-------------------------|--|
| Glass trade—Directories | School supplies industries—Directories |
|-------------------------|--|

**TRADE discount.** See Discount, Trade

**TRADE exhibitions.** See Exhibitions

### TRADE-in policies

Golf club trade-ins. *Business Week* p14+ Mr 29 '33

How a trade-in prize contest increased Majestic sales 15 per cent; nation-wide search for oldest radio. R. Erlandson. *il Ptd Salesmanship* 60:382-4 Ja '33

Merchandising that routs the second-hand problem; the Hoover company markets re-conditioned vacuum cleaners. T. F. Kelly. *il Ptr Ink Mo* 25:58+ D '32

Prices, markets and used car trading under the code. D. Blanchard. *Automotive Ind* 69:323-4 S 16 '33

Toothbrush trade-in. *Business Week* p11 My 3 '33

Trade-ins for toothbrushes. *il Ptr Ink* 163:52 My 11 '33

#### See also

Automobile industry and trade—Used cars	Machine tool industry—Used machines
---	-------------------------------------

### TRADE journals

How a house organ grew up to be a trade journal; the Union special machine company and The Needle's Eye. J. R. Armstrong. *il Ptd Salesmanship* 61:177+ My '33

Most potent factor in world recovery; influence of the trade and technical press. *il Chem Age (Lond)* 29:111 J1 29 '33

Trade journalism; abstract. G. Robbins. *Electrician* 109:786 D 16 '32

#### See also

Advertising mediums—Trade journals	Business periodicals
Associated business papers	House organs
	Insurance—Periodicals

### TRADE marks

Das ausländische warenzeichen. *Poschenrieder. Angew Chemie* 46:613 S 23 '33

Grocery trade-mark helps new drug product; Worcester salt tooth paste. C. H. Dickson. *il Ptr Ink* 161:38-9 D 22 '32

Importance of registering textile trade-marks in the United States patent office. O. A. Geier. *Melliand* 5:174, 217+ Ag-S-O '33

Index of trade-marks issued from Patent office, 1932. 452p U.S. Patent office, Washington; \$3; pa 75c Supt. of doc. '33

Miss Thomas—trade mark. *il Ptr Ink Mo* 27:55 S '33

New trade-marks of the textile industry. Published in monthly numbers of *Melliand*

Protection of trademarks and tradenames, and protection against unfair competition, in Canada. H. F. Freeman. 38p Freeman and Weidman, Cleveland '33

Technical terms not subject to monopoly. W. Fawcett. *Am Dyestuff Rep* 22:323-4 My 22 '33

Trade character does an overtime advertising job; Imperial Airways bird. *il Ptr Ink Mo* 27:17+ J1 '33

Trade-mark woes. *Ptr Ink* 162:77-8 Ja 5 '33

Trademarks for drugs demanded by Congressman Sirovich. *Oil Paint & Drug Rep* 123:17 Je 19 '33

Trade-marks for products that can't be trademarked. *Ptr Ink* 161:72-3 D 22 '32

Trade marks; N.P.O. & V.A. report. *Oil Paint & Drug Rep Extra ed* 122:24 N 29 '32

#### See also

Advertising characters	Patent laws and legislation
Branding	Patents
Competition, Unfair	Private brands
Origin, Indication of	Tags
	Trade names

#### Color

Uphold rights of refiner in using colors at station. *Oil & Gas J* 31:23 F 23 '33

#### Counterfeiting

Coty pushes perfume racket war; claim dealers aid fraud. *Sales Management* 33:176 Ag 15 '33

Counterfeit warnings to be given buyers. *Oil Paint & Drug Rep* 123:15 F 20 '33

### Decisions

Color fast is officially defined. W. Fawcett. *Am Dyestuff Rep* 22:427-8 J1 3 '33

ERA as a trade mark. *Elec R (Lond)* 113:128 J1 28 '33

Foreign words in trade-marks are held descriptive. *Ptr Ink* 164:63-4 J1 13 '33

Legal status of famous old names. *Econostat* 1:28 Ap 15 '33

Numbers and initials as trade-marks. J. C. Pemberton. *il Ptr Ink Mo* 26:44+ Mr '33

Question of infringement of trade mark. *Chem Age (Lond)* 28:100 F 4 '33

When the trade-mark is a series of unrelated letters. *Ptr Ink* 163:68-9 My 25 '33

#### Design

Cow that became a boy. *il Ptr Ink* 165:92-3 O 19 '33

#### Geographical limitations

Trade-mark rights may be matter of geography. E. B. Weiss. *Ptr Ink* 162:64-5 Mr 30 '33

#### Law

Anusol trademark suit is remanded. *Oil Paint & Drug Rep* 123:17+ Ap 3 '33

Beer and liquor trade-mark bootleggers, beware! J. C. Pemberton. *Ptr Ink* 162:20+ Mr 23 '33

British chemical trade mark law; the joint committee's memorandum. *Chem Age (Lond)* 29:141-2 Ag 12 '33

Danish court upholds American manufacturer's trademark rights. *Automotive Ind* 68:767 Je 24 '33

#### See also

Patents laws and legislation

#### Valuation

Lehn & Fink trade-marks at \$1. *Ptr Ink* 161:82 D 15 '32

### TRADE marks, Association

52,000 farmers market milk under one brand. *il Ptr Ink* 161:80+ N 17 '32

New program of Pennsylvania grade crude oil association helps refiners and marketers. P. Truesdell. *Nat Pet N* 25:33-4+ Mr 15 '33

That new prune trade-mark. *il Ptr Ink* 164:64 S 14 '33

### TRADE names

Charles, decorator extraordinary, fights to preserve his name. *Sales Management* 32:70 Ja 15 '33

Constructive idea for merchandising rayon fabrics; the value of a trade name. *Melliand* 4:582 D '32

Counterfeit warnings to be given buyers. *Oil Paint & Drug Rep* 123:15 F 20 '33

Picture painting trade names stimulate sales. F. T. Rowe. *il Adv & Sell* 21:26 S 28 '33

Public to name product; Campano's original skin invigorator. *Ptr Ink* 165:50 O 26 '33

Second lines create dealer antagonism; intensive work on established products better than pushing new line under another name. *Ptr Ink* 161:36 N 17 '32

Trade names of clay products. Brick & Clay Rec 82:99; 83:61 Mr, Ag '33

#### See also

Trade marks

### TRADE practice conferences

Intra-industry cooperation. *Paper Tr J* 96:32-3 My 11 '33

### TRADE practices

A.M.T.A. will seek conference with F.T.C. on trade practices. *Oil Paint & Drug Rep* 123:15+ My 1 '33

Associated manufacturers of toilet articles will censor advertising. *Oil Paint & Drug Rep* 123:14 Mr 27 '33

Book paper trade customs. *Paper Tr J* 95:39-40+ D 15 '32

Business prepares for partnership. L. Valenstein. *Adv & Sell* 21:20+ J1 6 '33

Committee D; history and results of the fair trading conference; Electrical contractors' association of Scotland. W. Finlay. *Electrician* 111:341-2 S 22 '33

Cottonseed crushers lose F.T.C. code; Commission charges violations of antitrust law. *Oil Paint & Drug Rep* 123:17+ My 22 '33



**TRADE practices—Continued**

- Fair trade customs of grocery bag group. Paper Tr J 97:23-5 Ag 10 '33
- False advertising, demonstrators under attack; toilet goods manufacturers to call trade practice conference. Ptr Ink 163:80-1 My 11 '33
- Industrial recovery bill a boon to honest advertising. C. B. Larrabee. Ptr Ink 163:3-4, 81-3 Je 22 '33
- Industries act gives marketing branch authority to remedy present conditions in distribution. C. O. Willson. Oil & Gas J 32:8+ Je 1 '33
- Institute for recovery plan; trade code being drafted. Steel 92:11-12+ My 29 '33
- Mountain states utilities and retailers adopt code. Gas Age 71:632 Je 17 '33
- NIRA—from the firing line. P. Salisbury. Sales Management 33:102, 103+ Ag 1 '33
- Ohio marketers ask oil companies to adopt sound sales policies. Nat Pet N 25:17-18 My 3 '33
- Paint federation has approved N.Y. report; practices of some raw material manufacturers held to be injuring industry. Oil Paint & Drug Rep 123:16 Mr 13 '33
- Paint-varnish trade rules are suggested. Oil Paint & Drug Rep 123:22 My 29 '33
- Probe of cottonseed finds practices have contravened the law. Chemicals 38:1, 9 My 29 '33
- Retail code hits trade evils; loss leader, deceptive advertising, substitution, hidden demonstration. C. B. Larrabee. Ptr Ink 165:17-18+ O 26 '33
- Scheme proposed for grouping of competitive stone producers; mutual sales organization. W. R. France. Rock Prod 36:22-3 Je '33
- Self-regulation and the law. E. L. Heermance. Harvard Business R 10:420-9 Jl '32; Same. Paper Tr J 96:39-42+ Ja 19 '33
- Self regulation puts big task before each industry. Iron Age 131:830-1 My 25 '33
- Time is ripe to introduce uniform foundry trade practice. Iron Age 131:951-2+ Je 15 '33
- Trends in marketing practices; changes in policies of Standard oil company, Indiana. A. Jackson. Nat Pet N 25:9-11 My 24 '33; Same cond. Oil & Gas J 32:10+ My 25 '33
- Unfair trade practice investigation proposed. Oil Paint & Drug Rep 124:15 O 23 '33
- What the codes say about advertising and selling practices. Adv & Sell 21:32 O 12 '33
- Wholesalers declare for self-regulation. Elec West 70:88-9 Mr '33
- Wholesalers' trade rules approved by Federal trade commission. Elec W 100:867 D 31 '32

**See also**

- |                     |                |
|---------------------|----------------|
| Business ethics     | Price cutting  |
| Competition, Unfair | Price fixing   |
| Dealer relations    | Price policies |
| Discount, Trade     | Returned goods |
| Industrial codes    | Sales policies |
- TRADE relations**
- Grocery industry progressing rapidly in their house cleaning; abstract. P. S. Willis. Sales Management 31:472-3 D 1 '32
- See also**
- |                          |                  |
|--------------------------|------------------|
| Complaints               | Jobber relations |
| Dealer helps             | Jobbers          |
| Dealer relations         | Marketing        |
| Federal trade commission | Sales policies   |
|                          | Trade practices  |

**TRADE schools**

- Northampton polytechnic institute extension building. il Electrician 109:743-4 D 9 '32; Engineering 134:692 D 9 '32
- Rindge technical high school, Cambridge, Mass. H. G. Ripley. il diags plans Arch Forum 59:263-72 O '33
- Westminster technical institute. il Engineering 135:226-8 F 24 '33
- Westminster technical institute; opening of new extension. il Gas J (Lond) 201:473-4 F 22 '33
- See also**
- Technical education
- Textile schools

**TRADE secrets**

- Confidential disclosure of an invention. Paper Tr J 96:31 Mr 16 '33

**TRADE tests. See Ability tests****TRADE union advertising. See Advertising, Trade union****TRADE unions**

- Order of railroad telegraphers. A. M. McIsaac. 284p [bibliog p271-7] Princeton university press, Princeton, N.J. '33

**See also**

- |   |                            |
|---|----------------------------|
| Advertising, Trade union  | Company unions             |
| American federation of labor                                    | Cooperation                |
| Arbitration, Industrial   | Industrial relations       |
| Banks and banking, Trade union                                  | Labor and laboring classes |
|   | Strikes and lockouts       |
|   | Trade agreements           |
| also names of Trade unions, e.g. United mine workers of America |                            |

**Benefit funds**

- Benefit payments of International stereotypers' union. Monthly Labor R 37:560-1 S '33
- Benefits of standard national and international unions, 1931. Monthly Labor R 36:312-14 F '33
- Benefits paid by certain labor organizations. Monthly Labor R 37:38-40 Jl '33
- Benefits paid by International typographical union. Monthly Labor R 35:1083-5 N '32
- Benefits paid by photo-engravers' unions. Monthly Labor R 35:1085 N '32
- Operation of unemployment-benefit plans in the United States during 1931 and 1932. Monthly Labor R 35:1225-51; 36:11-31 D '32-Ja '33
- Revision in benefit system of structural-iron workers. Monthly Labor R 36:97-8 Ja '33
- Trade union pension systems, and other superannuation and permanent and total disability benefits in the United States and Canada. M. W. Latimer. 205p Industrial relations counselors, Inc, New York '32

**Safety work**

- Unions aid in state safety program. J. D. Hackett. Nat Safety N 28:25 Jl '33

**Chicago**

- Collective bargaining in Chicago: 1929-1930. C. L. Christenson. 396p \$3 Univ. of Chicago press '33

**Finland**

- Arbitration of disputes between cooperatives and trade-unions in Finland. Monthly Labor R 36:138 Ja '33

**Germany**

- Hitler's labor policies. Business Week p6 Ap 19 '33

**Great Britain**

- Mind of labour; Trades union congress. Economist 117:481 S 9 '33

**Japan**

- Trade-unionism in Japan, 1932. Monthly Labor R 37:892 O '33

**Russia**

- Transfer of functions of Labor department and of social insurance to trade unions in Soviet Union. Monthly Labor R 37:562-5 S '33

**United States**

- Automobile unions; Chevrolet answers protest with works councils. Business Week p14 S 16 '33
- Code for labor unions, too? abstract. D. Lawrence. Management R 22:308 O '33
- Federal courts and organized labor. J. F. Christ. J of Business 3:205-49, 341-75, 445-71; 4:194-210, 268-82; 5:47-75, 103-29, 283-300, 380-99; 6:62-82, 157-70, 247-61 Ap-O '30, Ap-Jl '31, Ja '32-Jl '33
- How can employers meet labor problems? H. F. Merrill. il Forbes 32:13-14+ O 1; 12 O 15 '33; Discussion. G. M. Verity. 32:28 N 15 '33

**TRADE unions—United States—Continued**

- Is the open shop in jeopardy? L. W. Moffett. Automotive Ind 69:76-7 J1 15 '33
- Labor loses its first round; hope held that unionization of all industry may be avoided. Econostat 1:5-6 S 2 '33
- Labor surveys its new utopia. C. M. Wright. il Mag of Wall St 52:469-70+ S 2 '33
- Labor—the sore point. Business Week p5-6 S 9 '33
- Labor unfurls its battle flags; interview with William Green. C. M. Wright. il Nation's Business 21:13-15+ F '33
- National collective bargaining in the pottery industry. D. A. McCabe. (Studies in historical and political science, new ser no 16) 449p Johns Hopkins press, Baltimore '32
- Questions which puzzle employers; labor and code enforcement provisions causing uncertainty. Nation's Business 21:58+ N '33
- Union official held to be a workman for compensation purposes. Monthly Labor R 37:867-8 O '33
- Wage changes reported by trade-unions and municipalities. Published in Monthly labor review
- Wanted; voice for the non-union worker. L. I. Yeomans. Am Mach 77:659-60 O 11 '33
- What about labor? A.F. of L.'s move on open shops adds a labor question to the problems faced by code-makers. Business Week p7-8 J1 15 '33
- What union labor seeks. W. Green. Nation's Business 21:13-15, 62-3+ O '33
- Workers being organized in active refining and producing districts. Nat Pet N 25: 15-19 S 6 '33
- Yellow dog contract. J. I. Seidman. (Studies in historical and political science, ser L, no 4) 96p Johns Hopkins press, Baltimore '32

*See also*

American federation of labor

**TRADE waste**

- Anaerobic stabilization of milk waste. A. M. Buswell, C. S. Boruff and C. K. Wiesman. bibliog il Ind & Eng Chem 24:1423-5 D '32
- Analysis of mineral content of Steffen's waste. E. Bartow and H. M. Benninghoff. Ind & Eng Chem 25:175-7 F '33
- Beet sugar factory effluents; biological oxidation as a means of purification. il Chem Age (Lond) 28:425-6 My 13 '33
- Correcting weir flow calculations for velocity of approach. D. S. Davis. Chem & Met Eng 40:542 O '33
- Destruction of carbohydrates and organic acids by bacteria from a trickling filter. M. Levine and J. H. Watkins. il diags Iowa State College Eng Exp Sta Bul 110: 1-54 '32
- Effect of some constituents of coke-oven effluents on the rate of decomposition of sewage. B. A. Southgate. Soc Chem Ind J 52: 1T-4T Ja 13 '33
- Pollution of Lake Michigan; effect of certain industrial wastes. J. R. Baylis. diags Civil Eng 3:522-4 S '33
- Profits from trade wastes. S. T. Powell. diag Chem & Met Eng 40:359-60 J1 '33
- Quest for purer water; annual report of the Water pollution research board. Chem Age (Lond) 28:335-6 Ap 15 '33
- Relative importance of industrial wastes in stream pollution. L. F. Warrick. il Civil Eng 3:495-8 S '33
- Sewage plant, Sparta, Ill. rebuilt to treat rayon wastes. U. F. Turpin. il plan Eng N 109: 780-2 D 29 '32
- Some trade waste problems. R. J. Smith. Soc Dyers & Col J 49:241-4 Ag '33
- Stabilization of paunch manures and packing-house screenings. C. S. Boruff. bibliog diag Ind & Eng Chem 25:703-6 Je '33
- Wastes and pollution vs. recovery for profit. C. M. Baker. flow diag il Water Works & Sewerage 80:296-8 Ag '33

*See also*

Canneries—Waste  
Coal mines and mining—Waste disposal  
Coke plants—Waste

Food factories—Waste  
Gas works—Waste  
Mine water

Paper mills—Waste  
Petroleum refineries—Waste  
Refuse, Utilization of  
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Sewerage

Sugar factories—Waste  
Sulfite liquor  
Waste products  
Water pollution

**TRADING areas.** *See* Market areas; Shopping areas

**TRADING stamps**

Gift coupon trading. Economist 116:576 Mr 18 '33

**TRAFFIC audit bureau**

Audit bureau for outdoor advertising. Ptr Ink 164:32 Ag 3 '33; Adv & Sell 21:38 Ag 3 '33

**TRAFFIC lines**

3500 miles of traffic stripe cost \$163,000. Pub Works 64:44 J1 '33

**TRAFFIC regulations**

City traffic needs engineering attack. B. W. Marsh. il diags Civil Eng 2:770-3 D '32

Have pedestrians legal rights? court decisions. A. H. Blanchard. il Civil Eng 3:269-71 My '33

Increasing the efficiency of vehicular traffic movement. E. J. McIlraith and others. Transit J 77:386-7 O 16 '33

Le problème de la circulation à Paris. J. Thomas. maps Génie Civil 103:63-5 J1 15 '33

Street traffic flow. H. Watson. 395p [bibliog p383-8] 21s Chapman and Hall, Ltd, London '33

Voice from the sky. W. B. Nichols. il Safety Eng 64:213 N '32

*See also*

Automobile laws and regulations  
Automobile parking  
Highway law  
Motor bus lines—Laws and regulations

Motor trucks—Laws and regulations  
Motor vehicles—Law  
Road traffic  
Street traffic  
Traffic signals  
Traffic surveys

**TRAFFIC signals**

Chart for setting progressive traffic signals. F. L. Mosher and G. Robinson. Civil Eng 3:281-2 My '33

Delays at street intersections. E. A. Kemmler. Can Eng 63:11 N 29 '32

Electro-matic system of traffic control in Trafalgar square. diag Engineering 135:388 Ap 7 '33

L'exposition internationale de la circulation routière (Bruxelles, 10-21 mai 1933). J. Thomas. il diags Génie Civil 102:588-91 Je 24 '33

Illuminated road-traffic signals. W. J. Liberty. Illum Engr 26:191-2 Ag '33

Infra-red rays and selenium bridges may help prevent auto accidents in Great Britain. East Underw 33:38 D 30 '32

Road accidents and traffic signs. Engineering 136:120 Ag 4 '33

Seeing and highway safety. M. Luckiesh. Nat Safety N 28:33-6+ O '33

Traffic-actuated control system as adopted in Montreal. R. B. Dodds, jr. diags Roads & Sts 76:369-71 O '33

Traffic control in Wayne county, Michigan. Roads & Sts 76:149 Ap '33

Traffic signals; further introduction of automatic control in London area. il Electrician 111:154 Ag 4 '33

**TRAFFIC signs**

Comparative visibility of standard luminous and nonluminous highways signs. F. W. Mills. il Pub Roads 14:109-28 S '33; Summary. Roads & Sts 76:358 O '33

Highway safety and rubber; rubber traffic markers. il India Rubber W 87:29-30+ Mr '33

Making night driving safe. J. L. Long. Roads & Sts 76:227 Je '33

New standard of highway signs. S. S. Lewis. il Safety Eng 65:209-10 Je '33

Road accidents and traffic signs. Engineering 136:120 Ag 4 '33

**TRAFFIC surveys**

Intensive street-traffic studies in Chicago. map Eng N 109:612-13 N 24 '32

Motor tourist traffic in Michigan. map Pub Roads 13:197-200 F '33



**TRAFFIC surveys—Continued**

Review of the 1931 Connecticut traffic survey. L. E. Peabody. *Roads & Sts* 76:208 My '33

Studying the movement of vehicles. (Traffic survey procedure no.2) 24p Metropolitan life insurance co, New York

Survey of highway transportation in Michigan. maps Pub Roads 13:185-96+ F '33

Time element in highway traffic movement; résumé of recent methods of measuring both volume and speed. M. McClintock; E. W. James. *il Civil Eng* 3:461-5 Ag '33

Traffic flows. map *Ptr Ink* 162:79 Ja 19 '33

Trends in highway traffic in the New York region. *Eng N* 110:372-3 Mr 23 '33

**TRAILERS**

Corrected camber lengthens tire life. A. F. Denham. *Automotive Ind* 67:646 N 19 '32

General Motors has two new trailers. *Ry Age* 93:749-50 N 26 '32

Large uses of steel in small ways; industrial trailers. *il Steel* 92:24 Ja 23 '33

Neuzeitiger lastanhängerbau. H. Schneider. *il Zeit Ver Deutsch Ing* 77:51-2 Ja 14 '33

Oversea transport unit by Associated equipment company, ltd. *il diags supp Engineer* 156:57-8, 62 Jl 21 '33

S.A.E. committee presents code of size and weight limitations on motor vehicles. *Automotive Ind* 69:49 Jl 8 '33

S.A.E. transport code committee makes report for study by members. *il S A E J* 32:256-9 Jl '33

Trailer brake gear. *il diag Automobile Eng* 22:595-6 D '32

Trailer makers ask broad control power. *Automotive Ind* 69:439 S 16 '33

**TRAILERS, Motor bus.** See *Motor bus trailers*

**TRAIN ferries**

Le ferry-boat Scilla, pour la traversée du détroit de Messine. *il diags Génie Civil* 103:417-20 O 28 '33

Marine electricity; Diesel-electric propulsion in icebreakers and train ferries. A. C. Hardy. *plan Electrician* 110:155 F 3 '33

Stoker- and pulverized-coal-fired steamships; abstract. *Mech Eng* 55:703 N '33

Train ferry, Changkiang, for China built in England. *il Marine R* 63:23 Ja '33

See also

Seatrains lines, incorporated  
Seatrains

**TRAIN indicators.** See *Railroads—Stations—Train indicators*

**TRAIN line connectors.** See *Connectors, Train line*

**TRAIN resistance**

Aerodynamics of the streamline train. *Sci Am* 149:81 Ag '33

**TRAINING ships**

Segelschulschiff Gorch Fock. *diags Zeit Ver Deutsch Ing* 77:886-7 Ag 12 '33

**TRAMPS**

See also

Migrant problem  
Railroads—Trespassing

**TRAMWAYS, light railways and transport association**

Annual congress, 23d, Leeds, June 7-9. *Elec R (Lond)* 112:875-6 Je 16 '33; *Electrician* 110:797 Je 16 '33

**TRANSAMERICA corporation**

Annual report, 1932. *Barron's* 13:11 Mr 20 '33

**TRANSCONTINENTAL oil company**

Several unusual legal and engineering features involved in income tax suit. *Oil & Gas J* 32:32 Ag 17 '33

**TRANSCONTINENTAL surety and indemnity corporation**

New company has no connection with Benjamin Franklin bond and indemnity. *Spectator* 130:32 Je 29 '33

**TRANSDUCERS**

Nonlinearity in transducers used in communication. P. Caporale. *diag Inst Radio Eng Proc* 21:1029-38 Jl '33

Relations between the parameters of coupled-circuit theory and transducer theory with some applications. J. G. Brainerd. *diags Inst Radio Eng Proc* 21:282-9 F '33

**TRANSFER tax.** See *Inheritance tax*

**TRANSFORMATIONS (mathematics)**

Linear transformations in Hilbert space and their applications to analysis. M. H. Stone. 622p American mathematical society, New York '32

Projective transformation-group on a hyperquadric in four-dimensional space. K. Woo. *Univ of Calif Pub in Mathematics v 2, no 7: 129-41 '33*

**TRANSFORMER oil.** See *Oil, Transformer*

**TRANSFORMERS, Electric.** See *Electric transformers*

**TRANSITE**

Cement-asbestos pipe used for water line. *il diags Eng N* 110:55-6 Ja 12 '33; *Abstract. Can Eng* 65:19-20 O 10 '33

**TRANSITION points**

Change in the transformation temperature of copper sulfate at 56°C. with the solvent medium. H. J. Abrahams and W. W. Lucasse. *J Phys Chem* 37:521-4 Ap '33

Transition points of salt hydrates in various non-aqueous solvents. W. W. Lucasse and H. J. Abrahams. *bibliog J Phys Chem* 37:511-19 Ap '33

**TRANSLATIONS****Bibliography**

Index translationum. Published quarterly by international institute of intellectual cooperation, 2, rue de Montpensier (Palais Royal), Paris '32

**TRANSLITERATION**

Transliteration problems. F. E. Sommer. *Lib J* 58:534-6 Je 15 '33

**TRANSMUTATION (chemistry)**

Artificial transmutation of the elements; abstract. E. R. Rutherford. *Electrician* 110:749 Je 9 '33

Atomic transmutation; discussion before British association for the advancement of science. *Engineering* 136:470 O 27 '33

Atomic transmutations. E. R. Rutherford. *Engineering* 135:348-9 Mr 31 '33

Battle of the alchemists. K. T. Compton. *Elec Eng* 52:75-80 F '33

New achievements in transmutation. K. K. Darrow. *R Sci Instr* 4:115-17 Mr '33

Recent advances in physics. W. F. G. Swann. *Mech Eng* 55:78-9 F '33

Transmutation of the atom. E. R. Rutherford. *Electrician* 111:477 O 20 '33

**TRANSPORTATION**

Engineering progress. F. H. Corson. *Inst E E J* 72:43-4 Ja '33

Facteurs techniques de la traction sur rail et sur route. A. Mariage. *Soc Ing Civils Bul* 86:663-70 My '33; *Abstract. Génie Civil* 102:232-3 Mr 11 '33

Inland transportation—principles and policies; a revision and extension of *Railway transportation*. S. L. Miller. 822p \$4 McGraw-Hill '33; *Review. Pub Util* 12:411-13 S 28 '33

National transport policy; Europe's achievements in handling problem of rail and highway services. R. Eldridge. *Barron's* 13:6 S 11 '33

Transport system planned for fifty million visitors to Chicago World's fair. E. S. J. Irvine. *il maps Eng N* 110:286-9 Mr 2 '33

Truck and rail co-ordination; comparison between various transportation methods. W. A. Olen. *Can Eng* 64:17 My 2 '33

See also

Aeronautics, Commercial  
Air lines  
Airplanes  
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Automobiles

Barges  
Bridges  
Cableways  
Canals  
Carriers  
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 Communication and Pipe lines as common  
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 Delivery of goods Pneumatic conveying  
 Electric railroads Ports  
 Factory transportation Postal service  
 Ferryboats Railroads  
 Freight car service Rapid transit  
 Freight cars River traffic  
 Freight handling Road traffic  
 Freight ships Roads  
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 Haulage Shipping  
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 freight service Traffic surveys  
 Motor vehicles Train ferries  
 Ocean travel Travel  
 Waterways

also subdivision Transportation under special subjects, e.g. Automobiles; Chemicals

**Exhibitions**

Century of progress in transportation. il Elec  
 Traction 29:129-32+ My '33

**History**

Communication revolution, 1760-1933. R. G.  
 Albion. il Mech Eng 55:531-8+ S '33  
 Hundred years of transportation. F. G. Jonah.  
 il Civil Eng 3:426-8 Ag '33  
 Transportation, land, air, water. L. St Clair.  
 349p [bibliog p325-9] \$2.50 Dodd '33

**Statistics**

Gross revenues of transit industry total  
 \$1,100,000,000. il Transit J 77:2-6 Ja '33

**California**

California commission goes gunning for the  
 wildcat carrier. Pub Util 10:643 N 24 '32

**Canada**

Findings in transit survey in Canada provoke  
 comment. Transit J 76:557+ D '32

**Great Britain**

Road and rail traffic. Economist 116:848-9;  
 117:219-20 Ap 22, JI 29 '33  
 Road and rail traffic bill; summary. Engineer  
 155:400 Ap 21 '33  
 Socialisation and transport. H. S. Morrison.  
 312p Constable & co. Ltd, London '33

**Michigan**

Straits of Mackinac, a state owned and  
 operated ferry service. F. F. Rogers. il  
 Marine R 62:30-1+ D '32

**United States**

American transportation problem. H. G. Moul-  
 ton and others. 985p \$3 Brookings institu-  
 tion, Washington, D.C. '33; Reviews. Ry  
 Age 94:399-401 Mr 18 '33; Pub Util 12:162-4  
 Ag 3 '33  
 Annual meeting of United States chamber of  
 commerce; resolution adopted. Ry Age 94:  
 705-6 My 13 '33  
 Centralized regulation of all transport urged.  
 C. R. Porter. Ry Age 93:706-8 N 19 '32  
 Citizens transportation league enrolls 212,000  
 voters for promotion of transportation regu-  
 lation. il Ry Age 94:369-70 Mr 11 '33  
 Computing passenger and ton mileage of vari-  
 ous transport agencies. H. E. Hale. Bus  
 Transportation 12:134-5 Mr '33  
 Eastman asks views on transportation legis-  
 lation. Ry Age 95:697-8 N 11 '33  
 Eastman studies control of water, motor  
 transport. Ry Age 95:437-8 S 23 '33  
 Fair field and no favor urged for all forms of  
 transport carriers by National transportation  
 committee. Bus Transportation 12:96-7 F  
 '33

Help for rail coordinator. Business Week p10-  
 11 JI 1 '33

National transportation committee makes com-  
 prehensive report; Alfred E. Smith files  
 separate statement. Ry Age 94:247-50+ F 18  
 '33

New transportation policies. A. B. Barber.  
 Nation's Business 21:50-1+ F '33

Proposal for the coordinated regulation of all  
 transportation agencies. Pub Util 10:757-8  
 D 22 '32

Proposed transportation conference. Ry Age  
 95:175-6 JI 29 '33

Rail and water traffic. Published in monthly  
 numbers of Survey of current business

Tell Mr Eastman; coordinator starts his sur-  
 vey of how the railroads can make a  
 profit by finding out what shippers want.  
 Business Week p 13 Ag 26 '33

Transit, transport; street railways, bus lines  
 and air lines carry their problems to the  
 NRA terminus. Business Week p8 S 9 '33

Transportation crisis. G. L. Wilson. 335p \$2.50  
 Sears pub. co, New York '33; Review by  
 H. B. Wilson. Pub Util 12:220-2 Ag 17 '33

Transportation developments and the North  
 Atlantic ports. R. W. Harbeson. Harvard  
 Business R 12:82-93 O '33

Uniform regulatory legislation urged by the  
 Special committee on competing forms of  
 transportation of the Chamber of commerce  
 of the United States. Ry Age 93:984-6 D 31  
 '32; Excerpts. Bus Transportation 12:73-4 Ja  
 '33; Eng N 110:34-5 Ja 5 '33

Wanted—a transportation policy. Ry Age 93:  
 765-8 D 3 '32

Westward the course of empire. E. P. Lupfer.  
 il map Civil Eng 3:254-8 My '33

**TRANSPORTATION, Military**

Transportation of government property and  
 troops over land-grant railroads. N. Kenny.  
 map J Land & Pub Util Econ 9:368-81 N  
 '33

**TRANSPORTATION act, 1920**

Should the transportation act be repealed?  
 Pub Util 10:639-41 N 24 '32

**Recapture clause**

Hearing on recapture bill. Ry Age 94:517 Ap  
 8 '33

House committee favors new railway legisla-  
 tion; bills to repeal recapture and to regu-  
 late holding companies. Ry Age 94:483 Ap  
 1 '33

Legal execution of regulation's stormy petrel  
 —section 15a. Pub Util 12:158-60 Ag 3 '33

**TRASS**

Influence of the addition of trass on shrink-  
 age of cements. A. Steopoe. Concrete (mill  
 sec) 41:31 Ag '33

Separating the ingredients of commercial  
 cement-trass mixture. Concrete (mill sec)  
 41:46 Mr '33

**TRAVEL**

Travel today at bargain rates. A. A. Hopkins.  
 il Sci Am 148:266-7 My '33

Trips; travel information. il Am Bankers Assn  
 J 25:72-5 Je '33

**See also**

Air travel Ocean travel  
 Automobile touring Tourist trade

**Advertising**

Depression as advertising theme of steam-  
 ship campaign. il Ptr Ink 163:51-2 Ap 27  
 '33

Luxury product steams through depression  
 waters; National Tours. R. Dellevie. il Ptr  
 Ink 162:47-9 F 2 '33

Making advertising fads is better than follow-  
 ing them; Cunard sells idea of taking vaca-  
 tion cruises. H. P. Borer. il Ptr Ink 164:  
 33, 36-7 JI 6 '33

Shippers urge that European trip at bar-  
 gain rates. il Adv & Sell 20:15 Ap 27 '33

Stimulating tourist travel; essay contest con-  
 ducted by the Japan tourist bureau. Ry Age  
 95:69 JI 1 '33



**TRAVEL**—Advertising—*Continued*

Turns depression handicap into sales asset; selling winter vacations, 1933 style. *il* *Ptr* *Ink* 162:42 Ja 5 '33

*See also*

Railroads—Advertising

Steamboat lines—Advertising

**TRAVEL bureaus**

California bus men fighting the share-expense racket. *Bus Transportation* 12:203-4 My '33  
Share-expense travel a racket. *H. A. Koach. Ry Age* 94:829-30 Je 10 '33

**TRAVEL bureaus, Air line**

Work of the Air travel bureau. *M. D. Warshaw. Aviation Eng* 8:18-19 My '33

**TRAVELERS' checks**

Travel cheques; arrangement with Bankers trust company of New York discontinued. *Am Bankers Assn J* 25:69 Je '33

Travel checks; express companies cease selling travelers' checks, so the A.B.A. quits, too. *Business Week* p19 Ap 26; 23 My 3 '33

**TRAVELERS insurance companies**

Income in 1932 was \$197,581,000. *East Underw* 34:36 Ja 6 '33; Same. *Ins Field* (Fire ed) 62:7 Ja 5 '33; Same. *Nat Underw* 37:28 Ja 5 '33; Same. *Weekly Underw* 128:84 Ja 7 '33  
Travelers group has assets of \$674,492,525. *Weekly Underw* 128:216-17 Ja 28 '33

**TRAVELING libraries.** *See* Libraries, Traveling**TRAVELING stores**

Roll your own distributors; success of Good Humor's touring truck stores. *R. K. Leavitt. il Adv & Sell* 21:23+ S 14 '33

**TRAYS**

How 1,000 consumers voted on five designs; Micarta tray line. *il Ptr Ink Mo* 26:24+ Mr '33

**TREATIES**

Interpretation of treaties by judicial tribunals. *Yi-Ting Chang. 196p* [bibliog p186-91] \$2.75 Columbia Univ. press '33  
Treaty provisions held controlling when in conflict with compensation law. *Monthly Labor R* 37:316-17 Ag '33

**TREE planting**

Preliminary report on reducing transpiration of transplanted evergreens. *J. L. Emerson and A. C. Hildreth. Science* 77:433-4 My 5 '33

Tree planting of gullies in watershed reforestation. *F. W. Besley. Pub Works* 64:42-3 N '33

**TREES**

Explanation of the cause of spiral grain in trees. *E. J. Kohl. diag Science* 78:58-9 J1 21 '33

Forest trees of New England. *R. G. Leavitt. 179p Arnold Arboretum of Harvard university, Jamaica Plain, Mass. '32*

Observations of shade trees in the vicinity of gas leaks. *C. G. Deuber. il Am Gas Assn Mo* 15:465-6 N '33

Physiological basis of the twisting habit in plant growth. *C. P. Haskins and C. N. Moore. Science* 77:283 Mr 17 '33

Problem of twisted trees. *M. Copisarow. Science* 77:581-3 Je 16 '33

Stimulative effects of gas on small trees. *C. G. Deuber. bibliog il Am Gas Assn Mo* 15:381-3 S '33

Twisted trees and the spiral habit. *W. Seifriz. Science* 77:50-1 Ja 13 '33

What shade tree protection means to the gas industry. *G. M. Coddling. il Gas Age* 70:693-5 D 31 '32

When you draw trees; photographs. *Architecture* 68:229-32 O '33

*See also*

Electric lines—Tree Lumber  
problem Wood  
Forests and forestry

*also* names of trees, e.g.

Conifers Pine  
Larch Spruce

**Diseases and pests**

Bacterial gall disease of the Douglas fir. *H. N. Hansen and R. E. Smith. Science* 77:628 Je 30 '33

**TREES, Fossil**

New cordaites from Missouri. *J. E. Cribbs. Science* 78:311-12 O 6 '33

**TRELLISES**

Trellises for spring building; views. *Am Bld* 54:34-5 Mr '33

**TREMIES**

Place concrete under water through vibrated tremie spout. *Concrete* 41:13 My '33

**TRENCHING machinery****Repair**

Welded alloy bucket lips cut trenching costs. *G. Sykes. il Eng N* 110:215 F 16 '33

**TREPPANNING**

Reducing the cost of cutting large holes in solid metal by trepanning. *R. R. Weddell. il diags Mach* 39:694-6 J1 '33

**TRESPASSING on railroads.** *See* Railroads—Trespassing**TRESTLES**

Combining concrete and timber for trestle decks. *G. D. Burr. il diags Eng N* 110:523-4 Ap 27 '33

Treated timber makes good record in M. & O. railroad bridges. *H. Austil. Eng N* 110:681 My 25 '33

Trestle design to resist Rio Grande floods; approach to bridge at Del Rio, Tex. *J. W. Beretta. il diags Eng N* 110:802-4 Je 22 '33

*See also*

Bridges

**TRETHEWEY, F. L.**

Portrait. *Can Min J* 54:48 F '33

**TREVITHICK, Richard, 1771-1833**

Father of the high pressure steam engine. *por Can Min J* 54:305-7 Ag '33

Sketch. *Engineering* 135:439-41 Ap 21 '33

Trevithick memorial lecture. *C. E. Inglis. il diags Engineer* 155:416-19, 442-4 Ap 28-My 5 '33; Abstract. *Engineering* 135:459-60 Ap 28 '33

Trevithick's London exhibition railway of 1808. *C. R. King. il plan Engineering* 135:693-5 Je 30 '33

**TRIACETIN.** *See* Acetin**TRIAL balance.** *See* Accounting**TRIALS**

Trial by prejudice. *A. G. Hays. 369p* \$2.50 Covici, Friede, New York '33

**TRIANGULATION**

Triangulating the continent of North America. *W. Bowie. maps Eng N* 110:405-6 Mr 30 '33

**TRIAZOETHANE.** *See* Ethyl azide**TRIBARIUM aluminate**

Use of tribarium aluminate in structural clay products. *W. K. Carter and R. M. King. Am Cer Soc J* 16:265-8 Je '33

**TRIBROMOTRIPHENYLCARBINOL**

Sterically hindered tertiary carbinols; 2,4,6-tribromotriphenylcarbinol. *A. A. Morton and L. V. Peakes, jr. bibliog Am Chem Soc J* 55:2110-12 My '33

**TRICALCIUM phosphate.** *See* Calcium phosphates; Phosphate rock**TRICARBOCYANINES**

Recent advances in sensitizers for the photography of the infrared. *L. G. S. Brooker, F. M. Hamer and C. E. K. Mees. bibliog il Opt Soc Am J* 23:216-22 Je '33

Tricarbocyanines. *N. I. Fisher and F. M. Hamer. Chem Soc J* p189-93 F '33; Abstract with discussion. *Soc Chem Ind J (Chem & Ind)* 52:126-7 F 10 '33

**TRICHINA**

Quick-freezing destroys parasites of trichinous pork. *D. K. Tressler. il Food Ind* 5:177 My '33

**TRICHLOROANILINE**

2:4:6-trichloroaniline. *F. D. Chattaway and H. Irving. Chem Soc J* p142-3 F '33

**TRICHLOROETHYLENE**

- Centrifuge dewaxing with trichlorethylene. C. F. Pester. *Am Pet Inst Proc* 14M(3):4-6 My '33; Same. *Oil & Gas J* 32:52-4 My 25 '33; Abstract. *Nat Pet N* 25:36-7 My 17 '33
- Disadvantages of the non-flammable solvents. W. Brown. *Chem Markets* 33:229-31 S '33
- Dry-cleaning solvents. W. Brown. *Soc Dyers & Col J* 49:43-4 F '33; Excerpt. *Textile Col* 55:330 My '33
- New methods of dewaxing and acid refining mineral oils. N. O. Backlund. *Inst Pet Tech J* 19:1-15 Ja '33; Abstract. *Chem Age (Lond)* 27:575-6 D 17 '32; Discussion. *Inst Pet Tech J* 19:15-24 Ja '33
- Wacker cleaning system with trichloroethylene. *Soc Dyers & Col J* 49:24 Ja '33

**TRICHLOROMETHYL chloroformate**

- Kinetics of the thermal decomposition of trichloromethyl chloroformate. H. C. Ramsperger and G. Waddington. *diag Am Chem Soc J* 55:214-20 Ja '33

**TRICHLOROTOLUENE**

- Action of some metallic oxides on benzo-trichloride and benzal chloride. W. Davies and J. H. Dick. *Chem Soc J* p2808 N '32
- Coupling action of the Grignard reagent; benzal chloride and benzotrichloride. R. C. Fuson and W. E. Ross. *Am Chem Soc J* 55:720-3 F '33

**TRICIN**

- Synthetical experiments in the chromone group; a synthesis of 5:7:4'-trihydroxy-3':5'-dimethoxyflavone, believed to be identical with tricin. K. C. Gulati and K. Venkataraman. *Chem Soc J* p942-3 Ag '33

**TRI-CONTINENTAL corporation**

- Report for 1932. *Barron's* 13:8 Ja 23 '33

**TRICRESYL phosphate**

- Comparison of benzole and tricresyl phosphate for treating effluents. *Gas Age* 71:515 Je 3 '33
- Further studies on the pharmacology and neuropathology of certain phenol esters. *Pub Health Rep* 48:137-8 F 10 '33
- Hydrolysis of the phenyl and cresyl phosphoric and phosphorous acid esters in alcoholic and aqueous systems. M. I. Smith and E. F. Stohman. *Pub Health Rep* 48:734-9 Je 23 '33
- Tricresyl phosphate as solvent for phenol recovery from gas-plant effluents. C. H. S. Tupholme. *Ind & Eng Chem* 25:303-4 Mr '33

**TRICRESYL phosphate**

- Further studies on the pharmacology and neuropathology of certain phenol esters. *Pub Health Rep* 48:137-8 F 10 '33
- Hydrolysis of the phenyl and cresyl phosphoric and phosphorous acid esters in alcoholic and aqueous systems. M. I. Smith and E. F. Stohman. *Pub Health Rep* 48:734-9 Je 23 '33

**TRIESTE, Italy****Harbor**

- 150-ton floating crane for Trieste. *il diag Engineering* 135:177-9, 180, 190, pl 9 F 17 '33

**TRITHANOLAMINE**

- Preparation of pure triethanolamine ( $\beta$ ,  $\beta'$ ,  $\beta''$ -trihydroxytriethylamine). F. E. E. Germann and O. S. Knight. *Am Chem Soc J* 55:4150 O '33
- Triethanolamine. D. B. Mullin. *India Rubber W* 87:46 D '32

**TRIETHYLPHOSPHINE**

- Oxidation of triethylphosphine. H. W. Thompson and N. S. Kelland. *Chem Soc J* p1231-6 S '33

**TRIGONIIDAE**

- Contributions toward a monograph of the trigoniidae. C. H. Crickmay. *il Am J Sci* 5th ser 24:443-64 D '32

**TRIGONOMETRY**

- Brief course in plane and spherical trigonometry. H. A. Davis and L. H. Chambers. 136p; Logarithmic and trigonometric tables, five decimal places. C. W. Crockett, ed. 96p American book co, New York '33
- Introductory mathematics. J. W. Lasley, jr. and E. T. Browne. 439p \$2.75 McGraw-Hill '33

**Tables, calculations, etc.**

- McGraw-Hill five-place logarithmic and trigonometric tables. R. D. Beetle, ed. 131p 80c McGraw-Hill '33

**TRIGONOMETRY, Plane**

- Plane trigonometry. C. A. Ewing. 165p McGraw-Hill '33
- Plane trigonometry. W. L. Hart. 124p \$2 Heath '33
- Plane trigonometry. E. J. Oglesby and H. R. Cooley. rev ed 185p Prentice-Hall, inc. '33

**TRIHALOMETHYLKETONIC acids**

- Cleavage of carbonyl compounds by alkalis; trihalomethylketonic acids. B. A. Bull and R. C. Fuson. *Am Chem Soc J* 55:3424-8 Ag '33

**TRIIODOPHENOL**

- Oxidation of sym-triiodophenol. W. H. Hunter and M. L. Morse. *Am Chem Soc J* 55:3701-5 S '33

**TRIISOBUTYLENE**

- Structure of the acids obtained by the oxidation of triisobutylene. J. B. Conant and G. W. Wheland. *Am Chem Soc J* 55:2499-504 Je '33

**TRILINOLENIC glyceride**

- Studies in the drying oils; influence of several factors on the mechanism of drying of oil films. J. S. Long, A. E. Rheineck and G. L. Ball, jr. *diag Ind & Eng Chem* 25:1086-91 O '33

**TRILOBITES**

- Are the trilobites related to the arachnids? L. Störmer. *bibliog diags Am J Sci* 5th ser 26:147-57 Ag '33

**TRIMETHYLAMINE**

- Rate of addition of methyl esters to trimethylamine. L. P. Hammett and H. L. Pfluger. *Am Chem Soc J* 55:4079-89 O '33

**TRIMETHYLARSINE**

- Formation of organo-metalloidal compounds by microorganisms; trimethylarsine and dimethylethylarsine. F. Challenger, C. Higginbottom and L. Ellis. *Chem Soc J* p95-101 Ja '33; Abstract, with discussion. *Soc Chem Ind J (Chem & Ind)* 52:80 Ja 27 '33

**TRIMETHYLGALLIUM**

- Action of sodium upon trimethylgallium and dimethylgallium chloride in liquid ammonia. C. A. Kraus and F. E. Toonder. *diag Am Chem Soc J* 55:3547-54 S '33

**TRIMETHYL glucose**

- Simultaneous preparation of 2:3:4- and 2:3:6-trimethyl glucose. G. J. Robertson. *Chem Soc J* p737-9 Je '33

- Sucrose and other disaccharides; Sir James Irvine's "Correction." H. C. Carrington, W. N. Haworth and E. L. Hirst. *Am Chem Soc J* 55:1084-90 Mr '33

**TRIMETHYL naphthalene**

- Oxidation products of 1:2:5-trimethylnaphthalene. I. M. Heilbron and D. G. Wilkinson. *Chem Soc J* p2809-10 N '32

**TRIMETHYLPENTANE**

- Trimethylpentanes. K. C. Laughlin and F. C. Whitmore. *Am Chem Soc J* 55:2607-8 Je '33

**TRIMETHYLQUINOLINE**

- Nitrogen compounds in petroleum distillates; cumulative extraction of kero bases; the isolation of 2,4,8-trimethylquinoline among the kero bases. T. S. Perrin and J. R. Bailey. *flow sheet Am Chem Soc J* 55:4136-40 O '33

**TRIMETHYLENE sulfide**

- Behavior of trimethylene sulfide in heptane and naphtha solutions. R. W. Bost and M. W. Conn. *Ind & Eng Chem* 25:526-8 My '33
- Successful syntheses of thiophanes will aid in study of objectionable sulphur compounds. R. W. Bost and M. W. Conn. *Oil & Gas J* 32:17 Je 8 '33

**TRIMETHYLENETRINITRAMINE**

- La triméthylènetrinitramine ou hexogène. L. Desvergues. *Chimie & Ind* 28:1038-44 N '32

**TRINIDAD leaseholds company**

- Trinidad Leaseholds and the oil outlook. *Economist* 117:776 O 21 '33



**TRIOLEIN**

Catalytic effect of caustic alkali on the alcoholysis and hydrolysis of fats. G. K. Rowe. Soc Chem Ind J 52:49T-52T F 24 '33

**TRIPHENYLALLYLLEAD**

Labilities or electronegativities of some unsaturated alkyl radicals as determined by hydrogen chloride scission of organolead compounds. H. Gilman, E. B. Towne and H. L. Jones. Am Chem Soc J 55:4689-93 N '33

**TRIPHENYLCARBINOL**

Reaction of a free radical, triphenylmethyl, with ethers, esters and acetone. A. A. Morton and L. V. Peakes, jr. Am Chem Soc J 55:2449-51 Je '33

**TRIPHENYLGERMANIUM**

Preparation of some derivatives of triphenylgermanium by means of sodium triphenylgermanide. C. A. Kraus and C. S. Sherman. bibliog. Am Chem Soc J 55:4694-7 N '33

**TRIPHENYLMETHANE**

Color of sulfuric acid solutions of di- and triphenylmethanes. L. C. Anderson. bibliog. Am Chem Soc J 55:809-12 F '33

Constitutions of some phosphorus derivatives of triphenylmethane. H. H. Hatt. Chem Soc J p776-86 JI '33

**TRIPHENYLMETHYL**

Addition of free radicals to certain dienes, pyrrole and maleic anhydride. J. B. Conant and B. F. Chow. Am Chem Soc J 55:3475-9 Ag '33

**TRIPHENYLMETHYL compounds**

Reaction of a free radical, triphenylmethyl, with ethers, esters and acetone. A. A. Morton and L. V. Peakes, jr. Am Chem Soc J 55:2449-51 Je '33

**TRIPHENYLMETHYL halides**

Influence of poles and polar linkings on the course pursued by elimination reactions; the action of tertiary amines on triphenylmethyl halides. E. D. Hughes. Chem Soc J p75-7 Ja '33

**TRIPHENYLMETHYLMAGNESIUM bromide**

Reactions of triphenylmethylmagnesium bromide. W. E. Bachmann and R. F. Cockerill. Am Chem Soc J 55:2932-4 JI '33

**TRIPHENYL phosphate**

Further studies on the pharmacology and neuropathology of certain phenol esters. Pub Health Rep 48:137-8 F 10 '33

Hydrolysis of the phenyl and cresyl phosphoric and phosphorous acid esters in alcoholic and aqueous systems. M. I. Smith and E. F. Stohman. Pub Health Rep 48: 734-9 Je 23 '33

**TRIPHENYL TIN fluoride**

Determination of fluorine by precipitation as triphenyltin fluoride. N. Allen and N. H. Furman. Am Chem Soc J 54:4625-31 D '32

**TRIPHENYLVINYL mercaptan**

Triphenylvinyl mercaptan. C. F. Koelsch and G. Ulyyot. Am Chem Soc J 55:3883-4 S '33

**TRISECTION of angle**

Won't take no for an answer. Sci Am 149: 9 JI '33

**TRISODIUM phosphate. See Sodium phosphates****TRITOLYLSELENIUM chloride**

Preparation of tri-para-tolylselenium chloride by means of the Friedel-Crafts reaction with selenium dioxide. J. H. Crowell and W. E. Bradt. Am Chem Soc J 55:1500-2 Ap '33

**TROLLEY buses**

American transit association discussion on trolley bus. Bus Transportation 12:388-9 O '33

Brill delivers Indianapolis street cars and trolley buses. Transit J 77:71-2 F '33

Bus and trolley bus meet distinct needs. A. R. Williams and others. Transit J 77:383-5 O 10 '33

Combine bus and street car features in British trolley bus. A. C. Blackall. il Elec Traction 29:224-5 Ag '33

Commodious new trolley-bus. il Elec R (Lond) 112:305 Mr 3 '33

Faster service with Indianapolis trolley buses. L. Wingerter. il map Elec Traction 29:10 Ja '33

Fitting transit equipment to its best job. C. O. Guernsey. il S A E J 32:sup16-20+ My '33

Innovations in design of German trolley bus system. il Transit J 77:311 O '33

Looking into the bus future. F. R. Fageol. Elec Traction 29:71+ Mr '33

Market worth retaining and building. W. J. Clardy. Elec W 100:892-3 D 31 '32

Les nouveaux autobus à trolley et à impériale de Llanelly (Pays de Galles). il Génie Civil 102:282-3 Mr 25 '33

Les nouveaux autobus électriques de Londres. il plans Génie Civil 102:354-5 Ap 15 '33

One Dayton company adopts the trolley bus. map Transit J 77:82-3 Mr '33

Popularity of the trolley bus; abstracts. C. J. Spencer. Elec R (Lond) 112:524-5 Ap 14 '33; Electrician 110:499 Ap 14 '33; Discussion. Elec R (Lond) 112:561 Ap 21 '33

Pullman-Bradley introduces a new trolley bus. il Transit J 77:415 N '33

Sunbeam trolley-buses. il Elec R (Lond) 113: 10 JI 7 '33

Transit rehabilitation making progress at Indianapolis; street cars, trolley buses and motor buses. il map Transit J 77:43-6 F '33

Trolley bus expansion continues. Transit J 77:24-5 Ja '33

Trolley bus experience analyzed; meeting of three committees of the American transit engineering association. Transit J 77:200 Je '33

Trolley bus has motors integral with axle. J. Koffman. il Elec Traction 29:42-3+ F '33

Trolley bus in Kenosha, Wis. H. M. Pauley. Elec Traction 29:240 Ag '33

Trolley bus operations expanding in Great Britain. H. Watson. il Transit J 77:151-2 My '33

Trolley bus progress, 1932. J. H. Cansdale. il Electrician 110:112 Ja 27 '33

Trolley bus wins back auto riders in Shreveport, La. E. Jacobs. il Elec Traction 29: 264-5 S '33

Trolley buses at Dayton attract more passengers. il Transit J 77:212-13 JI '33

Trolley buses maintain service during street reconstruction. il Transit J 77:282 S '33

Trolley buses please the public in Massachusetts community. il map Transit J 76:544-6 D '32

Why ride on rubber? E. A. West. il Elec Traction 29:161-3 Je '33

**Control**

British Thomson-Houston regenerative-control equipment for trolley buses. il Engineering 136:437-8 O 20 '33; Engineer 156:390 O 20 '33

**Current collecting devices**

Selecting pole type current collectors. G. W. Bower. il Transit J 76:547-8 D '32

**Equipment**

Trolley omnibuses and wireless interference; special choke coils. il Engineer 154:649 D 23 '32

**Heating and ventilation**

Heating and door control developments. il Elec Traction 29:342 O '33

**Maintenance and repair**

Trolley bus maintenance on efficient basis in Memphis. il Transit J 77:122-3 Ap '33

Trolley bus slide grinder. P. J. Duvigneaud. il Transit J 77:89 Mr '33

**Overhead construction**

Brooklyn's new trolley bus line. G. H. McKelway. il Elec Traction 28:446-7+ N '32

Overhead design keeps abreast of requirements. L. W. Birch. il Transit J 77:312-13 O '33

Overhead flexibility for trolley bus. il Elec Traction 29:191 JI '33

**TROLLEY buses—Continued****Power**

Effect of trolley bus operation on central station load. W. J. Clardy. *il Transit J* 77:53 F '33

**Springs and suspension**

Spring suspension of trolley buses. *diags Elec Traction* 29:107-8 Ap '33

**TROLLEY cars.** See Cars, Electric railroad; Street cars

**TROLLEY shoes.** See Electric railroads—Trolley shoes

**TROLLEY trucks**

Electric trolley lorries and buses; electric tramway between Moutiers et Brides-les-Bains. *il diag Elec R (Lond)* 112:633 My 5 '33

**TROLLEY wire****Lubrication**

Pantograph pan lubrication. F. W. Bellinger. *il Elec Traction* 29:139-40 My '33

Trolley wire lubrication improved. J. V. Lamson. *il diags Elec Eng* 52:771-6 N '33

**TROPANE**

Aromatic tropane derivatives; derivatives of 8:9-benz-A<sup>8,9</sup>-homogranatene. B. K. Blount. *Chem Soc J* p553-5 My '33

**TROUT**

Nutritional requirements of trout. H. O'Malley. *Science* 76:593-4 D 23 '32

Planting the trout crop. *il Comp Air M* 38: 4236-7 O '33

**TRUCKS**

Hand truck with third wheel. *il Ry Mech Eng* 107:369 O '33

How using factory methods reduces office moving time; lowers office costs. *il Management Methods* 62:172-3 Ap '33

Ibex hand lift trucks. *Mech Handling* 20:226 JI '33

Linde air products co.'s truck for welding equipment. *il Ry Mech Eng* 107:70 F '33

Purchases and stores division, A.R.A. report on handling materials. *Ry Age* 95:61-2 JI 1 '33

Safety—a by-product of modern methods of handling materials. C. T. Fish. *il Nat Safety* N 27:31-2+ F '33

Steinbock industrial transport trucks. *il Engineering* 136:286 S 15 '33

Trucks come—chute goes; Jewel tea company. F. C. Fleming. *Factory Management* 91:314 Ag '33

**See also**

Electric trucks	Motor trucks, Industrial
Electric trucks, Industrial	Trolley trucks
Motor trucks	

**TRUNKS, Automobile**

Large uses of steel in small ways; automobile trunks. *il Steel* 93:40 O 2 '33

**TRUSSES**

Application of photoelasticity to the study of indeterminate truss-stresses. D. L. Pellett. *il diags S A E J* 31:469-74 D '32

Early truss bridges of wood and iron; railroad spans of the eighties. C. D. Purdon. *diags Civil Eng* 3:369-72 JI '33

Erecting roof trusses in Rockefeller Center. *il diags Eng N* 109:614-17 N 24 '32

Welded steel roof trusses economical. J. E. Webster. *il diag Civil Eng* 3:282 My '33

**See also**

Beams	Girders
Bridges	Roofs
Building	Strains and stresses

**TRUST associations****Directories**

Trust associations in the United States, 1933-34. 20p pa Trust division, American bankers assn, 22 E. 40th st, New York '33

**TRUST companies**

Advantages of organized cooperation among trust development men; what has been accomplished by the Trust development division of the F.A.A. W. A. Stark. *Trust Companies* 55:571-4 N '32

Billions in personal trust funds; an estimate of the value of trustee property held by commercial trustees. B. C. Goss. *Barron's* 13:5 Mr 6 '33

Bonds, mortgages, equipment; some administration problems under corporate trusteeship. W. G. Littleton. *Bankers M* 126:554-60 Je '33; Excerpts. *Trust Companies* 56:335-8 Mr '33

Bright 1933 prospects for trust business; abstracts. F. H. Sisson. *Trust Companies* 56: 57-8 Ja '33; *Am Bankers Assn J* 25:17+ Ja '33

Commingle trust funds. E. L. Clifford. *Harvard Business R* 11:253-60 Ja '33

Corporate fiduciaries and the Securities act. G. Pantaleoni, jr. *Trust Companies* 57:377-80+ O '33

Corporate trusteeship and receiverships; defense. E. M. Leesman. *Trust Companies* 57:141-6 Ag '33

Dispelling uncertainty in the evaluation of new trust business. S. Witting. *Trust Companies* 57:297-301 S '33

Foster mother of pearls; City bank farmers trust company of New York. *Trust Companies* 57:188 Ag '33

Glimpse at the future of trust business. W. H. Stackel. *Trust Companies* 55:651-3 D '32

Guarding against loss or lapsation of potential personal trust business. H. J. Clark. *Trust Companies* 56:671-4 Je '33

How to lose your money prudently. F. C. Kelly. 128p Roland Swain co, Philadelphia '33

Individual and corporate fiduciary contrasted. *Trust Companies* 57:420-1 O '33

Integrity of trust administration officially reaffirmed; no loss of trust funds during 1932 by reason of bank failures, malfeasance or mismanagement. *Trust Companies* 56:17-24 Ja '33

Laws protecting trust funds in Ohio. *Trust Companies* 56:741 Je '33

Meeting trust obligations in a transitional period. G. T. Stephenson. *Trust Companies* 57:373-6 O '33

Mid-continent trust conference, 8th, Milwaukee, Wis. Nov. 17-18. *Trust Companies* 55: 581-3 N '32

New avenues open to trust institutions in serving public welfare; opportunities for re-creating impaired estates. J. A. Stevenson. *Trust Companies* 56:341-4 Mr '33

New day for the trust solicitor. L. B. Moyer. *Trust Companies* 56:565-7 My '33

New plan for handling bankruptcies; Irving trust company's work as standing receiver. H. F. Woods, jr. *Burroughs Clearing House* 17:12-14+ JI; 15-16+ Ag '33

Overcoming procrastination and delay in closing trust business. W. A. Stark. *Trust Companies* 56:694 Je '33

Personal trust administration. C. Lee. *Bankers M* 126:230-4, 355-9, 466-71, 567-71; 127: 33-8, 137-41, 265-9, 362-6, 525-9, 631-4 Mr-D '33

Personal trust solicitation. W. J. McLaren. *Trust Companies* 55:587 N '32

Policies for acceptance and administration of personal trusts. H. Eckhart. *Trust Companies* 56:347-52 Mr '33

Probate court surveys reveal economic advantages of trust administration. C. A. Oswald. *Trust Companies* 55:655-8 D '32

Problem of administering trusts in smaller communities. C. Davidson. *Trust Companies* 56:439-42 Ap '33

Problems of the trustee in connection with bond issues; trust mortgages, foreclosures and reorganizations. H. L. Stanton. *Trust Companies* 55:529-36 N '32

Problems of trustees under defaulted bond issues. B. W. Utter. *Trust Companies* 56: 653-8 Je '33

Provisions of the emergency bankruptcy act affecting fiduciary interests. W. R. Montgomery. *Trust Companies* 56:300-2+ Mr '33

Public charter for corporate trusteeship. R. M. Sims. *Trust Companies* 57:303-5 S '33

Reaffirming ideals and qualities of trust service. H. O. Edmonds. *Trust Companies* 56: 357-60 Mr '33



**TRUST companies—Continued**

Receiverships; procedure for the handling of bankruptcy cases through a trust institution; Irving trust company. Am Bankers Assn J 25:24-5+ F '33

Some guiding policies for corporate trust business. A. C. Downing. Trust Companies 56:219-24 F '33

Statement of principles of trust institutions; adopted by American bankers association and made part of bankers code. Trust Companies 57:411-13 O '33; Same. Fed Res Bul 19:614-16 O '33; Same. Am Bankers Assn J 26:40-1 N '33

Substituted fiduciary in place of closed trust company; problems arising in acceptance of appointment. F. H. Shields. Trust Companies 56:79-82 Ja '33

Successful operation of a statewide system of trust service; Wachovia bank and trust co. Winston-Salem, N.C. A. H. Eller. Il Trust Companies 57:27-31 Jl '33

Trust administration deserves public confidence. W. H. Neal. Trust Companies 56:705-9 Je '33

Trust company at work; Girard trust company of Philadelphia. Trust Companies 56:373-4 Mr '33

Trust institutions facing the future. Am Bankers Assn J 25:25-7 Mr '33

Trust new business: what of the future? M. M. Richardson. Trust Companies 56:189-90 F '33

Trust service adapted to changing economic and social needs. F. H. Sisson. Trust Companies 56:205-10 F '33

Trust service measures up to new social and economic demands. R. M. Sims. Trust Companies 56:319-21 Mr '33

Trust service must keep pace with new era. J. W. White. Trust Companies 56:645-50 Je '33

Trust services to colleges and universities. Il Am Bankers Assn J 25:32+ Je '33

Trusteeship. Am Bankers Assn J 26:36-7+ Jl '33

Use strategy to sell trusts. E. A. Pruden. Il Bankers Mo 49:719+ D '32

Valuable experience with commingled funds for trust estates. G. C. Barclay. Trust Companies 56:183-8+ F '33

Washington epic; trust business under the code. G. T. Stephenson. Am Bankers Assn J 26:22-3+ N '33

What simple ideas sell trusts! W. S. Guilford. Bankers Mo 50:21-2 Ja '33

Women of means as prospects for trust business. H. J. Clark. Trust Companies 55:711-13 D '32

*See also*

Banks and banking	Investment trusts
Banks and banking—	Safe deposits
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Insurance trusts	
also American bankers' association—Trust division	

**Accounting**

Accounting of estate and trust liabilities. A. W. Cudworth. Trust Companies 56:459-61 Ap '33

Developing scientific methods in valuing new trust business. H. J. Clark. Trust Companies 55:516-20+ N '32

Simplified and economical system of trust accounting. E. A. Volz. Trust Companies 57:49-56 Jl '33

Trust details simplified by an automatic system; address plate equipment. W. D. Yealand. Il Bankers Mo 50:96-7+ F '33

**Advertising**

Advertising trust service in 1933. H. D. Davis. Trust Companies 55:685-6 D '32

Any bank can, at no expense, sell trusts with publicity. C. E. Auracher. Il Bankers Mo 49:736-7 D '32

First principles in trust advertising. D. Knowlton. Trust Companies 55:675-9 D '32

How a news letter creates new trust accounts; Montclair trust company news letter. Il Ptd Salesmanship 60:447 F '33

Visual presentation of estate problems and trust service; estate plan visualator. Trust Companies 55:716-17 D '32

Why the trust message falls on more attentive ears. T. Phelan. Trust Companies 55:575-9 N '32

*See also*

Bank advertising

**Customer relations**

Trust service that builds good will. O. J. Neibel. Il Burroughs Clearing House 17:12-13+ Mr '33

**Fees**

Developing scientific methods in valuing new trust business. H. J. Clark. Trust Companies 55:516-20+ N '32

Recommendations for adequate trust fees. Trust Companies 57:424 O '33

Securing adequate fees for efficient trust service. R. E. MacDougall. Trust Companies 56:695-9 Je '33

**Insurance requirements**

Liability insurance for fiduciaries; report of the committee on liability insurance of the Trust division, American bankers association. Trust Companies 56:245-6 F '33

Provisions of a standard policy for complete fiduciary liability insurance; form used in Cleveland. H. Pirtle. Trust Companies 56:315-18 Mr '33

**Investment advice**

Meeting new demands of the trust prospect; investment counsel agency. P. S. Chalfant. Trust Companies 56:573-4 My '33

**Investments**

*See* Trusts and trustees—Investments

**Lawyers' cooperation**

Lawyer and the trust company. Bankers M 126:141-4 F '33

**Legal service**

Banks and trust companies of Massachusetts adopt new code of rules for conduct of trust business. Trust Companies 55:703-4 D '32

Concordat of corporate fiduciaries and bar association adopted in Florida. Trust Companies 57:179 Ag '33

Day of controversy between fiduciaries and the bar is passing. J. G. Jackson. Trust Companies 56:644 Je '33

Present relations between fiduciaries and the bar. J. G. Jackson. Trust Companies 55:637-41 D '32

Statement of principles applicable to corporate fiduciaries and members of the bar of New Jersey. Trust Companies 56:545-8 My '33

Trust companies and legal practice—a jurisdictional problem. C. F. Taesch. Harvard Business R 11:187-95 Ja '33

Trust companies and the practice of law in Philadelphia. W. G. Littleton. Trust Companies 55:642-5 D '32

What has been accomplished by cooperative effort between trust companies and lawyers. R. Griswold. Trust Companies 56:37-8 Ja '33

**Life underwriters' cooperation**

Approved code of ethics governing relations between life underwriters and trust officers. Trust Companies 56:569-70 My '33

Selling more insurance through estate approach. G. L. Kappes. East Underw 34:85 pt 2 S 22 '33

This trust company gets twelve million per salesman; cooperation between salesmen of the Provident trust co. of Philadelphia and insurance representatives of thirty-one companies. R. E. MacDougall. Rand McNally Bankers Mo 50:586-7+ N '33

**Management**

Maintaining standards of trust personnel and service. W. H. Stackel. Trust Companies 57:159-60 Ag '33

Management's opportunity in trust operation. F. A. Zara. Trust Companies 56:73-4 Ja '33

**TRUST companies—Continued****Public relations**

How the depression has emphasized the integrity of trust administration. A. P. Reed. Trust Companies 56:561-3 My '33  
 Opportunity to promote public confidence in banking and trust service. H. A. Lyon. Trust Companies 56:307 Mr '33

See also

**Trust companies—****Customer relations****Real estate operations**

New rules and precedents in dealing with mortgages; some problems confronting trust officials. H. O. Frey. Trust Companies 56: 249-50 F '33

**Records**

Trustee's records for the administration of personal trusts. C. Lee. Bankers M 127: 33-8 Jl '33

**Australia**

Trustees executors and agency company, limited, Melbourne; report. Trust Companies 57:420-1, 430 O '33

**Canada**

Canadian guaranteed investment certificates. Trust Companies 55:700 D '32

**China**

China offers fertile field for modern trust service. W. B. Rice. il Trust Companies 57:161-4 Ag '33

**Japan**

How trust business is conducted in Japan. Y. Fujiwara. il Trust Companies 56:225-7 F '33

**Ontario**

Progress of trust companies in Ontario, Canada. Trust Companies 56:594 My '33

**Utah**

Digest of Utah act relating to trust companies. Trust Companies 57:186 Ag '33

**TRUST deeds.** See Deeds of trust

**TRUSTS, Industrial**

Cartels, concerns and trusts. R. Liefmann. 379p \$6 Dutton '32

Consent decree breaks up radio pool. Barron's 12:18 N 28 '32

Radio anti-trust case settled; text of consent decree. Sci Am 148:188-9 Mr '33

R.C.A. consents; decree profoundly alters status. Business Week p10-11 N 30 '32

Régularisation de la production. R. P. Duchemin. Chimie & Ind 30:466-9 Ag '33

See also

Business consolida-

tions

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Government owner-

ship

Interstate commerce

commission

Monopolies

Restraint of trade

Sherman antitrust

law

Tariff

Trade associations

**International trusts**

European dye cartel in world trade. C. C. Concannon. Oil Paint & Drug Rep 122:14+ D 26 '32; Same. Ind & Eng Chem News ed 11: 9-10 Ja 10 '33; Excerpts. Textile Col 55:55-6 Ja '33

New Continental steel export cartel. Engineer 155:574 Je 9 '33

**Law**

Anti-trust law revision to be center of discussion in Congress. P. Wooton. Textile World 82:1186 D '32

Anti-trust laws; Roosevelt proposes to relax anti-trust restrictions if business will pledge the 6-hour day, 5-day week at higher wages. Business Week p3 F 15 '33

Anti-trust; the temper of this Congress and the next one is not friendly to any relaxation of the laws regulating business competition. Business Week p9-10 Ja 18 '33

Appalachian Coals decision applicable to all industry. Iron Age 131:476 Mr 23 '33

Appalachian Coals decision indication of liberal antitrust attitude? Steel 92:11-12 Mr 20 '33

Appalachian Coals wins anti-trust suit. Barron's 13:20 Mr 20 '33

Better administration of the anti-trust laws. G. H. Montague. Ann Am Acad 165:85-92 Ja '33

Bill introduced by Cable to permit price fixing in periods of stress; text. Rubber Age 32:385 Mr '33

Cases on the federal anti-trust laws of the United States. J. A. McLaughlin, ed. 2d ed 764p [bibliog p701-64] J. A. McLaughlin, Harvard law school, Cambridge, Mass. '33  
 Coal wins its case. Econostat 1:5-6 Mr 25 '33  
 Codes vs. consent decrees. Business Week p6-7 S 2 '33

Competition in the American tobacco industry, 1911-1932. R. Cox. 372p [bibliog p361-66] \$4.50 Columbia univ. press '33

Co-operation to correct industrial evils held not violation of the trust law by Supreme court. Oil & Gas J 31:11+ Mr 23 '33; Excerpts. Nat Pet N 25:13-14 Mr 22 '33; Iron Age 131:442 Mr 16 '33

Cottonseed crushers lose F.T.C. code; Commission charges violations of antitrust law. Oil Paint & Drug Rep 123:17+ My 22 '33

Credit decree; Retail credit association consents to be less ambitious as Department of justice decides that its reports are commodities. Business Week p11 O 21 '33

Facts about the Appalachian Coals case. P. McCrea. il Nation's Business 21:23-5 My '33

Hat trust? Guild to defend French models now defends anti-trust suit. Business Week p5 Ap 12 '33

How the anti-trust laws should be modified. J. H. Williams. Ann Am Acad 165:72-84 Ja '33

Important ruling on mergers; U. S. District court enjoins selling agency plan. Pulp & Pa of Can 33:429 N '32

Joint sales agencies receive new life; Supreme court's Appalachian Coals decision. Forbes 31:9+ Ap 1 '33

Modification of the anti-trust statutes works down to a specific, concrete proposal. Business Week p5 D 14 '32

NRA codes, price fixing and the anti-trust laws. G. H. Montague. Nat Pet N 25:18-19 S 27 '33

Nazis and German business; new cartel legislation. A. Comstock. Barron's 13:3+ S 18 '33

Neuerungen im kartellrecht. M. Wellenstein. Stahl & Eisen 53:904-6 Ag 31 '33

Possible application of Appalachian decision to the oil industry. W. J. Donovan. Oil & Gas J 31:8+ Ap 20 '33

Regional sales plan upheld by high court in decision in Appalachian case. Coal Age 38: 134-5 Ap '33

Retailers puzzled by anti-trust suit against National retail credit association. Forbes 32:14 Ag 15 '33

Review of the new legislation concerning economic agreements (cartels, etc.) in Germany and Hungary, prepared for the Economic committee. S. Tschierschky. 52p World peace foundation, Boston '32

Rule of reason broadened; Supreme court relaxes anti-trust laws, approves the Appalachian Coals plan. Business Week p9-10 Mr 22 '33

Spongers; agreement setting prices and allocating profits approved by New York court. Business Week p10 Je 10 '33

Stabilizing the anti-trust laws. M. J. Fields. J of Business 6:191-214 Jl '33

Trade combinations in U.S.A., France, Germany, Poland. 206p N. A. Phemister co, New York '32

Truth about competition. F. A. Fetter. Ann Am Acad 165:93-100 Ja '33

Unshackling business. H. I. Harriman. Am Pet Inst Proc p32-4 sec 1 D '32

See also

Sherman antitrust law

**TRUSTS and trustees**

Advances in probate legislation affecting estates and trust administration. W. C. Turpin, jr. Trust Companies 56:231-4 F '33



**TRUSTS and trustees—Continued**

- Avoiding dangers and waste of long-term private and charitable trusts. H. McLean. Trust Companies 56:309-12 Mr '33
- Billions in personal trust funds; an estimate of the value of trustee property held by commercial trustees. B. C. Goss. Barron's 13:5 Mr 6 '33
- Centennial of Sir Walter Scott's financial victory. F. W. Ganse. Trust Companies 55:507-9 N '32
- Estate planning as affected by legal considerations. C. F. Gore. Trust Companies 57:167-71 Ag '33
- Evils remedied by the Uniform fiduciaries act. T. K. Warner, jr. Trust Companies 57:63-7 JI '33
- Facilitating merger or consolidation of trust departments; Oregon law. A. L. Grutze. Trust Companies 56:445-6 Ap '33
- Glimpse at the future of trust business. W. H. Stackel. Trust Companies 55:651-3 D '32
- Important decision by Supreme court of Massachusetts affecting rights of trustees. Trust Companies 57:70 JI '33
- Individual and corporate fiduciary contrasted. Trust Companies 57:420-1 O '33
- Legal decisions and discussion relating to banks and trust companies. Published in monthly numbers of Trust Companies
- Legal protection afforded trust funds; tabulation. Trust Companies 57:244; Editorial comment. 230-1 S '33
- Meeting trust obligations in a transitional period. G. T. Stephenson. Trust Companies 57:373-6 O '33
- Personal trust administration. C. Lee. Bankers M 126:230-4, 355-9, 466-71, 567-71; 127:33-8, 137-41, 265-9, 362-6, 525-9, 631-4 Mr-D '33
- Policies for acceptance and administration of personal trusts. H. Eckhart. Trust Companies 56:347-52 Mr '33
- Problems in delegating discretionary powers to successor trustees. J. C. Moser. Trust Companies 57:21-4 JI '33
- Releasing trust service from the straight-jacket of cumbersome and terrifying forms. D. W. MacKay. Trust Companies 56:173-7 F '33
- Review of Massachusetts court decisions affecting administration of estates and trusts. G. Newhall. Trust Companies 57:153-6 Ag '33
- Right of successor to act as trustee in place of bank named in will; suit. Bankers M 126:56-8 Ja '33
- State lawmakers re-examine trust laws. Am Bankers Assn J 26:18+ Ag '33
- Substituted fiduciary in place of closed trust company; problems arising in acceptance of appointment. F. H. Shields. Trust Companies 56:79-82 Ja '33
- Symposium on revising the will. Trust Companies 55:521-7 N '32
- Taxability of transfers to successor trustees. Trust Companies 57:415-17 O '33
- Trust service must keep pace with new era. J. W. White. Trust Companies 56:645-50 Je '33
- Trust services to colleges and universities. II Am Bankers Assn J 25:32+ Je '33

**See also**

- |                    |                   |
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| Community trusts   | Insurance trusts  |
| Deeds of trust     | Investment trusts |
|                    | Trust companies   |

**Accounting**

- Guide to trust fees with recommended cost accounting system. 52p Committee on costs and charges, Trust division, American bankers' assn, New York '32
- Wills, executors and trustees. W. J. Grange, W. A. Staub and E. G. Blackford. 844p \$7.50 Ronald press '33

**Investments**

- Apportionment of losses on mortgage foreclosures; mortgage loans as trust investments. G. Newhall. Trust Companies 56:353-5 Mr '33

- Charting a safe course for trust investment. L. L. McArthur, jr. Trust Companies 57:17-20+ JI '33
- Collective investments of trust funds by national banks; rulings of the Federal reserve board. Fed Res Bul 19:187-8 Mr '33
- Commingled trust funds. E. L. Clifford. Harvard Business R 11:253-60 Ja '33
- Common stock in the investment program. J. W. Teele. Trust Companies 57:71-4 JI '33
- Distribution of proceeds on sale of properties under foreclosed mortgages; apportionment between life tenant and remainderman by trustee. A. I. Farb. Trust Companies 57:245-50 S '33
- Estate investment policies; past, present and future. H. F. Wilson, jr. Trust Companies 56:199-203 F '33
- Growing complexity of fiduciary investing; some broader aspects of the trust function and the problems of safeguarding trustee funds under changing conditions. I. W. Baker. Trust Companies 56:11-15+ Ja '33
- How to lose your money prudently. F. C. Kelly. 128p \$1 Roland Swain co, 1715 Chestnut st, Philadelphia '33
- Important decision favoring corporate executors in retaining securities. Trust Companies 55:661-3 D '32
- Interpretation of trust investment factors; checking up on sources of data and information. W. P. Davis. Trust Companies 55:557-62 N '32
- Legal list in the light of recent investment experience. P. A. Benson. Trust Companies 57:289-92 S '33; Excerpts. Bankers M 127:431-6 O '33
- Let us not lose faith in mortgages; cooperation with owners of mortgaged properties. J. M. Steere. Trust Companies 55:683-4 D '32
- Liability of trustees for investments; suit. Trust Companies 56:6 Ja '33
- Liquidating one of the largest mortgage pools in captivity. E. A. Morton. Trust Companies 55:695-9 D '32
- New Pennsylvania law governing mortgage or securities pools for investment of trust funds. Trust Companies 56:688-9 Je '33
- Personal trust investments from the administrative standpoint. C. Lee. Bankers M 127:137-41 Ag '33
- Plan to enable trust departments profitably and efficiently to handle smaller estates and trust funds; Living trust clubs, inc, Boston. Trust Companies 56:466 Ap '33
- Practical plan for the restoration of impaired estates; selection of bonds selling at large discount. A. W. Whittlesey. Trust Companies 57:33-6 JI '33
- Problem of administering trusts in smaller communities. C. Davidson. Trust Companies 56:439-42 Ap '33
- Readjustment of trust investment policies. R. H. Trott. Trust Companies 55:551-4 N '32
- Restatement of the law governing investment of trust funds. A. W. Scott. Trust Companies 56:33-5 Ja '33
- Revising and standardizing legal codes for trust investments. F. C. McKinney. Trust Companies 56:329-32 Mr '33
- Rights of life tenant and remaindermen in foreclosed mortgages. W. L. Nossaman. Trust Companies 55:545-8+ N '32
- Standard of care and skill required of a trustee to invest. G. T. Stephenson. Am Bankers Assn J 25:20+ Ap '33
- Status of guaranteed mortgages as fiduciary investments; New York guaranteed mortgage protection corporation. G. W. Naumburg. Trust Companies 57:59-60 JI '33
- Trust institutions facing the future; investing trust funds. Am Bankers Assn J 25:26 Mr '33
- Trust investment experience during the depression. R. W. Hall. Trust Companies 56:525-8 My '33
- Trust investments and deflation problems. J. E. Blunt. Trust Companies 55:647-9 D '32
- Trust officer's soliloquy; to hold or not to hold? B. B. Brown. Trust Companies 55:665-8 D '32

**TRUSTS and trustees—Investments—Continued**

Trust service adapted to changing economic and social needs. F. H. Sisson. *Trust Companies* 56:205-10 F '33

Unprecedented decision on law of trust investments; Flint case, New York. *Trust Companies* 57:233-4 S '33

Valuable experience with commingled funds for trust estates. G. C. Barclay. *Trust Companies* 56:183-8+ F '33

We need a stable dollar to restore the profits of banking. H. O. Edmonds. *Rand McNally Bankers Mo* 50:611 N '33

What recent experience has taught in handling trust investments. C. W. Fenninger. *Trust Companies* 56:39-45 Ja '33

When the trustee has broad powers of investment. W. C. Tuttle. *Trust Companies* 56:256-7 F '33

**Living trusts**

Living trusts and conflict of laws; Ross case. F. F. Russell. *Trust Companies* 57:271-7 S '33

Strongest appeal for creation of living trust. W. O. Heath. *Trust Companies* 55:705-8 D '32

Trusts inter vivos and gifts under the new federal tax laws. L. B. Runk. *Trust Companies* 55:687-92 D '32

Why the living trust makes exceptional appeal. R. M. Huff. *Trust Companies* 55:563-5 N '32

**Revocable trusts**

Effect of important recent court decisions as to taxation of revocable trusts. F. C. McKinney. *Trust Companies* 56:555-6 My '33

**Taxation**

Computing income and estate taxes in filing 1932 fiduciary returns. H. N. Andrews. *Trust Companies* 56:61-5 Ja '33

Effect of important recent court decisions as to taxation of revocable trusts. F. C. McKinney. *Trust Companies* 56:555-6 My '33

Important decisions by U. S. Supreme court on taxability of trust income for payment of insurance premiums. F. C. McKinney. *Trust Companies* 56:677-9 Je '33

Income tax status of funded life insurance trust. G. L. Kappes. *East Underw* 34:3 Je 16 '33; Same. *Trust Companies* 57:525-7 N '33

Recent decisions interpreting fiduciary taxation. *Trust Companies* 56:410 Ap '33

Review of leading decisions of 1932 affecting taxation of estates and trusts. R. L. Bradford. *Trust Companies* 56:27-30+ Ja '33

Supreme court rules on irrevocable trust tax. *Trust Companies* 56:7 Ja '33

Trusts inter vivos and gifts under the new federal tax laws. L. B. Runk. *Trust Companies* 55:687-92 D '32

U. S. Supreme court trust ruling. *Nat Underw (Life ed)* 37:10 Je 9 '33

**TRYPANOCIDES**

Relation between trypanocidal and spirocheticidal activities of neoarsphenamine; uniformity of effect of different types of neoarsphenamine on the serological reactions in human syphilis. M. Buchholtz and T. F. Probey. *Pub Health Rep* 48:166-9 F 17 '33

Trypanocidal action and chemical constitution; the relative velocity of oxidation of arylarsenoxides. A. Cohen, H. King and W. I. Strangeways. *Chem Soc J* p2866-72 D '32

**TSCHUGAEFF'S reaction**

Some aspects of the Tschugaeff reaction for dehydrating alcohols. F. C. Whitmore and C. T. Simpson. *Am Chem Soc J* 55:3809-12 S '33

**TUADS. See Tetramethylthiuram disulfide****TUBAIC acid**

Rotenone; the synthesis of tetrahydrotubanol and tetrahydrotubaic acid. H. L. Haller. *Am Chem Soc J* 55:3032-5 J1 '33

**TUBE mills**

Boltless cylindrical-mill lining. E. D. McIntyre. *il diags Eng & Min J* 134:25-6 Ja '33

Corrugated tube mill liner. *Can Min J* 54:158 Ap '33

Krupp tube mill with air separation and drying system; abstract. *Mech Eng* 55:130 F '33

*See also*

Ball mills

**TUBERCULOSIS**

Cellular reactions to lipoids from acid-fast organisms; abstract. F. R. Sabin and K. C. Smithburn. *Science* 77:496 My 19 '33

Decrease of tuberculosis. *Science* 78:sup8 Ag 18 '33

Dust in industry; the economic and hygienic aspects of silicosis. A. E. Russell. *Mech Eng* 55:163-6 Mr '33

Incidence of tuberculosis in the industrial population; abstract. L. I. Dublin. *J Ind Hygiene* 15:sup11-12 Mr '33

Inheritance of disease. C. B. Davenport. *il diags Sci Am* 149:162-4 O '33

New X-ray process may materially cut down tuberculosis mortality. *il East Underw* 34:8 Mr 10 '33

Protein fractions of the H 37 (human) strain of tubercle bacillus. M. Heidelberger and A. E. O. Menzel. *Science* 77:24-5 Ja 6 '33

Pulmonary asbestosis; its clinical, radiological, and pathological features, and associated risk of tuberculous infection. P. Ellman. *bibliog il J Ind Hygiene* 15:165-83 J1 '33; Abstract. *Monthly Labor R* 37:1385-6 D '33

Rapid-fire weapon to fight tuberculosis; new machine for taking X ray pictures. *il Sci Am* 149:215 N '33

Report to the United States government on tuberculosis, with some therapeutic and prophylactic suggestions. S. A. Knopf. *rev & enl 59p National tuberculosis assn, New York* '33

Silicosis and tuberculosis among miners of the Tri-state district of Oklahoma, Kansas, and Missouri. R. R. Sayers and others. *map plan pls U S Bur Mines Tech Pa* 545:1-30; 552:1-28 '33; Abstract (pt. 1). *Can Min J* 54:187-9 My '33

Tuberculosis record for 1932. F. L. Hoffman. *Spectator* 131:6-7, 14-15 O 26 '33

**TUBES**

Copper-nickel tubes; their advantages for steam condensers. P. Worthington. *il Metal Prog* 24:20-4 J1 '33

Stability of thin walled tubes under torsion. L. H. Donnell. *Civil Eng* 3:456 Ag '33

Tubes welded to spheres. A. F. Burstall. *il Metal Prog* 23:48-9 F '33

*See also*

Pipes

**Inspection**

Develop gage for indicating internal wear of cracking still tubes. J. A. McMonagle, C. A. Pines and J. F. Williams. *diag Nat Pet N* 24:49 N 16 '32; Same. *Oil & Gas J* 31:77 N 17 '32

New German telescope permits study of inside tube walls. *il Nat Pet N* 24:24 N 16 '32

**Manufacture**

Metallurgische und werkstoffkundliche fragen sowie das walzen nahtloser rohre im eisenhüttenwesen. E. H. Schulz. *Zeit Ver Deutsch Ing* 77:647-8 Je 17 '33

Neuere entwicklung von rohrwalzverfahren. F. Kocks. *il diags Stahl & Eisen* 53:689-701 J1 6 '33; Abstract. *Génie Civil* 103:479-80 N 11 '33

Rolling tubes to various shapes. F. W. Shaw. *il diags Am Mach* 76:1167-8 N 23 '32

Seamless tubing for cold drawing is dried in continuous oven. H. M. Heyn. *il diag Steel* 93:25-7 Ag 7 '33

Ein sonderverfahren zum auswalzen grosser nahtloser rohre. M. Roekner. *il diags Stahl & Eisen* 53:1101-5 O 26 '33

Die technische und betriebswirtschaftliche entwicklung des Mannesmannrohr-walzverfahrens; die technische entwicklung. R. Mooshaake. *il diags Stahl & Eisen* 53:465-83 My 11 '33

Thyratron control of welding in tube manufacture; abstract. H. W. Lord and O. W. Livingston. *Mech Eng* 55:642 O '33

Tube-reducing or sinking mill; abstract. W. H. Engelbertz. *Mech Eng* 55:316 My '33



**TUBES—Manufacture—Continued**

Untersuchungen über den pilgervorgang; die anwendung neuzeitlicher messverfahren bei walzwerksuntersuchungen. F. Kocks. diags Stahl & Eisen 53:441-6 My 4 '33

Welded tubing for automobile use. W. E. Stine. il Am Mach 77:137 Mr 1 '33

**Testing**

New electron tube device locates cracks in wire and tubing. il Metal Ind 31:178 My '33

**TUBES, Aluminum**

Coils; how aluminum tubing is bent to make them. F. V. Hartman. il Dom Eng 142: 137-8 S '33

**TUBES, Brass****Testing**

Development of internal stresses and season-cracking in cold-drawn brass tubes. J. Fox. il Engineering 136:375-6 O 6 '33

**TUBES, Copper**

Fabrication and properties of seamless phosphorized arsenical copper tubing; abstract. G. L. Craig and O. Z. Klopsch. Metal Ind 31:87 Mr '33

Heat loss from copper piping. R. H. Heilman. il Heating-Piping 5:458-62 S '33

**TUBES, Steel**

Performance of stainless steels; seamless tubes and architectural uses. M. A. Grossmann. Iron Age 132:19+ J1 20 '33

*See also*

Pipes, Steel

**Manufacture**

Diescher process for producing seamless tubing. T. H. Gerken. il Iron Age 131:237-8 F 9 '33

Electrically welded steel tubes; Tube products ltd.'s works. il plan Mech Handling 20:168-9 My '33

Improved seamless tubing. il Metal Prog 23: 28-31 My '33

Modernize butt-weld tube mill: Fretz-Moon tube co. G. T. Church. il Iron Age 131:666-7 Ap 27 '33

New process for cold drawing of metals; Duddzele. C. L. Mantell. Iron Age 131:99+ Ja 12 '33

Seamless mill produces small-diameter tubing without reheating; Babcock & Wilcox tube co. J. D. Knox. il diag Steel 92:17-19 F 13 '33

Tubing made with a thin outer layer of stainless steel. il diag Mach 39:638-9 Je '33

Works of Tube products, ltd. il Engineer 155: 88-9 Ja 27 '33; Elec R (Lond) 112:491 Ap 7 '33

**TUGBOATS. See Towboats****TUGWELL, Rexford Guy**

Brain trust; Roosevelt's classroom cabinet of economists. por Business Week p16-17 Mr 22 '33

That Columbia crowd. C. H. McCall. por Credit & Fin Management 35:16-17, 39 Je '33

**TULAREMIA**

Bone marrow in tularaemia. R. D. Lillie and E. Francis. Pub Health Rep 48:1127-36, pl 1-3 S 15 '33

**TULLY, Robert J. 1880-**

Assistant general supt., Clairton works, Carnegie steel co. Steel 92:12 F 13 '33

**TULLY process. See Gas manufacture—Complete gasification process****TUNA meal**

Vitamins A and D in tuna meal. R. W. Truesdail and L. Shahinian. bibliog Ind & Eng Chem 25:661-2 Je '33

**TUNA oil**

Sardine and tuna oils as sources of vitamin D. R. W. Truesdail and H. J. Culbertson. bibliog Ind & Eng Chem 25:563-4 My '33

**TUNBRIDGE WELLS, England****Water supply**

Electrically-operated pumping station; Tunbridge Wells water supply. il diags Engineering 134:760-1, pl 28 D 30 '32

**TUNG oil**

Doubly conjugated system in the glycerides of  $\alpha$ - and  $\beta$ -elaeostearic acids. R. S. Morrell, S. Marks and H. Samuels. Soc Chem Ind J 52: 130T-2T My 5 '33

Research on Empire tung oil; abstract. L. A. Jordan. Chem Age (Lond) 29:376 O 21 '33

Les substituts du minium et les peintures industrielles. A. Vila. il Chimie & Ind 29:527-40 Mr '33

Tung oil from Empire sources. Chem Age (Lond) 27:506 N 26 '32

Tung tree experiments in Mississippi promising. C. C. Concannon. Oil Paint & Drug Rep 123:31 My 1 '33

**TUNGSTATES***See also*

Alkaline earth tungstates

**TUNGSTEN**

Action of mercury metastable atoms on a tungsten surface. S. Sonkin. bibliog diag Phys R 43:788-803 My 15 '33

Adsorption von cäsiumatomen auf wolfram; abstract. I. Langmuir. Angew Chemie 46: 131 F 25 '33

Diffraction of low-speed electrons by a tungsten single crystal. W. T. Sproull. Phys R 43:516-26 Ap 1 '33; Discussion. 44:417-18 S 1 '33

Effect of temperature on the emission of electron field currents from tungsten and molybdenum. A. J. Ahearn. diag Phys R 44:277-86 Ag 15 '33

Evaporation of atoms, ions and electrons from caesium films on tungsten. J. E. Taylor and I. Langmuir. diags Phys R 44: 423-58 S 15 '33

Evaporation of metals in vacuum. H. W. Edwards. R Sci Instr 4:449 Ag '33

Gas-free metals used in X-ray tubes. W. D. Coolidge and E. E. Charlton. il diags Metal Prog 24:36-40 N '33

Hyperfine structure and isotopic constitution of tungsten. N. S. Grace and H. E. White. Phys R 43:1039 Je 15 '33

Methods and costs of mining ferberite ore at the Cold Springs mine, Nederland, Boulder county, Colo. W. O. Vandenberg. diags U S Bur Mines Information Circ 6673:1-15 '32

Une mine de tungstène dans le département de l'Allier. map Génie Civil 102:164 F 18 '33

Nature of adsorbed films of caesium on tungsten; the space charge sheath and the image force. I. Langmuir. bibliog Phys R 43:224-51 F 15 '33

New type of apparatus for experiments in secondary electron diffraction. W. T. Sproull. diags R Sci Instr 4:193-6 Ap '33

Relative intensities of the  $L_{\alpha}$ ,  $\beta_1$ ,  $\beta_2$ , and  $\gamma_1$  lines in tantalum, tungsten, iridium, and platinum. V. J. Andrew. Phys R 42:591-608 D 1 '32

Sintering of tungsten. Engineer 155:sup [Metallurgist] 2-3 F 24 '33

Study of the use of the tungsten-nickel electrode system in neutralizations. N. H. Furman and G. W. Low, jr. Am Chem Soc J 55:1310-15 Ap '33

Thermal decomposition of phosphine by tungsten and molybdenum. H. W. Melville and H. L. Roxburgh. diags Chem Soc J p586-95 Je '33

Thermionic and adsorption characteristics of thorium on tungsten. W. H. Brattain and J. A. Becker. diag Phys R 43:428-50 Mr 15 '33

Variation with angle of emission of the radiation from metals bombarded by slow electrons. C. Boeckner. U S Bur Stand J Research 9:583-91 N '32

*See also*

Electric lamps, Tungsten

**TUNGSTEN alloys**

Alloy 543; a new metal cutting alloy. Z. Jeffries; W. P. Sykes. il Metal Prog 23:29-35 F '33

Cobalt-tungsten system. W. P. Sykes. il Am Soc Steel Tr Trans 21:385-421; Discussion. 421-3 My '33

**TUNGSTEN alloys—Continued**

Develops low-cost alloy for high-speed cutting. Steel 92:19-20 Ja 23 '33

See also

Tungsten steel

**TUNGSTEN carbide**

Alloy 548; a new metal cutting alloy. Z.

Jeffries. Metal Prog 23:30-1 F '33

Carbide cutters for face milling. F. W. Curtis.

il Am Mach 77:9-11 Ja 4 '33

Carbide tooling on existing equipment. W.

Calkins. il diags Am Mach 76:1158-60 N 23

'32

Cemented carbide cutting tools. M. F. Jud-

kins and W. C. Uecker. il diags Am Mach

77:325-9, 364-8 My 24-Je 7 '33; Abstract.

Iron Age 132:22 Jl 6 '33; Excerpt (Recom-

mended tool angles for various materials).

Automotive Ind 69:13 Jl 1 '33

Economies resulting from the nonferrous

cutting alloys; abstract. W. G. Robbins.

Min & Met 14:464 N '33

Experience with tungsten carbide saws. il

Iron Age 132:31+ O 19 '33

Getting optimum results from modern cutting

tool materials. J. Geschelin. il Automotive

Ind 69:580-5 N 11 '33

Grinding cemented carbide 30 to 180 times

faster. J. Geschelin. Automotive Ind 68:402

Ap 1 '33

Das hartmetall Widia in der hand des chemi-

kers. C. Agte. il Chemische Fabrik 6:5-6 Ja

4 '33

Improved lathes for utilizing new cemented

carbide cutting tools. il Automobile Eng

23:177-9 My '33

Lapping wheels; a special material for tools

of the tungsten carbide type. il Autom-

obile Eng 23:184 My '33

Long life of tungsten-carbide tools in machin-

ing automobile parts; Hudson motor car

co. Detroit. il Mach 39:247-8 D '32

Modern metal-cutting materials and how to

select them; results of tests at East Pitts-

burgh plant of the Westinghouse electric

& mfg. co. J. M. Highducheck. il chart

Mach 40:12-17 S '33

New uses for cemented carbides. Iron Age

131:46 Ja 5 '33

Requirements and composition of cutting

tools; abstracts. J. V. Emmons. Iron Age

130:sup18 O 20 '32; Mach 39:278 D '32

Sintered tungsten carbide Brinell balls; ab-

stracts. H. Styri. Mech Eng 55:182 Mr '33;

Engineer 155:sup[Metallurgist] 21-2 Ap 28 '33

Spedia lapping wheels and hand laps. il Mach

40:180 N '33

Tungsten carbide prolongs the life of machine

parts. il Mach 40:106 O '33

Tungsten-carbide tool lapping machine. il Iron

Age 132:28 Jl 27 '33

Tungsten-carbide tools for drilling slate and

marble. J. M. Highducheck. il diag Mach

39:407-8 F '33

Turning driving-box brasses with tungsten-

carbide cutters. C. O. Herb. il Mach 40:156

N '33

**TUNGSTEN chlorides**

Some reactions of complex chlorides of triva-

lent and pentavalent tungsten. R. C. Young.

Am Chem Soc J 54:1515-19 D '32

**TUNGSTEN lamps.** See Electric lamps, Tung-**TUNGSTEN metallurgy**

Manufacture of pure tungsten; abstract. A. L.

van Arkel. Chem Age (Lond) 28:11 Ja 7

'33

Methods and costs of milling ferberite ore at

the Wolf Tongue concentrator, Nederland,

Boulder county, Colo. W. O. Vanderburg.

flow sheets U S Bur Mines Information Circ

6685:1-15 '33

**TUNGSTEN ores**

See also

Ferberite

**TUNGSTEN plating**

Electrodeposition of tungsten from aqueous

alkaline solutions. M. L. Holt and L.

Kahlenberg. Metal Ind 31:94-7 Mr '33

**TUNGSTEN steel**

Modern metal-cutting materials and how to

select them; results of tests at East Pitts-

burgh plant of the Westinghouse electric

& mfg. co. J. M. Highducheck. il chart

Mach 40:12-17 S '33

Some molybdenum high speed steels. J. V.

Emmons. bibliog il Am Soc Steel Tr Trans

21:193-221; Discussion. 221-32 Mr '33

**Analysis**

Indicators for determining chromium and

vanadium in alloy steels; oxidized diphenyl-

amine sulfonic acid and oxidized diphenyl-

amine. H. H. Willard and P. Young. bibliog

Ind & Eng Chem Anal ed 5:154-8 My 15 '33

New procedures for chromium and vanadium

in alloy steels. H. H. Willard and P.

Young. Ind & Eng Chem Anal ed 5:158-62

My 15 '33

**TUNIS**

See also

Labor and laboring

classes—Tunis

**TUNNEL lighting**

Electric discharge lamps in the Scheldt tun-

nel. il Illum Engr 26:258 O '33

Lighting the Wawona tunnel. J. F. Morton.

il diag Elec J 30:429-30 O '33

Puncturing Inspiration point. il Elec West 71:

28 Jl '33

**TUNNEL lining**

Asphalt-impregnated slabs of concrete in salt

water; precast units used for protection

against disintegration in tunnels of Seal

Beach power plant. W. R. Shettel. il Eng

N 110:108-9 Ja 26 '33

Construction of Bridge River tunnel. C. E.

Blee. Can Eng 63:31-3 D 13 '32

Construction of the Cobble Mountain diver-

sion tunnel; cost data. H. H. Hatch. diags

plan N E Water Works Assn J 47:133-52 Je

'33

Construction of the Hoover dam; lining of the

diversion tunnels with concrete. C. H. Vivi-

an. il Comp Air M 37:4010-17 D '32

Lining the Coast Range tunnel for Hetch

Hetchy water. il diags map Eng N 111:107-

10 Jl 27 '33

Placing 300,000 yards of concrete tunnel lin-

ing; Hoover Dam project. il diags Eng N

109:715-20 D 15 '32

Small shield-driven tunnel lined with trap-

ezoidal blocks completed under seven tracks

of the Pennsylvania railroad at Norris-

town, Pa. il diags Eng N 111:162-4 Ag 10

'33

Welding water tunnel liner. il Sci Am 148:172

Mr '33

**TUNNEL ventilation**

Canadian Pacific installs signaling for tunnel.

il Ry Age 94:16 Ja 7 '33

Effects of exposure to carbon monoxide. Gas

J (Lond) 201:261-2 F 1 '33

Mersey tunnel; details of the carbon monox-

ide recording apparatus of the ventilating

installation. il diags Electrician 111:309-10

S 15 '33

Testing the fans for the East Boston traffic

tunnel. J. E. Gill. il diag Heating-Piping

5:414-16 Ag '33

Les tunnels pour véhicules et piétons, sous

l'Escaut, à Anvers. P. Calfas. il diags Génie

Civil 103:104-5 Jl 29 '33

La ventilation du passage souterrain pour

voitures de la Porte Dauphine, à Paris.

diag Génie Civil 103:69 Jl 15 '33

**TUNNEL wrecking**

Old tunnel demolished with trains running;

Delaware & Hudson railroad tunnel at

Whitehall, N.Y. il diags Eng N 109:620-2 N

24 '32

**TUNNELS and tunneling**

Chemische bodenverfestigung und -abdicht-

ung im tunnelbau. W. Scharadt. il diags

Zeit Ver Deutsch Ing 77:905-7 Ag 19 '33



**TUNNELS and tunneling—Continued**

- Cle Elum dam completes storage for Yakima project. R. J. Newell. il diag plan Eng N 111:397-400 O 5 '33
- Colorado River board approves design of Hoover dam. plan Eng N 109:711-12 D 15 '32
- Concrete water tunnel inspected after 25 years; Blue Island Ave. tunnel in Chicago. il map Eng N 110:374-6 Mr 23 '33
- Construction of the Cobble Mountain diversion tunnel; cost data. H. H. Hatch. diags plan N E Water Works Assn J 47:133-52 Je '33
- Construction of the Hoover dam. R. C. Fleming. il diag plan Comp Air M 38:4171-6 JI '33
- Deep tunnels for delivery of water supply. W. E. Spear. il diag map Civil Eng 3:122-5 Mr '33
- Design and construction of tunnel at Bridge River, B.C. C. E. Blee. il diags maps Can Eng 63:5-10 N 29; 31-3 D 13 '32
- Design and construction of tunnels in soft ground. R. G. Hennes. il Eng & Contr 71:249-52 N '32
- Electrically operated power shovels at Hoover dam. il Eng & Contr 71:267-70 D '32
- Hazardous tunneling at Hetch Hetchy. il diags Eng N 110:701-4 Je 1 '33
- Highway location problem solved by tunnel; connecting link between main Pacific Coast highways in Oregon. E. A. Collier. il diag Eng N 110:85 Ja 19 '33
- Hoover Dam on the Colorado river. il Engineer 154:606-9 D 16 '32
- Huge blast turns Colorado river into diversion tunnels. il Eng N 109:708-9 D 15 '32
- Irrigation in Persia by kanáts. M. A. Butler. il diags maps Civil Eng 3:69-73 F '33
- Mahr tunnel encounters 20,000-g.p.m. flow; Cerro de Pasco property. il Eng & Min J 134:414 O '33
- Metropolitan district water supply tunnel from the Ware river to the Wachusett reservoir. F. E. Winsor. map diags Boston Soc C E J 19:461-87 N '32
- New tunnel eliminates seven grade crossings; Canadian Pacific drives 4,600-ft. bore at Vancouver. B. C. F. W. Alexander. il diags map Ry Age 93:728-31 N 26 '32
- 1½ mile tunnel solves haulage problems of a Rocky Mountain coal mine; Kenilworth mine. il Coal Age 38:305-7 S '33
- Owyhee tunnels; eastern Oregon. P. R. Hines. il diags maps Explosives Eng 10:363-70; 11:20-5 D '32-Ja '33
- Paddington station improvements. il diags plan Engineering 136:403, 404-6, pl 14 O 13 '33
- Portable aggregate plant for Hetch Hetchy tunnel. H. V. Eastling. il diag Eng N 109:654-6 D 1 '32
- Preparing for river diversion at Hoover dam. il Eng N 109:622-4 N 24 '32
- Roadway changes required by electrification; Pennsylvania railroad. il diags Ry Age 94:281-3 F 25 '33
- San Francisco's Hetch Hetchy project. L. A. Luther. il map Comp Air M 38:4156-62 JI '33
- Shaft sinking by freezing; Swansea power station. W. L. Lowe-Brown. il diags Engineer 155:516-19, 526 My 26 '33
- Small shield-driven tunnel lined with trapezoidal blocks completed under seven tracks of the Pennsylvania railroad at Norris-town, Pa. il diags Eng N 111:162-4 Ag 10 '33
- Some interesting phases of Chicago's water works activities. M. B. Reynolds. Am Water Works Assn J 25:1321-33 O '33
- Surveying under compressed air; holing-through sewer tunnel headings at Columbus, Ohio. O. Bonney. diags Civil Eng 3:31-3 Ja '33
- Swarthmore builds new concrete pipe tunnel. L. S. Tarleton. il diags Heat & Ven 30:20-2 Ag '33
- Wawona road tunnel in the Yosemite national park. Science 77:599 Je 23 '33
- Well-managed tunneling methods whip low contract price; last section of tunnel aqueduct for Boston metropolitan district water supply. il diags Eng N 111:310-14 S 14 '33

**See also**

Blasting	Mining engineering
Drilling and boring	Pipe laying
(earth and rocks)	Rock drills
Excavation	Sewerage
Freight subways	Subways

**Cost**

- San Jacinto tunnel, metropolitan water district, California; unit prices. diag map Eng N 109:766 D 22 '32
- Summary of principal unit prices, 19 contracts, Colorado River aqueduct tunnels. Eng N 111:396 S 28 '33
- West Eagle mountain, Hayfield and Mecca Pass tunnels, Colorado aqueduct; unit prices. Eng N 110:856 Je 29 '33

**Moffat tunnel**

- Bond litigation near end? Colorado court upholds the validity of \$8,750,000 bonds of the Moffat tunnel improvement district. Barron's 12:6 D 26 '32

**Pedestrian tunnels**

- Shield-driven tunnels near completion under the Schelde at Antwerp. S. A. Thoresen. il diags Eng N 110:827-32 Je 29 '33
- Les tunnels pour véhicules et piétons sous l'Escaut, à Anvers. P. Calfas. il diags Génie Civil 103:137-9 Ag 5 '33

**Repair**

- Guniting with lumnite cement. A. R. Chadwick. il Can Eng 64:11 Ap 18 '33

**Safety measures**

- Safety practices in tunneling operations at the Hetch Hetchy water-supply project, city and county of San Francisco, Calif. S. H. Ash and C. R. Rankin. diags U S Bur Mines Information Circ 6726:1-15 '33

**Vehicular tunnels**

- Contract signed for PWA loan for Hudson tunnel. Eng N 111:236 S 7 '33
- Driving a 4,230-ft. tunnel in Yosemite national park. C. S. Moore. il diags Eng N 111:76-8 JI 20 '33
- Mersey tunnel; details of the carbon monoxide recording apparatus of the ventilating installation. il diags Electrician 111:309-10 S 15 '33
- Shield-driven tunnels near completion under the Schelde at Antwerp. S. A. Thoresen. il diags Eng N 110:827-32 Je 29 '33
- Testing the fans for the East Boston traffic tunnel. J. E. Gill. il diag Heating-Piping 5:414-16 Ag '33
- Les tunnels pour véhicules et piétons, sous l'Escaut, à Anvers. P. Calfas. il diags plan Génie Civil 103:101-7 JI 29 '33

**TUNNELS and tunneling, Subaqueous**

- Antwerp building two tunnels. Can Eng 63:30 D 27 '32
- Bau von unterwassertunneln in den Vereinigten Staaten von Amerika. O. Singstad. il diags plans Zeit Ver Deutsch Ing 77:265-70 Mr 11 '33
- Difficult caisson sinking for Vancouver water tunnel. W. Smail and R. M. Wynne-Edwards. il diags Eng N 111:9-11 JI 6 '33
- L'emploi de la congélation pour les travaux des tunnels sous-fluviaux d'Anvers. il diags Génie Civil 103:209-11 Ag 26 '33
- Pressure tunnel under the First Narrows, at Vancouver, B.C. il diags Can Eng 64:15-18 Ja 3 '33
- Proposed Gibraltar tunnel. Engineer 156:247 S 15 '33; Same. Eng N 111:438 O 12 '33
- Rapid progress being made on Vancouver water tunnel. Eng N 110:56 Ja 12 '33
- River Hooghly tunnel. C. M. Norrie. Engineering 135:41 Ja 13 '33
- Shield-driven tunnels near completion under the Schelde at Antwerp. S. A. Thoresen. il diags Eng N 110:827-32 Je 29 '33

**TUNNELS and tunneling, Subaqueous—Cont.**

Suspended tunnel suggested for Straits of Mackinac. T. R. Hasley. *diag Eng N* 110:198 F 9 '33

Les tunnels pour véhicules et piétons, sous l'Escaut, à Anvers. P. Calfas. *il diags plan Génie Civil* 103:101-7, 137-9 *Jl* 29-Ag 5 '33

**Repair**

Adding years of service to Great Britain's longest railroad tunnel. S. J. Pearson. *il diags map Comp Air M* 37:4004-9 D '32

**TURANOSE**

Studies in the ketone sugar series; open-chain derivatives of fructose and turanose. E. Pacsu and F. V. Rich. *Am Chem Soc J* 55:3018-24 *Jl* '33

Studies in the ketone sugar series; the preparation and the structure of the hepta-acetate and of the methylglycosidic derivatives of turanose. E. Pacsu. *bibliog Am Chem Soc J* 55:2451-61 *Je* '33

**TURBIDIMETERS**

Immersion turbidimeter and sludge blanket detector. D. E. Bloodgood. *diag Water Works & Sewerage* 80:144-5 *Ap* '33

New Atlanta turbidimeter. P. Weir. *il plan Am Water Works Assn J* 25:584-9 *Ap* '33

Scopometer. *J Fr Inst* 216:414-15 S '33

**See also**

Tyndallmeter

**TURBIDITY**

Turbidity determinations in operation of filtration plants. *bibliog diags plans Water Works & Sewerage* 80:125-8 *Ap* '33

Turbidity indicator. *il Engineer* 155:608 *Je* 16 '33

**TURBINES**

Analysis of hydro-regeneration. F. A. Allner. *Elec Eng* 52:547-50 *Ag* '33

Automatic water turbine-generator unit. *il Sci Am* 149:182 O '33

Blade erosion. F. J. Taylor. *Elec R (Lond)* 11:916 D 23 '32; Same. *Can Eng* 64:15-16 *Ja* 17 '33

Comparison of outstanding propeller-type turbines in the world; tabulation. *Power* 77:20 *Ja* '33

Economics of hydro-electric turbines; plant at Ardnacrusha (Shannon scheme); abstract. F. O'Kelly. *Elec R (Lond)* 112:523 *Ap* 14 '33

Fonctionnement des turbines hydrauliques et pompes centrifuges. L. Bergeron. *il diags Soc Ing Civils Bul* 85:769-97 *My* '32

Generator design; the Kaplan turbine as an influence; cost data. H. A. Sieveking. *diag Electrician* 110:796-7 *Je* 16 '33

Hoover Dam hydro plant to house largest turbines. *il plans Power* 77:174-5 *Ag* '33

Hydraulic turbine improvements. B. E. Smith. *il Manuf Rec* 101:36-7 D '32

Improved type of flow meter for hydraulic turbines. I. A. Winter. *diags Am Soc C E Proc* 59:565-84 *Ap* '33; Discussion. 59:1046-9, 1524-6 *Ag*, N '33

Kaplan turbines and the Swedish industry; abstract. E. Engleson. *Engineering* 136:179 *Ag* 18 '33

Kaplan turbines on Rhine serve systems at three voltages; Ryburg-Schwoerstadt power station. P. R. Sider. *il diag Elec W* 100:816-18 D 17 '32

Modernizing pioneer waterwheels. T. C. Stabley. *il diags Elec W* 102:172-6 *Ag* 5 '33

Operating experience with propeller-type runners; report of Hydraulic-power committee of the Canadian electrical association. *Power* 77:489-90 S '33

Progress in hydraulic power development. *Power Pl Eng* 36:42-3 *Ja* '33

Record high-head impulse and Francis waterwheels. *Power* 77:129 *Mr* '33

Rio Cinca power plant. *il diags Engineer* 155:160-2 F 17 '33

Some outstanding features of hydraulic practice in Europe. R. W. Angus. *il diags Can Eng* 64:7-12 F 14 '33

Stainless steel buckets on 17,000-hp. impulse wheels in the Shanani plant, Punjab, India. *il diag Power* 76:319 D '32

Die strömung um flügelprofile und deren anwendung bei strömungsmaschinen. F. Seewald. *Zeit Ver Deutsch Ing* 77:573-80 [bibliog p580] *My* 27 '33

Synchronizing and pitting of propeller waterwheels. *Elec W* 102:222 *Ag* 12 '33

La technique actuelle des turbines hydrauliques et son évolution. A. Ténot. *diags Soc Ing Civils Bul* 85:870-960, pl 208-9 *Jl* '32

10,700-hp. Kaplan turbines designed for 76-ft. head; Wettinger plant, City of Zurich, Switzerland. *il diag Power* 77:363 *Jl* '33

32,000-hp. Francis turbines applied to 1100-ft. head. G. A. Bovet. *diags Power* 77:522-3 O '33

Turbines and hydraulic equipment of the Chats Falls development. O. Holden. *il Can Eng* 64:9-10 *My* 9 '33

Turbines for the Grampian hydro-electric works. *il diags Engineering* 135:511-13, 520, pl 31 *My* 12 '33

Two 11,450-hp. impulse wheels operate under 3,280-ft. head; Niederenbach hydro-electric station, Switzerland. *il Power* 77:404 *Ag* '33

Two methods of measuring water to hydraulic turbines. *diags Power* 77:126-7 *Mr* '33

Vasteras turbine; largest double-rotation unit. A. G. Christie. *il diags Power* 77:364-6 *Jl* '33

Wasserturbinen und deren regler. F. Oesterlen. *il diags Zeit Ver Deutsch Ing* 77:804-6 *Jl* 22 '33

Water turbines for Tummel development. *il diags plan Engineer* 155:343-5, 350 *Ap* 7 '33

World's largest Pelton wheels in Korea plant. R. Leonhardt. *il diags Power Pl Eng* 37:91-3 F '33

**See also**

Gas turbines

Mercury turbines

Steam turbines

**Design**

Characteristic features of present water turbines. A. Pfau. *diags W Soc E J* 37:323-32; Discussion. 332 D '32

Discussion of draft tubes for modern hydraulic turbines. J. S. Ball. *diags Can Eng* 64:5-9 *Je* 6; 65:5-9 *Jl* 4; 5-7 *Ag* 1 '33

Problems of modern pump and turbine design; abstract. W. Spannhaake. *Power* 76:339 *Mid-D* '32

**Lubrication**

Device indicates grease for turbine wicket gates. B. B. Bessesen. *diags Elec W* 102:286 *Ag* 26 '33

**Testing**

Eagle Pass tests challenge hydro efficiency records. L. F. Harza and E. Floor. *diag Power Pl Eng* 36:821-2 D '32

**TURBO-blowers.** See **Blowers**

**TURBULENCE**

Behavior of fluids in turbulent motion. A. Fage. *bibliog il diags Roy Aeronautical Soc J* 37:573-93 *Jl* '33; Abstract. *Mech Eng* 55:695 N '33; Discussion. *Roy Aeronautical Soc J* 37:593-600 *Jl* '33

Increasing condenser efficiency through production of turbulent flow. B. T. duPont. *diag Nat Pet N* 24:74-5+ N 16 '32

Neuere ergebnisse der turbulenzforschung. L. Prandtl. *il Zeit Ver Deutsch Ing* 77:105-14 [bibliog p113-14] F 4 '33; Abstract (Modern developments in the study of turbulence). *Mech Eng* 55:252-3 *Ap* '33

Single-sleeve-valve research engine and preliminary results from compression-ignition tests; abstract. C. F. Taylor and M. S. Huckle. *il diag Automotive Ind* 69:370-1 S 23 '33

**See also**

Flame propagation

**TURKEY**

Turkey's progress. *Economist* 117:760 O 21 '33

Turkish decennium. *Economist* 115:1073 D 10 '32

**See also**

Labor and laboring

classes—Turkey



**TURKEY—Continued****Commercial policy**

Turkey relaxes U. S. quota restrictions.  
Weekly Underw 128:433 Mr 4 '33

**Economic conditions**

Turkey in 1932. Economist 116:sup23 F 18 '33

**TURN, John S.**

Casualty's leading pacificator. W. L. Clapp.  
por East Underw 33:97 D 9 '32

**TURNER, Scott**

Portrait. Explosives Eng 11:295 O '33

**TURNING**

Attachment for turning approximately spherical surfaces of small curvature on a lathe; lens-grinding tools. I. C. Gardner. il diags U S Bur Stand J Research 9:227-37 Ag '32; Excerpts. Engineer 155:14 Ja 6 '33

Automatic turning of radius bearings. diags Eng & Min J 134:206 My '33

Charts for selecting machines of correct size for milling and turning operations. A. E. Gutzwiller. Mach 39:724-6 Jl '33

Equipment for profile turning. D. L. Brown. diags Am Mach 77:125 F 15 '33

Equipping lathes for turning cams and other irregular shapes. C. W. Hinman. diag Mach 39:451 Mr '33

Lathe attachment for turning irregular shapes. W. Wells. diag Am Mach 76:1167 N 23 '32; Discussion. M. Harris. 77:214-15 Mr 29 '33

Spherical parting attachment for a bench lathe. E. Wittmann. diag Am Mach 77:25 Ja 4 '33

Turning and facing thin metal disks. M. Jacker. diags Mach 39:465-6 Mr '33

Turning driving-box brasses with tungsten-carbide cutters. C. O. Herb. il Mach 40:156 N '33

**See also**

Lathes

**TURNOVER**

First the profitgraph—and now the turnover-graph. C. E. Knoeppel. Factory & Ind Management 84:4-5 Ja '33

Stock turnover; its relation to net profits; abstract. I. D. Wolf and E. R. Clarkson. Management R 22:91 Mr '33

**See also**

Labor turnover  
Retail trade—Stock

**TURNTABLES**

650-ton marine turntable slipway, port of Lorient-Kéroman, Brittany. il diags Engineering 135:559-61, 572, 629-30, pl 33 My 26, Je 9 '33

**TURPENTINE**

Component distribution trend in commercial turpentine still operation. S. Palkin. bibliog diag Ind & Eng Chem 25:95-7 Ja '33

Resin acids of American turpentine gum; the preparation of the pimaric acids from pinus palustris. S. Palkin and T. H. Harris. diags Am Chem Soc J 55:3677-84 S '33

**See also**

Naval stores

**TURTLE oil**

Turtle oil; abstract. F. W. Brown. J Fr Inst 216:131 Jl '33

**TUT-ANKH-AMEN**

King Tut's purple gold. Science 77:sup9 Ja 6 '33; Same abr. Sci Am 148:181-2 Mr '33

**TWIST, Kinematics of**

Kinematics of twist. H. J. Woods. il diags Textile Inst J 24:T317-32 S '33

**TWISTING machines**

Atwood oilless Monarch twister. il Melliland 5:218 O '33

Bobbin builder quadrant; method of adjustment on spinning and twisting machines. C. Amson. diag Melliland 5:165-6 Ag-S '33

Method and tools for removing twister cylinders. L. L. Kingsford. il diags Textile World 83:218-19 F 14 '33

Modern machinery for fancy thread making.

C. Carter. diag Melliland 5:60-1 My '33

New rayon spindle. F. Klages. diag Melliland 5:74 My '33

**TYNDALLMETER**

Tyndallmetric examination of filtered liquors. A. B. Cummins and M. S. Badollet. bibliog il diag Ind & Eng Chem Anal ed 5:328-32 S 15 '33

**TYPE and type founding**

Are the old types coming back? G. P. Farrar. il Ptr Ink Mo 26:38+ Je '33

Get orders by advertising yourself when others quit; with mailing pieces about type faces. Inland Ptr 90:34-6 F; 38-40 Mr; 91:36-8 Ag '33

New architecture significant of the new typography; Century of progress exposition. D. C. McMurtrie. il Inland Ptr 91:13-17 Je '33

Type in business forms. il Management Methods 62:178+ Ap '33

Typographic clock turns backwards. R. Craufurd. il Adv Arts p33 S '33

Victorian types cast romantic spell. F. T. Singleton. il Inland Ptr 91:32-3 Ag; 60-2 S '33

Wants typefounders to devise the perfect font package. H. W. Southworth. Inland Ptr 90:59 F '33

**See also**

Advertisements—

Typography

Electrotyping

Newspapers—Typog-

raphy

Periodicals—Ty-

pography

Printing—Specimens

Typesetting

**Script type**

Script. C. Coiner. il Adv & Sell 20:sup [Adv Arts] 20-1 Mr '33

**TYPESETTING**

Composition costs steal profits unless based on narrow faces. W. J. Wrinkle. Inland Ptr 90:22 Mr '33

**See also**

Advertisements—

Typography

Letterheads

Linotype

Newspapers—Typog-

raphy

Printing

Type and type found-

ing

**TYPESETTING machines**

Century of progress in the graphic arts. D. C. McMurtrie. il Ptd Salesmanship 61:212-19 Je '33

Mohr lino-saw manual. 89p Mohr lino-saw co, Chicago '33

**See also**

Linotype

**Automatic operation**

Girls replace 5 linotype operators. il Inland Ptr 91:51 Jl '33

**TYPEWRITERS**

New typewriter keyboard is proposed as speedier. A. Dvorak and W. L. Dealey. il Management Methods 62:218 My '33

Presto! change! now it's a typewriter—now it's a billing machine. Management Methods 62:265+ Je '33

Sixtieth anniversary of typewriter celebrated. il Management Methods 62:167-8 Ap '33

**Advertising**

Bread and butter plan book multiplies coupons 19 times; Royal typewriter company. L. M. Hughes. il Sales Management 33:206+ S 1 '33

Messenger boys were the postmen in this direct-mail campaign; L.C. Smith & Corona typewriters, inc. T. Swanson. il Ptd Salesmanship 60:380-1+ Ja '33

Something for nothing often is worth it; dealers pay for sales literature of L. C. Smith & Corona typewriters. Ptr Ink 161:73-4 D 29 '32

**Feed mechanism**

Invoicing work speeded; Columbus metal products, inc. il System 62:455 O '33

**TYPEWRITERS, Portable**

- How new product captured big department store outlet; Royal typewriter company, W. A. Metzger, *il* *Ptr Ink* 162:17-20 F 16 '33
- How we found a tip top sales opportunity in a rock bottom year; Walter Drey organization and Monarch typewriters, W. Drey, *il* *Sales Management* 32:318-19+ Ap 1 '33
- New Royal portable, Credit & Fin Management 35:36 Ja '33
- Royal adds 800 dealers in drive to develop low-priced market, *Sales Management* 31:526 D 15 '32

**Advertising**

- Most interesting advertising job I ever did; Underwood campaign, J. D. Tarcher, *il* *Ptr Ink* 162:57-9 Mr 16 '33

**TYPEWRITING**

- New intensive typing, J. W. Ross and C. G. Reigner, rev 193p *The H. M. Rowe co*, Baltimore '33
- Simple touch typing method by Royal, Credit & Fin Management 35:34 Ap '33
- Typewriting for immediate use, E. J. McNamara, M. I. Markett and C. W. Kean, 245p *John C. Winston co*, Philadelphia '33

**TYPHOID fever**

- Decreasing typhoid in our large cities, J. A. Tobey, *Pub Works* 64:26 N '33
- Progressive fight against typhoid fever in Canada, N. J. Howard, *Can Eng* 63:29-32 N 15 '32
- Typhoid carriers in Lorain county, Ohio, H. R. O'Brien, *Water Works & Sewerage* 80:215 Je '33
- Typhoid fever epidemics from water supply in Germany, H. Bruns, *Am Water Works Assn J* 25:17-1; Discussion, A. Wolman, 17-18 Ja '33
- Typhoid fever held not compensable under workmen's compensation act; suit, *Pub Health Rep* 48:323-4 Mr 31 '33
- Typhoid fever in the large cities of the United States in 1932, *Am Water Works Assn J* 25:1157-68 Ag '33
- Water borne disease in New York state; abstracts, E. Devendorf, *Water Works & Sewerage* 80:360 O '33; *Eng N* 111:335 S 28 '33

**TYPHUS fever**

- Additional studies on the relationship of the viruses of Rocky Mountain spotted fever and Sao Paulo exanthematic typhus, G. E. Davis and R. R. Parker, *bibliog* *Pub Health Rep* 48:1006-11 Ag 18 '33
- Endemic typhus fever virus recovered from wild rat trapped at typhus focus in the United States, R. E. Dyer, W. G. Workman and A. Rumreich, *bibliog* *Pub Health Rep* 47:2370-3 D 30 '32
- Experimental transmission of endemic typhus fever of the United States by xenopsylla astia, W. G. Workman, *bibliog* *Pub Health Rep* 48:795-7 Jl 7 '33
- Further studies on the relationship of the viruses of Rocky Mountain spotted fever and Sao Paulo exanthematic typhus, R. R. Parker and G. E. Davis, *Pub Health Rep* 48:839-43 Jl 21 '33
- Protective value of convalescent sera of Sao Paulo exanthematic typhus against virus of Rocky Mountain spotted fever, R. R. Parker and G. E. Davis, *bibliog* *Pub Health Rep* 48:501-7 My 12 '33
- Relationship between Rocky Mountain spotted fever and exanthematic typhus of Sao Paulo, R. E. Dyer, *Pub Health Rep* 48:521-2 My 19 '33
- Research on typhus, R. E. Dyer, *Science* 76:supl2 N 25 '32

**TYRAMINE**

- Reduction of hydroxymandelonitriles; a new synthesis of tyramine, J. S. Buck, *Am Chem Soc J* 55:3388-90 Ag '33

**TYROSINE**

- Tyrosine-*n*-acetic acid; introducing a new general method for preparing symmetrical and asymmetrical imino dibasic acids, D. A. Hahn and A. Litzinger, *Am Chem Soc J* 54:4663-7 D '32

**U****UDDEN, Johan August, 1859-1932**

- Memorial, C. L. Baker, *por* *Geol Soc Bul* 44:402-13 [bibliog p408-13] Ap '33

**ULMINS**

- Studies in the composition of coal; the constitution of the ulmins, F. Heathcoat and R. V. Wheeler, *Chem Soc J* p2839-47 D '32

**ULTRAFILTRATION. See Filters and filtration (colloids)****ULTRAMARINE**

- Ultramarine; abstract, *Chem Markets* 33:241 S '33

**ULTRA-VIOLET rays**

- Accelerated weathering of paints and varnishes; effects of the absorption of ultra-violet light, V. G. Jolly, *Chem Age (Lond)* 28:214-15 Mr 11 '33; Same, *Soc Chem Ind J (Chem & Ind)* 52:264-6 Mr 24 '33
- Action of chlorine on *p*-tolueneearsonic acid under the influence of ultraviolet light and its chlorination with hypochlorous acid, C. S. Hamilton and W. N. King, *Am Chem Soc J* 55:1689-92 Ap '33
- Effect of strong ultraviolet irradiation upon the toxicity of pure nicotine, G. Wakeham and C. B. Johnston, *Am Chem Soc J* 55:1601-4 Ap '33
- Fluorescence of cells in the ultra-violet, A. C. Giese and P. A. Leighton, *Science* 77:509 My 26 '33
- Photo-change of *N*-chloroacetanilide in various solvents, F. W. Hodges, *Chem Soc J* p240-6 Mr '33
- Photoelectric quantum counters for visible and ultraviolet light, G. L. Locher, *il* *diags Phys R* 42:525-46 N 15 '32
- Simple and constant spark-source, A. Hol-laender and J. P. Foerst, *il* *diag R Sci Instr* 4:347-9 Je '33
- Technique of ultra-violet radiology, D. T. Harris, 166p Blackie & son ltd, London '32
- Ultra-violet irradiation stimulates yeast activity, W. L. Owen, *bibliog* *il* *Food Ind* 5:252-4 Jl '33
- Ultraviolet luminescent effects and their uses, A. Strobl and R. L. Zahour, *il* *Illum Eng Soc Trans* 28:612-18 Jl '33
- Uranium as a source of continuous ultra-violet radiation, S. J. Lewis, *il* *Soc Chem Ind J (Chem & Ind)* 52:464-5 Je 2 '33

**See also**

- Raman effect.  
Spectrum, Ultra-violet

**Industrial applications**

- Analysis by ultra-violet light, J. C. O. Turfery, *il* *Chem Age (Lond)* 28:220-1 Mr 11 '33
- More powerful than sunlight; ultra-violet rays in industry and protection against their harmful effects, M. J. Dorcas, *il* *Nat Safety N* 28:16-18+ N '33
- Ultraviolet in industry, M. J. Dorcas, *il* *Illum Eng Soc Trans* 28:575-89 Jl '33
- Ultra-violet radiation in industry; the carbon arc as a source of active light, *il* *Chem Age (Lond)* 29:397 O 28 '33

**Lamps**

- Comparison data on ultraviolet sources, *Illum Eng Soc Trans* 28:632 S '33
- Hygienic lighting; a recent innovation in textile-mill illumination, *il* *Textile World* 83:1822 O '33
- Invisible light for pictures in the dark, S. G. Hibben, *Sci Am* 149:38 Jl '33
- Photographs made with invisible rays, *il* *Elec Eng* 52:642 S '33
- Photography without light, R. L. Zahour, *il* *Illum Eng Soc Trans* 28:632-3 S '33; *il* *Excerpts, Sci Am* 149:180-1 O '33; *System* 62:452-3 O '33
- Ultra-violet light apparatus, *il* *Chem Age (Lond)* 28:394 Ap 29 '33
- Use of ultraviolet sources for the general illumination of interiors, A. B. Oday and L. C. Porter, *il* *diags Illum Eng Soc Trans* 28:121-43; Discussion, 143-52 F '33



ULTRA-VIOLET rays—*Continued*

## Measurement

- Fundamental units and terms for biologically-effective radiation. M. Luckiesh and L. L. Holladay. *Opt Soc Am J* 23:197-205 Je '33
- Measurement of erythral ultraviolet radiation. A. H. Taylor. *il Opt Soc Am J* 23:60-6 F '33
- Measurements of ultra-violet solar radiation in various localities. W. W. Coblenz, R. Stair and J. M. Hogue. *bibliog U S Bur Stand J Research* 10:79-88 Ja '33
- Report of the I.E.S. subcommittee on the measurement and evaluation of ultraviolet radiation. *Illum Eng Soc Trans* 28:684-91 S '33
- Visible and ultraviolet in the light obtained from the sun. W. Kunerth and R. D. Miller. *Illum Eng Soc Trans* 28:347-53 Ap '33

## Physiological effect

- Fundamental units and terms for biologically-effective radiation. M. Luckiesh and L. L. Holladay. *Opt Soc Am J* 23:197-205 Je '33
- Measurement of erythral ultraviolet radiation. A. H. Taylor. *il Opt Soc Am J* 23:60-6 F '33
- Reaction of individual bacteria to irradiation with ultra-violet light. F. L. Gates. *Science* 77:350 Ap 7 '33
- Ultra-violet rays; their value to creative departments in factories. E. T. Norris. *Electrician* 109:601 N 11 '32
- Ultraviolet rays used to kill germs. H. C. Rentschler. *Illum Eng Soc Trans* 28:101-2 F '33

## Reflection

- Ultraviolet reflection factors. *il Management Methods* 61:662 D '32

## UMBRELLAS

- Umbrellas and umbrella frames and skeletons. 17p U.S. Tariff commission, Washington '32

## UNCERTAINTY principle

- Principle of indefiniteness. K. K. Darrow. *R Sci Instr* 4:188-92 Ap '33
- Relation between the resolving power of a spectroscope and the principle of uncertainty. S. Goldman. *Opt Soc Am J* 23:70-1 F '33
- Uncertainty theory and the electric field of a particle. G. Lemaitre. *Science* 77:sup6 F 10 '33

## UNDER-CONSUMPTION. See Consumption (economics)

## UNDERHILL, Frank Pell, 1877-1932

- Sketch. R. H. Chittenden. *Science* 76:457 N 18 '32

## UNDERWEAR

- Brands save store's prestige during price promotion; a retail buyer tells why advertised lines of men's underwear are best for his department. C. H. Reinhard. *Ptr Ink* 164:56-7 Ag 3 '33
- National association of hosiery and underwear manufacturers executive conference, New York, Oct. 26-27. *Textile World* 82:958-9 N '32
- Rayon underwear; new knitting technic embraces larger cones, magazine feed, etc. J. Turner. *il Textile World* 83:1604 S '33
- Underwear styles for 1933 center on novelty fabric effects. *il Textile World* 83:66 Ja '33

See also

## Hosiery

## Advertising

- This national advertising causes women to buy today; retail flavor and elastic program, Julius Kayser & co. G. S. Walton. *il Ptr Ink* 162:3-6 F 23 '33

## Manufacture

- Hours and earnings in the hosiery and underwear industries, 1930 and 1932. *Monthly Labor R* 35:1136-50 N '32

## UNDERWOOD, A. J. V.

- Belby memorial awards. *Chem Age (Lond)* 29:33 JI 8 '33

## UNDERWOOD Elliott Fisher company

- Annual report, 1932. *Barron's* 13:7 F 27 '33
- Business grows. *Econostat* 1:11, 23 Ag 12 '33

## UNDERWRITERS association of New York state

- Fifty golden years. L. Daw. *East Underw* 34:26 S 22 '33

## UNDERWRITERS' laboratories

- List of inspected electrical appliances, May, 1933. 247p National board of fire underwriters, 207 East Ohio st, Chicago '33 [revised semiannually]
- List of inspected fire protection appliances, January, 1933. 114p National board of fire underwriters, 207 East Ohio st, Chicago '33 [revised semiannually]
- List of inspected gas, oil, and miscellaneous appliances, January, 1933. 98p National board of fire underwriters, 207 East Ohio st, Chicago '33 [revised semiannually]

## UNDULANT fever

- Newer knowledge of Malta or undulant fever. A. H. Lewis. 2d rev ed 31p [bibliog p31] Arthur Harvey Lewis, Utica, N.Y. '33

## UNEMPLOYMENT

- Abolition of unemployment. F. D. Graham. 98p Princeton univ. press, Princeton '32
- Agriculture: illustrating limitations of free enterprise as a remedy for present unemployment. M. Ezekiel. *Am Statist Assn J* 28:sup182-9 Mr '33
- Le chômage devient-il une maladie chronique? P. Petit. *Chimie & Ind* 30:225-7 JI '33
- Common sense about machines and unemployment. M. P. Taylor. 173p \$1.50 John C. Winston co, Philadelphia '33
- Debate handbook on unemployment and unemployment insurance. W. R. Sutherland, comp. Kentucky U Extension Ser v 10, no 3:1-316 '31
- Demand for labor. *Nat City Bank* p76-9, 93-5 My-Je '33
- Economic depression and the employment of women. M. Thibert. *Int Labour R* 27:443-70, 620-30 Ap-My '33
- Economic effects of labor-saving machinery on labor. H. B. Hastings. *Management R* 22:291-8 O '33
- Economist looks at unemployment. F. T. Stockton. *Chem Markets* 31:505-7 D '32
- Facts about the unemployed; Pennsylvania employment commission findings. W. S. Dutton. *Nation's Business* 21:44-5+ JI '33
- Future of capitalism in a mechanised world. A. Salter. *Fortune* 7:60-3 Ap '33
- International labor organization and unemployment. B. M. Stewart. *Ann Am Acad* 166:53-65 Mr '33
- Internationalization of scientific knowledge as a factor in world economic recovery. A. P. M. Fleming. *Civil Eng* 3:501-2 S '33; Same abr. *Mech Eng* 55:491-2 Ag '33
- Labor—the crucial factor in business recovery. C. M. Wright. *Mag of Wall St* 51:136-8+ N 26 '32
- Lord Melchett and unemployment. *Chem Age (Lond)* 28:290 Ap 1 '33
- Mechanical handling and unemployment. E. Heidebroek. *Mech Handling* 20:44 F '33
- Modern economics and unemployment; pooling unemployment and leisure; abstracts. H. M. Melchett. *Chem Age (Lond)* 28:405-6 My 6 '33; *Soc Chem Ind J (Chem & Ind)* 52:401-2 My 5 '33; *Gas J (Lond)* 202:326 My 10 '33; *Engineer* 155:458-9 My 5 '33; Discussion. *Chem Age (Lond)* 28:406 My 6 '33; *Soc Chem Ind J (Chem & Ind)* 52:402-3 My 5 '33
- Morale: the mental hygiene of unemployment. G. K. Pratt. 64p pa 25c National committee for mental hygiene, 450 Seventh av, New York '33
- NRA labor policy and recovery; overzealous unemployment efforts may stall progress. J. S. Lawrence. *Econostat* 1:5-10+ Ag 26 '33
- Obsolete men: technological unemployment. *Fortune* 6:25-6+ D '32
- Paying for technological unemployment. *Management R* 22:83-4 Mr '33
- Plain talk about technocracy; discussion of article in November issue of the *New Outlook*. J. H. Van Deventer. *Iron Age* 130:849-50 D 1 '32
- Problem of the unemployment of young persons. *Int Labour R* 27:499-519 Ap '33

UNEMPLOYMENT—*Continued*

- Professional problems and unemployment. Eng N 110:169-70 F 2 '33
- Relationship between wage rates and unemployment. E. H. Welch. Am Statist Assn J 28:sup54-8 Mr '33
- Relative volume of technological unemployment. W. I. King. Am Statist Assn J 28:sup33-9; Discussion. F. B. Garver. 39-41 Mr '33
- Technical progress and unemployment. M. Bouniatian. Int Labour R 27:327-48 Mr '33
- Technical progress and unemployment; reply to Professor Bouniatian. E. Lederer. Int Labour R 28:1-25 J1 '33
- Technocratic unemployment; from the statistical depths of recent social trends arise figures to confute the technocrats. Business Week p20-1 Ja 25 '33
- Technological displacement of labor and technological unemployment. B. Stern. Am Statist Assn J 28:sup42-7 Mr '33
- Theory of unemployment. A. C. Pigou. 319p \$5 Macmillan '33
- This unemployment; disaster or opportunity? V. A. Demant. 157p Student Christian movement press, London '32
- Thrift and unemployment. 21p National metal trades assn, Chicago '32
- Unemployment and engineering. Engineer 155:73 Ja 20 '33
- Unemployment and labor-saving machines. S. M. Kintner. Iron Age 130:812+ N 24 '32
- See also*
- |                         |                            |
|-------------------------|----------------------------|
| Employment—Stability    | Migrant problem            |
| Insurance, Unemployment | Stabilization in industry  |
| Labor displacement      | Unemployment benefit plans |
| Machinery in industry   |                            |

## Bibliography

- Unemployment prevention, compensation and relief. 23p Princeton univ, Princeton, N.J.

## Relief measures

- Adequacy of various methods of relieving the unemployed. Am Statist Assn J 28:210-15 Je '33
- Aiding the worker in depression; what American industry has done for its employees. Bradstreet's 61:195-6 Ja 28 '33
- Alleviating unemployment. 73p Pennsylvania. Committee on unemployment, Harrisburg '31
- Back to work; increase in jobs and payrolls antedates recovery codes but leaves relief workers still busy. Business Week p10 J1 22 '33
- Building better markets; what Syracuse and Philadelphia are doing. R. Crothers. Ptr Ink Mo 26:60-1+ Ap '33
- Calculation of relief expenditures. C. E. Persons. Am Statist Assn J 28:sup63-74 Mr '33
- Construction league asks work for relief at meeting, Detroit, Jan. 21. Eng N 110:119 Ja 26 '33
- Cooperative self-help activities among the unemployed. Monthly Labor R 36:449-95, 717-70, 979-1038, 1229-40 Mr-Je '33
- Dayton idea of self-help. R. Borsodi. Adv & Sell 20:15-16+ Mr 30 '33
- Development of unemployment relief in Germany. O. Weigert. Int Labour R 28:168-91, 352-63 Ag-S '33
- Draft resolution on unemployment adopted by the Technical commission of the International association for social progress. Int Labour R 26:796 D '32
- Emergency planning and research bureau for Boston architects and engineers. Monthly Labor R 35:1272-4 D '32
- Emergency relief in Pennsylvania. A. Dunham. 30p pa 25c Public charities assn. of Pennsylvania, 311 South Juniper st, Philadelphia '33
- Emergency unemployment relief laws in the state of New York, 1931-1932. 202p New York (state) Attorney-general's office, Albany '32
- Engineering works of profit as a cure for unemployment. M. Walker. Engineerings 136:326-7 S 22 '33; Abstract. Engineer 156:292-3 S 22 '33

- Engineers face second winter of unemployment relief work. Eng N 109:760-1 D 22 '32
- Experimental handicraft workshops in Zurich, Switzerland. Monthly Labor R 36:1291 Je '33
- Federal and state legislation for unemployment relief and national recovery, 1933. M. Stevenson and L. W. Brown. 19p [biblog p19] pa 25c Public administration service, Chicago '33
- Final report of the Special commission on stabilization of employment under chapter 64 of the Resolves of 1931. December 1932. 250p Massachusetts. Special commission on stabilization of employment, Boston '33
- Immediate unemployment problem. S. H. Slichter. Ann Am Acad 165:1-12 Ja '33
- Job exchanges. Business Week p7-8 Mr 29 '33
- Jobs to give purchasing power only way to prosperity; manufacture of standardized staples. J. B. Wootan. Pub Serv Management 54:55-6 F '33
- Der Kampf gegen die Arbeitslosigkeit. A. Küster. Stahl & Eisen 53:779-81 J1 27 '33
- Man-hour prices; Western Electric helps its unemployed to set up shop. Business Week p13 Mr 8 '33
- Measures to alleviate unemployment in Connecticut. 205p Connecticut. Unemployment commission, Hartford '32
- Metropolitan engineers complete second winter of relief activities. F. R. Harris. Civil Eng 3:350-2 Je '33
- National construction council petitions government to aid recovery. Can Eng 64:21-3+ F 28 '33
- New York botanical garden activities financed by Emergency unemployment relief committee's women's work bureau. Science 78:276 S 29 '33
- Philadelphia at the crossroads; Renovize Philadelphia campaign. G. H. Houston. Nation's Business 21:55 F '33
- Pioneers; Dayton, O. equips its unemployed to supply their own essentials. Business Week p18-19 Ja 18 '33
- Power as a factor in economic readjustments. W. N. Polakov. Ann Am Acad 165:31-7 Ja '33
- Relief standards and procedures in dealing with families of the unemployed. 115p [biblog p113-15] Illinois emergency relief commission, Chicago '32
- Relief—what to do about it? G. A. Bowers. Factory & Ind Management 84:5-6 Ja '33
- Report and recommendations of the California state unemployment commission, November, 1932. 810p California. State unemployment commission, Sacramento '33; Review. Monthly Labor R 36:498-9 Mr '33
- Resolutions adopted by highway and building conference. Brick & Clay Rec 82:54 F '33; Same abr. Roads & Sts 76:73 F '33
- Right of legislature to appropriate money for unemployment relief; decision of Supreme court of Washington. Monthly Labor R 37:514-15 S '33
- Scientific stimulation of employment. J. D. Brown. Am Statist Assn J 28:sup174-8; Discussion. W. Wissler. 179-81 Mr '33
- Stabilization of employment. C. F. Ross, ed. 300p Principia press, inc, Bloomington, Ind. '33
- Suburban settlements for unemployed in Stuttgart, Germany. S. Morris, jr. Monthly Labor R 35:1278-80 D '32
- Ten thousand out of work. E. Clague and W. Powell. 188p \$2 Univ. of Pennsylvania press, Philadelphia '33; Summary. Monthly Labor R 37:273-7 Ag '33
- Unemployed chemists in New York city. Science 76:561-2 D 16 '32
- Unemployment benefits and measures for occupying the unemployed in Great Britain. H. Fuss and D. C. Tait. Int Labour R 27:595-619 My '33
- Unemployment insurance and public assistance. J. L. Cohen. Int Labour R 26:777-96 D '32
- Unemployment insurance and relief in Germany. 107p \$2 National industrial conference board, inc, New York '33
- Unemployment relief activities for engineers in New York. J. P. H. Perry. Civil Eng 3:49-51 Ja '33



**UNEMPLOYMENT—Relief measures—Cont.**

- Unemployment relief in the Irish Free State. Monthly Labor R 35:1075-6 N '32
- Unemployment relief measures for architects. il Arch Rec 72:354-60 D '32
- Unemployment relief plans in Germany. C. W. Gray. Monthly Labor R 36:295-6 F '33
- Unemployment relief plans throughout country progressing. Elec Eng 51:880-2 D '32
- Unemployment situation; abstract. F. S. Baldwin. Iron Age 130:806+ N 24 '32
- What shall be done with the unemployed miner? abstract. C. E. Pickett. Min Cong J 19:29 Je '33
- Work-relief plans stressed by Associated general contractors at Detroit meeting. Eng N 110:123-4 Ja 26 '33

*See also*

- Business depression      Public works  
Employment agencies      Stabilization in in-  
Hours of labor              dustry  
Insurance, Unemploy-      Unemployment bene-  
ment                          fit plans  
National industrial  
recovery act, 1933  
also National committee on industrial re-  
habilitation

*Bibliography*

- Unemployment relief in the United States and Canada. M. Otto, comp. 12p pa 20c Russell Sage foundation, 130 East 22d st, New York '32

*Camps*

- California's state camps for jobless men. Monthly Labor R 35:1066-70 N '32
- Land-conservation camp plan and the Tennessee River basin. S. T. Henry and I. Foos. il map Eng N 110:425-9 Ap 6 '33
- Ontario's highway-construction camps for unemployed. H. C. Hudson. Monthly Labor R 35:1071-3 N '32
- Work camps for America; the German experience and the American opportunity. O. Nichols and C. Glaser. 31p pa 25c Day '33

*Federal relief*

- Building large earth dams with C.C.C. labor; Winooksi River flood-control project in Vermont. il diags Eng N 111:551-6 N 9 '33
- Depression army moves to war. P. H. Hayward. Nation's Business 21:30+ Ag '33
- Educational work relief for jobless teachers. Monthly Labor R 37:810-11 O '33
- Federal act providing for relief of unemployment through reforestation. Monthly Labor R 36:1039-40 My '33
- Federal funds for medical care. Science 78: 275-6 S 29 '33
- Flow of funds through Washington. map Am Bankers Assn J 26:30-1+ O '33
- Forest army plans. Business Week p15 Ap 19 '33
- Happy valley; Roosevelt selects the Tennessee watershed for development as a federal project. il Business Week p16 F 15 '33
- How R.F.C. finances the construction of self liquidating public projects. Eng & Contr 71: 253-5 N '32
- International relations; an analysis of world events and their effect on the economic depression. F. I. Kent. Civil Eng 3:119-21 Mr '33
- Land-conservation camp plan and the Tennessee River basin. S. T. Henry and I. Foos. il map Eng N 110:425-9 Ap 6 '33
- Public works, ready to go. Business Week p7-8 My 31 '33
- Public works; re-employment program postpones decision on re-employment tax to finance it. Business Week p2 My 24 '33
- Regulations governing federal grants to self-help organizations. Monthly Labor R 37: 511-14, 807-9 S-O '33
- Relief from relief. M. Sullivan. il Am Bankers Assn J 25:11-13 My '33
- The remedy. H. C. Dickinson. S A E J 32:15-16 Ap '33
- Roosevelt relief. Business Week p7 Mr 29 '33
- Second forest army. Business Week p29 S 16 '33

- U. S. Forest service outlines its plans for emergency work. Eng N 110:420 Mr 30 '33
- Washington's drive against unemployment is many-sided. L. W. Moffett. Iron Age 131: 586 Ap 13 '33
- Work of Federal emergency relief administration. Monthly Labor R 37:802-6 O '33
- Work of the Emergency conservation corps. Science 78:86 Jl 28 '33
- Young men preferred for forest conservation work. R. Fechner. Eng N 110:511 Ap 20 '33

*See also*

- Public works—Federal loans

*Land settlement and gardens*

- Community programs for subsistence gardens. J. C. Colcord and M. Johnston. 74p pa 25c Russell Sage foundation, 130 E. 22d st, New York '33
- Cooperative farm plan of the B.F. Goodrich co. Monthly Labor R 36:771-4 Ap '33
- Forests, unemployment and settlement. E. Wilson. Pulp & Pa of Can 34:441-2+; Editorial comment. 437 Jl '33
- Grand Mère gardens relieved distress of unemployed. Pulp & Pa of Can 34:225-6 Mr '33
- Land settlement for unemployed. Monthly Labor R 37:834-41 O '33
- Land settlement in Germany in 1932. Monthly Labor R 37:834-6 O '33
- Putting city workers back on the farm. W. Bishop. il Nation's Business 21:16-17+ N '33
- Relief of unemployment through land colonization in Canada. Monthly Labor R 36: 1041-50 My '33

*Public works*

- Budgeting federal construction to stabilize employment. D. H. Sawyer. Eng N 110: 657-9 My 18 '33
- Building sewers in winter with city welfare labor; Duluth, Minn. Eng N 110:81 Ja 19 '33
- Champaign county relief committee creates useful work. J. E. Foster. il Concrete 41:5 Ag '33
- Difficult sewer tunnel built by welfare labor; emergency form of cost-plus-fixed-fee contract, Newton, Mass. W. P. Morse. il Eng N 110:376-7 Mr 23 '33
- Emergency work for unemployed in Germany. C. W. Gray. Monthly Labor R 35:1280-1 D '32
- Employment is essential for business recovery. W. Green. Eng N 110:611-12 My 18 '33
- Final report of English unemployment grants committee. Monthly Labor R 37:516-17 S '33
- Highways and unemployment. F. M. Feiker. Can Eng 64:24 F 7 '33
- How highway work in upper Michigan provides unemployment relief. J. T. Sharpsteen. Concrete 41:5-6 Ap '33
- Huge public works program covers wide variety of projects. Concrete 41:5 Je '33
- Low-cost roads and unemployment relief. R. B. Traver. il Pub Works 64:27-8 Ap '33
- Michigan's experience shows need for liberalization of relief act. J. P. Hallihan. Eng N 110:89-90 Ja 19 '33
- Minimum wage scale on relief work set by state highway departments. map Eng N 109:634 N 24 '32
- Next, public works. Business Week p4-5 My 10 '33
- Plan for public improvements at zero cost; modernization of mechanical equipment of public buildings. Power 77:510-11 O '33
- Public works and inflation. R. F. Kahn. Am Statis Assn J 28:sup168-73 Mr '33
- Public works as a cure for depression; how Mr J. M. Keynes would increase employment and prices. Index 13:85-9 My '33
- Public works program analyzed. Concrete 41: 3-4 Jl '33
- Public works, ready to go. Business Week p7-8 My 31 '33
- Public works; re-employment program postpones decision on re-employment tax to finance it. Business Week p2 My 24 '33

# UNEMPLOYMENT—Relief measures—Public works—*Continued*

- Richmond launches program of bridge construction; a public works plan for unemployment relief. S. C. Jemian. *il diags* Civil Eng 3:545-9 O '33
- Road work in western provinces. Can Eng 63:22 N 15 '32
- Sewers and water mains laid by relief labor in Oklahoma City; cost data. L. M. Bush. Eng N 110:832-3 Je 29 '33
- Some canal projects; abstract. W. Maughan. Engineering 136:368-9 S 29 '33
- Sound unemployment relief through highway improvement in Port Jervis. *il Pub Works* 64:14-15+ O '33
- Survey of needed construction. R. D. Kohn and others. Arch Forum 58:445-52 Je '33
- Topographic surveying as an aid to unemployment. C. H. Birdseye. Eng N 110:465-6 Ap 13 '33
- Unemployment relief road work in Onondaga county. *il Pub Works* 64:32-3 O '33
- Use of unemployed and relief undertakings on water works; a round table discussion. N. E. Water Works Assn J 47:200-6 Je '33; Abstract. Water Works & Sewerage 80:170 My '33
- The way out. M. L. Oliver. Architecture 67:247-52 My '33

## See also

- United States—Employment service

## Work spreading

- Adjusted length of work-week as cure for unemployment; S. Odenheimer, New Orleans manufacturer would make plan compulsory. T. E. Dabney. Concrete (mill sec) 41:44-5 Ja '33
- Boots pure drug co. meeting; Lord Trent suggests unemployment remedies. Chem Age (Lond) 28:553 Je 17 '33
- Effect of the shorter work day on public service companies. G. Soule. Pub Util 11:12-16 Ja 5 '33
- Half loaf better than none. R. P. Williams. System and Management Methods 62:404 S '33
- Job-sharing. H. M. Davis. Factory & Ind Management 84:35 Ja '33
- Job-sharing; 5 millions helped by work-spreading. Teagle committee estimates. Business Week p14+ F 1 '33
- Let's be sane about the five-day week; alternative suggestion. A. L. Deane. Forbes 31:15-16 Ap 15 '33
- Pennsylvania work-sharing plans. W. W. Atterbury. Ry Mech Eng 106:477 N '32
- Plans that shortened bread lines. R. Greenman. Nation's Business 21:50+ O '33
- Prompt action is necessary. C. Benedict. Mag of Wall St 51:657+ Ap 15 '33
- Revolution or jobs. T. E. Dabney. 251p \$1.50 Lincoln MacVeagh, Dial press, inc, 152 W. 13th st, New York '33
- Share-the-work movement. L. C. Walker. Ann Am Acad 165:13-19 Ja '33
- Spread work has drawbacks. C. S. Stevenson. System and Management Methods 62:314 Jl '33
- Spread work now, or the forgotten man won't stay forgotten. Forbes 30:4-5 D 1 '32
- Spreading employment in the paper industry. A. R. Randall-Jones. Pulp & Pa of Can 33:470-2+ D '32
- Thirty-hour week. Nat City Bank p74-6 My '33
- Thirty hours a week; Black bill. Business Week p4-5 Ap 19 '33
- See also
- Part-time employment

## Social aspects

- Economic depression and public health. Int Labour R 26:841-6 D '32
- Fall of the birth rate and its effects on social policy. L. Hersch. Int Labour R 28:153-67 Ag '33
- Growth and the economic depression; a study of the weight of elementary school children in 1921-27 and in 1933. C. E. Palmer. bibliog Pub Health Rep 48:1277-92 O 20 '33

Human aspects of unemployment and relief, with special reference to the effects of the depression on children. J. M. Williams. 235p Univ. of North Carolina press, Chapel Hill '33

Keeping up the morale of the English unemployed. Monthly Labor R 36:1050-6 My '33

Sickness and the economic depression. G. St. J. Perrott, S. D. Collins and E. Sydenstricker. Pub Health Rep 48:1251-64 O 13 '33

## Bibliography

Social aspects of the depression. C. Beal, comp. Russell Sage Foundation Library Bul 119:2-4 Je '33

## Statistics

- Census of unemployment. G. B. L. Arner. Am Statis Assn J 28:sup48-53 Mr '33
- Fifteenth census of the United States, 1930: unemployment, vol. 2, General report. 618p \$1.25 Supt. of doc. '32
- How many jobless? a re-check of all the available data indicates 15 millions. Business Week p19-20 Ja 18 '33
- Movements in the general level of unemployment and employment. Published in monthly numbers of International labour review
- Old age dependency; nation-wide survey of unemployment emphasizes virtues of thrift and weakness of pension system. D. B. Luten. Spectator 130:6-7+ Ap 13 '33
- Some recent censuses or estimates of unemployment. Int Labour R 28:46-61 Jl '33
- Unemployment in foreign countries from January, 1931, to date. Monthly Labor R 36:679-83 Mr '33 [cont monthly]

## Amsterdam, Netherlands

Care for young unemployed workers in Amsterdam. Monthly Labor R 36:499 Mr '33

## Argentina

Census of unemployment in Argentina in 1932. T. S. Cleveland. Monthly Labor R 36:78 Ja '33

## Australia

Technological unemployment in Australia. Int Labour R 28:213-15 Ag '33

## Austria

Unemployment insurance and relief in Austria during 1932. Monthly Labor R 37:36-7 Jl '33

## Buffalo, New York

Analysis of the Buffalo, N. Y. unemployment surveys, 1929 to 1932. F. E. Croxton. Monthly Labor R 36:282-94 F '33

Employment; model survey conducted in Buffalo, N. Y., has traced down-curve for 4 years. Business Week p13 D 21 '32

Unemployment in Buffalo, November, 1932. Monthly Labor R 36:77-8 Ja '33

## California

Abstract of hearings on unemployment before the California State unemployment commission. 244p California. State unemployment commission, San Francisco '32

California's state camps for jobless men. Monthly Labor R 35:1066-70 N '32

Report of California state unemployment commission. Monthly Labor R 36:498-9 Mr '33

## Canada

Canadian census of unemployment, 1931. Monthly Labor R 36:78-80 Ja '33

Road work in western provinces. Can Eng 63:22 N 15 '32

## See also

Agricultural colonization—Canada

## Cheyenne, Wyoming

Barter and exchange activities among unemployed in Cheyenne. Monthly Labor R 36:470-2 Mr '33

## Cleveland

Barter movement in Cleveland. Monthly Labor R 36:755-9 Ap '33



UNEMPLOYMENT—*Continued***Dayton, Ohio**

Cooperative production units, Dayton, Ohio. Monthly Labor R 36:480-5 Mr '33  
Dayton idea of self-help. R. Borsodi. Adv & Sell 20:15-16+ Mr 30 '33  
Dayton mutual exchange. Monthly Labor R 36:762-3 Ap '33

**Denver, Colorado**

Unemployed citizens' league of Denver. Monthly Labor R 36:461-9 Mr '33

**Germany**

Development of unemployment relief in Germany. O. Weigert. Int Labour R 28:168-91, 352-63 Ag-S '33  
Emergency work for unemployed in Germany. C. W. Gray. Monthly Labor R 35:1280-1 D '32  
Der Kampf gegen die Arbeitslosigkeit. A. Küster. Stahl & Eisen 53:779-81 JI 27 '33  
Labor service for young workers in Germany. Monthly Labor R 37:30-1 JI '33  
Land settlement in Germany in 1932. Monthly Labor R 37:834-6 O '33  
Provision of employment, Germany. Economist 116:73-4 Ja 14 '33  
Suburban settlements for unemployed in Stuttgart, Germany. S. Morris, Jr. Monthly Labor R 35:1278-80 D '32  
Unemployment figures and facts. Economist 117:365 Ag 19 '33  
Unemployment in Germany since the war. K. I. Wiggs. 216p P. S. King & son, Ltd, London '33  
Unemployment insurance and relief in Germany. 107p \$2 National industrial conference board, inc, New York '33  
Unemployment relief plans in Germany. C. W. Gray. Monthly Labor R 36:295-6 F '33  
Unemployment—work-sharing in the Ruhr. Economist 117:229 JI 29 '33  
Voluntary labor service in Schleswig-Holstein and Hamburg areas, Germany. J. E. Kehl. Monthly Labor R 35:1074-5 N '32

**Great Britain**

Employment conditions in Great Britain in 1932. Monthly Labor R 37:31-3 JI '33  
Final report of English unemployment grants committee. Monthly Labor R 37:516-17 S '33  
Keeping up the morale of the English unemployed. Monthly Labor R 36:1050-6 My '33  
Unemployment among English boys and girls. Monthly Labor R 35:1062-5 N '32  
Unemployment and the national accounts. Economist 117:808 O 28 '33  
Unemployment benefits and measures for occupying the unemployed in Great Britain. H. Fuss and D. C. Tait. Int Labour R 27:595-619 My '33  
Unemployment; its realities and problems; report of Engineering and allied employers' national federation. Engineer 156:120-2 Ag 4 '33; Engineering 136:119-20 Ag 4 '33

*See also*

Insurance, Unemployment—Great Britain

**Indianapolis, Indiana**

Self-help movement in Indianapolis. Monthly Labor R 36:1035-7 My '33

**Ireland**

Unemployment relief in the Irish Free State. Monthly Labor R 35:1075-6 N '32

**Italy**

Relief of unemployment through general land-reclamation activities in Italy. C. P. Kuykendall, T. Jaeckel and J. R. Putnam. Monthly Labor R 37:836-9 O '33

**Japan**

Unemployment in Japan, 1929-1932. Monthly Labor R 35:1282 D '32

**Los Angeles**

Self-help activities of unemployed in Los Angeles. Monthly Labor R 36:717-40 Ap '33

**Maryland**

People's unemployment league of Maryland. Monthly Labor R 36:1025-6 My '33

**Massachusetts**

Final report of the Special commission on stabilization of employment under chapter 64 of the Resolves of 1931. December 1932. 250p Massachusetts. Special commission on stabilization of employment, Boston '33  
Special report of the Department of labor and industries as to the causes of existing unemployment and remedies therefor. 104p Massachusetts. Dept. of labor and industries, Boston '31

**Michigan**

How highway work in upper Michigan provides unemployment relief. J. T. Sharpsteen. Concrete 41:5-6 Ap '33  
Michigan's experience shows need for liberalization of relief act. J. P. Hallihan. Eng N 110:89-90 Ja 19 '33

**Milwaukee**

Barter and exchange movement in Milwaukee, Wis. Monthly Labor R 36:979-88 My '33  
Status of applicants for work relief in Milwaukee. Monthly Labor R 35:1070-1 N '32

**Minneapolis, Minnesota**

Organized unemployed (inc.) Minneapolis. Monthly Labor R 36:741-54 Ap '33

**New Haven, Connecticut**

Unemployment in New Haven, May to June 1933. M. H. Hogg. Monthly Labor R 37:811 O '33

**New York (city)**

Emergency exchange association (inc.) New York city. Monthly Labor R 36:486-93 Mr '33  
Unemployment problems in New York area. M. R. Bhagwat. Chem & Met Eng 39:611 N '32

**New York (state)**

Emergency unemployment relief laws in the state of New York, 1931-1932. 202p New York (state) Attorney-general's office, Albany '32  
New York report on age as related to unemployment. Monthly Labor R 37:25-9 JI '33

**New Zealand**

Small land holdings for unemployed in New Zealand. Monthly Labor R 37:840-1 O '33

**Nyack, New York**

Nyack, trading post. Monthly Labor R 36:494 Mr '33

**Ohio**

Midwest exchange, Ohio. Monthly Labor R 36:473-9 Mr '33

**Oklahoma City**

Barter movement, Oklahoma City. Monthly Labor R 36:764-6 Ap '33

**Ontario**

Ontario's highway-construction camps for unemployed. H. C. Hudson. Monthly Labor R 35:1071-3 N '32  
Unemployment and relief in Ontario, 1929-1932. H. M. Cassidy. 290p J. M. Dent & sons, Ltd, Toronto '32

**Palestine**

Unemployment in Palestine since 1926. H. G. Minnigerode. Monthly Labor R 35:1281-2 D '32

**Pennsylvania**

Report of committee on unemployment reserves, Pennsylvania. Monthly Labor R 37:277-8 Ag '33

**Philadelphia**

Conditions in families of the unemployed in Philadelphia, May, 1932. Monthly Labor R 36:774-8 Ap '33

**UNEMPLOYMENT—Philadelphia—Continued**

Ten thousand out of work. E. Clague and W. Powell. 188p \$2 Univ. of Pennsylvania press, Philadelphia '33; Summary. Monthly Labor R 37:273-7 Ag '33

Unemployed citizens league of Philadelphia. Monthly Labor R 36:495 Mr '33

Unemployment in Philadelphia, April 1, 1933. Monthly Labor R 36:1242-3 Je '33

**Philippine Islands**

Unemployment in the Philippine Islands, 1931. Monthly Labor R 35:1058 N '32

**Poland**

Enquiry into the life of unemployed workers in Poland. J. Rosner. Int Labour R 27:378-92 Mr '33

Unemployment relief fund in Poland. C. W. Perkins. Monthly Labor R 35:1076 N '32

**Richmond, Virginia**

Citizens' service exchange, Richmond, Va. Monthly Labor R 36:1027-31 My '33

**San Francisco Bay district**

Self-help among unemployed of San Francisco Bay district. Monthly Labor R 36:1002-14 My '33

**Seattle, Washington**

Cooperative self-help activities among unemployed in Seattle. Monthly Labor R 36:1015-21 My '33

**South Africa**

Report of South African unemployment investigation committee. Monthly Labor R 36:778-9 Ap '33

**Sweden**

Unemployment in Sweden after the war. A. Johansson. Int Labour R 26:617-43 N '32

**United States**

Seeds of revolt; a study of American life and the temper of the American people during the depression. M. A. Hallgren. 369p Knopf '33

**Utah**

Barter and exchange movement in Utah. Monthly Labor R 36:451-60 Mr '33

**Washington (state)**

Right of legislature to appropriate money for unemployment relief; decision of Supreme court of Washington. Monthly Labor R 37:514-15 S '33

**Waterloo, Iowa**

Unemployed relief club, Waterloo, Iowa. Monthly Labor R 36:989-99 My '33

**Wisconsin**

Unemployment relief in Wisconsin, 1932-1933. 33p Wisconsin industrial commission, Madison '33

Wisconsin idea; unemployment reserves. P. A. Raushenbush. Ann Am Acad 170:65-75 N '33

**UNEMPLOYMENT benefit plans**

Aiding the worker in depression; what American industry has done for its employees. Bradstreet's 61:195-6 Ja 28 '33

American plan for unemployment reserve funds; with revised draft of an act. 19p American assn. for labor legislation, 131 E. 23d st, New York '33; Abstract. Management R 22:278 S '33

American voluntary attempts at unemployment benefits. B. M. Stewart. Ann Am Acad 170:53-64 N '33

Can you afford to care for your workers? B. E. Schlesinger. Factory & Ind Management 83:451-3 D '32

Chamber reports on unemployment plans. Ins Field (Fire ed) 62:10 Ap 13 '33

Dismissal pay; Connecticut commission offers a sample plan for unemployment relief. Business Week p11-12 D 28 '32

Essentials of a program of unemployment reserves. 68p National industrial conference board, inc, 247 Park av, New York '33

Facts about the coming flood of unemployment legislation. H. F. Merrill. plan Forbes 30:10-11 D 1 '32

Making booms bear the burden of relief; some financial implications of unemployment reserves. S. H. Slichter. Harvard Business R 11:327-35 Ap '33

New plan for unemployment reserves, based on Minnesota employment data. A. H. Hansen and M. G. Murray. 75p \$1; pa 50c Univ. of Minnesota press, Minneapolis '33

Next labor offensive. Fortune 7:61, 92, 94 Ja '33

Operation of unemployment-benefit plans in the United States during 1931 and 1932. Monthly Labor R 35:1225-51; 36:11-31 D '32-Ja '33

Problem of economic balance. S. H. Slichter. Mech Eng 55:99-100 F '33

Prospects for unemployment compensation laws. J. B. Andrews. Ann Am Acad 170:88-92 N '33

Recommendation for system of compulsory unemployment reserves in Massachusetts. Monthly Labor R 36:280-2 F '33

Report of Connecticut unemployment commission on establishing dismissal wages. Monthly Labor R 36:279-80 F '33

Supplementary unemployment insurance and pension schemes in English industry. Monthly Labor R 35:1299-1301 D '32

Unemployment benefit plans. 14p National metal trades assn, Chicago '32

Unemployment benefits and measures for occupying the unemployed in Great Britain. H. Fuss and D. C. Tait. Int Labour R 27:595-619 My '33

Unemployment reserve laws—a coming development in social legislation. J. Geschelin. Automotive Ind 69:275-8 S 2 '33

Unemployment reserves; an analysis of their effects on the stabilization of employment. J. W. Hook. Il Mech Eng 55:422-6 Jl '33

Unemployment situation; abstract. F. S. Baldwin. Iron Age 130:806+N 24 '32

Wisconsin idea; unemployment reserves. P. A. Raushenbush. Ann Am Acad 170:65-75 N '33

**See also**

Insurance, Unemployment

UNEMPLOYMENT insurance. See Insurance, Unemployment

**UNEMPLOYMENT surveys**

Analysis of the Buffalo, N.Y. unemployment surveys, 1929 to 1932. F. E. Croxton. Monthly Labor R 36:282-94 F '33

Employment; model survey conducted in Buffalo, N. Y., has traced down-curve for 4 years. Business Week p13 D 21 '32

Facts about the unemployed; Pennsylvania employment commission findings. W. S. Dutton. Nation's Business 21:44-5+ Jl '33

Unemployment in Buffalo, N. Y. November, 1932. Monthly Labor R 36:77-8 Ja '33

UNFAIR competition. See Competition, Unfair

**UNIFORMS**

What experience teaches about uniforms. F. K. Lawler. Il Food Ind 4:399-401 D '32

**UNILEVER companies**

Lever and Unilever. Economist 116:817-18 Ap 15 '33

Multiple shops. Economist 116:593 Mr 18 '33

Unilever finance. Economist 116:867-8 Ap 22 '33

**UNION bag and paper corporation**

Financial report for 1932. Paper Tr J 96:19 Ap 6 '33

**UNION carbide and carbon corporation**

New chemicals aid Union Carbide. Econostat 1:12 Ap 8 '33

Selected stocks to buy for future profit and protection. Mag of Wall St 52:28 Ap 29 '33

Speculative audit; favorable and unfavorable factors affecting common-stock values. Barron's 13:14 Jl 24 '33

UNION catalogs. See Cataloging, Cooperative

UNION Central life insurance company

Report. East Underw 34:19 F 3 '33



- UNION club, New York city**  
 Union: mother of clubs. *il* Fortune 6:44-7, 100, 103 D '32
- UNION corporation**  
 Ordinary general meeting, Johannesburg. Economist 116:1264-5 Je 10 '33
- UNION discount company of London, limited**  
 Ordinary general meeting, 75th, London. Economist 116:148 Ja 21 '33
- UNION freight terminal, New York. See** Terminals
- UNION guardian trust company**  
 Michigan's grim holiday; Governor closes banks for 8 days. Business Week p5 F 22 '33
- UNION indemnity company**  
 Goes into receivership. East Underw 34:30+ Ja 13 '33; *Ins Field* (Fire ed) 62:7-8+ Ja 12 '33; *Spectator* 130:33+ Ja 12 '33; *Weekly Underw* 128:130+ Ja 14 '33  
 Labor of three fine men was all in vain; toiled and died trying to build Union Indemnity. *Weekly Underw* 128:172-3 Ja 21 '33  
 Union failure. Nat Underw 37:25-6+ Ja 12; 27+ Ja 19; 31+ Ja 26 '33
- UNION national life insurance company, Dayton, Ohio**  
 Now taken over by Lincoln National Life. Nat Underw (Life ed) 37:3+ Je 23 '33
- UNION Pacific railroad**  
 Annual report, 36th, year ended Dec. 31, 1932. Ry Age 94:646-9 Ap 29 '33  
 Inseparable, the Union Pacific and the West. *il* map Ry Age 93:sup137-40 D 3 '32  
 Investment income sustains Union Pacific. D. Hovey. *il* map Barron's 13:6-7+ My 15 '33  
 Union Pacific earns \$7.49. Econostat 1:11+ My 6 '33  
 Union Pacific in 1932. Ry Age 94:672-3 My 6 '33
- UNIT heaters. See** Heaters
- UNITED Africa company**  
 Report of five months from May 1, 1932, to September 30, 1932. Economist 116:919 Ap 29 '33  
 United Africa. Economist 115:894 N 12 '32
- UNITED aircraft and transport corporation**  
 United Aircraft rides the storm. Econostat 1:12+ Ap 22 '33
- UNITED container association**  
 Explains relation to Paperboard Industries association. F. J. Kress. Paper Tr J 96:25 Ja 19 '33  
 First anniversary meeting, New York, Nov. 15-16. Paper Tr J 95:41-2 D 15 '32
- UNITED corporation**  
 Low price stocks that can be purchased now for later appreciation. Mag of Wall St 51:217 D 10 '32  
 Portfolio. Barron's 13:14 Ja 23 '33
- UNITED drug company**  
 Attractive low-priced speculations. Mag of Wall St 53:31 O 28 '33
- UNITED electric coal companies**  
 Interesting possibilities under the National recovery act. R. P. Cooke. *il* Barron's 13:8 Ag 14 '33
- UNITED engineering trustees, incorporated**  
 Annual report, 1932. Elec Eng 52:209 Mr '33
- UNITED fruit company**  
 Improves position. Barron's 13:13 Mr 20 '33  
 Looks to summer months. Barron's 13:16 F 27 '33  
 Maintains \$2 dividend. Barron's 12:14 N 28 '32  
 Sam Zemurray; he likes subordinates hard-boiled. G. H. Allen. Forbes 32:11-12+ S 15 '33  
 Samuel Zemurray's United Fruit; drastic reorganization averts a deficit and improves outlook. Econostat 1:14-15 O 14 '33  
 Selected stocks to buy for future profit and protection. Mag of Wall St 52:76 My 13 '33  
 Speculative audit; favorable and unfavorable factors affecting common-stock values. Barron's 13:12 Je 12 '33  
 United fruit company. *il* map Fortune 7:24-30+, 31-8, 120, 122-7 Mr '33
- UNITED gas corporation**  
 Annual report, 1932. Gas Age 71:529 My 20 '33  
 United Gas earnings lower. Econostat 1:13+ My 20 '33
- UNITED gas improvement company**  
 Output increases. Econostat 1:14-15+ Ag 26 '33  
 Should benefit from business improvement. J. C. Clifford. Mag of Wall St 52:328+ Jl 22 '33
- UNITED glass bottle manufacturers, limited**  
 Ordinary general meeting, 20th. Economist 116:607 Mr 18 '33
- UNITED KINGDOM temperance and general provident institution**  
 Annual meeting, London. Economist 116:827-8 Ap 15 '33
- UNITED light and power company**  
 United Light's exciting history. Econostat 1:13, 32 O 28 '33
- UNITED medical service, Inc.**  
 Advertise medical services. Ptr Ink 162:64 F 16 '33
- UNITED medicine manufacturers of America**  
 Annual convention, Chicago, Sept. 11-13. Oil Paint & Drug Rep 124:15+ S 18 '33
- UNITED mine workers of America**  
 United mine workers presses organization; wage increases spread in East. Coal Age 38:249 Jl '33
- UNITED molasses company**  
 Profit and loss account. Economist 116:818 Ap 15 '33
- UNITED press**  
 United press. S. V. Benét. *il* Fortune 7:67-72+ My '33
- UNITED shoe machinery corporation**  
 But business is always good. *il* Fortune 8:34-41, 110-13 S '33
- UNITED STATES**  
*See also*  
 Electric plants (central stations)—United States  
 Electric railroads—United States  
 Hydroelectric plants—United States  
 Railroads—United States  
 Roads—United States  
 Waterways—United States  
 Agriculture, Department of  
 Agricultural appropriation bill and Representative LaGuardia. Science 77:sup8 Ja 13 '33  
 Financial situation of the Department of agriculture. Science 78:140 Ag 18 '33  
 Limitation of cash withdrawals for the Department of agriculture for 1934. Science 78:328-9 O 13 '33  
 Reduced funds for the Department of agriculture. Science 78:86 Jl 28 '33  
 \$250,000 potato. Ptr Ink 162:59-60 F 16 '33  
 When cabbage has the yellows; work of United States Department of agriculture, Division of horticultural crops and diseases. T. S. Harding. *il* Sci Am 148:135-7 Mr '33  
 Air service  
 Aviation in the federal budget. Aviation 32:15-16 Ja '33  
 Air service, Navy  
 Retain Admiral Moffett. F. A. Tichenor. Aero Digest 22:15+ F '33  
 Antiquities  
 Early man in America. E. B. Howard. Science 78:sup7-8 Ag 18 '33  
 Appropriations and expenditures  
 Curtailment of scientific work under the government. Science 77:600 Je 23 '33  
 Limitation of cash withdrawals for the Department of agriculture for 1934. Science 78:328-9 O 13 '33  
*See also*  
 Budget—United States  
 Government expenditures  
 Army  
 Better army would cost less. H. J. Reilly. *il* Nation's Business 21:31-4 Mr '33

## UNITED STATES—Continued

## Assay office, New York

\$500,000,000 a year production at new U.S. assay office. J. P. Hickman, jr. *il Am Bankers Assn J* 25:38 Ja '33  
 Uncle Sam's gold warehouse; new assay office in New York. *il Metal Ind* 31:210-11 Je '33

## Biography

American men of science; a biographical directory. J. M. Cattell and J. Cattell, eds. 5th ed 1278p \$12 Science press, New York '33

## Biological survey, Bureau of

Retirement of investigators. *Science* 78:96-7 Ag 4 '33

## Cabinet

Serviceable Cabinet. *Business Week* p7-8 Mr 8 '33

## Capitol

New ventilation systems of the Senate and House chambers of the Capitol, Washington, D.C. L. Greenburg and J. J. Bloomfield. *diag Pub Health Rep* 48:138-51 F 10 '33

## Central statistical board

Central statistical board completes personnel. *Iron Age* 132:34 O 5 '33

## Chemical warfare service

Peacetime activities of the Chemical warfare service. R. E. Sadler. *il Chem Ind* 33:301-5 O '33

Turning war gases to useful purposes. C. Moran. *il Comp Air M* 38:4199-201 Ag '33

## Chemistry and soils, Bureau of

Agricultural chemist helps industry. H. G. Knight. *Bradstreet's* 61:226+ Ja 28 '33  
 Chemists concentrate research in crops. H. G. Knight. *Chemicals* 37:9 N 28 '32

## Civilization

America in search of culture. W. A. Orton. 310p \$3 Little '33  
 Engineer and the new deal. W. E. Wickenden. *Elec Eng* 52:597-600 S '33  
 Revolution without revolt. C. Benedict. *Mag of Wall St* 51:369+ Ja 21 '33  
 Rise of American civilization. C. A. Beard and M. R. Beard. 2v in 1 rev & enl 865p \$3.50 Macmillan '33  
 Scene changes; the path diverges! R. E. Sherman. *Comm & Fin* 22:658 Jl 26 '33  
 This ugly civilization. R. Borsodi. new ed 468p \$3 Harper '33

What the machine is doing to mankind. J. S. Thomas. *J Fr Inst* 215:247-72 Mr '33; *Abstract. Nation's Business* 21:21-3+ Ja '33

## Coast and geodetic survey

Coast and geodetic survey work under the National recovery act. R. S. Patton. *Eng N* 111:293 S 7 '33  
 Coast-survey work in Oregon. R. S. Patton. *Eng N* 110:256 F 23 '33  
 U.S. coast and geodetic survey; views of its activities. *il diag Eng N* 110:73-7 Ja 19 '33

## Coast guard

New shipbuilding program. *Marine R* 63:25 O '33  
 Watchmen of our coast line. R. Ridgely, jr. *il Sci Am* 148:216-18 Ap '33

## Commerce

Anglo-American trade. *Economist* 116:393-6 F 25 '33  
 Attacking the tariff problem. E. T. Clough. *Barron's* 13:3+ Ja 30 '33  
 Balance of international payments of the United States in 1932 (including summary tables, 1919-32). A. E. Taylor. *U S Bur For & Dom Com Trade Information Bul* 814:1-82 '33; *Abstract. Economist* 117:8-9 Jl 1 '33  
 Declining position of U.S. foreign trade in a shrinking world total. W. W. Case. *Annalist* 41:76+ Ja 20 '33

Does the tail wag the dog? an appraisal of foreign trade in relation to business recovery. G. L. Lacher. *Iron Age* 131:385-6+ Mr 9 '33

Economic analysis of foreign trade of the United States in relation to the tariff. 3v U.S. Tariff commission, Washington '33  
 Engineers and economic reconstruction. H. Arnstein. *Prof Eng* 18:7-10 Ja '33

Exports and imports. Published in monthly numbers of Survey of current business  
 Foreign trade and foreign capital issues. *Bradstreet's* 61:160-1 Ja 28 '33

Foreign trade of the United States in the calendar year 1932. G. A. Witherow. *U S Bur For & Dom Com Trade Promotion Ser* 151:1-131 '33

Merchandise exports and imports. Published in monthly numbers of Federal reserve bulletin

National ideals and internationalist idols. W. B. Donham. *Harvard Business R* 11:389-408 pt 2 Ap '33

Our stake in foreign trade. J. S. Lawrence. *il Burroughs Clearing House* 17:6-8+ Je '33  
 Stake of American agriculture in the World economic conference. W. W. Case. *Annalist* 41:725 My 26 '33

This mirage, foreign trade. G. E. Anderson. *il Am Bankers Assn J* 25:22-3+ Mr '33

United States foreign trade continues to shrink; the details for December. W. W. Case. *Annalist* 41:294-5 F 24 '33 [cont monthly]

What and where we buy—and sell; charts *Business Week* p26-7 F 22 '33

## See also

Aeronautics, Commercial—United States	Paper industry and trade—United States
Automobile industry and trade—United States	Rubber industry and trade—United States
Chemical industries—United States	Shipping—United States
Cotton trade—United States	Tariff—United States
Dye industry—United States	Terminals
Export trade	Textile industry—United States
Imports	United States—Industries and resources
Interstate commerce	Wool trade—United States
Interstate commerce commission	
Merchant marine—United States	
also Chamber of commerce of the United States	

## Commerce, Department of

Business editors ask government to maintain statistical service. *Sales Management* 32: 529 My 15 '33  
 Commerce deflation a difficult task. *Business Week* p3-4 Ap 19 '33  
 Commerce department curtailment proceeds. *Oil Paint & Drug Rep* 124:15+ Jl 3; 16 Jl 10; 19 Jl 17 '33  
 Economy juggling. *Business Week* p21 Jl 15 '33

## Aeronautics branch

Airway engineering in the federal government. *il Eng N* 110:309-11 Mr 9 '33  
 Reorganization in Dept. of commerce and a new plan of operation. R. Martin. *Aero Digest* 23:13+ S '33

## Business advisory and planning council

Commerce department advisory body named. *Oil Paint & Drug Rep* 123:16+ Je 26 '33  
 First meeting of the executive committee. *Iron Age* 132:32 Jl 27 '33  
 Personnel of Commerce advisory and planning council. *Iron Age* 132:26F Jl 20 '33

## Commercial policy

America chooses nationalism; new problems confront us if we pursue this policy. W. P. Black. *Barron's* 13:18-19 Jl 31 '33  
 America self-contained. S. Crowther. 340p Doubleday '33



UNITED STATES—Commercial policy—*Cont.*

- Brazil may be first, if future trade is going to be on an eye-for-an-eye basis. *Business Week* p23-4 Je 7 '33
- Dream of recapturing a forty-billion-dollar market; trend toward self-sufficient national economic unity. J. C. Cresswill. *il Mag of Wall St* 52:62-3+ My 13 '33
- Events turn United States toward a more strongly defensive trade policy. L. D. Edie. *Iron Age* 131:205 F 2 '33
- Internationalism vs. nationalism. E. H. Hooker. *Oil Paint & Drug Rep* 123:34+ Je 5 '33
- Isolation's effect on America. J. S. Lawrence. *Econostat* 1:8-10+ Jl 15 '33
- Let's face the facts about foreign trade. J. D. Mooney. *Forbes* 31:7-9 Ja 15 '33
- Markets in Latin America. *Business Week* p27 Jl 22 '33
- Squaring the circle of the international account. A. E. Taylor. *Harvard Business R* 11:261-9 Ap '33
- Three problems of national business recovery. G. Frank. *il Credit & Fin Management* 35:10-12, 36+ S '33
- U.S.; a self-contained nation? *Fortune* 7:49-51+ Mr '33
- We need foreign trade, too. J. A. Farrell. *Nation's Business* 21:13-15 S '33

*See also*

## Tariff—United States

## Congress

- Attitude of the new Congress toward the utilities. H. Brayman. *Pub Util* 11:139-48 F 2 '33
- Congress. F. R. Kent. *il Am Bankers Assn J* 25:11-13+ Mr '33
- Congress—next session. *Business Week* p22-3 O 14 '33
- Economy in Congress; annual reports of the Senate and House. *Comm & Fin* 22:126 F 1 '33
- How the horse died; some extracts from a House debate. *Ptr Ink* 162:36-7 Mr 9 '33
- Men who make our laws. R. Tucker. *Ann Am Acad* 169:47-54 S '33
- Washington epic; Congressionale. M. Sullivan. *il Am Bankers Assn J* 26:18-21 N '33

*See also*

## Lobbying

## Constitution

- Constitutions and democracy. F. R. Black. *Ann Am Acad* 169:1-11 S '33

## Constitutional law

- National recovery act in the Supreme court; argument against the constitutionality of the Act. J. M. Beck. *Fortune* 8:48-9+ N '33

## Defenses

- Merchant marine and national defense. H. I. Cone. *Marine Eng* 38:183-4 My '33
- Navy is national insurance. W. V. Pratt. *il Am Bankers Assn J* 25:28-9, 48 Mr '33

## Economic conditions

- Advertising; a factor of supreme social importance. R. Babson. *Ptr Ink* 164:92-4 S 14 '33
- America self-contained. S. Crowther. 340p Doubleday '33
- Consumer psychology in the three Americas. W. B. Pitkin. *il Adv & Sell* 21:20+ My 25 '33
- Crisis of capitalism in America. M. J. Bonn. 232p John Day co, New York '32
- Economic and social effects of urbanization. A. L. Pollard. *Mech Eng* 55:27-31+ Ja '33
- Economic development of the United States. I. Lippincott. 3d ed 734p \$4 Appleton '33
- Economic tendencies in the United States; aspects of pre-war and post-war changes. F. C. Mills. 639p \$5 National bur. of economic research, New York '32
- Industrial economics in America. W. G. L. Cass. *Engineer* 154:476-7 N 11 '32
- New year opens in midst of major debt adjustments. L. D. Edie. *Iron Age* 131:25-6+ Ja 5 '33

- 1933; forecasts. *il Am Bankers Assn J* 25:18-19+ Ja '33
- Recent social trends in the United States; report of the President's research committee on social trends. 2v \$10 McGraw-Hill '33
- Rise in commodity values is essential to prosperity. C. L. Perry. *Steel* 91:7-9 D 26 '32
- Seeds of revolt; a study of American life and the temper of the American people during the depression. M. A. Hallgren. 369p Knopf '33
- Social effects of mass production. D. S. Kimball. *il Mech Eng* 55:83-9 F '33; Same. *Science* 77:1-7 Ja 6 '33
- United States in 1932. *Economist* 116:sup30-1 F 18 '33
- Volume of indebtedness in the United States in relation to economic recovery. R. P. Falkner. *Management R* 22:195-204 Jl '33
- Way out. U. Sinclair. 108p \$1 Farrar & Rinehart, inc, New York '33
- What the machine has done to us. W. S. Giele. *Iron Age* 131:187-91+, 264-9 F 2, 16 '33
- Years of the locust (America, 1929-1932). G. Selde. 355p \$3 Little, Brown, and co, Boston '33

*See also*

Banks and banking—  
United States  
Business conditions  
Business depression  
Cost of living—  
United States  
Finance—United States

Labor and laboring  
classes—United States  
Money—United States  
Unemployment  
Wages—United States

## Economic history

- Economic development of the United States. I. Lippincott. 3d ed 734p \$4 Appleton '33

## Economic policy

- Academic view of the deal; college teachers of economics are waiting for the experiment to prove itself. *il Am Bankers Assn J* 26:28-9+ N '33
- Administration's recovery program: progress report. *Business Week* p6-7 Ap 26; 10-11 Je 7 '33
- America swings to the left. A. Lee. 186p \$1.50 Dodd '33
- American planning in the words of its promoters. H. Haan. 51p Am. acad. of pol. and soc. sci. '32
- American recovery programme. *Economist* 117:482-3, 526-7 S 9-16 '33
- America's economic experiment. H. Withers. *Barron's* 13:19 Ag 28 '33
- Appraisal of the revolution. M. Sullivan. *Am Bankers Assn J* 26:11-12+ Jl '33
- As others see our great experiment; quotations from the Statist and the Economist. *Bankers M* 127:273-4+ S '33
- Brain trust; Roosevelt's classroom cabinet of economists. *Business Week* p16-17+ Mr 22 '33
- Business and financial conditions. *Guaranty Survey* 13:1-8 Ap '33
- Business' cards in the new deal. M. Edwards. *il Nation's Business* 21:13-15 My '33
- Business traffic signals provided by the National industrial recovery act. A. P. Haake. *Credit & Fin Management* 35:14-15+ Ag '33
- Control from the top. F. Neilson. 190p \$1.50 Putnam '33
- Controlling corporations; the new part being played by the government in business. A. A. Berle, jr. *Barron's* 13:11+ My 22 '33
- La crise américaine et l'Europe. J. H. Lucas. *Chimie & Ind* 29:1218-21 My '33
- Economic reconstruction legislation of 1933. 214p National industrial conference board, inc, New York '33
- Europe looks askance; politicians and bankers abroad dare not think Roosevelt program can succeed. C. R. Hargrove. *Barron's* 13:6 Ag 21 '33
- Extraordinary powers for the President. *Mag of Wall St* 51:568 Mr 18 '33
- Extraordinary session. S. Bell. *Comm & Fin* 22:536-7 Je 21 '33

**UNITED STATES—Economic policy—Continued**

- Financial foreign policy of the United States. J. W. Angell. 146p [bibliog p137-41] Council on foreign relations. New York '33
- Forecasting the new government money policy. T. M. Knappen. Mag of Wall St 51: 516-18+ Mr 4 '33
- Getting behind the recovery program. C. H. McCall. Credit & Fin Management 35:6-9+ S '33
- Give President Roosevelt a chance. C. Benedict. Mag of Wall St 53:59+ N 11 '33
- Gold embargo and other administration measures. Nat City Bank p67-71 My '33
- Gold standard and the administration's general economic programme. B. M. Anderson, jr. Chase Econ Bul 13:3-21 My 6 '33
- Government swings to the right; heavy industries must be stimulated. J. C. Cresswill. Mag of Wall St 53:12+ O 28 '33
- Is it a crazy adventure? F. W. Parsons. Adv & Sell 21:3+ Jl 20 '33
- Let us get together. G. Marples. Comm & Fin 22:908 O 18 '33
- Letter indicating British views on America's recovery campaign. T. F. Woodlock. Barron's 13:12 Ag 28; 12 S 4 '33
- Looking forward. F. D. Roosevelt. 279p \$2.50 Day '33
- Loose talk—the worst enemy. F. W. Parsons. Adv & Sell 21:3+ S 14 '33
- Main features of government policy. Guaranty Survey 13:4-7 Je '33
- Middle road to recovery. F. H. Sisson. Am Bankers Assn J 25:27 Je '33
- Mr Roosevelt's legislation. Economist 116:1009-11 My 13 '33
- Mobilization orders; disciplined upturn for industry planned. Business Week p4 Ap 26 '33
- National ideals and internationalist idols. W. B. Donham. Harvard Business R 11:389-408 pt 2 Ap '33
- New administration. M. Sullivan. Am Bankers Assn J 25:14-16 Mr '33
- New deal organization chart. Spectator 131: 11 S 21 '33
- New era is dead—long live the new deal. A. M. Lamport. Bankers M 126:545-8 Je '33
- New partnership of government and business. T. M. Knappen. Mag of Wall St 52:106-8+ My 27 '33
- Paradoxes of recovery policies. Econostat 1:5-7 N 4 '33
- Planners' comedy of errors; a half-year's record of achievements not wanted. S. Axley. Barron's 13:3+ O 16 '33
- Primer of "new deal" economics. J. G. Frederick. 322p The Business bourse, New York '33
- Profit motives condemned; two members of the "brain trust" discuss the administration's economic philosophy. R. G. Tugwell; A. A. Berle, jr. Barron's 13:8 N 6 '33
- Program for tomorrow. E. H. Hooker. Chem Markets 32:515-16 Je '33
- Psychology and the new deal; recovery strategy calls for encouragement to capital. J. S. Lawrence. Econostat 1:8-10 S 9 '33
- Reconstruction—a new era. J. S. Lawrence. Burroughs Clearing House 17:3-5+ My '33
- Recovery program. Business Week p16+ D 7 '32
- Recovery: the next effort. Business Week p1-3 Ap 19 '33
- Re-examining the new deal. S. Bell. Comm & Fin 22:969-70 N 8 '33
- Revival insurance; the Kent plan would empower the R.F.C. to guarantee markets. Business Week p4-5 Ja 18 '33
- Right and left in Washington. G. E. Anderson. Il Am Bankers Assn J 25:18-19+ My '33
- Roosevelt faces test; criticism of the administration policies and acts becomes vigorous. Business Week p5-11 N 11 '33
- Roosevelt program. C. Rodgers. 275p \$2 Putnam '33
- Roosevelt's greatest service. Barron's 13:5 N 13 '33
- Socialization creeps upon us. T. M. Knappen. Il Mag of Wall St 53:10-11+ O 28 '33
- Sowing the wind. Economist 117:113-14 Jl 15 '33

- Summary of administration recovery measures and their probable cost. H. E. Hansen. Annalist 42:504-5 O 20 '33
- Synopsis of new deal legislation; an outline of the controls and organizations set up since March. H. E. Dougall. Barron's 13:3+ N 13 '33
- Technocracy—national industrial management. W. H. Smyth. Factory & Ind Management 8:44-8 F '33
- Three problems of national business recovery. G. Frank. Il Credit & Fin Management 35: 10-12, 36+ S '33
- Ultimate consumer is ordered into the breach. T. M. Knappen. Mag of Wall St 52:566-8+ S 30 '33
- Wage policy and reflation. Ohlin. Economist 117:315-16 Ag 12 '33
- Wanted—a philosophy. G. C. Cox. Barron's 13:11 S 11 '33
- Washington epic; Congressionale. M. Sullivan. Il Am Bankers Assn J 26:18-21 N '33
- Watching Washington. F. Shelton. Nation's Business 21:20+ Ag; 17-19+ S; 17-19 O; 19-21 N '33
- We go alone. T. F. Woodlock. Comm & Fin 22:670 Ag 2 '33
- What Congress did; recovery legislation. Business Week p10-11 Je 17 '33
- What Mr. Roosevelt has in mind. M. Sullivan. Am Bankers Assn J 26:19-20+ S '33
- What the Roosevelt program will do for business. T. M. Knappen. Il Mag of Wall St 51:663-5+ Ap 15 '33
- When nations talk business. J. Couzens. Il Nation's Business 21:13-15 Ag '33
- Why canal boat prosperity today? C. B. Kuhlmann. Il Credit & Fin Management 35:10-12+ N '33
- Would U.S. recovery plan work here? A. R. Randall-Jones. Pulp & Pa of Can 34:491-3 Ag '33

**See also**

- |  |                                    |
|--|------------------------------------|
| Agriculture—United States—Farm relief  | National recovery administration   |
| Economic policy                        | Reconstruction finance corporation |
| National industrial recovery act, 1933 |                                    |

**Employment service**

- Federal act creating national employment service; with text. Monthly Labor R 37:87-91 Jl '33
- National reemployment service. Monthly Labor R 37:800-2 O '33

**Entomology, Bureau of**

- Incoming and retiring chiefs of the Bureau of entomology. Science 78:305 O 6 '33

**Executive departments**

- Alcohol and narcotics control change sought. Oil Paint & Drug Rep 123:15, 34; Editorial comment. 13 Ap 10 '33
- Brain trust; Roosevelt's classroom cabinet of economists. Business Week p16-17+ Mr 22 '33
- By appointment; NIRA, RFC, AAA, CCC, HOLC, TVA, FERA, FCT, PWA. Am Bankers Assn J 26:28, 44-6 Ag '33
- Getting behind the recovery program. C. H. McCall. pors Credit & Fin Management 35: 6-9+ S '33
- Public works in the federal service. H. L. Ickes. Il Eng N 110:613-17 My 18 '33
- Reductions in the federal budget for scientific work. Science 76:561 D 16 '32
- Reorganization of federal scientific bureaus. Science 76:560 D 16 '32
- Wonder boys in Washington. pors Fortune 8:19-23+ Jl '33

**Bibliography**

- Government publications showing the work of the government. U S Office of Educ Circ 78:1-7 '33

**Federal power commission**

See Federal power commission

**Federal statistics board**

See United States—Central statistical board



UNITED STATES—*Continued*Foreign and domestic commerce,  
Bureau of

- Leather-rubber-shoe division amalgamation.  
Rubber Age 33:267 S '33  
Thorpe heads Commerce bureau; exit peanuts  
and angieworms. por Sales Management 33:  
170 Ag 15 '33  
Uncle Sam's helping hand to business; Bu-  
reau of foreign and domestic commerce. W.  
L. Thorpe. Credit & Fin Management 35:6-  
7+ N '33

## Foreign population

- Fifteenth census of the United States: 1930;  
age of the foreign-born white population by  
country of birth. 77p U. S. Bur. of the  
census, Washington '33  
Fifteenth census of the United States: 1930;  
population; special report on foreign-born  
white families by country of birth of head.  
217p U. S. Bur. of the census, Washington  
'33

*See also*

- Mexicans in the  
United States

## Foreign relations

- American policy in the Pacific. E. M. Patter-  
son, ed. Ann Am Acad 168:1-165 Jl '33  
Can America stay at home? F. H. Simonds.  
377p \$3 Harper '32  
Financial foreign policy of the United States.  
J. W. Angell. 146p [bibliog p137-41] Coun-  
cil on foreign relations, New York '33  
History of the foreign policy of the United  
States. R. L. Jones. 536p \$3.50 Putnam '33  
United States in world affairs. W. Lippmann.  
355p [bibliog p259-67] \$3 Harper '33  
Wanted—world leadership by the leading na-  
tion. C. Benedict. Mag of Wall St 51:253+  
D 24 '32

*Japan*

- See* Japan—Foreign relations—United  
States

*Russia*

- See* Russia—Foreign relations—United  
States

## Forest products laboratory

- Forest products laboratory, Madison, Wis.;  
views and plans. Arch Forum 59:95-102 Ag  
'33  
How one contractor reorganized to meet 1933  
conditions; plumbing and heating work at  
Forest products laboratory. G. Hall. il Dom  
Eng 141:32-5+ F '33  
Solving an unusual block tin pipe job. Forest  
laboratory at Madison, Wis. G. Hall. il diag  
Dom Eng 141:31-2 Mr '33

## Geological survey

- Annual report; summary. Science 76:535 D 9  
'32  
Appropriations for federal geological research.  
Science 76:587 D 23 '32  
Summary information on the state geological  
surveys and the United States geological  
survey. Nat Research Council Bul 88:1-136  
'32 (\$1)

## Government printing office

- Five-day week in the Government printing  
office. Monthly Labor R 36:502-3 Mr '33  
G.P.O. produces volume of beauty. Inland  
Ptr 90:55 Ja '33

## Home economics, Bureau of

- How to fritter away your money; govern-  
ment bureau expenses are criticized, yet  
private business losses go on unhindered.  
T. S. Harding. il Sci Am 149:53-5 Ag '33

## Indian affairs, Bureau of

- Irrigation work in the Indian bureau. il Eng N  
110:712-14 Je 1 '33

## Industries and resources

- Analyzing our industries. C. E. Fraser and  
G. F. Doriot. 458p \$5 McGraw-Hill '32

- Industry and trade; historical and descriptive  
account of their development in the United  
States. A. L. Bishop and A. G. Keller. 426p  
Ginn '32

- Trends of activity in leading industries. Eng  
N 110:151-2 F 2 '33

*See also*

- |   |  |
|---|--|
| Agriculture—United States                   | Cotton trade—United States                 |
| Airplane industry and trade—United States   | Dye industry—United States                 |
| Automobile industry and trade—United States | Iron industry and trade—United States      |
| Building trades—United States               | Manufactures—United States                 |
| Cement industry and trade—United States     | Petroleum—United States                    |
| Chemical industries—United States           | Petroleum industry and trade—United States |
| Coal—United States                          | Steel industry and trade—United States     |
| Copper industry and trade—United States     | Textile industry—United States             |

## Labor, Department of

- Annual report of the Secretary of labor, 1931-  
32; summary. Monthly Labor R 36:82-7 Ja  
'33  
Labor department perking up. Business Week  
p22+ Je 10 '33

## Lighthouse service

- Building and operating the nation's light-  
houses. il diag Eng N 110:517-20 Ap 27 '33

## Merchant marine

- See* Merchant marine—United States

## Mines, Bureau of

- Dismissals from the Bureau of mines. Science  
78:53 Jl 21 '33  
Petroleum and natural-gas studies of the  
United States Bureau of mines. H. C. Fow-  
ler. U S Mines Information Circ 6737:1-50  
'33; Excerpt. Oil & Gas J 31:33-4+ Mr 2 '33

National advisory committee  
for aeronautics

- Annual engineering conference, 8th, Langley  
Field. Aviation 32:182-4 Je '33  
Langley Field conference. A. Klemin. il  
diag Aviation Eng 8:14-16+ My '33  
Langley Field conference. A. Klemin. Mech  
Eng 55:421 Jl '33

## National industrial recovery council

- Organization of National recovery program.  
Credit & Fin Management 35:7 S '33

National parks, buildings and  
reservations, Office of

- Establishment of the Office of national parks,  
buildings and reservations. Science 77:620  
Je 30 '33

## Navy

- Effect of treaties on naval strength. il Ma-  
rine Eng 38:398-401 N '33  
Naval shipbuilding program contracts award-  
ed. Marine R 63:11-12 S '33; Abstract.  
Marine Eng 38:352 S '33  
Navy is national insurance. W. V. Pratt. il  
Am Bankers Assn J 25:28-9, 48 Mr '33  
Navy league of United States explains our  
naval policy to the Navy league of the  
British Empire. N. M. Hubbard, jr. Marine  
Eng 38:402-4 N '33  
Our third-rate navy could not fight Japan.  
F. D. McHugh. il map Sci Am 148:268-71+  
My '33  
Shore establishment for the navy. R. E.  
Bakenhus. il Civil Eng 3:443-6 Ag '33  
Thirty-seven ships to be built under naval  
program. H. F. Lane. Marine Eng 38:238-9  
Jl '33  
Trammell bill authorizing naval construction.  
H. F. Lane. Marine Eng 38:160-1 My '33

*See also*

- United States naval  
observatory

## UNITED STATES—Continued

## Navy department

## Yards and docks, Bureau of

Civil engineering and construction in the U.S. navy. *Il Eng N* 110:368-71 Mr 23 '33

## Patent office

Manual of Patent office procedure. E. S. Glascock. 6th ed 224p Patent office society, Federalburg, Md. '32

## Politics and government

A.I.M.E. stabilization forum; present trends in American government. H. M. Bates. *Oil & Gas J* 32:11-14 S 21 '33  
Crisis of democracy. C. N. Callender, ed. *Ann Am Acad* 169:1-201 S '33

Dangerous tendencies in present-day politics. F. Herbert. *Weekly Underw* 127:1103 D 10 '32

Degenerate democracy. H. S. McKee. 143p \$1.50 Crowell '33

Engineering approach to government. W. Beard. *Il Mech Eng* 55:467-70 Ag '33

Government in a depression. T. H. Reed, ed. pa \$1 Univ. of Chicago press '33

Magnitude of the task of the politician. F. M. Davenport. *Harvard Business R* 11:468-77 JI '33

Unified American government. J. S. Young and E. Y. Wright. 719p \$1.75 McGraw-Hill '33

Watching the world go by. W. J. Abbot. 358p \$3 Little '33

## See also

Business—Political aspects

## Population

Composition of families in the United States, 1930. *Monthly Labor R* 36:1244-6 Je '33

Races and ethnic groups in American life. T. J. Woofter, jr. 247p \$2.50 McGraw-Hill '33

## Post office department

Great business bungler. *Bradstreet's* 60:1621-2 D 10 '32

## See also

Postal service—United States

## Prisons, Bureau of

Work of the Bureau of prisons. 100p U. S. Bureau of prisons, Washington '32

## Public health service

Public health service publications issued during the period July-December 1932. *Pub Health Rep* 48:624-7 Je 2 '33

Public health service publications issued during the period January-June, 1933. *Pub Health Rep* 48:1195-7 S 29 '33

## Public roads, Bureau of

U.S. Bureau of public roads in review. *Il Roads & Sts* 76:5-9 Ja '33

## Shipping board

Government soon to retire from ship operations; annual report. *Marine R* 63:18 Ja '33

Shipping board abolished by executive order. H. F. Lane. *Marine Eng* 38:266 JI '33

Shipping board buried under billions. *Pub Serv M* 55:109 O '33

Shipping board commissioners appointed. *Marine R* 63:10 Ap '33

Shipping board transferred to Commerce department. H. F. Lane. *Marine Eng* 38:324-5 S '33

## Social conditions

Business implications of recent social trends. W. J. Donald. *Management R* 22:131-5 My '33

Communication agencies and social life. M. M. Willey and S. A. Rice. 229p \$2.50 McGraw-Hill '33; Review by A. D. Schultz. *Pub Util* 12:164-5 Ag 3 '33

Findings of President's research committee on social trends. *Monthly Labor R* 36:297-304 F '33

Recent social trends analyzed. *Barron's* 13:6 Ja 9 '33

Recent social trends in the United States; report of the President's research committee on social trends. 2v \$10 McGraw-Hill '33; Review, by K. Brown. *Lib J* 58:210-4 Mr 1 '33; Review (Library representation), by G. F. Bowerman. 58:259-61 Mr 15 '33; Review. *Int Labour R* 28:499-517 O '33

Social changes in 1932. W. F. Ogburn, ed. 940p pa \$1 Univ. of Chicago press '33

## Standards, Bureau of

American standards association and the Bureau of standards. *Science* 78:95 Ag 4 '33

Bread out of our mouths; a study of government competition. P. Mahler. *Chem Markets* 32:27-9 Ja '33

Commercial standardization services of the Bureau of standards. L. J. Briggs. *Ind Standardization* 4:123-30 Ag '33

Division of simplified practice. E. W. Ely. *Industrial Standardization* 4:141-6 S '33

Effects economy in operations. *Steel* 91:26 D 26 '32

Government reduces activities of Bureau of standards. *Paper Tr J* 97:30-1 Ag 10 '33

Research on rubber at Bureau of standards; how it can be continued. L. J. Briggs. *Rubber Age* 33:205-6 Ag '33

Work transferred to A.S.A. *Oil Paint & Drug Rep* 124:16 JI 24 '33

## State department

Foreign trade promotion goes to State department. *Iron Age* 132:34 Ag 31 '33

## Bibliography

Publications of the Department of state, a list cumulative from October 1, 1929. 15p U.S. Dept. of state, Washington '33

## Statistics, Vital

Introduction to the vital statistics of the United States, 1900 to 1930. W. F. Willcox. 138p U.S. Bur. census, Washington '33

## Supervising architect's office

Private architect's part in the federal building program. L. W. Robert, jr. *Am Arch* 143:12-14 S '33

Time has come to get the government out of the architectural business. T. S. Rogers. *Am Arch* 143:41-2 Mr '33

## Tariff commission

Tariff commission upheld in refusal to disclose soda nitrite cost data. *Oil Paint & Drug Rep* 123:17-; Editorial comment. 15 F 13 '33

## War department

Col. Markham appointed chief of engineers. *Marine R* 63:36 N '33

## Weather bureau

Meteorological data; progress report of special committee. *Am. Soc. C. E.* map *Am Soc C E Proc* 59:153-82 Ja '33; Discussion. 59:708-20, 896-900, 1024-35, 1195-1200, 1340-3 Ap-May, Ag-O '33

UNITED STATES building and loan league  
Annual convention, 41st, Chicago. *Arch Forum* 59:336 O '33

UNITED STATES fidelity and guaranty company  
Annual statement. *Nat Underw* 37:28 Ja 19 '33; *Spectator* 130:32 Ja 19 '33

UNITED STATES guarantee company  
Annual report, year ended Dec. 31, 1932. *Spectator* 130:39 F 23 '33

UNITED STATES gypsum company  
Investment trust favorite having poor season. *Barron's* 13:20 F 6 '33  
Stocks behind the market—ready to go. *Mag of Wall St* 52:124 My 27 '33

UNITED STATES industrial alcohol company  
Reports profit for 1932. *Oil Paint & Drug Rep* 123:37 Mr 6 '33

UNITED STATES institute for textile research  
Annual meeting, 4th, New York, Nov. 2. *Chemicals* 38:1-+ N 13 '33



# UNITED STATES institute for textile research

—Continued

Organized research seems nearer accomplishment as agencies cooperate. Textile World 82:1158-9 D '32

Textile research institute re-elects Francis P. Garvan. Chemicals 37:1+ N 14 '32

# UNITED STATES intercoastal shipping conference

United States intercoastal shipping conference. I. M. Bettman, jr. Harvard Business R 12:116-24 O '33

# UNITED STATES leather company

Low-priced speculations of merit. Mag of Wall St 53:82-3 N 11 '33

# UNITED STATES naval observatory

Telling time by radio. W. E. Burton. il Radio N 14:582-4+ Ap '33

# UNITED STATES of Europe. See Europe—Economic policy

# UNITED STATES pharmacopoeia

Pharmacopoeia deletions opposed by druggists. Oil Paint & Drug Rep 122:14 N 21 '32

# UNITED STATES rubber company

Has larger deficit. Econostat 1:11+ Mr 25 '33  
Report for 1932. India Rubber W 88:46 Ap '33; Rubber Age 32:386 Mr '33; Barron's 13:21 Mr 13 '33

# UNITED STATES steel corporation

Declares 50-cent preferred dividend. Barron's 13:20 F 6 '33  
Economy aids U.S. Steel. Econostat 1:12+ My 6 '33

Employees of U. S. steel corp. adopting representation plan. Steel 92:13+ Je 19 '33

Pamphlet report, 1932. Barron's 13:21 Mr 20 '33; Annalist 41:396 Mr 17 '33; Iron Age 131:437+ Mr 16 '33; Steel 92:19 Mr 20 '33

Reduces loss but pares dividend to \$2 rate. Steel 92:11 F 6 '33; Iron Age 131:208 F 2 '33

Reports bad year. Annalist 41:196+ F 3 '33

# UNITED STATES tin research and development committee

Tin research and development committee is formed. Iron Age 131:914 Je 8 '33

# UNITED STATES tobacco company

Good earnings maintained and prospects still favorable after more than three years of depression. Mag of Wall St 51:531 Mr 4 '33  
Opportunities for income and profit. Mag of Wall St 52:435 Ag 19 '33

# UNITED STATES trust company of New York

Completes eighty years of uninterrupted service. Trust Companies 56:462-3 Ap '33

# UNITED steel corporation limited

Absorbs Dodge manufacturing co. ltd. and Canadian Mead-Morrison co. ltd. Can Eng 65:17 N 7 '33

# UNITS

See also

Electric units	Weights and meas-
Magnetic units	ures
Metric system	

# UNIVERSAL carloading and distributing company

How forwarding agency provides co-ordinated l.c.l. services. il Ry Age 95:333-4 S 2 '33

# UNIVERSE

Cosmic parade. H. Shapley. Science 77:272-4 Mr 17 '33

Electron-nebula ratio. J. D. M. Smith. Soc Chem Ind J (Chem & Ind) 52:364-5 Ap 28 '33

Expanding universe. W. de Sitter. Science 78:sup3 Ag 4 '33

Expanding universe. A. Eddington. 182p Macmillan '33

Expanding universe; abstract. A. S. Eddington. Engineering 136:470 O 27 '33

Inflation and deflation of the universe. Science 78:sup9-10 S 29 '33

Life's place in the cosmos. H. P. Maxim. 177p \$2.50 Appleton-Century '33

Living universe. F. Younghusband. 252p Dutton '33

# UNIVERSITIES. See Colleges and universities

# UNIVERSITY extension

University teaching by mail. W. S. Bittner and H. F. Mallory. 355p \$2.50 Macmillan '33

# UNKNOWN soldier, Tomb of. See Arlington cemetery—Tomb of unknown soldier

# UNSATURATED compounds

Behaviour of surface films of unsaturated compounds. A. H. Hughes. Chem Soc J p338-44 Ap '33

Studies in organic peroxides; the use of camphoric acid peracid for the estimation of unsaturation. N. A. Milas and I. S. Cliff. Am Chem Soc J 55:352-5 Ja '33

# UNWIN, William Cawthorne, 1838-1933

Sketch. por Engineer 155:303-4 Mr 24 '33; Engineering 135:336-8 Mr 24 '33; Mech Eng 55:305+ My '33

# UPHOLSTERY

Agreement in upholstery industry in Philadelphia. Monthly Labor R 35:1374-5 D '32

Conditions in the upholstery-weaving industry in Philadelphia. Monthly Labor R 35:1305-6 D '32

Processes of tanning fine upholstery leather. 78p Eagle-Ottawa leather co, Grand Haven, Mich. '32

See also

Automobiles—Upholstery

# UPJOHN family

Richard, Richard M., and Hobart Upjohn, architects, 1833-1933. il Arch Rec 73:322 My '33

# UPP, John W.

Sketch. J. W. Hammond. por Gen Elec R 36:340-1 Ag '33

# URACIL

Preparation of 5-aminouracil and of some of its derivatives. M. T. Bogert and D. Davidson. Am Chem Soc J 55:1667-8 Ap '33

Pyrimidines; their amino and aminooxy derivatives. T. B. Johnson and D. A. Hahn. Chem R 13:193-303 [bibliog and index p290-303] O '33

Researches on pyrimidines; uracil-glycol. T. B. Johnson and E. Dyer. Am Chem Soc J 55:3781-3 S '33

# URANINITE

Atomic weight of lead from Katanga pitchblende. G. P. Baxter and C. M. Alter. Am Chem Soc J 55:2785-92 Jl '33; Abstract. Science 77:431-2 My 5 '33; Discussion. A. v. Grosse. Am Chem Soc J 55:3393 S '33

# Analysis

Micro-analyses quantitatives totales d'uraninites; abstract. F. Hecht and W. Beich-Rohrwig. Chimie & Ind 30:541 S '33

# URANIUM

Actinouranium and the geologic time scale. F. Western and A. E. Ruark. Phys R 43:205-7 F 1 '33

Fluorescence yield from the LIII level of uranium. R. J. Stephenson. diag Phys R 43:527-33 Ap 1 '33

Half-life of actinouranium and the problem of geologic time. F. Western and A. E. Ruark. Phys R 44:675-81 O 15 '33

Isotopes of uranium, thorium and lead, and their geophysical significance. C. S. Piggot. Phys R 43:51-9 Ja 1 '33

Isotopes of uranium, thorium and thallium. R. Goslin and F. Allison. Phys R 43:49-50 Ja 1 '33

New process of electrolysis which produces rare metals in pure state. il Metal Ind 31:63 F '33

Uranium as a source of continuous ultra-violet radiation. S. J. Lewis. il Soc Chem Ind J (Chem & Ind) 52:464-5 Je 2 '33

See also

Thorianite

# Analysis

Volumetric determination of uranium with potassium dichromate as reagent and the application of the method to the indirect titration of minute quantities of sodium. I. M. Kolthoff and J. J. Lingane. Am Chem Soc J 55:1871-6 My '33

# URANIUM hydroxyquinolate

Addition of 8-hydroxyquinoline by thorium and uranium 8-hydroxyquinolates. F. J. Frere. Am Chem Soc J 55:4362-5 N '33

**URANYL oxalate**

Actinometry with uranyl oxalate at  $\lambda\lambda 278$ , 253 and 208 m $\mu$ , including a comparison of periodically intermittent and continuous radiation. F. P. Brackett, jr. and G. S. Forbes. *bibliog Am Chem Soc J* 55:4459-66 N '33

**URBAN, Joseph, 1872-1933**

Sketch. *por Arch Forum* 59:sup4 Ag '33; *Architecture* 68:sup6 Ag '33  
Sketch. W. Muschenheim. *por Arch Rec* 74:148 Ag '33

**URBANA, Illinois****Water supply**

Ammonia-chlorine treatment at Champaign-Urbana, Illinois. F. C. Amsbary, jr. *Am Water Works Assn J* 25:1251-6 S '33

**UREA**

Condensation of chloral with tolyl- and nitrophenyl-ureas. F. D. Chattaway, G. M. T. Kerr and C. G. Lawrence. *Chem Soc J* p30-2 Ja '33

Dielectric constants: ethanol-diethyl ether and urea-water solutions between 0 and 50°. J. Wyman, jr. *Am Chem Soc J* 55:4116-21 O '33

Equilibria in the ammonium carbamate-urea-water system. K. G. Clark, V. L. Gaddy and C. E. Rist. *bibliog Ind & Eng Chem* 25:1092-6 O '33

Newer developments in the urea resins. L. Smidth. *Plastic Prod* 9:152 Je '33

Reaction between urea and gypsum. C. W. Whittaker, F. O. Lundstrom and S. B. Hendricks. *bibliog Ind & Eng Chem* 25:1280-2 N '33

Researches on pyrimidines; the reaction of phenylacetaldehyde and acetophenone with urea. K. Folkers and T. B. Johnson. *Am Chem Soc J* 55:3361-8 Ag '33

Urée de foie arginase. *Soc Chem Ind J (Chem & Ind)* 51:1054-5 D 23 '32

**Analysis**

Die quantitative bestimmung von nitrat-, harnstoff- und ammoniakstickstoff in mischdüngern. F. Alten and H. Weiland. *Angew Chemie* 46:165-6 Mr 18 '33

**UREIDES**

Researches on nitrogenous glycosides; the synthesis of glycosido ureides. K. M. Harling and T. B. Johnson. *Am Chem Soc J* 55:395-402 Ja '33

**URETHANS**

Molecular dissymmetry and physiological activity. L. H. Easson and E. Stedman. *Chem Soc J* p1094-8 Ag '33

Para-aminophenyl urethans as local anesthetics. W. H. Horne, R. F. B. Cox and R. L. Shriner. *Am Chem Soc J* 55:3435-9 Ag '33

**UROSELECTAN**

Röntgenkontrastwirkung von halogenpyridon-derivaten. A. Binz and others. *Angew Chemie* 45:713-15 N 12 '32

**USED cars. See Automobile industry and trade—Used cars****USES, New. See Advertising copy—Use appeal; Markets, New****USNEOL**

Usnic acid; usneol. F. H. Curd and A. Robertson. *Chem Soc J* p714-20 Je '33

**USNIC acid**

Usnic acid; derivatives of methylphloroglucinol. F. H. Curd and A. Robertson. *Chem Soc J* p437-44 Ap '33

Usnic acid; usneol. F. H. Curd and A. Robertson. *Chem Soc J* p714-20 Je '33

Usnic acid; usnetol, usnetic acid, and pyrousnic acid. F. H. Curd and A. Robertson. *Chem Soc J* p1173-9 S '33

**USURY laws**

Commission paid trust company for securing loan; not usury; suit. *Bankers M* 126:163-5 F '33

**UTAH****See also**

Petroleum—Utah

**UTILITIES power and light corporation**

Trade commission examines Utilities power & light. *Elec W* 101:781 Je 17 '33

Utilities Power cuts costs. *Econostat* 1:13, 32 N 11 '33

**V****VACATIONS**

Use winter vacations. D. J. Wilson. *System and Management Methods* 62:312 Jl '33

Vacation policies in 1933; abstracts. *Management R* 22:214-15 Jl '33; *Monthly Labor R* 77:283 Ag '33

Vacations for bank employes; practices of leading banks. *Bankers M* 125:599-603 D '32

**See also**

Holidays

**VACCINATION**

Modification of the vaccine response in rabbits by the application of diphtheria toxin to the vaccination site. C. Armstrong. *bibliog Pub Health Rep* 48:1-7 Ja 6 '33

**VACUUM**

Better clay products through evacuation. C. H. Vivian. *il Comp Air M* 38:4095-8 Ap '33

Praktische winke beim arbeiten mit vakuumapparaten. P. Harteck. *il diags Chemische Fabrik* 6:104-6 Mr 1 '33

Production of a vacuum in an air tank by means of a steam jet. F. R. B. Watson. *il diags Inst Mech Eng Proc* 124:231-65 '33; *Same. Engineering* 135:230-2, 233, 262-5 F 24-Mr 3 '33; *Same cond. Engineer* 155:192-4 F 24 '33; *Discussion. Inst Mech Eng Proc* 124:266-300 '33; *Engineer* 155:198 F 24 '33; *Engineering* 135:255-7 Mr 3 '33

**See also**

Electric discharges

Manometers

**VACUUM brakes. See Brakes, Vacuum****VACUUM cleaners**

Electricity in the home; vacuum cleaners. *il Elec R (Lond)* 113:500-1 O 13 '33

Eureka sells housewife, but dealers collect and deliver. F. Wardell. *Sales Management* 33:452 N 1 '33

Merchandising that routs the second-hand problem; the Hoover company markets reconditioned vacuum cleaners. T. F. Kelly. *il Ptr Ink Mo* 25:58+ D '32

**Manufacture**

Electricity in mass production; a London vacuum-cleaner factory. *il Elec R (Lond)* 112:155 F 3 '33

Hoover factory, Perivale, Middlesex. *il Engineer* 155:520-2 My 26 '33

New Hoover factory, Perivale, England. *Electrician* 110:586 My 5 '33

**VACUUM cleaning**

Davidson and co. vacuum smoke-box cleanser at Willesden. *il diags Engineer* 156:166-7 Ag 18 '33

Vacuum system of cleaning service pipes. E. G. Campbell. *diag Gas Age* 71:59+ Ja 21 '33

**VACUUM gages**

Compensated vacuum gage. C. J. Odend'hal. *diags Marine Eng* 38:421-2 N '33

**VACUUM pumps**

Award of the Duddell medal; Professor Gaede's work on the vacuum pump. *Chem Age (Lond)* 23:124 F 11 '33

Design and operation of oil-condensation pumps; abstract. C. R. Burch. *Engineering* 136:470-1 O 27 '33

Modernizing steam heating systems with pumps. J. A. Masek. *il Heat & Ven* 30:35-8 F '33

Priming equipment installed on plunger pump. J. Moosbrugger. *diag Power* 77:379 Jl '33

Putting empty space in vacuum tubes. I. J. Saxl. *il diags Radio N* 15:220-2+ O '33



**VACUUM pumps—Continued**

Some comments on compressors and vacuum pumps. *il Chem Age (Lond)* 29:373-4 O 21 '33

Trompe à mercure à collection, entièrement automatique, système Castro. *il diags Génie Civil* 102:279-81 Mr 25 '33

Über die bemessung von vakuum-pumpen. W. Büche. *Chemische Fabrik* 6:291-3 J1 5 '33

Vacuum producers for priming centrifugal pumps. *il diags Power* 77:180-2, 317 Ap, Je '33

See also

Toepler pump

**VACUUM tubes**

Application of graphite as an anode material to high vacuum transmitting tubes. E. E. Spitzer. *il Inst Radio Eng Proc* 21:1075-81 Ag '33

Calculation of harmonic production in thermionic valves with resistive loads. D. C. Espley. *Inst Radio Eng Proc* 21:1439-46 O '33

Catkin radio valves. *il Elec R (Lond)* 112: 665-6 My 12 '33; *Electrician* 110:611-12 My 12 '33; *Elec W* 101:792 Je 17 '33

Characteristics and circuit data for four pentodes. J. van Lienden. *il diag Radio N* 15: 12-13+ J1 '33

Combined Tesla coil and vacuum tube. C. C. Lauritsen and R. Crane. *diags R Sci Instr* 4:497-500 S '33

Developments in the electrical industry during 1932; electronic tubes. J. Liston. *il Gen Elec R* 36:43 Ja '33

Diode detection analysis. C. E. Kilgour and J. M. Glessner. *diag Inst Radio Eng Proc* 21:930-43 J1 '33

Direct current bushing transformer. A. S. Fitzgerald. *il diags J Fr Inst* 214:709-33 D '32

Discarding tradition in designing the new metal tubes; Catkin tubes. F. E. Henderson. *il diag Radio N* 15:138-9+ S '33

Dynamic measurement of electron tube coefficients. W. N. Tuttle. *il diags Inst Radio Eng Proc* 21:844-57 Je '33

Electrical developments in 1932. *Power Pl Eng* 36:35 Ja '33

Electron tubes and their applications. J. H. Morecroft. 578p \$4.50 Wiley '33

Electronics and electron tubes. E. D. McArthur. *Gen Elec R* 36:136-8, 177-81, 250-3, 282-9, 330-6, 371-6, 404-6, 501-5, 556-7 Mr-S, N-D '33

Filamentless radio tubes demonstrated for wide use. *Elec W* 101:57 Ja 14 '33

Four new tubes. J. van Lienden. *il diags Radio N* 14:595+ Ap '33

Four new tubes. J. van Lienden. *il Radio N* 14:720-1+ Je '33

Frequency doubling in a triode vacuum tube circuit. C. E. Smith. *diags Inst Radio Eng Proc* 21:37-50 Ja '33

Further note upon the pentode with capacitive coupling. L. G. A. Sims. *diags Wireless Eng* 9:673-9 D '32

Grid and plate currents in a grid-controlled mercury vapor tube. A. C. Seletzky and S. T. Shevki. *il diag J Fr Inst* 215:299-326 Mr '33

Hot cathode electronic tube designations. *Elec Eng* 52:170 Mr '33

Method of calculating the performance of vacuum tube circuits used for the plate detection of radio signals. J. P. Woods. *Texas U Bul* 3114:1-71 '32

Method of control for gas filled tubes. C. Stansbury. *il diags Elec Eng* 52:190-4 Mr '33

New design for a high-voltage discharge tube. L. C. Van Atta, R. J. Van de Graaff and H. A. Barton. *Phys R* 43:158-9 F 1 '33; Abstract. *Elec W* 101:217 F 18 '33

New vacuum valves and their applications. A. W. Hull. *il diags Gen Elec R* 35:622-9 D '32

Non-linear valve characteristics; a brief discussion on their use. C. S. Bull. *Wireless Eng* 10:83-8 F '33

Output stages, the choice of valves for use in low-frequency amplifiers. C. C. Whitehead. *Wireless Eng* 10:78-82 F '33

Parallel type of inverter. F. N. Tompkins. *diag Elec Eng* 52:253-6 Ap '33

Pentagrid converter. C. L. Lyons. *diags Wireless Eng* 10:364-9 J1 '33

Production and utilization of micro-rays; permanent link between Lympe, England and St. Inglevert, France. A. G. Clavier. *diags Elec Eng* 52:739-40 N '33

Properties and development of thermionic valves. L. B. Turner. *il diags Inst E E J* 72: 10-30 Ja '33; Abstract. *Wireless Eng* 10:27 Ja '33

Spray shield tube. H. W. Parker and F. J. Fox. *il Inst Radio Eng Proc* 21:710-20 My '33

Stromrichter; dampf-entladungsgefäße und spannungsregelnde gleichrichter. O. Löbl. *il diags Zeit Ver Deutsch Ing* 77:605-9 Je 10 '33

Surface conditions and stability of characteristics in screened-grid tubes. P. L. Copeland. *J Fr Inst* 216:417-26 O '33

System of thermionic converters for the transmission of energy by continuous current; abstract. M. Sitnikov. *Electrician* 111:172 Ag 11 '33

Technical data and characteristics on eleven new tubes. J. van Lienden. *diags Radio N* 15:334-5+ D '33

Technical data and circuit design for two new tubes; -58, -46. J. van Lienden. *Radio N* 14:662-3+ My '33

Theory of available output and optimum operating conditions for triode valves. M. V. Callendar. *Inst Radio Eng Proc* 21:909-29 J1 '33

Theory of the detection of two modulated waves by a linear rectifier. C. B. Aiken. *bibliog Inst Radio Eng Proc* 21:601-29 Ap '33

Theory of thermionic vacuum tubes. E. L. Chaffee. 652p \$6 McGraw-Hill '33

Thermal agitation of electrons in a metallic conductor; abstract. N. H. Williams and D. A. Wilbur. *Science* 76:519 D 2 '32

Thermionic emission. W. S. Stiles. (*Radio research board. Special rep. 11*) 116p [bibliog p107-13] H. M. stationery office, London '32

Use of a diode as a cumulative grid rectifier. E. A. Biedermann. *diags Wireless Eng* 10: 123-33 Mr '33

Vacuum tube characteristics in the positive grid region by an oscillographic method. H. N. Kozanowski and I. E. Mourmstseff. *diags Inst Radio Eng Proc* 21:1082-96 Ag '33

Vacuum tube electronics at ultra-high frequencies. F. B. Llewellyn. *Inst Radio Eng Proc* 21:1532-73 N '33

Vacuum tubes; progress in 1932. L. J. Davies. *Electrician* 110:103 Ja 27 '33

Valve data diagrams; editorial. *Wireless Eng* 9:665-6 D '32; Discussion. 10:257-8 My '33

What tube shall I use? J. Calcaterra. *Radio N* 13:850-1+, 918-20+, 1019-20+; 14:35-6+, 672-3+ Ap-J1 '32, My '33

See also

Amplifiers, Vacuum tube	Photoelectric cells
Cathode-ray tube	Radio receiving apparatus
Dynatron	Thyratron
Geiger counters	X ray tubes

**Control uses**

Dimming of hot-cathode gaseous-discharge lamps. W. F. Westendorp. *il diags Gen Elec R* 36:488-92 N '33

Diode regulators; a simple method of voltage control. *il diags Elec R (Lond)* 111:886 D 16 '32

Electronic tubes safeguard lives. E. H. Vedder. *il Nat Safety N* 27:23-4 F '33

Experimental applications of the grid-glow tube. M. J. Brown. *il diags Radio N* 14:658-9+ My '33

High-frequency valve-operated induction furnaces. H. Hirst. *diags Inst E E J* 71:965-6 D '32

**VACUUM tubes—Control uses—Continued**

High pressure steam research at Purdue university. H. L. Solberg. diags W Soc E J 37:305-7 D '32

How scientists are working out new radio methods for controlling machinery by sound impulses. I. J. Saxl. il diag Radio N 14:460-2+ F '33

Machines stopped automatically by electronic time-delay relay. il diag Elec W 101:643 My 20 '33

Paper machine modernized by electronic speed regulator; Cherry River paper company. D. F. Cronin and C. W. Drake. il diag Elec W 102:538-40 O 21 '33

Recent developments in electronic devices for industrial control. F. H. Gulliksen. il diags Elec Eng 52:106-10 F '33

16 money-saving controls. G. A. Van Brunt. Factory Management 91:98-9 Mr '33

Tube control for filament production. G. C. Holloway. il diag Elec J 30:431 O '33

Vacuum tubes in control gear. Electrician 110: 708, 741 Je 2-9 '33

**Generating action**

Applications of the dynatron. M. G. Scroggie. diags Wireless Eng 10:527-40 [bibliog p539-40] O '33

Effect of the curvature of the characteristic on the frequency of the dynatron generator. E. B. Moullin. Inst E E J 73:186-95 Ag '33

Electronic oscillations. E. C. S. Megaw. diags Inst E E J 72:313-25 [bibliog p324-5] Ap '33; Abstracts. Wireless Eng 10:142-3, 144 Mr '33; Elec R (Lond) 112:12 Ja 6 '33; Discussion. Inst E E J 72:348-52 Ap '33

Inter-electrode capacitance of the dynatron, with special reference to the frequency stability of the dynatron generator. G. B. Baker. Inst E E J 73:196-201; Discussion. 201-3 Ag '33

Investigation of the magnetron short-wave oscillator. E. C. S. Megaw. bibliog diag Inst E E J 72:326-48 Ap '33; Abstracts. Wireless Eng 10:143 Mr '33; Elec R (Lond) 112:12-13 Ja 6 '33; Excerpt (Summary). Electrician 110:11 Ja 6 '33; Discussion. Inst E E J 72:348-52 Ap '33

Magnetron oscillator for ultra-short wavelengths. E. C. S. Megaw. il diags Wireless Eng 10:197-202 Ap '33

Oscillator having a linear operating characteristic. L. B. Arguimbau. il diags Inst Radio Eng Proc 21:14-28 Ja '33

Production of ultra-short-wave oscillations with cold-cathode discharge tubes. K. Okabe. diags Inst Radio Eng Proc 21:1593-8 N '33

Selection of types of vacuum tubes as sources of high-frequency power. W. C. White. il diag Gen Elec R 36:394-7 S '33

Simple vacuum tube oscillator for conductivity experiments. J. H. Saylor and J. M. A. Debruyne. diag J Chem Educ 10:703-4 N '33

Theory of the magnetron oscillator. J. B. Hoag. Inst Radio Eng Proc 21:1132-3 Ag '33; Discussion. E. C. S. Megaw. 21:1749-51 D '33

Use of triode vacuum tube rectifiers to supply constant voltage. L. A. Richards. diag R Sci Instr 4:479-82 S '33

Vacuum tube oscillator for Chladni plates. R. C. Colwell. il Science 76:547-8 D 9 '32

**Industrial applications**

Electron tubes find diversified applications; abstracts of papers at A.I.E.E. meeting. Elec W 101:160 F 4 '33

Electronics—new hybrid of chemistry and electricity. O. H. Caldwell. Chem & Met Eng 40:29 Ja '33

Equipment for electrical precipitation. H. Speight and V. G. Rydberg. il diags Elec Eng 52:337-40 My '33

New electron tube device locates cracks in wire and tubing. il Metal Ind 31:178 My '33

New vacuum valves and their applications. A. W. Hull. il diags Gen Elec R 35:622-9 D '32

Phanotron rectifier for power and lighting service. P. M. Currier and C. F. Whitney. il diag Gen Elec R 36:312-14 Jl '33

Stretch your electronic dollar; correct installations and intelligent maintenance. L. R. Harness. il Factory Management 91:307-9 Ag '33

Study of the thyatron commutator motor. C. H. Willis. il diags Gen Elec R 36:76-80 F '33

**Manufacture**

Cossor radio works at Highbury. il Electrician 111:203-4 Ag 18 '33; Elec R (Lond) 113:219 Ag 18 '33

Putting empty space in vacuum tubes. I. J. Saxl. il diags Radio N 15:220-2+ O '33.

**Measurement uses**

Improvement in vacuum tube volt-meters. R. M. Somers. il diags Inst Radio Eng Proc 21:56-62 Ja '33

Measurement of X-ray absorption coefficients by the use of the FP-54 plotitron. L. M. Heil and J. E. Edwards. diags Phys R 43:1-4 Ja 1 '33

Multi-range mains operated valve voltmeter. C. N. Smyth. il diags Wireless Eng 10: 134-7 Mr '33

New system of recording using electronic means. H. L. Bernarde and L. J. Lunas. il diag Elec Eng 52:168-70 Mr '33

Practical vacuum-tube circuit for the measurement of electromotive force. S. B. Ellis and S. J. Kiehl. diag R Sci Instr 4:131-7 Mr '33

Recorder for minute quantities. H. L. Bernarde and L. J. Lunas. il diags Elec J 30: 108-9 Mr '33

Some new uses for vacuum tubes in the electronic arts. I. J. Saxl. il diags Radio N 14: 526-7+, 588-9+ Mr-Apr '33

Supersensitive amplifier for measuring small currents. F. J. Moles. il diags Gen Elec R 36:156-8 Mr '33

Use of the vacuum tube electrometer with extremely high input resistance. R. E. Burroughs and J. E. Ferguson. R Sci Instr 4: 406 Jl '33

Use of triode and tetrode valves for the measurement of small d.c. potential differences. T. P. Hoar. bibliog diags Wireless Eng 10: 19-25 Ja '33

Valve wattmeter. E. Mallett. diags Inst E E J 73:295-302 S '33

**Testing**

How to construct a set tester adapter. L. J. Littman. il diag Radio N 14:408+ Ja '33

Life test power supply utilizing thyatron rectifiers. H. W. Lord. il diags Inst Radio Eng Proc 21:1097-1102 Ag '33

Simple method for finding mutual conductance. G. E. Fleming. il diags Radio N 14:482+ F '33

**VAIL, James G.**

Chemical industry medal awarded to James G. Vail. por Oil Paint & Drug Rep 124:17 O 30 '33; Paper Tr J 97:22 N 9 '33

**VALENCE**

Electronic structures of polyatomic molecules and valence; electronic states, quantum theory of the double bond. R. S. Mulliken. Phys R 43:279-302 F 15 '33

Molecular structure of some co-ordination compounds of platinum and palladium. E. G. Cox and G. H. Preston. Chem Soc J p1089-93 Ag '33

Single electron linkage. R. F. Hunter. Soc Chem Ind J (Chem & Ind) 51:939 N 11 '32

Some physical properties of the covalent link in chemistry. N. V. Sidgwick. 249p \$2 Cornell univ. press, Ithaca, N.Y. '33

Spatial configuration of the valences in tri-covalent carbon compounds. E. W. Wallis and F. H. Adams. Am Chem Soc J 55: 3838-51 S '33

Welche vorstellung von der chemischen bindung vermittelt die quantenmechanik? M. Born. Angew Chemie 46:179-80 Mr 25 '33

See also

Chemical bonds

**VALLEYS**

History of Baer's law. I. P. Tolmachoff. Science 76:516 D 2 '32

See also

Rivers



**VALONIA**

Chemical versus morphological species differences. S. C. Brooks. *Science* 77:221-2 F 24 '33

**VALPARAISO, Chile**

Technische Lehranstalten in Valparaiso. K. Laudien. *il plan Zeit Ver Deutsch Ing* 76: 1295-6 D 31 '32

**VALPARAISO, Indiana**

Non-odororous, non-bacterial sewage treatment. A. R. Putnam. *Pub Works* 64:10 S '33

**VALUATION**

Appraisal accuracy and the accountant. R. M. Fischer. *J Account* 55:360-7 My '33

Determining value of limestones and other raw materials. E. C. Eckel. *Concrete (mill sec)* 41:45-6 Mr '33

Economic aspects of high cost plant and idle plant; abstract. W. J. Donald. *Management R* 22:173-4 Je '33

Evaluation of foreign producing oil properties requires consideration of many factors. F. A. Herald. *Oil & Gas J* 31:12-13+ Ja 26 '33

La valeur de gage d'un actif industriel. L. Petit. *Génie Civil* 102:403-4 Ap 29 '33

Valuation cycle; risk in accounts receivable which have restated their financial positions. E. I. Kilcup. *Credit & Fin Management* 35:12+ Jl '33

Writing down of plant values and its probable effect on future profits. W. A. Layman. *Analyst* 42:243-4 Ag 25 '33

*See also*

Assessment	Public utilities—
Buildings—Valuation	Valuation
Depreciation	Railroads—Valuation
Insurance, Fire—	Real property—
Valuation of prop-	Valuation
erty	Stocks—Valuation
Inventories	Waterworks—Valua-
Land values	tion
Mine valuation	

**VALUE**

Value theory and business cycles. H. L. McCracken. 270p \$4 Falcon press, inc, 330 W. 42d st, New York '33

*See also*

Money  
Prices

**VALVE gear**

White valve gear; abstract. *Mech Eng* 55: 258 Ap '33

**VALVES**

At University of Colorado—master control valves save steam. W. E. Brockway and G. S. Dobbins. *il Heating-Piping* 5:556-7+ N '33

Automatic control valve for makeup boiler feedwater. F. Pollock. *diag Power* 77:145 Mr '33

Automatic gas valve reduces hazard. *diag Eng & Min J* 134:54 F '33

Belfield company regulating valve. *diags Engineering* 135:139, 140 F 3 '33

Bryan Donkin gas valve. *diag Engineer* 155: 167-8 F 17 '33

Chapman tilting disc valves. *diag Water Works & Sewerage* 80:229 Je '33

Cochrane pilot-controlled regulating valve. *il Power Pl Eng* 36:53 Ja '33; *Engineering* 135: 139, 140 F 3 '33

Combination back-pressure and reducing valve for special duty on Coast guard cutters. C. J. Odend'hal. *diags Marine Eng* 38: 304-6 Ag '33

Control valves for refrigerating fluids. H. T. Lange. *diags Refrig Eng* 26:17-18+ Jl '33; *Discussion. C. Shipman. 26:162 S '33*

Data sheet. *Factory Management* 91:433-6 O '33

Goodyear rubber covered valves. *il Rubber Age* 33:73 My '33

Homestead lift-type valves. *il Blast F & Steel Pl* 21:220 Ap '33

Installing globe and angle valves. W. H. Wilson. *diags Heating-Piping* 4:459-60 Je '32; *Discussion. 5:96-9 F '33*

Mercury sealed gas valve. S. F. Essig. *il diags R Sci Instr* 3:762-3 D '32

Murdock valve to prevent waste of compressed air. *diag Iron Age* 130:766 N 17 '32

New type stock valve. *il diag Paper Tr J* 97:28 Ag 10 '33

Nicholson three and four-way valves. *il Blast F & Steel Pl* 21:430 Ag '33

Piping, valves and fittings. *il diags Power* 76:377-80 Mid-D '32

Recent valve developments. *il Heating-Piping* 5:35-7 Ja '33

Sav-air 4-way control valve. *il Am Mach* 77: 191-2 Mr 15 '33

Schutte & Koerting oil relief valve with compensator. *diag Power Pl Eng* 36:834 D '32

Schwingungen in ventillfedern. E. Lehr. *il diags Zeit Ver Deutsch Ing* 77:457-62 My 6 '33

Selection of pressure regulators. H. L. Colby. *il diags Heating-Piping* 5:565-7 N '33

S.M.M.T. provisional standard no. 76; valves for pneumatic tyres for commercial vehicles. *diags Automobile Eng* 23:67-8 F '33

Unitite packless valve contains new features. *il Iron Age* 131:954 Je 15 '33

Valve coupling for compressed air pipes. *il Engineering* 135:717 Je 30 '33

Valves for the chemical industry. *Chem Age (Lond)* 27:sup35 D 3 '32

Vulcalock rubber-lined valve resists corrosion and abrasion. *diag Gas Age* 71:456 Ap 29 '33; *Ry Mech Eng* 107:302-3 Ag '33

Walworth 18-in. plug valve. *il diag Engineering* 135:139, 140 F 3 '33

*See also*

Airplane engines—	Gas and oil engines—
Valves	Valves
Automobile engines—	Locomotives—
Valves	Valves
	Safety valves

**Control**

Valve control mechanism speeds experimentation. *diags Automotive Ind* 69:101 Jl 22 '33

**Electric control**

Barber-Colman 12-in. motor-operated valve. *diags Iron Age* 132:26 Ag 17 '33

Barber-Colman valves for temperature control. *il Heating-Piping* 4:801-2 D '32

Copes thruster remote electrical valve control. *il Soc Chem Ind J (Chem & Ind)* 52:779 S 29 '33

Remote control of valves; Copes valve. *il Chem Age (Lond)* 29:67 Jl 15 '33

Ruggles-Klingemann solenoid operated gate valve. *il Power Pl Eng* 37:102 F '33

**Failure**

Internal combustion engine exhaust valve failures. C. C. Hodgson. *Iron & Steel Inst J* 127:189-203 [bibliog p202-3] pl 13-16 no 1 '33; *Same. Automobile Eng* 23:223-7 Je '33; *Excerpts. Engineering* 135:580-1 My 26 '33; *Discussion. Iron & Steel Inst J* 127:204-8 no 1 '33

**Magnetic control**

Magnetically actuated spray valves meter fuel; Atlasco system. P. M. Heldt. *il diags Automotive Ind* 68:280-2, 299 Mr 4 '33

Modern method of temperature control; operation of the magnetic system. *diags Chem Age (Lond)* 28:197 Mr 4 '33

**Manufacture**

Economies in the manufacture of valve spring collars. G. Kerr. *il Am Mach* 77:80-1 F 1 '33

Stainless steel pressure castings; methods of molding, coremaking and gating. S. R. Robinson. *il Foundry* 60:25+ D '32

**Repair**

Shrinking in valve seats with liquid air. L. E. Grant. *il Ry Mech Eng* 106:468-70 N '32

**Testing**

P.M.S. valve seating concentrometer. *diag Am Mach* 77:227 Mr 29 '33

**VALVES, Hydraulic**

Fluid valve has many uses. *il Transit J* 77: 415-16 N '33

**VALVES, Hydraulic—Continued**

- Inspection and maintenance of gate valves. C. W. Mowry. N E Water Works Assn J 47: 111-14 Je '33
- Maintenance of gate valves in Boston. G. H. Finneran. N E Water Works Assn J 47: 115-21 Je '33
- Maintenance of valves and hydrants. W. H. Durbin. Am Water Works Assn J 25:525-8 Ap '33
- Quick closing valves for isolating breaks in large mains; abstract and discussion. W. W. Brush. Water Works & Sewerage 80: 290-1 Ag '33
- Ringschieber für den grundablass ottmachau. diags Zeit Ver Deutsch Ing 77:858 Ag 5 '33

*See also*

Gates, Hydraulic

**Electric control**

- Ruggles-Klingemann solenoid operated gate valve. il Power Pl Eng 37:102 F '33
- 16-ft. butterfly valves close in one minute; Saluda plant of the Lexington water power company. O. L. Hooper. il diag Power 76: 291 D '32

**VAMPIRE bats**

- Vampire bats and Panama horse disease; murina, or trypanosomiasis. H. C. Clark. Science 76:sup8-9 D 2 '32

**VANADIC acid**

- Physicochemical studies of complex acids; the precipitation of metallic vanadates, with a note on Moser and Brandl's method of estimating vanadium. H. T. S. Britton and R. A. Robinson. Chem Soc J p512-17 My '33
- Reduction potential of vanadic acid to vanadyl ion in hydrochloric acid solutions. C. D. Coryell and D. M. Yost. Am Chem Soc J 55:1909-15 My '33
- Simultaneous reduction of vanadic acid and oxygen by iodide; induced catalysis of oxygen reactions. W. C. Bray and J. B. Ramsey. bibliog Am Chem Soc J 55:2279-88 Je '33

**VANADIUM**

- Half-dozen minerals used in chemical industry. F. L. Hess. J Chem Educ 10:560-4 S '33
- New sources of vanadium. B. M. Suslov. Metal Prog 24:45 Ag '33

**Analysis**

- Indicators for determining chromium and vanadium in alloy steels; oxidized diphenylamine sulfonic acid and oxidized diphenylamine. H. H. Willard and P. Young. bibliog Ind & Eng Chem Anal ed 5:154-8 My 15 '33
- New procedures for chromium and vanadium in alloy steels. H. H. Willard and P. Young. Ind & Eng Chem Anal ed 5:153-62 My 15 '33
- Physicochemical studies of complex acids; the precipitation of metallic vanadates, with a note on Moser and Brandl's method of estimating vanadium. H. T. S. Britton and R. A. Robinson. Chem Soc J p512-17 My '33

**VANADIUM mines and mining**

- Mining methods and costs at the vanadium mine of the United States vanadium corporation, Rifle, Colo. B. Burwell. diags U S Bur Mines Information Circ 6662:1-9 '32

**VANADIUM steel****Testing**

- Vanadium steel dies for spark plug manufacture. Automotive Ind 67:681 N 26 '32

**VAN AUKEN, Claude L.**

- President of Kenfield-Davis publishing company. por Elec Traction 29:67 Mr '33

**VANCOUVER, British Columbia****Bridges**

- Burrard bridge. J. R. Grant. il Engineer 155: 84-5, 94 Ja 27 '33
- Burrard bridge a fine example of structural engineering. il Can Eng 64:5-8+ Ap 18 '33
- Vancouver's new harbor crossing; Burrard bridge. J. R. Grant. il diags Eng N 110: 239-41 F 23 '33

**Harbor**

- Concrete ferry landing at North Vancouver, B.C. G. S. Hanes. il Can Eng 64:13-14 Ja 24 '33

**Railroads**

- Canadian Pacific installs signaling for tunnel. il plan Ry Age 94:15-16 Ja 7 '33
- New tunnel eliminates seven grade crossings; Canadian Pacific drives 4,600-ft. bore at Vancouver, B. C. F. W. Alexander. il diags map Ry Age 93:728-31 N 26 '32

**Water supply**

- Difficult caisson sinking for Vancouver water tunnel. W. Smail and R. M. Wynne-Edwards. il diags Eng N 111:9-11 Jl 6 '33
- Pressure tunnel under the First Narrows, at Vancouver. il diags Can Eng 64:15-18 Ja 3 '33
- Rapid progress being made on Vancouver water tunnel. Eng N 110:56 Ja 12 '33
- Welding a large water pipe-line at Vancouver. W. H. Powell. il Can Eng 65:5-9 O 31 '33

**VAN DER WAALS equation**

- Van der Waals equation. H. M. Martin. Engineering 136:1-2 Jl 7 '33

**VANILLIC acid**

- Preparation of substituted vanillic acids. L. C. Raiford and D. J. Potter. Am Chem Soc J 55:1682-5 Ap '33

**VANILLIN**

- Progress in the vanillin industry; natural and synthetic processes. Chem Age (Lond) 29: 207 S 2 '33

**VAN SCHAIK, George S.**

- Companies can avoid more stringent insurance supervision; interview. C. Axman. East Underw 34:21+ Ja 20 '33

**VAN SWERINGEN brothers**

- Cleveland reunion; Cyrus Eaton and the Van Sweringens break into the news together again. Business Week p20-1 Je 17 '33

**VAN SWERINGEN system**

- Appraising the prospects of leading Van Sweringen lines. H. C. Slater. Mag of Wall St 52:226-7+ Je 24 '33

**VAPOR lock. See Automobile engines—Fuel feeding****VAPOR pressure**

- Activity of each component in aqueous solutions of sulfuric acid and acetic acid. F. H. MacDougall and D. R. Blumer. Am Chem Soc J 55:2236-49 Je '33
- Certain physical properties of divinyl ether. F. T. Miles and A. W. C. Menzies. bibliog J Phys Chem 37:425-30 Ap '33
- Changes of chemical potential in concentrated solutions of certain salts. R. E. Gibson and L. H. Adams. diags Am Chem Soc J 55:2679-95 Jl '33
- Complex ions formed by iodine cyanide with cyanide and iodide ions; the vapor pressure, free energy and dissociation of iodine cyanide. D. M. Yost and W. E. Stone. bibliog Am Chem Soc J 55:1889-95 My '33
- Determination of the vapour pressures of amalgams by a dynamic method. J. S. Pedder and S. Barratt. diags Chem Soc J p537-46 My '33
- Ein einfaches instrument zur schnellbestimmung des feuchtigkeitsgehaltes hygroskopischer materialien. A. Pfeiffer. il diags Chemische Fabrik 6:406-7 S 27 '33
- Free energy of the normal aliphatic alcohols in aqueous solution. J. A. V. Butler, D. W. Thomson and W. H. MacLennan. Chem Soc J p674-9 Je '33
- Glass wool cell for measuring aqueous vapor pressure. N. E. Edlefsen. diags R Sci Instr 4:345-6 Je '33
- Hydrolysis of acetonesemicarbazone. J. E. W. Rhodes. diags Chem Soc J p204-8 F '33
- Levulinic acid; the vapor pressures of its normal-alkyl esters (C<sub>7</sub>—C<sub>10</sub>). M. A. Cowley and H. A. Schuette. Am Chem Soc J 55:387-91 Ja '33
- Method for interpolating data, based on Dühring's rule. J. H. Perry and E. R. Smith. bibliog Ind & Eng Chem 25:195-9 F '33; Abstract. Mech Eng 55:310-11 My '33



**VAPOR pressure—Continued**

- Pressure of saturated water vapor in the range 100° to 374° C. N. S. Osborne and others. diags pl tables U S Bur Stand J Research 10:155-88 F '33
- Pressure-temperature and low pressure total heat relationships of petroleum fractions. E. G. Ragatz, E. R. McCartney and R. E. Haylett. il diags Ind & Eng Chem 25:975-9 S '33
- Properties of hydrocarbon mixtures as related to some production engineering problems. W. K. Lewis. Oil & Gas J 32:14-15+ O 19; 20 O 26; 18, 20 N 2 '33
- Simple method for accurate determinations of vapor pressures of solutions. D. A. Sinclair. bibliog J Phys Chem 37:495-504 Ap '33
- Solubility of metallic lithium in liquid ammonia at low temperatures. W. C. Johnson and M. M. Piskur. J Phys Chem 37:93-9 Ja '33
- System ammonia-water at temperatures up to 150°C. and at pressures up to twenty atmospheres. I. L. Clifford and E. Hunter. diags J Phys Chem 37:101-18 Ja '33
- System ethyl alcohol-n-heptane at 30°C. J. B. Ferguson, M. Freed and A. C. Morris. J Phys Chem 37:87-91 Ja '33
- Thermochemical constants of the hexafluorides of sulphur, selenium and tellurium. D. M. Yost and W. H. Claussen. Am Chem Soc J 55:885-91 Mr '33
- Vapor-handling capacity of automobile fuel systems. O. C. Bridgeman, H. S. White and F. B. Gary. S A E J 32:157-63 Ap '33
- Vapor pressure and boiling point of pure methylacetylene. G. B. Heisig and C. D. Hurd. Am Chem Soc J 55:3485-7 Ag '33
- Vapor pressure and heat of vaporization of graphite. A. L. Marshall and F. J. Norton. Am Chem Soc J 55:431-2 Ja '33
- Vapor pressure constant of methane. T. E. Sterne. Phys R 42:556-64 N 15 '32
- Vapor pressure of cadmium oxide. W. B. Hincke. Am Chem Soc J 55:1751-3 My '33
- Vapor pressure of crystalline benzene and cyclohexene. V. R. Deitz. diags Am Chem Soc J 55:472-5 F '33
- Vapor pressure of liquid and solid carbon dioxide. C. H. Meyers and M. S. Van Dusen. diags U S Bur Stand J Research 10:381-412 Mr '33
- Vapor pressure of low-boiling paraffin hydrocarbons in absorber oil. G. L. Matheson and L. W. T. Cummings. diags Ind & Eng Chem 25:723-5 J1 '33; Same cond. Oil & Gas J 31:35 Ap 27 '33
- Vapor pressure of normal butyl chloride. C. W. Lenth. Am Chem Soc J 55:3283 Ag '33
- Vapour pressure of *trans*-di-iodoethylene. I. F. Broadway and R. G. J. Fraser. Chem Soc J p429-30 Ap '33
- Vapor pressure of vacuum cements. R. M. Zabel. R Sci Instr 4:233-4 Ap '33
- Vapor pressures and activity coefficients of aqueous solutions of perchloric acid at 25°. J. N. Pearce and A. F. Nelson. Am Chem Soc J 55:3075-81 Ag '33
- Vapor pressures of fumigants;  $\alpha$ ,  $\beta$ -propylene dichloride. O. A. Nelson and H. D. Young. Am Chem Soc J 55:2429-31 Je '33
- Vapor pressures of propane and propylene. A. W. Francis and G. W. Robbins. diags Am Chem Soc J 55:4339-42 N '33

*See also*

Vaporization, Heat of

**VAPORIZATION**

- Improved method of introducing the sample into a Victor Meyer vaporization chamber. A. Dietz. diags J Chem Educ 9:2096-8 D '32
- Kondensation und verdampfung; neuere anschauungen und versuche. M. Jakob. il diags Zeit Ver Deutsch Ing 76:1161-70 N 26 '32
- Refinery and natural gasoline technology; calculation of refinery vaporization and condensation requirements. G. A. Burrell and N. C. Turner. Nat Pet N 25:18-21 N 8 '33

*See also*

Evaporation

**VAPORIZATION, Heat of**

- Estimation of latent heats of vaporization. J. H. Arnold. bibliog Ind & Eng Chem 25:659-61 Je '33
- Heat of vaporization of hydrogen fluoride. J. H. Simons and J. W. Bouknight. diags Am Chem Soc J 55:1458-60 Ap '33
- Improved methods for approximating critical and thermal properties of petroleum fractions. K. M. Watson and E. F. Nelson. bibliog Ind & Eng Chem 25:880-7 Ag '33
- Method for interpolating data, based on Dühring's rule. J. H. Perry and E. R. Smith. bibliog Ind & Eng Chem 25:195-9 F '33
- Vapor pressure and heat of vaporization of graphite. A. L. Marshall and F. J. Norton. Am Chem Soc J 55:431-2 Ja '33

**VAPORS**

- High-pressure rectification; N-pentane-N-heptane system. L. W. T. Cummings, F. W. Stones and M. A. Volante. bibliog diags Ind & Eng Chem 25:728-32 J1 '33
- Influence of combined oxygen on the adsorption of vapors by porous solids. L. J. Burroughs. bibliog J Phys Chem 37:505-10, 735-44 Ap, Je '33
- New method for obtaining data for the sorption of vapors by solids. J. L. Porter. bibliog diags J Phys Chem 37:361-6 Mr '33
- Pressure-temperature and low pressure total heat relationships of petroleum fractions. E. G. Ragatz, E. R. McCartney and R. E. Haylett. il diags Ind & Eng Chem 25:975-9 S '33
- Smoke for testing air currents. J. E. Hyler. diags Factory Management 91:108-9 Mr '33
- Sorption of organic vapors by resinous and cellulosic materials. C. H. Winning and J. W. Williams. Am Chem Soc J 55:3560-9 S '33
- Sorption von gasen, dämpfen und nebeln. H. Remy. Angew Chemie 46:101-4 F 11 '33
- Surface tension of mercury and of water in contact with saturated vapors of organic liquids. F. E. Bartell, L. O. Case and H. Brown. Am Chem Soc J 55:2769-76 J1 '33
- Vapor-liquid equilibria for N-hexane-benzene mixtures. C. O. Tongberg and F. Johnston. bibliog Ind & Eng Chem 25:733-5 J1 '33
- Vapor-liquid equilibria of hydrocarbon mixtures. E. C. Bromiley and D. Quiggle. bibliog Ind & Eng Chem 25:1136-8 O '33
- Vapor-liquid equilibria of hydrocarbons at high pressures. W. K. Lewis and C. D. Luke. bibliog Ind & Eng Chem 25:725-7 J1 '33

*See also*

Absorption	Steam
Adsorption	Steam flow
Evaporation	Vapor pressure
Gases	Water vapor

**VARIATION (biology)**

- Misuse of the term variation. H. L. Clark. Am J Sci 5th ser 26:363 S '33
- Variability and individuality. C. C. Little. Science 77:195-7 F 17 '33

**VARIATION (statistics)**

- Analysis of variance as an effective method of handling the time element in certain economic statistics. T. W. Schultz and G. W. Snedecor. Am Statist Assn J 28:14-30 Mr '33
- Analysis of variance in a "2x's" table with disproportionate frequencies. A. E. Brandt. bibliog Am Statist Assn J 28:164-73 Je '33
- Principles of statistical analysis occasionally overlooked. A. G. McNish. J Fr Inst 215:697-703 Je '33

*See also*

Frequency distribution (statistics)	Seasonal variation (statistics)
-------------------------------------	---------------------------------

**VARICOSE veins**

- By-product sodium morrhuate. S. Caspe. bibliog Ind & Eng Chem 25:1177 O '33

**VARLEY, Cromwell Fleetwood**

- Varley brothers. Cromwell Fleetwood Varley and Samuel Alfred Varley. A. G. Lee. bibliog Inst E E J 71:958-64 D '32

**VARLEY, Samuel Alfred**

Varley brothers: Cromwell Fleetwood Varley and Samuel Alfred Varley. A. G. Lee. bibliog  
Inst E E J 71:953-64 D '32

**VARLEY phase rotation test**

Phase rotation; the theory of the Varley test. G. W. Stubbings. Electrician 111:502-3 O 27 '33

**VARNISH and varnishing**

Accelerated weathering of paints and varnishes. V. G. Jolly. il Soc Chem Ind J 52:329T-36T O 13 '33; Abstract. Soc Chem Ind J (Chem & Ind) 52:264-6 Mr 24 '33; Same. Chem Age (Lond) 28:214-15 Mr 11 '33

Colloidal behaviour in paint and varnish systems. W. E. Wornum. Chem Age (Lond) 28:453 My 20 '33

Country's leadership in the manufacture of paint is largely traceable to petroleum industry. M. B. Chittick. Oil & Gas J 31:20 Ap 6 '33

Effect of synthetic resins and pigments on drier absorption and viscosity. Oil Paint & Drug Rep Extra ed 122:37-8 N 29 '32

Furan compounds; use in coating formulas. N. F. Peters. bibliog il Plastic Prod 9:92-6 My '33

How spirit varnishes may be standardized. W. H. Gardner. Chem & Met Eng 40:144-6 Mr '33

Impregnation varnishes; evaporation of solvents and the oxidation of varnishes used for electrical windings, etc. D. Texier. diags Electrician 109:666-71 N 25 '32

Insulating varnish production. il Elec R (Lond) 112:372 Mr 17 '33

Insulations; enamels, paints, etc. H. Warren. Electrician 111:281-2 S 8 '33

Insulations; enamels, paints, etc. H. Warren. Electrician 110:184-6 F 10 '33

Method of determining solvent properties of volatile thinners in varnishes. M. Frandsen. Ind & Eng Chem Anal ed 5:184-5 My 15 '33

Newer chemistry of coatings. C. Ellis. bibliog il Ind & Eng Chem 25:125-32 F '33

Outbreak of dermatitis in cotton mills due to varnish. L. Schwartz and C. L. Pool. J Ind Hygiene 15:214-25 Jl '33; Abstract. Nat Safety N 28:44 S '33

Pale-colored vulcanized rubber varnishes. Rubber Age 33:64 My '33

Plastics in the paint industry: abstract. L. A. Jordan. Chem Age (Lond) 28:522 Je 10 '33

Service requirements of insulating varnishes. R. H. Arnold and L. E. Frost. il Ind & Eng Chem 25:133-5 F '33; Same abr. Power 76:318 D '32; Excerpts. Elec J 29:535 N '32

Varnishes and lacquers for rubber footwear. D. D. Wright. Ind & Eng Chem 25:140-1 F '33; Same. Rubber Age 32:325-6 F '33

Les vernis et peintures nitrocellulosiques et leurs dérivés. A. Antoni. il Génie Civil 103:133-7, 149-55 Ag 5-12 '33

Zur quantitativen ermittlung der haftfestigkeit von anstrichen. E. K. O. Schmidt. bibliog il diags Angew Chemie 46:525-9 Ag 12 '33

See also

Films	Pyroxylin
Japanning	Rosin
Lacquer and lacquer-	Shellac
ing	Tung oil

**Testing**

Application of control analysis to the quality of varnished cambrie tape. M. F. Skinner. Am Soc T M Proc 32 pt 2:670-5 '32

Kauri reduction vs. durability of newer type varnishes. Oil Paint & Drug Rep Extra ed 122:45-7 N 29 '32

**VARVES**

Varved sediments. E. Antevs. bibliog Nat Research Council Bul 89:89-90 '32

**VASICINE**

Vasicine. T. P. Ghose and others. Chem Soc J p2740-4 N '32

**VAT dyes.** See Dyes and dyeing—Vat dyes**VATS**

Wood vats in the chemical using trades; a wide range of uses and general adaptability. il Chem Age (Lond) 27:496-8 N 26 '32

**VAULTS**

Bank vaults—a battle of wits. H. Hammond. il Bankers M 126:17-22 Ja '33

Modern banking facilities; Springfield safe deposit and trust company, Springfield, Mass. il Manuf Rec 102:22 Ap '33

Why these huge vaults? Bankers M 126:187, 189-91 F '33

**VAULTS (sepulchral).** See Tombs**VEBLEN, Thorstein**

Thorstein Veblen; a chapter in American economic thought. R. V. Teggart. Univ of Calif Pub in Economics v2, no1:1-126 [bibliog p118-24] '32

**VECTOR analysis**

Analytic and vector mechanics. H. W. Edwards. 428p \$4 McGraw-Hill '33

Graphical determination of the symmetrical components in a 3-phase unbalanced system. R. Laplante. Elec Eng 51:886-7 D '32

Notes on symmetrical components. Electrician 109:644, 687, 720 N 18-D 2 '32

Practical analysis of parallel resonance. R. Lee. diags Inst Radio Eng Proc 21:271-81 F '33

Unbalanced 3-phase systems; formulæ for calculating magnitude of components. S. A. Stigant. Electrician 111:230-2 Ag 25 '33

Uses of synchronous machine quantities in system studies. W. M. Hanna. Gen Elec R 36:116-28 Mr '33

Vector analysis. H. B. Phillips. 236p \$2.50 Wiley '33

Voltage drop in distribution. Electrician 111:525 O 27 '33

**VEGETABLE gardening**

Community programs for subsistence gardens. J. C. Colcord and M. Johnston. 74p pa 25c Russell Sage foundation, 130 E. 22d st, New York '33

Cooperative farm plan of the B.F. Goodrich co. Monthly Labor R 36:771-4 Ap '33

Grand' Mère gardens relieved distress of unemployed. Pulp & Pa of Can 34:225-6 Mr '33

How to grow vegetables for profit; the King farms, Morrisville, Pa. il Fortune 8:42-9+ O '33

**VEGETABLE parchment.** See Parchment paper**VEGETABLES**

Every package a showcase for fresh foods. F. K. Lawler. il Food Ind 5:91 Mr '33

Packaged vegetables. il Business Week p8-9 F 15 '33

Pellagra-preventive value of green cabbage, collards, mustard greens, and kale. G. A. Wheeler and D. J. Hunt. Pub Health Rep 48:754-8 Je 30 '33

Poisonous spray residues on vegetables. W. B. White. bibliog Ind & Eng Chem 25:621-3 Je '33

Science aids the canners. E. F. Kohman. il Sci Am 148:34-5 Ja '33

Vegetables and fresh fruits. Food Ind 5:58-9 F '33

See also

Canned food	Drying (fruit and
Cooling of fruit and	vegetables)
vegetables	
also names of vegetables, e.g. Beets and beet sugar; Corn; Peas; Potatoes; Tomatoes	

**Cleaning**

Inexpensive brush washer doubles plant capacity. F. K. Lawler. il Food Ind 5:307 Ag '33

**Marketing**

How to grow vegetables for profit; the King farms, Morrisville, Pa. il Fortune 8:42-9+ O '33

**Storage**

Results obtained in storing cabbage and other vegetables in Königsberg; abstract. W. Rost. Refrig Eng 25:40 Ja '33



VEGETABLES—*Continued*

## Transportation

Why \$8.65 per car of fresh fruits and vegetables? F. E. Winburn. Ry Age 94:863 Je 17 '33

## VEGETABLES, Frozen

Rôle of peroxidase in the deterioration of frozen fruits and vegetables. M. A. Joslyn and G. L. Marsh. Science 78:174-5 Ag 25 '33

VEHICLE administrators. See American association of vehicle administrators

## VEHICLES

## See also

Automobiles	Motor trucks
Cars	Motor vehicles
Electric trucks	Street cars
Motor buses	Taxicabs
Motor cycles	Trucks

VEHICULAR tunnels. See Tunnels and tunneling—Vehicular tunnels

## VELVET

Freshening and cleansing of velvet goods. Am Dyestuff Rep 22:4 Ja 2 '33

## VENDING machines

Automatic merchandising at service stations. H. W. Alexander. Pet Age 27:29-30 Ja '33  
Charles-of-Ritz robots to help women glow at 5 cents a throw. Sales Management 32:483 My 1 '33

Will the automatic ice vending machine revolutionize the industry? M. T. Zeigler; W. McKemie. Refrig W 67:16-18, 20 D '32

## VENDORS and purchasers

Cases and materials on the law of vendor and purchaser. M. Handler. 925p West '33

## VENEERS and veneering

Über die herstellung von furnieren und sperrholz. A. Upmalis. il Zeit Ver Deutsch Ing 77:844-6 Ag 5 '33

Veneers for cask manufacture. il Chem Age (Lond) 28:31-3 Ja 14 '33

## VENEREAL diseases

## See also

Syphilis

## VENEZUELA

South American countries—Venezuela. S. Bell. Comm & Fin 22:88-9 Ja 18 '33

## Economic conditions

Economic conditions in Venezuela. R. J. Kirwin. Chem Age (Lond) 28:6 Ja 7 '33

VENEZUELA telephone and electrical appliances company, limited. See Telephone properties, limited

## VENEZUELAN oil concessions, limited

Oil producing company accounts. Economist 116:1144 My 27 '33

Ordinary annual general meeting, 17th, London. Economist 116:1212 Je 3 '33

## VENICE

## Bridges

Le pont-route réunissant Venise à la terre ferme. E. Miozzi. il diags maps Génie Civil 102:365-71 Ap 22 '33

## VENOM

Effect of moccasin venom upon a rattlesnake. H. K. Gloyd. Science 78:13-14 Jl 7 '33

## VENTILATION

Air-conditioning with relation to comfort, health, and efficiency. E. R. Hayhurst. bibliog J Ind Hygiene 15:98-115 Mr '33

Air motion. H. A. Brod. Elec West 70:246 Je '33

Attic ventilation for summer cooling. diags Sheet Metal Worker 24:121-2 Ap '33

Drafting room symbols for drawings relating to pipe, pipe fittings, and heating and ventilating equipment. Heat & Ven 30:42A-42B Je '33

Heating and ventilating problem; heating a lodge hall. plan Sheet Metal Worker 24:172-3+ Je '33

Heating of buildings; Tootal Broadhurst Lee heating and ventilating installation. Electrician 110:432 Mr 31 '33

Influence of respiration and transpiration on ionic content of air of occupied rooms. C. P. Yaglou, L. C. Benjamin and A. Brandt. bibliog diag J Ind Hygiene 15:8-17 Ja '33

Intakes for ventilation. il diags Sheet Metal Worker 24:295-7 S '33

Large air volume exhausted from "Century of progress" buildings. il plan Heating-Piping 5:256-7 My '33

New Cincinnati union terminal has novel features. il Heating-Piping 5:337-40 Jl '33

New ventilation systems of the Senate and House chambers of the Capitol, Washington, D.C. L. Greenburg and J. J. Bloomfield. diag Pub Health Rep 48:138-51 F 10 '33

Noise in heating and air conditioning. S. R. Lewis. diag Heating-Piping 5:198-9 Ap '33

Requirements for heating, piping and ventilating work in federal buildings. G. K. Bringham. diags plans Heat & Ven 30:32-5 Mr '33

Testing and rating of air cleaning devices used for general ventilation work. S. R. Lewis. bibliog diags Heating-Piping 5:275-9 My '33

Ventilating a basement. diags Sheet Metal Worker 24:318+ O '33

Ventilating a kitchen and bath room. plan Sheet Metal Worker 24:251-2 Ag '33

Ventilating a lodge room. diag plans Sheet Metal Worker 24:179-80 Je '33

Ventilating two adjoining shops. P. R. Jordan. diags Sheet Metal Worker 24:54+ F '33

Ventilation of transformer manholes and vaults. W. T. Rose. Elec W 102:529-30 O 21 '33

## See also

Air conditioning	Exhaust systems
Air filters	Fans, Mechanical
Air flow	Heating
Air pipes	Humidity
Air pollution	Mechanical equipment
Car ventilation	of buildings
Chimneys	Mine ventilation
Cooling	Ozone
Dust removal	Tunnel ventilation
Electric fans, Ventilating	Ventilators

also subdivision Heating and ventilation under various subjects, e.g.

Automobiles	Office buildings
Factories	Paper mills
Garages	Railroads—Terminals
Hospitals	Ships
Library buildings	Theaters
Moving picture theaters	

also American society of heating and ventilating engineers

## Tables, calculations, etc.

Estimating ductwork; weights of rectangular galvanized steel ducts per foot; reference data sheet. Heat & Ven 30:50a-50b Ja; 34a-34b F; 30a-30b Mr; 42a-42b Ap; 42a-42b My '33

Indices of air change and air distribution. F. C. Houghton and J. L. Blackshaw. il diag Heating-Piping 5:324-30 Je '33

Measurement of the flow of air through registers and grilles. L. E. Davies. il diags Heating-Piping 5:486-95 S '33; Abstract. Heat & Ven 30:41 S '33

## VENTILATION equipment

## Patents

Summary of the by pass patents. E. H. Purdy. diags Refrig Eng 25:263+ My '33

## VENTILATION research

Heating and ventilating; current research projects. Power 77:258-9 My '33

Heizung und lüftung. W. Fischer and F. Schenck. Zeit Ver Deutsch Ing 76:1185-8 D 3 '32

Measurement of the flow of air through registers and grilles. L. E. Davies. il diags Heating-Piping 5:486-95 S '33; Abstract. Heat & Ven 30:41 S '33

**VENTILATION research—Continued**

- Report of the committee on research for 1932; American society of heating and ventilating engineers. G. L. Larson and F. C. Houghten. Heating-Piping 5:165-8 Mr '33
- Research work of the year. il Heat & Vent 30:20-3 Ja '33
- Temperature gradient observations in a large heated space; field house at the University of Wisconsin. G. L. Larson, D. W. Nelson and O. C. Cromer. il diags Heating-Piping 5:477-85 S '33

**VENTILATORS**

- Allen turbine ventilators. il Metal Ind 31:256 Jl '33
- Ausnutzung der kinetischen austrittsenergie der luft bei ventilatoren mittels diffusoren. H. Vüllers. diags Zeit Ver Deutsch Ing 77:847-9 Ag 5 '33
- Body ventilation; the Fisher individually controlled window ventilators. diags Automobile Eng 23:189-90 My '33
- Coda de luxe window ventilator equipped with filters. il Sheet Metal Worker 24:277 Ag '33
- Control of motors driving ventilating fans. S. R. Lewis. il diags Heating-Piping 4:794-6 D '32
- Efficient ventilation of buildings. il Chem Age (Lond) 29:378-9 O 21 '33
- New type stream line flow induction ventilator. diag Marine R 63:29 Ag '33
- Roof ventilators automatically controlled. il Sheet Metal Worker 24:224-5 Jl '33
- Servicing the air filters for 140 unit ventilators; Cincinnati & suburban Bell telephone company building. W. H. Junker. il diags plan Heating-Piping 5:302-3+ Je '33
- Ventilators for factory service. P. R. Jordan. diags Sheet Metal Worker 23:477-8 N '32

*See also*

Electric fans, Ventilating

**VENTING. See Dust explosions—Venting****VENTURI flume**

- Non-uniform flow of water. F. V. A. E. Engel. il diags Engineer 155:392-4, 429-30, 456-7 Ap 21-My 5 '33
- Ten foot Parschall measuring flume; abstract. C. G. Richardson. Water Works & Sewerage 80:359 O '33

**VENTURI meter**

- New flow meter uses side contractions only. F. A. Nagler. il diags Eng N 111:132 Ag 3 '33

**VERANDAS. See Porches****VEREIN deutscher chemiker**

- Hauptversammlung des Vereins deutscher chemiker zu Würzburg vom 7. bis. 11. Juni 1933. Angew Chemie 46:357-436 Je 24 '33

**VEREIN deutscher eisenhüttenleute**

- Aus der tätigkeit des Vereins deutscher eisenhüttenleute im jahre 1932. bibliog Stahl & Eisen 53:57-75 Ja 19 '33

- Wissenschaftliche haupttagung am 26. November 1932 in Düsseldorf. Stahl & Eisen 52:1237-8 D 15 '32

**VEREIN deutscher ingenieure**

- Die deutschen ingenieure am Bodensee zur 71. hauptversammlung. C. Matschoss. Zeit Ver Deutsch Ing 77:537-42 My 27 '33

- Die ingenieurtage am Bodensee; das bekenntnis der deutschen ingenieure zur neuen staatsführung. W. Parey. il Zeit Ver Deutsch Ing 77:725-31 Jl 8 '33

**VERMICULITE**

- Vermiculite. A. V. Petar. bibliog U S Bur Mines Information Circ 6720:1-10 '33

**VERMONT****Boundary**

- Vermont-New Hampshire boundary fixed by U.S. Supreme court. Eng N 111:36 Jl 13 '33

**VERTEBRATES**

- Eurypterid influence on vertebrate history. A. S. Romer. Science 78:114-17 Ag 11 '33
- New anthropogeny; twenty-five stages of vertebrate evolution, from Silurian Chordate to man. W. K. Gregory. Science 77:29-40 Ja 13 '33

**VERTEBRATES, Fossil**

- New species of the amblypod titanoides from western Colorado. B. Patterson. bibliog il Am J Sci 5th ser 25:415-25 My '33
- Vertebrate paleontology. A. S. Romer. 491p [bibliog p451-74] \$5 Univ. of Chicago press '33

*See also*

Nannotrachus

**VIADUCTS. See Bridges****VIBRATION**

- Amplitudes of non-harmonic vibrations. J. P. Den Hartog. J Fr Inst 216:459-73 O '33
- Baugrundforschung. A. Hertwig. diags Zeit Ver Deutsch Ing 77:550-6 My 27 '33
- Counteracting destructive vibration in equipment. G. H. Fletcher. il diag Elec Traction 28:443+ N '32
- Crystallization of metals is not caused by vibration. J. A. Kendrick. Power Pl Eng 37:402 S '33
- Diagonal symmetry in Chladni plates. R. C. Colwell. il J Fr Inst 215:169-77 F '33
- Effect of vibration and delayed finishing on pavement slabs. F. H. Jackson and W. F. Kellermann. il Pub Roads 14:129-54 O '33
- Elastic properties of various materials and their effect on the transmission of vibrations. B. E. Eisenhour and F. G. Tyzzer. diags J Fr Inst 214:691-707 D '32
- Gegenwartsfragen der schwingungstechnik. H. Waas. Zeit Ver Deutsch Ing 77:831-2 Jl 29 '33
- Gummi in rädern für schienenfahrzeuge. P. Kremer and G. Reutlinger. il diag Zeit Ver Deutsch Ing 77:955-8 S 2 '33
- Method of exciting resonant vibrations in mechanical systems. L. B. Tuckerman, H. L. Dryden and H. E. Brooks. U S Bur Stand J Research 10:659-60 My '33
- Modes of vibration of piezo-electric crystals. N. H. Williams. diags Inst Radio Eng Proc 21:990-5 Jl '33
- Multiple interferometer for analyzing the vibrations of a quartz plate. H. Osterberg. il Phys R 43:819-29 My 15 '33
- Production of vibrations by solid carbon dioxide; abstract. M. D. Waller. Mech Eng 55:504-5 Ag '33
- Researches of the late Dr D. W. Dye on the vibrations of quartz. E. H. Rayner. diags Inst E E J 72:519-27, pl 1-4 Je '33
- La résistance des constructions aux mouvements vibratoires. A. Klein. Génie Civil 102:349-52, 371-5 Ap 15-22 '33
- Schall- und schwingungsdämmung im hochbau. W. Genest. diags Zeit Ver Deutsch Ing 77:427-8 Ap 22 '33
- Schwingungen in ventillfedern. E. Lehr. il diags Zeit Ver Deutsch Ing 77:457-62 My 6 '33
- Sensitivity of the finger-tip to vibrations at various frequency levels; comparison with ear. L. D. Goodfellow. J Fr Inst 216:387-92 S '33
- Stopping vibration of a steam line. B. Kramer. diags Heating-Piping 4:807-8 D '32
- Theorie des reibungs-schwingungsdämpfers. G. Jendrassik. diag Zeit Ver Deutsch Ing 77:1009-12 S 16 '33
- Triple interferometer for distinguishing flexural and longitudinal vibrations in quartz. H. Osterberg. il diags Opt Soc Am J 23:30-4 Ja '33
- Use of vibration in the manufacture of concrete products. M. N. Clair. Am Concrete Inst J 4:383-90 Je '33
- Die veränderlichkeit der werkstoffdämpfung. A. Esau and H. Kortum. bibliog Zeit Ver Deutsch Ing 77:1133-5 O 21 '33
- Vibration as a means of placing concrete. M. I. McCarty and others. il Am Concrete Inst J 5:49-64; Discussion. 65-71 S '33
- Vibrations of a coil-driven paper cone. F. R. W. Strafford. Wireless Eng 10:141 Mr '33; Discussion. 10:204, 313 Ap, Je '33



**VIBRATION**—*Continued*

Wirtschaftlichkeit der in resonanz betriebenen kraft- und arbeitsmaschinen. H. Schieferstein. *il diags Zeit Ver Deutsch Ing* 77:69-73 Ja 21 '33

*See also*

Accelerometer	Electric machinery
Automobiles—Vibration	—Vibration
Balancing of machinery	Light
Diesel engines—Vibration	Machinery—Vibration
Electric lines—Vibration	Ships—Vibration
	Sound waves
	Steam turbines—Vibration
	Vibrograph

**Measurement**

Avoiding instrument vibration. *il Sci Am* 149:180 O '33

Erschütterungsmessungen an einem gebäude mit erschütterungs-schutzmauer. W. Schneider. *Zeit Ver Deutsch Ing* 77:505-6 My 13 '33

Vibration; simple method for obtaining a close approximation to fundamental frequencies. J. Morris. *Automobile Eng* 23:175-6 My '33

**Physiological effect**

Riding comfort analysis. H. M. Jacklin and G. J. Liddell. *il diags Purdue Univ Eng Exp Sta Research Bul* 44:1-144 [bibliog p83-101] '33

Vorschlag für ein mass der schwingungsstärke. W. Zeller. *bibliog Zeit Ver Deutsch Ing* 77:323 Mr 25 '33

**VIBRATORS**

High frequency vibratory machines for concrete placement. M. I. McCarty. *il Am Concrete Inst J* 5:49-53 S '33

**VIBROGRAPH**

Improved vibrograph and some of its uses. T. Tirunarayanachar. *il diag R Sci Instr* 3:766-76 D '32

Tri-dimensional vibrograph. J. E. Shrader. *il J Fr Inst* 215:455-69 Ap '33

**VIBROMETER**

Avoiding instrument vibration. *il Sci Am* 149:180 O '33

Instruments supervise control of steam turbines. R. B. Smith. *il Power* 77:142-4 Mr '33

**VICKERS, Charles, 1865-1933**

Sketch. *por Foundry* 61:32 F '33

**VICKERS, Ltd.**

Official statement. *Engineer* 156:232 S 8 '33

**VICTORY life insurance company of Chicago**

New company is licensed to reinsure Victory Life. *Nat Underw (Life ed)* 37:7 Je 16 '33

Report is filed; audit and recommendations submitted six months after failure of negro company. *Nat Underw (Life ed)* 37:14 Ja 13 '33

Scandals are revealed in some high finance schemes. *Nat Underw (Life ed)* 37:4 F 10 '33

**VICTORY life insurance company, Topeka, Kansas**

Annual statement, 1932. *Spectator* 130:24 Mr 9 '33

**VIDAL, Eugene L. 1895-**

New faces and new policies in Washington. *por Aviation* 32:232, 233 Ag '33

**VIENNA****Architecture**

Viennese architecture. M. Eisler. *il Arch Forum* 57:500-2 D '32

**VILLA, Hernando**

Master of Indian portraiture. A. Leinard. *por Ptd Salesmanship* 60:222-5+ N '32

**VINEGAR****Manufacture**

Recirculating process lowers cost of vinegar production; with cost tables. A. L. Nugey. *diags Food Ind* 5:174-6 My '33

**VINYL acetate**

By-products of the carbide industry; the manufacture of ethylidene diacetate and vinyl acetate. G. O. Morrison and T. P. G.

Shaw. *bibliog diags Electrochem Soc Trans* 63 (preprint 21):197-219 My '33; Same abr. *Chem & Met Eng* 40:293-7 Je '33

Comparison of organic inhibitors in chain reactions; photo-polymerization of vinyl acetate; the autoxidation of sodium sulfite; photolysis of hydrogen peroxide. K. Jeu and H. N. Alyea. *Am Chem Soc J* 55:575-88 F '33

**VINYLACETIC acid**

Determination of dissociation constants of monobasic acids. D. J. G. Ives. *Chem Soc J* p731-7 Je '33

**VINYLACETYLENE**

Acetylene polymers and their derivatives;  $\alpha$ -alkyl- $\beta$ -vinylacetylenes. R. A. Jacobson and W. H. Carothers. *Am Chem Soc J* 55:1622-4 Ap '33

Acetylene polymers and their derivatives; halogen-4-butadienes-1,2; the mechanism of 1,4-addition and of  $\alpha,\gamma$ -rearrangement. W. H. Carothers and G. J. Berchet. *Am Chem Soc J* 55:2807-13 Jl '33

Acetylene polymers and their derivatives; mercury derivatives of vinylacetylene. W. H. Carothers, R. A. Jacobson and G. J. Berchet. *Am Chem Soc J* 55:4665-7 N '33

Acetylene polymers and their derivatives; 1-halogen-2-vinylacetylenes. R. A. Jacobson and W. H. Carothers. *Am Chem Soc J* 55:4667-9 N '33

Acetylene polymers and their derivatives; sodium vinylacetylide and vinyl ethynylcarbinols. W. H. Carothers and R. A. Jacobson. *Am Chem Soc J* 55:1097-1101 Mr '33

Acetylene polymers and their derivatives; the addition of hydrogen bromide to vinylacetylene, bromoprene and dibromobutene. W. H. Carothers, A. M. Collins and J. E. Kirby. *Am Chem Soc J* 55:786-8 F '33

Acetylene polymers and their derivatives; the chlorination of the hydrochlorides of vinylacetylene. W. H. Carothers and G. J. Berchet. *Am Chem Soc J* 55:1628-31 Ap '33

Acetylene polymers and their derivatives; vinyl ethynylmagnesium bromide and some of its reactions. W. H. Carothers and G. J. Berchet. *Am Chem Soc J* 55:1094-6 Mr '33

Action of radon on some unsaturated hydrocarbons; vinylacetylene and butadiene. G. B. Haisig. *bibliog Am Chem Soc J* 55:2304-11 Je '33

Synthesis and properties of 2-iodo-1-vinylacetylene. T. H. Vaughn and J. A. Nieuwland. *Chem Soc J* p741-3 Jl '33

**VINYLACRYLIC acid**

Modes of addition to conjugated unsaturated systems; the hydrogenation of ethyl muconate and sorbic and  $\beta$ -vinylacrylic acids in the presence of platinum. C. K. Ingold and L. D. Shah. *Chem Soc J* p885-90 Jl '33

**VINYL bromide**

Peroxide effect in the addition of reagents to unsaturated compounds; the addition of hydrogen bromide to vinyl bromide. M. S. Kharasch, M. C. McNab and F. R. Mayo. *Am Chem Soc J* 55:2521-30 Je '33

**VINYL compounds**

Alkaloidal cuprichlorides; the specific precipitation by cupric chloride of cinchona alkaloids containing the vinyl group. A. Cohen. *Chem Soc J* p996-1000 Ag '33

Applications of vinyl resins. J. G. Davidson and H. B. McClure. *bibliog il plan Ind & Eng Chem* 25:645-52 Je '33; Same. *Plastic Prod* 9:143-50 Je '33; Excerpt (Vinylite dwelling). *J Fr Inst* 216:406-8 S '33

Synthetic houses; house that chemistry built at the Century of progress exposition. *il Sci Am* 149:180 O '33

Vinylite. *Business Week* p8 Jl 8 '33

**VINYLETHINYLMAGNESIUM bromide**

Acetylene polymers and their derivatives; vinyl ethynylmagnesium bromide and some of its reactions. W. H. Carothers and G. J. Berchet. *Am Chem Soc J* 55:1094-6 Mr '33

**VINYL iodide**

Preparation of vinyl iodide. J. Spence. *Am Chem Soc J* 55:1290-1 Mr '33

**VINYL phenyl ketone**

Addition reactions of vinyl phenyl ketone; methyl malonate. C. F. H. Allen and H. W. J. Cressman. *Am Chem Soc J* 55: 2953-60 J1 '33

**VIOLINS**

Fiddling on aluminum. *il Sci Am* 148:25 Ja '33

**VIOSTEROL**. See Ergosterol, Irradiated**VIRGIN ISLANDS**

Economic and social conditions in Virgin Islands, 1931-32. Monthly Labor R 36:506-8 Mr '33

**VIRGINIA****Commerce**

Aid for analyzing markets in Delaware, Maryland, Virginia, West Virginia and the District of Columbia. C. B. Eliot. 27p U.S. Bur. of foreign and domestic commerce, Washington '33

**VIRGINIA academy of science**

Annual meeting, 11th, Fredericksburg, May 5-6. *Science* 77:541 Je 2 '33

**VIRUSES**

Borrelitoses; fowl-pox, molluscum contagiosum, variola-vaccinia. E. W. Goodpasture. *Science* 77:119-21 Ja 27 '33

Concept of the ultramicroscopic virus diseases and a classification. E. B. McKinley. *Science* 76:449-54 N 18 '32

Infection in mice following instillation of vesicular stomatitis virus. P. K. Olitsky, H. R. Cox and J. T. Syvertson. *Science* 77:611 Je 23 '33

Nonmannitol-fermenting type of *S. enteritidis* producing clinical reactions similar to those of Rocky Mountain spotted fever virus. L. F. Badger. *Pub Health Rep* 45:677-80 Je 16 '33

Particle size of biological units. J. H. Ferguson. *J Phys Chem* 36:2849-61 [bibliog p2860-1] D '32

Particle size of the virus of equine encephalomyelitis. A. P. Krueger, B. Howitt and V. Zeiler. *Science* 77:288-9 Mr 17 '33

Relationship of the viruses of vesicular stomatitis and of equine encephalomyelitis. J. T. Syvertson, H. R. Cox and P. K. Olitsky. *Science* 78:216-17 S 8 '33

Rod-shaped particles in tobacco mosaic virus demonstrated by stream double refraction. W. N. Takahashi and T. E. Rawlins. *diag Science* 77:26-7 Ja 6 '33

Stream double refraction exhibited by juice from both healthy and mosaic tobacco plants. W. N. Takahashi and T. E. Rawlins. *Science* 77:284 Mr 17 '33

**VISCOSE***See also*

Silk, Artificial

**VISCOSIMETERS**

Apparatus for precise viscosity measurement developed at Pennsylvania State college. R. C. Conine. *diags Oil & Gas J* 32:17+ O 19 '33

Consistency control of soft and stringy greases. E. R. Lederer and E. W. Zublin. *diag Nat Pet N* 25:36 S 13 '33

Heat effects in lubricating films. A. Kingsbury. *diag Mech Eng* 55:685-8 N '33

Investigation into the plastic properties of asphaltic bitumen. R. N. J. Saal and G. Koens. *diags Inst Pet Tech J* 19:181-6 Mr '33

Simplest and most accurate viscometer, and other instruments with suspended level. L. Ubbelohde. *il diags Inst Pet Tech J* 19:376-420 My '33

Windshield for Saybolt viscometer. F. J. Vitovec, Jr. *il Ind & Eng Chem Anal ed* 5:212 My 15 '33

*See also*

Mobilometer

**VISCOSITY**

Aging effects on gelatin dispersions. W. S. Mueller. *bibliog Ind & Eng Chem* 25:707-9 Je '33

Chemical and physical properties of sweet potato starch. F. H. Thurber. *bibliog il Ind & Eng Chem* 25:565-8 My '33

Consistency changes in starch pastes. G. V. Caesar. *Ind & Eng Chem* 24:1432-5 D '32

Develops application of a practical viscosity temperature coefficient for oil products. T. G. Bell and L. H. Sharp. *bibliog charts Oil & Gas J* 32:13-15, 16 Ag 17 '33

Effect of viscosity on friction in the region of thin-film lubrication. O. C. Bridgeman, S. A. McKee and F. G. Bitner. *il Am Pet Inst Proc* p154-8 sec 3 D '32

Flow of petroleum lubricating greases; abstract. M. H. Arveson. *Oil & Gas J* 32:34 S 14 '33

Frequency variation of the dielectric constant of dilute non-aqueous solutions. J. L. Oncley and J. W. Williams. *diags Phys R* 43: 341-54 Mr 1 '33

Glass spheres for viscosity determination of cuprammonium solutions of cellulose. L. S. Grant, Jr. and W. M. Billing. *Ind & Eng Chem Anal ed* 5:270-1 J1 15 '33

Gravity index for lubricating oils; relation between viscosity index and viscosity-gravity constant. W. B. McCluer and M. R. Fenske. *Ind & Eng Chem* 24:1371-4 D '32

Investigation into the plastic properties of asphaltic bitumen. R. N. J. Saal and G. Koens. *diags Inst Pet Tech J* 19:176-212 Mr '33

Linen cellulose complex; the effects of alkaline hydrolysis. E. Butterworth and H. A. Elkin. *bibliog diag Textile Inst J* 24:T10-29 Ja '33

Measurement of the viscosity of tar. G. Barr and A. L. Thorogood. *diag Soc Chem Ind J* 51:381T-92T N 25 '32

Measurement of viscosities of liquids saturated with gases at high pressures. B. H. Sage. *il diags Ind & Eng Chem Anal ed* 5: 261-3 J1 15 '33

Messung der viskosität von gusseisen und anderen flüssigen metallen bei hohen temperaturen. A. Wimmer and H. Thielmann. *Stahl & Eisen* 53:44-5 Ja 12 '33

Nature of coagulation, viscosity, and thixotropy in colloidal systems. S. S. Kistler. *il J Phys Chem* 36:2948-66 D '32

New science of rheology. E. C. Bingham. *R Sci Instr* 4:473-6 S '33

Relationship between mole fractions and absolute viscosities of blended lubricating oils. E. R. Epperson and H. L. Dunlap. *Ind & Eng Chem* 24:1369-71 D '32

Relative viscosities of wheat starches. C. E. Mangels and C. H. Bailey. *il Ind & Eng Chem* 25:456-60 Ap '33

Road tars. H. Pickard. *Soc Chem Ind J (Chem & Ind)* 52:4-5 Ja 6 '33

Simplest and most accurate viscometer, and other instruments with suspended level. L. Ubbelohde. *il diags Inst Pet Tech J* 19:376-420 My '33

Tensile strength and fluidity in cuprammonium hydroxide solution of chemically modified rayon and cotton yarns; oxidation by hypochlorite solutions. B. P. Ridge and H. Bowden. *bibliog diag tables Textile Inst J* 23:T319-66 D '32

Transport phenomena in Einstein-Bose and Fermi-Dirac gases. E. A. Uehling and G. E. Uhlenbeck. *Phys R* 43:552-61 Ap 1 '33

Über zähigkeitsmessungen bei kresolen. J. Scheiber. *Angew Chemie* 46:503-5 J1 29 '33

Variation of viscosity with temperature. J. C. Geniesse and T. G. Delbridge. *chart Am Pet Inst Proc (Refining div)* p56-8 Je '32

Die viscosität als materialkonstante und ihre messung. K. Fischer. *Chemische Fabrik* 5: 446-50, 459-61, 471-3 N 23-D '32

Die viscosität als materialkonstante und ihre messung. L. Ubbelohde. *Chemische Fabrik* 6:165-7 Ap 12 '33

Viscosity and molecular weights of polymeric materials. E. O. Kraemer and F. J. Van Natta. *J Phys Chem* 36:3175-86 D '32

Viscosity blending and dilution charts for use in compounding lubricants. C. M. Larson. *Oil & Gas J* 31:37 N 24 '32



**VISCOSITY—Continued**

Viscosity classification for industrial lubricants; discussion at the A.S.M.E. lubrication meeting. Blast F & Steel Pl 21:423+ Ag '33

Viscosity of aqueous solutions as a function of the concentration. G. Jones and S. K. Talley. diags Am Chem Soc J 55:624-42 F '33

Viscosity of aqueous solutions as a function of the concentration; potassium bromide and potassium chloride. G. Jones and S. K. Talley. Am Chem Soc J 55:4124-5 O '33

Viscosity of cellulose acetate solutions. T. E. Ellison. Soc Chem Ind J (Chem & Ind) 52: 134-6 F 17 '33

Viscosity of cellulose solutions. Engineering 136:115-16 Ag 4 '33

Viscosity of  $H^2PO_4$ . G. N. Lewis and R. T. Macdonald. Am Chem Soc J 55:4730-1 N '33

Viscosity of nitrobenzene. W. M. Cox and J. H. Wolfenden. diag Chem Soc J p118-19 F '33

Viscosity of optical glass. W. H. Wadleigh. diags U S Bur Stand J Research 11:65-78 Jl '33

Viscosity of sulphuric-acid solutions used for battery electrolytes. G. W. Vinal and D. N. Craig. diag U S Bur Stand J Research 10: 781-93 Je '33

Viscosity-temperature zone-gravity classification of lubricating oils. C. M. Larson and W. C. Schwaderer. bibliog chart Nat Pet N 25:25-8 My 10 '33

Why not define viscosity slope on fundamental basis? A. L. Clayden. Nat Pet N 25:27-30 O 18 '33

Zur kenntnis binärer gemische; die viscosität von naphthalinlösungen. L. Piatti. Angew Chemie 45:719-20 N 12 '32

*See also*

Friction, Internal

Plasticity

Surface tension

**VISCOUS materials****Moisture content**

Determination of moisture in sirups and viscous materials. E. W. Rice and P. Boleracki. Ind & Eng Chem Anal ed 5:11-12 Ja 15 '33

**VISES**

Equalizing pressure of vise jaws. F. Paquin. il Am Mach 76:948 Ag 17 '32; Discussion. 76:1169, 1235-6; 77:317-18 N 23, D 21 '32, My 10 '33

Novel vice; self-adjusting jaws for holding irregular pieces. il Automobile Eng 23:220 Je '33

Noveto bench vice. il Engineering 135:527 My 12 '33; Engineer 155:485 My 12 '33

Quick-acting equalizing vise. D. L. Curtis. diag Am Mach 77:154-5 Mr 1 '33

Vise jaws vs. milling fixtures. C. W. Hinman. diags Am Mach 77:295 My 10 '33

**VISIBILITY**

Comparative visibility of standard luminous and nonluminous highway signs. F. W. Mills. il Pub Roads 14:109-28 S '33; Summary. Roads & Sts 76:358 O '33

Effect of the spectral transmission of the atmosphere upon visibility by artificial light. M. G. Bennett. Illum Engr 26:75-80 Mr '33

Human seeing-machine. M. Luckiesh and F. K. Moss. bibliog J Fr Inst 215:629-54 Je '33

Seeing and highway safety. M. Luckiesh. Nat Safety N 28:33-6+ O '33

*See also*

Lighting

Optics, Physiological

Sight

**VISIBLE records.** See Records, Visible

**VISION.** See Sight

**VISUAL education***See also*

Lantern slides

Moving pictures in education

**VITAL statistics**

History and sources of official vital statistics. M. Greenwood. Assn of Sp Lib & Inf Bur Proc 1932:54-61

*See also*

Birth rate

Census

Death registration

Mortality—Statistics

Population—Statistics

**VITAMINS**

Availability of vitamins in plant tissues. J. E. Richardson and H. L. Mayfield. Science 76: 498-500 N 25 '32

Chemistry in 1932. Ind & Eng Chem 25:6 Ja '33

Effect of diet on resistance to infection; abstract. E. C. Robertson. Can Chem & Met 17:73 Ap '33

Experimentelle analyse der avitaminosen; abstract. W. Kollath. Angew Chemie 46:131-2 F 25 '33

Functions of the adrenal gland. F. A. Hartman, J. E. Lockwood and K. A. Brownell. Science 77:sup9-10 Ap 14 '33

International vitamin standards. H. G. Knight. Science 77:184 F 17 '33

Milk as a constant source of vitamins. H. C. Sherman. Science 78:sup10 O 13 '33

Need for standardization of products containing added vitamins. K. Culhane and S. W. F. Underhill. Soc Chem Ind J (Chem & Ind) 52:66-8 Ja 27 '33; Abstract. Chem Age (Lond) 28:27 Ja 14 '33

Pharmacopoeial vitamin advisory board. Science 77:233-4 Mr 3 '33

Recent advances in the chemistry of vitamins. I. E. Routh. bibliog J Chem Educ 10:13-19 Ja '33

Recent progress in fine chemicals. F. H. Carr. Chem Age (Lond) 27:624-5 D 31 '32

Science aids the canners. E. F. Kohman. il Sci Am 148:34-5 Ja '33

Study of canned shrimp with reference to the presence of vitamins A, B and D. M. C. Moore and H. W. Moseley. bibliog Science 78:368-9 O 20 '33

Vitamin content of natural products. A. L. Bacharach. Soc Chem Ind J (Chem & Ind) 52:68-71 Ja 27 '33

Vitamins in health and disease. B. Sure. 206p \$2 Century co. '33

*See also*

Bios

Coenzymes

**Vitamin A**

Concentrated vitamins. Sci Am 148:123 F '33

Conversion of carotene into vitamin-A in the animal body; abstract. R. J. Macwalter and J. C. Drummond. Soc Chem Ind J (Chem & Ind) 52:272 Mr 24 '33

Effect of storage on vitamin A in dried foods. G. S. Fraps and R. Treichler. Ind & Eng Chem 25:465-6 Ap '33

Medical aspects of vitamin A as an anti-infective agent. R. G. Turner. J Chem Educ 10:97-8 F '33

Observations on vitamin A deficiency in dogs. A. M. Stimson and O. F. Hedley. Pub Health Rep 48:445-9, pl 1 Ap 28 '33

Structure of vitamin A and the synthesis of ionenes. M. T. Bogert. Science 76:475-6 N 18 '32

Vitamin A content of foods and feeds; abstract. G. S. Fraps and R. Treichler. J Fr Inst 216:664-5 N '33

Vitamin A content of naturally colored nut margarines. C. F. Poe and H. A. Fehlmann. Ind & Eng Chem 25:402-3 Ap '33

Vitamin A in the pimiento pepper. L. Ascham. Science 77:351 Ap 7 '33

Vitamin A research. E. J. King. bibliog Can Chem & Met 16:266-9 N '32

Vitamins A and D in tuna meal. R. W. Truesdail and L. Shahinian. bibliog Ind & Eng Chem 25:661-2 Je '33

**Vitamin B (B<sub>1</sub> and B<sub>2</sub>)**

Adsorption experiments with vitamins B (B<sub>1</sub>) and G(B<sub>2</sub>). H. C. Sherman and N. Halliday. Am Chem Soc J 55:332-5 Ja '33

Crystalline antineuritic vitamin (B<sub>1</sub>) obtained with the aid of picrolonic acid. A. Seidell and M. I. Smith. Am Chem Soc J 55:3380-3 Ag '33

- VITAMINS**—Vitamin B (B<sub>1</sub> and B<sub>2</sub>)—*Continued*  
Investigation of vitamin-B<sub>2</sub>; abstract. M. White. Soc Chem Ind J (Chem & Ind) 52: 272 Mr 24 '33  
Relative extractability of vitamins B and G by plain and acidified alcohol. H. K. Stiebeling and I. L. Alleman. Am Chem Soc J 55:1477-80 Ap '33  
Study of some vitamin B adsorbates. V. Birckner. bibliog Pub Health Rep 48:7-16 Ja 6 '33  
Vitamin B(B<sub>1</sub>) and G(B<sub>2</sub>) content of cottonseed products. M. L. Whitsitt. bibliog Ind & Eng Chem 25:1169-71 O '33  
Vitamin B<sub>2</sub> and pernicious anemia. W. B. Castle. Science 77:sup7-8 F 10 '33

#### Vitamin C

- Effect of carbon dioxide and sodium benzoate on vitamin C content of orange juice. A. F. Morgan, C. I. Langston and A. Field. bibliog Ind & Eng Chem 25:1174-6 O '33  
Stability of vitamin C in frozen orange juice during prolonged storage. H. H. Buskirk and others. Ind & Eng Chem 25:808-10 J1 '33  
Über das vitamin C. F. Mischeel. Angew Chemie 46:533-6 Ag 19 '33  
Über vitamin C. A. Szent-Györgyi. Angew Chemie 46:331-2 Je 3 '33  
Vitamin C activity of hexuronic acid from suprarenal glands. W. A. Waugh and C. G. King. bibliog Science 76:630 D 30 '32  
Vitamin C content of frozen orange and grapefruit juices. L. W. Conn and A. H. Johnson. Ind & Eng Chem 25:218-21 F '33  
Vitamin C content of frozen orange juice. E. M. Nelson and H. H. Mottern. Ind & Eng Chem 25:216-18 F '33  
Vitamin C content of strawberries and strawberry ice cream. C. R. Fellers and M. J. Mack. Ind & Eng Chem 25:1051-2 S '33  
Vitamin-C; specificity of hexuronic acid and a method for its determination in foodstuffs by chemical means; abstract. T. W. Birch, L. J. Harris and S. N. Ray. Soc Chem Ind J (Chem & Ind) 52:159-60 F 24 '33  
Vitamins in canned foods; canning tomato juice without vitamin C loss. E. F. Kohman, W. H. Eddy and C. Z. Gurin. Ind & Eng Chem 25:682-4 Je '33

#### Vitamin D

- Columbia university patents vitamin D product and supervises use. T. F. Zucker. Chemicals 37:9 D 26 '32  
Commercial assay of vitamin-D. W. A. Broom. il Soc Chem Ind J 52:105T-8T Ap 21 '33  
Milk and vitamin D; campaign of Dean milk company. il Ptr Ink 164:25 S 28 '33  
Phosphorus, vitamin D, and tooth decay. R. G. Agnew. Sci Am 148:106 F '33; Same. Science 76:sup8 D 16 '32  
Photographic recording of line tests for vitamin D. A. L. Bacharach and others. il diag Ind & Eng Chem Anal ed 5:12-14 Ja 15 '33  
Production and prevention of dental caries by dietary means; abstract. F. F. Tisdall, M. C. Agnew and R. G. Agnew. Can Chem & Met 17:73 Ap '33  
Sardine and tuna oils as sources of vitamin D. R. W. Truesdail and H. J. Culbertson. bibliog Ind & Eng Chem 25:563-4 My '33  
Too much vitamin D. L. Thatcher. Sci Am 149:128 S '33  
Use of vitamin D from cod-liver oil in milk and bread. T. F. Zucker. Science 77:19-20 Ja 6 '33  
Vitamin D potency of egg yolk from irradiated hens. G. H. Maughan and E. Maughan. Science 77:198 F 17 '33  
Vitamins A and D in tuna meal. R. W. Truesdail and L. Shahinian. bibliog Ind & Eng Chem 25:661-2 Je '33  
Vitamins; abstract. E. H. Reerink, A. van Wijk and J. van Niekirk. Food Ind 5:28 Ja '33

#### Vitamin G (B<sub>3</sub>)

See Vitamin B (B<sub>1</sub> and B<sub>2</sub>)

**VITREOSIL.** See Silica, Fused

#### VITRIFICATION

- Effect of various gaseous atmospheres on the vitrification of ceramic bodies. A. E. Badger. diag Am Cer Soc J 16:107-17 F '33  
Potash-soda-lime feldspar eutectic study. J. A. Martz. Am Cer Soc J 16:299-304 J1 '33

#### VOCABULARY

- Measuring our capabilities; work of Human engineering laboratories at Stevens institute of technology, Hoboken, N.J. and at Boston, Mass. C. W. Squier. Mech Eng 55: 603-7 O '33

See also

Words, New

#### VOCATIONAL education

- Experimental handicraft workshops in Zurich, Switzerland. Monthly Labor R 36:1291 Je '33  
Illinois vocational association; a report of the convention at Hotel Sherman, Chicago, November 4 and 5, 1932. (Bul. no.4) L. J. Lease, ed. 64p L. J. Lease, Thornton Township high school, Harvey, Ill. '33  
Sound objectives for the vocational school. J. A. McCarthy. Nat Safety N 28:25-6 Ag '33  
Washington conference on vocational education, May 1933. Monthly Labor R 37:97-9 J1 '33

See also

Agricultural education  
Apprentices  
Chemical education  
Employees, Training of  
Engineering education

Federal board for vocational education  
Library schools and training  
Mining schools and education  
School shops  
Technical education  
Textile schools

#### Wisconsin

- Wisconsin laws relating to vocational education. 25p Wisconsin. State board of vocational education, Madison '31

#### VOCATIONAL guidance

- Convention of National vocational guidance association, 1933. Monthly Labor R 36:1287-8 Je '33  
Finding a job. R. W. Babson. 191p \$1.50 Revell '33  
Home study courses as a part of the library's vocational guidance program. R. L. Newing. Lib J 58:723-4 S 15 '33  
Local committees for juvenile employment in Great Britain. Int Labour R 27:74-80 Ja '33  
Occupational misfits. S. Bevington. 102p G. Allen & Unwin ltd, London '33  
Talents and temperaments. A. Macrae. 211p \$2 Appleton '33  
Trends in vocational guidance. R. B. Cunliffe. Rutgers Univ School of Education Studies in Education no 4:1-42 '33  
Vocational guidance in engineering lines; American association of engineers announces new book. Prof Eng 18:7-8 Ap '33  
Your son and his vocation. J. R. Bangs. Sibley J 47:101-2+ Je '33

See also

Occupations, Choice of  
Profession, Choice of

#### Bibliography

- Leisure and the library; vocations. R. Hop-pock. Lib J 58:720-2 S 15 '33  
These booklets help your library give vocational guidance. il Lib J 58:730-4 S 15 '33  
**VOGT, Johan Herman Lie, 1858-1932**  
Memorial tribute. F. L. Ransome. bibliog Geol Soc Bul 44:419-21 Ap '33  
**VOGT iron.** See Ferrocast  
**VOGUE (periodical)**  
Look of eagles; Condé Nast. Adv & Sell 20: 21+ F 16 '33  
**VOICE**  
Voice; its production and reproduction. D. Stanley and J. P. Maxfield. 287p [bibliog p261-2] \$2.50 Pitman '33  
See also  
Public speaking  
Speech



**VOLATILE substances**

See also

Essential oils

Gasoline—Volatility

**VOLATILITY**

Vapor-liquid equilibria of hydrocarbons at high pressures. W. K. Lewis and C. D. Luke. *bibliog Ind & Eng Chem* 25:725-7 J1 '33

**VOLCANIC ash, tuff, etc.**

Classification and terminology of the pyroclastic rocks. C. K. Wentworth and H. Williams. *il Nat Research Council Bul* 89:19-53 '32

**VOLCANISM**

Contribution to the knowledge of sedimentary volcanism in Trinidad. H. G. Kugler. *pls Inst Pet Tech J* 19:743-60 [bibliog p760]; Discussion. 760-72 S '33

Date of recent volcanism in Colorado. R. E. Landon. *il maps Am J Sci* 5th ser 25:20-4 Ja '33

Relation of volcanism to diatomaceous and associated siliceous sediments. N. L. Taliaferro. *Univ of Calif Pub Geological Sciences* v 23, no 1:1-56 '33

**VOLCANOES**

Geology of the Lassen volcanic national park, California. H. Williams. *il maps Univ of Calif Pub Geological Sciences* v 21, no 8: 195-385 '32

Importance of volcanology. E. G. Zies. *Science* 76:sup9-10 D 2 '32

See also

Glass mountain, California  
Lava

Rocks, Igneous  
Steam, Natural

**VOLK, Magnus**

Volk's electric railway; fifty years of working at Brighton. *por Electrician* 111:167 Ag 11 '33

**VOLTAGE**

Battery voltage variations. G. Gory. *diags Automotive Ind* 68:66-8 Ja 21 '33

Circuit breaker kVA. *Electrician* 110:72 Ja 20 '33

Grid-controlled rectifier; calculation of d.c. voltage. *Electrician* 110:254-5 F 24 '33

Measurement of X-ray intensities as functions of voltage up to 180 kv. D. L. Webster, W. W. Hansen and F. B. Duveneck. *il diags R Sci Instr* 3:729-49 D '32

Ripple voltage of rectifiers; influence of higher a.c. harmonics. H. Geise and W. Plathner. *Electrician* 109:714-16 D 2 '32

Voltage variation; its effect in the shop. A. W. Forbes. *Am Mach* 77:555 Ag 30 '33

See also

High voltages

**VOLTAGE dividers**

Compensated divider needed for time surge measurement. C. M. Foust. *il diags Elec W* 101:70-1 Ja 14 '33

**VOLTAGE regulation**

Automatic tail-end booster. G. L. Porter. *il diags Elec R (Lond)* 113:183-4 Ag 11 '33

Electrical plant and machinery; a review of progress. J. H. Williams. *Inst E E J* 72: 115-16 F '33

Get the speed you need with variable-voltage control. P. W. Arnola. *il diags Factory Management* 91:218-20 Je '33

Grid control of mercury-arc rectifiers. O. K. Marti. *il diags Elec W* 102:507-9 O 14 '33

Grid-controlled rectifier; control of the d.c. voltage. *Electrician* 110:228 F 17 '33

Losses caused by needlessly high bus voltages. *Elec W* 101:611 My 13 '33

Low-cost regulation for rural substations. H. T. Sutcliffe. *il Elec West* 70:4-6 Ja '33

New reactors limit voltage rise on network cables. C. A. Woodrow. *il diags Elec W* 100:822-4 D 17 '32

Radio power from high-voltage rectifiers. N. Kotschubey. *il diags Elec W* 102:308-9 S 2 '33

Series capacitor improves 4150-volt line operation. W. S. Hill. *il Gen Elec R* 36: 461 O '33

Synchronous condenser; transmission line voltage control. *diags Electrician* 109:842 D 30 '32

Transformer tap-changing. *diags Electrician* 110:299, 331, 360 Mr 3-17 '33

Transmission system regulation requires local load capacity; Iowa public service company. M. W. Parr. *diag Elec W* 100:757-8 D 3 '32

Unsymmetrical regulation works well with rural feeders. H. B. Phelps. *diags Elec W* 101:802-4 Je 17 '33

Voltage drop in distribution. *Electrician* 111: 478, 525, 555 O 20-N 3 '33

Voltage regulation; application of series-coupled condenser to l.t. networks. R. Hintze. *diag Electrician* 111:389 S 29 '33

Voltage regulation of distribution cables; cost data. H. R. Searing and E. R. Thomas. *Elec Eng* 52:554-8 Ag '33

**VOLTAGE regulators**

Bangor spends to save; installation of synchronous condenser at Veazie station. *Elec W* 101:363 Mr 18 '33

Compensation of open-delta regulators. C. F. Wagner. *diags Elec J* 30:151-2+ Ap '33

Diode regulators. *il diags Elec R (Lond)* 111: 886 D 16 '32

Feeder-voltage regulation; characteristics of the moving-coil regulator. E. T. Norris. *il Elec R (Lond)* 112:301-2 Mr 3 '33

First step-regulator installation applied to rural lines. T. F. Hildebrand. *il diags Elec W* 101:650-3 My 20 '33

Induction regulator. *diags Electrician* 110:389, 417, 460, 491 Mr 24-Apr 14 '33

Minor changes quiet induction regulators. A. W. Copley. *il Elec W* 101:230-1 F 18 '33

Paper machine modernized by electronic speed regulator; Cherry River paper company. D. F. Cronin and C. W. Drake. *il diags Elec W* 102:538-40 O 21 '33

Paralleling synchronous converters with motor-generator sets. S. Ein. *Elec J* 30:265 Je '33

Recent developments in electronic devices for industrial control. F. H. Gulliksen. *il Elec Eng* 52:109-10 F '33

Regulation chart for automatic voltage regulators. C. Heyel and W. R. Weise. *Elec J* 30:250-2 Je '33

Stromrichter; dampf-entladungsgefäße und spannungsregelnde gleichrichter. O. Löbl. *il diags Zeit Ver Deutsch Ing* 77:605-9 Je 10 '33

Synchronous ties. H. A. Winne. *il diags Gen Elec R* 36:129-35 Mr '33

2,400-volt regulators control 12.5-kv. bus voltage. C. E. Schnell. *il diags Elec W* 101:288-9 Mr 4 '33

2,400-volt regulators serve on 12,500-volt station bus. *Elec W* 101:89 Ja 21 '33

Unbalancing effect of unsymmetrical regulator connection on a grounded neutral system. N E L A Bul 20:100-1 F '33

Voltage control; a new means of regulating the pressure in a.c. systems. E. T. Norris. *il diags Elec R (Lond)* 111:846-7 D 9 '32; Abstract. *Elec W* 100:873 D 31 '32

**VOLTMETERS**

Use of micro-coulometers in the determination of transport numbers by the moving boundary method. W. O. Reevely and A. R. Gordon. *diag Electrochem Soc Trans* 63 (preprint 26):261-5 My '33

**VOLTMETERS**

Electronics and electron tubes; plotron and screen-grid tube applications. E. D. McArthur. *diag Gen Elec R* 36:331 J1 '33

Electrostatic generating voltmeter. G. P. Harnwell and S. N. Van Voorhis. *diags R Sci Instr* 4:540-1 O '33

Everett, Edgumbe and co.'s large voltmeter. *il Electrician* 111:101 J1 21 '33

Extending meter ranges by means of multipliers and shunts. G. A. Eaton. *diags Radio N* 14:592-3+ Ap '33

Improvement in vacuum tube voltmeters. R. M. Somers. *il diags Inst Radio Eng Proc* 21:56-62 Ja '33

Increasing the range of a voltmeter. L. N. Crichton. *diag Elec J* 30:82 F '33

**VOLTMETERS—Continued**

- Multi-range mains operated valve voltmeter. C. N. Smyth. *il diags Wireless Eng* 10:134-7 Mr '33
- Resistors for voltmeter, ammeter and ohmmeter circuits. Z. Bouck. *il diags Radio N* 14:554-5 Mr '33
- Rotary voltmeter. P. Kirkpatrick. *il diag Elec Eng* 51:863-5 D '32
- Supervisory and control equipment for audio-frequency amplifiers. H. Sohön. *diags Inst Radio Eng Proc* 21:228-31 F '33
- Valve voltmeter for audio frequencies calibrated by direct current. *il diags Wireless Eng* 10:310-12 Je '33
- Wave-form distortion; methods of detection and measurement. *il diag Elec R (Lond)* 113:121 JI 28 '33

**VOLUME**

- Volume effects of alkyl groups in aromatic compounds. R. J. W. Le Févre. *Chem Soc J* p977-84 Ag '33

**VOLUMETERS**

- Volumeters for solid bodies. G. M. Dreosti. *diag Science* 76:598-9 D 23 '32

**VOLUMETRIC analysis**

- Asbestos in permanganate titrations. R. W. Curtis and J. Finkelstein. *bibliog Ind & Eng Chem Anal ed* 5:318-19 S 15 '33
- Atomic mass of sodium; the sodium chloride-silver ratio. C. R. Johnson. *J Phys Chem* 37:923-33 O '33
- Die bestimmung kleiner fettsäuremengen auf konduktometrischem wege nach einer visuellen methode. G. Jander and K. F. Weiten-dorf. *diags Angew Chemie* 45:705-7 N 5 '32
- Ceric sulfate as a volumetric oxidizing agent; indicator methods for the standardization and use of ceric sulfate. H. H. Willard and P. Young. *Am Chem Soc J* 55:3260-9 Ag '33
- Comparison of methods for the determination of small amounts of copper in textiles. W. M. Scott. *bibliog Am Dyestuff Rep* 22:605-10 O 9 '33
- Conditions for estimating antimony by the permanganate method; potentiometric titration. W. Pugh. *Chem Soc J* p1-4 Ja '33
- Conductometric method of titrating potassium. J. H. Boulad. *Soc Chem Ind J* 52:270T-2T Ag 25 '33
- Determination of carbon dioxide in continuous gas streams. W. M. Martin and J. R. Green. *bibliog diags Ind & Eng Chem Anal ed* 5:114-18 Mr 15 '33
- Determination of fluorides in Illinois waters. C. S. Boruff and G. B. Abbott. *bibliog Ind & Eng Chem Anal ed* 5:236-8 JI 15 '33
- Determination of fluorine in cryolite. F. J. Frere. *bibliog Ind & Eng Chem Anal ed* 5:17-13 Ja 15 '33
- Determination of furfural produced from hardwoods. H. A. Iddles and P. J. Robbins. *bibliog Ind & Eng Chem Anal ed* 5:55-7 Ja 15 '33
- Determination of potassium by the cobalt-nitrite method and its application in agricultural analysis. A. H. Lewis and F. B. Marmoy. *Soc Chem Ind J* 52:177T-82T Je 23 '33
- Determination of pyridine bases in the presence of ammonia by titration. F. H. Rhodes and K. R. Younger. *Ind & Eng Chem Anal ed* 5:302-4 S 15 '33
- Determination of sulfuric anhydride in sulfonated oils; new titration method. R. Hart. *Ind & Eng Chem Anal ed* 4:411-12 O 15 '32; Same. *Am Dyestuff Rep* 21:750-2 D 19 '32
- Electrometric studies of the precipitation of hydroxides; standardisation of acid solutions by means of mercuric oxide. H. T. S. Britton and B. M. Wilson. *Chem Soc J* p9-10 Ja '33
- Equilibria, complex ions and electrometric titrations; iodine, bromine and hydrobromic acid; iodine tribromide. G. S. Forbes and J. H. Faull, jr. *bibliog Am Chem Soc J* 55:1820-30 My '33
- Equilibria, complex ions and electrometric titrations; iodine or bromine in hydrochloric acid. J. H. Faull, jr. and G. S. Forbes. *bibliog diag Am Chem Soc J* 55:1809-20 My '33
- Indicator studies of acids and bases in benzene. V. K. La Mer and H. C. Downes. *bibliog diag Am Chem Soc J* 55:1840-64 My '33
- Die konduktometrische titration von ammonsalzen, zinksalzen und cyanaten nach der visuellen methode. O. Pfundt. *Angew Chemie* 46:218-19 Ap 15 '33
- Methodische fortschritte bei visuellen leitfähigkeitstitrations und -messungen. G. Jander and H. Schorstein. *diags Angew Chemie* 45:701-3 N 5 '32
- New volumetric method for the estimation of dithionates. S. Glasstone and A. Hickling. *Chem Soc J* p5 Ja '33
- Phenanthroline-ferrous ion; a reversible oxidation-reduction indicator of high potential and its use in oxidimetric titrations. G. H. Walden, jr., L. P. Hammett and R. P. Chapman. *Am Chem Soc J* 55:2649-54 JI '33
- Potentiometric titration method for fluorine. N. Allen and N. H. Furman. *bibliog Am Chem Soc J* 55:90-5 Ja '33
- Quantitative mercaptan determination with cupric chloride solution. W. A. Schulze and L. V. Chaney. *il Nat Pet N* 25:37-8, 40 Ag 23 '33
- Rapid micro method for the determination of chlorides in fluids. L. T. Fairhall and J. W. Heim. *Am Chem Soc J* 55:968-70 Mr '33
- Rapid volumetric method for determination of sulfur in coal and coke; comparison of a modified benzidine method with the standard methods. E. L. Skau and I. L. Newell. *bibliog Ind & Eng Chem Anal ed* 5:180-2 My 15 '33
- Study of the use of the tungsten-nickel electrode system in neutralizations. N. H. Furman and G. W. Low, jr. *Am Chem Soc J* 55:1310-15 Ap '33
- Die titration des sulfations nach der visuellen leitfähigkeitsmethode. O. Pfundt. *il diag Angew Chemie* 46:200-2 Ap 8 '33
- Titration method for the determination of water. R. P. Bell. *diag Chem Soc J* p2903-5 D '32
- Use of Agulhon's reagent in the analysis of solvents. E. C. Craven. *Soc Chem Ind J* 52:239T-42T Ag 11 '33
- Volumetric analysis. G. Fowles. 202p 6s G. Bell and sons, ltd, London '32
- Volumetric determination of arsenic; potentiometric titrations of reduced arsenic solutions with potassium iodate in sulfuric and hydrochloric acid solutions. I. C. Schoonover and N. H. Furman. *Am Chem Soc J* 55:3123-30 Ag '33
- Volumetric determination of cobalt by means of ferrous sulfate and potassium dichromate. L. A. Sarver. *Ind & Eng Chem Anal ed* 5:275-6 JI 15 '33
- Volumetric determination of free sulphur in rubber. J. A. Robertson and J. Young. *Soc Chem Ind J* 52:296T S 15 '33; Same. *India Rubber W* 89:40 D '33
- Volumetric determination of nitrates with ferrous sulfate as reducing agent. I. M. Kolthoff, E. B. Sandell and B. Moskovitz. *Am Chem Soc J* 55:1454-7 Ap '33
- Volumetric determination of nitroglycerol and of nitroglycerol and dinitrotoluene in admixture. W. W. Becker. *bibliog Ind & Eng Chem Anal ed* 5:152-4 My 15 '33
- Volumetric determination of uranium with potassium dichromate as reagent and the application of the method to the indirect titration of minute quantities of sodium. I. M. Kolthoff and J. J. Lingane. *Am Chem Soc J* 55:1871-6 My '33
- Volumetric method for determination of fluorine. H. H. Willard and O. B. Winter. *bibliog Ind & Eng Chem Anal ed* 5:7-10 Ja 15 '33
- Volumetric methods of estimating nitrites. R. D. Cool and J. H. Yoe. *bibliog Ind & Eng Chem Anal ed* 5:112-14 Mr 15 '33
- Volumetric potassium bromate-bromide titration of furfural effect of temperature. O. C. Magistad. *Ind & Eng Chem Anal ed* 5:253 JI 15 '33

See also

Acidimetry  
Colorimetric analysisIodometry  
Solutions, Standard



**VOLUMETRIC apparatus**

Automatic titrating devices. K. Hickman and C. R. Sanford. *il diags Ind & Eng Chem Anal ed* 5:65-8 Ja 15 '33

Calibration of apparatus as an exercise in quantitative analysis. W. B. Meldrum and W. E. Cadbury, jr. *J Chem Educ* 10:504-5 Ag '33

Eine neue versuchsanordnung für die potentiometrische massanalyse. W. Hiltner. *il diags Chemische Fabrik* 6:111-13 Mr 8 '33

**VOLUNTARY chain movement**

Food manufacturer profits when a voluntary chain does its job; interview with Arthur P. Williams. O. F. Rost. *il Food Ind* 5:8-10 Ja '33

Graphic representation of the increase in voluntary chain activity. *Adv & Sell* 21:30 Jl 20 '33

New voluntary chain organization started; Independent certified stores service corp. *Automotive Ind* 68:542 Ap 29 '33

Voluntary chains. *Business Week* p11-12 Ap 19 '33

Voluntary chains enter new fields. *Forbes* 31:8-9 My 15 '33

What the voluntary chains think of the manufacturer. *Ptr Ink* 163:64+ Ap 6 '33

*See also*  
Independent grocers' alliance

**VORTEX motion**

Free vortices. E. B. Ball. *il Engineer* 155:654 Je 30 '33

Resultant force acting on a solid body floating in a bowl of rotating liquid. W. C. Baker. *Science* 78:123-4 Ag 11 '33

Wing tip vortices observed in flight. G. Gardner. *il Aviation Eng* 7:7+ D '32

**VOUCHERS**

Accounts payable plans. H. A. Ehrmann. *il Am Gas Assn Proc* 1932:264-303; Discussion. 303-5

Handling expense vouchers; Jewel tea co. *Management Methods* 62:175-6 Ap '33

Voucher removes temptation; Coward shoe company. *il Management Methods* 62:66 F '33

**VOWELS**

Contribution to vowel theory. L. E. Travis and A. R. Buchanan. *Science* 77:121-2 Ja 27 '33

Electric analogue of vowel production. H. Skilling. *Science* 77:604 Je 23 '33

La synthèse des voyelles; application au français. P. Kucharski. *Génie Civil* 101:590 D 10 '32

**VULCANITE.** *See* Ebonite**VULCANIZATION**

Chemistry of soft rubber vulcanization. B. S. Garvey, jr., W. D. White and G. Thompson. *bibliog Ind & Eng Chem* 25:1042-6, 1292-7 S, N '33

Ebonite; the nature and properties of an important electrical material. F. A. Middleton. *il Elec R (Lond)* 112:77-8 Ja 20 '33

Effect of curing temperature on quality of vulcanized rubber. N. A. Shepard and J. N. Street. *Ind & Eng Chem* 24:574-9 My '32; Excerpts. *India Rubber W* 87:38 Mr '33

Effect of temperature and frequency on the dielectric constant, power factor, and conductivity of compounds of purified rubber and sulphur. A. H. Scott, A. T. McPherson and H. L. Curtis. *diags U S Bur Stand J Research* 11:173-209 Ag '33

Effect of vulcanization on the refractive index of rubber. *J Fr Inst* 216:108-9 Jl '33

Electricity for curing is now used successfully. H. O. West. *il Rubber Age* 32:169-70 D 10 '32

Factors affecting rate of vulcanization of chloroprene plastic polymers. E. R. Bridgewater and E. H. Krismann. *Ind & Eng Chem* 25:280-3 Mr '33

Low sulfur compounding. A. A. Somerville and W. F. Russell. *diags Ind & Eng Chem* 25:449-55 Ap '33

Moulded goods from latex. *Chem Age (Lond)* 23:265 Mr 25 '33

Oil-resisting rubber; abstract. E. Karsten. *Mech Eng* 55:632-3 O '33

T-50 test for state of cure. W. A. Gibbons, R. H. Gerke and H. C. Tingey. *bibliog il Ind & Eng Chem Anal ed* 5:279-83 Jl 15 '33

Vulcanization of bicycle tubes; a process continuous with their extrusion from the tubing machine. *diag India Rubber W* 88:34 My '33

*See also*  
Rubber—Manufacture

**Accelerators**

Accomplishments of the Perkin medalist, George Oenslager. H. L. Trumbull. *Ind & Eng Chem* 25:230-2 F '33; Same. *Soc Chem Ind J (Chem & Ind)* 52:95-8 F 3 '33; Excerpts. *Oil Paint & Drug Rep* 123:53 Ja 9 '33; *India Rubber W* 88:31-2+ Ap '33

Combined accelerator action. *India Rubber W* 89:39 O '33

Effect of accelerators and antioxidants on electrical characteristics and water absorption of vulcanized rubber insulation. J. H. Ingmanson, C. W. Scharf and R. L. Taylor. *il diag Ind & Eng Chem* 25:83-7 Ja '33

Organic accelerators. G. Oenslager. *il Ind & Eng Chem* 25:232-7 F '33; Same. *Soc Chem Ind J (Chem & Ind)* 52:91-5 F 3 '33; Excerpts. *Oil Paint & Drug Rep* 123:15+ Ja 9 '33

Reactions during vulcanization; the multiple-accelerator effect. H. C. Jones. *Ind & Eng Chem* 25:1009-11 S '33

Temperature coefficient of vulcanization; determination for mixes accelerated with tetramethylthiuram disulfide and a butyraldehyde-aniline condensation product. R. V. Sandstrom. *Ind & Eng Chem* 25:684-6 Je '33

**VULCANIZED fiber**

Fiber in machine construction. *Mach* 40:98 O '33

Machining non-metallic materials. *Am Mach* 77:725 N 8 '33

**VULCANIZERS**

Individual tire vulcanizers. L. R. Keltner and H. Gray. *il Ind & Eng Chem* 24:1259-63 N '32; Abstract. *India Rubber W* 87:31-3 D '32

Vulcanizer for rubber transmission belting made by James C. Heintz & co. *il Rubber Age* 32:247 Ja 10 '33

**VYLE, Sir Gilbert, 1870-1933**

Sketch. *por Engineer* 156:256 S 15 '33

**W****WAGE claims**

Acceptance of money and note for balance due precludes right to recover a penalty. *Monthly Labor R* 36:1278 Je '33

Work of state labor offices in behalf of wage claimants. *Monthly Labor R* 37:776-90 O '33

**WAGE differentials**

Wage differential question raised at furnace makers' code hearing. *Heat & Ven* 30:32 N '33

**WAGE fixing, Government**

What industry thinks of industrial control. M. C. Rorty. *Iron Age* 132:28A-28B Ag 17 '33

*See also*  
Minimum wage

**WAGE payment plans**

Classification of positions and wages; personnel administration methods of the Philadelphia gas works company. C. H. Frazier, jr. *Gas Age* 72:79-81+ Jl 22 '33

Costs kept in hand by bonus plan; Halsey 50/50 plan. W. H. Roehlke. *il Factory Management* 91:446-8 N '33

Cutting costs by applying incentives in the production of mechanical rubber goods. E. F. Thayer. *India Rubber W* 87:27-8 Mr '33

**WAGE payment plans—Continued**

- Cutting production costs; applying incentives in representative departments and processes of a reclaiming plant. E. F. Thayer. India Rubber W 87:40-1 Ja; 31-2 F '33
- Drivers share in earnings of their trucks. W. Parker. Rock Prod 36:13 Ja '33
- Fair wage plan lowers shop costs. J. O. P. Hummel. Inland Ptr 91:55-7 S '33
- Financial incentive wage system; People's ice co, Syracuse, N. Y. H. D. Sanford. Refrig W 68:24-9 My '33
- Hard times and the wage scale at Flin Flon. J. P. de Wet. Can Min J 54:156-7 Ap '33
- Kansas City Southern proposes new wage plan. Ry Age 95:127-31 Jl 15 '33
- Lubrication bills too high? Goodrich engineers cut theirs 67%. J. W. Shaver. II Factory Management 91:82-4 Mr '33
- Maintenance cost control; control by time allowance. W. C. Zinck. Factory Management 91:444-5 N '33
- New incentive plan for foremen. E. E. Burke. Mach 39:727-8 Jl '33
- Now you must control your labor costs. C. H. Hatch. Factory Management 91:305-6 Ag '33
- Objections to the contract system in tool-making. C. B. Cole. Mach 40:6-7 S '33
- President Roosevelt considers K.C.S. wage plan dispute. Ry Age 95:305-7 Ag 26 '33
- Speed in customer billing; use of billing machines by Toledo Edison company. Elec W 101:169-70 F 4 '33
- Standards for production control. A. M. Lind-standy. chart Am Mach 77:421-4 Jl 5 '33
- Survey of salary incentive plans. Management R 22:49 F '33
- Time-study application in the ceramic industry; Westinghouse electric and manufacturing company. C. K. Andrew. Am Cer Soc Bul 12:221-3 Jl '33
- Wage incentive plan you ought to have. H. P. Dutton. Factory & Ind Management 83:449-51; 84:10-11 D 32-Ja '33
- Wage payment plans used by Oregon manufacturers. C. D. Hadley. Oregon Univ Bur of Business Research Studies in Business 12:1-32 '32
- What price maintenance? abstract. H. Haynes and G. Buck. Management R 22:280 S '33

**See also**

- Bonus system                      Profit sharing  
Payrolls                              Salesmen—Salaries  
Piece work                              and commissions

**Bibliography**

- Bibliography of time study engineering. p39-54 pa \$1.50 Wilson, H. W. '33

**Group system**

- Gang bonus system cuts fuel costs in half; Denver tramway co. power plant. L. S. Flint. Power Pl Eng 37:383-4 S '33
- Piece rates solve problem; Stewart-Warner corporation. Management Methods 61:613 N '32

**Guaranty of earnings**

- Building better markets; what Syracuse and Philadelphia are doing. R. Crothers. Ptr Ink Mo 26:60-1+ Ap '33

**WAGES**

- Foreign wages. Textile Col 54:847-9 D '32
- Now you must control your labor costs. C. H. Hatch. Factory Management 91:305-6 Ag '33
- Relation of money wages to per capita money for 90 years. H. P. Gillette. Roads & Sts 76:148-9 Ap '33
- Scheme for adjusting wage rates. W. F. Turnbull. Mech Eng 55:62-3 Ja '33
- Sharing work and sharing pay. S. D. Strauss. Min & Met 13:531 D '32
- Wage chisellers—are they to dominate the woolen industry? G. A. Beals. Textile World 83:68 Ja '33
- Wage cost in the mineral industries. P. M. Tyler. Min & Met 14:447-51 N '33
- Wage loan; Rochester's clothing industry will repay the 20% taken from workers' pay. Business Week p11 My 3 '33

- Wages and hours of work in the coal-mining industry in 1931. Int Labour R 28:371-94 S '33

- What the machine has done to us. W. S. Giele. Iron Age 131:389-91+ Mr 9 '33

**See also**

- |                            |                        |
|----------------------------|------------------------|
| Bonus system               | Overtime               |
| Cost of living             | Payrolls               |
| Employees—Rating           | Pensions, Industrial   |
| Employees as stockholders  | Prices                 |
| Family allowances          | Profit sharing         |
| Labor and laboring classes | Railroads—Wages        |
| Minimum wage               | Salaries               |
|                            | Street railroads—Wages |
|                            | Wage payment plans     |

**Dismissal wage**

- Dismissal compensation movement. E. D. Hawkins. Ann Am Acad 165:24-30 Ja '33
- Dismissal-compensation plans; study by industrial relations section of Princeton university. Monthly Labor R 36:496-7 Mr '33
- Dismissal pay; Connecticut commission offers a sample plan for unemployment relief. Business Week p11-12 D 28 '32
- Report of Connecticut unemployment commission on establishing dismissal wages. Monthly Labor R 36:279-80 F '33

**Economic aspects**

- Economic depression and wage policy; summarized from Bulletin of the Taylor society, Oct. 1932. Int Labour R 27:392-7 Mr '33
- Ford, wages, and depression; interview with Henry Ford. Business Week p10-11 F 22 '33
- Labor reaches for the sun; the workers profit by new forces and revived theories. J. S. Lawrence. Econostat 1:8-10 Jl 22 '33
- Phantasy in purchasing power; theories of wage increases will lead to neo-mediaevalism. J. S. Lawrence. Econostat 1:5-10+ Ag 19 '33
- Proofs for capital assure buying power for labor. D. Blanchard. Automotive Ind 69:353-5 S 23 '33
- Purchasing power and wage policy; the relation thereto of recent changes in payrolls, hours and earnings in the United States. E. H. Welch. Taylor Soc Bul 17:169-84 O '32; Discussion. 18:8-15 F '33
- Relationship between wage rates and unemployment. E. H. Welch. Am Statis Assn J 28:sup54-8 Mr '33
- Theory of wages. J. R. Hicks. 247p \$2.25 Macmillan '32
- Three paths to profits under the new deal. C. H. Hatch. II Am Mach 77:485-7 Ag 2 '33
- Wage policy and deflation. Ohlin. Economist 117:315-16 Ag 12 '33
- What industry thinks of industrial control. M. C. Rorty. Iron Age 132:28A-28B Ag 17 '33

**Law**

- Acceptance of money and note for balance due precludes right to recover a penalty. Monthly Labor R 36:1278 Je '33
- Hour and wage legislation in New South Wales. Monthly Labor R 36:793-4 Ap '33
- Massachusetts prevailing wage rate law declared unconstitutional. Monthly Labor R 36:541-2 Mr '33

**See also**

- Minimum wage

**Statistics**

- Average man-hours worked and average hourly earnings. Published in Monthly labor review
- International wage comparisons. (Bul 22) 262p Social science research council, 230 Park av, New York '32
- Movements in the general level of wages. Int Labour R 24:584-97; 25:261-79, 686-97; 26:242-54, 716-27; 27:260-71, 695-706; 28:238-47 N '31, F, My, Ag, N '32, F, My, Ag '33
- Movements of wages in different industries and occupations. Int Labour R 26:255-67, 431-7, 562-77, 728-38 Ag-N '32



**WAGES—Statistics—Continued**

Movements of wages in different industries and occupations in certain countries, tables  
Int Labour R 28:412-35, 564-83 S-O '33

Wage changes in the United States of America, 1929-1933. Int Labour R 28:364-71 S '33  
Wage earner's share of his production; reprint from September 1930 American bankers association journal. F. Hobbs. Am Bankers Assn J 25:19-20+ F '33

Wages, hours of work, and other factors in the remuneration of workers in certain towns in October 1932, tables Int Labour R 27:815-33; 28:104-21, 265-82 Je-Ag '33

Wages of seamen, 1932. Monthly Labor R 36:176-8 Ja '33

What the machine has done to us. W. S. Giele. Iron Age 131:622-7+ Ap 20 '33

Workers earn 9% more as automotive pay-rolls show 14% gain in August. Automotive Ind 69:418 O 7 '33

**Bibliography**

Index numbers of the general level of wages; sources and notes. Int Labour R 28:222-48 Ag '33

**Australia**

Average weekly wages in Victoria. Monthly Labor R 36:369-70 F '33

Basic wage in the states of Australia. Monthly Labor R 35:1402-3 D '32

Decision against lowering of living wage in South Australia. Monthly Labor R 37:862-3 O '33

**Bengal**

Wages and hours in the jute industry of Bengal, 1931. Monthly Labor R 35:1415-16 D '32

**Burma**

Wages and conditions in Burmese factories in 1932. Monthly Labor R 37:949-50 O '33

**Canada**

Agricultural wages in Canada, 1930 to 1932. Monthly Labor R 36:1160-1 My '33

Minimum wage for women in Canada. Monthly Labor R 37:860-2 O '33

Minimum-wage regulations in Canadian provinces. Monthly Labor R 36:310 F '33

Wages and hours of labor in Canada, 1931 and 1932. Monthly Labor R 36:907-10 Ap '33

**Ceylon**

Indian labour in Ceylon; the effects of the economic crisis. Int Labour R 28:62-73 JI '33

**Chicago**

Wage reduction for printing pressmen, Chicago. Monthly Labor R 37:110 JI '33

**China**

Wages and cost of living of laborers in various Chinese cities, 1930. Monthly Labor R 36:181-2 Ja '33

**Colorado**

Wages in Colorado, 1932. Monthly Labor R 37:684-5 S '33

**Cuba**

General survey of wages in Cuba, 1931 and 1932. L. R. Blohm. Monthly Labor R 35:1403-11 D '32

**Czechoslovakia**

Average daily wages in the mining industry in Czechoslovakia in 1931. Monthly Labor R 36:182 Ja '33

**Denmark**

Earnings in various industries in Denmark at the end of 1931. Monthly Labor R 36:183-4 Ja '33

Wages in Denmark in 1932. E. Gjessing. Monthly Labor R 37:379-90 Ag '33

**Finland**

Wages in Finnish agriculture, 1929-1932. Int Labour R 27:801-4 Je '33

Wages in Finnish paper and woodpulp industries. Pulp & Pa of Can 34:628 O '33

**France**

Wages in France in 1932. Monthly Labor R 36:624-43 Mr '33

Wages in France in October 1932. Monthly Labor R 36:1391-4 Je '33

Wages in French metal industries in 1932. Monthly Labor R 35:1166 N '32

**Germany**

Earnings and hours in the machine-building industry in Germany in October, 1931. Monthly Labor R 36:185-6 Ja '33

Earnings in the building trades in Germany, August 1932. Monthly Labor R 37:390-2 Ag '33

Hours and earnings in the shoe industry in Germany in March, 1932. Monthly Labor R 35:1411-12 D '32

Nazis and wages. Economist 116:1132 My 27 '33

Recent official enquiries into wages and hours of work in various industries in Germany; chemical, metal-working and engineering, and boot and shoe industries. Int Labour R 28:531-9 O '33

Wage deductions in Germany, January, 1933. Monthly Labor R 36:911-13 Ap '33

Wages and conditions in the furniture industry in Germany. M. P. Medalie. Monthly Labor R 36:186-7 Ja '33

Wages established by agreement in various industries in Germany, 1931 and 1932. Monthly Labor R 36:188 Ja '33

Wages in German coal mining, 1929 to 1932. Monthly Labor R 35:1167 N '32

Wages in German coal mining in 1932. Monthly Labor R 37:392-3 Ag '33

Wages in Germany in 1933. Monthly Labor R 37:686-708 S '33

**Great Britain**

Changes in English wage rates and hours of labor in 1932. Monthly Labor R 37:393-6 Ag '33

General trend of wages in Great Britain since 1924. Monthly Labor R 36:871-907 Ap '33

Lancashire cotton spinners' hours and wages. A. R. Thomson. Monthly Labor R 35:1414-15 D '32

Termination of railway wage dispute in Great Britain. Monthly Labor R 36:1086-9 My '33

Wages and hours in the English cutlery trade, 1931. Monthly Labor R 36:370-5 F '33

Wages and the railways. Economist 116:109-10 Ja 21 '33

Wages in the dyeing industry. Chem Age (Lond) 29:9 JI 1 '33

Wages of railway workers in Great Britain, 1932. Monthly Labor R 35:1412-13 D '32

Wages of workers in the chemical industry. Chem Age (Lond) 28:315 Ap 8 '33

**Idaho**

Mine wages in Idaho, 1932. Monthly Labor R 37:377 Ag '33

**India**

Wages in the heavy iron and steel trades of India. Monthly Labor R 37:708 S '33

**Italy**

General survey of wages in Italy, 1932. Monthly Labor R 36:1395-1407 Je '33

**Japan**

General survey of wages in Japan, 1932. A. Garrels. Monthly Labor R 36:1407-11 Je '33

Wages in Tokyo, 1932. Monthly Labor R 35:1167-8; 36:649 N '32, Mr '33

**Java**

Wages in the sugar industry of Java, 1929 and 1931. Monthly Labor R 37:397 Ag '33

**Mexico**

Progress of minimum-wage movement in Mexico. J. Daniels and W. P. Cochran, jr. Monthly Labor R 37:791-6 O '33

**Minnesota**

Wages in Minnesota in 1931 and 1932 as shown in accident reports. Monthly Labor R 37:378 Ag '33

## WAGES—Continued

## Netherlands

- Wage rates of port workers in the Netherlands. C. L. Hoover. Monthly Labor R 35:1417-18 D '32
- Wages in lithographing and photo-engraving trades in Netherlands, January, 1932. Monthly Labor R 35:1168 N '32
- Wages in the building trades in Amsterdam, Netherlands, in June, 1931 and 1932. Monthly Labor R 35:1170 N '32
- Wages of miners in Netherlands in June, 1931 and 1932. Monthly Labor R 35:1169 N '32

## New York (state)

- Average weekly earnings in New York state factories, June, 1914, to January, 1933. Monthly Labor R 36:870 Ap '33
- Earnings of office workers in New York state factories, October, 1932. Monthly Labor R 36:179-80 Ja '33

## New Zealand

- Changes in average wage rates in New Zealand, 1914 to 1932. Monthly Labor R 37:176-8 Jl '33

## Norway

- Wages in Norway in 1932. Monthly Labor R 36:644-8 Mr '33

## Nova Scotia

- Report of minimum wage board of Nova Scotia, 1932. Monthly Labor R 37:65-6 Jl '33

## Pennsylvania

- Hours and earnings of men and women in the knit goods industry. 61p Pennsylvania. Bureau of women and children, Harrisburg '31

## Poland

- Wages in Poland in 1932. Monthly Labor R 37:179-84 Jl '33
- Weekly earnings in various industries in Poland in May, 1932. Monthly Labor R 36:914 Ap '33

## Puerto Rico

- Wages and hours of labor in the sugar industry in Puerto Rico, 1932. Monthly Labor R 37:946-9 O '33
- Wages of needle workers in Puerto Rico, 1932-33. Monthly Labor R 36:1390 Je '33

## Queensland

- Decision as to basic wage in Queensland. Monthly Labor R 37:310-12 Ag '33

## Russia

- Wages and salaries of railway workers in the Soviet Union, August 1933. Monthly Labor R 37:709-10 S '33
- Wages in coal mines of the Don Basin, Soviet Russia. Monthly Labor R 37:397-9 Ag '33

## Scotland

- Wage reduction in Scottish woolen industry. A. C. Brady. Monthly Labor R 35:1413-14 D '32

## Siam

- Wages in Siam, 1930-31. Monthly Labor R 37:950-1 O '33

## South Africa

- Wages and hours in the building trades of South Africa. Monthly Labor R 36:189-90 Ja '33

## Southern states

- South kicks; Blue Eagle gives the black man too much and destroys southern competitive advantages. Business Week p9-10 S 23 '33

## Sweden

- Labour question in Swedish agriculture. Int Labour R 27:797-800 Je '33
- Wages in Sweden in 1932. Monthly Labor R 37:184-8 Jl '33

## Texas

- Decisions regarding wages of typographical workers. Monthly Labor R 36:1090-1 My '33
- Wages and working hours in Texas, 1931-32. Monthly Labor R 37:949 O '33

## United States

- Attitude of cotton manufacturers toward shorter hours and higher wages. Monthly Labor R 35:1164-5 N '32
- Codes pass wage test; comparison with pre-NIRA earnings and hours. Business Week p10-11 S 2 '33
- Comparative wages in chain and independent stores, 1929 and 1931. Monthly Labor R 37:943-5 O '33
- Current building and construction trades wage rates per hour. Eng N 110:39 Ja 5 '33 [cont monthly]
- Decisions as to wages of typographical workers. Monthly Labor R 36:1292-4; 37:111-13 Je-Jl '33
- Earnings and hours of labor in principal occupations in the iron and steel industry, 1931 and 1933; blast furnaces, steel works, and puddling, blooming and plate mills. Monthly Labor R 37:927-32 O '33
- Entrance wage rates of common labor, July 1, 1933. Monthly Labor R 37:932-6 O '33
- Farm wage and labor situation, January 1, 1933. Monthly Labor R 36:617-19 Mr '33
- Farm wage rates on July 1, 1933. Monthly Labor R 37:376 Ag '33
- Hourly wages on federal-aid highway projects, 1922 to 1932. Monthly Labor R 36:619 Mr '33; Same. Roads & Sts 76:331 S '33
- Hours and earnings in bituminous-coal mining, 1933. Monthly Labor R 37:634-50 S '33
- Hours and earnings in the hosiery and underwear industries, 1930 and 1932. Monthly Labor R 35:1136-50 N '32
- Hours and earnings in the iron and steel industry, 1933. Monthly Labor R 37:651-9 S '33
- Hours and earnings in the men's clothing industry, 1930 and 1932. Monthly Labor R 36:350-60 F '33
- Hours and earnings, United States, 1926 and 1933. Management R 22:278-9 S '33
- Hours and wage rates reported to NRA; special committee of Construction league compiles data. Eng N 111:382-4 S 28 '33
- Index numbers of wages per hour, 1840 to 1932. Monthly Labor R 37:632-3 S '33
- Labor in the shirt industry, 1933. Monthly Labor R 37:499-510 S '33
- Labor's share in manufactured products. Barron's 13:11 S 18 '33
- More wages, more jobs. Business Week p18 My 31 '33
- Public works wage scale muddle. Pub Works 64:31 O '33
- Real wages under laissez-faire; what a new index of retail prices covering 142 years shows. R. F. Tucker. Barron's 13:6-7 O 23 '33
- Recent changes in factory payrolls and purchasing power of wage earners. D. W. Ellsworth. Annalist 41:359-60 Je 23 '33
- Reduction in wage scales of typographical workers; Detroit, Mich. and Memphis, Tenn. Monthly Labor R 37:889-90 O '33
- Seeking the route to fair wages. P. McCrea. II Nation's Business 21:25-74- Je '33
- Summary of wage surveys made by the Bureau of labor statistics, 1928 to 1932, by industries and states. Monthly Labor R 37:140-3, 353-69 Jl-Ag '33
- Union rates of wages and full-time hours of labor in the metal trades. tables Monthly Labor R 36:1375-83 Je '33
- Union scales of wages and hours of labor in 1932. Monthly Labor R 35:637-63, 1151-8 S, N '32
- Union scales of wages and hours of labor in 1933. Monthly Labor R 37:660-73 S '33
- Wage changes in the United States of America, 1929-1933. Int Labour R 28:364-71 S '33
- Wage changes reported by trade-unions and municipalities. Published in Monthly labor review
- Wage cutting played out. Business Week p16+ Mr 15 '33
- Wage earner's share of his production; reprint from September 1930 American bankers association journal. F. Hobbs. Am Bankers Assn J 25:19-20+ F '33



**WAGES**—United States—*Continued*

- Wage-rate changes in American industries. Published in Monthly labor review
- Wage rates and working time in the bituminous coal industry, 1912-1922. W. E. Fisher and A. Bezanson. 374p \$3.50 Univ. of Pennsylvania press, Philadelphia '32
- Wage rates of cereal beverage workers, 1932. Monthly Labor R 36:360-2 F '33
- Wage readjustments create new difficulties in setting parities. Textile World 83:1273 J1 '33
- Wage scales in the building trades, as of December 15, 1932; tabulation. Arch Rec 73: sup24 Ja '33 [cont monthly]
- Wages and employment in 1932; facts and figures. R. P. Falkner. il Bradstreet's 61: 197-9 Ja 28 '33
- Wages and hours of labor. Published in Monthly labor review
- Wages and hours of labor in air transportation, 1931. U S Bur Labor Statistics Bul 575:1-41 '33
- Wages and hours of labor in foundries and machine shops, 1931. tables U S Bur Labor Statistics Bul 570:1-148 '32
- Wages and hours of labor in gasoline filling stations and motor-vehicle repair garages, 1931. U S Bur Labor Statistics Bul 578:1-89 '33
- Wages and hours of labor in metalliferous mines, 1924 and 1931. U S Bur Labor Statistics Bul 573:1-64 '33
- Wages and hours of labor in rayon and other synthetic yarn manufacturing, 1932. Monthly Labor R 36:607-12 Mr '33
- Wages and hours of labor in the bakery industry—bread and cake departments, 1931. tables U S Bur Labor Statistics Bul 580:1-104 '33
- Wages and hours of labor in the boot and shoe industry, 1910 to 1932. U S Bur Labor Statistics Bul 579:1-111 '33
- Wages and hours of labor in the dyeing and finishing of textiles, 1932. U S Bur Labor Statistics Bul 588:1-72 '33
- Wages and hours of labor in the furniture industry, 1910 to 1931. U S Bur Labor Statistics Bul 571:1-58 '32
- Wages and hours of labor in the glass industry, 1932. Monthly Labor R 37:917-26 O '33
- Wages and hours of labor in the iron and steel industry, 1931. U S Bur Labor Statistics Bul 567:1-166 '32
- Wages and hours of labor in the manufacture of silk and rayon goods, 1931. U S Bur Labor Statistics Bul 568:1-57 '32
- Wages and hours of labor in the motor-vehicle industry, 1932. tables Monthly Labor R 36:1365-75 Je '33
- Wages and hours of labor in the Portland cement industry, 1929 and 1932. Monthly Labor R 36:595-606 Mr '33
- Wages and hours of labor in the pottery industry, 1925 and 1932. Monthly Labor R 36:853-62 Ap '33
- Wages and hours of labor in the slaughtering and meat-packing industry, 1931. U S Bur Labor Statistics Bul 576:1-165 '33
- Wages and hours of labor in woolen and worsted goods manufacturing, 1932. U S Bur Labor Statistics Bul 584:1-64 '33
- Wages and hours of labor of common street laborers, 1932. Monthly Labor R 37:143-66 J1 '33
- Wages and hours of stage employees and motion-picture machine operators. Monthly Labor R 36:1111-15 My '33
- Wages and hours of union blacksmiths. Monthly Labor R 37:355-7 Ag '33
- Wages and hours of union hotel and restaurant employees. Monthly Labor R 37:350-4 Ag '33
- Wages and hours of union pulp, sulphite, and paper mill workers. Monthly Labor R 37: 941-2 O '33
- Wages and hours of union quarry workers in the United States, January, 1933. Monthly Labor R 36:862-3 Ap '33
- Wages and hours of union upholsterers, and carpet and linoleum mechanics and wood-working industry. Monthly Labor R 37:674-5 S '33

- Wages and hours; vital factors in profit picture. Textile World 83:388-9 F 23 '33
- Wages during the depression. L. Wolman. Nat Bur of Economic Research Bul 46:1-6 My 1 '33
- Wages vs. prices; editorial. Business Week p32 S 23 '33
- What the machine has done to us. W. S. Giele. Iron Age 131:305-7 F 23 '33
- Why we need a minimum wage law. F. Perkins. il Nation's Business 21:23-4+ J1 '33

**Virginia**

- Wages of quarry workers in Virginia, 1931. Monthly Labor R 37:379 Ag '33

**Wyoming**

- Wages and hours in Wyoming, 1932. Monthly Labor R 36:620-3 Mr '33

**Yugoslavia**

- Survey of wages in Yugoslavia, 1932. Monthly Labor R 37:399-402 Ag '33

**WAGNER, Herman A.**

- Clausen gold medal; address of appreciation. C. J. Ullrich. por Prof Eng 17:6-7+ N '32

**WAGON** jobbers. See Jobbers, Wagon**WAITE, Henry M.**

- Portrait. Eng N 111:60 J1 13 '33

**WAITERS**

- Analysis of the waitress trade. L. A. Salisch and E. G. Palmer. 83p California. Dept. of education, Sacramento '32

**WALCOTT, Henry Pickering, 1838-1932**

- Sketch. Eng N 109:663 D 1 '32

**WALDEN, Paul**

- Paul Walden zum 70. geburtstag. P. Günther. por Angew Chemie 46:497-8 J1 29 '33

**WALDEN inversion**

- Experiments on the Walden inversion; the displacement of hydroxyl by chlorine in the optically active ethyl  $\alpha$ -naphthylglycolates. A. McKenzie and E. R. L. Gow. Chem Soc J p705-14 Je '33

- Some Walden inversion reactions of the *p*-toluenesulphonic and *p*-toluenesulphonic esters of 1-phenylmethylcarbinol. J. Kenyon, H. Phillips and F. M. H. Taylor. Chem Soc J p173-8 F '33

- Walden inversion; conversion of bromosuccinic acid into malic acid; conversion of aspartic acid into chloro- or bromosuccinic acid. H. N. K. Rørdam. Chem Soc J p2931-45 D '32

- Walden inversion in the glucose series; derivatives of altrose. D. S. Mathers and G. J. Robertson. Chem Soc J p1076-81 Ag '33

**WALKER, Fred A.**

- Publishers honor Walker. Ptr Ink 163:54 Ap 27 '33

**WALKWAYS.** See Floors—Anti-slip surfaces**WALL board**

- New products and new uses for rock products plants; plaster board for exteriors. il Rock Prod 35:52 D 31 '32
- Plywood as a building material. P. S. Hill. il Mech Eng 55:355-7 Je '33

**Advertising**

- Dealers like specific authentic newsy sales helps; Upson company. W. Raymond. il Ptr Ink 162:40-1 F 9 '33

**WALL coverings**

- New type of wall covering: Armstrong cork company, Lancaster, Pa. il Marine Eng 38: 89-90 Mr '33

*See also***Walls, Interior****WALL fabrics**

- Muslin in the movies; fabric walls bring acoustic perfection to Hollywood sets. A. B. Laing. il Textile World 83:1252-3 J1 '33

**WALL paper**

- Century of progress in the wallpaper industry. J. G. Stott, Jr. Am Dyestuff Rep 22: 603-4 O 9 '33

**WALL paper—Continued**

Good season in prospect for the paint trade; wholesale distribution of wallpaper ahead of May, 1932. Dun & Bradstreet 41:17-19 Je '33  
Hearings on wall paper code. Paper Tr J 97:13, 26 Ag 10 '33

**WALL paper manufacturers, limited**

Ordinary general meeting, London. Economist 115:1001 N 26 '32

**WALL Street**

By-the-way; the origin and history of Wall Street. Bradstreet's 61:295, 329 F 4-11 '33  
Mirrors of Wall Street. 263p \$2.50 Putnam '33  
Wall Street and the dollar. Economist 116:868-9 Ap 22 '33

*See also*

New York stock exchange

**WALLACE, Henry A.**

Farm dictator? por Business Week p9 Mr 29 '33  
Secretary of agriculture. Science 77:sup8 Mr 3 '33

**WALLS**

Dampness in masonry walls above grade. J Fr Inst 216:539-41 O '33  
Erschütterungsmessungen an einem gebäude mit erschütterungs-schutzmauer. W. Schneider. Zeit Ver Deutsch Ing 77:505-6 My 13 '33  
Fabricated homes demand new products from clay products industry. O. W. Renkert. Brick & Clay Rec 82:21+ Ja '33

How to avoid cracks over doors and windows in masonry walls. C. C. Hurlbut. diags Am Arch 142:38-40+ D '32  
Moisture penetration through masonry walls. Architecture 66:285-6, 355-6 N-D '32

New materials and improved construction methods; wall systems. A. L. Kocher and A. Frey. il diags Arch Rec 73:284-7 Ap '33

*See also*

Building	Plaster and plastering
Dams	
Foundations	Walls, Interior
Masonry	Water tables

**WALLS, Brick**

Compressive strength of steel columns incased in brick walls. A. L. Harris, A. H. Stang, and J. W. McBurney. il diags U S Bur Stand J Research 10:123-38 Ja '33  
Permeability of brick masonry walls; abstract. W. C. Voss. Rock Prod 36:42 Jl '33

Reinforced-brick walls reduce steelwork. L. B. Lent. diags Eng N 111:257-8 Ag 31 '33

*See also*

Brick construction

**Testing**

Leaky brick walls and how to prevent them. J. H. Mallon. bibliog il Arch Rec 72:412-16+ D '32; Same cond. Am Bld 54:30-2+ F '33

**WALLS, Concrete**

Concrete wall with sheetpile cutoff replaces levee at Helena, Ark. H. V. Pittman. il diags plan Eng N 110:780-4 Je 15 '33

Open-truss bar joists simplify wall construction; rebuilding a dock for the Huron milling co. at Harbor Beach, Mich. J. I. Bennett. diags Eng N 110:221 F 16 '33

Practical details of concrete construction. W. E. Barker. il Pub Works 63:24 D '32

Sliding form work; report of committee 608. L. B. Mercer. il diags Am Concrete Inst J 4:201-40 Ja '33

Sliding form work; supplement to report of committee 608. W. R. Sproul. il diags Am Concrete Inst J 4:285-99 F '33

Wall units and reinforced concrete eliminate need for forms. il diags Concrete 41:7-8 N '33

*See also*

Concrete piling  
Dams, Concrete

**Testing**

Strength and stability of concrete masonry walls. F. E. Richart, R. B. B. Moorman and P. M. Woodworth. il diags Ill U Eng Exp Sta Bul 251:3-36 '32

Strength of concrete masonry walls after standard fire exposure. C. A. Menzel. diags Am Concrete Inst J 4:113-42 N '32

**WALLS, Demountable**

Demountable walls for power plant construction. R. B. Horner. il Power Pl Eng 37:172 Ap '33

**WALLS, Interior**

Buff-colored concrete units produce beautiful church interior; used with monolithic concrete and rough quarry stone for economical exterior walls. il Concrete 41:7-8 F '33  
Build recreation rooms in basements with concrete ashlar. il Concrete 41:7-8 O '33  
Cold walls and their relation to the feeling of warmth. F. C. Houghten and P. McDermott. il diags Heating-Piping 5:53-8 Ja '33; Excerpts. Dom Eng 141:36-8+ F '33; Abstract. Heat & Ven 30:40 Mr '33

*See also*

Mural painting and decoration	Wall board
Panel work	Wall coverings
Plaster and plastering	Woodwork

**WALLS, Steel**

Arc-welded steel plate wall; Rex Cole display building, Brooklyn, New York. G. Fortin. il diags Arch Rec 72:410-11 D '32

**WALNUTS***See also*

California walnut growers association

**WALSH, Frank P.**

Portrait. Pub Util 12:377 S 28 '33

WANT ads. See Advertisements, Classified—Want ads

**WAR**

Attempt to define war. C. Eagleton. 59p Carnegie endowment for international peace, Division of intercourse and education, 405 W. 117 St, New York '33

Autocratic versus democratic diplomacy. W. D. Puleston. il Sci Am 148:326-8+ Je '33

Cry havoc! B. Nichols. 275p \$2.50 Doubleday '33

Great illusion 1933. N. Angell. 308p \$2.50 Putnam '33

Let us have war. S. Bent. 31p pa 25c Vanguard press, New York '33

1914 : 1933. Economist 117:613-14 S 30 '33

War and inflation. C. Geller. Comm & Fin 22:538-9 Je 21 '33

War imminent in Europe? G. C. Slater. Mag of Wall St 51:660-2 Ap 15 '33

What would be the character of a new war? N. Angell and others. 411p Inter-parliamentary union, Geneva; V. Gollancz, Ltd. London '33

*See also*

Aeronautics, Military  
Disarmament  
Peace

**WAR, Cost of**

War cursing and crushing the world. H. L. Clarke. Pub Serv M 54:186-7 Je '33

WAR debts. See Debts, Public

**WAR memorials**

City hall and war memorial building, Newton, Massachusetts; views and plans. Am Arch 143:55-62 Jl '33

Electricity plays leading role in civic opera group; San Francisco's new War memorial opera house and Veterans' building. il Elec West 70:20-7 Ja '33

Gas is selected as fuel for San Francisco war memorial. J. R. Ferguson. il Gas Age 70:601-3 D 3 '32

Tomb of the unknown soldier and approaches, Arlington, Va.; views. Architecture 67:255-60 My '33

WAR risk insurance. See Insurance, Life—War risks

**WARBURG, James Paul**

Sketch. por Forbes 31:23 Je 15 '33

**WARD baking corporation**

Overlooked improvement in sound companies. Mag of Wall St 52:384 Ag 5 '33



**WARD-LEONARD control.** See Electric control  
**WARDROBES.** See Closets

# **WAREHOUSE receipts**

- Bankruptcy losses prevented by warehousing inventories for loan protection. H. A. Haring. *il Rand McNally Bankers Mo* 50:148-9+ Mr '33
- Five safeguards for receipts of field warehouse companies. J. V. Tuttle. *il Bankers Mo* 50:17-18+ Ja '33
- Warehouse receipts securing bankers' acceptances; opinion of the Federal reserve board. *Fed Res Bul* 19:188-9 Mr '33
- What to watch when making commodity loans. G. C. Dreher. *il Burroughs Clearing House* 17:10-12 F '33

# **WAREHOUSES**

- Application of fumigants to ships and warehouses; distribution of ethylene oxide in empty warehouses. A. B. P. Page and O. F. Lubatti. *Soc Chem Ind J* 52:309T-16T O 6 '33
- Application of fumigants to ships and warehouses; distribution of hydrogen cyanide in empty warehouses. A. B. P. Page and O. F. Lubatti. *Soc Chem Ind J* 52:316T-23T O 6 '33
- Application of fumigants to ships and warehouses; penetration of hydrogen cyanide into bags of raw cacao stacked in piles of different sizes. A. B. P. Page and O. F. Lubatti. *Soc Chem Ind J* 52:323T-6T O 6 '33
- How the warehouse can cut the cost of selling on consignment. H. A. Haring. *il Adv & Sell* 20:17-18+ Ja 5 '33
- Metal siding used on large warehouse. *il Sheet Metal Worker* 24:263 Ag '33
- Warehouse remodeled for new uses; Economy grocery stores corporation, South Boston, Mass. I. Richmond. *il plan Arch Rec* 73:121-4 F '33

See also  
 Cold storage ware-      Grain elevators  
 houses                      Warehousing

## **Equipment**

- Monorail system effects great savings in warehouse. *il Iron Age* 130:761 N 17 '32

## **Heating and ventilation**

- Electric heat for humidity control in sugar storage warehouse. D. T. Waby. *il Elec W* 102:409-10 S 23 '33

# **WAREHOUSING**

- Do manufacturers render a service by carrying spot stocks? Many think "yes." J. H. Frederick. *Food Ind* 5:14-15 Ja '33
- Public merchandise warehousing in the Twin Cities. R. S. Vaile and A. L. Nordstrom. *Univ. of Minnesota Studies in Economics and Business* 3:1-57 '32
- Regulations of the Secretary of agriculture for field warehousemen. *Fed Res Bul* 19:189-92 Mr '33
- Warehouses and mills share problem of merchandising small lots of steel. W. S. Doxsey. *Steel* 92:25+ Je 5 '33
- Warehousing in ships. *Weekly Underw* 129:271 Ag 12 '33

# **WARNER, Edward P.**

- Wright Bros. medal award for 1932. *por S A E J* 32:sup19 F '33

# **WARNER, William B.**

- Portrait. *Ptr Ink* 165:77 O 12 '33

# **WARNER brothers pictures, incorporated**

- Economies. *Barron's* 12:14 N 28 '32
- Warner Brothers skyrockets. *Econostat* 1:13 Je 17 '33

# **WARRANTY**

- Express warranty of water filtering plant as warranty of fitness for use by textile manufacturer. L. Childs. *Am Dyestuff Rep* 22:429 Jl 3 '33
- Road hazard warranties and other practices hit in tire code. R. B. Stafford. *Nat Pet N* 25:13 N 1 '33

# **WARRINER, Jesse B.**

- Portrait. *Min Cong J* 19:8 Ja '33

# **WARSHIPS**

- Chapters in naval and marine engineering history. E. C. Smith. *Engineering* 134:584-6, 758-9; 135:321-3, 561-3, 657-8 N 18, D 30 '32, Mr 24, My 26, Je 16 '33
- Five foreign nations interpret treaty limitations in five languages. *Fortune* 7:113 Mr '33
- Introduction of the ironclad warship. J. F. Baxter. 398p [bibliog p361-81] \$5 Harvard univ. press '33
- Kriegsschiffbau in den Jahren 1932 und 1933. W. Schmidt. *Zeit Ver Deutsch Ing* 77:911-12 Ag 19 '33
- Le lancement du croiseur mouilleur de mines Emile-Bertin. J. Delimal. *il Génie Civil* 102:521-2 Je 3 '33
- Naval construction in 1932. H. C. Bywater. *il Engineer* 155:6-7, supp 6 Ja 6 '33
- Use of electric arc welding in warship construction; abstracts. C. S. Lillicrap. *diags Engineering* 135:419-21 Ap 14 '33; *Engineer* 155:409-10 Ap 21 '33; *Discussion. Engineering* 135:442-3 Ap 21 '33; *Engineer* 155:396-7 Ap 21 '33

See also

- Airplane carriers      Torpedo boat de-
- Navies                      stroyers
- Submarine boats      France

- La construction du cuirassé Dunkerque; le problème du désarmement naval. J. Delimal. *diag plan Génie Civil* 102:38-9 Ja 14 '33

## **Germany**

- Armoured ship Deutschland. *il Engineer* 155:636 Je 23 '33
- Germany rebuilds her sea power with pocket battleships. *il Marine Eng* 38:405-7 N '33
- La puissance motrice et le rayon d'action des nouveaux cuirassés allemands, du type Deutschland. *Génie Civil* 103:357-8 O 7 '33

## **Great Britain**

- Electrical equipment in H.M.S. Nelson. *il Electrician* 111:139 Ag 4 '33

## **Portugal**

- English yard launches sloop for Portugal. *il Marine R* 63:36 Ja '33
- Goncalo Velho, second class sloop completed. *il Marine R* 63:16 Je '33

## **United States**

- Launch cruiser Minneapolis at U. S. navy yard. *il Marine R* 63:27 O '33
- San Francisco, New Orleans, U.S. cruisers launched. *il Marine R* 63:17 My '33
- 10,000 tons of fighting cat; what a new set of rules did to naval design; the U.S.S. Indianapolis. E. Ellsberg. *il Fortune* 7:56-61+ Mr '33

# **WASHERS (machinery)**

## **Manufacture**

- Follow-die for producing valve-stem washers. C. S. Schwaeble. *diags Mach* 39:591-2 My '33
- Nine press operations per stroke at ninety strokes per minute; eyelet press and shell threader. E. Lay. *diags Mach* 39:572-5 My '33

# **WASHING**

- Nomographic solution of sludge washing. D. S. Davis. *Chem & Met Eng* 40:94 F '33

See also

- Coal washing
- Gas washing
- Laundry

# **WASHING apparatus**

- Inexpensive brush washer doubles plant capacity. F. K. Lawler. *il Food Ind* 5:307 Ag '33
- Removal of poisonous spray residues on fruit. R. H. Robinson. *il diags Ind & Eng Chem* 25:616-20 Je '33
- Washing machine designed for use in determining constituents of fresh concrete. W. A. Blanchette. *il diag Pub Roads* 13:151-2 N '32

**WASHING machines**

Designing to sell; Sears, Roebuck washing machines. R. S. McFadden. *il Sales Management* 32:512-13+ My 15 '33  
Home washers vs. laundries. *Business Week* p9 D 7 '32

*See also*

Bottle washing machines

**Advertising**

How Maytag follows the buyer after the sale. *Ptr Ink* 161:48 N 24 '32  
Letters succeed when fine art failed; Haag washing machines. G. E. Mitchell. *il Ptd Salesmanship* 61:22-4 Mr '33  
Step down campaign that steps up the unit of sale; ABC washers. G. E. Mitchell. *il Ptd Salesmanship* 62:101-2+ O '33

**Prices**

Washing up; the washing-machine maker first to go to a lower price level is first to climb out. *Business Week* p6 Ja 11 '33

**WASHING machines, Electric**

Electricity in the home; laundry equipment. *il Elec R (Lond)* 113:506-7 O 13 '33  
Metered washers make manufacturers happy. *Forbes* 32:113-14 Ag 15 '33

**Advertising**

Selling to customers' customers when markets decline; Lovell ties business papers, consumer magazines and direct mail into indirect advertising campaign. E. C. Doll. *Ptr Ink* 163:25-7 Ap 20 '33

**WASHING machines (for metal parts)**

Washing and drying for small metal parts. *il Chem Age (Lond)* 29:211 S 2 '33

**WASHINGTON, D. C.**

Washington's terminal problem is solved. map  
Bus Transportation 11:500-1 D '32

**Architecture**

City of Washington today. E. B. Morris. *il map Architecture* 68:189-212 O '33

**Bridges**

Building a bridge in three strips; replacement of old Klinge Valley Connecticut ave. bridge in Washington, D.C. H. C. Whitehurst. *il Eng N* 109:784-6 D 29 '32

**City planning**

Best laid plans of mice and men; abandonment of the McMillan plan of 1901 for the development of the Washington monument grounds. D. H. Gillette. *il diag plan Am Arch* 143:43-5 Mr '33

**Rapid transit**

Transit in Washington. *il Transit J* 77:215 JI '33

What the Washington merger involves. *il map Transit J* 77:405-7 N '33

**Sanitary affairs**

New incinerators at Washington, D.C. H. P. Eddy, jr. *il Boston Soc C E J* 20:1-12; Discussion. 12-13 Ja '33  
Refuse problem of Washington, D.C. H. P. Eddy, jr. *il plan Civil Eng* 2:746-9 D '32

**Streets**

Control of pavement cuts; practice in Washington, D.C. H. C. Whitehurst. *diags Civil Eng* 3:163-4 Mr '33

**Suburbs**

Cast iron pipe trunk sewers in Washington suburban sanitary district; comparison with concrete sewers. R. B. Morse. *il Water Works & Sewerage* 80:192-6 Je '33  
Washington suburban sanitary district. H. R. Hall. *Am Water Works Assn J* 25:163-76; Discussion. 177-80 F '33

**Water supply**

History of Washington's water supply system. J. D. Arthur, jr. *Am Water Works Assn J* 25:1081-3 Ag '33

Manufacture of aluminum sulfate at the Dalecarlia filter plant. Washington; cost data. C. J. Lauter. *il diags Ind & Eng Chem* 25:953-8 S '33

**WASHINGTON, Lake**

Freeing Lake Washington from sewage. map  
*Eng N* 110:714 Je 1 '33

**WASHINGTON academy of sciences**

Officers. *Science* 77:83 Ja 20 '33

**WASHINGTON monument, Washington, D.C.**

Best laid plans of mice and men; abandonment of the McMillan plan of 1901 for the development of the Washington monument grounds. D. H. Gillette. *il diag plan Am Arch* 143:43-5 Mr '33

Washington monument facts brought up to date. D. H. Gillette. *diags Eng N* 110:501-2 Ap 20 '33

**WASHINGTON university**

New Hall of physics at Washington university. *Science* 78:96 Ag 4 '33

**WASHROOMS. See Lavatories****WASTE**

Waste in manufacture. C. R. F. Engelbach. *Engineer* 156:336 O 6 '33

*See also*

Advertising—Waste	Rubber waste
Coal mines and mining—Waste disposal	Salvage (waste, etc.)
Cotton waste	Scrap metal
Leather waste	Textile mills—Waste
Paper mills—Waste	Trade waste
Petroleum refineries—Waste	Waste fuel
Power waste	Waste heat
Railroads—Scrap material	Waste paper
	Waste products
	Water waste

**WASTE, Utilization of**

Liquid purification with otherwise waste ammonia. J. D. Price. *Gas J (Lond)* 204:142-3 O 11 '33

Profits from trade wastes. S. T. Powell. *diag Chem & Met Eng* 40:359-60 JI '33  
Showing how a very low bid does not always mean a heavy loss; use of broken concrete on highway 42, Milwaukee county. *il Roads & Sts* 76:324-6 S '33

Utilization of by-products of sewage disposal. J. R. Rumsey. *il Water Works & Sewerage* 80:241-5 JI '33

Wastes and pollution vs. recovery for profit. C. M. Baker. *flow diag, il Water Works & Sewerage* 80:296-8 Ag '33

*See also*

Refuse, Utilization of	Waste fuel
Salvage (waste, etc.)	Waste products
Sewage, Utilization of	

**WASTE fuel**

Analysis of the Paulson process of evaporation and combustion of sulphite waste liquor. H. S. Kimball. *flow diags Paper Tr J* 96:34-6 Mr 23 '33

How and why we burn cotton-seed hulls. G. Hoffman. *diag Power* 77:462-3 S '33

Making profits from waste by briquetting coke. E. J. Tournier. *il diags Gas Age* 72:230-4 S 9 '33

Utilization of briquet waste with a simple supplementary powdered-coal firing; abstract. K. Weiss. *diags Mech Eng* 55:379-81 Je '33

*See also*

Blast furnace gas	Sewage sludge—Gas
Coal waste	production
Coke-oven gas	Wood as fuel

**WASTE heat**

Diesel-fired boilers; types, sizes, uses. *il diags Power* 77:534-6 O '33

Double-acting dollars for Diesel fuel. *il diags Power* 77:285-7, 419-21 Je, Ag '33

Dry-quenched coke for the blast furnace; with cost data. J. F. Miller. *il diag Iron Age* 132:12-15 Ag 24 '33

Gas producer heat balance; calculation of the distribution of useful and waste heat. J. W. Romig. *Am Gas J* 138:17-20 My '33



**WASTE heat—Continued**

- Howden-Johnson waste-heat recovery system. diags Marine Eng 38:146-7 Ap '33; Mech Eng 55:257-8 Ap '33
- Modern waste-heat tunnel driers. T. W. Garve. diags Am Cer Soc J 16:118-23 F '33
- New clinker coolers save kiln fuel and improve grindability. il diags Concrete (mill sec) 41:35-40 Mr '33
- Power production from sludge gas at Springfield, Ill.; with cost data. W. B. Walraven. il diag Water Works & Sewerage 80:151-6 My '33; Same cond. Eng N 110:682-3 My 25 '33
- Preheating the cupola blast. F. K. Vial. diag Foundry 61:14-15+ My '33
- Recovering Diesel waste heat at Bloomington. L. Howell. il Power 77:359-60 Jl '33
- Treatment and utilisation of sludge. F. C. Vokes. il diags Engineering 136:317-18 S 15 '33
- Utilization of heat from clinker for preheating secondary air. R. R. Coghlan. Concrete (mill sec) 41:27-30 My '33
- Vitalaire humidifier operates on waste heat from stack. diag Heat & Ven 30:59-60 Ja '33
- Waste-heat recovery from a 135-hp. Diesel. Power 77:381-2 Jl '33
- Water jacket on compressor exhaust furnishes hot water. il Elec West 70:129 Ap '33

**See also**

- |                     |                    |
|---------------------|--------------------|
| Blast furnace gas   | Heat exchangers    |
| Boilers, Waste heat | Steam heating—Con- |
| Coke-oven gas       | densate recovery   |
| Exhaust steam       | Waste fuel         |
| Furnaces, Recupera- |                    |
| tive and regenera-  |                    |
| tive                |                    |

**WASTE material dealers, National association of.** See National association of waste material dealers

**WASTE paper**

- Paper stock industry has very trying year. W. R. Hicks. Paper Tr J 96:31 F 16 '33
- Progress made in de-inking of papers. Paper Tr J 96:16 Ja 12 '33
- Saving waste paper. Paper Tr J 95:22 N 17 '32
- Waste paper hearing before rail executives. Paper Tr J 95:25 N 17 '32

**WASTE products**

- Artificial rubber wood. M. Levin. India Rubber W 88:30 My '33
- Chemical lumber. O. R. Sweeney. Sci Am 147:374-5 D '32
- Evaporation as a process of reclamation and prevention of stream pollution. H. O. Chute. il diag Water Works & Sewerage 79:427-9 D '32
- Leather waste as chicken feed. Sci Am 148:120 F '33
- Recovered coal ash made available as raw material. Concrete (mill sec) 41:31 My '33
- Some trade waste problems. R. J. Smith. Soc Dyers & Col J 49:241-4 Ag '33
- Utilization of agricultural wastes and surpluses. L. K. Arnold. Iowa State College Eng Extension Serv Bul 113:1-31 '33
- Utilization of sulphite waste liquor. H. K. Benson. bibliog Paper Tr J 95:31-4 N 17 '32

**See also**

- |                   |                        |
|-------------------|------------------------|
| Blast furnace gas | Petroleum refining—    |
| Coke manufacture— | By-products            |
| By-products       | Railroads—Scrap ma-    |
| Coke-oven gas     | terial                 |
| Corncoobs         | Refuse, Utilization of |
| Cornstalks        | Rubber waste           |
| Cotton waste      | Salvage (waste, etc.)  |
| Cottonseed        | Scrap metal            |
| Flue dust         | Sewage sludge—Gas      |
| Flue gas          | production             |
| Gas manufacture—  | Slag                   |
| By-products       | Straw                  |
| Leather waste     | Sulfite liquor         |
| Paper making—By-  | Trade waste            |
| products          | Waste paper            |

**WATCH cases**

- Quality marks for watch cases. Metal Ind 31:376 N '33

**WATCHES**

- Device for accurately timing watches. G. P. Luckey. diags R Sci Instr 4:504-6 S '33
- Give dealers window displays they really want; Elgin national watch company. F. R. Brodsky. il Ptr Ink 162:40-1 Ja 5 '33

**Manufacture**

- Health aspects of radium dial painting; occupational environment. J. J. Bloomfield and F. L. Knowles. bibliog il J Ind Hygiene 15:368-82 S '33
- New accuracy in timing watches. il Sci Am 149:81-2 Ag '33

**Repair**

- Modern methods in watch adjusting. H. C. Kelly. 114p Shaw & Borden co, Spokane '33

**WATCHMEN**

- Many firms are revising their watchmen service. Nat Underw 37:9 Ag 17 '33
- N.F.P.A. ponders watchman issue. Nat Underw 37:3+ S 14 '33
- Watchman problem met by automatic protection plan. Nat Underw 37:10 O 12 '33

**WATER**

- Changes in the teeth of white rats given water from a mottled enamel area compared with those produced by water containing sodium fluoride. W. H. Sebrell and others. Pub Health Rep 48:437-45 [bibliog p444-5] pl 1-2 Ap 28 '33
- Diamagnetism of water at different temperatures. A. P. Wills and G. F. Boeker. diag Phys R 42:687-96 D 1 '32
- Dissociation of water in lithium bromide solutions at 25°. J. E. Vance. Am Chem Soc J 55:4518-21 N '33
- Dissociation of water in lithium chloride solutions. H. S. Harned and H. R. Copson. Am Chem Soc J 55:2206-15 Je '33
- Dissociation of water in strontium chloride solutions at 25°. J. E. Vance. Am Chem Soc J 55:2729-33 Jl '33
- Electric arc discharge in water. H. D. Carter and A. N. Campbell. diag Electrochem Soc Trans 63 (preprint 22):221-5 My '33
- Index of refraction of water and its thermal history. V. K. La Mer and M. L. Miller. Phys R 43:207-8 F 1 '33
- Initial absorption rates of carbon dioxide by water and by dilute sodium carbonate solutions. H. S. Davis. diag Ind & Eng Chem 25:1023-5 S '33
- Ionization constant of water and the dissociation of water in potassium chloride solutions from electromotive forces of cells without liquid junction. H. S. Harned and W. J. Hamer. bibliog Am Chem Soc J 55:2194-206 Je '33
- Molecular rotation in ice at 10°K., free energy of formation and entropy of water. W. F. Glaue and M. F. Ashley. Phys R 43:81-2 Ja 1 '33
- Nature of the sorption of water by charcoal. J. W. McBain, J. L. Porter and R. F. Sessions. bibliog diag Am Chem Soc J 55:2294-304 Je '33
- Photolysis of gaseous acetone and the influence of water. G. H. Damon and F. Daniels. bibliog diag Am Chem Soc J 55:2363-75 Je '33
- Radium-water generators. H. Schlundt, R. G. Fulton and F. Bruner. bibliog diags J Chem Educ 10:185-7 Mr '33
- Rapid elimination of oxygen from water or aqueous solutions. K. B. Mears and U. R. Evans. Soc Chem Ind J 52:349T-50T O 20 '33
- Simple type of isotopic reaction. G. N. Lewis. Am Chem Soc J 55:3502-3 Ag '33
- Surface tension of mercury and of water in contact with saturated vapors of organic liquids. F. E. Bartell, L. O. Case and H. Brown. Am Chem Soc J 55:2769-76 Jl '33
- Thermodynamics of ionized water in potassium and sodium bromide solutions. H. S. Harned and W. J. Hamer. Am Chem Soc J 55:4496-507 N '33
- Verein deutscher chemiker in Würzburg; fachgruppe für wasserchemie. Angew Chemie 46:421-4 Je 24 '33

**WATER—Continued**

Water as a refrigerant. J. Everetts, jr. flow diag 11 diags Refrig Eng 24:329-33 D '32; Abstract. Power 76:354 Mid-D '32; Discussion. Refrig Eng 25:111+ F '33

*See also*

Cooling of water	Mine water
Cooling water	Moisture
Drinking fountains	Ocean
Drinking water systems	Pumping
Erosion	Rain and rainfall
Feed water	Rivers
Floods	Sea water
Fog	Snow
Hydration	Solution (chemistry)
Hydraulic engineering	Steam
Hydraulics	Water supply and other headings beginning Water
Ice	Waterways
Irrigation	Wells
Lakes	

**Analysis**

Accuracy is essential in making residual chlorine determinations. Water Works & Sewerage 80:5 Ja '33; Same. Pub Works 64:45 Ap '33

Analysis of water. Paper Tr J 97:36-9 N 2 '33

Apparatus for the rapid estimation of oxygen or other gases dissolved in water. R. C. Hoather. diag Soc Chem Ind J (Chem & Ind) 52:689-90 Ag 25 '33

Bestimmung und auswertung der alkalität des wassers im dampfkesselbetrieb. J. Leick. Angew Chemie 46:232-4 Ap 22 '33

Colorimetric determination of fluoride in water using ferric chloride. M. D. Foster. Ind & Eng Chem Anal ed 5:234-6 JI 15 '33

Colorimetrische bleibestimmung, besonders im wasser. O. Liebknecht and L. Gerb. Angew Chemie 45:744-5 N 26 '32

Contribution to the study of oil-field water analysis. A. H. K. Radjy and C. E. Wood. Inst Pet Tech J 19:845-62 O '33

Control tests for the treatment of feed and boiler water. J. K. Rummel. bibliog Am Water Works Assn J 24:2004-24 D '32

Determination and occurrence of fluorides in sea water. T. G. Thompson and H. J. Taylor. Ind & Eng Chem Anal ed 5:87-9 Mr 15 '33

Determination of fluorides in Illinois waters. C. S. Boruff and G. B. Abbott. bibliog Ind & Eng Chem Anal ed 5:236-8 JI 15 '33

Determination of total dissolved solids in water analysis. C. S. Howard. bibliog Ind & Eng Chem Anal ed 5:4-6 Ja 15 '33

Estimation of fluorides in waters. E. Elyove. bibliog Pub Health Rep 48:1219-22 O 6 '33

Examination of waters and water supplies. J. C. Thresh, J. F. Beale and E. V. Suckling. 4th ed rev & enl 824p \$9 Blakiston '33

Laboratory control for water works. C. P. Hoover. Am Water Works Assn J 25:1279-86 S '33

Microdetermination of calcium in sea water. P. L. Kirk and E. G. Moberg. diag Ind & Eng Chem Anal ed 5:95-8 Mr 15 '33

Most probable numbers of B. coli in water analysis. J. K. Hoskins. bibliog Am Water Works Assn J 25:867-77 Je '33

Ortho-tolidine test for chlorine. H. W. Adams and A. M. Buswell. bibliog Am Water Works Assn J 25:1118-36; Discussion. L. H. Enslow. 1136-9 Ag '33

Photometric investigation of Nessler reaction and Witting method for determination of ammonia in sea water. H. E. Wirth and R. J. Robinson. bibliog Ind & Eng Chem Anal ed 5:293-6 S 15 '33

Some methods in oilfield water analysis. W. A. Macfadyen. Inst Pet Tech J 19:679-86 Ag '33

Sources of error in the use in water analysis of Fairchild's method for determination of fluoride in phosphate rock. M. D. Foster. Ind & Eng Chem Anal ed 5:238 JI 15 '33

Standard methods for the examination of water and sewage. 7th ed 180p American public health assn, New York '33

Titration method for the determination of water. R. F. Bell. diag Chem Soc J p2903-5 D '32

Use of Kohlrausch sugar flasks in determinations of biochemical oxygen demand. I. C. Hall. diag Ind & Eng Chem Anal ed 5:76 Ja 15 '33

Water of crystallization in total solids of water analysis. V. P. Sokoloff. bibliog Ind & Eng Chem Anal ed 5:336-7 S 15 '33

*See also*

Water—Bacteriology

**Bibliography**

Index of analyses of natural waters in the United States, 1926 to 1931. W. D. Collins and C. S. Howard. U S Geol S Water-supply Pa 659-C:191-209 '32

**Bacteriology**

Action of bacteria in the tuberculation of water mains. F. W. Hammond and A. Gaffey. Water Works & Sewerage 79:415 D '32

Bacterial changes in chlorinated filter effluents. H. W. Streeter. Pub Works 64:19-21 JI '33

Bacterial efficiency of the excess-lime method of water purification. H. W. Streeter. Pub Works 64:17-20 Ag '33

Bacterial efficiency of water purification. H. W. Streeter. Pub Works 64:26-8 Mr '33

Chlorine tolerant bacteria in water supplies. D. B. Charlton. Am Water Works Assn J 25:851-4 Je '33

Comparison of three methods of determining the colon-aerogenes group. A. G. Nolte and W. A. Kramer. Am Water Works Assn J 25:383-9 Mr '33

Dominick-Lauter medium compared with standard lactose broth for B. coli tests. H. V. Stewart. Am Water Works Assn J 25:855-8 Je '33

Experiences with well water in an uncovered reservoir. K. W. Brown. II Am Water Works Assn J 25:340-2 Mr '33

Experimental studies of natural purification in polluted waters; the selection of a dilution water for bacteriological examinations. C. T. Butterfield. bibliog Pub Health Rep 48:681-91 Je 16 '33

Experimental studies of water purification. H. W. Streeter. Pub Health Rep 48:377-400 Ap 14 '33

Germicidal effectiveness of chlorine, bromine and iodine. T. D. Beckwith and J. R. Moser. Am Water Works Assn J 25:367-74 Mr '33

Indices of the sanitary quality of swimming pool waters. M. P. Horwood, B. S. Gould and H. Shwachman. bibliog Am Water Works Assn J 25:124-35 Ja '33

Lactose fermenting organisms in Philadelphia's drinking water. G. G. Schaut. Am Water Works Assn J 25:1287-94 S '33

Most probable numbers of B. coli in water analysis. J. K. Hoskins. bibliog Am Water Works Assn J 25:867-77 Je '33

New "Standard methods" shows growth of science; commentary on 7th edition. H. E. Jordan. Eng N 110:748-9 Je 8 '33

Obscure gastro-intestinal outbreaks ascribed to water supply. C. Wilson. Am Water Works Assn J 25:1053-7; Discussion. 1057-65 Ag '33

Pump infection under normal conditions in controlled experimental fields. E. L. Caldwell and L. W. Parr. bibliog Am Water Works Assn J 25:1107-17 Ag '33

Swimming pool risk. W. L. Mallman and W. Cary. Sci Am 149:123 S '33

Water purification studies; résumé of investigations by H. W. Streeter. diags Pub Works 64:12-14 Je '33

**Hardness**

Better water at less cost for Lebanon, Tennessee; saving due to soft water supply. H. F. Wiedeman. II Pub Works 63:13-15 D '32



**WATER—Hardness—Continued**

- Electric eye automatically checks hardness of water; Elgin hardimeter. *il* Melland 5: 148+ Ag-S '33; Same cond. *Power Pl Eng* 37:404 S '33; *Abstract. Chem & Met Eng* 40: 488 S '33
- Mistreatment of water. C. R. Knowles. *Am Water Works Assn J* 25:490-9; Discussion. C. H. Christman. 499-503 Ap '33
- Quality of water and soap consumption; cost data. H. W. Hudson. *Am Water Works Assn J* 25:645-54 [bibliog p653-4] My '33
- Staunton's water supply; abstract and discussion. R. R. Catlett. *Water Works & Sewerage* 79:416-17 D '32

*See also***Water softening****Heavy water**

- Biochemistry of water containing hydrogen isotope. G. N. Lewis. *il* *Am Chem Soc J* 55:3503-4 Ag '33
- Dielectric constant of  $\text{H}^2\text{H}^2\text{O}$ . G. N. Lewis, A. R. Olson and W. Maroney. *Am Chem Soc J* 55:4731 N '33
- Heavy water. *Science* 77:sup8-9 Mr 10 '33
- Heavy water. G. N. Lewis. *Science* 78:sup8 S 1 '33
- Heavy water. H. S. Taylor and H. Eyring. *Science* 77:sup9-10 My 5 '33
- Heavy water in stagnant seas. E. B. Washburn. *Science* 78:sup8 S 1 '33
- Heavy water prevents seeds from sprouting. G. N. Lewis. *Science* 78:sup7 Ag 18 '33
- Isotopic fractionation of water; abstract. E. W. Washburn, E. R. Smith and M. Frandsen. *Science* 77:458 My 12 '33
- Lower animals killed by heavy water. W. W. Swingle. *Science* 78:sup9 O 13 '33
- Mobility of ions in  $\text{H}^2\text{H}^2\text{O}$ . G. N. Lewis and T. C. Doody. *Am Chem Soc J* 55:3504-6 Ag '33
- Possible physiological effect of the heavy isotope of H in water. T. C. Barnes. *Am Chem Soc J* 55:4332-3 O '33
- Separation of the isotopic forms of water by fractional distillation. G. N. Lewis and R. E. Cornish. *Am Chem Soc J* 55:2616-17 Je '33
- Solubility of salts in  $\text{H}^2\text{H}^2\text{O}$ . H. S. Taylor, E. R. Caley and H. Eyring. *Am Chem Soc J* 55:4334-5 O '33
- Some properties of heavy water. P. W. Selwood and A. A. Frost. *diag Am Chem Soc J* 55:4335-6 O '33
- Some properties of pure  $\text{H}^2\text{H}^2\text{O}$ . G. N. Lewis and R. T. Macdonald. *Am Chem Soc J* 55: 3057-9 Jl '33
- Viscosity of  $\text{H}^2\text{H}^2\text{O}$ . G. N. Lewis and R. T. Macdonald. *Am Chem Soc J* 55:4730-1 N '33

**Hygienic aspects**

- Water tempers summer heat. *il* *Nat Safety* N 27:48-9 My '33

**Synthesis**

- Efficiency of carbon dioxide as a radiochemical catalyst; acetylene polymerization and water synthesis. C. Rosenblum. *bibliog J Phys Chem* 37:53-8 Ja '33
- Photochemical union of chlorine and hydrogen in the presence of oxygen, and the relative rates of formation of water and hydrogen chloride in illuminated mixtures of the three gases rich in oxygen. D. L. Chapman and J. S. Watkins. *Chem Soc J* p743-5 Jl '33

**Temperature**

- Well and surface water temperatures in the United States; reference data sheets. maps *Heat & Ven* 30:26a-26b N '33

**Testing**

- Determination of odors and tastes in water; abstracts. G. M. Fair. *Eng N* 111:385-6 S 28 '33; *Water Works & Sewerage* 80:360 O '33
- Laboratory control for water works. C. P. Hoover. *Am Water Works Assn J* 25:1279-86 S '33
- Measuring impurity in water; the Dionic water tester. *il* *Chem Age (Lond)* 28:391 Ap 29 '33

New "Standard methods" shows growth of science; commentary on 7th edition. H. E. Jordan. *Eng N* 110:748-9 Je 8 '33

Pollution of Lake Michigan; effect of certain industrial wastes. J. R. Baylis. *diags Civil Eng* 3:522-4 S '33

Procedure for making odor and taste determinations. *diag Water Works & Sewerage* 79:425-6 D '32

Turbidity determinations in operation of filtration plants. *bibliog diags plans Water Works & Sewerage* 80:125-8 Ap '33

**WATER, Distilled**

Distilling water by electricity; electrode boiler installation. *il* *Chem Age (Lond)* 28:269 Mr 25 '33

Handling of distilled water in aluminum. H. V. Churchill. *il* *diag Ind & Eng Chem Anal ed* 5:264-6 Jl 15 '33

Solving an unusual block tin pipe job. Forest laboratory at Madison, Wis. G. Hall. *il* *diag Dom Eng* 141:31-2 Mr '33

Ein vollautomatische destillier- und konzentrierapparat, speziell für die herstellung von destilliertem wasser. E. Spiegelberg. *diag Chemische Fabrik* 6:285-6 Je 28 '33

**WATER, Underground**

Cements and well cementing; effect of chlorides on the setting and hardening of cement. A. Reid and J. T. Evans. *Inst Pet Tech J* 18:992-1006 D '32

Effects of earthquakes on waters of the earth. N. H. Heck. *Science* 77:sup9 My 5 '33

Excluding salt water from island wells; experience at Nassau. J. O. Riddel. *diags map Civil Eng* 3:383-5 Jl '33

Ground water in north-central Tennessee. A. M. Piper. fold maps U S Geol S Water-supply Pa 640:1-238, pl 1-9 '32

Grundwasser-anreicherung; fünf jahre erfahrungen in Curslack. W. Holthusen. *plan Zeit Ver Deutsch Ing* 77:1013-14 S 16 '33

Hydro-geological surveys. E. Morton. *Engineer* 156:94 Jl 28 '33

Investigations in ground water hydrology that bear on sedimentation. A. M. Piper. *Nat Research Council Bul* 89:121-6 '32

Iodine extracted from well water. *Sci Am* 148: 113+ F '33

Irrigation in Persia by kanáts. M. A. Butler. *il* *diags maps Civil Eng* 3:69-73 F '33

Mother Nature forestalls a bond issue; sewage disposal in streams under lava bed in Gooding, Idaho. K. Provost. *il* *Explosives Eng* 11:174-5 Je '33

New Jersey ground-water supply abundant. H. T. Critchlow. *maps Civil Eng* 2:774-7 D '32

Notable improvements in groundwater development. O. E. Meinzer. *map Eng N* 110:750-2 Je 8 '33

Origin of limestone caverns. A. C. Swinnerton. *Geol Soc Bul* 43:663-93 S '32

Un phénomène de flambement d'arc; la baguette du sourcier. P. Antoine. *Génie Civil* 103:273-6 S 16 '33

Les phénomènes capillaires, funiculaires et pendulaires, dans les eaux souterraines, et leur influence sur les fondations; abstract. Hackstroh. *Génie Civil* 102:597-8 Je 24 '33

Relation of geology to the groundwater supplies of New England. I. B. Crosby. *diags map N E Water Works Assn J* 47:74-91 [bibliog p89-91]; Discussion. 92-5 Mr '33

Rôle of water conditions in the formation and differentiation of common (banded) coals. D. White. *bibliog Econ Geol* 28:556-70 S '33

True significance of drawdown in wells. H. O. Williams. *diags Am Water Works Assn J* 25:734-9 My '33

Über sicherströmungen; stand der forschung und offene fragen. P. Neményi. *diags Zeit Ver Deutsch Ing* 76:1197-1202 D 3 '32

Underground water in human affairs. R. M. Bagg. *Am Water Works Assn J* 25:1000-6 Jl '33

Underground waters and subsurface temperatures of the Woodbine sand in northeast Texas. F. B. Plummer and E. C. Sargent. *Texas U Bul* 3138:1-178 [bibliog p101-10] '31

*See also*

Artesian wells  
Hot springs

Mine water  
Wells

**WATER aeration**

Aération in water treatment. H. Anderson. *il* N E Water Works Assn J 46:373-8 D '32; Abstract. Water Works & Sewerage 79:377 N '32; Discussion. N E Water Works Assn J 46:379 D '32; Water Works & Sewerage 79:377-8 N '32

Controlling corrosion of distribution systems. A. Wolman. *Am Water Works Assn J* 25:947-55 JI '33

**WATER birds**

Keep marshlands for wild fowl. P. G. Redington. *il* Sci Am 149:14-16 JI '33

**WATER clocks**

Water clocks. *il* Water Works & Sewerage 80:199 Je '33

**WATER closets**

City ordinance requiring water closets where sewer connections were possible upheld; suit. *Pub Health Rep* 48:1083-4 S 1 '33

Cross-connection and plumbing-fixture studies. H. L. White. *diags* *Am Water Works Assn J* 25:922-30 JI '33

**WATER companies**

*See also*

Waterworks

**Finance**

Guarantee payment of water bills. J. Schwartz. *Am Water Works Assn J* 24:1994-9 D '32

**Law**

Colorado commission directs utility consumers to pay bills. *Pub Util* 11:310-11 Mr 2 '33

Service cut-off restrained pending judicial determination of reasonable rates. *Pub Util* 11:253 F 16 '33

**Management**

Group management of water companies; abstract. R. J. Newsom. *Water Works & Sewerage* 80:362; Discussion. 363 O '33

Group operation of water utilities; California water service company. E. B. Walthall. *Am Water Works Assn J* 25:515-24 Ap '33

**WATER conduits**

Deep tunnels for delivery of water supply. W. E. Spear. *il* *diag* *map* *Civil Eng* 3:122-5 Mr '33

Hydraulic jump in standard conduits; general formula for rectangular channels extended to trapezoidal and curvilinear sections. J. C. Stevens. *il* *Civil Eng* 3:565-7 O '33

Metropolitan district water supply tunnel from the Ware river to the Wachusett reservoir. F. E. Winsor. *map* *diags* *Boston Soc C E J* 19:461-87 N '32

Pressure tunnel under the First Narrows, at Vancouver, B.C. *il* *diags* *Can Eng* 64:15-18 Ja 3 '33

Rapid progress being made on Vancouver water tunnel. *Eng N* 110:56 Ja 12 '33

Welding water tunnel liner. *il* *Sci Am* 148:172 Mr '33

*See also*

Aqueducts	Penstocks
Flumes	Siphons
Irrigation canals	Water pipes

**WATER conduits, Concrete**

Concrete water tunnel inspected after 25 years; Blue Island Ave. tunnel in Chicago. *il* *map* *Eng N* 110:374-6, 599 Mr 23, My 11 '33

*See also*

Water pipes, Concrete

**WATER conservation**

Water conservation—the key to national development. C. V. Davis. *il* *Sci Am* 148:92-5 F '33

**WATER consumption**

Analysis of metered revenue. P. J. Dishner. *Am Water Works Assn J* 25:375-9 Mr '33

Depression and the water works. *Pub Works* 64:30 S '33

Maximum daily and hourly water consumption in American cities. A. P. Folwell. *N E Water Works Assn J* 46:389-95 D '32; Same. *Pub Works* 63:13-15 O '32

*See also*

Water waste

**WATER cooling.** *See* Cooling of water

**WATER distribution**

Breaks in cast iron pipe gridiron systems. W. C. Mabee. *Am Water Works Assn J* 24:1717-23; Discussion. 1723-37 N '32

Causes of waste in distribution systems. A. E. Skinner. *Am Water Works Assn J* 24:1700-6; Discussion. H. S. Morse. 1706-8 N '32

Construction and operating records of plant facilities. J. E. Jagger. *Am Water Works Assn J* 24:1922-36 D '32

Design of pipe lines. K. R. Kennison. *il* N E Water Works Assn J 47:27-39 Mr '33

Elevated storage at Louisville cuts peak-hour pumpage. *Eng N* 110:681 My 25 '33

Expansion of the Los Angeles distribution system. W. W. Hurlbut. *maps* *Am Water Works Assn J* 24:1684-96; Discussion. 1696-9 N '32

Filtration plant and distribution system, Shawinigan Falls, Quebec. *il* *Can Eng* 65:11-14+ N 7 '33

4,000,000 gallon elevated storage project at Sheboygan, Wis. A. H. Miller. *il* *diags* *Water Works & Sewerage* 80:311-16 S '33

Ground-level storage and booster station at Milwaukee, Wisconsin. H. H. Brown. *Am Water Works Assn J* 25:1362-71 O '33

Location record for distribution system. A. H. Miller. *Am Water Works Assn J* 25:327-30; Discussion. C. S. Gruetzmacher. 331-6 Mr '33

Utility distribution systems in housing projects. N. B. Jacobs. *Am Water Works Assn J* 25:633-44 My '33

Value of continuous pressure recorders at various points on a distribution system; abstract. J. B. Eddy. *Water Works & Sewerage* 80:291 Ag '33

*See also*

Aqueducts	Manholes
Drinking water systems	Pumping stations
Hydraulics	Water pipes
	Waterworks

**Cross connections**

Cross-connection and plumbing-fixture studies. H. L. White. *diags* *Am Water Works Assn J* 25:922-30 JI '33

Cross-connection elimination recommended by A.W.W.A. *Eng N* 110:402 Mr 30 '33

Cross connections with public water supplies. S. B. Morris. *diag* *Am Water Works Assn J* 24:1750-7; Discussion. 1757-61 N '32

Report of committee no. 8 on cross connections. *plans* *Am Water Works Assn J* 25:396-443 [bibliog p424-6, 441-3] Mr '33

**WATER flow**

Discharge through Tainter gate openings; observations made at dams on the Oswego river, New York. T. M. Ripley. *il* *diags* *Civil Eng* 3:386-8 JI '33

Flow and percolation studied abroad; Hydraulic Institute of the Technical university of Berlin. D. P. Barnes. *il* *diags* *Civil Eng* 3:389-91 JI '33

Flow of simple fluids through porous materials. G. H. Fancher and J. A. Lewis. *bibliog* *il* *diags* *Ind & Eng Chem* 25:1139-47 O '33

Flow of water in sand. E. M. Taylor and H. L. Uppal. *il* *Engineer* 156:107-8 Ag 4 '33

Fundamental factors governing the flow of water through sand; abstract. G. M. Fair. *Water Works & Sewerage* 80:261 JI '33

Gesetzmäßigkeiten der turbulenten strömung in glatten rohren. *Zeit Ver Deutsch Ing* 77:48 Ja 14 '33

Hydraulic losses in short tube determined by experiments. J. A. Oakey. *diag* *Eng N* 110:717-18 Je 1 '33

Importance of testing disc meters at the correct rates of flow. P. S. Wilson. *Water Works & Sewerage* 80:6-8 Ja '33

Lingograph for flow of water in pipes; data sheet. E. W. Ritchie. *Power* 76:304 D '32



**WATER flow—Continued**

- Model law for motion of salt water through fresh. M. P. O'Brien and J. Chernov. *il diags Am Soc C E Proc* 58:1769-88 D '32; Discussion. 58:531-4, 688-91, 882-4, 1020-3, 1336-9 Mr-My, Ag, O '33
- Non-uniform flow of water. F. V. A. E. Engel. *il diags Engineer* 155:392-4, 429-30, 456-7 Ap 21-May 5 '33
- Strömungsgesetze in rauhen röhren. J. Nikuradse. *Zeit Ver Deutsch Ing* 77:1075-6 S 30 '33
- Translatory waves in open channels; theoretical analysis of movement caused by changing the depth of water. H. W. King. *il Civil Eng* 3:319-21 Je '33
- Über sickerströmungen; stand der forschung und offene fragen. P. Neményi. *diags Zeit Ver Deutsch Ing* 76:1197-1202 D 3 '32
- Water measurements for rock products plants. A. C. Hewitt. *diag Rock Prod* 36:58-9 Ag '33

*See also*

- |                |              |
|----------------|--------------|
| Hydraulic jump | Surge tanks  |
| Hydraulics     | Turbines     |
| Intakes        | Water meters |
| Stream flow    |              |

**WATER gages**

- Dewrance and company bi-colour water gauge. *il diag Engineering* 135:602-3 Je 2 '33
- Dewrance boiler water level indicator. *diags Engineer* 154:490 N 11 '32; *Elec R (Lond)* 111:714 N 11 '32
- Parsons and company water-gauge projector. *il diags Engineering* 136:305-6, 307 S 15 '33; *Elec R (Lond)* 113:427 S 29 '33

**WATER hammer**

- Answer to water hammer. W. S. L. Cleverdon. *il diag Dom Eng* 142:40-2+ O '33
- Economical boiler feedwater piping design; use of surge suppressor may control water hammer. G. F. Campau. *Power Pl Eng* 37:474-5 N '33
- Review of water hammer theory; abstract of the symposium. *Power Pl Eng* 37:439-40 O '33
- Symposium on water hammer; A.S.M.E. hydraulic division and A.S.C.E. power division. *Am Water Works Assn J* 25:878-84 Je '33; Abstract. *Power* 77:347 JI '33

**WATER heaters**

- Diesel-fired boilers; types, sizes, uses. *il diags Power* 77:534-6 O '33

*See also*

- |                        |                   |
|------------------------|-------------------|
| Electric water heaters | Gas water heaters |
|                        | Hot water supply  |
| Feed water heaters     |                   |

**Explosions**

- Water heater explosions claim several lives. *diag Locomotive* 39:145-6 Ja '33

**WATER heating**

- High- or low-pressure steam for heating water? *Power* 77:380-1 JI '33
- How to meet competition in domestic water heating. H. M. Henry. *Gas Age* 71:113-18, 139-42 F 4-11 '33
- Water jacket on compressor exhaust furnishes hot water. *il Elec West* 70:129 Ap '33

*See also*

- Hot water supply

**WATER laws and legislation**

- Montreal health by-law. *Can Eng* 64:20 F 28 '33
- Water diversion between drainage basins. R. E. Horton. *Am Water Works Assn J* 24:1623-59; Discussion. 1659-83 N '32

*See also*

- Water companies—  
Law

**WATER level indicators**

- Glenfield and Kennedy water-level recorder. *il Engineering* 136:178 Ag 18 '33
- Inexpensive water-stage recorder developed; Los Angeles county flood control district. *il Eng N* 110:677 My 25 '33
- Percolation slope in dams measured by new device. L. L. Meyer. *il diags Eng N* 110:109-10 Ja 26 '33

- Service water level and flow recorder. *il Water Works & Sewerage* 80:310 Ag '33
- Water level recorders at Hamilton water works. E. D. Wilkes. *il Can Eng* 65:15-16 S 12 '33

**WATER marks. See Watermarks****WATER measurement**

- Blaw-Knox new automatic water measuring tank for concrete mixing plants. *il Roads & Sts* 76:95 F '33
- Ford meter box company announces the Gulper. *il Water Works & Sewerage* 80:71-2 F '33
- Liquid measures and conversion factors. L. G. E. Bignell. *Oil & Gas J* 32:74 My 25 '33
- Measurement of small water flows; abstract. D. L. Maffitt. *Water Works & Sewerage* 80:252 JI '33
- Two methods of measuring water to hydraulic turbines. *diags Power* 77:126-7 Mr '33
- Water measurements for rock products plants. A. C. Hewitt. *diag Rock Prod* 36:58-9 Ag '33
- Water production measurement methods. L. S. Hall. *Am Water Works Assn J* 25:803-9 Je '33

*See also*

- |                     |                   |
|---------------------|-------------------|
| Flow meters         | Water flow        |
| Pitot tube          | Water gages       |
| Stream measurements | Water meters      |
|                     | Weirs (measuring) |

**WATER meters**

- Accessory for water meters allows low-flow registration. *il Eng N* 110:423 Mr 30 '33
- Effect of sizes and maintenance of meters on revenues. L. D. Gayton. *Am Water Works Assn J* 24:1983-93 D '32
- How meters are damaged. C. W. Winkle. *Am Water Works Assn J* 25:138-40 Ja '33
- Meter rate method of charging. T. H. Hooper. *Can Eng* 64:46-8 Mr 28 '33
- Meter rates in Windsor, Ont. G. C. Storey. *Can Eng* 64:49-51; Discussion. 51-3 Mr 28 '33
- Metering at Durham, N.C. D. M. Williams. *Am Water Works Assn J* 25:240-3 F '33
- Meters for measuring cold water. L. Mitchell. *Am Water Works Assn J* 25:956-64 JI '33
- Use of several smaller meters vs. one large meter on large services; abstract and discussion. H. L. Monroe. *Water Works & Sewerage* 80:251-2 JI '33

*See also*

- Water gages  
Water waste

**Repair**

- Effect of maintenance of meters on revenues. D. C. Morrow. *Am Water Works Assn J* 24:1976-8; Discussion. 1978-82 D '32
- Maintaining, reading and billing of water meters in Baltimore, Md. J. S. Strohmeier. *Am Water Works Assn J* 25:916-21 JI '33; Same. *Water Works & Sewerage* 80:267-9 JI '33

**Testing**

- Field tests of large meters. N. Boardman. *N E Water Works Assn J* 47:129-30 Je '33
- How often should water meters be tested? discussion. *Am Water Works Assn J* 24:1886-92 D '32
- Importance of testing disc meters at the correct rates of flow. P. S. Wilson. *Water Works & Sewerage* 80:6-8 Ja '33

**WATER mills**

- Shetland water mill. H. W. Dickinson and E. Straker. *il diag Engineer* 155:298 Mr 24 '33

**WATER pipes**

- Cement-asbestos pipe used for water line. *il diags Eng N* 110:55-6 Ja 12 '33; Abstract. *Can Eng* 65:19-20 O 10 '33
- Cement lined cast iron pipe; discussion. *Am Water Works Assn J* 24:1861-6 D '32
- Cement lined water mains; symposium at American water works association convention. *Water Works & Sewerage* 80:339-41 S '33
- Construction of a long inlet pipe line, Lausanne water supply. *il diags Engineer* 154:632-3, 642 D 23 '32

**WATER pipes—Continued**

- Construction of intake pipe and junction shaft for city of Toronto duplicate water supply. F. W. Douglas. *il diag Can Eng* 64:78-83 Mr 28 '33; Same, without *il. Am Water Works Assn J* 25:1221-9 S '33; Discussion. *Can Eng* 64:83-4 Mr 28 '33
- Economic significance of pipe linings. E. T. Killam. *Water Works & Sewerage* 80:73-6 Mr '33
- Equipment progress aids pumping and distribution. T. A. Leisen. *il Eng N* 110:754-6 Je 8 '33
- Historical notes on a line of 10-inch cast iron pipe laid in 1854, Pennichuck water works, Nashua, N. H. D. C. Calderwood. *il N E Water Works Assn J* 47:124-8 Je '33
- Hydraulic losses in short tubes determined by experiments. J. A. Oakley. *diag Eng N* 110:717-18 Je 1 '33
- Interconnection of electric circuits with water piping systems. J. B. Downer. *Am Water Works Assn J* 25:212-25 F '33
- Interesting experiences in locating pipe lines; wireless locator. R. W. Esty. *il diags Water Works & Sewerage* 80:323-6 S '33
- Linograph for flow of water in pipes; data sheet. E. W. Ritchie. *Power* 76:304 D '32
- Long cast-iron main taps new well field, Lincoln, Neb. *il diags Eng N* 110:487-90 Ap 20 '33
- Mechanical joints for cast iron pipe. H. R. Cook. *il diags Pub Works* 64:25-8 Ag '33
- New alloy developed to supplant lead for pipe. *Iron Age* 132:42 S 14 '33
- New water supply serves Pennsylvania coal towns; Panther valley water co. builds rolled-fill dam on tributary of Little Schuylkill. *il diag Eng N* 110:51-2 Ja 12 '33
- Replacement of brook crossing with bridge crossing on 42-inch pipe line. H. W. Griswold. *il N E Water Works Assn J* 47:22-6 Mr '33
- Some modern methods of coating and lining pipe; bitumastic enamel lining, cement mortar and other coating. L. Stuart. *Am Water Works Assn J* 25:1431-8; Discussion. L. W. Stocker. 1438-42 O '33
- Some pointers on water systems. R. M. Starbuck. *il Dom Eng* 141:39-41 Je '33
- Universal cast-iron water pipe. B. H. Lewis. *il Can Eng* 64:18-19 My 23 '33
- Water supply system and sewers at Flin Flon, Man. F. E. Simmons. *il diag Can Eng* 64:25-7 F 28 '33
- Welded pipe line in California carries water under water. *il Steel* 93:25 N 13 '33

**See also**

- |                   |                    |
|-------------------|--------------------|
| Aqueducts         | Pipe laying        |
| Culverts          | Pipes              |
| Hot water heating | Siphons            |
| Hot water supply  | Valves, Hydraulic  |
| Penstocks         | Water distribution |
| Pipe fittings     | Water flow         |
| Pipe joints       | Waterworks         |

**Cleaning**

- Cleaning of distribution mains. O. Casad. *Am Water Works Assn J* 25:136-7 Ja '33
- Experiences with water main cleaning. A. T. Clark. *il diags N E Water Works Assn J* 47:184-9 Je '33; Same. *Water Works & Sewerage* 79:407-10 D '32; Discussion. W. R. Conard. *N E Water Works Assn J* 47:296-7 S '33

**Corrosion**

- Bacteria destroy pipe line in California. T. D. Beckwith and P. F. Bovard. *Chem & Met Eng* 40:530 O '33
- Controlling corrosion of distribution systems. A. Wolman. *Am Water Works Assn J* 25:947-55 Jl '33
- Corrosion following water purification processes. C. A. Smith. *Am Water Works Assn J* 25:818-21 Je '33
- Influence of dissolved oxygen on corrosion losses. *Water Works & Sewerage* 80:353 O '33
- Promiscuous electric grounding on water service pipes and mains. N. S. Hill, Jr. C. F. Meyerherm, and M. W. Cowles. *Am Water Works Assn J* 25:1418-30 O '33

- Protective treatment of ferrous pipe. T. B. Downer. *Am Water Works Assn J* 25:605-32 My '33
- Reduction of corrosion in water pipe. E. S. Hopkins. *il Ind & Eng Chem* 25:1050 S '33
- Why hot water attacks the piping. *il Dom Eng* 141:45-6 Ap '33

**Deposits**

- Action of bacteria in the tuberculation of water mains. F. W. Hammond and A. Gaffey. *Water Works & Sewerage* 79:415 D '32

**Failures**

- Breaks in cast iron pipe gridiron systems. W. C. Mabec. *Am Water Works Assn J* 24:1717-23; Discussion. 1723-37 N '32
- Quick closing valves for isolating breaks in large mains; abstract and discussion. W. W. Brush. *Water Works & Sewerage* 80:290-1 Ag '33

**Freezing**

- Electricity is used to thaw frozen water pipes. C. F. Bowman. *Dom Eng* 141:33-5+ Ja '33

**Leakage**

- Causes of waste in distribution systems. A. E. Skinner. *Am Water Works Assn J* 24:1700-6; Discussion. H. S. Morse. 1706-8 N '32
- Joint-leakage tests on 16-inch ball and socket pipe at Haverhill, Mass. H. C. Crowell. *N E Water Works Assn J* 47:122-3 Je '33
- Locating and eliminating underground street leakage in Chicago distribution system. J. B. Eddy, and B. Phillips. *Am Water Works Assn J* 25:1339-45; Discussion. F. B. Nelson. 1345-9 O '33
- Locating underground structures and leaks; discussion. *Am Water Works Assn J* 24:1883-6 D '32
- Recent studies on joining compounds; abstract. J. Hannon, Jr. *Water Works & Sewerage* 80:342-3 S '33
- Underground waste detection as a factor in the New York water conservation program. F. B. Nelson. *Am Water Works Assn J* 24:1709-14; Discussion. 1714-16 N '32

**Protection**

- Bituminous pipe coatings. W. M. Wallace and J. A. Parks. *Am Water Works Assn J* 25:1387-1411; Discussion. E. Rinehart. 1411-17 O '33
- Example of long-time service of baked enamel coating on water pipe. A. H. Sabin. *Am Soc T M Proc* 32 pt 2:666-9 '32
- Pipe linings and friction coefficients; abstract. E. T. Killam. *Water Works & Sewerage* 80:358; Discussion. 358-9 O '33
- Protective treatment of ferrous pipe. T. B. Downer. *Am Water Works Assn J* 25:605-32 My '33

**Repair**

- Organization of water departments for emergencies. J. S. Dunwoody. *Am Water Works Assn J* 24:1875-7; Discussion. 1877-80 D '32

**Service pipes**

- Control of the size of consumers' services; abstract and discussion. W. W. Moorehouse. *Water Works & Sewerage* 80:291-2 Ag '33
- Modern service installations. California water service company; advantages of copper pipe; cost data. H. A. Harris. *Am Water Works Assn J* 25:810-17 Je '33
- Need for cooperation between architect, plumber and water department; discussion. *Am Water Works Assn J* 24:1828-37 D '32
- Ownership of connections from water mains to property lines. W. S. Vrooman. *Am Water Works Assn J* 25:199-204 F '33
- Selection of service pipe materials; abstract. W. A. Peirce. *Water Works & Sewerage* 80:292 Ag '33
- Use of non-ferrous service pipes at present prices; discussion. *Am Water Works Assn J* 24:1819-21 D '32; Correction. 25:444 Mr '33



## WATER pipes—Continued

## Sterilization

- Disinfection of water mains; a round table discussion. N E Water Works Assn J 47: 195-9 Je '33; Abstract. Water Works & Sewerage 80:169 My '33  
Experience in sterilizing new mains. C. Leopold. diags Water Works & Sewerage 80:321 S '33  
Sterilizing mains; discussion. Am Water Works Assn J 24:1837-48 D '32

## Testing

- Friction losses in bitumastic lined water pipes. C. W. Sherman. Am Water Works Assn J 25:244-7 F '33  
Joint-leakage tests on 16-inch ball and socket pipe at Haverhill, Mass. H. C. Crowell. N E Water Works Assn J 47:122-3 Je '33  
Operating test on a cast iron pipe line under high pressure. J. W. Moore. il diags Am Gas J 137:27-9 D '32

## WATER pipes, Concrete

- Design and installation of large water mains; reinforced concrete-steel pipe. C. J. Des-Baillets. il Can Eng 64:54-7; Discussion. 57-8 Mr 28 '33  
Fabricating 36-in. reinforced concrete-steel cylinder water mains. J. F. Brett. Am Concrete Inst J 5:61-2 S '33

## WATER pipes, Copper

- Modern service installations. California water service company; advantages of copper pipe; cost data. H. A. Harris. Am Water Works Assn J 25:810-17 Je '33

## WATER pipes, Steel

- Design and installation of large water mains; reinforced concrete-steel pipe. C. J. Des-Baillets. il Can Eng 64:54-7; Discussion. 57-8 Mr 28 '33  
Hoover dam on the Colorado river. il Engineer 156:376, 384 O 20 '33  
Plain end pipe and specials versus bell and spigot pipe and solid sleeves; discussion. Am Water Works Assn J 24:1811-18 D '32

## Manufacture

- Welding a large water pipe-line at Vancouver, B.C. W. H. Powell. il Can Eng 65:5-9 O 31 '33

## WATER pollution

- Chlorination at Downers Grove, Ill. helps solve sewage works odor and stream pollution problems. H. F. Ferguson and W. H. Wisely. il diags Water Works & Sewerage 80:200-2 Je '33  
Coke oven effluents; investigation of their toxicity. B. A. Southgate. Gas J (Lond) 202:216-18 Ap 26 '33  
Cross connections with public water supplies. S. B. Morris. diag Am Water Works Assn J 24:1750-7; Discussion. 1757-61 N '32  
Effluents of pulp mills. W. F. Silfversparre. il Pulp & Pa of Can 34:27-30 Ja '33  
Evaporation as a process of reclamation and prevention of stream pollution. H. O. Chute. il diag Water Works & Sewerage 79:427-9 D '32  
Influence of the discharge of sewage on minute forms of stream life; abstract. W. C. Purdy. Water Works & Sewerage 80: 24-5 Ja '33  
Joint trunk sewers for the Hackensack district in New Jersey. G. W. Fuller. il map Civil Eng 2:763-6 D '32  
Liability of city for sewage pollution of stream. Pub Health Rep 48:691-3 Je 16 '33  
Liability of city for water-borne typhoid fever; suit. Pub Health Rep 48:90-2 Ja 27 '33  
Mistreatment of water. C. R. Knowles. Am Water Works Assn J 25:490-9; Discussion. C. H. Christman. 499-503 Ap '33  
Pollution and self-purification of the Pocasset river in Rhode Island. F. W. Gilcreas. Boston Soc C E J 20:38-47 F-Mr '33  
Pollution of Lake Michigan. A. E. Gorman; J. R. Baylis. il diags map Civil Eng 3:519-24 S '33  
Pollution of the Tees; discussion. Engineering 134:555-6 N 11 '32

- Problem of stream cleansing. A. L. Fales. il Civil Eng 3:493-5 S '33  
Profits from trade wastes. S. T. Powell. diag Chem & Met Eng 40:359-60 Jl '33  
Pump infection under normal conditions in controlled experimental fields. E. L. Caldwell and L. W. Parr. bibliog Am Water Works Assn J 25:1107-17 Ag '33  
Quest for purer water; annual report of the Water pollution research board. Chem Age (Lond) 28:335-6 Ap 15 '33; Excerpt. Gas J (Lond) 202:156-7 Ap 19 '33  
Relative importance of industrial wastes in stream pollution. L. F. Warrick. il Civil Eng 3:495-8 S '33  
Resurvey of the Ohio river between Cincinnati and Louisville. Pub Health Rep 48: 976-9 Ag 11 '33  
Sewage disposal by way of the Illinois river. L. Pearce. il map Civil Eng 3:485-9 S '33  
Sewage-treatment problem at Duluth. J. Wilson. il map Civil Eng 3:527-9 S '33  
Some causes and effects of stream pollution. J. K. Hoskins. Pub Works 64:11-12 Ag '33  
Special precautions needed in drilling to prevent drainage to water supply. W. A. Spinney. il Oil & Gas J 31:52 F 23 '33  
Stream-pollution survey completed in Cook county, Ill. Eng N 111:466 O 19 '33  
Studies of pulp and paper mill wastes; Wisconsin, 1932. J. M. Holderby. Paper Tr J 96:17-19 Ap 6 '33  
Studies of sewage disposal involving bathing beach and shellfish pollution; abstract. E. B. Phelps and E. K. Phelps. Water Works & Sewerage 79:392-3 N '32  
Study of the pollution and natural purification of the upper Mississippi river. H. R. Crohurst. U S Public Health Bul 203:1-113 '32  
Typhoid fever epidemics from water supply in Germany. H. Bruns. Am Water Works Assn J 25:1-17; Discussion. A. Wolman. 17-18 Ja '33  
Unsuspected, unusual and little known factors in water supply quality. P. Hansen. Am Water Works Assn J 24:1780-9 [bibliog p1789]; Discussion. 1790-1 N '32  
Wastes and pollution vs. recovery for profit. C. M. Baker. flow diag il Water Works & Sewerage 80:296-8 Ag '33  
Water borne disease in New York state; abstracts. E. Devendorf. Water Works & Sewerage 80:360 O '33; Eng N 111:385 S 28 '33  
Water pollution research. Engineering 135: 386 Ap 7 '33; Excerpt. Can Eng 65:11 S 26 '33  
Water supply of Delaware county menaced. H. M. Freeburn. diag maps Civil Eng 2:756-60 D '32  
When stream pollution is legal; abstract. L. T. Parker. Am Water Works Assn J 25:1460-1 O '33

## See also

- |                        |                       |
|------------------------|-----------------------|
| Algae                  | Water—Bacteriology    |
| Filters and filtration | Water distribution—   |
| Mine water             | Cross connections     |
| Refuse disposal        | Water purification    |
| Sewage disposal        | Water supply          |
| Trade waste            |                       |
| <b>WATER power</b>     |                       |
| See also               |                       |
| Dams                   | Hydroelectric power   |
| Hydraulic engineering  | Muscle Shoals project |
| Hydraulic machinery    | Tidal power           |
| Hydroelectric plants   | Turbines              |

## Canada

- Much undeveloped Canadian hydro. Elec W 102:307 S 2 '33  
Upper St Maurice power reserve. C. R. Lindsey. Can Eng 64:11 Je 6 '33

## Great Britain

- Water power in Great Britain; abstracts. A. Gibb. Engineer 154:622-3 D 16 '32; Electrician 109:809 D 23 '32; Engineering 135:24 Ja 6 '33

## WATER power—Continued

## United States

Federal control over water power widely extended; decision in the U. S. district court in Virginia in a suit brought by the Appalachian electric power co. Eng N 110:446 Ap 6 '33

Federal power regulation passes its first test in constitutional law. Pub Util 11:530-1, 550-1 Ap 27 '33

Water power study by federal body launched by N.R.A. Eng N 111:180 Ag 10 '33

## Wisconsin

Wisconsin paper mills water power problem. Paper Tr J 96:14 Je 8 '33

## WATER purification

Activated carbon in industrial water purification. A. S. Behrman. bibliog il diags Water Works & Sewerage 80:55-9 F '33

Activated water ice. C. H. Herter. Refrig W 68:22-3 Je '33

Advance in pre-treatment aids water purification. N. T. Veatch. il Eng N 110:740-2 Je 8 '33

American electro-magnetic chemical-feed controller. il Water Works & Sewerage 80:231-2 Je '33

Bacterial efficiency of water purification. H. W. Streeter. Pub Works 64:26-8 Mr '33

Behavior of activated carbon with metallic water-purification equipment. A. S. Behrman and H. Gustafson. Ind & Eng Chem 25:59-60 Ja '33

Biological control as affecting plant operation. C. Wilson. Am Water Works Assn J 24:1792-7; Discussion. A. F. Mellen. 1797-9 N '32

Census of municipal water purification plants in the United States, 1930-1931. 146p. American water works assn, New York '33

Chelmer and Blackwater supplies of the Southend waterworks company; abstract. T. E. Hawksley and others. Engineering 135:692 Je 23 '33

Chlamydomonas in storage reservoirs. S. Thomas and J. W. Burger. Am Water Works Assn J 25:991-9 Jl '33

Clarifying water for industrial plants. il Blast F & Steel Pl 21:62-3 Ja '33

Corrosion following water purification processes. C. A. Smith. Am Water Works Assn J 25:818-21 Je '33

Discussion; nomenclature for treatment devices. E. S. Hopkins. Am Water Works Assn J 25:747-8 My '33

Electrical water sterilisation; French experience with electrically produced ozone. T. Rich. diags Elec R (Lond) 111:918 D 23 '32

Experimental studies of water purification. H. W. Streeter. Pub Health Rep 48:377-400 Ap 14 '33

Future of water treatment and filtration. il Water Works & Sewerage 80:27-31 Ja '33

Germicidal effectiveness of chlorine, bromine and iodine. T. D. Beckwith and J. R. Moser. Am Water Works Assn J 25:367-74 Mr '33

Hamilton, Ont. purification plant opened. il Can Eng 64:15-16 Je 20 '33

Laboratory control for water works. C. P. Hoover. Am Water Works Assn J 25:1279-84 S '33

Lactose fermenting organisms in Philadelphia's drinking water. G. G. Schaut. Am Water Works Assn J 25:1287-94 S '33

Manufacture of aluminum sulfate at the Dalecarlia filter plant, Washington, D.C.; cost data. C. J. Lauter. il diags Ind & Eng Chem 25:953-8 S '33

Mechanical agitation by motor driven paddles at Winnetka, Ill. C. Leopold. il plans Water Works & Sewerage 80:103-4 Mr '33

Mistreatment of water. C. R. Knowles. Am Water Works Assn J 25:490-9; Discussion. C. H. Christman. 499-503 Ap '33

Modern filter plant in China built by coolie labor; Lingnan University water-purification plant. E. H. Aldrich. il Eng N 110:490-1 Ap 20 '33

New water plant stresses pre-treatment; Mahoning Valley sanitary district. G. G. Dixon. il diags map plan Eng N 110:395-9 Mr 30 '33

New water purification and pumping plant at Hamilton. W. L. McFaul. il plan Can Eng 64:15-19 F 23 '33

Operating conditions at the Athens, Greece, water purification plant. L. A. Geupel. il Water Works & Sewerage 80:113-16 Ap '33

Operating results at the Ottawa water purification plant. Can Eng 65:11-12 O 31 '33

Operation of Columbus, O. water purification plant. diags Pub Works 64:27 Jl '33

Operation of the Lawrence, Kansas, purification plant. C. T. Hough. Am Water Works Assn J 25:260-3 F '33

Operation of water filtration plants. N. J. Howard and others. Am Water Works Assn J 25:1084-1106 Ag '33; Same. Can Eng 64:65-70, 72-7; Discussion. 77-8 Mr 28 '33

Ortho-tolidine test for chlorine. H. W. Adams and A. M. Buswell. bibliog Am Water Works Assn J 25:1118-36; Discussion. L. H. Enslow. 1136-9 Ag '33

Ottawa plant. H. P. Stockwell. Am Water Works Assn J 25:1088-96 Ag '33; Same. Can Eng 64:67-70 Mr 28 '33

Progress in water purification; abstract. G. W. Fuller. Water Works & Sewerage 80:292-3 Ag '33

Recent advances in water purification and filtration. W. J. M. Cook. diags Chem Age (Lond) 29:294-5 S 30 '33

Reduction of corrosion in water pipe. E. S. Hopkins. il Ind & Eng Chem 25:1050 S '33

Sacramento sets new standards in pre-treatment. H. N. Jenks. il diags Eng N 111:1-5 Jl 6 '33

Sanitation of water supplies. M. P. Horwood. 181p C. C. Thomas, Springfield, Ill. '32

Scientific control for water supplies; Candy filter apparatus company. il Chem Age (Lond) 29:299-300 S 30 '33

Symposium on purification plant operation. Water Works & Sewerage 79:414-15 D '32

Symposium on water treatment at the 51st annual convention of the New England water works association. il Water Works & Sewerage 79:375-8 N '32

Treatment of flood-contaminated wells. Pub Works 64:32 S '33

Tuning up the Saginaw water plant. Eng N 109:686-7 D 8 '32

Water purification and control. F. R. Filz. Paper Tr J 97:29-33 O 19 '33

Water purification at the Chicago convention of the American water works association. Water Works & Sewerage 80:259-61 Jl '33

Water purification for industrial purposes. il Chem Age (Lond) 29:302-4 S 30 '33

Water purification studies; résumé of investigations by H. W. Streeter. diags Pub Works 64:12-14 Je '33

Water softening and purification at Columbus, O. Water Works & Sewerage 80:182 My '33

Water supply and purification during 1932. N. J. Howard. il Water Works & Sewerage 80:1-5 Ja '33

Water treatment for industrial purposes. J. O. Meadows. Can Eng 65:10-11 Jl 4 '33; Same. Am Water Works Assn J 25:1216-20 S '33

Water treatment for railway systems. R. C. Bardwell. il Water Works & Sewerage 80:9-14 Ja '33

Water treatment plants for the London Midland and Scottish railway. il Chem Age (Lond) 29:297-8 S 30 '33

Water-treatment problem at Princeton rayon co. solved in unusual manner. E. F. Schinman and S. B. Applebaum. il diags Textile World 83:1096-7 Je '33

Water works reconstruction financed from earnings; mechanical mixers at Macon, Ga. water works. H. F. Wiedeman. il Pub Works 64:11-12 S '33

West Parish filtration plant of the Springfield water works. H. F. Salmond. il N E Water Works Assn J 46:345-55 D '32



**WATER purification—Continued.**

Worst water in the West made fit to drink; treatment of the silt-laden Colorado River water for the Boulder Dam builders. D. M. Forester. *il plan Eng N 111:275-9 S 7 '33*

*See also*

Feed water purification	Water softening
Filters and filtration	Water supply for factories
Filtration plants	Water supply for textile mills
Water aeration	

**Ammonia-chlorine treatment**

*See* Water purification—Chlorination

**Chlorination**

Accuracy is essential in making residual chlorine determinations. *Water Works & Sewerage 80:5 Ja '33*; Same. *Pub Works 64:45 Ap '33*

Ammonia-chlorine process at Richmond. M. C. Smith. *Water Works & Sewerage 80:157-8 My '33*

Ammonia-chlorine process in St Cloud, Minnesota. C. L. Ehrhart. *Am Water Works Assn J 25:859-66 Je '33*

Ammonia-chlorine treatment at Champaign-Urbana, Illinois. F. C. Amsbury, jr. *Am Water Works Assn J 25:1251-6 S '33*

Ammonia-chlorine treatment in Danville, Illinois. H. M. Ely. *Am Water Works Assn J 25:1257-9 S '33*

Ammonia-chlorine treatment yields nitrites in effluent. R. Hulbert. *Eng N 111:315-16 S 14 '33*

Ammonia in water treatment. L. H. Enslow. *Water Works & Sewerage 80:379 O '33*

Ammoniation practice in the East. W. J. Orchard. *Am Water Works Assn J 25:390-5 Mr '33*

Bacterial changes in chlorinated filter effluents. H. W. Streeter. *Pub Works 64:19-21 Jl '33*

Chloramine treatment at the Chatham filtration plant. J. W. Mustard. *Am Water Works Assn J 25:686-8 My '33*

Chlorination in the presence of traces of ammonia. L. B. Harrison. *Am Water Works Assn J 25:1260-2 S '33*

Chlorine tolerant bacteria in water supplies. D. B. Charlton. *Am Water Works Assn J 25:851-4 Je '33*

Continuous water chlorination important. *Water Works & Sewerage 80:59 F '33*

Control of odors marks progress in sterilization. G. D. Norcom. *Eng N 110:745-7 Je 8 '33*

Experience with ammonia-chlorine treatment of the East Providence (Rhode Island) water supply. J. V. Turner and C. L. Pool. *N E Water Works Assn J 47:13-21 Mr '33*; Abstract. *Water Works & Sewerage 79:376-7 N '32*

Experiences with well water in an uncovered reservoir. K. W. Brown. *Am Water Works Assn J 25:337-42 Mr '33*

Experimental studies of water purification. H. W. Streeter. *Pub Health Rep 48:377-400 Ap 14 '33*

Flooded waterworks requires emergency sanitation measures. Streeter, III. *il Eng N 111:225-6 Ag 24 '33*

Modern water-chlorination practice; abstracts. L. H. Enslow. *Eng N 111:385 S 28 '33*; *Water Works & Sewerage 80:361-2 O '33*

Modernization in chlorine handling. C. Leopold. *il Water Works & Sewerage 80:322 S '33*

Oxidation potential concept of chlorination. F. C. Schmelkes. *bibliog Am Water Works Assn J 25:695-703 My '33*

Reasons for and difficulties encountered in the use of ammonia-chlorine process at Richmond, Va.; abstract and discussion. M. C. Smith. *Water Works & Sewerage 79:418-19 D '32*

Simple chlorination equipment for small water supplies. F. E. Daniels. *diags Pub Works 64:18+ O '33*

Treatment of water supply after Long Beach earthquake. R. F. Goudey. *il Eng N 111:502-3 O 26 '33*

**Coagulation**

Advances in the use of iron compounds as coagulants; abstract and discussion. E. L. Bean. *Water Works & Sewerage 80:359-60 O '33*

Coagulants for water purification; manufacture and control of liquid alum at Baltimore, Md. J. W. Armstrong. *il diags Civil Eng 3:168-71 Mr '33*

Coagulation with aluminum sulphate. A. G. Nolte and W. A. Kramer. *diags tables Am Water Works Assn J 25:1263-78 S '33*

Floc formation studies in water purification. A. G. Nolte and W. A. Kramer. *bibliog Ind & Eng Chem 25:1110-12 O '33*

Formation of floc by aluminum sulfate. A. P. Black, O. Rice and E. Bartow. *bibliog il Ind & Eng Chem 25:811-15 Jl '33*

Formation of floc by ferric coagulants. E. Bartow, A. P. Black and W. E. Sansbury. *bibliog il Ind & Eng Chem 25:898-903 Ag '33*; Abstracts. *Civil Eng 3:171 Mr '33*; *Water Works & Sewerage 80:61*; Discussion. 61-2 F '33

Improved coagulation at the Richmond, Virginia, filter plant. M. C. Smith. *Am Water Works Assn J 25:254-9 F '33*

Mechanical conditioning of treated waters. R. S. Rankin. *il N E Water Works Assn J 46:380-3 D '32*; Abstract. *Water Works & Sewerage 79:380 N '32*

Mechanical flocculators. *il diags Water Works & Sewerage 80:43-6 F '33*

Tile sludge removal systems for water treatment plants. E. P. Schinman. *Water Works & Sewerage 80:95-6 Mr '33*

Water coagulation with ferric chloride. R. N. Clark. *Pub Works 64:22 Jl '33*

**Color removal**

Organic iron and color removal facilitated by use of permanganate. T. R. McCrea. *il Water Works & Sewerage 80:225-6 Je '33*

Removal of organic bound iron from highly colored water. T. R. McCrea. *Am Water Works Assn J 25:931-46 [bibliog p 945-6] Jl '33*

**Cost**

Perspective in purification expenditures. G. B. Prindle. *Am Water Works Assn J 25:965-73 Jl '33*; Abstract. *Eng N 110:810 Je 22 '33*

**Electrolytic treatment**

Desalting brewery water by electro-osmosis. R. Leonhardt. *diag Elec W 101:725 Je 3 '33*

Fortschritte in der elektroosmotischen wasserreinigung. W. Jaekel. *diags Zeit Ver Deutsch Ing 77:132-3 F 4 '33*

Preparation of brewing water. R. Leonhardt. *diags Elec R (Lond) 112:772 Je 2 '33*

Procédé électro-osmotique pour la déminéralisation de l'eau. *diags Génie Civil 102:116-17 F 4 '33*

Removal of positive ions by electroosmose apparatus. E. Bartow and M. A. Fry. *Ind & Eng Chem 25:336-8 Mr '33*

**Filtration**

*See* Filters and filtration

**Iron removal**

Iron removal and zeolite softening plant at Lancaster, Ohio. C. P. Hoover. *il plan Pub Works 64:9-11+ Je '33*

Iron removal plant paid for from earnings. E. R. Wells. *il plan Pub Works 64:18-20 S '33*

Organic iron and color removal facilitated by use of permanganate. T. R. McCrea. *il Water Works & Sewerage 80:225-6 Je '33*

Removal of organic bound iron from highly colored water. T. R. McCrea. *Am Water Works Assn J 25:931-46 [bibliog p 945-6] Jl '33*

Small, inexpensive iron removal plant. E. S. Flannery. *Pub Works 64:34 My '33*

**Lime treatment**

Bacterial efficiency of the excess-lime method of water purification. H. W. Streeter. *Pub Works 64:17-20 Ag '33*

**WATER purification—Lime treatment—Cont.**

Controlling corrosion of distribution systems. A. Wolman. *Am Water Works Assn J* 25: 947-55 J1 '33

Iron and lime in removal of manganese. E. C. Craig, E. L. Bean and R. W. Sawyer. *Am Water Works Assn J* 24:1762-76; Discussion. 1776-9 N '32

Principles of excess lime purification. J. F. Beale and others. *Engineering* 135:711 Je 30 '33

*See also*

Water softening

**Manganese removal**

History of manganese in water supplies and methods for its removal. C. Zapffe. bibliog. *Am Water Works Assn J* 25:655-76 My '33

Iron and lime in removal of manganese. E. C. Craig, E. L. Bean and R. W. Sawyer. *Am Water Works Assn J* 24:1762-76; Discussion. 1776-9 N '32

Removing manganese from water. *Pub Works* 64:16-17 Je '33

*See also*

Water supply—Manganese content

**Odor removal**

Bleaching clay in water purification. G. D. Norcom. *il Water Works & Sewerage* 80:53-4 F '33

Bleaching clays. J. R. Baylis. *Water Works & Sewerage* 80:287-8 Ag '33

Control of odors marks progress in sterilization. G. D. Norcom. *Eng N* 110:745-7 Je 8 '33

Evaluation of activated carbon. *Water Works & Sewerage* 80:220-4 Je '33

Evaluation of powdered activated carbon for water works use. M. E. Flentje. *Water Works & Sewerage* 80:86-8 Mr '33

Latest procedures in the use of activated carbon. *il Pub Works* 64:15-16 Je '33

Pollution of Lake Michigan; effect of certain industrial wastes. J. R. Baylis. *diags Civil Eng* 3:522-4 S '33

Procedure for making odor and taste determinations. *diag Water Works & Sewerage* 79:425-6 D '32

Procedure for making odor determinations. O. Gullans. *Am Water Works Assn J* 25:974-81 J1 '33

Removal of taste and odor from municipal water supplies. D. H. Matheson. *Am Water Works Assn J* 25:680-2 My '33

Report of American water works association committee on control of tastes and odors. *Am Water Works Assn J* 24:1738-49 N '32

Taste and odor control on Pennsylvania water supplies. H. E. Moses. bibliog. *Am Water Works Assn J* 25:1066-80 Ag '33

**Swimming pool water**

Swimming pool water sterilization. F. H. Broome. *plan Power Pl Eng* 37:215 My '33

Use of anthracite coal as a filter medium. M. A. Farrell. *Am Water Works Assn J* 25: 718-24 My '33

**Taste removal**

Activated carbon at New Toronto. A. H. R. Thomas. *Am Water Works Assn J* 25:689-90 My '33

Activated carbon in Missouri. F. E. Turner and C. Haynes. *Pub Works* 64:36 My '33

Ammonia in water treatment. L. H. Enslow. *Water Works & Sewerage* 80:379 O '33

Bleaching clay in water purification. G. D. Norcom. *il Water Works & Sewerage* 80:53-4 F '33

Bleaching clays. J. R. Baylis. *Water Works & Sewerage* 80:287-8 Ag '33

Control of odors marks progress in sterilization. G. D. Norcom. *Eng N* 110:745-7 Je 8 '33

Dechlorination of water by actiocarbonyhydrazide; improved technique in water purification. *Chem Age (Lond)* 29:396 O 28 '33

Elimination of tastes in the water supply at Wallaceburg. J. E. Caughey. *Am Water Works Assn J* 25:683-5 My '33

Evaluation of activated carbon. *Water Works & Sewerage* 80:220-4 Je '33

Evaluation of powdered activated carbon for water works use. M. E. Flentje. *Water Works & Sewerage* 80:86-8 Mr '33

Experience with taste in water at Guelph. H. S. Nicklin. *Am Water Works Assn J* 25: 691-4 My '33

Latest procedures in the use of activated carbon. *il Pub Works* 64:15-16 Je '33

Operation experience at the Cedar Rapids water purification plant. H. F. Blomquist. *Am Water Works Assn J* 25:711-17 My '33

Powdered activated carbon in water purification. F. E. Stuart. *N E Water Works Assn J* 46:312-15 S '32; Same. *Can Eng* 64:19-21 Ja 3 '33; Discussion. *N E Water Works Assn J* 46:365-9 D '32

Procedure for making odor and taste determinations. *diag Water Works & Sewerage* 79:425-6 D '32

Recent progress in producing sparkling, tasteless water of low mineral content. *Pub Works* 64:27-8 F '33

Removal of taste and odor from municipal water supplies. D. H. Matheson. *Am Water Works Assn J* 25:680-2 My '33

Report of American water works association committee on control of tastes and odors. *Am Water Works Assn J* 24:1738-49 N '32

Taste and odor control in water supplies. A. V. De Laporte. *Am Water Works Assn J* 25:677-9 My '33

Taste and odor control on Pennsylvania water supplies. H. E. Moses. bibliog. *Am Water Works Assn J* 25:1066-80 Ag '33

**WATER purification, Natural**

Experimental studies of natural purification in polluted waters. C. T. Butterfield. bibliog. *Pub Health Rep* 48:681-91 Je 16 '33

Note on the food habits of colpidium. C. T. Butterfield. bibliog. *Pub Health Rep* 48:814-18 J1 14 '33

Pollution and self-purification of the Pocasset river in Rhode Island. F. W. Gilcreas. *Boston Soc C E J* 20:38-47 F-Mr '33

Resurvey of the Ohio river between Cincinnati and Louisville. *Pub Health Rep* 48:976-9 Ag 11 '33

**WATER rates**

Inch-foot method of charging for public fire protection service. F. J. Gifford. *N E Water Works Assn J* 46:370-2 D '32

Methods of charging for domestic water supplies. R. L. Dobbin and others. *Can Eng* 64:44-51; Discussion. 51-3 Mr 28 '33

Montreal East water rate. *Can Eng* 65:14 Ag 15 '33

Rate making, under present economic conditions. N. T. Veatch, jr. charts. *Am Water Works Assn J* 25:343-54 Mr '33

Recent trends in factors affecting the rate base. L. R. Howson. *Am Water Works Assn J* 24:1953-63; Discussion. 1963-9 D '32

State regulation of water rates for municipal plants; abstract. A. B. McCrum. *Water Works & Sewerage* 80:292 Ag '33

Water rate structures. R. E. McDonnell. *Am Water Works Assn J* 25:66-78 Ja '33

Water rates and construction policies in municipally owned plants. L. R. Howson. *Am Water Works Assn J* 25:79-86 Ja '33; Abstract. *Eng N* 109:750 D 22 '32

Water rates in western cities, Canada. J. W. D. Farrell. *Can Eng* 65:14 S 12 '33

**WATER rights**

Water diversion between drainage basins. R. E. Horton. *Am Water Works Assn J* 24:1623-59; Discussion. 1659-83 N '32

*See also*

Riparian rights

**WATER sampling**

New type of silt sampler developed for water studies. A. H. Frazier. *il Eng N* 111:491 O 26 '33

Water sampler avoids contamination by air bubbles. F. E. Daniels. *il Eng N* 110:704 Je 1 '33

*See also*

Feed water sampling

**WATER seal**

Forging furnace of walking-beam type. *diags Iron Age* 132:22-3 O 19 '33



**WATER softening**

- Aspect of boiler water conditioning. H. H. Morrison. *il Am Dyestuff Rep* 22:519-25+ Ag 28 '33
- Automatic zeolite softener. S. B. Applebaum. *il diags Power* 77:374 J1 '33
- Chemistry of water softening. R. F. Goudy. *Am Water Works Assn J* 25:1203-6 S '33
- Deterioration in water systems; suggestions for reducing overheating in heavy vehicles. E. A. Smith. *Automobile Eng* 23:302-4 Ag '33
- Development of the automatic zeolite water softener; abstract. S. B. Applebaum. *Water Works & Sewerage* 80:343 S '33
- Economies effected by the chemical treatment of cooling waters used for pumping engines. H. M. McClain. *Oil & Gas J* 31:37+ F 23 '33
- Electric eye automatically checks hardness of water; Elgin hardimeter. *il Melland* 5:148+ Ag-S '33; Same cond. *Power Pl Eng* 37:404 S '33; Abstract. *Chem & Met Eng* 40:488 S '33
- Importance and value of softening municipal water supplies. R. E. Thompson. *Can Eng* 65:17-19 S 12 '33
- Iron removal and zeolite softening plant at Lancaster, Ohio. C. P. Hoover. *il plan Pub Works* 64:9-11+ Je '33
- Modern water softening. A. J. Mills. *Soc Dyers & Col J* 49:277-84; Discussion. 284-5 S '33
- Die nachenthärtung des speisewassers mit phosphat innerhalb der wasserreinigung. W. Wesly. *Angew Chemie* 46:19-20 Ja 7 '33
- New water plant stresses pre-treatment; Mahoning Valley sanitary district. G. G. Dixon. *il diags map plan Eng N* 110:395-9 Mr 30 '33
- Operation experience at the Cedar Rapids water purification plant. H. F. Blomquist. *Am Water Works Assn J* 25:711-17 My '33
- Permutit automatic water softener. *diag Ry Mech Eng* 107:52 F '33; *Water Works & Sewerage* 80:187 My '33
- Present status of municipal water softening. C. P. Hoover. *Am Water Works Assn J* 25:181-91 F '33
- Present status of water softening. *diags Pub Works* 64:17-18 Je '33
- Quality of water and soap consumption; cost data. H. W. Hudson. *Am Water Works Assn J* 25:645-54 [bibliog p653-4] My '33
- Recent progress in producing sparkling, tasteless water of low mineral content. *Pub Works* 64:27-8 F '33
- Role of sodium aluminate in accelerating the separation of solid phases during water-softening operations. L. M. Clark and L. S. Price. *Soc Chem Ind J* 52:35T-44T F 10 '33
- Softening of municipal water supplies. W. H. Walker. *Can Eng* 65:15-18 J1 18 '33
- Water conditioning in raw water ice plants. R. E. Summers. *Power Pl Eng* 37:305-7 J1 '33
- Water softening and purification at Columbus, O. *Water Works & Sewerage* 80:182 My '33
- Water softening at Beverly Hills. J. L. Perhab and A. Taylor. *Am Water Works Assn J* 25:504-7 Ap '33
- Water softening at Boulder City. E. M. Kelly. *flow sheet Am Water Works Assn J* 25:838-46 Je '33
- Water softening at Thomasville, Ga. L. Cady. *Am Water Works Assn J* 25:1193-1200; Discussion. 1201-2 S '33
- Water softening; lime and soda-ash equipment at the Ford works. *Electrician* 111:184 Ag 11 '33
- Water softening plant at Western Springs, Ill. D. H. Maxwell. *il Am Water Works Assn J* 25:546-56 Ap '33; Same, with plan. *Water Works & Sewerage* 80:105-8 Mr '33
- Water softening plants for small cities. H. R. Green. *Am Water Works Assn J* 25:982-90 J1 '33
- Water-softening practice shows rapid growth. C. H. Spaulding. *plan Eng N* 110:747-8 Je 8 '33
- Water softening, yesterday, today and tomorrow. S. F. Alling. *il Am Dyestuff Rep* 22:147-51 F 27 '33

Water treatment for railway systems. R. C. Bardwell. *il Water Works & Sewerage* 80:9-14 Ja '33

Water treatment on Pacific lines of Southern Pacific (more especially zeolite treating). D. Wood. *il Water Works & Sewerage* 80:12-4 Mr '33

Zeolite water softening plant at the Etobicoke township water works. W. H. Walker. *il Can Eng* 64:9-14+ Je 20 '33

Zeolite water treatment meets with favor on Northern Pacific. E. M. Grime. *il Ry Age* 95:300-2 Ag 26 '33

*See also*

Feed water purification

**WATER storage**

Elevated storage at Louisville. C. B. Burdick. *Am Water Works Assn J* 25:909-15 J1 '33

4,000,000 gallon elevated storage project at Sheboygan, Wis. A. H. Miller. *il diags Water Works & Sewerage* 80:311-16 S '33

Storage requirements for northwestern streams. R. G. Tyler. *Am Water Works Assn J* 25:94-104 Ja '33

Storage tank operation to aid pressure conditions. E. F. Tanghe. *Eng N* 111:321-2 S 14 '33

Water supply of a country house. *il Engineer* 156:363-4 O 13 '33

*See also*

Dams  
Hydroelectric plants  
Irrigation  
Rain and rainfall  
Reservoirs  
Storage type  
Water tanks

**WATER supply**

Quality of impounded water supplies. H. P. Eddy. *N E Water Works Assn J* 46:396-405 D '32; Abstract. *Water Works & Sewerage* 79:378-9 N '32

Reforestation of slopes to conserve water supply. C. L. Forsling. *Science* 77:sup7-8 F 17 '33

Water production measurement methods. L. S. Hall. *Am Water Works Assn J* 25:803-9 Je '33

*See also*

Aqueducts  
Artesian wells  
Cooling of water  
Cooling water  
Dams  
Drinking fountains  
Droughts  
Feed water  
Filters and filtration  
Filtration plants  
Fire service (water supply)  
Hot water supply  
Hydrants  
Hydraulic engineering  
Irrigation  
Plumbing  
Pumping machinery  
Pumping stations  
Pumps  
Railroads—Water supply  
Rain and rainfall  
Reservoirs  
Rivers  
Water, Underground and other headings beginning Water  
Watersheds  
Waterworks  
Wells  
*also* subdivision Water supply under names of cities, e.g. Boston, Massachusetts  
—Water supply

**Costs**

Value of water in southern California; a historical résumé of the cost of its development for irrigation and domestic use. F. Thomas. *il map Civil Eng* 3:555-9 O '33

**Fluorine content**

Changes in the teeth of white rats given water from a mottled enamel area compared with those produced by water containing sodium fluoride. W. H. Sebrell and others. *Pub Health Rep* 48:437-45 [bibliog p444-5] pl 1-2 Ap 28 '33

Occurrence of mottled teeth in Iowa. C. T. Ostrem and others. *Science* 76:575-6 D 16 '32

**Iodine content**

Iodine in the water supply of Lexington, Kentucky. J. S. McHargue and D. W. Young. *Am Water Works Assn J* 25:380-2 Mr '33

**Iron content**

*See also*  
Water purification—  
Iron removal

## WATER supply—Continued

## Manganese content

- History of manganese in water supplies and methods for its removal. C. Zapffe. bibliog Am Water Works Assn J 25:655-76 My '33
- Manganese in impounded water supplies. R. S. Weston and A. E. Griffin. N E Water Works Assn J 47:40-51 Mr '33; Abstract. Water Works & Sewerage 79:379-80 N '32; Discussion. E. S. Hopkins. N E Water Works Assn J 47:280-2 S '33

## See also

Water purification—  
Manganese removal

## Salinity

- Effect of salinity on the value of water for industrial purposes. S. T. Powell. Am Water Works Assn J 25:226-36; Discussion. 236-9 F '33
- Salinity in Sacramento river delta area reviewed. R. Matthew. Eng N 110:460-1 Ap 13 '33

## Zinc content

- Zinc in relation to general and industrial hygiene. C. K. Drinker and L. T. Fairhall. Pub Health Rep 48:955-8 Ag 11 '33

## California

- Salinity in Sacramento river delta area reviewed. R. Matthew. Eng N 110:460-1 Ap 13 '33
- South coastal basin investigation. 590p California. Dept. of public works, Sacramento '32
- Value of water in southern California; a historical résumé of the cost of its development for irrigation and domestic use. F. Thomas. il map Civil Eng 3:555-9 O '33

## China

- Modern filter plant in China built by coolie labor; Lingnan University water-purification plant. E. H. Aldrich. il Eng N 110:490-1 Ap 20 '33

## England

- Water supply in England. A. E. L. Chorlton. maps Engineering 136:401-4, 454-7 O 13, 27 '33

## Germany

- Der stand der deutschen wasserversorgung. S. Baer. Zeit Ver Deutsch Ing 76:1180-1 N 26 '32
- Typhoid fever epidemics from water supply in Germany. H. Bruns. Am Water Works Assn J 25:1-17; Discussion. A. Wolman. 17-18 Ja '33

## Great Britain

- Hydro-geological surveys. E. Morton. Engineer 156:94 Jl 28 '33
- Pooling of supplies, or the grid in miniature. T. Marsland. Engineer 156:93-4 Jl 28 '33

## Illinois

- Geological conditions governing location, drilling, and casing of wells. W. C. Imbt. map Am Water Works Assn J 25:1207-15 S '33

## India

- Well sinking in Hyderabad. Engineering 136: 156 Ag 11 '33

## Maryland

- Maryland water resources commission submits report. Water Works & Sewerage 80: 88 Mr '33
- Water resources commission for Maryland. Pub Works 64:32+ S '33

## Montana

- Possibilities of ground-water supply of certain towns and cities of Montana. E. S. Perry. 49 l Montana school of mines, Butte '33

## New England

- Relation of geology to the groundwater supplies of New England. I. B. Crosby. diags map N E Water Works Assn J 47:74-91 [bibliog p89-91]; Discussion. 92-5 Mr '33

## New Jersey

- New Jersey ground-water supply abundant. H. T. Critchlow. maps Civil Eng 2:774-7 D '32
- Surface water resources of New Jersey. O. W. Hartwell. Am Water Works Assn J 25: 1185-92 S '33

## New York (state)

- Supplying suburban Syracuse. A. A. Korves. Am Water Works Assn J 25:275-8 F '33

## North Dakota

- Ground waters of North Dakota. H. E. Simpson. pl map North Dakota Geol Survey Bul 7:1-26 '32

## Northwestern states

- Chemical and biological characteristics of Pacific Northwest waters. H. W. Nightingale. Am Water Works Assn J 25:740-6 My '33
- Storage requirements for northwestern streams. R. G. Tyler. Am Water Works Assn J 25:94-104 Ja '33

## Ohio

- Ohio stream flow. pt 1, Areas of lakes and drainage basins; run-off records prior to 1921. C. E. Sherman. il maps Ohio State Univ Eng Exp Sta Bul 73:1-167 '32

## Pennsylvania

- New water supply serves Pennsylvania coal towns; Panther valley water co. builds rolled-fill dam on tributary of Little Schuylkill. il diag map Eng N 110:50-2 Ja 12 '33
- Taste and odor control on Pennsylvania water supplies. H. E. Moses. bibliog Am Water Works Assn J 25:1066-80 Ag '33
- Water supply of Delaware county menaced. H. M. Freeburn. diag maps Civil Eng 2:756-60 D '32

## Persia

- Irrigation in Persia by kanáts. M. A. Butler. il diags maps Civil Eng 3:69-73 F '33

## Tennessee

- Ground water in north-central Tennessee. A. M. Piper. fold maps U S Geol S Water-supply Pa 640:1-238, pl 1-9 '32

## United States

- Contributions to the hydrology of the United States, 1932. il map U S Geol S Water-supply Pa 659:1-209, pl 1-19 '32
- Forests and stream flow. W. G. Hoyt and H. C. Troxell. Am Soc C E Proc 58:1037-66 Ag '32; Discussion. 58:1288-93, 1614-18, 1811-36; 59:376-9, 484-94, 607-16, 835-40, 1149-66 S, N-D '32, F-M, S '33
- Maximum daily and hourly water consumption in American cities. A. P. Folwell. N E Water Works Assn J 46:389-95 D '32; Same. Pub Works 63:13-15 O '32
- Notable improvements in groundwater development. O. E. Meinzer. map Eng N 110: 750-2 Je 8 '33
- Water conservation—the key to national development. C. V. Davis. il Sci Am 148:92-5. F '33

## Bibliography

- Index of analyses of natural waters in the United States, 1926 to 1931. W. D. Collins and C. S. Howard. U S Geol S Water-supply Pa 659-C:191-209 '32

## WATER supply, Roadside

- Fountain for travelers on West Virginia roads. L. P. Street. il diag Eng N 110:314-15 Mr 9 '33

- Simple cardinal principles for roadside drinking fountains. J. R. McDermott. il Roads & Sts 76:259-60 Jl '33

## WATER supply, Rural

- Pooling of supplies, or the grid in miniature. T. Marsland. Engineer 156:93-4 Jl 28 '33
- Water supply for the isolated home. L. J. Murphy. il diags Iowa State College Eng Extension Serv Bul 114:1-47 '33
- Water supply of a country house. il Engineer 156:363-4 O 13 '33



**WATER supply engineering**

- A.W.W.A. meeting. Eng N 110:811-14 Je 22 '33  
 Analysis and control of water supply at Baytown refinery of Humble company. P. A. Washer. diags Oil & Gas J 31:84-8 Mr 30 '33  
 Articulated buttress type dams for municipal water supply projects. D. A. Dedel. il diags Pub Works 64:35-7 Jl '33  
 Athens builds modern water works. R. W. Gausmann. il map diag Civil Eng 3:1-5 Ja '33  
 Bridgeport water supply; abstract. S. P. Senior and others. Eng N 111:384-5 S 28 '33  
 Chelmer and Blackwater supplies of the Southend waterworks company; abstract. T. E. Hawksley and others. Engineering 135:692 Je 23 '33  
 Depression water works engineering at Liberty, N.Y. Pub Works 64:11 Ap '33  
 Economics of water pumping. G. B. Williams. Engineer 155:469-70 My 12 '33  
 Excluding salt water from island wells; experience at Nassau. J. O. Riddel. diags map Civil Eng 3:383-5 Jl '33  
 Ground water sanitation at Houston, Texas. J. A. Sauls, jr. and C. R. Harvill. il map diag Am Water Works Assn J 25:557-78 Ap '33  
 Irrigation in Persia by kanáts. M. A. Butler. il diags maps Civil Eng 3:69-73 F '33  
 Maryland-Delaware water and sewerage association; abstracts of papers read at 7th annual meeting. Water Works & Sewerage 80:203-6 Je '33  
 New England's classic contributions to hydraulic science. C. W. Sherman. N E Water Works Assn J 47:153-63 Je '33  
 New high service water supply of Concord, New Hampshire. P. R. Sanders and F. A. Marston. il diags N E Water Works Assn J 47:1-12 Mr '33  
 Progress made on large engineering projects; municipal water-supply systems. il Eng N 110:153-5 F 2 '33  
 Progress on the new water supply for metropolitan Boston. il diags map Eng N 111:308-14 S 14 '33  
 Le puits artésien de 831 mètres de profondeur d'Aulnay-sous-Bois (Seine-et-Oise). il diags Génie Civil 103:351-3 O 7 '33  
 Rockford water supply. D. W. Mead. Am Water Works Assn J 25:1140-51 Ag '33  
 Ryburn waterworks of the Wakefield corporation. il map Engineering 136:288-90, 292 S 15 '33  
 Town of Tilbury gets water supply from Lake St Clair. il Can Eng 65:11-13 S 12 '33  
 Water supply and purification during 1932. N. J. Howard. il Water Works & Sewerage 80:1-5 Ja '33  
 Water supply and sanitary engineering in 1932. Engineer 155:25-6 Ja 6 '33  
 Water supply and sewerage facilities for the World's fair, Chicago. P. Hansen and T. M. Niles. il maps plans Eng N 110:273-7 Mr 2 '33  
 Water supply improvements at Fort Valley, Georgia. T. A. Jones. Am Water Works Assn J 25:728-33 My '33  
 Water supply in England. A. E. L. Chorlton. maps Engineering 136:401-4, 454-7 O 13, 27 '33  
 Water supply of Spartanburg, S.C. R. B. Simms and J. K. Marquis. il Water Works & Sewerage 80:177-8 My '33  
 Water supply progress number. il diags map Eng N 110:733-56 Je 8 '33  
 Water supply system at Appleton, Wisconsin. W. U. Gallaher. Am Water Works Assn J 25:704-10 My '33  
 Water system at Flin Flon. J. P. de Wet. Can Min J 54:70-1 F '33  
 Water works and sewerage systems in the township of Nepean; cost data. G. W. Smith. il Can Eng 65:9-12 Ag 15 '33

*See also*

- Aqueducts  
 Colorado River aqueduct  
 Dams  
 Filters and filtration  
 Filtration plants  
 Fire service (water supply)

Hetch Hetchy water supply project  
 Hot water supply  
 Hydraulic engineering  
 Intakes  
 Irrigation  
 Pipe laying  
 Plumbing  
 Pumping machinery  
 Pumping stations  
 Pumps  
 Railroads—Water supply

Reservoirs  
 Siphons  
 Snow surveys  
 Water conduits  
 Water distribution  
 Water flow  
 Water meters  
 Water pipes  
 Water purification  
 Water storage  
 Water waste  
 Waterworks

**Bibliography**

Useful government documents of interest to water supply engineers. A. F. Porzelius. Am Water Works Assn J 24:1867-9 D '32

**Tables, calculations, etc.**

Storage requirements for northwestern streams. R. G. Tyler. Am Water Works Assn J 25:94-104 Ja '33

**WATER supply for factories**

Activated carbon in industrial water purification. A. S. Behrman. bibliog il diags Water Works & Sewerage 80:55-9 F '33

Clarifying water for industrial plants. il Blast F & Steel Pl 21:62-3 Ja '33

Cooling water for industrial uses with steam-ejector refrigeration. W. L. Fleisher. Heating-Piping 5:147-8+ Mr '33

Effect of salinity on the value of water for industrial purposes. S. T. Powell. Am Water Works Assn J 25:226-36; Discussion. 236-9 F '33

Water purification for industrial purposes. il Chem Age (Lond) 29:302-4 S 30 '33

Water supply for tanneries. A. C. Orthmann. il Water Works & Sewerage 80:138-40, 163-5 Ap-May '33

Water treatment for industrial purposes. J. O. Meadows. Can Eng 65:10-11 Jl 4 '33; Same. Am Water Works Assn J 25:1216-20 S '33

*See also*

Cooling of water  
 Cooling water  
 Water supply for textile mills

**WATER supply for ice plants**

Activated water ice. C. H. Herter. Refrig W 68:22-3 Je '33

Higgins system of water conditioning. Refrig Eng 26:156 S '33

Treatment of water for ice manufacture. pt. 2. D. Burks, jr. il diags Ill U Eng Exp Sta Bul 253:1-32 '33

Water conditioning in raw water ice plants. R. E. Summers. Power Pl Eng 37:305-7 Jl '33

**WATER supply for mines**

Water system at Flin Flon. J. P. de Wet. Can Min J 54:70-1 F '33

**WATER supply for paper mills**

Water purification and control. F. R. Filz. Paper Tr J 97:29-33 O 19 '33

**WATER supply for petroleum industry**

Analysis and control of water supply at Baytown refinery of Humble company. P. A. Washer. diags Oil & Gas J 31:84-8 Mr 30 '33

Problems involved in providing safe and adequate water supplies for oil refinery uses. S. T. Powell. il diags Water Works & Sewerage 80:211-15 Je '33

**WATER supply for power plants**

Plant location in relation to coal, water and electric load. T. G. LeClair. map Elec W 102:375-6 S 16 '33

Power-house foundations and circulating-water tunnels at the Ford motor company's works at Dagenham. R. V. Allin and M. Nachshen. Engineering 135:169-70 F 10 '33

Slime and mussel control in surface condensers and circulating-water tunnels; abstract. S. T. Powell. Mech Eng 55:511-12 Ag '33

*See also*

Feed water purification

**WATER supply for textile mills**

Electric eye automatically checks hardness of water, Elgin hardimeter, il Melliand 5:148+ Ag-S '33

Express warranty of water filtering plant as warranty of fitness for use by textile manufacturer, L. Childs, Am Dyestuff Rep 22: 429 JI 3 '33

Treatment of water for use in boilers and textile plants, C. D. Blackwelder, Am Dyestuff Rep 22:571-4 S 25 '33

Water softening, yesterday, today and tomorrow, S. F. Alling, il Am Dyestuff Rep 22: 147-51 F 27 '33

Water-treatment problem at Princeton rayon co. solved in unusual manner, E. P. Schinman and S. B. Applebaum, il diags Textile World 83:1096-7 Je '33

**WATER tables**

Various residential watertables; working drawings, J. G. Stewart, Architecture 67: 290 My '33

**WATER tanks**

Another example of air-water tank hazard, Locomotive 39:138 Ja '33

Economy of elevated storage strikingly shown, D. H. Maxwell, il Water Works & Sewerage 80:63-5 F '33

Elevated tank reduces pumping power consumption, Pub Works 64:41 F '33

Foundation design for an elevated tank, M. B. Meyer, il diags Eng N 109:644-5 D 1 '32

Soil-bearing tests for Columbus water tanks, J. C. Prior, diags Eng N 111:500-2 O 26 '33

Storage tank operation to aid pressure conditions, E. F. Tanghe, Eng N 111:321-2 S 14 '33

**Painting**

Painting standpipes and elevated tanks, H. E. Newell, Pub Works 64:12 S '33

**WATER tanks, Concrete**

Construction of a large reinforced concrete wash-water tank; water purification plant at Hamilton, Ont, H. B. Dickens, il diags Can Eng 65:5-8+ JI 11 '33

**WATER tanks, Steel**

Arc welding six-million-gallon water tank, B. Ferguson, il Pub Works 64:24 Mr '33

Architecture applied to elevated tanks; structural innovations on Baltimore and Tallahassee installations, il plans Eng N 110:403-5 Mr 30 '33

Elevated steel water tank houses aeration system, Garden City, L. I. il Iron Age 132: 48 Ag 17 '33

4,000,000 gallon elevated storage project at Sheboygan, Wis, A. H. Miller, il diags Water Works & Sewerage 80:311-16 S '33

Ground-level storage and booster station at Milwaukee, Wisconsin, H. H. Brown, Am Water Works Assn J 25:1362-71 O '33

Large arc-welded tank completed in Milwaukee, Elec W 101:183 F 11 '33

Milwaukee builds a welded tank of 6,000,000-gal. capacity, diags Eng N 110:589 My 11 '33

New 6,000,000 gallon water storage tank solves distribution problem at Milwaukee, H. H. Brown, il Water Works & Sewerage 80:237-40 JI '33

Niagara Falls washwater tank, il Can Eng 65:15 Ag 15 '33

Steel reservoirs for Long Beach, California, E. Harmon, Am Water Works Assn J 25: 1230-3 S '33

Tank piers carried 50 ft. to rock through old coal mine, Zanesville, Ohio, diags Eng N 110: 190 F 9 '33

Water storage tank is arc welded, B. Ferguson, il Iron Age 131:663 Ap 27 '33

Water tank protection, Electrician 109:790 D 16 '32

**WATER towers, Concrete**

Shell of concrete standpipe pre-stressed by steel hoops; water tower, Minneapolis, J. A. Jensen, il diags Eng N 110:224-5 F 16 '33

**WATER tube boilers. See Boilers, Water tube****WATER vapor**

Effect of various gaseous atmospheres on the vitrification of ceramic bodies, A. E. Badger, diags Am Cer Soc J 16:107-17 F '33

Equilibrium in the system  $\text{SnO}_2\text{-H}_2\text{-Sn-H}_2\text{O}$ ; indirect calculation of the values of the water gas equilibrium constants, P. H. Emmett and J. F. Shultz, Am Chem Soc J 55: 1390-5 Ap '33

Evaporation from superheated water; abstract, A. Heidrich, Mech Eng 55:317-18 My '33

Gaseous thermal diffusion—the principal cause of discrepancies among equilibrium measurements on the systems  $\text{Fe}_3\text{O}_4\text{-H}_2\text{-Fe-H}_2\text{O}$ ,  $\text{Fe}_3\text{O}_4\text{-H}_2\text{-FeO-H}_2\text{O}$  and  $\text{FeO-H}_2\text{-Fe-H}_2\text{O}$ , P. H. Emmett and J. F. Shultz, diags Am Chem Soc J 55:1376-89 Ap '33

Heat of solution of water vapour in various solvents, R. P. Bell, Chem Soc J p2905-11 D '32

Heat of sorption of water vapor by massive gold, E. P. Barrett, Am Chem Soc J 55: 4006-9 O '33

Ionization of water vapor by electron impact, H. D. Smyth and D. W. Mueller, Phys R 43:116-20 Ja 15 '33

Mixtures of air and saturated water vapor, C. A. Bulkeley, table Refrig Eng 25:27-8 Ja '33

Neue ergebnisse der auslaendischen wasserdampf-forschung, M. Jakob, diags Zeit Ver Deutsch Ing 77:820-2 JI 29 '33

New band in the spectrum of the OH molecule, H. L. Johnston, D. H. Dawson and M. K. Walker, Phys R 43:473-80 Mr 15 '33

Pressure of saturated water vapor in the range 100° to 374° C, N. S. Osborne and others, diags pl tables U S Bur Stand J Research 10:155-88 F '33

Properties of air-water vapor mixtures; tabulation, Power 77:362 JI '33

Sorption of vapors on wood and cellulose, N. H. Grace and O. Maass, diags J Phys Chem 36:3046-63 D '32

Sorption of water vapor by glass, E. P. Barrett and A. W. Gauger, diags J Phys Chem 37:47-51 Ja '33

Thermal effects produced by the exposure of massive gold to saturated water vapor, F. Barry and E. P. Barrett, diags Am Chem Soc J 55:3088-98 Ag '33

See also

Steam

**WATER waste**

Causes of waste in distribution systems, A. E. Skinner, Am Water Works Assn J 24:1700-6; Discussion, H. S. Morse, 1706-8 N '32

Underground waste detection as a factor in the New York water conservation program, F. B. Nelson, Am Water Works Assn J 24: 1709-14; Discussion, 1714-16 N '32

See also

Water consumption

**WATERLOO, Iowa**

See also

Unemployment—  
Waterloo, Iowa

**WATERMARKS**

Indicating the grain run, G. R. Dorman, Paper Tr J 96:33 Ja 5 '33; Same, Inland Ptr 90:59-60 F '33

Watermarks and trademarks, Am Bankers Assn J 26:83 N '33

**WATERPROOF ink. See Ink, Waterproof****WATERPROOFING**

Efficiency of surface treatments on the permeability of concrete, G. W. Washa, diags Am Concrete Inst J 5:1-8 S '33

Leaky brick walls and how to prevent them, J. H. Mallon, bibliog il Arch Rec 72:412-16+ D '32; Same cond, Am Bld 54:30-2+ F '33

Moisture penetration through masonry walls, Architecture 66:285-6, 355-6 N-D '32

Oscillated face on cinder unit; textured waterproof face on ordinary Straub block, il Concrete 41:23 Mr '33

Permeability of concrete under high water pressure, C. C. Vermeule, il diags Civil Eng 3:611-14 N '33



**WATERPROOFING—Continued**

Some pitfalls in supervision. W. F. Bartels. Architecture 67:102 F '33

*See also*

Dampness in buildings  
Ironite

**WATERPROOFING of textiles**

Bleaching, dyeing and waterproofing boat duck. G. Rice. *il* Textile Col 55:169-70 Mr '33  
Development of Du Pont PX cloth. *il* Plastic Prod 9:24 Mr '33  
Impregnation of knitted goods to make them water-repellent. R. Lasse. Textile Col 55: 665-6+ O '33  
New plastic-impregnated cloth; Revolite. *il* Plastic Prod 9:21 Mr '33  
Preliminary tests on Revolite. F. I. Bennett. *il* Plastic Prod 9:314-16 O '33  
Problems of the proofing industry. S. G. Byam. Am Dyestuff Rep 22:358-61 Je 5 '33; Abstract. India Rubber W 88:39 My '33; Discussion. Am Dyestuff Rep 22:361-2 Je 5 '33

**Testing**

Accelerated aging test for waterproofed ducks and similar fabrics. W. C. Smith. *il* diags Am Dyestuff Rep 22:114-18 F 13 '33

**WATERSHEDS**

Forestation for watershed protection; abstract. F. W. Besley. Water Works & Sewerage 80:206 Je '33  
Influence of overgrazing on erosion and watersheds. H. H. Chapman. *il* Civil Eng 3:74-8 F '33  
Tree planting of gullies in watershed reforestation. F. W. Besley. Pub Works 64: 42-3 N '33

**WATER TABLES.** See Water tables**WATERWAYS**

Great waterway hoax. Ry Age 93:725-7 N 26 '32  
Harbors and waterways in 1932. Engineer 155: 8-9, 35-7 Ja 6-13 '33  
National transportation committee on railroads and waterway competition. Marine R 63:17-18 Mr '33

*See also*

Canals  
Railroads—Water-ways competition  
*also* names of canals, lakes and rivers, e.g. Illinois waterway; Panama canal; St Lawrence waterway and power project; Welland ship canal

River traffic

Rivers

Water rights

**Great Britain**

Harbors and waterways in 1932. Engineer 155: 8-9 Ja 6 '33

**United States**

Chicago terminus of Lakes-to Gulf waterway. D. I. Sultan and D. A. D. Ogden. *il* maps Civil Eng 3:413-16 Ag '33  
Development of inland waterways system. C. B. Douglas. *il* map Manuf Rec 102:18-19 F '33  
Great Lakes-to-Gulf inland waterway extended to Texas. *il* Manuf Rec 102:22 Ag '33  
Inland waterways an unfair form of competition. *il* Ry Age 93:815-18 D 3 '32  
Progress made on large engineering projects; inland waterways. *il* Eng N 110:159-60 F 2 '33  
Prophecy fulfilled. A. Huntington. Pub Serv Management 53:183-4; 54:15-16, 51-2 D '32-F '33  
Regulation of waterways urged. M. W. Harrison. Ry Age 94:120+ Ja 28 '33  
Waterway conference asks end of subsidies. Ry Age 94:328+ Mr 4 '33  
What is a navigable waterway? G. B. Pillsbury. *il* Civil Eng 3:165-7 Mr '33

*See also*

Illinois waterway  
Inland waterways corporation  
Mississippi river

**WATERWORKS**

Athens builds modern water works. R. W. Gausmann. *il* map diag Civil Eng 3:1-5 Ja '33  
Better water at less cost for Lebanon, Tennessee; saving due to soft water supply. H. F. Wiedeman. *il* Pub Works 63:13-15 D '32  
Depression and the water works. Pub Works 64:30 S '33  
La distribution d'eau potable à Toulouse; la filtration des eaux de la Garonne sur des filtres à sable. G. Poizat. *il* diags plan Génie Civil 102:269-73 Mr 25 '33  
Floodlighting and electric fountains for water works. W. T. Blackwell and C. Gallo. *il* diags plan Illum Eng Soc Trans 28:407-17 My '33  
Low-cost water supply system installed at Stirling, Ont.; automatically-operated deep well pump. D. H. Fleming. *il* plan Can Eng 64:15-17 My 23 '33  
Operating results at the Ottawa water purification plant. Can Eng 65:11-12 O 31 '33  
Outline of the Springfield water works. E. E. Lochridge. plan N E Water Works Assn J 46:323-6 D '32; Abstract. Water Works & Sewerage 79:346 O '32  
Reconstruction of the Lebanon, N. H. water works; hydraulic turbine-driven pump, utilizing water from the river for power. R. S. Holmgren. *il* plan N E Water Works Assn J 47:52-60 Mr '33  
Ryburn water works of the Wakefield corporation. *il* map Engineering 136:288-90, 292 S 15 '33  
Supplying suburban Syracuse. A. A. Korves. Am Water Works Assn J 25:275-3 F '33  
Syracuse water works. M. B. Palmer. Am Water Works Assn J 25:264-74 F '33  
Water supply in relation to city and regional planning. M. Pirnie. Water Works & Sewerage 80:189-91 Je '33  
Water supply of the city of Windsor, Ont. Can Eng 63:23-5 N 15 '32  
Waterworks activity reported at the A.W.W.A. convention. Eng N 110:824 Je 22 '33

*See also*

Aqueducts  
Dams  
Filters and filtration  
Filtration plants  
Fire service (water supply)  
Hydrants  
Intakes  
Pumping stations  
Pumps  
Reservoirs  
Sanitary districts  
Water companies  
Water distribution  
Water pipes  
Water purification  
Water rates  
Water supply  
Water supply engineering

**Accounting**

Analysis of metered revenue. P. J. Dishner. Am Water Works Assn J 25:375-9 Mr '33  
Budgetary control of expenses. E. C. Schwler. Am Water Works Assn J 24:1904-8; Discussion. W. C. Mabey. 1908-10 D '32  
Model water department cost accounting system. *il* Pub Works 64:37+ F '33  
Office practice in the Winston-Salem water and sewer department. R. L. Dixon. Am Water Works Assn J 25:822-31 Je '33  
Rental office system in a 300 million works employing accounting machinery; Ramsgate corporation gas and water department. F. G. Sale. Gas J (Lond) 200:623-7; Discussion. 627 N 30 '32

**Architecture**

Waterworks buildings can now be financed through NRA loans and grants; views. Arch Forum 59:216-17 S '33

**Bibliography**

Abstracts of water works literature. F. Hannon. Am Water Works Assn J 24:1800-9 N '32 [cont monthly]  
Water wheel; bibliography of recent water works literature. Pub Works 64:18-19 Ja '33 [cont monthly]

**Combination with electric plants**

Advantages of combined operation of water and light plants. J. D. Donovan. Am Water Works Assn J 25:465-77 Ap '33

**WATERWORKS**—Combination with electric plants—*Continued*  
New Castle, Ind. completes new Diesel station. *il Power Pl Eng* 37:221 My '33

#### Costs

Better water at less cost for Lebanon, Tennessee; saving due to soft water supply. H. F. Wiedeman. *il Pub Works* 63:13-15 D '32

Perspective in purification expenditures. G. B. Prindle. *Am Water Works Assn J* 25:965-73 J1 '33

#### Damage from floods

Flooded waterworks requires emergency sanitation measures, Streeter, Ill. *il Eng N* 111:225-6 Ag 24 '33

#### Deposit requirements

Guarantee payment of water bills. J. Schwartz. *Am Water Works Assn J* 24:1994-9 D '32

#### Directories

Water works statistics; Canada. *Can Eng* 64:91-122 Mr 28 '33

#### Electric equipment

Some electrical kinks in water works practice. J. H. Read. *N E Water Works Assn J* 47:131-2 Je '33

#### Employees

Meter reading. G. H. Fenkell. *Am Water Works Assn J* 25:779-92 Je '33

Pension for water works employees. J. S. Dunwoody. *Am Water Works Assn J* 24:1937-46; Discussion. 1947-52 D '32

Registration of plant operation required in West Virginia. *Water Works & Sewerage* 80:353 O '33

#### Equipment

Equipment progress aids pumping and distribution. T. A. Leisen. *il Eng N* 110:754-6 Je 8 '33

Hamilton, Ont. purification plant opened. *il Can Eng* 64:15-16 Je 20 '33

Mechanical agitation by motor driven paddles at Winnetka, Ill. C. Leipold. *il plans Water Works & Sewerage* 80:103-4 Mr '33

New auxiliary water plant at Erie, Pa. J. T. Campbell. *il Am Water Works Assn J* 25:771-8 Je '33

New water plant stresses pre-treatment; Mahoning Valley sanitary district. G. G. Dixon. *il diag map plan Eng N* 110:395-9 Mr 30 '33

Stour scheme of the South Essex waterworks company. B. W. Bryan. *Engineering* 135:711 Je 30 '33

Tile sludge removal systems for water treatment plants. E. P. Schinman. *Water Works & Sewerage* 80:95-6 Mr '33

Tret-O-Unit: the jig-saw puzzle of water works equipment. *il Water Works & Sewerage* 80:228 Je '33

Twenty years' progress in centrifugal water works pumps. A. Peterson. *Am Water Works Assn J* 25:1372-86 O '33

Water softening plant at Western Springs, Ill. D. H. Maxwell. *il Am Water Works Assn J* 25:546-56 Ap '33; Same, with plan. *Water Works & Sewerage* 80:105-8 Mr '33

Water works intake at Kincardine, Ont. R. O. Wynne-Roberts. *il Can Eng* 64:23-4 Ja 3 '33

Zeolite water softening plant at the Etobicoke township water works. W. H. Walker. *il Can Eng* 64:9-14+ Je 20 '33

*See also*

Filtration plants  
Pumping stations

#### Finance

Bond issue campaign for new water works improvements at Lincoln, Nebraska. D. L. Erickson. *Am Water Works Assn J* 25:248-53 F '33

Effect of maintenance of meters on revenues. D. C. Morrow. *Am Water Works Assn J* 24:1976-8; Discussion. 1978-82 D '32

Effect of sizes and maintenance of meters on revenues. L. D. Gayton. *Am Water Works Assn J* 24:1983-93 D '32

Financing public utilities; Los Angeles' department of water and power. H. A. Van Norman. *Am Water Works Assn J* 25:315-20 Mr '33

Important statement of National recovery committee for water works construction. *Water Works & Sewerage* 80:295 Ag '33

Improvement reserves for leveling financial peaks and valleys. V. B. Siems. *Am Water Works Assn J* 24:1911-19; Discussion. T. A. Leisen. 1919-21 D '32

Methods of financing fire protection. N. A. Eckart. *Am Water Works Assn J* 25:478-89 Ap '33

National recovery act as it applies to water works construction; abstract. W. W. Brush. *Water Works & Sewerage* 80:342 S '33

Ownership of connections from water mains to property lines. W. S. Vrooman. *Am Water Works Assn J* 25:199-204 F '33

Proper administration of municipally owned water utilities. M. L. Crist. *il Water Works & Sewerage* 80:299-301 Ag '33

P.W.A. officials talk about activities in water and sewage works. *Pub Works* 64:25+ N '33

Rate making, under present economic conditions. N. T. Veatch, jr. charts *Am Water Works Assn J* 25:343-54 Mr '33

R.F.C. loans for water works. *Water Works & Sewerage* 80:165 My '33

Relief from downward trend in water revenues. E. E. Bankson. *Am Water Works Assn J* 24:1893-1903 D '32

St. Paul's successful water works. *il Pub Works* 64:25 J1 '33

Water, cheaper than dirt. C. A. Haskins. *Am Water Works Assn J* 25:87-93 Ja '33

Water rate structures. R. E. McDonnell. *Am Water Works Assn J* 25:66-78 Ja '33

Water rates and construction programs should be coordinated. L. R. Howson. *Eng N* 109:750 D 22 '32

Waterworks are self-supporting. C. A. Haskins. *Eng N* 109:656 D 1 '32

Water works improvements can be made at low cost. *Water Works & Sewerage* 80:20 Ja '33; Same. *Pub Works* 64:26 Ja '33

Wichita Falls water works earns a profit for the city. *map Pub Works* 64:12 N '33

#### Grounds

Beautification of water works properties. W. W. Hurlbut. *Am Water Works Assn J* 25:347-50 Je '33

Making water works properties attractive. O. Z. Tyler. *Am Water Works Assn J* 24:1880-3 D '32

#### Inspection

Inspection and maintenance of gate valves. C. W. Mowry. *N E Water Works Assn J* 47:111-14 Je '33

#### Laboratories

Laboratory control for water works. C. P. Hoover. *Am Water Works Assn J* 25:1279-86 S '33

Public relations value of the water works laboratory; abstract and discussion. H. E. Jordan. *Water Works & Sewerage* 80:294 Ag '33

#### Laws and regulations

Why the state utility commissions should regulate the municipal plants. H. Wright. *Pub Util* 11:652-62, 710-17 My 25-Je 8 '33

*See also*

Water companies  
—Law

#### Maintenance and repair

Maintenance of gate valves in Boston. G. H. Finneran. *N E Water Works Assn J* 47:115-21 Je '33

Tuning up the Saginaw water plant. *Eng N* 109:686-7 D 8 '32

#### Management

Handling delinquent accounts. C. K. Chapin. *Am Water Works Assn J* 25:192-8 F '33

How a losing water works plant was made profitable. L. D. Shank. *Pub Works* 64:25 Je '33



**WATERWORKS—Management—Continued**

Inventory methods for yard stocks. C. J. Alfke. *Am Water Works Assn J* 24:1869-73; Discussion. 1873-5 D '32

Maintenance of water meters—reading and billing as practiced at Baltimore, Md. J. S. Strohmeier. *Il Water Works & Sewerage* 80:267-9 JI '33

Material control policies. C. J. Alfke. *Am Water Works Assn J* 24:2000-3 D '32

Meter reading. G. H. Fenkell. *Am Water Works Assn J* 25:779-92 Je '33

Municipal management; abstract. L. G. Carlton. *Water Works & Sewerage* 80:362; Discussion. 363 O '33

Organization of water departments for emergencies. J. S. Dunwoody. *Am Water Works Assn J* 24:1875-7; Discussion. 1877-80 D '32

Relief from downward trend in water revenues. E. E. Bankson. *Am Water Works Assn J* 24:1893-1903 D '32; Abstract. *Water Works & Sewerage* 79:206-7 Je '32

Shut-offs for non-payment of bills. *Am Water Works Assn J* 24:1848-50 D '32

Shutting off water for non-payment of water bills; discussion. *Water Works & Sewerage* 80:169-70 My '33

Some water works lessons Chicago has learned from the depression. M. B. Reynolds. *Water Works & Sewerage* 79:387-8 N '32

Superintendents round table conference; annual meeting of the Canadian section, American water works association, Ottawa. *Can Eng* 64:17-21 Ap 25 '33

Symposium on administration of water and sewer departments. *Water Works & Sewerage* 79:412-14 D '32

Use of unemployed and relief undertakings on water works; a round table discussion. N E *Water Works Assn J* 47:200-6 Je '33; Abstract. *Water Works & Sewerage* 80:170 My '33

Water rates and construction policies in municipally owned plants. L. R. Howson. *Am Water Works Assn J* 25:79-86 Ja '33

Windsor plant. J. C. Keith. *Am Water Works Assn J* 25:1101-6 Ag '33; Same. *Can Eng* 64:75-7 Mr 28 '33

**Municipal ownership**

Financing public utilities; Los Angeles' department of water and power. H. A. Van Norman. *Am Water Works Assn J* 25:315-20 Mr '33

Livingston, Montana, municipal water works. J. R. Cortese. *Am Water Works Assn J* 25:579-83 Ap '33

Rates, revenues and results of municipal ownership of water works in the U. S. R. E. McDonnell. 55p Burns & McDonnell engineering co, Kansas City, Mo. '32

Responsibilities of a water commissioner. G. S. Matthews. *Can Eng* 64:22-3 My 23 '33

State regulation of water rates for municipal plants; abstract. A. B. McCrum. *Water Works & Sewerage* 80:292 Ag '33

**Power**

New Castle, Ind. completes new Diesel station. *Il Power Pl Eng* 37:221 My '33

**Protection**

Emergency protection of water works in flooded areas. F. E. Hall. *Am Water Works Assn J* 24:1850-4 D '32

**Public relations**

Consumer's good will; its value and method of promotion. F. C. Jordan. *Water Works & Sewerage* 80:280-1 Ag '33

Introducing your new consumer; abstract and discussion. E. Symms. *Water Works & Sewerage* 80:289 Ag '33

Selling the water works to the public. A. F. Porzelli. *Water Works & Sewerage* 80:121-2 Ap '33

**Records**

Construction and operating records of plant facilities. J. E. Jagger. *Am Water Works Assn J* 24:1922-36 D '32

Location record for distribution system. A. H. Miller. *Am Water Works Assn J* 25:327-30; Discussion. C. S. Gruetzmacher. 331-6 Mr '33

**Valuation**

Recent trends in factors affecting the rate base. L. R. Howson. *Am Water Works Assn J* 24:1953-63; Discussion. 1963-9 D '32

WATSON, Ralph H. 1878-  
Vice president, United States steel corp. *por Steel* 93:19 S 18 '33

**WATT hour meters**

Outdoor meter installations and suggested form of housing for outdoor meters. *Il Edison Elec Inst Bul* 1:35-7+ My '33

**Manufacture**

Developments in meter making; Westinghouse electric & mfg. company. H. E. Miller. *il diag Am Mach* 77:197-200 Mr 29 '33

**Testing**

Developments in meter making; Westinghouse electric & mfg. company. H. E. Miller. *il diag Am Mach* 77:197-200 Mr 29 '33

Post-lightning test catches fast meters. H. L. Thompson. *Elec W* 102:306-7 S 2 '33

**WATTMETERS**

Plant power factor surveys made with one instrument. *Elec W* 101:139-40 Ja 28 '33

Simplified method of applying instrument transformer correction factors to wattmeter readings. C. O. Werres. *Gen Elec R* 36:462-3 O '33

Valve wattmeter. E. Mallett. *diags Inst E E J* 73:295-302 S '33

**WAVE mechanics**

Almost closed shells. M. H. Johnson, jr. *Phys R* 43:632-5 Ap 15 '33

Atomic structure. W. H. Barnes. *Soc Chem Ind J (Chem & Ind)* 52:215-17 Mr 10 '33

Behavior of single electric particles. *Science* 78:sup5 Ag 11 '33

Charge distributions for the normal atoms from boron to neon. F. W. Brown, J. H. Bartlett, jr. and C. G. Dunn. *Phys R* 44:296-9 Ag 15 '33

Charge distributions in fluorine and neon. F. W. Brown. *Phys R* 44:214-23 Ag 1 '33

Comparison of the nuclear theories of Heisenberg and Wigner. C. Eckart. *Phys R* 44:109-11 JI 15 '33

Constitution of metallic sodium. E. Wigner and F. Seitz. *Phys R* 43:804-10 My 15 '33

Continuous electron affinity spectrum of hydrogen. C. K. Jen. *Phys R* 43:540-7 Ap 1 '33

Effect of exchange on the scattering of slow electrons from atoms. P. M. Morse and W. P. Allis. *Phys R* 44:269-76 Ag 15 '33

Elements of the new quantum mechanics. O. Halpern and H. Thirring. 215p [bibliog p209-12] \$3.25 Dutton '33

Energy levels of the rare-gas configurations. G. H. Shortley. *Phys R* 44:666-74 O 15 '33

Fermi-Dirac statistical theory of gas degeneration. V. Karapetoff. *Mech Eng* 55:237-42, 290-4, 358-62+ Ap-Je '33

Influence of crystalline fields on the susceptibilities of salts of paramagnetic ions; the iron group, especially Ni, Cr and Co. R. Schlapp and W. G. Penney. *Phys R* 42:666-86 D 1 '32

Influence of inner shells on atomic interactions. H. M. James. *Phys R* 43:589 Ap 1 '33

Intensity distribution in a band system of symmetrical triatomic molecules. Z. W. Ku. *Phys R* 44:383-90 S 1 '33

Interaction between atoms with s-electrons. N. Rosen and S. Ikehara. *Phys R* 43:5-8 Ja 1 '33

Kowalewski's top in quantum mechanics. O. Laporte. *Phys R* 43:548-51 Ap 1 '33

Magnetic interaction of a valence electron with inner shells. M. H. Johnson, jr. and G. Breit. *Phys R* 44:77-83 JI 15 '33

New quantum mechanics. R. M. Langer. *Science* 77:sup6 F 10 '33

New wave atom, elusive and mysterious. C. J. Phillips. *diags Sci Am* 148:14-17 Ja '33

Principle of indefiniteness. K. K. Darrow. *R Sci Instr* 4:188-92 Ap '33

Probabilities of K-electron ionization of silver by cathode rays. D. L. Webster, W. W. Hansen and F. B. Duveneck. *diags Phys R* 43:839-58 Je 1 '33

**WAVE mechanics—Continued**

- Quantum defect of nonpenetrating orbits, with special application to Al II. J. H. Van Vleck and N. G. Whitelaw. bibliog Phys R 44:551-69 O 1 '33
- Quantum mechanics and chemistry with particular reference to reactions involving conjugate double bonds. H. Eyring. Science 77:158-60 F 10 '33
- Quantum mechanics of beryllium hydride. C. E. Ireland. Phys R 43:329-36 Mr 1 '33
- Radiation from slow electrons. L. Nedelsky. Phys R 42:641-65 D 1 '32
- Theory of the dispersion and absorption of helium. J. A. Wheeler. Phys R 43:258-63 F 15 '33
- Theory of vibrational isotope effects in polyatomic molecules. E. O. Salant and J. E. Rosenthal. Phys R 42:812-22 D 15 '32
- Transformations in the theory of complex spectra. G. H. Shortley. Phys R 43:451-8 Mr 15 '33
- Variable scale atomic wave functions. J. P. Vinti and P. M. Morse. Phys R 43:337-40 Mr 1 '33
- Vector model and the Pauli principle. M. H. Johnson, jr. Phys R 43:627-31 Ap 15 '33
- Wave mechanics; elementary theory. J. Frenkel. 278p \$5 Oxford '32
- Welche vorstellung von der chemischen bindung vermittelt die quantenmechanik? M. Born. Angew Chemie 46:179-80 Mr 25 '33

*See also*

## Quantum theory

**WAVEMETERS**

- Simplification of accurate measurement of radio-frequency. W. H. F. Griffiths. il diag Wireless Eng 10:239-47, 299-306 My-Je '33
- Superregenerative wave meter for ultra-short waves. H. Ataka. diag Inst Radio Eng Proc 21:1590-2 N '33
- Wavemeter with alternative close and open scales. il diag Wireless Eng 10:255-7 My '33

**WAVES**

- Translatory waves in open channels; theoretical analysis of movement caused by changing the depth of water. H. W. King. il Civil Eng 3:319-21 Je '33

*See also*

Electric waves  
Light  
Radiation  
Radio waves  
Ripples

Ships—Stability  
Sound waves  
Tidal power  
Vibration

**WAXES**

- Case for rosin-wax sizes. R. B. Ladoo. Chem & Met Eng 40:89-90 F '33
- Emulsified paraffin wax sizes. R. M. Cobb, D. S. Chamberlin and B. A. Dombrow. bibliog il Paper Tr J 97:35-8 S 7 '33
- Fortschritte in der technischen herstellung und verwertung der kunstwachse. R. Strauss. Angew Chemie 46:521-5 Ag 12 '33
- New method for the determination of the saponification value of waxes and fats. J. M. F. Leaper. Textile Col 55:601-2+ S '33
- Preparation of paraffins from Carnuba wax by means of catalytic hydrogenation. H. I. Waterman, P. de Kok and A. J. Tulleners. Inst Pet Tech J 18:1007-9 D '32
- Results obtained from use of propane during dewaxing and treating of lubricating oil. U. E. Bray, C. E. Swift and D. E. Carr. Oil & Gas J 32:14-16+ N 2 '33; Abstract. Nat Pet N 25:30-2 N 1 '33
- Review of research on cane wax in raw and refined sugars. C. F. Bardorf and J. A. B. Ball. J Phys Chem 36:2940-7 D '32
- Synthetic and new waxes. G. Friederichs. Am Dyestuff Rep 22:490+ Ag 14 '33

*See also*

Paraffin

## Analysis

Analysis of mixtures of fats and waxes. H. D. Murray. Soc Chem Ind J 51:393T-4T D 9 '32

## Statistics

Gums, shellac, waxes. Published in weekly numbers of Oil, paint and drug reporter

WAYLEAVES. See Eminent domain

**WAYNE surety company**

Reinsurance for Central West and Wayne Surety is being considered. Spectator 130: 33 Ap 13 '33

**WEALTH**

- Creation of real wealth. Ptr Ink 163:60 My 25 '33
- Dives in coma. J Account 56:247-9 O '33
- Institutional revenue. H. D. Dickinson. 264p [bibliog p228-35] Williams & Norgate Ltd, London '32
- Loss of 115 billion dollars in national wealth as between 1929 and 1932, with per capita at \$1,981. Pub Serv M 55:62 Ag '33
- Wealth, virtual wealth and debt. F. Soddy. 2d ed 320p \$2.50 Dutton '33

*See also*

Capital	Leisure
Cost of living	Money
Economic conditions	Profit
Economics	Property
Income	Success
Income tax	

WEAR of metals. See Metals—Wear

**WEATHER**

- Electron-shell theory of weather cycles. H. P. Gillette. Water Works & Sewerage 79:396 N '32; Same. Eng & Contr 71:256 N '32
- Inauguration day. Science 77:sup8 Mr 3 '33
- Method for selecting outside weather conditions for air conditioning design. H. W. Skinner. Heat & Ven 29:23-5 D '32
- Nature made a good record in last twelve months. J. C. Hoyt. Eng N 110:167 F 2 '33
- Relation of weather to transoceanic flying. J. H. Kimball. il map Mech Eng 55:105-10+ F '33
- Weather. Published in monthly numbers of Heating and ventilating

*See also*

Atmospheric electricity	Fog
Atmospheric pressure	Humidity
Atmospheric temperature	Meteorology
Climate	Rain and rainfall
Droughts	Snow
	Storms
	Winds

WEATHER bureau. See United States—Weather bureau

**WEATHER forecasts**

- Fading radio signals and weather forecasts. R. C. Colwell. Science 76:sup9-10 N 18 '32

## Business applications

- Colder weather coming—what it means to the gas industry. R. L. Coryell. Gas Age 71: 133-6 F 11 '33; Excerpts. Adv & Sell 20:20+ F 16 '33

**WEATHER vanes**

- Florida shop makes weathervanes. il Sheet Metal Worker 23:484 N '32

**WEATHERING**

- Insolation hypothesis of rock weathering. E. Blackwelder. Am J Sci 5th ser 26:97-113 [bibliog p112-13] Ag '33; Discussion. 26:523-4, 607-8 N-D '33

WEATHERING of paint. See Paint—Weathering

WEATHERPROOF wire. See Electric wire—Weatherproofing

**WEATHERPROOFING***See also*

Electric wire—  
Weatherproofing

**WEAVING**

- Adapting the looms for weaving special colored goods patterns. H. D. Martin. Textile Col 55:607+ S '33
- Bedford cord and its counterparts, cote-de-cheval and plissé. B. D. Blackman. il Textile World 83:230-2 F 14 '33
- Designing silk fabrics. W. Markham. il Mel-liand 4:674-5 F '33
- Domino crepe joins style parade. B. D. Blackman. il Textile World 83:920 My '33
- Double cloths: employing two series of both warp and filling threads. R. A. C. Scott. il Textile World 83:1803-9 O '33



**WEAVING**—*Continued*

- Employing modern looms to reproduce colonial coverlets. W. E. Shinn. *il Textile World* 83:212-13 F 14 '33
- Failles; a review of current types. B. D. Blackman. *il Textile World* 83:1436 Ag '33
- Filling, please! a simple signal by which weaver may notify quill boy. O. W. Bitzenhofer. *il Textile World* 83:1093 Je '33
- Imitation backed cloths. R. A. C. Scott. *il Textile World* 83:918-19 My '33
- Ladder tape, narrow fabric of unique construction. E. J. Gibbons. *il diag Textile World* 83:58 Ja '33
- Leno weaving with two crossing ends. A. E. McKenna. *diags Melland* 5:28-9 Ap '33
- Manufacture of matelassé. B. D. Blackman. *il Textile World* 83:603-6 Mr '33
- Modern methods in drawing-in and tying-in of warps for weaving. R. Huenlich. *il Melland* 5:149-50, 248-9 Ag-S. N '33
- Narrow fabrics. E. J. Gibbons. *il Textile World* 83:584-5 Mr '33
- Novelty-yarn fabrics; woolens and worsteds employing ratiné, nub, and flake. R. Downs. *il Textile World* 83:1088-9 Je '33
- Obtaining large weave repeats on dobbies; Delamare system. K. Augustin. *il Melland* 5:201-3, 240-1 O-N '33
- Printing and bleaching rayon and construction of leno weave piece goods. A. C. Estey. *diags Textile Col* 55:49-52 Ja '33
- Production of woven ondulé fabrics. E. F. Kraft. *il diags Melland* 5:72-3 My '33
- Sheep and Shuttleworths, whose corporate expression is the Mohawk carpet mills, inc. *il Fortune* 7:42-8, 76, 78, 80-1 Ja '33
- Warp-backed cloths. R. A. C. Scott. *diag Textile World* 83:222-3 F 14 '33
- Weave technique in rayon fabrics. E. Graebner. *il Melland* 5:118-20 Je-Jl '33
- Weaver's craft. L. E. Simpson and M. Weir. 137p [bibliog p135] Drvad press, St Nicholas st, Leicester, Eng. '32
- Weaving leno with beads. *il Textile World* 83:746-7 Ap '33
- Will weaving cones become universal? B. L. Hathorne. *Melland* 4:724 Mr '33
- Woven pleats or tucks. J. Funke. *il Melland* 4:554 D '32
- Woven tucks. A. E. McKenna. *il Melland* 4:665 F '33

*See also*

- |                          |                                |
|--------------------------|--------------------------------|
| Cotton weaving           | Textile fabrics                |
| Looms                    | Textile fibers                 |
| Rugs                     | Woolen and worsted manufacture |
| Silk. Artificial—Weaving | Woolen and worsted weaving     |
| Silk weaving             |                                |
- WEBB, Sidney**  
Sidney and Beatrice Webb; a study in contemporary biography. M. A. Hamilton. 314p \$3.50 Houghton '33

**WEBB, Walter Prescott**

- Award of the Loubat prizes. *Science* 77:421-2 My 5 '33

**WEDDINGS**

- Budget for a bride; her annual contribution to American business. *il Fortune* 7:38-41 Je '33

**WEEDS**

- Experiments with chemical weed killers. J. E. Howitt and W. M. Gammon. *Can Eng* 64:15-16 Ap 4 '33
- Sulfuric acid; new market as a weed killer. *Chem Markets* 33:232 S '33
- Die wirkung von chlorat, bromat und jodat auf pflanzenwuchs. M. Hessenland, F. Fromm and J. Saalman. *Angew Chemie* 46:577-9 S 9 '33

*See also*

- Leafy spurge
- WEEK-END houses**  
Week-end house of Richard B. Scandrett, jr. at Idlewild, New York; views. *Arch Rec* 74:118-20 Ag '33
- WEEVILS**  
Automatic trap for weevil larvae. G. N. Wolcott. *Science* 78:sup9 O 27 '33
- Nomenclature of the vegetable weevil. E. O. Essig. *bibliog Science* 77:605-6 Je 23 '33

**WEIGHING**

- Let's talk shop! weighing. R. C. Gilmore, jr. *Plastics* 8:454 Ja '33
- Weighing and marking automobile pistons. A. W. Dilts. *il Mach* 39:279-80 D '32
- Weighing operations aided by photocell applications. *Elec W* 101:281 Mr 4 '33
- Weight of steel balls in a ball mill. A. M. Gow. *Eng & Min J* 134:203 My '33

*See also*

- Balances
- Scales
- Track scales
- WEIGHING machines**  
Aid for ready-mixed concrete plant; device for determining retained water in aggregates. W. B. Lenhart. *Rock Prod* 36:59 Ag '33
- Avery 12,000-lb. automatic grain-weighing machine. *il diags Engineering* 135:568-70 My 26 '33; *Engineer* 155:523-4 My 26 '33
- Dosierwaage zur stetigen förderung gleichmässiger mengen. K. Diehl. *il diag Zeit Ver Deutsch Ing* 76:1108-9 N 5 '32
- 168-ton dial-indicator locomotive weighing-bridge. *il Engineering* 136:463 O 27 '33
- Toledo vibrator filling machine for automatic weighing of small parts. *il Metal Ind* 31:179 My '33

*See also*

- Track scales
- WEIGHT**  
What is weight? *Mech Eng* 55:504 Ag '33
- WEIGHT (physiology)**  
Growth and the economic depression; a study of the weight of elementary school children in 1921-27 and in 1933. C. E. Palmer. *bibliog Pub Health Rep* 48:1277-92 O 20 '33

- Physical impairment and weight; a study of medical examination records of 3,037 men markedly under or over weight for height and age. R. H. Britten. *Pub Health Rep* 48:926-44 Ag 4 '33
- Seasonal variation of average growth in weight of elementary school children. C. E. Palmer. *Pub Health Rep* 48:211-33 [bibliog p 232-3] Mr 3 '33
- Variations of growth in weight of elementary school children, 1921-28. C. E. Palmer. *bibliog Pub Health Rep* 48:993-1005 Ag 18 '33

**WEIGHTS and measures**

- Imperial British standard measures. *Science* 78:275 S 29 '33
- Length and mass comparisons. *Elec R (Lond)* 113:170 Ag 4 '33
- New division of the smaller gram weights. F. Sartorius. *Chem Age (Lond)* 28:384 Ap 29 '33
- Short-weights; Federal trade commission finds them in chain stores, also in other stores. *Business Week* p10 D 28 '32
- Standards of length and mass. *Engineering* 136:120-1 Ag 4 '33

*See also*

- |                   |                     |
|-------------------|---------------------|
| Balances          | Scales              |
| Electric measure- | Specific gravity    |
| ments             | Standards of length |
| Gages             | Temperature—        |
| Gas measurement   | Measurement         |
| Measuring instru- | Water measurement   |
| ments             | Weighing            |
| Metric system     |                     |

**Tables, calculations, etc.**

- Estimating weights from blue prints. J. H. Hill. *diags Foundry* 61:36-7+ Je '33

**WEIRS***See also*

- Dams
- WEIRS (measuring)**  
Correcting flow calculations for velocity of approach. D. S. Davis. *Chem & Met Eng* 40:542 O '33
- Two forms of full depth control weirs. J. R. Kiely. *diags Washington U Eng Exp Sta Bul* 71:1-34 '33

**WELDERS**

Pre-qualification tests for welders. E. Lunn. diags Heat & Ven 30:19-21 Mr '33  
 Umschulung von fachearbeitern zu schmelzschweisern. M. Föchsel. Zeit Ver Deutsch Ing 77:24 Ja 7 '33

**Training**

Welding quality control in aircraft manufacture. P. N. Jansen and T. H. Speller. il diags Am Mach 77:651-5 O 11 '33

**WELDING**

American welding society 13th fall meeting. Detroit, Oct. 2-5. Iron Age 132:22-6 O 12 '33; Steel 93:39+ O 9; 28+ O 16 '33  
 Better piping at lower cost with welding fittings. W. J. Johnston. Power 76:284-5 D '32  
 Les canalisations souterraines en tubes d'acier à joints soudés. Berriat. Génie Civil 103:93 J1 22 '33  
 Chemical plant repairs by scientific welding. C. W. Brett. il Chem Age (Lond) 28:525-6 Je 10 '33  
 Distribution of shear in welded connections. H. W. Troelsch. diags Am Soc C E Proc 58:1499-1506 N '32; Discussion. 59:394-404, 521-2, 640-5, 1333-5 F-Ap. O '33  
 Do you design or just make your welded joints? R. Kraus. diags Mach 40:150-5 N '33  
 Flame temperatures of combustible gas-oxygen mixtures. H. H. Lurie and G. W. Sherman. bibliog il diag Ind & Eng Chem 25:404-9 Ap '33  
 Fortschritte in der schweisstechnik im ersten halbjahr 1932. E. H. Schulz and W. Lohmann. Stahl & Eisen 53:223-7 Mr 2 '33  
 Fortschritte in der schweisstechnik im zweiten halbjahr 1932. E. H. Schulz and W. Lohmann. Stahl & Eisen 53:736-41 J1 13 '33  
 Fusion welding as related to steel castings. T. S. Quinn. il Am Soc T M Proc 32 pt 2: 269-91; Discussion. 292 '32  
 Heating parts before welding. C. C. Phares. Transit J 77:411-12 N '33  
 Helical joints in welded cylindrical pressure vessels; abstract. G. W. Bird. Mech Eng 55:448-9 J1 '33  
 Low-temperature welding. Chem Age (Lond) 29:67 J1 15 '33  
 Measurement of weldability. A. Portevin. Metal Prog 24:45-6 N '33  
 Metallverbindung. G. Falck. Zeit Ver Deutsch Ing 77:251-2 Mr 4 '33  
 Motorfundamente auf schiffen. W. Scholz. il diags Zeit Ver Deutsch Ing 76:1141-7 N 19 '32; Excerpts (Marine oil engine foundations). Marine Eng 38:178-81 My '33  
 New process for making welded joints; abstract. H. S. George. Mech Eng 55:132 F '33  
 Pipe welding developments affect engineers and contractors. il Heat & Ven 29:13-16 D '32  
 Pipe welding plays an important part in modernizing breweries. F. W. Rabe. Heating-Piping 5:509 O '33  
 Practical notes on pipe welding. A. E. Christen. Heating-Piping 5:146+ Mr '33  
 Pre-qualification tests for welders. E. Lunn. diags Heat & Ven 30:19-21 Mr '33  
 Production and maintenance profited by these 16 welding applications. G. A. Van Brunt. Factory Management 91:180-1 My '33  
 Proper planning and layout methods cut costs in pipe welding. D. W. Hickey. il Heat & Ven 30:24-7 My '33  
 Reclaiming manganese steel special work by welding. il Transit J 77:314 O '33  
 Repair welding. A. F. Keogh. il Elec Traction 29:52-3 F '33  
 Repairing stoker parts. il Ry Mech Eng 106: 473 N '32  
 Special bolt for use in projection welding. diag Iron Age 131:108 Ja 12 '33; Am Mach 77:27-8 Ja 4 '33  
 Standard data. Factory & Ind Management 84: 37-8 Ja '33  
 Weldability and other properties of Inconel; abstracts. F. G. Flocke, J. G. Schoener and R. J. McKay. Iron Age 132:25 O 12 '33  
 Welded alloy bucket lips cut trenching costs. G. Sykes. il Eng N 110:215 F 16 '33

Welded joints in copper and copper alloy; fabrication of small tanks. I. T. Hook. il diags Am Mach 77:720-4 N 8 '33

Welded plant in the chemical industry. H. Seymour. Chem Age (Lond) 28:237-8 Mr 18 '33

Welded repairs. C. W. Brett. il Elec R (Lond) 113:182 Ag 11 '33

Welded shear reinforcement for concrete beams. D. M. McCain. il Civil Eng 3:331 Je '33

Welding and welding fittings. il Heating-Piping 5:38-40 Ja '33

Welding broken axle shafts saves \$2,400 annually. E. Wotton. il Bus Transportation 11: 502 D '32

Welding; current research projects. Power 77:266-7 My '33

Welding from the designer's point of view. C. O. Herb. il Mach 39:569-71 My '33

Welding processes benefit from research studies. il Steel 92:90-1+ Ja 2 '33

Welding quality control in aircraft manufacture. P. N. Jansen and T. H. Speller. il diags Am Mach 77:651-5 O 11 '33

Welding with manufactured, natural, and mixed gas. H. H. Lurie. il diags Purdue Univ Eng Exp Sta Research Bul 41:1-114 [bibliog p113-14] '32

Works of the Steel barrel company of Uxbridge, limited. il diags Engineering 136: 135-7 Ag 11 '33

**See also**

Aluminum—Welding	Shipbuilding—
Brazing	Welding operations
Bronze welding	Steel—Welding
Electric welding	Steel, Structural—
Electric welding, Arc	Welding
Oxyacetylene welding	Steel construction—
	Welding

also American welding society

**Inspection**

Making radiographic inspections of chemical equipment. H. R. Isenburger. il diag Chem & Met Eng 40:130-2 Mr '33

Radiographic examination of pressure vessel welds; Babcock & Wilcox co. R. E. Hiller. il diags Iron Age 131:736-9 My 11 '33

Recent progress in the X-ray inspection of welds. H. R. Isenburger. il diags Steel 92:29-32 Je 5 '33

X-ray and gamma-ray inspection as used in ship construction. H. R. Isenburger. bibliog il Marine Eng 38:137-9, 148 Ap '33

X-ray in examination of welded pressure vessels. J. H. Goolsby. il diags Refrig Eng 25: 134-9+ Mr '33

X-ray technique for examination of four-inch steel. R. E. Hiller. il Gen Elec R 35:376-80 J1 '32; Abstract. Eng N 110:220-1 F 16 '33

X-rays and the welder. R. H. Stephens. il Elec R (Lond) 112:481 Ap 7 '33

**Safety devices and measures**

Carbon dioxide makes the welding job safe without steaming or dismantling. il Oil & Gas J 32:47 Je 29 '33

Welding of vessels containing explosive gases made safe by carbon dioxide. L. G. E. Bignell. il Oil & Gas J 31:13 F 16 '33

**Specifications**

When weldings are specified. F. W. Shaw. diags Am Mach 76:1231 D 21 '32

Yardstick for buying welded machine parts. A. S. Austin. Mach 39:397-9 F '33

**Standards**

A.S.M.E. requirements for unfired pressure vessels tabulated. Nat Pet N 24:80 N 16 '32

Les prescriptions allemandes de 1931 sur les constructions soudées. L. Carpentier. diags Génie Civil 101:459-61 N 5 '32

**Study and teaching**

Training journeymen in welding; abstract. S. L. Land. Heat & Ven 30:38 F '33

Training pipe welders. S. L. Land. Heat & Ven 30:15 My '33



## WELDING—Continued

## Symbols

German conventional symbols for welding. O. Bondy. diags Engineering 135:479-80 My 5 '33

## Terminology

Standard nomenclature, definitions and symbols for welding and cutting. (British standard no 499) 2s 3d British standards institution, 28 Victoria st, London, S.W. 1 '33

## Testing

Committee on welded rail joints, final report. 358p \$1 Am. bur. of welding, 29 W. 39th st, N.Y. '32

Die dauerfestigkeit der schweisverbindungen. G. Schaper. il diags Zeit Ver Deutsch Ing 77:556-60 My 27 '33

Die dauerfestigkeit von genieteten und geschweissten verbindungen aus baustahl St 52. E. H. Schulz and H. Buchholtz. il diags Stahl & Eisen 53:545-52 My 25 '33; Discussion. 53:552-3, 861 My 25, Ag 17 '33  
Dauerfestigkeit von schweisverbindungen bei verschiedener formgebung. A. Thum and W. Schick. il diags Zeit Ver Deutsch Ing 77:493-6 My 13 '33

L'essai mécanique des soudures autogènes. Schenmaker. Génie Civil 102:549-50 Je 10 '33

Fatigue of metals; abstract. G. E. Thornton. Automotive Ind 69:456 O 14 '33

Final report issued by committee on welded rail joints. Elec Eng 52:277-9 Ap '33

Magnetographic and X-ray tests of pipe welds compared. F. E. Doane. il Iron Age 131:194-6 F 2 '33

Now the gun carriage is welded. il diag Sci Am 147:349 D '32

Pittsburgh testing laboratory establishes weld testing bureau. Steel 93:34 Ag 7 '33

Prüfverfahren für schweisungen. G. Fiek. diags Zeit Ver Deutsch Ing 77:1005-8 S 16 '33

Schwingungsfestigkeit von stahlrohr-schweisverbindungen. J. Müller. il Zeit Ver Deutsch Ing 77:720-1 J1 1 '33

Stress distributions in fusion joints of plates connected at right angles; abstract and discussion. E. G. Coker and R. Russell. Engineering 135:442-3 Ap 21 '33

Testing of welded steel drums. il Engineering 135:328 Mr 24 '33

Testing welded joints; magnetic circuit and electrical tests. E. Franke. diags Electrician 111:338 S 22 '33

Tests of regular and stabilized 18-8 alloy welds in sulphite liquor. bibliog il Paper Tr J 97:29-34 Ag 31 '33

Tests of riveted and welded steel columns. W. A. Slater and M. O. Fuller. il diags Am Soc C E Proc 58:1147-80 S '32; Discussion. 59:199-206, 380-3, 841-2 Ja-F, My '33

Welding quality control in aircraft manufacture. P. N. Jansen and T. H. Speller. il diags Am Mach 77:651-5 O 11 '33

Welding research activities of the Institution of mechanical engineers. Engineer 155:253-4 Mr 10 '33; Engineering 135:277-8 Mr 10 '33

Welding versus riveting; abstract. R. P. Davis and G. P. Boomsliet. Eng N 111:444 O 12 '33

## Thermit process

Modern rail welding without interrupting traffic; abstract. J. H. Deppler. Iron Age 132:25-6 O 12 '33

12-ton rack for sponge ball press repaired by thermit welding. il Steel 93:31 O 30 '33

Under-traffic welding prevents delays. W. E. Bobbitt. il Elec Traction 28:444-5 N '32

## WELDING rods

Growth of the electric arc welding industry. E. A. Hurme. Iron Age 132:20-1 N 9 '33

## WELFARE work in industry

Can you afford to care for your workers? B. E. Schlesinger. Factory & Ind Management 83:429-31, 451-3 N-D '32

Report upon miners' welfare fund, England. Monthly Labor R 37:50-2 J1 '33

Trust service must keep pace with new era. J. W. White. Trust Companies 56:645-50 Je '33

Who will be the winner? R. L. Schmitt. Blast F & Steel Pl 21:255-7 My '33

## See also

Benefit societies  
Company towns  
Employment management  
Employment systems  
Gardens, Employees'  
Insurance, Group  
Loans, Employees'  
Medical service, Industrial

Pensions, Industrial  
Profit sharing  
Recreation  
Saving  
Unemployment—  
Relief measures  
Unemployment benefit plans

## WELLAND ship canal

Large surge tank at Thorold, Ont.; power development on Welland ship canal. il Can Eng 64:13 Mr 14 '33

Principal dimensions of Welland canal. Can Eng 63:21 N 15 '32

## WELLS, Mary M.

Some of our members and what they do. Special Lib 24:130 J1 '33

## WELLS

Analysis and control of water supply at Baytown refinery of Humble company. P. A. Washer. diags Oil & Gas J 31:84-8 Mr 30 '33

Cements and well cementing; effect of chlorides on the setting and hardening of cement. A. Reid and J. T. Evans. Inst Pet Tech J 18:992-1006 D '32

Cold, soft well water replaces unsatisfactory river water. T. Wardwell. il Pub Works 64:12+ Ja '33

Deep well drilling. W. H. Jeffery. 816p [bibliog p656] Gulf pub. co, Houston, Texas '31

Deep well water supply system for the town of Weston, Ont. A. G. Peirson. il diag Can Eng 64:13-16 Ap 25 '33

Excluding salt water from island wells; experience at Nassau. J. O. Riddell. diags map Civil Eng 3:383-5 J1 '33

Geological conditions governing location, drilling, and casing of wells. W. C. Imbt. map Am Water Works Assn J 25:1207-15 S '33

Gravel-wall wells on shore of Lake Michigan. N. F. Yonkman. il diag Water Works & Sewerage 79:384-6 N '32

Ground water sanitation at Houston, Texas. J. A. Sauls, Jr. and C. R. Harvill. il map diag Am Water Works Assn J 25:557-78 Ap '33

Kitchener water works pumping plant. il Can Eng 64:29-30 F 28 '33

Long cast-iron main taps new well field, Lincoln, Neb. il diags Eng N 110:487-90 Ap 20 '33

New high service water supply of Concord, New Hampshire. P. R. Sanders and F. A. Marston. il diags N E Water Works Assn J 47:1-12 Mr '33

New methods of excavating quicksands. H. Japp. il diags plan Engineer 156:398-402 O 27 '33

New well at Mount Forest, Ont. il Can Eng 65:19 N 7 '33

Notable improvements in groundwater development. O. E. Meinzer. map Eng N 110:750-2 Je 8 '33

Pump infection under normal conditions in controlled experimental fields. E. L. Caldwell and L. W. Parr. bibliog Am Water Works Assn J 25:1107-17 Ag '33

Shallow wells lined with corrugated pipe. Pub Works 64:40 Ja '33

Success in obtaining water supply from drilled wells; abstract with discussion. G. Sydnor. Water Works & Sewerage 80:15 Ja '33

Treatment of flood-contaminated wells. Pub Works 64:32 S '33

True significance of drawdown in wells. H. O. Williams. diags Am Water Works Assn J 25:734-9 My '33

Water supply improvements at Fort Valley, Georgia. T. A. Jones. Am Water Works Assn J 25:728-33 My '33

**WELLS**—*Continued*

Well sinking in Hyderabad. Engineering 136:156 Ag 11 '33

*See also*

Artesian wells	Petroleum—Well
Drilling and boring	boring
(earth and rocks)	Water, Underground
Gas, Natural	

**WESSEL**, Hjalmar, 1876-1933

Sketch. Paper Tr J 96:18 Je 22 '33

**WEST**

Description and travel

Guidebook of the western United States; part F, Southern Pacific lines, New Orleans to Los Angeles. N. H. Darton. 29 fold maps U S Geol S Bul 845:1-304 [bibliog p293-6], pl 1-49 '33

**WEST Coast life insurance company**

Annual statement, 27th. Spectator 130:19 F 23 '33

**WEST INDIES**

Bibliography

Catalogue of books, manuscripts, etc. in the Caribbeana section (specializing in Jamaicana) of the Nicholas M. Williams memorial ethnological collection. 133p Boston college library, Chestnut Hill, Boston '32

**WEST POINT military academy**

New power system for West Point. A. Staudinger. il Elec J 30:50-4+ F '33

**WEST VIRGINIA**

Commerce

Aid for analyzing markets in Delaware, Maryland, Virginia, West Virginia and the District of Columbia. C. B. Eliot. 27p U.S. Bur. of foreign and domestic commerce, Washington '33

**WEST VIRGINIA university**

Mining extension department. C. E. Lawall. il Explosives Eng 10:371-3+ D '32

**WESTERGAARD**, Alfred Norman, 1899-

Wings of the North. J. P. de Wet. por Can Min J 54:24-6 Ja '33

**WESTERGAARD**, Harold Ludwig

Tests of significance in applying Westergaard's method of expected cases to sociological data; violations of parole. S. A. Stouffer and C. Tibbitts. Am Statis Assn J 23:293-302 S '33

**WESTERN electric company**

Hawthorne works

Personnel activities at the Hawthorne works of Western electric company. G. S. Rutherford. Management R 22:269-70 S '33

**WESTERN insurance bureau**

Annual meeting, French Lick Springs. Ins Field (Fire ed) 62:8+ My 25 '33; Nat Underw 37:4+ My 25 '33

Semi-annual meeting, French Lick, Oct. 24-26. Nat Underw 37:3+ 5+ O 26 '33

**WESTERN Pacific railroad**

A.C. James' Western Pacific. Econostat 1:13, 32 S 9 '33

**WESTERN petroleum refiners association**

Annual meeting, Hot Springs, Ark. April 5-6. Nat Pet N 25:25-6 Ap 12 '33; Oil & Gas J 31:23+ Ap 13 '33

Economic studies of supply and demand as foundation for profits launched by W.P. R.A. in 1925. Nat Pet N 25:78-9+ My 17 '33

**WESTERN society of engineers**

Original letter, written in May, 1869, which resulted in the formation of the society. W Soc E J 33:front F '33

President's report; the sixty-fourth year. D. J. Brumley. W Soc E J 33:123-32 Je '33

**WESTERN SPRINGS**, Illinois

Water supply

Water softening plant at Western Springs. D. H. Maxwell. il Am Water Works Assn J 25:546-56 Ap '33; Same, with plan. Water Works & Sewerage 80:105-8 Mr '33

**WESTERN underwriters association**

Annual meeting, White Sulphur Springs, April 11-12. Ins Field (Fire ed) 62:7+ Ap 13; 8+ Ap 20 '33; Nat Underw 37:3+ Ap 13; 1+ Ap 20 '33

Semi-annual meeting, Saranac, N. Y. Sept. 19-20. Ins Field (Fire ed) 62:7-8 S 21; 8+ S 28 '33; Nat Underw 37:3+ S 21; 3+ S 28 '33

**WESTERN union telegraph company**

Chooses White for president. Ry Age 94:699 My 13 '33

Companies emerging from the red. Mag of Wall St 52:179+ Je 10 '33

Three leaders in communication. F. C. Fullerton. Mag of Wall St 51:384-5+ Ja 21 '33

Western Union's over-expansion. Econostat 1:11, 32 S 16 '33

**WESTINGHOUSE air brake company**

Necessitous orders will bring new activity. M. T. Osgood. Mag of Wall St 52:329+ Ji 22 '33

**WESTINGHOUSE electric and manufacturing company**

Motor agreement consummated. Elec West 70:14 Ja '33

Radio anti-trust case settled; text of consent decree. Sci Am 148:188-9 Mr '33

Speculative audit; favorable and unfavorable factors affecting common-stock values. Barron's 13:14 S 4 '33

Westinghouse lags behind General Electric. Econostat 1:11, 32 O 21 '33

Westinghouse strike off; 2,700 workers affected. Elec W 102:549 O 28 '33

**WESTMINSTER abbey**

Engineering and science in Westminster abbey. E. C. Smith. Engineering 136:225-7 S 1 '33

**WESTMINSTER bank limited**

Annual general meeting. Economist 116:260-3 F 4 '33

**WESTON**, Edward

Award of the 1932 Lamme medal. Science 77: 302 Mr 24 '33

**WESTON**, Ontario

Water supply

Deep well water supply system. A. G. Peirson. il diag Can Eng 64:13-16 Ap 25 '33

**WETTING**

Comparison of the rosette and flannel cotton methods of wetting out or sinking tests. A. H. Grimshaw. bibliog Melliand 5:15-17 Ap '33

Effect of tar acids upon the wetting of wood by coal-tar oils. F. H. Rhodes and I. Erickson. il Ind & Eng Chem 25:1132-3 O '33

Measurement of degree of wetting by penetrability studies of certain fibrous dielectrics. D. A. McLean and G. T. Kohman. Elec Eng 52:104-5 F '33

**WETTING**, Heat of

Heats of wetting of cellulose acetate by aliphatic alcohols and aromatic hydrocarbons. S. E. Sheppard and P. T. Newsome. bibliog J Phys Chem 37:389-95 Mr '33

**WETTING agents**

Application of phenolic constituents of tars as wetting agents. G. T. Morgan, D. D. Pratt and A. E. J. Pettet. Soc Dyers & Col J 49: 125-7 My '33

Chemical constitution and wetting action. W. Kritchevsky. Am Dyestuff Rep 22:630-3; Discussion. 633-4 O 23 '33

Dispersaid—new wetting agent. Rubber Age 33:16 Ap '33

Examination of chemical auxiliaries in the textile trades. A. H. Pettinger. Textile Col 55:334-5 My '33

High boiling tar acids as wetting agents. Chem Ind 33:325 O '33

Manufacture of nekal; notes on a modern wetting-out agent. Chem Age (Lond) 27: 498 N 26 '32

Modern processes in wool dyeing. G. Wallace. Textile Col 55:263-6 Ap '33

Modern wetting, scouring and dyeing agents. W. W. Bray. Am Dyestuff Rep 22:247-50; Discussion. 250-2 Ap 10 '33



**WETTING agents—Continued**

- New textile wetting-out agent developed from gas plant tar. C. H. S. Tupholme. *Ind & Eng Chem News* ed 11:318 N 10 '33; Same. *Textile Col* 55:846 D '33
- Shirlacrol; abstract. G. T. Morgan, D. D. Pratt and A. E. J. Pettet. *Mech Eng* 55: 585-6 S '33
- Wetting agents in textile processing. H. A. Neville, C. A. Jeanson and A. L. Smith. *Am Dyestuff Rep* 22:541-3, 565-6, 618+ S 11-O 9 '33
- Wetting-out agents and modern mercerization methods. A. J. Hall. *Am Dyestuff Rep* 22: 623-6+ O 23 '33
- Wetting-out agents; their advantages and disadvantages. A. F. Kertess. *Soc Dyers & Col J* 49:69-70 Mr '33
- Wood creosote in mercerization; abstract. W. Pohl. *Textile Col* 55:255-6 Ap '33

See also

Gardinols

**Testing**

- Comparison of the rosette and flannel cotton methods of wetting out or sinking tests. A. H. Grimshaw. *bibliog Melland* 5:15-17 Ap '33
- Practical tests for evaluation of wetting agents. K. M. Herstein. *il Textile World* 83: 1094 Je '33
- WHALE oil**
- Whaling industry. L. Radcliffe. *bibliog il Ind & Eng Chem* 25:764-7 Jl '33
- WHALEN, Grover A.**
- Man of many jobs. *por Ptr Ink Mo* 27:8 O '33

**WHALING**

- Insuring whalers is proving profitable. *Weekly Underw* 129:51 Jl 8 '33
- Whaling control still problem for industry. *Oil Paint & Drug Rep* 123:40 Ja 2 '33; Discussion. H. O'Malley. 123:14 Ja 9 '33
- Whaling industry. L. Radcliffe. *bibliog il Ind & Eng Chem* 25:764-7 Jl '33

**WHARVES**

- Les installations maritimes de Port-Bouet et le pont-rails flottant sur la lagune d'Abidjan (Côte d'Ivoire). C. Dantin. *il diags maps Génie Civil* 102:173-9, pl 1 F 25 '33
- New marine terminal at Los Angeles. G. F. Nicholson and E. C. Earle. *il diag Eng N* 110:305-7 Mr 9 '33
- Port of Havre. *il diags plan Engineer* 155:592-5, 616-18 Je 16-23 '33

See also

Bulkheads  
Docks  
HarborsLoading and unload-  
ing—Ships  
Piers**Cost**

- Timber wharf, Albany port district; unit prices. *Eng N* 110:608 My 11 '33
- WHARVES, Concrete**
- New passenger quay and maritime station at the port of Cherbourg. B. Cunningham. *il diags map Engineering* 136:427-9, 440, 481, 482, 483 O 20, N 3 '33

**WHATLEY, S. T.**

- Aetna Life's new vice-president. C. Axman. *por East Underw* 34:3 F 10 '33

**WHEAT**

- Bread quality of wheat produced in aqueous culture media. W. F. Gericke. *Science* 77: 229-32 Mr 3 '33
- Butyric acid and butyl alcohol fermentation of hemicellulose- and starch-rich materials. S. A. Waksman and D. Kirsh. *bibliog Ind & Eng Chem* 25:1036-41 S '33
- Diskussionstagung über weizen- und weizenmehlqualität, Halle a. d. S., 27. und 28. Januar 1933. *Angew Chemie* 46:154-8 Mr 11 '33
- La fabrication industrielle du pain et ses rapports avec la production rémunératrice du blé. A. Pommier. *il plan Soc Ing Civils Bul* 86:96-114 Ja '33; Abstract. *Génie Civil* 102: 143-4 F 11 '33

How science can help to improve the nation's food supply; wheat. E. A. Fisher. *il Soc Chem Ind J (Chem & Ind)* 52:630-6 Ag 4 '33; Summary. *Chem Age (Lond)* 29:78-9 Jl 2 '33; Discussion. *Soc Chem Ind J (Chem & Ind)* 52:636-7 Ag 4 '33

- Lipases of wheat. B. Sullivan and M. A. Howe. *Am Chem Soc J* 55:320-4 Ja '33
- London wheat agreement seeks higher prices through export quotas. W. W. Case. *Analyst* 42:277+ S 1 '33
- New era opens for wheat. C. S. Burton. *Mag of Wall St* 52:569-70+ S 30 '33
- Relative viscosities of wheat starches. C. E. Mangels and C. H. Bailey. *il Ind & Eng Chem* 25:456-60 Ap '33
- Skepticism at Regina; conference of world wheat experts doubts benefits from production restriction. J. E. Boyle. *Barron's* 13:9 Ag 28 '33
- Wanted—a wheat planting moratorium. *Bradstreet's* 61:28+ Ja 7 '33
- Wheat accord; thirty-seven nations agree on vast controlled marketing scheme for wheat. *il Business Week* p22 S 2 '33
- Wheat agreement; with text. *Economist* 117: 441-2, 445-6 S 2 '33
- Wheat crop. M. K. Bennett and H. C. Farnsworth. *Science* 77:sup9 Je 9 '33
- Wheat shares. *Economist* 117:457-8 S 2 '33
- Wheat situation. *Economist* 117:4-5 Jl 1 '33
- World wheat; Australia, Argentina, Canada, and the United States ask agreement on 4 points. *Business Week* p24 Ag 26 '33

See also

Flour

**Analysis**

- Change of crude lipides of wheat on storage. B. Sullivan and C. Near. *il Ind & Eng Chem* 25:100-3 Ja '33
- Value of electrical methods for estimating the moisture content of wheat. H. E. Hartig and B. Sullivan. *bibliog diag Ind & Eng Chem Anal ed* 5:107-9 Mr 15 '33

**Marketing**

- Changes in wheat and flour trade channels. *Bradstreet's* 61:299 F 4 '33
- Hard winter wheat pools. J. G. Knapp. 180p \$1.50 Univ. of Chicago press '33
- Improving prospects for commodities. C. S. Burton. *il Mag of Wall St* 51:620-3+ Ap 1 '33
- Narrowing world market for American wheat. W. W. Case. *Analyst* 40:740-1+ D 2 '32
- What's ahead for wheat? A. Hansen. *Comm & Fin* 22:396 My 3 '33
- Wheat and the processing act. *Barron's* 13:17 My 29; 19 Jl 3 '33
- Wheat situation. *Nat City Bank* p88-90 Je '33

**Moisture content**

- Value of electrical methods for estimating the moisture content of wheat. H. E. Hartig and B. Sullivan. *bibliog diag Ind & Eng Chem Anal ed* 5:107-9 Mr 15 '33

**Prices**

- Change in the wheat picture; cost of carrying wheat futures for a speculative or investment owner. S. C. Harris. *Comm & Fin* 22:86 Ja 18 '33
- Chicago wheat futures, 1932. *Analyst* 41:100 Ja 20 '33
- Higher wheat prices—a sign of better times? C. S. Burton. *Mag of Wall St* 52:164-6+ Je 10 '33
- Wheat prices. *Business Week* p12 Ap 19 '33

**Statistics**

- Wheat, flour and cereals; wheat and flour trends. *Food Ind* 5:46-7 F '33
- Wheat outlook. *Economist* 116:396 F 25 '33

**Storage**

- Change of crude lipides of wheat on storage. B. Sullivan and C. Near. *il Ind & Eng Chem* 25:100-3 Ja '33
- March of acidity in wheat germ during storage. R. C. Sherwood and others. *Ind & Eng Chem* 25:437-40 Ap '33

**WHEAT—Storage—Continued**

Radio waves kill insect pests. J. H. Davis. *il Sci Am* 148:272-3 My '33; Abstract. *Elec J* 30:200 My '33

**Transportation**

Insurance a factor in Churchill crisis. *Weekly Underw* 129:890-1 N 11 '33

Roads count on price rise in wheat. *Barron's* 13:9 Ja 2 '33

**Canada**

Canada and the wheat agreement. *Economist* 117:529-30 S 16 '33

Canada's experience with low priced wheat. C. M. Short. *Am Bankers Assn J* 25:35+ F '33

**France**

La valeur boulangère des blés récoltés en France. *Génie Civil* 102:141-2 F 11 '33

**Great Britain**

Year of British wheat. *Economist* 117:313-14 Ag 12 '33

**Russia**

Russian wheat. *Economist* 116:1348-9 Je 24 '33  
Russia's wheat dream—an obituary. R. J. Mayer. *Barron's* 13:18-19 Mr 6 '33

**United States**

Favorable wheat outlook. F. Uhlmann. *Comm & Fin* 22:770 S 6 '33

How agricultural act affects grain industry. C. D. Sturtevant. *East Underw* 34:37 S 29 '33

Nature solves the wheat problem. *Econostat* 1:7 JI 15 '33

No less wheat; eligible growers' pledge of 15% wheat acreage nullified by ineligible farmers' new planting. *Business Week* p19 N 4 '33

Poor winter-wheat outlook. *Barron's* 12:18 D 19 '32

Processing tax on wheat. *Barron's* 13:19 JI 3 '33

Short wheat crop brings only temporary relief; surplus problem remains. W. W. Case. *Analyst* 42:179 Ag 11 '33

Voluntary domestic allotment plan for wheat. J. S. Davis. (*Wheat studies* 9) p23-62 \$1 Food research institute, Stanford University, Calif. '32

Wheat—the grower enters upon evil days. F. Greene. *il Bradstreet's* 61:184-7 Ja 28 '33

Winter wheat crop. *Science* 77:sup9 My 19 '33

**WHEATSWORTH, Incorporated****Gingerbread house**

Gingerbread castle—with concrete animal cookies. *il Am Concrete Inst J* 4:sup[News letter] 7-10 D '32

**WHEELS***See also*

Airplanes—Wheels	Grinding wheels
Automobiles—Wheels	Locomotives—Wheels
Car wheels	Motor trucks—Wheels
Flywheels	Pulleys
Gearing	Tires
	Turbines

**WHEELS, Steel**

Locomotive and car wheels. C. T. Ripley. *diags Ry Age* 95:19-20 JI 1 '33

**Manufacture**

New heat treatment for carbon steel locomotive castings. A. W. Gregg. *il Iron Age* 131:192-3+ F 2 '33

Precision control features heat treating of wrought steel wheels. *il Iron Age* 132:24-5+ Ag 17 '33; Same. *Steel* 93:25-7 Ag 14 '33

**WHISKY**

Seven hundred barrels of whiskey a day; distilling increasing in Kentucky and so does premium volume. *Spectator* 131:29 JI 20 '33

Whiskey; companies which will run the newest U.S. business and the conditions under which it will be run. *il Fortune* 8: 28-47+ N '33

Whisky gambling vexes insurance. *Nat Underw* 37:3+ JI 27 '33

**WHISTLES**

Elektrischer luftschallsender für tiefe töne. G. Sütterlin. *diag Zeit Ver Deutsch Ing* 77:807-8 JI 22 '33

**WHITE, Andrew Dickson, 1832-1918**

Story of assignats and greenbacks. *Nat City Bank* p174-9 N '33

**WHITE, Roy Barton, 1883-**

Western union telegraph company chooses White for president. *por Ry Age* 94:699 My 13 '33

**WHITE**

Surroundings can fool you on colors of paper or ink samples. E. K. Hunt. *il Inland Ptr* 90:23-5 F '33

*See also*

Blancometer

**WHITE lead**

Comments on lead pigments. J. A. Schaeffer. *Oil Paint & Drug Rep* 123:14 Mr 20 '33

Lead absorption and excretion in certain lead trades. R. A. Kehoe, F. Thammann and J. Cholak. *bibliog J Ind Hygiene* 15:306-19 S '33

**WHITE metals**

Analysis of white metals and their smelter products. H. Neubert. *Ind & Eng Chem Anal ed* 5:60-1 Ja 15 '33

Arsenic in lead-base bearing metals. *Engineer* 155:sup[Metallurgist] 11-13 F 24 '33

Comparison of certain white-metal bearing alloys particularly at elevated temperatures; abstracts. C. E. Swartz and A. J. Phillips. *Iron Age* 132:22 JI 13 '33; *Steel* 93:31 JI 10 '33

Mechanical properties of white-metal bearing alloys at different temperatures. H. K. Herschman and J. L. Basil. *il diags Am Soc T M Proc* 32 pt 2:536-55; Discussion. 556-7 '32

Smelting of complex white metal residues. *Chem Age (Lond)* 28:sup17-18 Mr 4 '33

White bearing metals. E. Fleischmann. *diag Engineer* 154:sup[Metallurgist] 182-4 D 30 '32; 155:sup[Metallurgist] 27-30 Ap 28 '33

**WHITE mountains**

Date of local glaciation in the White mountains. D. Johnson. *Am J Sci* 5th ser 25:399-405 My '33

**WHITE water. See Paper mills—Waste****WHITING****Manufacture**

Modern chemical plant. J. A. Reavell. *il Soc Chem Ind J* 52:138T-9T My 19 '33

**WHITLEY councils**

Whitley councils in the British civil service. L. D. White. 357p \$4.50 Univ. of Chicago press '33

**WHITNEY, Willis Rodney**

American contemporaries. L. A. Hawkins. *por Ind & Eng Chem* 25:1058-9 S '33  
Tribute. E. W. Rice, jr. *por Gen Elec R* 36:2-6 Ja '33

**WHOLESALE dry goods institute**

Annual convention, New York. *Textile World* 83:224-5 F 14 '33

**WHOLESALE trade****Statistics**

Why wholesale volume is larger than retail. L. D. H. Weld. *Ptr Ink* 163:53-6 My 25 '33

**WHOLESALEERS. See Jobbers****WIDIA. See Tungsten carbide****WIDMANSTÄTTEN structure**

Some observations concerning the Widmanstätten structure and its formation in hypoeutectoid steels. A. P. Terrile. *il Am Soc Steel Tr Trans* 21:613-22 JI '33

**WIDOWS****Remarriage***See Marriage—Statistics***WIGGIN, Albert H.**

Quizzed on B.-M. T. Sinclair, and Chase sales. *por Barron's* 13:17 N 6 '33

**WIGNER, Eugen Paul**

Comparison of the nuclear theories of Heisenberg and Wigner. C. Eckart. *Phys R* 44: 109-11 JI 15 '33



**WIJS solution**

Study of the high-precision determination of iodine values by the Wijs method. L. J. F. Keffler and A. M. Maiden. *Soc Chem Ind J* 52:242T-5T Ag 11 '33

**WILD life sanctuaries**

See also

Boulder Canyon lake wild life refuge

**WILLARD, Thomas H.**

Medical director of Metropolitan Life to retire. *por East Underw* 33:44-5+ D 9 '32

**WILLIAMS, Robert Arthur, 1882-1932**

Sketch. *por Electrician* 110:339 Mr 10 '33

**WILLIAMS Deacon's bank limited**

Annual meeting of the shareholders, Manchester. *Economist* 116:267-8 F 4 '33

**WILLIAMSBURG, Virginia**

Restoration of Williamsburg. B. W. Norton. *il Manuf Rec* 102:20-2 F '33

**WILLING, Thomas, 1731-1821**

First American bank president. J. Hanna. *por Am Bankers Assn J* 26:26-7+ N '33

**WILLS**

Estate planning as affected by legal considerations. C. F. Gore. *Trust Companies* 57:167-71 Ag '33

Guarding against loss or lapsation of potential personal trust business. H. J. Clark. *Trust Companies* 56:671-4 Je '33

Joy of work and other precious bequests. J. Barrie. *Trust Companies* 56:239 F '33

Law of wills in Pennsylvania. A. J. W. Hutton. 598p Soney & Sage co, Newark, N. J. '33

More and better wills; testamentary benefactions. A. W. Anthony, ed. 108p \$1 Committee on financial and fiduciary matters of the Federal council of the churches of Christ in America, New York '33

Practical treatise on the law of wills and administration of estates in Florida. D. H. Redfean. 829p \$15 Harrison co, Atlanta, Ga. '33

Reminding customers to revise their wills. C. Alexander. *Trust Companies* 55:670 D '32

Symposium on revising the will. *Trust Companies* 55:521-7 N '32

Wills, executors and trustees. W. J. Grange, W. A. Staub and E. G. Blackford. 844p \$7.50 Ronald press '33

Wills; to induce property owners to make wills is a constructive step for all trust institutions. *il Am Bankers Assn J* 25:26-7+ My '33

Writing of adequate wills—losses incurred by intestacy. C. R. Smith. *Trust Companies* 56:577-80 My '33

See also

Estates, Decedents' Perpetuities  
Executors and administrators Probate law

**WILLSON products, incorporated**

Manufacturing business nearly five generations old. *il Nat Safety N* 28:66 S '33

**WILLSTÄTTER, Richard, 1872-**

Chemist's retrospects and perspectives. *Ind & Eng Chem News* ed 11:275-6 S 20 '33; Same. *Science* 78:271-4 S 29 '33

Portrait. *J Chem Educ* 10:517 S '33

Willard Gibbs medal is awarded Dr Willstaetter. *Oil Paint & Drug Rep* 123:16 Ap 17 '33; Chemicals 38:4 Ap 17 '33; Science 77:385-6 Ap 21 '33

**WILLYS-OVERLAND company**

Priority for back pay asked by W-O workmen. *Automotive Ind* 68:356 Mr 18 '33

Receivership. *Automotive Ind* 68:204+, 262+, 290 F 18-Mr 4 '33

Receivership. *Barron's* 13:21 F 20 '33

Reorganization plan calls for \$2,500,000 new cash and security exchange. *Automotive Ind* 69:22+ J1 1 '33

Willys gets court OK on 2,500 units. *Automotive Ind* 68:660 My 27 '33

Willys operations approaching crisis. *Automotive Ind* 68:685 Je 3 '33

**WILMINGTON, Delaware****Water supply**

Double pumping—to and from a storage reservoir. W. C. Wills. *il Water Works & Sewerage* 80:32-3 Ja '33

Edgar Hoopes reservoir assures Wilmington's future water supply. M. J. Walsh. *il Explosives Eng* 11:7-9 Ja '33

**WILSON and company**

Report for year ended October 29. *Barron's* 13:16 Ja 16 '33

**WILSON cloud chamber**

Failure to detect the radioactivity of beryllium with the Wilson cloud chamber. D. M. Gans, W. D. Harkins and H. W. Newson. *Phys R* 44:310 Ag 15 '33

Measurement of the range of alpha-particles from thorium with the Wilson chamber. F. N. D. Kurie and G. D. Knopf. *Phys R* 43:311-14 Mr 1 '33

Technique and design of Wilson cloud-chambers. O. Dahl, L. R. Hafstad and M. A. Tuve. *il diags R Sci Instr* 4:373-8 J1 '33

**WIMSHURST static machine. See Electric machines****WINCHELL, Luther Francis, 1892-**

General manager, Hinde & Dauch paper co. of Canada. *por Pulp & Pa of Can* 34:260 Ap '33

**WINCHES**

British company, Clarke, Chapman & co. develops new type of winch. *Marine R* 63:31 S '33

**WINCHES, Electric**

Clarke, Chapman 8-ton electric mooring winch for floating crane. *il Engineering* 136:277 S 8 '33; Engineer 156:216 S 1 '33

Garbage loading plant at a Thames side wharf. *il Mech Handling* 20:258-9 Ag '33

Stothert and Pitt electrically-operated haulage winch. *diags Engineering* 136:424 O 13 '33

**WIND gaps**

Windgaps and erosion surfaces. K. Ver Steeg. *Am J Sci* 5th ser 26:507-11 N '33

**WIND meters. See Anemometers****WIND power**

Wind-rotor experiments decidedly satisfactory. *il Elec W* 102:548 O 28 '33; System 62:501 N '33

**WIND pressure**

Calculations for the design of bubble tower foundations. W. C. Edmister. *diag chart Nat Pet N* 25:35-6 F 15 '33

Einwirkung von windstößen auf hohe bauwerke. E. Rausch. *Zeit Ver Deutsch Ing* 77:433-6 Ap 29 '33

Portal effect on top-chord stresses. B. J. Lambert. *diag Civil Eng* 3:330-1 Je '33

Wind bracing. A. Smith. *diags W Soc E J* 38:1-18 F '33

Wind bracing in steel buildings; Am. Soc. C. E. structural division's subcommittee no. 31 third progress report. *Civil Eng* 3:145 Mr '33

Wind pressure on a model of the Empire State building. H. L. Dryden. *Eng & Contr* 71:276-7 D '32

Wind pressure on a model of the Empire State building. H. L. Dryden and G. C. Hill. *diags pl U S Bur Stand J Research* 10:493-523 Ap '33

Wind pressure on buildings. O. Flachschart. *Civil Eng* 3:457 Ag '33

Wind-stress analysis and moment distribution; Cross method. R. Fleming. *Eng N* 110:194-5 F 9 '33

Wind stress analysis simplified. L. E. Grinter. *Am Soc C E Proc* 59:3-27 Ja '33; Discussion. 59:692-707, 885-93, 1192-4 Ap-May, S '33

Wind stresses by slope deflection and converging approximations. J. E. Goldberg. *Am Soc C E Proc* 59:763-76 My '33; Discussion. 59:1050-3; 60:103-6 Ag '33, Ja '34

See also

Air resistance  
Anemometers

**WIND tunnels**

Delicate instruments tame wild airplanes; work of Dr A. L. Klein at the California institute of technology. A. R. Boone. *il Sci Am* 148: 12-13 Ja '33

High-pressure wind tunnel at Teddington. *il diags plan Engineer* 155:268-9, 291-3 Mr 17-24 '33

N.A.C.A. variable-density wind tunnel. E. N. Jacobs and I. H. Abbott. bibliog *il diags U S Nat Advisory Com for Aeronautics* 1932:305-14 '33

National physical laboratory; aerodynamics department. *diags Engineering* 136:147, 209-11 Ag 11, S 1 '33

New methods of research in aeronautics. H. E. Wimperis. *il diags Roy Aeronautical Soc J* 36:991-1011 D '32

7 by 10 foot wind tunnel of the National advisory committee for aeronautics. T. A. Harris. *il diags U S Nat Advisory Com for Aeronautics* 1932:241-7 '33

Testing airplanes without human risk. *il Comp Air M* 38:4129 My '33

Theory of wind-tunnel wall interference. T. Theodorsen. *U S Nat Advisory Com for Aeronautics* 1932:219-27 '33

Tunnel for spin study. *il Sci Am* 149:227-8 N '33

Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. F. E. Weick and others. bibliog *U S Nat Advisory Com for Aeronautics* 1932:357-80, 457-503, 719-34 '33

Wind-tunnel tests of a Clark Y wing with a narrow auxiliary airfoil in different positions. F. E. Weick and M. J. Bamber. bibliog *diags U S Nat Advisory Com for Aeronautics* 1932:537-48 '33

Wind tunnel tests of locomotive models; abstracts. J. J. Green. *il diags Engineer* 155: 385-6 Ap 14 '33; *Ry Mech Eng* 107:149-54, 204-11 My-Je '33; *Mech Eng* 55:315-16 My '33; *Ry Age* 94:695-8 My 13 '33

**WINDGAPS.** See Wind gaps

**WINDING**

Departmental analysis effects economies in winding silk and rayon in Germany. O. Bitzenhofer. *Textile World* 83:220-1 F 14 '33

Knitting cellophane; producing imitation-straw fabrics on circular latch-needle machines. J. H. Lepperhoff. *il diags Textile World* 83:1084-5 Je '33

Periodic variations in hank processed yarn, and the patterns produced by them in stocking fabrics. D. A. Clibbens and A. Geake. *pls Textile Inst J* 24:T221-32 Je '33

Variable-feed mechanism for cable-winding guide. C. Haggerty. *il diags Mach* 40:20-1 S '33

Winding for the hosiery trade. T. A. Purt. *Textile Inst J* 23:P257-61 N '32

See also

Reels

**WINDING engines**

Deceleration governor for winding engines. *il diags Engineering* 135:113, 114-15 Ja 27 '33

**WINDING machines**

High-speed woolen dressing. *il Textile World* 83:599 Mr '33

Machine for winding springs of vitreous silica. H. W. Weinhart. *il R Sci Instr* 4:350-2 Je '33

Multiple coil winding. *il Elec R (Lond)* 112: 68 Ja 13 '33

See also

Paper winders

**WINDOW cleaning**

Safety devices and measures

Safe methods in cleaning windows. R. B. Northrup. *il Safety Eng* 66:117-18+ O '33

Window cleaning. *Safety Eng* 65:126 Ap '33

**WINDOW display.** See Show windows**WINDOWLESS construction**

Windowless paper mill; Blandin paper co, Grand Rapids, Minn. A. E. Montgomery. *Paper Tr J* 96:38-9 Je 15 '33

Windowless paper mill heated with ventilation exhaust. A. J. Kull. *il Power* 77:520 O '33

**WINDOWS**

Casement and double-hung window in frame wall; working drawings. J. G. Stewart. *Architecture* 67:41 Ja '33

Casement window in brick and hollow tile wall, opening in; working drawings. J. G. Stewart. *Architecture* 66:349 D '32

Glass for protection from infra-red radiation. E. H. Hobbie. *il Illum Eng Soc Trans* 28: 658-64 S '33; Discussion. 28:781-6 N '33

Windows—and their relation to air conditioning problems. W. W. Shaver. *diags Refrig Eng* 26:133-6 S '33

Windows for residential, public and commercial buildings. E. E. R. Tratman. *diags Arch Rec* 74:238-46 S '33

See also

Glass Windowless construction  
Show windows  
Stained glass

**WINDS**

\$265,000,000 lost by windstorms in 5 years. East Underw 34:22 Ap 7 '33

See also

Hurricanes

**WINDSHIELDS.** See Automobiles—Windshields**WINDSOR, Ontario**

Water supply

Meter rates in Windsor. G. C. Storey. *Can Eng* 64:49-51; Discussion. 51-3 Mr 28 '33

Water supply of the city of Windsor, Ont. *Can Eng* 63:23-5 N 15 '32

**WINE**

Future of wine. Fortune 7:6+ My '33

Refrigeration of wines stored in large caves in Marseille; abstract. L. Dumolin. *Refriger Eng* 24:360 D '32

Wine rampage; multitudes rushing into the wine business. *il Business Week* p20-1 N 4 '33

Analysis

Determination of alcohol and extract in wine by means of the density and refractive index. W. Newton and F. L. Munro. *Can Chem & Met* 17:119-20 Je '33

**WING, Joan E.**

She knows why millions of customers stop buying. R. Arell. *por Sales Management* 32: 476+ My 1 '33

**WINNETKA, Illinois**

Water supply

Mechanical agitation by motor driven paddles at Winnetka. C. Leopold. *il plans Water Works & Sewerage* 80:103-4 Mr '33

**WINNIPEG, Manitoba**

Bridges

Salter Street viaduct over C.P.R. tracks at Winnipeg. H. N. Halland. *il diags Can Eng* 64:5-8 F 21 '33

Rapid transit

Service regularity in winter makes satisfied customers. D. J. Graham. *il Transit J* 77: 86-7 Mr '33

Water supply

Meter rate method of charging. T. H. Hooper. *Can Eng* 64:46-8 Mr 28 '33

New pumping station and reservoir at the Winnipeg water works. H. N. Halland. *il plan Can Eng* 65:11-14 J1 18 '33

**WINNIPEG grain exchange**

Winnipeg exchange votes to move. *Comm & Fin* 22:316 Ap 5 '33

**WINOOSKI river**

Building large earth dams with C.C.C. labor; Winoski River flood-control project in Vermont. *il diags Eng N* 111:551-6 N 9 '33

**WINTER**

Reason for winter exercise. C. H. Watson. *Nat Safety N* 27:60 F '33

**WINTER construction**

Building sewers in winter with city welfare labor; Duluth, Minn. *Eng N* 110:81 Ja 19 '33



**WINTER construction—Continued**

Winter worries PWA; Ickes sends out cold-weather warnings. *Business Week* p18 N 11 '33

*See also*

Concrete construction in winter

**WINTERA colorata**

Dehydrogenation of the sesquiterpenes of wintera colorata. J. Melville. *Am Chem Soc J* 55:2462-5 Je '33

**WIRE**

Materials for cold heading; structure more important than composition. H. B. Pulsifer. *il Metal Prog* 23:13-17 Mr '33  
Plain wire, 1912-1932, market history; tabulation. *Steel* 92:119 Ja 2 '33  
Removal of corrosion products from iron. T. J. Finnegan and R. C. Corey. *Ind & Eng Chem Anal ed* 5:89-90 Mr 15 '33

*See also*

Cables Trolley wire  
Electric wire Wire rope  
Telephone wire

**Manufacture**

Continuous process for galvanizing wire is simplified by new flux. W. N. Spowers, jr. *Steel* 92:99 Ja 2 '33  
Fabricating tungsten wire. *il Metal Ind* 31:247 Ji '33  
Ford draws own wire at Rouge plant. *il Iron Age* 131:166-7 Ja 26 '33  
Friction causes high loss of power in wire drawing discussed at Wire association's meeting, Detroit. *Steel* 93:42 O 9 '33  
Gas in the wire drawing industry. J. Bradbury. *Gas J (Lond)* 201:199-201 Ja 25 '33; Discussion. 201:263-4 F 1 '33  
Mehrfachdrahtzüge. H. Meyer auf der Heyde. *Stahl & Eisen* 53:1064-5 O 12 '33  
Wire association 3d annual meeting, Buffalo; abstracts of papers. *Steel* 91:31 N 28 '32  
Wire for resistance furnaces. A. G. Arend. *Elec R (Lond)* 113:248 Ag 25 '33

*See also*

Wire drawing machines

**Specifications**

Wire and sheet-metal gage applications; data sheet. *Mach* 39:248A D '32

**Testing**

Apparatus for static and dynamic tensile and compression tests for wire and wire rope. *il diags Engineering* 135:432-3 Ap 21 '33  
Durosokop adapted for wire hardness testing. *il Iron Age* 131:512-13 Mr 30 '33  
New electron tube device locates cracks in wire and tubing. *il Metal Ind* 31:178 My '33  
New form of fatigue testing-machine for wire. *il Engineering* 135:567 My 26 '33  
Testing of rope wire and wire rope. A. V. de Forest and L. W. Hopkins. *il diags Am Soc T M Proc* 32 pt 2:398-412 '32; Abstract. *Mech Eng* 54:873-4 D '32

**WIRE, Brass****Testing**

Heading properties of brass wire as it varies with composition and temper. D. K. Crampton. *il diags Metal Prog* 23:20-4 Mr '33

**WIRE, Copper**

Commercial copper wires; properties, national electrical code ratings and required conduit sizes; data sheet. *Power* 77:84 F '33  
Copper wire scrap. R. G. Arend. *Engineer* 156:71 Ji 21 '33  
Reclamation of copper wire. *il N E L A Bul* 20:66-9+ F '33

Treatment of copper wire scrap. E. R. Thews. *diag Engineer* 155:381-2 Ap 14 '33

**Manufacture**

Experiments in wire-drawing; annealing of h.c. copper wires drawn to varying degrees of hardness; abstract. W. E. Atkins and W. Cartwright. *Soc Chem Ind J (Chem & Ind)* 52:763-4 S 22 '33; Same. *Metal Ind* 31:335 O '33; Same. *Engineer* 156:308 S 29

'33; Same. *Engineering* 136:419 O 13 '33; Same abr. *Chem Age (Lond)* 29:270 S 23 '33; Discussion. *Engineer* 156:308 S 29 '33; *Engineering* 136:419-20 O 13 '33

**Testing**

Oxygen-free high-conductivity copper; its properties and uses; abstract. S. Rolle and P. H. Brace. *il Min & Met* 14:340-1; Discussion. 341-5 Ag '33

**WIRE, Steel**

Drawn and extruded shaped bars and wire. *il diags Mach* 40:88-91 O '33  
New extras on wire products favor buyer. *Iron Age* 132:26AA-26CC S 21 '33  
Reliability of oil tempered vs. cold drawn wire. A. T. Adam. *Metal Prog* 23:46-7 Ja '33  
Some factors affecting the physical properties and corrosion resistance of 18-8 Cr-Ni steel wire; abstract. W. H. Wills and J. H. Findley. *Iron Age* 132:29 O 12 '33  
X-ray studies of steel wires of medium carbon content. N. P. Goss and G. L. Clark. *il Am Soc Steel Tr Trans* 20:471-9 N '32

*See also*

Wire rope

**Manufacture**

Basic open-hearth carbon steel for cold heading—ingot to wire; abstract. A. B. Arganbright. *Iron Age* 132:30 O 12 '33  
Cold working properties of wire are reduced by pearlite. B. L. McCarthy. *il Metal Prog* 22:19-23 D '32  
Eliminates dross and reduces zinc contamination in galvanizing. W. H. Spowers, jr. *il Steel* 93:23-5 Ji 24 '33  
Improves wire baker economy with refractory combustion chamber formed from silicon carbide tile. *diag Steel* 93:32 S 18 '33  
New process for cold drawing of metals; Duddzeele. C. L. Mantell. *Iron Age* 131:99+ Ja 12 '33  
Requirements of steel for cold heading. H. W. Graham. *il Metal Prog* 24:22-6 Ag '33  
Steel wire drawing. R. Saxton. *il Engineering* 135:608-9 Je 2 '33  
Umbau einer ausländischen drahtstrasse. F. Braun. *diags Stahl & Eisen* 53:1084-6 O 19 '33

**Testing**

Einfluss der glühtemperatur auf die ziehbarkeit von stahlendraht. A. Pomp and B. Zapp. *Stahl & Eisen* 53:656 Je 22 '33  
Einfluss des kaltziehens auf magnetische und elektrische eigenschaften von stahlendraht. B. G. Liwischitz. *diag Stahl & Eisen* 53:509 My 11 '33  
Embrittlement by pickling not necessarily permanent. I. G. Slater. *Iron Age* 132:72+ O 12 '33  
George Washington bridge; materials and fabrication of steel structure. H. J. Baker. *il diags Am Soc C E Proc* 59:298-307 F '33  
Heat treated wire tested under steady load. H. F. Moore. *il Metal Prog* 24:45-6 S '33  
Testing of wire for mining ropes. R. Saxton. *Mech Handling* 20:293 S '33  
Wire line ties for bottom hole instruments are studied by U. S. Bureau of mines engineers. B. E. Lindsly, L. D. Jones and R. C. Lisk. *diags Oil & Gas J* 32:9-11 Ag 17 '33

**WIRE, Tungsten**

Fabricating tungsten wire. *il Metal Ind* 31:247 Ji '33

**WIRE association**

Annual meeting, 3d, Buffalo, Oct. 3-7. *Steel* 91:31 N 28 '32  
Annual meeting, 4th, Detroit, Oct. 3. *Steel* 93:42 O 9 '33

**WIRE cloth**

Need for efficient machinery guards; wire mesh and perforated metal. *il Chem Age (Lond)* 28:576-7 Je 24 '33  
Talks with farmers guide this sales manager's sales plan; D. D. Strite, New York wire cloth company. J. A. Murphy. *Sales Management* 33:263-4 S 15 '33

**WIRE cutting machines**

Lewis no. 8-C automatic wire straightening and cutting machine. *il Am Mach* 77:414 Je 21 '33; *Iron Age* 131:1044 Je 29 '33

**WIRE drawing machines**

- Immersed-die wire-drawing machine. *il Engineering* 135:208, pl 10 F 24 '33  
 Robertson high-speed wire-drawing machine. *il Engineering* 136:99-100 J1 28 '33; *Engineer* 156:95 J1 28 '33

**WIRE forming machines**

- Automatic transfer for duplex wire-forming die. A. Suter. *diags Mach* 40:134-6 N '33  
 Automatic wire-forming machine. *il diags Engineer* 155:60-3, 70 Ja 20 '33; *Abstract. Génie Civil* 103:235-7 S 2 '33  
 Double lever mechanism provides synchronized strokes of unequal length. L. Kasper. *diags Mach* 40:19-20 S '33  
 Mechanism for adjusting crank throw of wire-forming machine. L. Kasper. *diags Mach* 39:707-8 J1 '33

**WIRE machinery builders association**

- Organization. *Am Mach* 77:564f Ag 30 '33

**WIRE rope**

- Bending stresses in wire ropes analyzed. H. M. Hall. *Can Eng* 65:9-10 Ag 8 '33  
 Care of wire ropes. J. B. Petrie. *diags Can Min J* 54:181-3 My '33; *Excerpt. Pulp & Pa of Can* 34:324 My '33  
 Chart shows many years of elevator rope life. *Power* 77:130-1 Mr '33  
 Drahtseilforschung. R. Woernle. *il diags Zeit Ver Deutsch Ing* 77:799-803 J1 22 '33  
 Effects of bending wire rope. F. C. Carstarphen. *diags Am Soc C E Proc* 57:1439-66 D '31; *Discussion. 58:659-72, 810-21; 59:183-91 Ap-My '32, Ja '33*  
 La fabrication et la surveillance des câbles d'extraction. *Génie Civil* 101:483-4 N 12 '32  
 George Washington bridge; materials and fabrication of steel structure. H. J. Baker. *il Am Soc C E Proc* 59:307-11 F '33  
 Get the most out of your maintenance dollar when spent on wire ropes for electric hoists and cranes. C. E. Schirmer. *Maintenance Eng* 91:39-40 F '33  
 Hoist design and construction. L. Eaton. *il Eng & Min J* 133:625-6 D '32  
 Large uses of steel in small ways; wire rope highway guards. *il Steel* 93:38 Ag 7 '33  
 Mechanical braking and its influence on winding equipment. J. F. Perry and D. M. Smith. *il diags Inst Mech Eng Proc* 123:537-602 '32; *Same cond. Engineering* 134:608-11, 663-5, 696-8 N 18, D 2-9 '32; *Discussion. Inst Mech Eng Proc* 123:603-20 '32  
 Proper selection of wire rope for rotary rig can be made a relatively easy problem. A. S. Rairden. *il diags Oil & Gas J* 31:33-5 D 1 '32  
 Röntgennachweis der inneren korrosion von drahtseilen. R. Glocker, P. Wiest and R. Woernle. *il Stahl & Eisen* 53:758-61 J1 20 '33; *Abstract (X-ray examination of wire ropes). Engineer* 156:sup [Metallurgist] 58 Ag 25 '33  
 Shaft hoist rope calculations. H. M. Hall. *Can Min J* 54:108-9 Mr '33  
 Short-span suspension bridge uses pre-stressed rope cables; Lewis River crossing near Yale, Wash. H. O. Blair. *il diags Eng N* 111:70-1 J1 20 '33  
 Testing of wire for mining ropes. R. Saxton. *Mech Handling* 20:293 S '33  
 Versuche an drahtseilen. F. List. *Zeit Ver Deutsch Ing* 76:1297-8 D 31 '32  
 Wire mining ropes. R. Saxton. *diags Mech Handling* 20:91-2 Mr '33  
 Wire rope inspection and maintenance rules adopted by Susquehanna collieries co. *Coal Age* 38:100-1 Mr '33  
 Wire ropes for mines. C. D. Meals. *il Can Min J* 53:305-11; 54:63-6 J1 '32, F '33

*See also*

Cables

**Advertising**

Sound picture is selling talk for wire rope. *Ptr Ink* 164:60-1 S 14 '33

Yes, even against odds, steady effort wins; American cable co. J. O. Lashar. *il Ptr Ink* 163:64-6 My 18 '33

**Cleaning**

Cleaning winding ropes. *diags Can Min J* 54:144 Ap '33

**Failure**

- Experiments on wire ropes. E. List. *diag Mech Handling* 20:79-81 Mr '33  
 Testing of rope wire and wire rope. A. V. de Forest and L. W. Hopkins. *il diag Am Soc T M Proc* 32 pt 2:398-412 '32; *Abstract. Mech Eng* 54:873-4 D '32

**Inspection**

- Yardstick for wire-rope safety. *il diag Power* 77:524-6 O '33

**Lubrication**

- Cleaning winding ropes. *diags Can Min J* 54:144 Ap '33  
 Lubricating of wire rope. A. J. Morgan. *Power* 77:430-1 Ag '33  
 Lubrication of endless-rope haulage lines. *diag Eng & Min J* 133:617 D '32  
 Macwhythe co. wire rope. *il Rock Prod* 36:87 Ag '33

**Repair**

- Hoisting rope repair. *diags Eng & Min J* 134:369 S '33

**Testing**

- Apparatus for static and dynamic tensile and compression tests for wire and wire rope. *il diags Engineering* 135:432-3 Ap 21 '33  
 Experiments on wire ropes. E. List. *diag Mech Handling* 20:79-81 Mr '33  
 Testing of rope wire and wire rope. A. V. de Forest and L. W. Hopkins. *il Am Soc T M Proc* 32 pt 2:398-412 '32; *Abstract. Mech Eng* 54:873-4 D '32

**WIRE rope fastenings**

- Wire rope sockets are drop forged to finished size. T. J. Black. *il Steel* 92:27 Mr 27 '33

**WIRELESS telegraph.** *See* Radio telegraph

**WISCONSIN**

- County zoning for agriculture, forestry, and recreation in Wisconsin. W. A. Rowlands. *maps J Land & Pub Util Econ* 9:272-82 Ag '33

**Industrial commission**

- Industrial commission of Wisconsin. A. J. Alt-meyer. *Wis U Studies in the Social Sciences and History* no 17:1-324 '32 (\$1.50)

**WISCONSIN alumni research foundation**

- Grants-in-aid to the University of Wisconsin for next year. *Science* 78:6-7 J1 7 '33

Wisconsin alumni research foundation; basic patent on inorganic compounds of iron and copper for the prevention and treatment of anemia. *Science* 77:44 Ja 13 '33

**WISCONSIN association of insurance agents**

- Annual meeting, 35th, Fond Du Lac, Wis. *Nat Underw* 37:18-23 O 26 '33

**WISCONSIN concrete products manufacturers' association, inc.**

- Organization. *Concrete* 41:10 O '33

**WISNER, George Monroe, 1870-1932**

- Sketch. *W Soc E J* 37:348-9 D '32

**WITHERITE**

- Processing witherite; an uncommon barium mineral. H. C. Meyer. *il Eng & Min J* 134:283-4 J1 '33

Witherite as a chemical raw material. H. C. Meyer. *Chem Markets* 32:317-19 Ap '33

**WOLLASTONITE**

- System, CaO-FeO-SiO<sub>2</sub>. N. L. Bowen, J. F. Schairer and E. Posnjak. *il diags Am J Sci* 55th ser 26:193-284 S '33

**WOMAN**

- Women in the twentieth century. S. P. Breckinridge. 364p McGraw-Hill '33

Women of means as prospects for trust business. H. J. Clark. *Trust Companies* 55:711-13 D '32

*See also*

- Advertising—Wom- Husband and wife  
 en, Appeal to Women as purchasers  
 Education of women

**Employment**

- Comparative study of the output of men and women; abstracts. D. Vampa and P. Guidi. *Int Management Inst Bul* 7:107 J1 '33; *Monthly Labor R* 37:850 O '33; *Génie Civil* 103:358-9 O 7 '33



**WOMAN**—Employment—*Continued*

- Connecticut sweatshops; needle-trades employees escape New York's unions and labor laws by moving to metropolitan suburbs. *Business Week* p20+ Ja 11 '33
- Economic depression and the employment of women. M. Thibert. *Int Labour R* 27:443-70, 620-30 Ap-May '33
- Effectiveness of new cannery code in New York state. *Monthly Labor R* 37:284-6 Ag '33
- Effects on women of changing conditions in the cigar and cigarette industries. C. Manning and H. A. Byrne. *U S Women's Bur Bul* 100:1-184 '32
- Employment of women in Soviet industry. *Int Labour R* 26:704-7 N '32
- Employment of women in vitreous enameling. E. L. Best. pls *U S Women's Bur Bul* 101:1-61 '32
- Girl and her job; a handbook for beginners. E. E. Brooke. 139p \$1 Appleton '33
- Industrial injuries to women in 1928 and 1929 compared with injuries to men. M. Correll. *U S Women's Bur Bul* 102:1-33 '33
- Marital condition of gainfully occupied women in 1930. *Monthly Labor R* 35:1313-14 D '32
- Minimum wage for women in Canada. *Monthly Labor R* 37:860-2 O '33
- Movements of wages in different industries and occupations. *Int Labour R* 26:728-38 N '32
- Registration of woman workers under minimum-wage law of Quebec. *Monthly Labor R* 37:66 JI '33
- Restriction on employment of women and children in Japanese mines. *Monthly Labor R* 37:848-9 O '33
- Safety for women workers. M. Anderson. *il Nat Safety N* 27:25-7 F '33
- Why we need a minimum wage law. F. Perkins. *il Nation's Business* 21:23-4+ JI '33
- Women workers in the third year of the depression. *U S Women's Bur Bul* 103:1-13 '33; Abstract. *Monthly Labor R* 37:303-5 Ag '33
- Women's work under labour law. 264p World peace foundation '32
- Work of Massachusetts minimum wage commission. *Monthly Labor R* 35:1311-12 D '32

*See also*

Saleswomen

Shirt factories—Employees

Law

*See also*

Husband and wife

**Occupations**

- After college—what? C. G. Woodhouse, ed. 200p Institute of women's professional relations, North Carolina college for women, Greensboro, N.C. '32
- Girl and her future. H. Hoerle. 361p \$2 Harrison Smith and Robert Haas, New York '32
- Occupational progress of women, 1910 to 1930. M. V. Dempsey. *U S Women's Bur Bul* 104:1-87 '33
- Occupations and earnings of women in chemistry; with special reference to academic degrees. H. L. Wikoff. *Ind & Eng Chem* 25:467-72 Ap '33
- One hundred and one ways to make more money in spare time at home. Z. Packard, comp. 104p Blue-Star publishing co, New York '32
- Something new—conductorettes; Washington motor coach company. *il Bus Transportation* 12:159 Ap '33
- 300 careers for women. V. Biscoe. 227p L. Dickson ltd, London '32
- Vocations for women. A. Peirce. 329p Macmillan '33
- Women of the industry; portraits. Heat & Ven 30:36-7 Mr '33

**WOMAN'S home companion (periodical)**Women: 1873-1933. *Ptr Ink* 165:96-7 O 26 '33**WOMEN as bankers**Women in banking. *Am Bankers Assn J* 26:69 S '33**WOMEN as purchasers**

- Appealing to the feminine buyer. A. Freeburg. *Am Gas J* 138:19-21 Ja '33
- Selling gas to Martha and Mary. G. Gardner. *Gas Age* 70:621-2+ D 10 '32
- Tests women apply when they buy things. L. Crosby. *il Ptr Ink Mo* 26:13-15+ My '33
- What women buy—and why; abstracts. H. C. Link. *Adv & Sell* 22:34 N 9 '33; *Ptr Ink* 165:37+ N 9 '33

*See also*Advertising—Women,  
Appeal to**WOMEN as scientists**

- Association to aid scientific research by women; origin and termination. H. J. Crawford. *Science* 76:492-3 N 25 '32

**WOMEN as stockholders**

- Management and women stockholders. *Ptr Ink* 163:40-1 Ap 27 '33

**WOOD, Alan, steel company**

- One of the oldest manufacturers of iron and steel in the United States. C. Longenecker. *il plans Blast F & Steel Pl* 21:53-60 Ja '33

**WOOD, W. E.**

- Portrait. *Transit J* 77:376 O 10 '33

**WOOD**

- Action of salt solutions on wood cellulose. E. Richter. *Ind & Eng Chem* 25:316-18 Mr '33
- Chemical utilization of wood. 151p U.S. National com. on wood utilization, Washington '32
- Chemistry of wood; water-soluble polysaccharide of eastern larch. L. E. Wise, P. L. Harner and F. C. Peterson. *bibliog Ind & Eng Chem* 25:184-7 F '33
- Cooking process; cooking wood with sodium sulfate. S. I. Aronovsky and R. A. Gortner. *il Ind & Eng Chem* 25:305-10 Mr '33
- Cooking process; cooking wood with sodium thiosulfate. S. I. Aronovsky and R. A. Gortner. *il Ind & Eng Chem* 25:1260-5 N '33
- Elastische formänderungen der hölzer. J. Stamer and H. Sieglerschmidt. *Zeit Ver Deutsch Ing* 77:503-5 My 13 '33
- Electrical conductivity of commercial dielectrics and its variation with temperature. J. D. Clark and J. W. Williams. *bibliog diags J Phys Chem* 37:119-31 Ja '33
- Holocellulose, total carbohydrate fraction of extractive-free maple wood. G. J. Ritter and E. F. Kurth. *bibliog Ind & Eng Chem* 25:1250-3 N '33
- Holztagung, Berlin, den 12. bis 13. Dezember 1932. *Angew Chemie* 46:118-23 F 18 '33
- Industrial uses for small-dimension stock. (Wood utilization com. rep. 23) 45p U.S. Dept. of commerce, Washington '32
- Mechanical properties of Canadian woods, together with their related physical properties. G. H. Rochester. 88p *il Canada*. Dept. of the interior, Forest service, Ottawa '33
- No method yet developed to fireproof wood fully. T. R. Traux, C. A. Harrison and R. H. Baechler. *Eng N* 110:591-2 My 11 '33
- Recent advances in the study of the chemistry of the hemicelluloses of wood. M. H. O'Dwyer. *bibliog Soc Chem Ind J (Chem & Ind)* 51:968-71 N 25 '32
- Some properties and applications of timber. A. H. Loveless. *Soc Chem Ind J (Chem & Ind)* 51:1052-4 D 23 '32
- Sorption of sodium hydroxide on cellulose and wood. R. Richardson and O. Maass. *J Phys Chem* 36:3064-73 D '32
- Sorption of vapors on wood and cellulose. N. H. Grace and O. Maass. *diag J Phys Chem* 36:3046-63 D '32
- Widerstandsfähigkeit von holz gegen chemische einflüsse. F. Rath. *Zeit Ver Deutsch Ing* 77:1012 S 16 '33
- X-ray investigations of the penetration of electrolytes into wood. L. Thomassen and D. W. McCready. *il Paper Tr J* 97:42-3 O 12 '33

*See also*

Barrels

Black gum

Cellulose

Cypress

Forest products

Forests and forestry

Greenheart

Larch

Lignin

Lumber

**WOOD—Continued**

Lumbering  
Pine  
Plywood  
Sawmills  
Spruce  
Trees

Wood construction  
Wood distillation  
Wood preservation  
Wood pulp  
Wood saccharification  
Woodwork

**Analysis**

Alpha-celluloses from different wood sources. R. A. Gortner and J. J. McNair. bibliog Ind & Eng Chem 25:505-10 My '33

Comparison of four methods for the determination of lignin. P. S. Billington, F. A. Simmonds and P. K. Baird. diag Paper Tr J 96:30-3 Ja 26 '33

Distribution and nature of extractives in long-leaf and shortleaf pine. E. F. Kurth. bibliog Ind & Eng Chem 25:192-5 F '33

Effect of alkali treatment on the yield of lignin. E. E. Harris. bibliog Ind & Eng Chem Anal ed 5:105-6 Mr 15 '33

New method for the qualitative detection of casein in woods. T. H. Whitehead. Ind & Eng Chem Anal ed 5:150 Mr 15 '33

Use of 40-60 mesh sawdust in the chemical evaluation of pulpwood. E. E. Lauer and M. A. Youtz. Paper Tr J 96:36-7 Ja 19 '33

*See also*

Wood pulp—Analysis

**Decay**

Decay in timber; the causes of defects in timber and some measures for their prevention. A. C. Constantine. il diag Automobile Eng 23:349-51 S '33

Rate of deterioration due to decay in pulpwood storage piles. C. W. Fritz. Pulp & Pa of Can 34:191+ F '33

Report of committee on pulpwood, Canadian pulp and paper association. Pulp & Pa of Can (Convention no) 34:113-16 [F] '33

Studies in the decomposition of timber under industrial conditions; greenheart. E. A. Rudge. il Soc Chem Ind J 52:283T-5T S 8 '33

*See also*

Wood preservation

**Durability**

Distribution of extractive in redwood; its relation to durability. E. C. Sherrard and E. F. Kurth. diag Ind & Eng Chem 25:300-2 Mr '33

**Moisture content**

Application of electric methods of measurement and testing. D. H. Bishop. Inst E E J 72:51-3 Ja '33

Effectiveness of paints in retarding moisture absorption by wood. F. L. Browne. bibliog il Ind & Eng Chem 25:835-42 Ag '33

Heat conductivity of wood at climatic temperature differences. F. B. Rowley. Heating-Piping 5:313-23 Je '33

Moisture content of wood in dwellings. E. C. Peck. U S Agric Circ 239:1-24 '32

Paint as a wood preservative. L. A. Jordan. Chem Age (Lond) 28:191 Mr 4 '33

Permeability of paint films to moisture. R. I. Wray and A. R. Van Vorst. bibliog il Ind & Eng Chem 25:842-6 Ag '33

Problems in the artificial drying of wood. F. Moll. diag Engineering 136:31 Jl 14 '33

**Permeability**

Penetration in sulphite cooking. R. De Montigny. Pulp & Pa of Can (Convention no) 34:109-11 [F] '33

**Testing**

Bearing strength of wood under bolts. G. W. Trayer. U S Agric Tech Bul 332:1-40 '32

Causes of brassiness in wood. A. Koehler. il diags U S Agric Tech Bul 342:1-40 '33

One per cent caustic soda solubility of wood; tentative standard method of TAPPI. Paper Tr J 97:38 Jl 20 '33

**WOOD, Artificial**

Artificial rubber wood. M. Levin. India Rubber W 88:30 My '33

Chemical lumber. O. R. Sweeney. Sci Am 147:374-5 D '32

**WOOD as fuel**

Action of waste-wood ash on refractories when used with auxiliary oil-firing. K. G. Skinner and N. L. Field. il diags Am Cer Soc J 16:393-403 Ag '33

Boiler efficiency and wood waste fuel. H. W. Beecher. Power Pl Eng 36:808-9 D '32

Handling of hogged fuel. H. M. Plaisted. Mech Handling 20:45-6 F '33

Valuable source of primary power; producer wood gas use in mine power plant. R. C. Rowe. il Can Min J 54:105-7 Mr '33

Wood for steam generation. Chem Age (Lond) 29:257-8 S 16 '33

*See also*

Boilers—Wood firing

**WOOD ash**

Action of waste-wood ash on refractories when used with auxiliary oil-firing. K. G. Skinner and N. L. Field. il diags Am Cer Soc J 16:393-403 Ag '33

**WOOD borers.** *See* Borers (insects)

**WOOD carving**

In the manner of Grinling Gibbons; overmantle motif; photographs. Am Arch 143:27-30 Mr '33

Reredos, Presbyterian church of the Covenant, Cleveland, Ohio. il Architecture 66:333-6 D '32

*See also*

Pews

**WOOD construction**

Building cost reductions seen in radically novel wood assembly methods. Paper Tr J 96:16-17 Mr 30 '33

Les charpentes en lamelles de bois; calcul des fatigues et essais de résistance. F. Crestin. il diags Génie Civil 102:461-6 My 20 '33

Combining concrete and timber for trestle decks. G. D. Burr. il diags Eng N 110:523-4 Ap 27 '33

Dealers can cash in locally on lumber at the Fair. L. R. Putman. il Am Bld 55:64-6 Ag '33

Design and construction of Lamella trussless roofs. il diags Can Eng 64:5-7 Ja 24 '33

Dry construction achieved in lumber industries' "sunlight house"; Century of progress home shows advantages of all-wood interiors. il plans Am Bld 55:34-7 Je '33

Fabricated structural timber. A. H. Oxholm. il Manuf Rec 102:18-19 Je '33

Geared wood; new joint connectors. il Business Week p10 Mr 1 '33

Increasing the capacity of framed timber joints; special metal connectors. F. O. Du-four. il diags Eng N 110:408-10 Mr 30 '33

Modern connectors for timber construction. il Arch Rec 73:302-3 Ap '33

Modern connectors for timber construction. il diags 147p [bibliog p146-7] National com. on wood utilization; pa 15c Supt. of doc. '33

New products: wood, textiles, paper. il diags Arch Rec 73:295-301 Ap '33

New style connectors for timbers. N. S. Perkins. il Am Bld 55:26-7 My '33

New wood tile is tried out for building purposes. H. D. Tiemann. il Am Bld 54:32-3 Ja '33

Termites and their threat to timber structures. A. A. Brown. il Eng N 111:221-4 Ag 24 '33

Timber and lumber progress reviewed at A.S.T.M. meeting. Eng N 109:633 N 24 '32

Timber entrances; views and plans. Am Arch 143:71-6 S '33

Wood-beam design method promises economies. J. A. Newlin, G. E. Heck and H. W. March. il Eng N 110:594-6 My 11 '33

*See also*

Bridges, Wooden  
Carpentry  
Towers, Wooden

**WOOD distillation**

Chemical engineering problems in hardwood distillation. R. S. McBride. flow sheet il diags Chem & Met Eng 39:604-8 N '32



**WOOD distillation—Continued**

- Chemical utilization of wood. 151p U.S. National com. on wood utilization, Washington '32
- Determination of furfural produced from hardwoods. H. A. Iddles and P. J. Robbins. bibliog Ind & Eng Chem Anal ed 5:55-7 Ja 15 '33
- Marketing and industrial uses of charcoal. R. S. McBride. il Chem & Met Eng 39:664-7 D '32
- Newport industries, inc. save time and money by prefabrication of process piping. E. F. Sisson. diags Heating-Piping 5:397-8 Ag '33
- Post-war progress in various industries; wood distillation and charcoal manufacture. O. Wilson. Ind & Eng Chem 25:107-8 Ja '33
- Wood chemical code criticized at hearing. Oil Paint & Drug Rep 124:14+ O 9 '33
- Wood chemicals respond to changing market trends. R. S. McBride. Chem & Met Eng 40:40-1 Ja '33

**WOOD drying**

- Considérations théoriques et pratiques sur le séchage des bois et autres produits. P. Razous. diags Génie Civil 102:446-9 My 13 '33
- Design of kilns for the seasoning of timber. E. A. Steel. Engineer 155:175 F 17 '33
- New wood-element hygrometer. il diag Sci Am 149:182 O '33
- Problems in the artificial drying of wood. F. Moll. diag Engineering 136:31 Jl 14 '33
- Le séchage industriel des bois. A. Antoni. il diags Génie Civil 101:583-6, 597-602, 626-8 D 10-24 '32

**WOOD engraving**

- How to make woodcuts. J. Ramsey. il Am Arch 142:20-3 N '32

- Wood-engraving and woodcuts. C. Leighton. 96p Studio publications, inc, New York '32

**WOOD engravings**

- Shakespeare calendar; Elizabethan woodcuts by Harry G. Spanner. Adv & Sell 20:sup [Adv Arts] 20A-20D Ja '33
- Sparkling black and white; woodcuts by James Anthony Kelly, A. W. K. Billings, Jr., Frank Harley Anderson, and Alfred M. Butts. Am Arch 142:24-5 D '32

**WOOD finishing**

- Coatings; methods of determining suitable finishes. B. S. Covell. Plastic Prod 9:319-21 O '33

*See also*

- Floors—Resurfacing Varnish and varnish-lacquer and lacquer-ing

**WOOD flour**

- Wood flour in plastic formulas. P. Bowen. il Plastic Prod 9:99-100 My '33

**WOOD grinders**

- Great northern paper company's new grinder rooms at Millinocket and East Millinocket, Maine. il Paper Tr J 95:34 N 17 '32; Pulp & Pa of Can 33:488 D '32
- Groundwood department; Ontario paper co. D. F. Keenan and H. B. McAdam. il Pulp & Pa of Can 34:382-4 Je '33
- Low cost modern grinder installation in France; Kamyrr continuous grinder. il Pulp & Pa of Can 34:562 S '33
- Progress in the manufacture of mechanical pulp. L. E. Kendall. il Pulp & Pa of Can (Convention no) 34:79-81+ [F] '33
- Temperature control in ground wood pulp preparation. DeMers. Paper Tr J 96:21-2 Ja 26 '33

**WOOD handling**

- Handling pulpwood at the mill; Ontario paper co. A. Wilson and W. T. Anderson. Pulp & Pa of Can 34:377-9 Je '33
- Transportation and mill handling of pulpwood. G. D. Bearce. Paper Tr J 97:29-30 Jl 20 '33

**WOOD measurement**

- Commercial evaluation of pulp cord-wood. M. A. Youtz and B. E. Lauer. Paper Tr J 97:38-40 S 21 '33
- Cords of pulpwood in a conical pile. W. F. Schaphorst. chart Pulp & Pa of Can 34:405-6 Je '33

**WOOD oil**

- Constitution of eremophilone and of two related hydroxy-ketones from the wood oil of eremophila Mitchellii. A. E. Bradfield, A. R. Penfold and J. L. Simonsen. Chem Soc J p2744-59 N '32

*See also*

- Eucalyptus oil Pine oil  
Palm oil Tung oil

**WOOD preservation**

- A.R.E.A. committee report on wood preservation. Ry Age 94:414 Mr 18 '33
- Boulton process for southern pine poles. J. D. MacLean. Elec W 101:519-21 Ap 22 '33
- Chemical preservation of wood. G. Thiessen. bibliog Chem Markets 32:323-7 Ap '33
- Decay in timber; the causes of defects in timber and some measures for their prevention. A. C. Constantine. il diag Automobile Eng 23:349-51 S '33
- Destruction of timber by marine organisms in the port of Sydney. R. A. Johnson. Engineering 135:104 Ja 27 '33
- Economic selection, treatment and use of cross ties. D. C. Curtis. Ry Age 94:367-9 Mr 11 '33
- Economic value of treated timber. E. Stimson. W Soc E J 38:169-74 Je '33
- Effect of tar acids upon the wetting of wood by coal-tar oils. F. H. Rhodes and L. Erickson. il Ind & Eng Chem 25:1132-3 O '33
- Effectiveness of paints in retarding moisture absorption by wood. F. L. Browne. bibliog il Ind & Eng Chem 25:835-42 Ag '33
- Efficiencies of tar oil components as preservative for timber. F. H. Rhodes and L. Erickson. Ind & Eng Chem 25:989-91 S '33
- Fäulnisbekämpfung und -vorbeugung an kühltürmen. F. Lebius. il diags Zeit Ver Deutsch Ing 77:88-90 Ja 28 '33
- Higher chlorinated phenols as antiseptics and as wood preservatives. W. Iwanowski and J. S. Turske. Chem Markets 32:327 Ap '33
- How to control termites. E. L. Fellman. il Am Bld 55:40 My '33
- Important details in treated timber bridge construction. W. A. Stacey. il Pub Works 64:23-4 F '33
- Interpretation of moisture permeability measurements. J. D. Edwards. Ind & Eng Chem 25:846-7 Ag '33
- Leaching tests on water-soluble wood-preservatives. C. Greaves. 15p Canada Dept. of the Interior, Forest service, Ottawa '33
- Marine borers. J. T. Jenkins. il Engineering 134:755-6 D 30 '32
- Modern methods of wood preservation. G. Gunn. Soc Chem Ind J (Chem & Ind) 51:1072-4 D 30 '32; Abstract. Soc Dyers & Col J 49:106-7 Ap '33
- New practice saves poles threatened by termites. M. M. Bridgwater. il Elec W 100:693 N 19 '32
- Paint as a wood preservative. L. A. Jordan. Chem Age (Lond) 28:191 Mr 4 '33
- Permeability of paint films to moisture. R. I. Wray and A. R. Van Vorst. bibliog il Ind & Eng Chem 25:842-6 Ag '33
- Preservation of mine timbers; abstract. B. M. Winegar. Min Cong J 19:13+ Ag '33
- Preservation of railway sleepers. J. Bryan. Engineering 136:240-1 S 8 '33
- Preservative treatment of estate and farm timber. R. C. B. Gardner. Engineering 135:433 Ap 21 '33
- Prevent decay! role of wood-preservative treatments in reducing mill repair costs. il Textile World 83:1263-9 Jl '33
- Retail distribution of treated lumber. R. Putman. Am Bld 55:112 Je '33
- Santa Fe constructs treating plant for hardwood ties. il plan Ry Age 93:709-12 N 19 '32
- Service records of treated and untreated poles. R. M. Wirka. il Elec W 102:116-21, 146-9 Jl 22-29 '33
- Termite exposure tests. Eng N 110:367 Mr 23 '33
- Termites and their threat to timber structures. A. A. Brown. il Eng N 111:221-4 Ag 24 '33

**WOOD preservation—Continued**

- Tests of chemical treatments for control of sap stain and mold in southern lumber. R. M. Lindgren, T. C. Scheffer and A. D. Chapman. *Ind & Eng Chem* 25:72-5 Ja '33
- Timber and lumber progress reviewed at A.S.T.M. meeting. *Eng N* 109:633 N 24 '32
- Timber preservation on estates; abstract. R. C. B. Gardner. *Engineering* 134:556-7 N 11 '32
- Timber treatment promotes operating economies at Carbon fuel co. *Coal Age* 38:160-1 My '33
- Treated pole line after 28 years. C. O. Seaton. *il Elec Traction* 28:481 D '32
- Treated pole output reported by Forest service. *Elec W* 102:585 N 4 '33
- Treated timber makes good record in M. & O. railroad bridges. H. Austil. *Eng N* 110:681 My 25 '33
- Treated wood in bridge work. H. Austil. *Ry Age* 94:107-8 Ja 28 '33
- Wood preservation by brush treatment. A. Leyppoldt. *Eng N* 110:91 Ja 19 '33
- Wood preservation slumps further in 1932. *Ry Age* 95:438 S 23 '33
- Wood preservatives. C. Greaves. *Soc Chem Ind J (Chem & Ind)* 52:418-19 My 12 '33
- Wood preservers make progress; reports presented at twenty-ninth annual convention of American wood preservers' assn. *Ry Age* 94:104-8 Ja 28 '33

*See also*

Paint, Protective  
Varnish and varnish-  
ing

**WOOD products**

- Distribution and nature of extractives in long-leaf and shortleaf pine. E. F. Kurth. *bibliog Ind & Eng Chem* 25:192-5 F '33
- Extraction of terpene chemicals from waste pine wood. L. W. Humphrey. *il Inst Chem Eng Trans* 9:40-5; Discussion. 45-8 '31
- Sugar and alcohol from wood. A. Hurter. *diag Can Chem & Met* 17:48-9+ Mr '33; Same. *Paper Tr J* 96:20-2 Mr 16 '33; Same. *Chem Ind* 33:503-5 D '33

*See also*

Alcohol  
Wood distillation  
Wood flour

**WOOD pulp**

- Activities of the Pulp and paper division Forest products laboratories of Canada. J. H. Ross. *Pulp & Pa of Can* 34:231-4+ Mr '33
- Alpha-celluloses from different wood sources. R. A. Gortner and J. J. McNair. *bibliog Ind & Eng Chem* 25:505-10 My '33
- Bleaching of ground wood. W. Hirschkind. *Paper Tr J* 95:31-2 N 10 '32; Same. *Pulp & Pa of Can* 33:489-90 D '32
- Commercial evaluation of pulp cord-wood. M. A. Youtz and B. E. Lauer. *Paper Tr J* 97:38-40 S 21 '33
- Exploitation of hardwoods on pulpwood limits. K. G. Fensom. *Pulp & Pa of Can* 34:189-90 F '33
- Forest products laboratories studies affecting groundwood manufacture. W. B. Campbell. *Pulp & Pa of Can* 34:504-6 Ag '33
- Gelam wood is not so good. *Pulp & Pa of Can* 34:476 Jl '33
- Georgia pine sulphite and ground wood for news print. W. G. MacNaughton and W. F. Allen. *Paper Tr J* 97:36-40 Jl 13 '33
- Groundwood studies at the Forest products laboratories of Canada. H. W. Johnston. *Pulp & Pa of Can* 34:555-9 S '33
- Imports of pulp and pulpwood swing to the cheap currency countries. *Business Week* p20 Mr 1 '33
- Influence of sulphidity on the physical and chemical characteristics of kraft pulp. O. Kress and G. H. McGregor. *Paper Tr J* 96:40-2 Je 15 '33; Conclusions. *Pulp & Pa of Can* 34:465-6 Jl '33
- Modernizing pulpwood operations. A. Koroleff. *Paper Tr J* 97:31 Jl 20 '33
- Newsprint from boiled wood; Fish process. A. E. Parrett. *diag Pulp & Pa of Can* 34:515-16+ Ag '33
- Penetration in alkaline pulping. H. R. Murdoch. *Paper Tr J* 96:28-30 My 18 '33

- Permanent supply of pulping woods in the Pacific northwest. J. B. Woods. *Paper Tr J* 96:41-2 My 25 '33
- Progress in the manufacture of mechanical pulp. L. E. Kendall. *il Pulp & Pa of Can (Convention no)* 34:79-81+ [F] '33
- Pulp markets upset by currency depreciation; European low-cost products dumped in United States injures Canadian trade. *Pulp & Pa of Can* 33:428-9 N '32
- Pulp operating efficiencies. J. A. C. Kavanagh. *Paper Tr J* 96:55+ F 16 '33
- Pulpwood holdings, a company asset. G. Ostrander. *Paper Tr J* 96:28-9 Je 29 '33
- Rate of deterioration due to decay in pulpwood storage piles. C. W. Fritz. *Pulp & Pa of Can* 34:191+ F '33
- Regional competition in pulpwood with special reference to the South. C. W. Boyce. *Paper Tr J* 96:18, 21-3 My 25 '33
- Report of committee on pulpwood, Canadian pulp and paper association. *il Pulp & Pa of Can (Convention no)* 34:113-16 [F] '33
- South organizes for forestry benefits. W. T. White. *il Manuf Rec* 102:18-19+ N '33
- Temporary committee opposing tariff on wood pulp presents brief at Washington. H. P. Christian. *Paper Tr J* 96:14-16+ F 9 '33
- Timber limits of the Ontario paper company. G. E. Boisvert. *il map Pulp & Pa of Can* 34:372-6 Je '33
- United States wood pulp review for 1932. J. A. C. Kavanagh. *Paper Tr J* 96:40-1 F 9 '33
- Wood pulp industry experiences troubled year. O. F. Swanson. *Paper Tr J* 96:29-31 F 16 '33

*See also*

Paper  
Paper making  
Railroads—Rates—  
Wood pulp

Tariff—United States  
—Wood pulp

**Analysis**

- Chemical properties of screen fractions of black gum and slash pine ground wood pulps. E. R. Schafer and M. Santaholma. *Paper Tr J* 97:46-7 N 9 '33
- Comments on the Noll method for the determination of lignin in pulps. H. F. Lewis, W. E. Koonce and G. H. Young. *Paper Tr J* 96:32-5 Je 29 '33
- Comparison of four methods for the determination of lignin. P. S. Billington, F. A. Simmonds and P. K. Baird. *diag Paper Tr J* 96:30-3 Ja 26 '33
- Quantitative determination of ash in wood pulp. *Paper Tr J* 96:31 Mr 2 '33

**Moisture content**

- Weighing, sampling and testing wood pulp for moisture; tentative revised standard method of TAPPI. *Paper Tr J* 97:41-3 Jl 13 '33

**Specifications**

- Pulp classification and specifications; symposium. *Paper Tr J* 96:37-50 Ja 5 '33

**Statistics**

- Chemical wood pulp production, consumption, and shipments, monthly 1924-1933; and mechanical wood pulp, monthly 1923-1933. *Survey of Cur Business* 13:18-20 N '33

**Testing**

- Alkaline process for obtaining high yields of pulp from aspen wood. R. L. Davis. *bibliog Paper Tr J* 97:33-46 Ag 24 '33
- Comparison between flint pebbles and porcelain balls as a means of hydrating in the pebble mill test. F. C. Peterson and D. C. Beyer. *Paper Tr J* 97:37-40 Jl 27 '33
- Dirt content of chips. W. M. Osborne. *Paper Tr J* 97:40 Jl 6 '33
- Effect of different-sized fibers on the physical properties of groundwood pulp. E. R. Schafer and M. Santaholma. *bibliog il Paper Tr J* 97:40-5 N 9 '33
- Effect of pebble weight variation in the strength testing of wood pulp. F. C. Peterson and J. Kolesinskas. *Paper Tr J* 96:26-8 My 18 '33
- Fibre strength aspects of newsprint manufacture. G. D. O. Jones, T. W. Ross and H. W. Johnston. *Pulp & Pa of Can* 34:331-6 My '33



**WOOD pulp—Testing—Continued**

- Proposed standard instrument for classification of papermaking fibers according to length. G. D. O. Jones and others. Paper Tr J 96:35-6 Ap 27 '33; Same. Pulp & Pa of Can (Convention no) 34:120-2 [F] '33
- Pulp testing and specification investigation. H. C. Schwalbe. Paper Tr J 97:33-42 S 14 '33
- Pulp testing committee annual report. Paper Tr J 96:31-3 Ap 6 '33
- Relation between hydration capacity and pentosan content of soft wood pulps. G. H. Young and B. N. Rowland. bibliog Paper Tr J 97:44-6 O 12 '33
- Relative stabilities of bleached rag half stocks and bleached purified sulphite pulps to degradation by calcium hypochlorite solutions. H. F. Lewis. Paper Tr J 96:41-6 My 11 '33
- Relative stabilities of rag and purified sulphite pulps. H. F. Lewis. Paper Tr J 95:29-42 N 24 '32
- Study of the factors influencing the chlorination of Mitscherlich sulphite pulp. O. Kress and E. H. Voigtman. bibliog diags Paper Tr J 97:29-44 Ag 17 '33
- Variations in yield and quality of sulphite pulp made of spruce from different sources. B. Johnsen and C. H. Reese. Paper Tr J 97:36-8 JI 6 '33
- Weighing, sampling and testing wood pulp for moisture; tentative revised standard method of TAPPI. Paper Tr J 97:41-3 JI 13 '33

*Bibliography*

- Pulp testing developments in 1932. D. E. Cable. Paper Tr J 97:32-6 JI 6 '33

**WOOD research**

- Chemistry of cellulose and wood; a five-year review of investigations. H. Hibbert. Pulp & Pa of Can (Convention no) 34:100-2 [bibliog p101-2] [F] '33
- Forest products research board report for 1931; summary. Engineering 135:637 Je 9 '33
- Heat conductivity of wood at climatic temperature differences. F. B. Rowley. Heating-Piping 5:313-23 Je '33; Excerpts. Refrig Eng 26:88-9 Ag '33

**WOOD saccharification**

- Der abbau der cellulose durch fluorwasserstoff und ein neues verfahren der holzverzuckerung durch hochkonzentrierten fluorwasserstoff. K. Fredenhagen and G. Cadenbach. Angew Chemie 46:113-17 F 18 '33; Abstract (Wood saccharification with hydrogen investigated). Ind & Eng Chem News ed 11:157 My 20 '33

- Economics of the production of sugar from wood; abstract. H. Claassen. Soc Chem Ind J 52:sup121 F 10 '33

- Neuere verfahren zur alkoholherstellung. K. W. Geisler. diag Zeit Ver Deutsch Ing 77:126-8, 353 F 4, Ap 1 '33

- Sugar and alcohol from cellulose; a comparison of the Bergius and Scholler processes. Chem Age (Lond) 28:521-2 Je 10 '33

- Sugar and alcohol from wood. A. Hurter. diag Can Chem & Met 17:48-9+ Mr '33; Same. Paper Tr J 96:20-2 Mr 16 '33; Same. Chem Ind 33:503-5 D '33

**WOOD storage**

- Rate of deterioration due to decay in pulpwood storage piles. C. W. Fritz. Pulp & Pa of Can 34:191+ F '33

- Report of committee on pulpwood, Canadian pulp and paper association. il Pulp & Pa of Can (Convention no) 34:113-16 [F] '33

**WOOD using industries**

- Now it's forest industries; all kinds of wood-using industries enlist in a single organization. Business Week p12+ Ja 11 '33

*See also*

Furniture  
Woodwork

*United States*

- Lumber- and timber-products industries; summary of code. Monthly Labor R 37:536-9 S '33

- WOOD utilization, National committee on.** See National committee on wood utilization

**WOOD waste***See also*

Masonite  
Wood as fuel  
Wood distillation

**WOODIN, William H. 1868-**

- To become secretary of Treasury. por Ry Age 94:303 F 25 '33

**WOODWORK**

- English balusters from a collection in the Metropolitan museum of art, New York city; illustrations. Architecture 67:317-22 Je '33
- Grid-wood; Rezo panels. il Business Week p11 Ja 18 '33
- Stand der nagelversuche. H. J. Ströer. il Zeit Ver Deutsch Ing 77:13-18 Ja 7 '33
- Wood industries; condensed from the 1932 progress report of the A.S.M.E. wood industries division. Mech Eng 54:855-6 D '32

*See also*

Carpentry  
Furniture  
Moldings  
Panel work  
Veneers and veneering  
Woodworking machinery

*Dictionaries*

- Timber technicalities. E. Haynes. 2d ed rev & enl 184p [bibliog p180-4] E. Benn, ltd, London '33

**WOODWORKING**

- Research in woodworking. P. Harris. il diags Engineering 135:27-30 Ja 6 '33
- What to make of wood—and how; simple designs for all craftsmen; working drawings. Am Bld 55:42-3 Ap; 35 My; 36-7 JI; 40-1 S '33

**WOODWORKING machinery**

- Electricity in woodworking; works of Messrs Wootton & co, ltd. il Elec R (Lond) 113:85 JI 21 '33
- Improved wood-working machines. il diag Engineer 156:142-3 Ag 11 '33
- Robinson and sons railway sleeper adzing and boring machine. il Engineer 156:190-1 Ag 25 '33

- Woodworking machinery; recent developments in equipment for motor body building. il Automobile Eng 23:61-3, 103-4 F-Mr '33

*See also*

Saws

**WOOL**

- Action of electrolytes on wool fiber. D. A. Wilson and N. E. Gordon. Am Chem Soc J 55:3896-7 S '33

- Application of the results of the study of the isoelectric point of wool to some practical problems. M. Harris. Am Dyestuff Rep 22:81-3; Discussion. 83-5 Ja 30 '33

- Combination of silk and wool with positive and negative ions. M. Harris. U S Bur Stand J Research 10:475-8 Ap '33; Same. Am Dyestuff Rep 22:273-4+ Ap 24 '33

- Contribution to the theory of milling. J. B. Speakman, E. Stott and H. Chang. bibliog pl diags Textile Inst J 22:T339-48; 24:T273-92 Je '31, JI '33

- Fibre growth phases in a sample of Australian merino wool. J. E. Nichols. bibliog Textile Inst J 24:T333-40, pl S '33

- Gases from thermal decomposition of common combustible materials. J. C. Olsen, G. E. Ferguson and L. Scheffan. il Ind & Eng Chem 25:599-603 Je '33

- Inheritance of kemp in blackface sheep. D. M. Bryant. bibliog Textile Inst J 24:T309-16 Ag '33

- Iso-electric point of wool. A. H. Pettinger. Textile Col 54:840-1 D '32

- Mildew. F. C. Pratt. Textile Col 55:344-5+ My '33

- Modern research and new ideas on wool. J. S. Brown. Textile Col 55:587-9, 765-7 S, N '33

- Odd facts about wool. Textile Col 55:48 Ja '33
- Pre-natal check in the birthcoat of the New Zealand Romney lamb. F. W. Dry. Textile Inst J 24:T161-6 Ap '33

- Rabbit wool; once imported, we now raise it. Business Week p8 D '32

- Rayon-woolen blends; successful combinations depend on careful selection of rayon wastes. H. R. Woodward. il Textile World 82:973 N '32

**WOOL—Continued**

- Report on a method for measuring the resilience of wool. C. G. Winsor. *diag Textile Inst J* 23:T386-93 D '32
- Report to the New Zealand government on English Leicester (38's/42's), Romney (44's/46's), Romney (46's/48's), and Corriedale (50's/56's) wools. A. F. Barker. *pls Textile Inst J* 24:T57-85 F '33
- Researches on fulling point way to marked changes in mill practice. J. B. Speakman. *Textile World* 83:1629 S '33
- Some studies of the yolk in New Zealand wools; a study of yolk in the fleece during one year. W. G. Sutton. *diag Textile Inst J* 24:T341-50 O '33
- Structure of the wool fibre; its relation to the dyeing and finishing processes of the wool textile trade. J. B. Speakman. *bibliog Soc Dyers & Col J* 49:180-92 Je '33; Abstract. *Textile Inst J* 24:P166-72 Ag '33; Discussion. *Soc Dyers & Col J* 49:192-4 Je '33
- Study of Empire wool production; being a survey of conditions in New Zealand, Australia, South Africa, Southern Rhodesia, Kenya, Canada, Irish Free State, etc. J. E. Nichols. 148p [bibliog p142-5] *Wool industries research assn, Leeds '32*
- Usual degumming methods prove harmful to silk-wool unions. H. H. Mosher. *il Textile World* 82:980-1, 1170-1 N-D '32
- Wetting agents in textile processing; adsorption of wetting agents by wool. H. A. Neville, C. A. Jeanson and A. L. Smith. *Am Dyestuff Rep* 22:565-6 S 25 '33
- Wetting agents in textile processing; influence of wetting agents upon the adsorption of acid and basic dyes by wool. H. A. Neville and C. A. Jeanson. *Am Dyestuff Rep* 22:618+ O 9 '33
- Wool growth stimulation: is it possible? *Textile Col* 55:542 Ag '33
- Wool production, classification, and marketing. W. P. Devereux. *Textile Inst J* 24:P13-22 F '33
- X-ray interpretation of fibre structure. W. T. Astbury. *bibliog Soc Dyers & Col J* 49:174-9; Discussion. 179-80 Je '33

**See also**

- |                           |                                |
|---------------------------|--------------------------------|
| Bleaching—Wool            | Wool pests                     |
| Dyes and dyeing—Wool      | Wool trade                     |
| Mohair                    | Woolen and worsted manufacture |
| Mothproofing preparations | Worsted                        |
| Serge                     | Yarn                           |

**Analysis**

- Determination of acids in wool, with particular reference to dyed goods. S. R. Trotman and G. N. Gee. *diag Soc Dyers & Col J* 48:321-5 D '32; Same. *Am Dyestuff Rep* 22:303-4+ My 8 '33
- Estimation of water in wool by distillation. C. O. M. Steward. *il diag Textile Inst J* 24:T98-102 F '33
- Some factors which affect the determination of acidity in wool. S. R. Trotman and G. N. Gee. *Soc Dyers & Col J* 49:132-4 My '33

**Chlorination**

- Chlorinating treatment of woollen goods. *il Chem Age (Lond)* 28:355 Ap 22 '33
- Estimation of damage on chlorinated knitted wool fabrics. C. H. Edwards. *Textile Inst J* 24:T1-9 Ja '33; Abstract. *Textile Col* 55:258-9 Ap '33
- Precautions in scouring, carbonization and chlorination of wool. P. L. Mann. *Am Dyestuff Rep* 21:711-12 D 5 '32
- Some experiments on chlorination of wool. H. R. Hirst and A. T. King. *Textile Inst J* 24:T174-84 Ap '33; Abstract. *Textile Col* 55:545-6 Ag '33
- Unshrinkable finish on wool; application in commercial practice. C. H. Edwards. *il Soc Chem Ind J* 52:192T-5T Je 30 '33
- Use of aqueous solutions of chlorine and bromine for the production of the unshrinkable finish on knitted woollen goods. S. R. Trotman. *Soc Chem Ind J* 52:159T-63T Je 2 '33; Abstract. *Textile Col* 55:622-3 S '33; Discussion. *Soc Chem Ind J* 52:164T, 544 Je 2, 30 '33

**Moisture content**

- Effect of regain upon the properties of woollen yarns. H. J. Ball. *Melliand* 5:198 O '33
- Estimation of water in wool by distillation. C. O. M. Steward. *il diag Textile Inst J* 24:T98-102 F '33
- Moisture and wool fibres. *Textile Col* 55:30 Ja '33
- Structure of the wool fibre; its relation to the dyeing and finishing processes of the wool textile trade. J. B. Speakman. *Soc Dyers & Col J* 49:183-5 Je '33

**Sulfur content**

- Sulphur content of wool; further evidence of the variable sulphur content of wool. J. Barritt and A. T. King. *Textile Inst J* 24:T119-21 Mr '33
- Sulphur in wool. *Textile Col* 55:56 Ja '33

**Testing**

- Detection and estimation of medullated fibre in New Zealand Romney fleeces. B. L. Elphick. *bibliog il diag Textile Inst J* 23:T367-85 D '32

**WOOL, Effect of alkalis on**

- Action of alkalis on wool. A. J. Hall. *Textile Col* 55:40-1 Ja '33

**WOOL, Mineral. See Mineral wool****WOOL, Unshrinkable**

- Unshrinkable finish on wool; application in commercial practice. C. H. Edwards. *il Soc Chem Ind J* 52:192T-5T Je 30 '33
- Use of aqueous solutions of chlorine and bromine for the production of the unshrinkable finish on knitted woollen goods. S. R. Trotman. *Soc Chem Ind J* 52:159T-63T Je 2 '33; Abstracts. *Textile Col* 55:622-3, 691+ S-O '33; Discussion. *Soc Chem Ind J* 52:164T, 544 Je 2, 30 '33

**WOOL carbonizing**

- Precautions in scouring, carbonization and chlorination of wool. P. L. Mann. *Am Dyestuff Rep* 21:711-12 D 5 '32

**WOOL carding**

- Irregular woollen yarn often traceable to unsatisfactory carding. L. A. Crosland. *Textile World* 83:1815 O '33
- Neps in noils; their removal in woollen carding. L. A. Crosland. *il Textile World* 83:1437 Ag '33
- Tape condensers. H. T. Godfrey. *Textile World* 83:1086 Je '33
- Woolen yarn manufacture. *Melliand* 5:95-7 Je-Jl '33
- Worsted carding and combing. J. R. Hind. 205p \$2.25 Pitman '32

**WOOL combing**

- French comb; delivery adjustments for various wools. F. B. Hudson. *Textile World* 83:751 Ap '33

- French comb is practical for long wools. L. M. Harless. *il Textile World* 82:960 N '32

**WOOL drying**

- Apparatus for scouring small samples of wool and a modified apparatus for determining dry weights. W. C. Miller and D. M. Bryant. *il diag Textile Inst J* 23:T267-73 N '32

**WOOL fat**

- Determination of the life of lanoline rust preventing coatings on steel. C. Jakeman. *Engineering* 134:750-1 D 23 '32

- isoCholesterol; lanosterol and a new method for its preparation. C. Dorée and D. C. Garratt. *Soc Chem Ind J* 52:141T-3T My 26 '33

- Recovery of wool grease from sewage; Bradford corporation Esholt works. H. Woner-Smith. *il Chem Age (Lond)* 29:125-7 Ag 5 '33

- Some trade waste problems. R. J. Smith. *Soc Dyers & Col J* 49:241-4 Ag '33

**WOOL oiling**

- Petroleum products in wool oiling and machinery lubrication. *Textile World* 82:982 N '32

- Scouring of knitted woollen goods containing mineral oil. S. R. Trotman and H. Horner. *Soc Dyers & Col J* 48:325-8 D '32; Same cond. *Textile Col* 55:246-7+ Ap '33; Excerpts. *Textile World* 83:1303 Jl '33



**WOOL pests**

Destructive action of moths (dermestids) and its prevention. A. Herfs. *il* Melland 4:555-8, 625-8, 681-5 D '32-F '33; Abstract. Soc Dyers & Col J 49:306-8 S '33

**WOOL research**

Modern research and new ideas on wool. J. N. S. Brown. Textile Col 55:587-9, 765-7 S, N '33

Research notes on wool. Textile Col 55:162 Mr '33

Wool industries research. Chem Age (Lond) 28:364 Ap 22 '33

Wool research. W. O. Teeters. Am Dyestuff Rep 22:401-2 Je 19 '33

**WOOL scouring**

Apparatus for scouring small samples of wool and a modified apparatus for determining dry weights. W. C. Miller and D. M. Bryant. *il* diags Textile Inst J 23:T267-73 N '32

Color bleeding in scouring. F. C. Pratt. Textile Col 55:679- O '33

Getting the most from soap. W. W. Bray. Am Dyestuff Rep 22:175-9; Discussion. 179-84 Mr 13 '33

New possibilities in wool scouring. N. D. Harvey, Jr. Am Dyestuff Rep 22:413-15; Discussion. 415-17 Jl 3 '33

Precautions in scouring, carbonization and chlorination of wool. F. L. Mann. Am Dyestuff Rep 21:711-12 D 5 '32

Recent developments in the application of the fat alcohol sulfates. S. Lenher. Am Dyestuff Rep 22:663-7; Discussion. 667 N 6 '33

Scouring of knitted woollen goods containing mineral oil. S. R. Trotman and H. Horner. Soc Dyers & Col J 48:325-8 D '32; Same cond. Textile Col 55:246-7+ Ap '33; Excerpts. Textile World 83:1303 Jl '33

Scouring wool in its own grease. B. Garten. *il* diags Melland 5:97-8 Je-Jl '33

Sulphonated loral and sulphonated oenol; latest problems and developments. M. Briscoe. Soc Dyers & Col J 49:71-3 Mr '33

Usual degumming methods prove harmful to silk-wool unions. H. H. Mosher. *il* Textile World 82:980-1 N '32

**WOOL trade**

Automobile man looks at the textile industry. P. R. Collier. Textile World 82:1150-1 D '32

Way forward for the wool industry. E. Kaplan. 236p [bibliog p233-6] Business bourse, New York '33

Wool advisory board should remain advisory, says committee on scope. Textile World 82:1168 D '32

Wool digest. Published in monthly numbers of Textile world

World wool situation. Economist 117:571-2 S 23 '33

**Advertising**

Stimulates a whole industry by advertising to one man; wool-processing firm appeals to its own association. A. Eavenson. *Ptr Ink* 165:17-20 O 5 '33

**Finance**

Wool bank; scheme to regulate wool industry credit. Business Week p9 Mr 15 '33

**Statistics**

Wool, 1932. Economist 116:sup43-4, 60 F 18 '33

**Great Britain**

Study of Empire wool production. J. E. Nichols. 148p Wool industries research assn, Leeds '32; Review. Textile Inst J 23:P293-4 D '32

Wool textile shares. Economist 117:584-5 S 23 '33

**South America**

Wool in South America. W. A. Reid. 25p Pan American union, Washington, D.C. '33

**United States**

Code of fair competition for the wool textile industry. Textile Col 55:615-16 S '33

Industrial snapshots; wool—silk—cotton. J. Backman and A. L. Jackson. Barron's 13:5 S 18; 6 N 6 '33

Wool industry in 1933. L. U. Edgheill; H. J. Blake. Bradstreet's 61:235-6 Ja 28 '33

**WOOL washing**

Skillful manipulation essential in backwashing crossbreds. F. B. Hudson. *il* Textile World 83:1087 Je '33

**WOOLEN and worsted fabrics**

Bleaching wool for the new white dress suits. G. Rice. Textile Col 55:463+ Jl '33

Double cloths; employing two series of both warp and filling threads. R. A. C. Scott. *il* Textile World 83:1808-9 O '33

Formation and identification of copper stains on wool; precipitation of sulphides in dyeing. N. T. White. Textile Col 55:750-1 N '33

Imitation backed cloths. R. A. C. Scott. *il* Textile World 83:918-19 My '33

Novelty-yarn fabrics; woollens and worsteds employing ratiné, nub, and flake. R. Downs. *il* Textile World 83:1088-9 Je '33

Psycho-technical investigation of worsted yarns made from short wools, nolls and wastes. H. Binns. Textile Inst J 23:T394-8 D '32

Some general sources of faults in textile materials. L. L. Lloyd. Textile Inst J 24:P161-5 Ag '33; Same cond. Am Dyestuff Rep 22:679-81 N 6 '33; Discussion. Textile Inst J 24:P165 Ag '33

Textile industries of Kashmir. A. F. Barker. *il* Textile Col 55:240-5+ Ap '33

Usual degumming methods prove harmful to silk-wool unions. H. H. Mosher. *il* Textile World 82:980-1, 1170-1 N-D '32

Warp-backed cloths. R. A. C. Scott. *il* Textile World 83:222-3 F 14 '33

Watering and cracking in wool repp fabrics. G. L. Atkinson. Textile Col 55:516+ Ag '33

Wool novelties. *il* Textile World 82:1187-90 D '32

**See also**

Bleaching—Wool  
Dyes and dyeing—  
Wool  
Serge

Wool pests  
Woollen and worsted  
manufacture  
Woollen and worsted  
weaving

**Shrinkage**

Contribution to the theory of milling. J. B. Speakman, E. Stott and H. Chang. bibliog pl diags Textile Inst J 22:T339-48; 24:T273-92 Je '31, Jl '33

**See also**

Wool—Chlorination

**Testing**

Estimation of damage on chlorinated knitted wool fabrics. C. H. Edwards. Textile Inst J 24:T1-9 Ja '33; Abstract. Textile Col 55:258-9 Ap '33

**WOOLEN and worsted finishing**

Cloth milling with acids. A. Yewdall. Textile Inst J 24:P173-7 Ag '33; Same. Textile Col 55:692-4 O '33

Contribution to the theory of milling. J. B. Speakman, E. Stott and H. Chang. bibliog pl diags Textile Inst J 22:T339-48; 24:T273-92 Je '31, Jl '33

Crabbing and scouring; precautions necessary in preparing lightweight venetians. G. L. Atkinson. *il* Textile World 83:1267 Jl '33

Filling and weighting wool. F. C. Pratt. Textile Col 55:21+ Ja '33

Finishing low quality crossbred serges in cream and white. G. L. Atkinson. Textile Col 55:628-30 S '33

Speeding production in finishing worsteds. G. L. Atkinson. *il* Textile World 83:1095 Je '33

Spongers; agreement setting prices and allocating profits approved by New York court. Business Week p10 Je 10 '33

Structure of the wool fibre; its relation to the dyeing and finishing processes of the wool textile trade. J. B. Speakman. bibliog Soc Dyers & Col J 49:180-92 Je '33; Abstract. Textile Inst J 24:P166-72 Ag '33; Discussion. Soc Dyers & Col J 49:192-4 Je '33

Unshrinkable finish on wool; application in commercial practice. C. H. Edwards. *il* Soc Chem Ind J 52:192T-5T Je 30 '33

Use of aqueous solutions of chlorine and bromine for the production of the unshrinkable finish on knitted woollen goods. S. R. Trotman. Soc Chem Ind J 52:159T-63T Je 2 '33; Abstracts. Textile Col 55:622-3, 691+ S-O '33; Discussion. Soc Chem Ind J 52:164T, 544 Je 2, 30 '33

**WOOLEN and worsted finishing—Continued**

Watering and cracking in wool repp fabrics. G. L. Atkinson. Textile Col 55:516+ Ag '33

Worsted yarn finishing. Melliand 5:7-8 Ap '33

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Wool—Chlorination

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**WOOLEN and worsted machinery**

French comb is practical for long wools. L. M. Harless. il Textile World 82:960 N '32

Fulling and milling machinery. E. K. Scott. il diags Textile Inst J 24:P247-63 S '33

High-speed woolen dressing. il Textile World 83:599 Mr '33

Woolen-card rub aprons; settings for uniformity. L. A. Crosland. diags Textile World 83:580-1 Mr '33

*See also*

Looms

**WOOLEN and worsted manufacture**

Filling and weighting wool. F. C. Pratt. Textile Col 55:21+ Ja '33

Matted fleeces opened by new operation in worsted manufacture. W. Norris. il Textile World 83:238 F 14 '33

Woolen cloth milling with acids; how it compares with grease and soap treatments. A. Yewdall. Textile Col 55:487 JI '33

*See also*

Blankets

Dyes and dyeing—

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Woolen and worsted

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Woolen and worsted

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Woolen and worsted

weaving

**WOOLEN and worsted mills**

American branch is English firm's answer to tariff; William Hollins & Co, Ltd, Forestdale, R.I. il Textile World 83:592 Mr '33

Modernization program at Charlottesville woolen mills has improved quality and reduced cost. il Textile World 83:434-5 F 28 '33

**Employees**

Wage chisellers—are they to dominate the woolen industry? G. A. Beals. Textile World 83:68 Ja '33

Wage reduction in Scottish woolen industry. A. C. Brady. Monthly Labor R 35:1413-14 D '32

Wages and hours of labor in woolen and worsted goods manufacturing, 1932. U S Bur Labor Statistics Bul 584:1-64 '33

**Layout**

Changed drives, and stayed in business; Foster yarn, inc. L. K. Urquhart. il Factory Management 91:127-9 Ap '33

**Management**

Budgeting by overseer; allowing for variable woolen-mill production. R. I. Martin. Textile World 83:922 My '33

Systematic reorganization of a woolen and worsted mill. diag Melliand 5:151-2 Ag-S '33

**Power**

Forstmann woolen co. adds power generation, scraps old boiler plants. F. L. Bradley. il Power 77:559-61 N '33

Forstmann woolen co. builds two modern power plants. diags Power Pl Eng 37:464-5 N '33

**Tables, calculations, etc.**

Worsted reeling; calculations for production standards and piece rates. M. C. Bishop. Textile World 83:64-5 Ja '33

**Waste**

Some trade waste problems. R. J. Smith. Soc Dyers & Col J 49:241-4 Ag '33

**WOOLEN and worsted printing**

Application of indigosols to wool and silk. Textile Col 55:194-5 Mr '33

Fast chrome colors in wool printing. Textile Col 55:624-5 S '33; Same. Melliand 5:228-9 O '33

Improvements in the printing of chrome colors. G. von Niederhäusern. Textile Col 55:768-9 N '33

**WOOLEN and worsted spinning**

Accurate measurement of spindle speed. G. R. Stanbury. pl Textile Inst J 24:T207-11 My '33

Composite worsted mill employing the best methods of twenty spinning plants. A. Heaton. il Textile World 83:1623-4 S '33

Slubs in worsted roving. A. Winslow. Textile World 83:1255 JI '33

Successful open drawing of wasty tops. F. B. Hudson. il Textile World 82:1165 D '32

Trouble at the mule; some causes of woolen-yarn defects. T. Lawson. Textile World 83:750 Ap '33

Variable-speed drive for worsted spinning. W. I. Bendz. il Textile World 83:598 Mr '33

Whitin model E wool spinning frame. il Melliand 5:253 N '33

Woolen and worsted; technical picture changes steadily. E. D. Fowle. Textile World 83:410-11 F 23 '33

Woolen ring spinning; problems confronting experienced mule man. il Textile World 83:48 Ja '33

Woolen yarn manufacture. Melliand 5:95-7 Je-JI '33

**WOOLEN and worsted weaving**

Woolen weaves. G. R. Stevens. il Textile World 83:753 Ap '33

**WOOLF, Arthur, 1766-1837**

Cornish engineer. R. Jenkins. Engineer 155:97 Ja 27 '33; Abstract. Engineering 135:109 Ja 27 '33

**WOOLWORTH, F. W., company**

Foreign-exchange losses reduce net. Barron's 13:9 F 6 '33

Speculative audit; favorable and unfavorable factors affecting common-stock values. Barron's 13:14 My 15 '33

Woolworth faces the new deal. Econostat 1:11, 32 O 7 '33

Woolworth's \$250,000,000 trick depends upon catching them young. il Fortune 8:62-70+ N '33

**WORCESTER, Edward Somerset, 2d marquis of, 1601-1667**

Marquis of Worcester, and Vauxhall. W. H. Thorpe. Engineer 156:141 Ag 11 '33; Abstract. Engineering 135:292 Mr 10 '33

**WORD division**

Balance rules with common sense in every division of words. E. N. Teall. Inland Ptr 90:51-2 Ja '33

Print shop workers should give more thought to word-division. E. N. Teall. Inland Ptr 91:43-4 JI; 35-6 Ag; 53-4 S '33

**WORDS, New**

Advertising and public vocabulary. Ptr Ink 162:61 F 9 '33

**WORK**

More power to you! W. B. Pitkin. 298p \$1.75 Simon and Schuster, New York '33

World's work and income. Econostat 1:6 O 14 '33

*See also*

Employees

Fatigue

Labor and laboring

classes

Occupations

**WORKERS' leisure. See Leisure****WORKMEN'S compensation**

An accident—and what then? R. B. Lacey. Nat Safety N 28:17-18 S '33

Bite by infected wood tick held compensable. Monthly Labor R 37:314-15 Ag '33

Chart showing comparative cost of workmen's compensation acts. Spectator 130:12-13 Je 1 '33

Compensation laws. C. W. Hobbs. East Underw 34:36-7 N 3 '33

Compensation of work relief injuries. S. B. Sweeney. Safety Eng 66:14 JI '33

Control of occupational disease. A. J. Lanza. Safety Eng 64:268+ D '32

Convention proceedings of International association of industrial accident boards and commissions. Safety Eng 65:22+ Ja '33

Facing the future. M. A. Gimbel. Nat Safety N 28:19-20+ Ag '33

Handling of occupational disease cases criticized. H. H. Bowen. Nat Underw 37:26 My 18 '33



**WORKMEN'S compensation—Continued**

International labour conventions as a means of assuring identity of treatment for national and foreign workers on a basis of reciprocity. J. Secrétan. *Int Labour R* 27: 743-64 Je '33

Occupational disease legislation. *Safety Eng* 65:111-13 Mr '33

Period of waiting time required under state workmen's compensation laws. *Monthly Labor R* 36:121-3 Ja '33

Proceedings of the nineteenth annual meeting of the International association of industrial accident boards and commissions held at Columbus, Ohio, September 26-29, 1932. *U S Bur Labor Statistics Bul* 577:1-242 '33

Treaty provisions held controlling when in conflict with compensation law. *Monthly Labor R* 37:316-17 Ag '33

Trends in workmen's compensation legislation. B. N. Armstrong. *Ann Am Acad* 170: 18-20 N '33

Typhoid fever and pneumonia under workmen's compensation acts; suits. *Pub Health Rep* 48:323-4 Mr 31 '33

Workmen's compensation insurance still in experimental stage; suggestions that might help situation. R. Spitz. *Weekly Underw* 128:559-62 Mr 18 '33

**See also**

Accidents, Industrial Insurance, Workmen's compensation  
Employers' liability

**Medical advisers**

Medical problems in compensation administration (conclusions from an experience of eleven years' service). C. W. Roberts. *U S Bur Labor Statistics Bul* 577:159-71; Discussion. 172-5 '33

**Medical care**

Compensation report goes to New York Academy of medicine for study. *East Underw* 34:42 Ja 6 '33

Furnishing of medical services held to toll statute requiring making of claim within one year from date of injury; suit. *Weekly Underw* 129:472 S 9 '33

Medical relations under workmen's compensation. 157p American medical assn, Chicago '33

Rackets add to compensation cost; medical abuses in New York clinics reviewed by Governor's committee. *Nat Underw* 36:27-D 29 '32

Review of medical and hospitalization costs in workmen's compensation cases, with comments on the Lambert committee report. F. Perkins. *U S Bur Labor Statistics Bul* 577:27-42; Discussion. 42-60 '33

Special committee report on medical cost inquiry. *Nat Underw* 37:25 Jl 6 '33

Urges organization of medical offices by companies. *Ins Field* (Fire ed) 62:10 Jl 13 '33

**Second injuries**

Legal situation as to second-injury cases and the necessity for separate funds for such cases. C. F. Sharkey. *U S Bur Labor Statistics Bul* 577:146-53; Discussion. 153-8 '33

**Wage computation**

Some questions as to ascertainment of what is an average weekly wage under present conditions; its relation to premium rates and insurance problems. W. O. Stack. *U S Bur Labor Statistics Bul* 577:61-8; Discussion. 68-85 '33

Where ascertainable actual not theoretical earnings constitute basis of award of compensation. *Weekly Underw* 128:1029 My 27 '33

**Waivers**

Agreement to pay wages in lieu of compensation held illegal. *Monthly Labor R* 36:1280-1 Je '33

Fireman accepting pension in lieu of compensation cannot maintain suit for damages. *Monthly Labor R* 36:1280 Je '33

**Willful misconduct**

Compensation denied for injury caused by willful attempt to injure another. *Monthly Labor R* 35:1343-4 D '32

**Arizona**

Arizona electorate votes to retain state workmen's compensation act. *Monthly Labor R* 36:318-19 F '33

**California**

Employer's violation of safety order held to warrant additional compensation. *Monthly Labor R* 37:313-14 Ag '33

**Canada**

Workmen's compensation legislation of 1932; United States and Canada. *Monthly Labor R* 35:1088-90 N '32

**District of Columbia**

Accidental fall while crossing street held to be compensable injury. *Monthly Labor R* 36:544-5 Mr '33

Findings of United States employees' compensation commission conclusive if supported by the evidence. *Monthly Labor R* 36:795-7 Ap '33

Insurance carrier allowed to sue third party for wrongful death of employee. *Monthly Labor R* 36:546-7 Mr '33

Union official held to be a workman for compensation purposes. *Monthly Labor R* 37: 867-8 O '33

**Florida**

Florida seeks elective compensation law. *Weekly Underw* 128:841 Ap 29 '33

**Great Britain**

Butterworths' digest of leading cases on workmen's compensation, being a second edition of Knocker's digest of workmen's compensation cases, by Sidney Henry Noakes. D. Knocker. 479p Butterworth & co, London '33

Workmen's compensation acts and the breach of statutory regulations. *Engineering* 135: 682 Je 23 '33

Workmen's compensation in Great Britain during 1931. *Monthly Labor R* 37:317-19 Ag '33

**Illinois**

Occupational disease act upheld and construed; Illinois. *Pub Health Rep* 48:1143-4 S 15 '33

**Indiana**

Executive of corporation held not an employee within Indiana compensation act. *Monthly Labor R* 35:1342-3 D '32

**Iowa**

Wife employed by husband granted compensation under Iowa act. *Monthly Labor R* 37:585 S '33

**Louisiana**

Protection of employee from physical danger held to be required of employer; Louisiana Court of appeal. *Monthly Labor R* 37:586 S '33

**Massachusetts**

Prisoner injured while serving term held not "employee" within compensation act. *Monthly Labor R* 36:116-17 Ja '33

State workmen's compensation law applicable to injury on federal property. *Monthly Labor R* 36:543-4 Mr '33

**Michigan**

Michigan workmen's compensation law. G. A. Krogstad, ed. 321p National law printing corp, Detroit '32

**New Jersey**

Suggestions that may help legislative committee investigating New Jersey compensation situation. E. C. Graff. *Weekly Underw* 129:873 N 4 '33

Workmen's compensation law of New Jersey. R. R. Chance, comp. 3d ed 491p Soney & Sage co, Newark '32

**Ohio**

Committee is to probe department. *Nat Underw* 37:25 Jl 27 '33

**Oklahoma**

Convict working for county held not a county employee. *Monthly Labor R* 37:315-16 Ag '33

**WORKMEN'S compensation**—Oklahoma—*Cont.*  
Present joint measure to solve Oklahoma  
compensation ills. *Nat Underw* 36:28+ D 22  
'32

Proposed new compensation law. *Weekly Underw* 128:137 Ja 14 '33

#### Oregon

Injury from poison oak held accident caused  
by external means. *Monthly Labor R* 36:  
1077-8 My '33

#### Pennsylvania

Compensation recommendations made to Gov-  
ernor Pinchot. *East Underw* 34:38 Ap 28 '33  
Farmer tearing down building not engaged in  
agriculture and therefore liable for com-  
pensation. *Monthly Labor R* 36:1078 My '33  
Right of widow to compensation held not re-  
stored by annulment of second marriage.  
*Monthly Labor R* 36:117-19 Ja '33

#### Philippine Islands

Recent compulsory reports. *Monthly Labor*  
*R* 35:1346 D '32

#### Tennessee

Nursery employee held to be a farm laborer.  
*Monthly Labor R* 35:1091 N '32

#### United States

How far workmen's compensation acts can  
apply to maritime law, interstate com-  
merce, and the doctrine of extraterritori-  
ality. S. B. Horowitz. bibliog U S Bur  
Labor Statistics *Bul* 577:119-37; Discussion.  
137-46 '33

Illegally employed minor and the workmen's  
compensation law. E. N. Matthews. U S  
Children's Bur Pub 214:1-226 '32

Status of charity workers under workmen's  
compensation laws. *Monthly Labor R* 36:  
316-18 F '33

Workmen's compensation. Published in  
Monthly labor review

Workmen's compensation legislation of 1932;  
United States and Canada. *Monthly Labor R*  
35:1088-90 N '32

#### Utah

Recharging of batteries used in railroad sig-  
naling held part of interstate commerce.  
*Monthly Labor R* 36:119-20 Ja '33

#### Washington (state)

Excessive award made to compensation claim-  
ant cannot be recovered by state. *Monthly*  
*Labor R* 36:1281-2 Je '33

#### West Virginia

Workmen's compensation act held not to take  
away right of action for noncompensable  
disease caused by employer's negligence.  
*Pub Health Rep* 48:764-6 Je 30 '33

#### Wisconsin

Occupational disease producing no immediate  
disability not compensable. *Monthly Labor*  
*R* 36:797-8 Ap '33

**WORKS councils.** See Employees' representa-  
tion in management

**WORLD economic conference, London, 1933**  
After London. *Business Week* p22; Editorial  
comment. p32 Jl 22 '33

Agenda. L. Pasvolsky. *Barron's* 13:18-19 F 27  
'33

Barren harvest. *Economist* 117:215-16 Jl 29  
'33

Conference bargains. *Business Week* p4-5 My  
24 '33

Conference crisis; self-adjusting international  
currency unit. *il Business Week* p3-4 Jl  
8 '33

Curing the depression by conference. J. S.  
Lawrence. *Econostat* 1:8-10 Je 10 '33

Economic conference—and after. F. Morris.  
*Soc Chem Ind J* (Chem & Ind) 52:601-2 Jl  
21 '33

Economic conference; electrical features at  
the new Geological museum. *il Electrician*  
110:810 Je 16 '33

Faith without works. *Economist* 117:165-6 Jl  
22 '33

Future of the World economic conference; how  
the work is organized. L. Pasvolsky. *Anna-*  
*list* 42:147-8 Ag 4 '33

In and out and round about; comments on  
the conference. A. R. Randall-Jones. *Can*  
*Min J* 54:278-9 Jl '33

Issues before the nations. *Economist* 116:sup  
3-11 Je 10 '33

London conference; a newspaper reader's  
guide to the news and an explanation of  
the technical discussions. D. B. Woodward.  
64p Doubleday '33

London—first fruits. *Business Week* p20-1  
Jl 1 '33

London—via Brussels, Genoa, Geneva and  
other points on the way back from the  
war. E. H. Collins. *il Am Bankers Assn J*  
25:20-1+ Je '33

Mountain labored. S. Bell. *Comm & Fin* 22:  
650 Jl 26 '33

Nationalism defeating internationalism. J. C.  
Cresswill. *Mag of Wall St* 52:261-2+ Jl 8 '33  
Points from delegates' speeches. *Economist*  
116:1292-3 Je 17 '33

Preparatory commission's vague report. L.  
Pasvolsky. *Barron's* 12:5 D 19 '32

Price-raising the keynote. L. Pasvolsky. *Bar-*  
*ron's* 13:18 Jl 24 '33

Proceedings. *Economist* 116:1285, 1341-2; 117:  
3-4, 57-8 Je 17-Jl 8 '33

Program for the World economic conference.  
J. W. Angell. 93p \$1 World peace founda-  
tion '33

Progress in London. *Business Week* p 18-19 Je  
17; 24 Je 24 '33

Report. *Economist* 117:sup1-8 Jl 29 '33

Tasks of the economic conference. M. D.  
Gould. *Barron's* 13:3+ My 1 '33

28th economic conference; economic nation-  
alism bars the way. P. Snowden. *Barron's*  
13:3 Je 5 '33

What can we expect from the World economic  
conference? J. C. Cresswill. *Mag of Wall St*  
52:109-10+ My 27 '33

What it can, and ought, to do. G. Paish.  
*Barron's* 13:8+ My 8 '33

What progress at the World conference? A.  
Crawford. *il Burroughs Clearing House* 17:  
6-8 Ag '33

When nations talk business. J. Couzens. *il*  
*Nation's Business* 21:13-15 Ag '33

World conference and monetary reflation; es-  
sential solidarity of world problems. J.  
Stamp. *Barron's* 13:14 Mr 6 '33

World conference draft annotated agenda sub-  
mitted by the Preparatory commission of  
experts. *Economist* 116:sup1-11 Ja 23 '33

World economic conference. *Guaranty Survey*  
13:6-7 Jl '33

World economic conference. *Nat City Bank*  
p90-3 Je '33

World economic conference. *Nation's Busi-*  
*ness* 21:60 S '33

World economic conference; an analysis of  
the influences underlying its failure. A. R.  
Randall-Jones. *Can Min J* 54:320-1 Ag '33

World economic conference—what can it do?  
H. Withers. *Barron's* 13:17 Mr 13 '33

World monetary and economic conference. E.  
H. Youngman. *Bankers M* 127:72-6 Jl '33

#### WORLD petroleum congress

Many interesting production papers presented  
before London World petroleum congress.  
*Oil & Gas J* 32:16+ Ag 10 '33

Technologists from 33 nations join in World  
petroleum congress. L. C. Uren. *Nat Per*  
*N* 25:21-4 Ag 16; 23-4 Ag 30 '33

Welt-erdbötagung, London, South Kensington,  
19. bis 25. Juli 1933. *Chemische Fabrik* 6:  
365-70 Ag 30 '33; *Angew Chemie* 46:566-9 S  
2 '33

World petroleum congress; some resolutions  
passed. *Engineer* 156:189 Ag 25 '33; *Engi-*  
*neering* 136:222 S 1 '33

#### WORLD power conference, 1933

Skandinavische weltkraftkonferenz 1933; ab-  
stracts of papers. *Stahl & Eisen* 53:887-91  
Ag 24 '33

Stockholm welcomes the World power con-  
ference. *il Power* 77:352-3 Jl '33

World power conference; Scandinavian sec-  
tional meeting, June 26-July 9. *Engineer*  
156:80-2, 116-17 Jl 28-Ag 4 '33

World power conference, Scandinavian sec-  
tional meeting, June 26-July 9. *Engineer-*  
*ing* 136:18, 43-4, 70-1, 113-14, 155-6, 179-81,  
205-8, 232-4, 268-71, 450, 478-9, 678-80 Jl 7-  
21, Ag 4-S 8, O 20-27, D 22 '33



**WORLD power conference, 1933—Continued**

World power conference; sectional meeting in Scandinavia. Elec R (Lond) 112:936-8; 113: 12 Je 30-Jl 7 '33

**WORLD'S fair, 1933. See Chicago—World's fair, 1933****WORLD'S fair weekly (periodical)**

World's fair weekly interprets spirit of a Century of progress. El. W. Jones. il Ptd Salesmanship 61:220-3 Je '33

**WORSTED**

Psycho-technical investigation of worsted yarns made from short wools, noils and wastes. H. Binns. Textile Inst J 23:T394-8 D '32

Worsted twist defects; their correction in knitting yarns. G. Hendricks. il Textile World 83:916 My '33

Worsted yarn finishing. Melliand 5:7-8 Ap '33

Worsted-yarn trends; production and equipment. H. S. Davis and G. F. Brown. Textile World 83:1805 O '33

*See also*

Woolen and worsted finishing

Woolen and worsted manufacture

Woolen and worsted mills  
Woolen and worsted spinning  
Yarn

**WOUNDS***See also*

Head—Wounds and injuries

**WRAPPING machines**

Adapting automatic wrapping machines to transparent cellulose. J. D. Conti. il diags Food Ind 5:92-3 Mr '33

Where carton packaging of foods stands today. E. S. Stateler. Food Ind 5:94-9+ Mr '33

**WRAPPING materials**

Adapting automatic wrapping machines to transparent cellulose. J. D. Conti. il diags Food Ind 5:92-3 Mr '33

Cellulose acetate in sheets. F. Ohl. Am Dye-stuff Rep 22:347-9 My 22 '33

Die transparentfolien. M. Halama. il diags Zeit Ver Deutsch Ing 77:452-4 Ap 29 '33

*See also*

Parchment paper

Wrapping paper

**WRAPPING paper***See also*

Soap wrapping paper

**Testing**

Testing the blood resistance of butchers' wrapping paper. C. E. Libby and L. Parkinson. il Paper Tr J 96:37-40 My 4 '33

**WRECKING**

Demolishing a 22-ton casting for foundry iron. diags Eng & Min J 134:156 Ap '33

Stack felled by daring method; Hibernia works in Gelsenkirchen, Germany. il Comp Air M 38:4065 F '33

Wrecking cranes for the Cleveland union terminals co. and the New York Central railroad. H. L. Weinberg. il diag Gen Elec R 36:349-53 Ag '33

*See also*

Automobiles—

Wrecking

Bridges—Wrecking

Tunnel wrecking

**WRENCHES**

Care important in tightening tower bolts. C. A. Booker. Power 77:155 Mr '33

New wrench designed by Consolidated Gas employee has unusual tension feature. il Gas Age 72:100 Jl 22 '33

Several piping tools I've found handy. W. H. Wilson. diags Heating-Piping 4:808-9 D '32

Wrench for removing and applying blow-off valves. diag Ry Mech Eng 106:473 N '32

Wrenches are made long enough. W. F. Schaphorst. Mach 39:777 Ag '33

**WRIGHT, John Kirtland**

Award of the Loubat prizes. Science 77:421-2 My 5 '33

**WRIGHT-HARGREAVES mines, limited**

Attractive low-priced speculations. Mag of Wall St 53:32-3 O 28 '33

**WRIGLEY, William, Jr., company**

Selected stocks to buy for future profit and protection. Mag of Wall St 51:679 Ap 15 '33

Wrigley builds with salesmanship. Econostat 1:13+ Je 10 '33

**WRITING***See also*

Abbreviations

**Identification**

Les bases scientifiques de l'expertise en écritures. Génie Civil 102:67-8 Ja 21 '33

**WROUGHT iron**

A.S.T.M. adopts new standards for steel and wrought iron; proposes revisions. Steel 93: 38 Jl 3 '33

Byers wrought iron culverts. il Ry Age 94:826 Je 10 '33

Dimensions, weights, and test and safe loads for wrought-iron crane chain; data sheet. Mach 39:632A Je '33

Piping standardization; wrought-iron and wrought-steel pipe. S. Crocker. Heating-Piping 5:500-4 O '33

Plating for tankers of wrought iron. R. W. Morrell. diags Marine Eng 88:360-7 O '33

Repairing bridges with wrought iron plates. W. R. Roof. il diags Ry Age 95:122-3 Jl 15 '33

Some observations on the effects of inclusions on the tensile and dynamic properties of certain-ferrous materials; abstract. F. R. Hensel and T. F. Hengstenberg. Iron Age 131:397 Mr 9 '33

Use wrought iron plates in coaling plant; Missouri Pacific mechanical coaling station at Myrick, Mo. il Ry Age 95:435-6 S 23 '33

**Testing**

Explanation of mechanism of corrosion fatigue and its application to sucker rod failures. B. B. Wescott and C. N. Bowers. il Oil & Gas J 32:65 O 26 '33

**WURTZ-FITTIG reaction**

Mechanism of the Wurtz-Fittig reaction; the direct preparation of an organosodium (potassium) compound from an RX compound. H. Gilman and G. F. Wright. Am Chem Soc J 55:2893-6 Jl '33

**WYNN-WILLIAMS counter**

Detection and production of swift particles. E. R. Rutherford. Engineering 135:309 Mr 17 '33

**WYOMINGITE**

Economics of potash recovery from wyomingite and alunite. J. R. Thoenen. flow sheets maps U S Bur Mines Rep of Invest 3190:1-78 '32

Proposed manufacture of monopotassium phosphate at Green River, Wyo.; Lemberg reaction. R. D. Pike. bibliog il diag Ind & Eng Chem 25:256-61, 374-8 Mr-Apr '33

**X****X RAY apparatus**

Developments in the electrical industry during 1932; X-ray apparatus. J. Liston. il Gen Elec R 36:44 Ja '33

Hoover Dam penstocks to be X-ray inspected. il Iron Age 131:639 Ap 20 '33; Same. Elec Eng 52:349 My '33

Klein-Röntgenapparate für medizinische und technische untersuchungen. H. Wendt. il diag Zeit Ver Deutsch Ing 77:959-60 S 2 '33

Method for preparing crystals for rotation photographs. H. Kersten and W. Lange. il R Sci Instr 3:790-1 D '32

Portable X-ray laboratory. V. E. Pullin. il Engineer 154:590, 594 D 9 '32

Produces X-ray stereoscopic images in three dimensions at California inst. of technology. il Steel 91:27 D 26 '32

Progress in radiology; annual British congress and exhibition. il diags Electrician 109: 773-6 D 16 '32

Radiological congress; review of the equipment exhibited. L. F. Fogarty. il Elec R (Lond) 111:879-80 D 16 '32

Rapid-fire weapon to fight tuberculosis; new machine for taking X ray pictures. il Sci Am 149:215 N '33

**X RAY apparatus—Continued**

Recording photodensitometer for X-ray powder photographs. W. O. Milligan. *diag R Sci Instr* 4:496 S '33

Selector; new German automatic X-ray apparatus for small hospitals. *Electrician* 110:827 Je 23 '33

Shipyard installs annealing and X-ray inspection equipment; Sun shipbuilding & dry dock co. P. E. Shaver. *il Steel* 91:21-3 D 19 '32

X-ray equipment; progress in 1932. L. G. H. Sarsfield. *il Electrician* 110:110-11 Ja 27 '33

*See also*

Metals—X ray inspection

**Safety devices and measures**

X-ray equipment; protective aprons, gauntlets and fluoroscopic chairs. *il India Rubber W* 88:45 Je '33

**X RAY films**

Illuminator to facilitate the tracing of X-rays. C. A. Bevans. *diags Science* 77:116 Ja 27 '33

**X RAY filters**

Preparation of collodion filters for X-rays. H. Kersten and J. Maas. *R Sci Instr* 4:14 Ja '33

**X RAY spectrum. See Spectrum, X-ray****X RAY tubes**

Basis for the comparison of X-rays generated by voltages of different wave form. L. S. Taylor, G. Singer and C. F. Stoneburner. *diag U S Bur Stand J Research* 11:293-303 Ag '33

Calcium target for X-ray tubes. H. Kersten and J. Maas. *il diag R Sci Instr* 4:381 Jl '33

Comparison of high voltage X-ray tubes. L. S. Taylor, G. Singer and C. F. Stoneburner. *diags U S Bur Stand J Research* 11:341-51 S '33

Demountable metal X-ray tube. E. P. Miller. *diags R Sci Instr* 4:379-80 Jl '33

Die entwicklung der Röntgenröhre in ihrer bedeutung für wissenschaft und technik. W. Gerlach. *il diags Chemische Fabrik* 6:419-26 O 11 '33

Die entwicklung der Röntgenröhren für die wissenschaftliche und technische anwendung der Röntgenstrahlen. W. Gerlach. *Angew Chemie* 46:366 Je 24 '33

Gas-free metals used in X-ray tubes. W. D. Coolidge and E. E. Charlton. *il diags Metal Prog* 24:36-40 N '33

General electric company 800,000-volt X-ray tube. *il Engineering* 136:78 Jl 21 '33

High potential porcelain X-ray tube. R. Crane and C. C. Lauritsen. *diags R Sci Instr* 4:118-22 Mr '33

How X-ray current and voltage are measured; abstract. G. W. C. Kaye and G. E. Bell. *Elec R (Lond)* 112:452 Mr 31 '33

Needle valve for gas X-ray tubes. H. Kersten and W. Lange. *il diag R Sci Instr* 4:332-3 Je '33

Operation of thick-walled X-ray tubes on rectified potentials. L. S. Taylor and C. F. Stoneburner. *diag pl U S Bur Stand J Research* 10:233-47 F '33

*See also*

Cathode ray tube

**Power supply**

Filter for an X-ray power supply. J. B. Hoag and V. J. Andrew. *diag R Sci Instr* 3:750-2 D '32

**X RAYS**

Application of Blair-Leighton equation to X-rays. J. A. Lester and J. M. Blair. *J Phys Chem* 37:17-20 Ja '33

Applied X-rays. G. L. Clark. 2d ed 484p \$5 McGraw-Hill '32

Chemische wirkungen der Röntgenstrahlen. P. Günther. *Angew Chemie* 46:367 Je 24 '33

Chemische wirkungen von Röntgenstrahlen. P. Günther. *Angew Chemie* 46:627-31 O 7 '33

Decade of applied X-ray research. G. L. Clark. *il diag Soc Chem Ind J (Chem & Ind)* 52:317-25, 336-46 Ap 14-21 '33; Partial summary. *Soc Dyers & Col J* 49:224 Jl '33

Determination of  $e/m$  by means of photoelectrons excited by X-rays. G. G. Kretschmar. *bibliog il diags Phys R* 43:417-23 Mr 15 '33

L'emploi du plomb pour la protection contre les rayons X. J. Mahul. *diags Génie Civil* 102:416-19 My 6 '33

Fluorescence yield from the LIII level of uranium. R. J. Stephenson. *diag Phys R* 43:527-33 Ap 1 '33

Herschel effect with X-rays and with blue light. J. M. Blair. *Phys R* 43:85-6 Ja 1 '33

Ionization spectrometer for long wave-length X-rays; abstract. F. K. Richtmyer and S. Kaufman. *Science* 77:495-6 My 19 '33

Lateral distribution of photoelectrons and the measurement of X-ray polarization. D. G. Hare and P. Kirkpatrick. *Phys R* 43:1037 Je 15 '33

Production of X-rays by fast mercury ions. W. M. Coates. *Phys R* 43:837 My 15 '33

Reduction of chromate solutions by X-rays. H. Fricke and E. R. Brownscombe. *bibliog Am Chem Soc J* 55:2358-63 Je '33

Röntgenkontrastwirkung von halogenpyridon-derivaten. A. Binz and others. *Angew Chemie* 45:713-15 N 12 '32

Soft X-rays from (100) and (111) faces of copper single crystals. M. L. Williams. *diag Phys R* 44:610-17 O 15 '33

Some new uses for vacuum tubes in the electronic arts. I. J. Saxl. *il diags Radio N* 14:526-7+, 588-9+ Mr-Ap '33

X-ray method for quantitative comparison of crystallite orientation in cellulose fibers. W. A. Sisson and G. L. Clark. *bibliog il Ind & Eng Chem Anal* ed 5:296-300 S 15 '33

X-ray studies of fatty acids. F. B. Slagle and E. Ott. *Am Chem Soc J* 55:4396-403 N '33

X-ray studies of mixtures of fatty acids. F. B. Slagle and E. Ott. *il Am Chem Soc J* 55:4404-18 N '33

X rays—an elementary discussion. W. D. Coolidge. *Elec Eng* 52:486-7 Jl '33

X-rays produced by positive particles. *Science* 78:sup5 Ag 11 '33

Crystallography—

Plants, Effect of

*See also*

X ray studies

X rays on

Metals—X ray inspection

Radiography

Spectrum, X-ray

**Absorption**

Measurement of X-ray absorption coefficients by the use of the PF-54 photron. L. M. Heil and J. E. Edwards. *diags Phys R* 43:1-4 Ja 1 '33

**Diffraction**

X-ray studies on lead-acid storage batteries. C. S. Barrett. *il Ind & Eng Chem* 25:297-300 Mr '33

X-ray studies on the hydrous oxides. H. B. Weiser and W. O. Milligan. *J Phys Chem* 36:3010-45 D '32

X-ray study of the toughness of paving brick. G. E. Stong. *Am Cer Soc J* 16:598-600 N '33

**Industrial applications**

Portable X-ray laboratory. V. E. Pullin. *il Engineer* 154:590, 594 D 9 '32

Produces X-ray stereoscopic images in three dimensions at California inst. of technology. *il Steel* 91:27 D 26 '32

X-ray interpretation of fibre structure. W. T. Astbury. *bibliog diag pl Soc Dyers & Col J* 49:168-79; Discussion. 179-80 Je '33

X-ray investigation of the opacifying compounds present in sheet-iron cover enamels. A. I. Andrews and J. P. Breen. *Am Cer Soc J* 16:325-7 Jl '33

X-ray investigations of the penetration of electrolytes into wood. L. Thomassen and D. W. McCready. *il Paper Tr J* 97:42-3 O 12 '33

Zur frage der werkstoffprüfung mit röntgenstrahlen. F. Wever. *il Stahl & Eisen* 52:1243-4 D 15 '32

*See also*

Metals—X ray inspection

**Measurement**

Basis for the comparison of X-rays generated by voltages of different wave form. L. S. Taylor, G. Singer and C. F. Stoneburner. *diag U S Bur Stand J Research* 11:293-308 Ag '33



**X RAYS**—Measurement—*Continued*

- Cooling of crystals for X-ray scattering measurements. P. S. Williams. *diags R Sci Instr* 4:334-6 Je '33
- Filter for an X-ray power supply. J. B. Hoag and V. J. Andrew. *diag R Sci Instr* 3:750-2 D '32
- Measurement of low-voltage X-ray intensities. L. S. Taylor and C. F. Stoneburner. *diags U S Bur Stand J Research* 9:769-80 D '32
- Measurement of X-ray intensities as functions of voltage up to 180 kv. D. L. Webster, W. W. Hansen and F. B. Duveneck. *il diags R Sci Instr* 3:729-49 D '32
- Wave-lengths of the silver, molybdenum, copper, iron and chromium  $K\alpha$  lines. J. A. Bearden. *Phys R* 43:92-7 Ja 15 '33

**Reflection**

- Absolute X-ray reflectivities of single crystals of calcite, rocksalt, rochelle salt and barite. P. Kirkpatrick and P. A. Ross. *Phys R* 43:596-600 Ap 15 '33
- Factors affecting the reflection intensities by the several methods of X-ray analysis of crystal structures. F. C. Blake. *Rs Mod Phys* 5:169-202 [bibliog p201-2] Jl '33; Correction. 5:288 O '33
- Laue patterns from thick crystals at rest and oscillating piezoelectrically. J. M. Cork. *il Phys R* 42:749-52 D 15 '32
- X-ray reflections from a quartz piezoelectric oscillator in a Bragg spectrograph. M. Y. Colby and S. Harris. *Phys R* 42:733-4 D 1 '32

**Scattering**

- Diffuse scattering of X-rays from sylvine. G. G. Harvey. *bibliog diags Phys R* 43:591-5, 707-10; 44:133-7 Ap 15-My 1, Ag 1 '33
- Effect of temperature on the intensity of X-rays scattered by powdered sodium fluoride. J. J. Shonka. *bibliog diag Phys R* 43:947-54 Je 15 '33
- Linear momenta of electrons in atoms and in solid bodies as revealed by X-ray scattering. J. W. M. DuMond. *il diags Rs Mod Phys* 5:1-33 Ja '33
- Measurements of intensity of Compton modified radiation by means of filters. E. O. Wollan. *diag Phys R* 43:955-63 Je 15 '33
- Remarks on the scattering of X-rays by gases and crystals. G. E. M. Jauncey. *Phys R* 42:453-63 N 15 '32
- Scattering of X-rays by the gaseous dichlorobenzenes. W. C. Pierce. *Phys R* 43:145-6 Ja 15 '33
- Scattering of X-rays from powdered crystals. G. E. M. Jauncey and F. Pennell. *Phys R* 43:505-15 Ap 1 '33
- Scattering of X-rays from powdered crystals at low temperatures. G. E. M. Jauncey and F. Pennell. *Phys R* 44:138-40 Ag 1 '33

**Therapeutic use**

- Operation of thick-walled X-ray tubes on rectified potentials. L. S. Taylor and C. F. Stoneburner. *diag pl U S Bur Stand J Research* 10:233-47 F '33
- X-rays in medicine. H. S. Cumming. *Science* 78:sup8 S 29 '33

**XANTHATES**

- Soluble metal xanthates and their effect on differential flotation. S. P. Warren. *Min Cong J* 19:39+ My '33
- Surface actions of some sulfur-bearing organic compounds on some finely-ground sulfide minerals. A. M. Gaudin and W. D. Wilkinson. *bibliog J Phys Chem* 37:833-45 O '33

**XANTHONE**

- Halochromism of ketones in acids. L. C. Anderson. *Am Chem Soc J* 55:2094-8 My '33
- Reactions of 1:2:3:4-tetrahydroxanthone. H. I. Hall and S. G. P. Plant. *Chem Soc J* p232-5 Mr '33

**XENON**

- Attempt to prepare a chloride or fluoride of xenon. D. M. Yost and A. L. Kaye. *Am Chem Soc J* 55:3890-2 S '33
- Further description and analysis of the first spectrum of xenon. C. J. Humphreys and W. F. Meggers. *U S Bur Stand J Research* 10:139-49 Ja '33

**XYLAN**

- Pentose reactions; xylan. C. D. Hurd and N. R. Currie. *Am Chem Soc J* 55:1521-3 Ap '33

**XYLENE**

- Isolation of the three xylenes from an Oklahoma petroleum. J. D. White and F. W. Rose, jr. *U S Bur Stand J Research* 9:711-20 D '32
- Sur la transformation du benzène, du toluène et du xylène en méthane. A. Mailhe. *Chimie & Ind* 28:1263-71 D '32

**XYLENOL**

- Keimtötende wirkung und chemische konstitution der isomeren xynolen und ihrer monohalogenderivate. G. Lockemann and T. Kunzmann. *bibliog Angew Chemie* 46:296-301 My 27 '33

**XYLENOXYACETIC acid**

- Hydrate of 1,3,5-xyleneoxyacetic acid. A. R. Albright. *Am Chem Soc J* 55:1736-7 Ap '33

**XYLIDINES**

- Autoclave in organic synthesis. G. T. Morgan. *Chem Age (Lond)* 27:572-3 D 17 '32

**XYLODES rugosus**

- Xylodes rugosus* sp. nov., a Niagaran coral. S. Smith. *pl Am J Sci* 5th ser 26:512-22 [bibliog p521-2] N '33

**XYLYLPYRAZOLONES**

- p*-Xylylmethylpyrazolones and some derivatives. R. C. Huston, H. M. Sell and H. R. Brigham. *Am Chem Soc J* 55:3407-8 Ag '33

**Y****YACHTS and yachting**

- Cruising and ocean racing. E. G. Martin and others. 592p Lippincott '33
- Little ships. J. S. Hughes. 187p Dutton '33
- Model sailing craft. W. J. Daniels and H. B. Tucker. 245p Chapman and Hall, Ltd, London '32
- Twin-screw motor yacht "Trenora." *il Engineering* 136:187-9, 196, pl 8 Ag 25 '33; *Engineer* 156:109 Ag 4 '33
- Unique high pressure steam unit for yacht. *Sci Am* 149:240-1 N '33
- Yachts under sail; a collection of photographs with foreword by Alfred F. Loomis; designed by G. C. Aymar. \$3 William Morrow & co, inc, 386 Fourth av, New York '33

*See also***Motor boats****YAKIMA park**

- Complete electrification for Yakima park. R. D. Waterhouse. *il Elec West* 71:26-7 Jl '33

**YAKIMA valley**

- New version of the Spokane flood. I. S. Allison. *il maps Geol Soc Bul* 44:675-722 Ag '33

**YALE university**

- Engineering features of a modern gymnasium; Payne Whitney gymnasium at Yale university. E. E. Seelye. *il Eng N* 111:219-20 Ag 24 '33
- Honorary degrees conferred at Yale university. *Science* 77:621-2 Je 30 '33
- Payne Whitney gymnasium and Ray Tompkins house at Yale university, front *il plans Arch Rec* 73:75-104 F '33
- Yale expedition to Newfoundland. *Science* 78:232-3 S 15 '33

**Divinity school**

- Yale divinity school, New Haven, Conn. *il Architecture* 67:269-74 My '33

**North India expedition**

- Preliminary report on the Yale North India expedition. H. de Terra. *map Science* 77:497-500 My 26 '33

**YANGTZE river**

- New channel in the upper Yangtze. H. R. Dixon. *il Comp Air M* 38:4239-42 O '33

**YARN**

- Camel hair belting yarns. J. H. Fisher. *il Mel-land* 4:559-60 D '32

**YARN—Continued**

Introduction to the micro-analysis of yarn twist. E. R. Schwarz. bibliog diags pls Textile Inst J 24:T105-18 Mr '33

Kinematics of twist. H. J. Woods. il diags Textile Inst J 24:T317-32 S '33

New method for merinos reduces cost and retains quality on cotton system. H. W. Swan. Textile World 83:1624 S '33

Yarn diameters and cloth structure, theory and practice. T. Woodhouse and A. Brand. 163p \$2.75 Macmillan '32

See also

Cotton yarn Worsted  
Silk, Artificial—  
Yarn

**Manufacture**

Fancy yarns or novelties. il diags Melliand 4:385-6, 426-7, 515-16, 708-9 S-N '32, Mr '33  
Modern machinery for fancy thread making. C. Carter. diag Melliand 5:60-1 My '33

**Measurement**

Measurement of fibre and yarn diameters by diffraction method. J. A. Matthew. Textile Inst J 24:T54-6 Ja '33

**Testing**

Abolish the skein test. G. B. Haven. Textile World 83:928-9 My '33

Ballistic test for yarns. Am Dyestuff Rep 21:752-3 D 19 '32

Effect of regain upon the properties of woolen yarns. H. J. Ball. Melliand 5:198 O '33

Examination of a proposed relationship between thelea test and the single thread test results. V. Venkataraman and N. Ahmad. bibliog Textile Inst J 24:T35-43 Ja '33

Improved United States testing company tester for determining twist and twist take-up. A. L. Brassell. il Melliand 5:167-8 Ag-S '33

**YEAST**

Disintegrator for yeast cells. W. F. Bruce. diag Science 77:543-4 Je 2 '33

Fermentation of mannose by dried yeast; abstract. C. M. Jephcott and R. Robison. Soc Chem Ind J (Chem & Ind) 52:269-70 Mr 24 '33

Pantothenic acid, a growth determinant of universal biological occurrence. R. J. Williams and others. bibliog Am Chem Soc J 55:2912-27 Ji '33

Pantothenic acid as stimulus to growth. R. J. Williams and C. M. Lyman. Science 78:sup4-5 S 22 '33

Pellagra-preventive value of autoclaved dried yeast, canned flaked haddock, and canned green peas. G. A. Wheeler. bibliog Pub Health Rep 48:67-77 Ja 20 '33

Preservative action of spices and related compounds against yeast fermentation. J. W. Corran and S. H. Edgar. Soc Chem Ind J 52:149T-52T My 26 '33

Removal of sugars from dilute solutions by yeast; abstract. J. L. Baker and H. F. E. Hulton. Soc Chem Ind J (Chem & Ind) 52:505-6 Je 16 '33

Study of some vitamin B adsorbates. V. Birckner. bibliog Pub Health Rep 48:7-16 Ja 6 '33

Vienna medical faculty on yeast testimonials. Science 77:sup9 Ja 13 '33; Same. Sci Am 148:230-1 Ap '33

Wildiers' bios: the fractionation of bios from yeast. W. L. Miller, E. V. Eastcott and J. E. Maconachie. Am Chem Soc J 55:1502-17 Ap '33

Yeast-growth stimulants in white sugars. H. H. Hall, L. H. James and L. S. Stuart. Ind & Eng Chem 25:1052-4 S '33

**Irradiation**

Ultra-violet irradiation stimulates yeast activity. W. L. Owen. bibliog il Food Ind 5:252-4 Ji '33

**Manufacture**

National grain yeast corp. reequips for profit and quality. H. L. King. il Food Ind 5:134-7 Ap '33

**YELLOW**

Benzoyd derivatives of indigotin. E. Hope, R. W. R. Kersey and D. Richter. Chem Soc J p1000-3 Ag '33

Causes and prevention of light-instability in chrome yellow; abstract. H. Wagner and others. Soc Dyers & Col J 49:267-8 Ag '33

Introduction and use of ling for dyeing yellow. C. D. Mell. Textile Col 55:118-19 F '33

Saturation scale for yellow colors. D. B. Judd. Opt Soc Am J 23:35-40 F '33

See also

Ciba yellow

**YELLOW fever**

Scientific adventure; abstract. G. E. Vincent. J Fr Inst 215:578 My '33

**YELLOW river**

Chinese river in Bavaria; model of the Hwang-ho river for flood control studies. il Sci Am 149:17 Ji '33

Yellow river—a major flood menace in China. A. M. Shaw. il maps Eng N 111:261-5 Ag 31 '33

**YELLOWSTONE national park**

Construction of oil-mixed surfaces in higher altitudes. C. F. Capes. Roads & Sts 76:274-5 Ji '33

Petrification in the Yellowstone national park. Science 77:sup9 Mr 17 '33

Yellowstone national park. H. M. Chittenden. rev ed 286p \$3 Stanford university press, Stanford University, Calif. '33

**YOHIMBIC acid**

Some hydroxy and amino esters of yohimbic acid. D. E. Worrall. Am Chem Soc J 55:3715-18 S '33

**YOHIMBINE**

Yohimbine (quebrachine); harman, a degradation product. G. Barger and C. Scholz. Chem Soc J p614-15 Je '33

**YOSEMITE national park**

Driving a 4,230-ft. tunnel in Yosemite national park. C. S. Moore. il diags Eng N 111:76-8 Ji 20 '33

Lighting the Wawona tunnel. J. F. Morton. il diag Elec J 30:429-30 O '33

Wawona road tunnel in the Yosemite national park. Science 77:599 Je 23 '33

**YOUNG, Charles D. 1878-**

Sketch. por Sibley J 47:73 Ap '33

**YOUNG, Thomas, 1773-1829**

Sidelights on the era of Young and Fresnel. E. L. Nichols. Opt Soc Am J 23:1-6 Ja '33

**YOUNG, William**

Young, Beilby, and some experiments on the carbonization of coal. F. S. Sinnatt. il diags Gas J (Lond) 203:565-70 S 13 '33

**YOUNG men's Christian association**

Electric railway Y.M.C.A. C. B. Hall. il Elec Traction 29:171 Je '33

Safety program for the Y.M.C.A. J. R. Craig. Nat Safety N 27:29+ Mr '33

**YOUNG people**

Problem of the unemployment of young persons. Int Labour R 27:499-519 Ap '33

So you're handing us chaos; younger generation starts with a new viewpoint. A. Bradbury. Ptr Ink 161:3-4+ D 15 '32

Talking to the 6,000,000 rulers; the generation which is coming into power appreciates sincerity and unselfishness. R. F. Allen. Ptr Ink 165:12-13 O 26 '33

See also

Advertising—Young  
people, Appeal to

**YOUNG women's Christian association buildings**

Chinese Y.W.C.A. building, San Francisco; views. Architecture 67:195-8 Ap '33

**YOUNGSTOWN, Ohio****Water supply**

False Wheeler filter bottom used in new water plant; Mahoning Valley filter plant. G. G. Dixon. il diags Eng N 111:317-21 S 14 '33



**YOUNGSTOWN, Ohio**—Water supply—*Cont.*  
New water plant stresses pre-treatment;  
Mahoning Valley sanitary district. G. G.  
Dixon. *il* diags map plan Eng N 110:395-9  
Mr 30 '33

**YTTERBIUM**

Crystalline fields of Pr, Nd and Yb from  
paramagnetic susceptibilities. W. G. Pen-  
ney. *Phys R* 43:485-90 Mr 15 '33

Observations on the rare earths; the magnetic  
susceptibilities of europium and ytterbium  
salts. G. Hughes and D. W. Pearce. *Am*  
*Chem Soc J* 55:3277-9 Ag '33

**YTTRIUM**

Observations on the rare earths; the basicity  
of illinium and yttrium. G. Hughes and  
B. S. Hopkins. *Am Chem Soc J* 55:3121-3  
Ag '33

**YTTRIUM nitrate**

Determination of fluorine in cryolite. F. J.  
Frere. *bibliog Ind & Eng Chem Anal ed*  
5:17-18 Ja 15 '33

**YUCCA**

Yucca fibre. *il Soc Dyers & Col J* 49:61-2 F  
'33

**YUGOSLAVIA**

Timely warning to Belgrade. *Economist* 115:  
1231-2 D 31 '32

**Economic conditions**

Recovery problems in Yugoslavia. *Economist*  
117:570-1 S 23 '33

**Z**

**ZAMAK alloys.** See Zinc alloys

**ZAPON-BREVOLITE lacquer company**

Zapon and Brevolite companies form combina-  
tion. *Automotive Ind* 69:289 S 2 '33; *Platers'*  
*Guide* 29:16-17 S '33

**ZEEMAN effect**

Analysis of lanthanum spectra. (La I, La II,  
La III). H. N. Russell and W. F. Meggers.  
*U S Bur Stand J Research* 9:625-68 N '32

Atomic energy levels and Zeeman effect. D.  
R. Inglis and N. Ginsburg. *Phys R* 43:194-6  
F 1 '33

Zeeman effect for perturbed  $N_2^+$  terms. A. E.  
Parker. *Phys R* 44:84-9 Jl 15 '33

Zeeman effect in the arc spectrum of nickel.  
H. H. Marvin and A. E. Baragar. *Phys R*  
43:973-9 Je 15 '33

Zeeman effect of lead II, III and IV. J. B.  
Green and R. A. Loring. *il* diags *Phys R* 43:  
459-66 Mr 15 '33

Zeeman effect of perturbed terms in the CO  
angstrom bands. W. W. Watson. *il* *Phys R*  
42:509-17 N 15 '32

**ZEISS, Walther, 1873-**

Walther Zeiss zum silbernen jubiläum. B.  
Lepsius. *por Angew Chemie* 46:185-7 Ap 1  
'33

**ZEMURRAY, Samuel**

Sam Zemurray; he likes subordinates hard-  
boiled. G. H. Allen. *por Forbes* 32:11-12+  
S 15 '33

United Fruit; the gentleman from New Or-  
leans. *por Fortune* 7:26-30+ Mr '33

**ZEOLITES**

Automatic zeolite softener. S. B. Applebaum.  
*il* diags *Power* 77:374 Jl '33

Clarifying action of fuller's earth. M. E.  
Fogle and H. L. Olin. *bibliog il Ind &*  
*Eng Chem* 25:1069-73 O '33

Determining the quality of zeolites; abstract.  
H. L. Tiger. *Water Works & Sewerage*  
80:259 Jl '33

Development of the automatic zeolite water  
softener; abstract. S. B. Applebaum. *Water*  
*Works & Sewerage* 80:343 S '33

Effect of particle size on capacity of zeolites.  
P. Bird, F. Colburn and F. Smith. *Ind & Eng*  
*Chem* 25:564 My '33

Readjustment of salts in milk by base ex-  
change treatment. J. F. Lyman, E. H.  
Browne and H. E. Otting. *Ind & Eng*  
*Chem* 25:1297-8 N '33

Sewage treatment and disposal; a new Ameri-  
can process developed by G. H. Gleason  
and A. C. Loonam. *Soc Chem Ind J (Chem*  
*& Ind)* 52:346-7 Ap 21 '33

Softening of municipal water supplies. W. H.  
Walker. *Can Eng* 65:15-18 Jl 18 '33

Zeolite water treatment meets with favor on  
Northern Pacific. E. M. Grime. *il Ry Age*  
95:300-2 Ag 26 '33

**ZINC**

Application of finishing materials on zinc. M.  
H. Corbin. *il Ind & Eng Chem* 25:32-4 Ja  
'33

Chromium plating on zinc; abstract. M. deK.  
Thompson and F. C. Jelen. *Metal Ind* 31:  
206 Je '33

Colored finishes on zinc, with cleaning meth-  
ods. *il Brass W* 28:224-5 N '32

Cost analysis of zinc die castings vs. machined  
castings. L. H. Morin. *diags Metal Ind* 31:  
168-9 My '33

Meet zinc; a metal you ought to know. L. K.  
Urquhart. *il Factory & Ind Management* 84:  
7-10 Ja '33

Metallic zinc paint effective. *Steel* 91:26-7 N 28  
'32

More about zinc; a metal you ought to know.  
L. K. Urquhart. *il Factory & Ind Manage-*  
*ment* 84:54-6 F '33

New bath for the direct nickeling of zinc.  
G. W. Nichols. *Electrochem Soc Trans* 64  
(preprint 14):149-54 S '33

Nickel plating of fabricated zinc in a barrel.  
A. Hirsch. *Electrochem Soc Trans* 63 (pre-  
print 14):129-33 My '33; *Excerpt. Iron Age*  
131:991 Je 22 '33

Nonferrous physical metallurgy; review of lit-  
erature shows wide variety of work. W. M.  
Peirce. *Min & Met* 14:36-7 Ja '33

Physical properties of zinc at various stages  
of cold-rolling; abstracts and discussion. R.  
Chadwick. *Engineering* 135:326-7 Mr 24 '33;  
*Engineer* 155:267 Mr 17 '33; *Metal Ind* 31:  
126 Ap '33

Precise determination of the thermal diffusiv-  
ity of zinc. R. H. Frazier. *Phys R* 43:135-6  
Ja 15 '33

Preparation of zinc and zinc-alloy surfaces for  
coating. H. A. Nelson and W. W. Kittel-  
berger. *il Ind & Eng Chem* 25:27-32 Ja '33

Reactions during vulcanization; the multiple-  
accelerator effect. H. C. Jones. *Ind &*  
*Eng Chem* 25:1009-11 S '33

Story of zinc. H. R. Hanley. *bibliog diags*  
*J Chem Educ* 10:600-4, 682-8 O-N '33 (to be  
cont)

Verhalten von zink im hochofen. W. Feld-  
mann. *Stahl & Eisen* 52:1290 D 29 '32

Zinc competes on cost of use basis; abstract.  
W. M. Peirce. *Iron Age* 132:37-8 O 12 '33;  
*Abstract. Steel* 93:41+ O 23 '33

Zinc from the ground to the consumer; chart.  
A. Bregman. *Metal Ind* 31:4 Ja '33

**Analysis**

Analysis of sized cotton; the determination of  
zinc and magnesium, and some qualitative  
tests. A. Geake. *Textile Inst J* 23:T279-92 N  
'32

Chemical analysis of rayons; the micro-deter-  
mination of metals in commercial rayon  
yarns. B. P. Ridge, M. Corner and H. S.  
Cliff. *bibliog Textile Inst J* 24:T293-308  
Ag '33

Methodische fortschritte bei visuellen leit-  
fähigkeitstitationen und -messungen. G.  
Jander and H. Schorstein. *diags Angew*  
*Chemie* 45:701-3 N 5 '32

New reagent for determination of zinc. A. J.  
Quick. *Ind & Eng Chem Anal ed* 5:26 Ja  
15 '33

Quantitative separation of small amounts of  
zinc from material rich in iron. F. G. Hills.  
*Ind & Eng Chem Anal ed* 5:201 My 15  
'33

Tantalum and columbium cathodes vs. platini-  
um cathodes for electro-analysis. D. F.  
Calhane and C. M. Alber. *Electrochem Soc*  
*Trans* 63 (preprint 7):61-7 My '33

## ZINC—Continued

## Physiological effect

Zinc in relation to general and industrial hygiene. C. K. Drinker and L. T. Fairhall. *Pub Health Rep* 48:955-61 [bibliog p960-1] Ag 11 '33; Excerpts. *Oil Paint & Drug Rep* 124:27 O 23 '33; *Foundry* 61:44+ D '33; *Glass Ind* 14:117 N '33

## Prices

Thirty-five years of black and galvanized sheets, at Pittsburgh, and zinc, New York, 1898-1932; graph. *Iron Age* 131:29-30 Ja 5 '33

## Testing

Corrosion of metals in salt solutions and seawater. G. D. Bengough. *il diag Soc Chem Ind J* (Chem & Ind) 52:195-210, 228-39, pl 1-4 Mr 10-17 '33

## ZINC alloys

Aging of zinc die-casting alloys. *Am Mach* 77: 213 Mr 29 '33

Artists and engineers cooperate in production of die cast hardware; Devereaux corporation. J. B. Nealey. *il Iron Age* 131:740-2 My 11 '33

Die-casting metals set new standards. *il Mach* 40:101-3 O '33

Electrodeposition of ternary alloys of cadmium, zinc and antimony. L. E. Stout and L. Goldstein. *il Electrochem Soc Trans* 63 (preprint 3):17-37 My '33

Equilibrium diagram of the nickel-zinc system. K. Tamaru. *Engineer* 155:sup[Metalurgist] 19-21 Ap 28 '33

New alloys and improved technique extend use of zinc die castings. *il Steel* 91:21-3 D 5 '32

Preparation of zinc and zinc-alloy surfaces for coating. H. A. Nelson and W. W. Kittelberger. *il Ind & Eng Chem* 25:27-32 Ja '33

Properties of zamak alloys used for die-castings; data sheet. *Mach* 39:376A F '33

Properties of zinc base die castings. *il Metal Ind* 30:470-2 D '32

X-ray study of phase boundaries in thermal diagrams of alloy systems; Cu-Zn system; abstract. G. Owen and L. Pickup. *Engineer* 154:sup[Metalurgist] 168-70 N 25 '32

Zinc alloys for die casting recently improved. J. B. Nealey. *il Metal Prog* 22:43-6 D '32

Zinc base alloy die castings find steadily widening field of automotive application. J. Geschelin. *il Automotive Ind* 69:72-5 Jl 15 '33

Zinc die-casting. *il Business Week* p10-11 Ja 18 '33

Zinc in die casting alloy field. A. E. Mervine. *Metal Ind* 31:5-6 Ja '33

See also

Brass  
Silver solder

## ZINC borate

Luminescence and crystalline structure. B. E. Cohn. *diag Am Chem Soc J* 55:953-7 Mr '33

## ZINC bromide

Free energy of reactions involving the fused chlorides and bromides of lead, zinc and silver. E. J. Salstrom. *Am Chem Soc J* 55:2426-8 Je '33

Thermodynamic properties of fused salt solutions; zinc bromide in lead bromide. E. J. Salstrom. *Am Chem Soc J* 55:1029-36 Mr '33

## ZINC chill. See Metal fume fever

## ZINC chloride

Choosing aluminum fluxes. J. Brinn. *Metal Ind* 31:129 Ap '33

Distribution method for the determination of the dissociation pressures of salt ammoniates. R. P. Seward. *diag Am Chem Soc J* 54:4598-605 D '32

Free energy of reactions involving the fused chlorides and bromides of lead, zinc and silver. E. J. Salstrom. *Am Chem Soc J* 55:2426-8 Je '33

Reaction between acid chlorides and ethers in the presence of zinc chloride. L. P. Kyrides. *Am Chem Soc J* 55:1209-12 Mr '33

Reaction between some acid chlorides and esters. L. P. Kyrides and M. N. Dvornikoff. *Am Chem Soc J* 55:4630-2 N '33

## Analysis

Die konduktometrische titration von ammon-salzen, zinksalzen und cyanaten nach der visuellen methode. O. Pfundt. *Angew Chemie* 46:218-19 Ap 15 '33

## ZINC compounds

Lead, zinc products sales lower in 1932. *Oil Paint & Drug Rep* 123:32 Je 12 '33; Same. *Chemicals* 38:9 Je 26 '33

Studies of electrolytic polarisation; amines of copper, silver, zinc, and cadmium. S. Glasstone. *Chem Soc J* p2849-57 D '32

## ZINC corporation

Ordinary general meeting, 22d, London. *Economist* 117:198 Jl 22 '33

## ZINC cyanide

Further study of anodes for zinc plating. A. K. Graham, G. B. Hogaboom, Jr. and L. E. Graham. *Metal Ind* 31:195-7 Je '33

Study of cyanide zinc plating baths using the aluminum mercury zinc anode. A. K. Graham. *Electrochem Soc Trans* 63 (preprint 15):135-46 My '33

## ZINC diethyl

Oxidation of diethylzinc. T. W. Thompson and N. S. Kelland. *Chem Soc J* p756-7 Jl '33

## ZINC dimethyl

Oxidation of dimethylzinc. H. W. Thompson and N. S. Kelland. *Chem Soc J* p746-56 Jl '33

## ZINC industry and trade

Zinc in 1932. J. D. Conover. *Metal Ind* 31:54 F '33

## Advertising

House of the future; drawing by Alexey Brodovitch for the New Jersey zinc company. *Adv Arts* p20a Jl '33

## Statistics

Lead and zinc in 1932. *Oil Paint & Drug Rep* 123:26 Ja 30 '33

Lead and zinc, 1932. *Min Cong J* 19:13-14 Mr '33

Spelter, 1932. *Economist* 116:sup54 F 18 '33

## United States

Code for the zinc industry. *Eng & Min J* 134:362 S '33

Expensive charity; zinc producers create jobs, but depress prices. *Bradstreet's* 61:356+ F 18 '33

Industrial snapshots. J. Backman and A. L. Jackson. *Barron's* 13:5 S 25; 17 O 23 '33

Zinc prices resist new orders' decline. *Bradstreet's* 60:1519+ N 19 '32

## ZINC iodide

Iodide cells; an investigation of the cadmium iodide and zinc iodide types. A. E. Salazar. *Electrician* 110:650 My 19 '33

## ZINC metallurgy

Advance in flotation; sphalerite and copper minerals separated. R. E. Barthelemy. *Eng & Min J* 134:280-1 Jl '33

Continuous lead refining; Broken Hill associated smelters proprietary, ltd, Port Pirie, South Australia. G. K. Williams. *Eng & Min J* 134:285-6 Jl '33

Effect of particle size on flotation of sphalerite. R. L. Kidd and W. A. Wall. *Min & Met* 14:421-2 O '33

Metallurgical practice at Broken Hill, New South Wales. flow sheets *il Eng & Min J* 134:61-4 F '33

Story of zinc. H. R. Hanley. bibliog diags *J Chem Educ* 10:600-4, 682-8 O-N '33 (to be cont)

Volatilization of impurities from zinc concentrates, by G. O. Oldright, W. E. Keck and F. K. Shelton; with a chapter on thermodynamic calculations; further theoretical study of the separation of cadmium and zinc, by C. G. Maier. *US Bur Mines Rep of Invest* 3218:1-51 '33; Abstract. *Chem Age (Lond)* 29:sup15-16 S 2 '33



**ZINC metallurgy—Continued**

Zinc-blende treatment; electrical precipitating plant for purifying gases produced by roasting. *Electrician* 111:472 O 20 '33

Zinc metallurgists perfect recent developments. *F. G. Breyer. Min & Met* 14:55-6 Ja '33

**Electrometallurgy**

Electro-deposition of zinc. P. Röntgen and R. Buchkremer. *il Engineer* 155:sup [Metallurgist] 38-43 Je 30 '33

Electrolytic zinc; the determination of small amounts of germanium. H. Lundin. *Electrochem Soc Trans* 63 (preprint 20):191-5 My '33

**ZINC mines and mining****Kansas-Oklahoma-Missouri district**

Miami-Picher zinc-lead district. W. A. Tarr. *Econ Geol* 28:463-79 Ag '33

Silicosis and tuberculosis among miners of the Tri-state district of Oklahoma, Kansas, and Missouri. R. R. Sayers and others. map plan pls U S Bur Mines Tech Pa 545:1-30; 552:1-28 '33; Abstract (pt. 1). *Can Min J* 54:187-9 My '33

**ZINC oxalate**

System zinc oxalate, potassium oxalate, water; at 25°. V. Metler and W. C. Vossburgh. *Am Chem Soc J* 55:2625-9 Jl '33

**ZINC oxide**

Effect of acicular zinc oxide on the physical properties of a rubber compound. M. K. Easley. *il Rubber Age* 33:103-5 Je '33

Effect of zinc oxide on sheet-iron cover-enamel properties. L. D. Fetterolf. *Am Cer Soc J* 16:319-24 Jl '33

Engineering principles of industrial hygiene; recovery of zinc oxide dust. A. Zimmerman. *il W Soc E J* 38:92-5 Ap '33

Factors affecting rate of vulcanization of chloroprene plastic polymers. E. R. Bridgewater and E. H. Krismann. *Ind & Eng Chem* 25:280-3 Mr '33

Recovery of smelter dust and oxide at a secondary metals plant. W. Romanoff and C. O. Thieme. *il diag Min & Met* 14:425-7 O '33

Some factors involved in the Banbury mixing of zinc oxide in rubber stocks. W. C. Mathews and G. S. Haslam. bibliog *il Rubber Age* 32:206-10 D 25 '32

Zinc oxide in rubber. H. A. Depew. bibliog *il Ind & Eng Chem* 25:370-4, 532-8 Ap-May '33

**ZINC plating**

Aluminum sulfate in zinc-plating. *Chem Markets* 32:26 Ja '33

Effect of zinc coatings on the endurance properties of steel. W. H. Swanger and R. D. France. bibliog *il Am Soc T M Proc* 32 pt 2:430-48 '32; Same. U S Bur Stand J Research 9:9-24 Jl '32; Discussion. *Am Soc T M Proc* 32 pt 2:449-52 '32

Electroplating zinc on aluminum. H. K. Work. *Metal Ind* 31:169-70 My '33

Further study of anodes for zinc plating. A. K. Graham, G. B. Hogaboom, Jr. and L. E. Graham. *Metal Ind* 31:195-7 Je '33

New continuous, high-speed zinc plating process. *Automotive Ind* 69:182 Ag 12 '33

Study of cyanide zinc plating baths using the aluminum mercury zinc anode. A. K. Graham. *Electrochem Soc Trans* 63 (preprint 15):135-46 My '33

See also

Galvanizing

**ZINC sulfate**

Anti-tarnish cloth; patents and tests. T. C. Coté. *diag Textile Col* 55:316-18 My '33

Equilibria in the systems  $(\text{NH}_4)_2\text{SO}_4\text{-NiSO}_4\text{-H}_2\text{O}$ ,  $(\text{NH}_4)_2\text{SO}_4\text{-CoSO}_4\text{-H}_2\text{O}$ ,  $(\text{NH}_4)_2\text{SO}_4\text{-ZnSO}_4\text{-H}_2\text{O}$ ,  $\text{Na}_2\text{SO}_4\text{-NiSO}_4\text{-H}_2\text{O}$ , and  $\text{Na}_2\text{SO}_4\text{-CoSO}_4\text{-H}_2\text{O}$ , at 25°. R. M. Caven and W. K. Gardner. *Chem Soc J* p943-6 Ag '33

Heat of dilution and the partial molal heat capacity of zinc sulfate from the electromotive force of galvanic cells. V. K. La Mer and I. A. Cowperthwaite. *Am Chem Soc J* 55:1004-13 Mr '33

**ZINC sulfide**

Determination of zinc sulphide pigments in paper. F. A. Steele. *Paper Tr J* 97:27-8 Ag 31 '33

Mechanism of development of pigment value in zinc sulfide. L. T. Work and I. H. Odell. bibliog *il Ind & Eng Chem* 25:411-16, 543-9 Ap-May '33

Properties of paper pigmented with zinc sulphide. H. M. Cyr. *Paper Tr J* 96:31-3 Je 15 '33

Use of zinc pigments in the paper industry. O. Kress and H. M. Cyr. *il diags Paper Tr J* 96:35-8 Mr 9 '33

Zinc paper cuts postage; zinc pigment makes thin paper more opaque. *Business Week* p14 Mr 8 '33

See also

Sphalerite

**ZIRCON**

Some experiments with zircon and zirconia refractories. G. F. Comstock. *il Am Cer Soc J* 16:12-35 Ja '33

**ZIRCONIA. See Zirconium oxide****ZIRCONIUM**

Effect of zirconium in white iron mixtures. F. B. Riggan and H. C. Aufderhaar. *il Iron Age* 131:426-7 Mr 16 '33

See also

Cyrtolite

**Analysis**

Determination of zirconium in plain carbon and alloy steels. T. R. Cunningham and R. J. Price. *Ind & Eng Chem Anal ed* 5:334-5 S 15 '33

Determination of zirconium in steels; selenious acid method. S. G. Simpson and W. C. Schumb. *Ind & Eng Chem Anal ed* 5:40-2 Ja 15 '33

Determination of zirconium in steels; selenious acid phosphate method. S. G. Simpson and W. C. Schumb. *Ind & Eng Chem Anal ed* 5:211-12 My 15 '33

**ZIRCONIUM compounds**

Zirconium glazes developed for heavy clay products. C. J. Kinzie and C. H. Commons. *il Brick & Clay Rec* 82:132-3 Ap '33

**ZIRCONIUM oxide**

Influence of temperature on certain properties of zirconium oxide sols. F. J. Robinson and G. H. Ayres. bibliog *Am Chem Soc J* 55:2288-94 Je '33

Some experiments with zircon and zirconia refractories. G. F. Comstock. *il Am Cer Soc J* 16:12-35 Ja '33

**ZIRCONIUM silicate. See Zircon****ZODIACAL light**

Measuring the counter glow. H. N. Russell. *diags Sci Am* 148:278-9 My '33

**ZOOLOGICAL specimens**

Cooperation among American zoologists toward a compendium of culture methods for invertebrate animals. J. G. Needham. *Science* 77:427-8 My 5 '33

**ZOOLOGY****Bibliography**

Recent zoological text-books. A. S. Pearse. *Science* 77:169-72; 78:170-2 F 10, Ag 25 '33

**ZUIDER ZEE**

Centrifugal pumps for the Zuyder Zee reclamation. *il diags Engineering* 134:777-8 D 30 '32

Einwirkung der abschliessung der Zuydersee auf die gezeiten. G. de Thierry. *maps Zeit Ver Deutsch Ing* 77:750-1 Jl 8 '33

Enclosure of the Zuyder Zee. B. Cunningham. *il map Engineering* 134:553-4, 555 N 11 '32

Reclamation of the Zuiderzee. A. L. Shaw. *il diag map Eng N* 109:639-43 D 1 '32

Les travaux de fermeture du Zuyderzée (Pays Bas). *maps Génie Civil* 101:657-8 D 31 '32

Les travaux de fermeture et d'assèchement du Zuyderzée (Pays-Bas). *il diags map Génie Civil* 103:245-9 S 9 '33

**ZWITTER ions**

Activity ratio of zwitterions and uncharged molecules in ampholyte solutions; the dissociation constants of amino acid esters. J. T. Edsall and M. H. Blanchard. bibliog *Am Chem Soc J* 55:2337-53 Je '33

**ZYMOPHOSPHATE**

Das zymophosphat und die alkoholische gärung. B. Hvistendahl. bibliog *Angew Chemie* 46:335-7 Je 10 '33





